

PRELIMINARY DRAFT

Amended ~~Final~~ Regulation Order

**AIRBORNE TOXIC CONTROL MEASURE TO REDUCE FORMALDEHYDE
EMISSIONS FROM COMPOSITE WOOD PRODUCTS**

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

[Note: Shown below are staff’s proposed amendments to the original ATCM. All proposed regulatory amendments are shown in ~~strikeout~~ to indicate proposed deletions and underline to indicate proposed additions.]

§ 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 as defined in title 17, California Code of Regulations, section 93120.1.
- (d) Exemptions. This airborne toxic control measure does not apply to:
- (1) 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. The person claiming the exemption must maintain adequate documentation to demonstrate that the criteria of the exemption are met;
 - (2) Hardboard; military specified plywood; curved plywood; hardwood plywood with a lumber core or special core material; molded products; finger-jointed lumber; structural wood products made with moisture resistant adhesives that are certified to Voluntary Product Standard - Structural Plywood (PS 1-09), Voluntary Product Standard – Performance Standard for Wood-Based Structural-Use Panels (PS 2-10), “Standard Specification for Evaluation of Structural Composite Lumber Products” (ASTM D 5456-11a), “Structural Glued Laminated Timber” (ANSI A190.1-2007), “Standard Specification for Establishing and Monitoring Structural Capacities of Prefabricated Wood I-Joists” (ASTM D 5055-11a), or oriented strand board specified with the Exposure 1 or Exterior bond classification in accordance with PS 2-10, ICC Acceptance Criteria or ANSI standards for code compliant applications; or “composite wood products” used inside of new vehicles as defined in section 430 of the California Vehicle Code (excluding recreational vehicles), rail cars, boats, aerospace craft, or aircraft;
 - (3) Used goods;
 - (4) Hardwood plywood and particleboard materials manufactured, sold, supplied for installation, or installed in manufactured homes subject to the United States Department of Housing and Urban Development regulations (24 Code of Federal Regulations, section 3280.308). The person claiming the exemption must maintain adequate documentation to demonstrate that the criteria of the exemption are met;
 - (5) Packaging materials and dunnage;
 - (6) “Replacement parts” that contain composite wood products that comply with the Phase 1 emission standards, labeled in a manner consistent with section 93120.7(c) to indicate the date that the parts were fabricated prior to the

effective date for which the parts must contain Phase 2 compliant composite wood products;

- (7) 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;
- (8) 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 from composite wood products manufactured with no-added formaldehyde based resins or ULEF resins; 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; and
- (9) 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.

Note: Authority cited: Sections 39600, 39601, 39650, 39658, 39659, 39666, and 41712, Health and Safety Code. Reference: Sections 39650, 39658, 39659, 39665, 39666, and 41712, Health and Safety Code.

§ 93120.1 Definitions.

- (a) For the purposes of this Airborne Toxic Control Measure, the following definitions shall apply:
 - (1) “ANSI” means the American National Standards Institute.
 - (2) “ARB” means the California Air Resources Board.
 - (3) “ASTM” means the American Society for Testing and Materials.
 - (4) “Batch” means the amount of composite wood product manufactured during a shift (8 or 12 hours, plus or minus one hour of production).
 - (5) “Combination core” means a platform for making hardwood plywood that consists of a combination of layers of veneer and particleboard or medium density fiberboard.
 - (6) “Component part” means a fabricated part (e.g., a cabinet door) that contains one or more composite wood products and is used in the assembly of finished goods.

- (7) “Composite core” means a platform for making hardwood plywood or laminated products that consists of particleboard and/or medium density fiberboard, or combination core.
- (8) “Composite wood products” means hardwood plywood – composite core, hardwood plywood – veneer core, particleboard, and medium density fiberboard, and thin medium density fiberboard. ~~“Composite wood products” does not include hardboard, structural plywood as specified in the Voluntary Product Standard - Structural Plywood (PS 1-07), structural panels as specified in the Voluntary Product Standard – Performance Standard for Wood-Based Structural-Use Panels (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), finger-jointed lumber, or “composite wood products” used inside of new vehicles as defined in section 430 of the California Vehicle Code (excluding recreational vehicles), rail cars, boats, aerospace craft, or aircraft.~~
- (9) “Curved plywood” means plywood made in a curved press using radio frequency curing and including bent plywood made by using steam and/or heat to form a flat panel into a bent or curved shape.
- ~~(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.” In some transactions, a distributor may function as a “retailer.”
- ~~(10)~~(11) “Door” means a finished good used to close off a room, closet, or entrance. A “door” moves on hinges, slides or rotates, and consists of a movable panel or combination of panels, and may include component parts.
- (12) “Dunnage” means loose packing material used to protect cargo during shipment.
- ~~(11)~~(13) “Executive Officer” means the “Executive Officer” of the California Air Resources Board, or his or her delegate.
- ~~(12)~~(14) “Fabricator” means any person that uses composite wood products to make finished goods. “Fabricator” includes producers of component parts and laminated products. In some transactions, a fabricator may function as a “retailer.”

~~(13)~~(15) “Facility” means any site where composite wood products or finished goods are manufactured, tested, used, supplied or offered for sale, or sold in California. “Facility” includes, but is not limited to, manufacturing plants, testing laboratories, distribution centers, fabricator shops, warehouses, and retail stores.

~~(14)~~(16) “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 panels.

~~(15)~~(17) “Finished goods” means any good or product, other than a panel, containing hardwood plywood, particleboard, or medium density fiberboard. Component parts are not “finished goods,” although they are used in the assembly of finished goods. ~~“Finished goods” do not include used goods such as antiques or second-hand furniture. For the purposes of this subsection, a “used good” means a “finished good” that has previously been sold or supplied to the ultimate purchaser. “Ultimate purchaser” means the first person who in good faith purchases or acquires a “finished good” for purposes other than resale.~~

~~(16)~~(18) “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).

~~(17)~~(19) “Hardboard” means a composite panel composed of cellulosic fibers, made by dry, semi-dry, or wet forming and hot pressing of a fiber mat with or without resins, 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).

~~(18)~~(20) “Hardwood” means the wood of a deciduous broad-leafed tree. Examples of “hardwoods” include, but are not limited to, aspen, birch, and oak.

~~(19)~~(21) “Hardwood plywood” (HWPW) means a panel composed of an assembly of ~~(A) hardwood layers or plies of veneers, or (B) veneers in combination with a platform consisting of lumber core, composite core, a special core material, or including a special back material, joined with an adhesive (ANSI/HPVA HP-1-2009). The face veneer may be composed of a hardwood or decorative softwood species (ANSI/HPVA HP-1-2004).~~ “Hardwood plywood” includes wall paneling, industrial panels, and “hardwood plywood” panels used in making flooring. ~~“Hardwood plywood” does not include laminated products, military specified plywood, or curved plywood.~~

~~(20)~~(22) “Hardwood plywood – composite core” (HWPW-CC) means hardwood plywood with a composite core.

~~(21)~~(23) “Hardwood plywood – veneer core” (HWPW-VC) means hardwood plywood with a core made of a sheet or sheets of veneer.

~~(22)~~(24) “HPVA” means the Hardwood Plywood and Veneer Association.

(25) “ICC” means the International Code Council.

(26) “IEC” means the International Electrotechnical Commission.

~~(23)~~(27) “Importer” means the person or entity as defined in the regulations of the Bureau of Customs and Border Protection, 19 Code of Federal Regulations, section 101.1, that imports composite wood products or finished goods that contain composite wood products from outside of the United States.

(28) “ISO” means the International Organization for Standardization.

~~(24)~~(29) “Laminate” means a veneer or other material affixed as a decorative surface to a platform.

~~(25)~~(30) “Laminated product” means a finished good or component part of a finished good made by a fabricator in which a laminate or laminates are affixed to a platform. If the platform consists of a composite wood product, the platform must comply with the applicable emission standards.

~~(26)~~(31) “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.

(32) “Lumber core” means a core material used in making hardwood plywood that consists of strips of solid wood that have a thickness of greater than one quarter of an inch.

~~(27)~~(33) “Manufacturer” means any person who manufactures or produces a composite wood product.

~~(28)~~(34) “Medium density fiberboard” (MDF) means a panel composed of cellulosic fibers (usually wood) made by dry forming and pressing of a resinated fiber mat (ANSI A208.2-~~2002~~2009).

(35) “Molded product” means a finished good or component part of a finished good made by compression molding of wood powder, not made as a panel.

~~(29)~~(36) “No-added formaldehyde (NAF) 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.

- (37) “Packaging material” means pallets, crates, skids, boxes, reels, and spools used to ship cargo.
- ~~(30)~~(38)“Panel” means any particleboard, medium density fiberboard, or hardwood plywood board produced for sale, supply, or distribution by a composite wood product manufacturer.
- ~~(31)~~(39)“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.
- ~~(32)~~(40)“Particleboard” means a panel composed of cellulosic material (usually wood) in the form of discrete particles (as distinguished from fibers, flakes, or strands) that are pressed together with resin (ANSI A208.1-~~1999~~2009).
- ~~(33)~~(41)“Person” shall have the same meaning as defined in Health and Safety Code section 39047.
- ~~(34)~~(42)“Platform” means the veneer core, or composite core, combination core, lumber core, or special core material used in the manufacture of hardwood plywood or laminated products.
- ~~(35)~~(43)“Plywood” means a panel product consisting of layers of wood veneers in combination with a platform, pressed together with resin. “Plywood” includes panel products made by either hot or cold pressing (with resin) veneers to a platform.
- ~~(36)~~(44)“Product type” means a type of composite wood product that differs from another based on composition, thickness, number of plies (if hardwood plywood), and resin to distinguish one composite wood product from another made by the same manufacturer.
- ~~(37)~~(45)“Recreational vehicle” has the same meaning as defined in section 18010 of the California Health and Safety Code.
- (46) “Replacement part” means a component part made as warranty stock or to replace a component part of a finished good.
- ~~(38)~~(47)“Retailer” means any person or entity that sells, offers for sale, or supplies directly to consumers composite wood products or finished goods that contain composite wood products.

- ~~(39)~~(48) “Softwood” means wood produced from needle and/or cone bearing trees (ANSI/HPVA HP-1-~~2004~~2009).
- (49) “Special back material” means a back material other than veneer used in making hardwood plywood.
- (50) “Special core” means a core material used in making hardwood plywood that consists of something other than veneer core, composite core, or lumber core.
- ~~(40)~~(51) “Thin MDF” means medium density fiberboard that has a maximum thickness of eight millimeters.
- ~~(41)~~(52) “Third party certifier” means an organization or entity approved by the Executive Officer that: (A) verifies 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.
- (53) “Ultimate purchaser” means the first person who in good faith purchases or acquires a “finished good” for purposes other than resale.
- ~~(42)~~(54) “Ultra-low-emitting formaldehyde (ULEF) resins” means resins formulated such that average formaldehyde emissions are consistently below the Phase 2 emission standards in section 93120.2, as provided in section 93120.3(d).
- (55) “Used good” means a “finished good” that has previously been sold or supplied to the “ultimate purchaser.” “Used goods” include, but are not limited to, antiques and second hand furniture.
- ~~(43)~~(56) “Veneer” means thin sheets of wood with a maximum thickness of one quarter of an inch peeled or sliced from logs for use in the manufacture of wood products such as plywood, laminated veneer lumber, laminated products, or other products. A face “veneer” may be composed of a hardwood, decorative softwood, cellulosic material from woody grasses (e.g., bamboo), or other types of compressed, cellulosic material (e.g., cork used in making flooring).
- ~~(44)~~(57) “Veneer core” means a core material for making plywood that consists of veneer.
- ~~(45)~~(58) “Window” means a finished 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, window headers and window seats.

(59) “Woody grass” means a species of monocotyledonous plant with hard, fibrous, jointed, hollow or solid stems (e.g., bamboo).

Note: Authority cited: Sections 39600, 39601, 39650, 39658, 39659, 39666, and 41712, Health and Safety Code. Reference: Sections 39650, 39658, 39659, 39665, 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) – veneer core, HWPW – composite core, particleboard (PB), and medium density fiberboard (MDF), thin MDF, and platforms consisting of these materials sold, supplied, offered for sale, or manufactured for sale in California.

Except as provided in section 93120.2(b)1(d), Exemptions, and the “sell-through” provisions of section 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.

Table 1 Phase 1 and Phase 2 Formaldehyde Emission Standards for Hardwood Plywood (HWPW), Particleboard (PB), and Medium Density Fiberboard (MDF) ¹					
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	-----	-----	
1-1-2010	P2: 0.05	-----	-----	-----	-----
1-1-2011	-----	-----	P2: 0.09	P2: 0.11	-----
1-1-2012	-----	-----	-----	-----	P2: 0.13
7-1-2012	-----	P2: 0.05	-----	-----	

⁽¹⁾ Based on the primary test method [ASTM E 1333-96(2002)10] 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) a current third party certification program that complies with section 93120.3(b), (B) a current ARB approval to use no-added formaldehyde based resins as provided in section 93120.3(c), or (C) a current ARB approval to use a ULEF resin as provided in section 93120.3(d); or
 - (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: (A) the compliance testing procedure for hardwood plywood, particleboard, and medium density fiberboard specified in section 93120.9(a) or (B) the quality control testing method specified in 93120.9(d) (subject to permitted retesting, disposition or treatment); or
 - (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; or
 - (4) A finished good contains any composite wood product which does not comply with the emission standards in Table 1, based on 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 manufactured, sold, supplied for installation, or installed in manufactured homes subject to the United States Department of Housing and Urban Development regulations (24 Code of Federal Regulations, section 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, 41511, and 41712, Health and Safety Code. Reference: Sections 39650, 39658, 39659, 39665, 39666, 41511, 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 sold, supplied, or offered for sale 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 sold, supplied, or offered for sale in California, ~~using resins that contain formaldehyde,~~ compliance with the emission standards specified in section 93120.2(a) must be verified 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.
- (c) *Special Provisions for Manufacturers of HWPW, PB, and MDF with No-Added Formaldehyde (NAF) Based Resins.*
 - (1) Upon written approval of the Executive Officer, manufacturers of HWPW, PB, and MDF who plan to use no-added formaldehyde (NAF) 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) a statement indicating which product types will be manufactured using ~~no-added formaldehyde based~~ NAF resins for sale in California; (B) the chemical formulation of the candidate ~~no-added formaldehyde based~~ NAF resins, including base resins, catalysts, and other additives as used in manufacturing; (C) the name of the ARB approved third party certifier; and (D) data on the emissions performance of the candidate ~~no-added formaldehyde based~~ NAF resins. These data must be obtained by working with an ARB approved third party certifier and must include three months of routine quality control testing data, the correlation and linear regression equation between values of the routine quality control testing data ~~to~~ and primary or secondary method testing data, and the results of one primary or secondary method test, as required in Appendix 2 of section 93120.12. Ninety percent of the three months of routine quality control testing data and the results of the one primary or secondary method test must be shown to be no higher than 0.04 ppm. In addition, all data must be shown to be no higher than 0.05 ppm for HWPW and 0.06 ppm for PB, MDF, and thin MDF.

- (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 has met the requirements of section 93120.3(c)(1). The approval shall have a duration of ~~two~~three years, and the manufacturer may apply for re-approval as provided in this section. An application for re-approval must include: (A) the results of at least one primary or secondary method test for each product type based on a panel or set of panels randomly selected and tested by an ARB approved third party certifier, (B) copies of invoices documenting purchases of the NAF resin for a six-month period preceding the expiration date of the Executive Order, (C) and the chemical formulation of the ~~no-added formaldehyde based~~ NAF resin or resins used by the manufacturer, (D) copies of production volume data records collected in the six-month period preceding the expiration date of the Executive Order to document that NAF products were manufactured within ranges for press time, press temperature, and resin application rate specified in the Executive Order, and (E) signed affirmations of the exclusive use of NAF resins for applicable products, and that true and accurate information was submitted in the application.
- (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, ARB must be notified in advance and the manufacturer must comply with the requirements of section 93120.3(b) for that product type.

- (d) *Special Provisions for Manufacturers of HWPW, PB and MDF with Ultra-Low-Emitting Formaldehyde (ULEF) Resins.*
- (1) Requirements for reduced testing. Upon written approval of the Executive Officer, manufacturers of HWPW, PB, and MDF who plan to use ultra-low-emitting formaldehyde (ULEF) resins may test their products less frequently than otherwise required. The testing frequency for manufacturers using ULEF resins is specified in Appendix 2 of section 93120.12. To apply for ARB approval, manufacturers must submit the following information to the Executive Officer: (A) a statement indicating which product types will be manufactured with ULEF resins for sale in California; (B) the chemical formulation of the candidate ULEF resins, including base resins, scavenger resins, scavenger additives, catalysts, and other additives as used in manufacturing; (C) the name of the ARB approved third party certifier; and (D) data on the emissions performance of the candidate ULEF resins to demonstrate that panels manufactured with these resins can consistently achieve the following: (1.) for HWPW, the Phase 2 emission standards specified in section 93120.2(a); or (2.) for PB and MDF, the emission values in Table 2. These data must be obtained by working with an ARB approved third party certifier and must include ~~six~~four months of routine quality control testing data, the correlation and linear regression equation between values of the routine quality control testing data to and primary or secondary method testing data, and the results of two quarterly primary or secondary method tests, as required by Appendix 2 of section 93120.12.

For HWPW, in order to qualify for approval to test any product type less frequently, at least fifty percent of the results of the ~~six~~four months of routine quality control testing data must be shown to be no higher than 0.04 ppm, and all quality control testing data and the two quarterly primary or secondary method tests must all be shown to be no higher than the Phase 2 emission standards.

For PB and MDF, in order to qualify for approval to test any product type less frequently, ninety percent of the ~~six~~four months of routine quality control testing data and the results of the two quarterly primary or secondary method tests must be shown to be no higher than the ULEF-target value listed in Table 2, and all data must be shown to be no higher than the ULEF-cap value listed in Table 2.

Table 2 Ultra-Low-Emitting Formaldehyde (ULEF) Resin Emission Target and Cap Values (in ppm) for Particleboard (PB) and Medium Density Fiberboard (MDF) ¹			
	PB	MDF	Thin MDF
ULEF-target	0.05	0.06	0.08
ULEF-cap	0.08	0.09	0.11

⁽¹⁾ Concentrations must be based on correlations and linear regression equations with the primary or secondary test method in parts per million (ppm).

- (2) Requirements for exemption from testing. Upon written approval of the Executive Officer, manufacturers of HWPW, PB, MDF, and thin MDF may qualify their product types for an exemption from third party certification. To qualify for an exemption from third party certification for a product type, ninety percent of ~~six~~four months of routine quality control testing data and the results of two quarterly primary or secondary method tests must be shown to be no higher than a ULEF-target value of 0.04 ppm. All data must be shown to be no higher than a ULEF-cap value of 0.05 ppm for HWPW and 0.06 ppm for PB, MDF, and thin MDF. All other requirements of section 93120.3(d)(1) apply. Manufacturers who have been exempted from third party certification do not need to comply with the requirements of Appendix 2 of section 93120.12.
- (3) 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.
- (4) 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.
- (5) 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 has met the requirements specified in section 93120.3(d)(1) or (d)(2). The approval shall have a duration of ~~two~~three years, and the manufacturer may apply for re-approval as provided in this section. An

application for re-approval must include: (A) the results of at least two primary or secondary method tests for each product type based on panels randomly selected and tested by an ARB approved third party certifier, (B) copies of invoices documenting purchases of the ULEF resin for a six-month period preceding the expiration date of the Executive Order, (C) and the chemical formulation of the ULEF resin or resins used by the manufacturer, (D) copies of production volume data records collected in the six-month period preceding the expiration date of the Executive Order to document that ULEF products were manufactured within ranges for press time, press temperature, and resin application rate specified in the Executive Order, and (E) signed affirmations of the exclusive use of ULEF resins for applicable products, and that true and accurate information was submitted in the application.

- (6) 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.
- (7) If the manufacturer decides to change resin systems, ARB must be notified in advance and the manufacturer must comply with the requirements of section 93120.3(b) for that product type.
- (e) *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 section 93120.2(a) or was made using NAF or ULEF resins ~~or 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~~ NAF resins that have obtained ARB approval as provided in section 93120.3(c) or products manufactured using ULEF resins as provided in section 93120.3(d)(2).

- (f) *Statement of compliance.* For each composite wood product, the manufacturer must include on the bill of lading or invoice: (1) the ARB assigned number of the approved third party certifier, if applicable; and (2) a statement that the composite wood products comply with the applicable Phase 1 or Phase 2 emission standard specified in section 93120.2(a) and, if applicable, were made using NAF or ULEF ~~resins or no-added formaldehyde based~~ resins.
- (g) *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~~ NAF resins that have obtained ARB approval under section 93120.3(c) must keep documentation to demonstrate ARB approval to use ~~no-added formaldehyde based~~ NAF resins. Manufacturers that have obtained ARB approval under section 93120.3(d) to use ULEF resins must keep documentation to demonstrate that ARB approval has been obtained. Records must be kept in either 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 for a period of two years, 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), if applicable;
 - (D) Product transporter information (including delivery company name, contact person, address, phone number, and shipping invoice number), if applicable;
 - (E) Identification of the ARB approved third party certifier (including company name, contact person, phone number, mailing and email address); this subsection (E) does not apply to products manufactured with ~~no-added formaldehyde based~~ NAF resins as specified under section 93120.3(c)(1)

or products manufactured with ULEF resins as specified under section 93120.3(d)(2); and

- (F) Manufacturers of HWPW, PB, and MDF using ~~no-added formaldehyde based~~ NAF resins or ULEF resins must maintain records on an ongoing basis for each composite wood product produced, including:
1. The ARB approval letter as specified in section 93120.3(c) or (d);
 2. Amount of resin use reported by volume and weight;
 3. Production volume reported as ~~square feet~~ cubic meters per product type;
 4. Resin trade name, resin manufacturer contact information, and resin supplier contact information;
 5. Changes in press time by more than 20 percent for any product type; and
 6. Changes in the formulation of the ~~no-added formaldehyde based~~ NAF resins or ULEF resins.
- (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 within 60 days of ~~upon~~ request.
- (h) *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, 41511, and 41712, Health and Safety Code. Reference: Sections 39650, 39658, 39659, 39665, 39666, 41511, 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. A manufacturer, importer, distributor, fabricator, or retailer of composite wood products or finished goods that contain composite wood products is not eligible for approval by the Executive Officer to provide third party certification services.

(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 inspection of composite wood product manufacturing facilities, emissions testing, and verification of laboratories and wood products. Accreditation must be by an internationally recognized accreditation body and may include, but is not limited to, accreditation to ISO/IEC Standards 17020 and 17025, to demonstrate how applicants will be able to competently perform the requirements of Appendix 3;
 - (B) Evidence of the ability to properly train and supervise inspectors, including, but not limited to, accreditation to ISO/IEC Standard 17020 from an internationally recognized accreditation body;
 - (C) Evidence of a current “product certification agency” accreditation, including, but not limited to, ISO/IEC Guide 65, that includes composite wood products in the scope of their accreditation and was issued by a signatory to the International Laboratory Accreditation Cooperation Mutual Recognition Arrangement (ILAC, 2000)an internationally recognized accreditation body; and
 - (D) List of the composite wood products that the applicant is applying to verify and evidence that the applicant is qualified to verify these products.; and
 - (E) Demonstration of equivalence as required by section 93120.9(a)(2) for all secondary methods used for compliance testing of composite wood products during initial plant qualifying inspections, quarterly verifying tests, and NAF and ULEF applications/renewal applications.
- (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). The Executive Order shall have a duration of ~~two~~three years. Within 120 days of the expiration date of the Executive Order, a third party certifier may apply for re-approval by submitting an updated application to the Executive Officer to demonstrate the continued ability to comply with section 93120.4(b)(1).
- (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 Article 2 (commencing with section 60055.1) of subchapter 1.25 of Chapter 1 of Division 3 of title 17, California Code of Regulations.

Note: Authority cited: Sections 39600, 39601, 39650, 39658, 39659, 39666, and 41712, Health and Safety Code. Reference: Sections 39650, 39658, 39659, 39665, 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, at a minimum, 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)(c).

- (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)(c).

- (3) *Product Label Retention Requirements for Composite Wood Products and Finished Goods.* Composite wood products and finished goods sold or offered for sale in California are required to be labeled by manufacturers and fabricators as specified in section 93120.3(e) or section 93120.7(c), respectively. Distributors shall retain the product label on composite wood products and finished goods as received from their suppliers to allow the person that purchases a composite wood product or finished good to identify the compliance level of the composite wood product or composite wood products in a finished good.

- (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. All records required by this section shall be made available to ARB or local air district personnel within 60 days of request. 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, 41511, and 41712, Health and Safety Code. Reference: Sections 39650, 39658, 39659, 39665, 39666, 41511, 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, at a minimum, 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)~~(c).
- (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)~~(c).
- (3) *Product Label Retention Requirements for Composite Wood Products and Finished Goods.* Composite wood products and finished goods sold or offered for sale in California are required to be labeled by manufacturers and fabricators as specified in section 93120.3(e) or section 93120.7(c), respectively. Importers shall retain the product label on composite wood products and finished goods as received from their suppliers to allow the person that purchases a composite wood product or finished good to identify the compliance level of the composite wood product or composite wood products in a finished good.
- (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 personnel. In the course of an inspection, ARB or local air district personnel may request to audit records or secure samples for testing. All records required by this section shall be made available to ARB or local air district personnel within 60 days of request. 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, 41511, and 41712, Health and Safety Code. Reference: Sections 39650, 39658, 39659, 39665, 39666, 41511, 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.*

(1) 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.

(2) *Fabricators of laminated products.*

(A) Fabricators that produce laminated products, and do not manufacture composite wood products, do not need to comply with the manufacturer requirements regarding third party certification in section 93120.3(b) and;

~~(3)~~(B) If the platform used by a fabricator to produce a laminated product consists of a composite wood product, the platform must comply with the applicable emission standards specified in section 93120.2(a).

~~(4)~~(3) Fabricators manufacturing composite wood products exclusively for use by the fabricator in making finished goods must comply with all requirements of section 93120.3, except the product labeling requirements contained in section 93120.3(e).

~~(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 from composite wood products manufactured with no-added formaldehyde based resins or ULEF resins; 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.~~

~~(e)~~(b) *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, at a minimum, 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)~~(c) *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. A bar code may not be the sole form of labeling. The label shall include, at a minimum, the following information typed or printed in English: the fabricator’s name, the date (month and year) the finished good was produced 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 section 93120.2(a). Finished goods shall be labeled as having been made with no-added formaldehyde based NAF resins or ULEF resins if this is so for all HWPW, PB, or MDF used in fabricating the finished goods. If a component part (e.g., a cabinet door) is being sold to a consumer, the component part must be labeled as required by this section.
- (2) Designate their goods as being made with HWPW, PB, or MDF that complies with the applicable emission standards specified in section 93120.2(a) on the bill of lading or invoice provided to distributors, importers, other fabricators, or retailers.

~~(e)~~(d) *Facility inspections.* Fabricators are subject to periodic inspection 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. All records required by this section shall be made available to ARB or local air

district personnel within 60 days of request. 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, 41511, and 41712, Health and Safety Code. Reference: Sections 39650, 39658, 39659, 39665, 39666, 41511, 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, at a minimum, 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) *Product Label Retention Requirements for Composite Wood Products and Finished Goods.* Composite wood products and finished goods sold or offered for sale in California are required to be labeled by manufacturers and fabricators as specified in section 93120.3(e) or section 93120.7(c), respectively. Retailers shall retain the product label on composite wood products and finished goods as received from their suppliers to allow the person that purchases a composite wood product or finished good to identify

the compliance level of the composite wood product or composite wood products in a finished good.

- (e)(d) *Facility inspections.* Retailers 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. All records required by this section shall be made available to ARB or local air district personnel within 60 days of request. 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, 41511, and 41712, Health and Safety Code. Reference: Sections 39650, 39658, 39659, 39665, 39666, 41511, 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) and, if applicable, section 93120.3(c) or (d) shall be demonstrated by conducting product emissions tests, verified by third party certification as specified in section 93120.4 and conducted using one of the following:
- (1) The primary method, defined as ASTM E 1333-96(2002)~~10~~ (large chamber test method).
 - (2) A secondary method, defined as specified in ASTM D 6007-02(2008), with the additional conditions specified below:
 - (A) The secondary method shall be operated using the testing conditions and ~~loading rates~~ flow to area ratios specified in ASTM D 6007-02(2008), and the conditioning time used to establish equivalence in section 93120.9(a)(2)(B). In addition, when testing panels the secondary method shall be operated by testing nine specimens representing evenly distributed portions of an entire panel. The nine specimens shall be tested individually or in groups of three specimens, resulting in nine or three secondary method test results, respectively, which shall be averaged to represent one data point for the panel.
 - (B) Equivalence between the secondary method and the primary method must be established, at least once ~~each~~ every two years, by the third party certifier for each testing laboratory used by the third party certifier. The primary method used in the equivalence demonstration must have performed proficiently, as specified in section 93120.12, Appendix 3, in an interlaboratory comparison with other third party certifiers. For third party

certifiers or their contract testing laboratories that operate multiple secondary methods of identical size at the same physical location and operated by the same operator, equivalence does not need to be established for each identical secondary method, but the testing laboratory must verify and document that identical secondary methods produce equivalent results, based on comparative testing. Minimum requirements for an equivalence demonstration shall include at least ten comparison sample sets, which compare the results of the primary and secondary methods. The following parameters must be met in the comparison:

1. For the primary method, each comparison sample shall consist of the result of simultaneously testing an appropriate number of panels (factoring in the loading rate) from the same batch of panels tested by the secondary method.
2. For the secondary method, each comparison sample shall consist of testing nine specimens representing evenly distributed portions of an entire panel. The nine specimens shall be tested individually or in groups of three specimens (factoring in the loading rate flow to area ratio), resulting in nine or three secondary method test results, respectively, which shall be averaged to represent one data point for the panel, and matched to their respective primary method comparison sample result.
3. The ten comparison sample sets shall consist of testing a minimum of five sample sets in each of ~~at least two of~~ the following two ranges of formaldehyde concentrations, as measured by the primary method:
 - a. Lower range: less than ~~0.07~~0.05 ppm
 - b. ~~Intermediate range: 0.07 to less than 0.15 ppm~~
 - ~~c.~~b. Upper range: ~~0.15~~0.05 to ~~0.25~~0.13 ppm
4. The average and standard deviation of the difference of all comparison sets shall be calculated as follows. For each of the two ranges ~~used for testing,~~ the following computations shall be performed:
 - a. Denote the number of sets in the given range by n .
 - b. Compute the difference between the primary and secondary method value. Denote the difference for the i^{th} set by D_i , where i ranges from 1 to n .
 - c. Compute the average, \bar{X} , and standard deviation, S , of the differences according to the following formulas:

$$\bar{X} = \sum_{i=1}^n D_i/n$$

$$S = \sqrt{\sum_{i=1}^n (D_i - \bar{X})^2 / (n - 1)}$$

5. The secondary method shall be considered equivalent to the primary method if the following condition is met for both tested ranges:

$$|\bar{X}| + 0.88S \leq C$$

where C is equal to:

0.026 for the lower range; and
0.038 for the ~~intermediate~~ upper range; and
~~0.052 for the upper range.~~

6. Equivalence must be established between the primary and secondary method to represent the range in emissions based on the emission standards specified in section 93120.2(a) for composite wood products that a third party certifier is approved to verify under section 93120.4 and, if applicable, the range in emissions for ~~no-added formaldehyde based~~ NAF resins or ULEF resins.

- (3) An alternate secondary test procedure may also be used as specified in sections 93120.9(a)(3)(A) through 93120.9(a)(3)(C).
- (A) Chamber test methods other than ASTM E 1333-96(2002)10 (large chamber test method) may be used if they are demonstrated, following the minimum requirements specified in section 93120.9(a)(2)(B), to provide equivalent results to those obtained using ASTM E 1333-96(2002)10. All alternative secondary test methods must be approved in writing by the Executive Officer prior to use as specified below.
- (B) An application to use an alternative secondary test method must be submitted to the ARB in writing, and must include, at a minimum, the following information and data:
1. 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.
 2. Results collected using the alternate secondary test method and corresponding equivalent emissions.

- (C) 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 secondary test procedure provides equivalent results to ASTM E 1333-96 (2002)10, 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 secondary method, a large chamber [~~ASTM E 1333-96(2002)~~](ASTM E 1333-10), or an alternate secondary test procedure as specified in section 93120.9(a). Sample handling procedures shall be followed as specified in the applicable ASTM method or alternate secondary test procedures.
- (c) *Enforcement Test Method for Finished Goods Containing HWPW, PB, and MDF.* Emission testing of samples of HWPW, PB, and MDF contained in finished goods shall be conducted by ARB or local air district personnel using a secondary method, or an alternate secondary test procedure as specified in section 93120.9(a). Sample handling procedures shall be followed that are consistent with those specified in ASTM D 6007-02(2008) or alternate secondary test procedures.
- (d) *Quality Control Test Method.* A test method correlated to either the primary or secondary methods for performing routine quality control tests as required by section 93120.3. A correlation and linear regression equation must be established between the quality control test method and the primary, secondary, or alternate secondary test method. The correlation and linear regression equation must be based on a minimum sample size of five data pairs.

Note: Authority cited: Sections 39600, 39601, 39650, 39658, 39659, 39666, 41511, and 41712, Health and Safety Code. Reference: Sections 39650, 39658, 39659, 39665, 39666, 41511, 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.
- (d) ANSI A190.1-~~2002~~2007. American National Standard – Structural Glued Laminated Timber, ~~2002~~2007.
- (e) ANSI A208.1-~~1999~~2009. American National Standard – Particleboard, ~~1999~~2009.
- (f) ANSI A208.2-~~2002~~2009. American National Standard – Medium Density Fiberboard, ~~2002~~2009.
- (g) ANSI/HPVA HP-1-~~2004~~2009. American National Standard for Hardwood and Decorative Plywood, ~~2004~~2009.
- (h) ASTM D 5055-~~05~~11a. Standard Specification for Establishing and Monitoring Structural Capacities of Prefabricated Wood I-Joists, ~~2005~~2011.
- (i) ASTM D 5456-~~06~~11a. Standard Specification for Evaluation of Structural Composite Lumber Products, ~~2006~~2011.
- (j) ASTM D 5582-00(~~2006~~). Standard Test Method for Determining Formaldehyde Levels from Wood Products Using a Desiccator, ~~2000~~2006.
- (k) ASTM D 6007-02(~~2008~~). Standard Test Method for Determining Formaldehyde Concentration in Air from Wood Products Using a Small Scale Chamber, ~~2002~~2008.
- (l) ASTM E 1333-~~96~~(~~2002~~)10. Standard Test Method for Determining Formaldehyde Concentrations in Air and Emission Rates from Wood Products Using a Large Chamber, ~~2002~~2010.
- ~~(m) ILAC. International Laboratory Accreditation Cooperation Mutual Recognition Arrangement, 2000.~~
- (m) ISO/IEC 17020: 1998. General Criteria for the Operation of Various Types of Bodies Performing Inspection, 1998.
- (n) ISO/IEC 17025: 2005. General Requirements for the Competence of Testing and Calibration Laboratories, 2005.
- (o) ISO/IEC Guide 65. General Requirements for Bodies Operating Product Certification Systems, 1996.
- ~~(n)~~(p) PS 1-07-09. Voluntary Product Standard – Structural Plywood. National Institute of Standards and Technology, 20072009.
- ~~(e)~~(q) PS 2-0410. Voluntary Product Standard – Performance Standard for Wood-Based Structural-Use Panels. National Institute of Standards and Technology, 20042010.

Note: Authority cited: Sections 39600, 39601, 39650, 39658, 39659, 39666, 41511, and 41712, Health and Safety Code. Reference: Sections 39650, 39658, 39659, 39665, 39666, 41511, 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, 39665, 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 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 March 31, 2009. Beginning 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, 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 March 31, 2010. Beginning April 1, 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 September 30, 2009. Beginning 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 September 30, 2012. Beginning 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 March 31, 2009. Beginning April 1, 2009, all PB, MDF, and 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 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 March 31, 2011. Beginning 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 March 31, 2012. Beginning 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~~ until 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~~ December 31, 2010. Beginning ~~June 1, 2009~~ January 1, 2011, 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, 2010, that do not comply with the Phase 2 standard may be sold, supplied, offered for sale, or used by distributors until ~~May 31, 2010~~December 31, 2010. Beginning ~~June 1, 2010~~January 1, 2011, 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~~December 31, 2010. Beginning ~~December 1, 2009~~January 1, 2011, 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~~December 31, 2010. Beginning ~~June 1, 2009~~January 1, 2011, 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~~December 31, 2011. Beginning ~~June 1, 2011~~January 1, 2012, 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~~ December 31, 2010. Beginning ~~June 1, 2009~~ January 1, 2011, 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 eighteen months after each of the specified effective dates. The~~ until 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~~ December 31, 2011. Beginning ~~July 1, 2010~~ January 1, 2012, 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, 2011~~ December 31, 2012. Beginning ~~July 1, 2011~~ January 1, 2013, 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~~2011. Beginning January 1, ~~2011~~2012, 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~~December 31, 2011. Beginning ~~July 1, 2010~~January 1, 2012, 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~~December 31, 2012. Beginning ~~July 1, 2012~~January 1, 2013, 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~~December 31, 2011. Beginning ~~July 1, 2010~~January 1, 2012, 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 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 March 31, 2009. Beginning 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, 2010, that do not comply with the Phase 2 standard may be sold, supplied, offered for sale, or used by importers until March 31, 2010. Beginning April 1, 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 September 30, 2009. Beginning 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 September 30, 2012. Beginning 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 March 31, 2009. Beginning 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 March 31, 2011. Beginning 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 March 31, 2009. Beginning 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 March 31, 2012. Beginning 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 eighteen months after each of the specified effective dates. The~~ until 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~~ December 31, 2010. Beginning ~~July 1, 2010~~ January 1, 2011, 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, ~~2011~~2012. Beginning July 1, ~~2011~~2012, 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~~ December 31, 2010. Beginning ~~July 1, 2010~~ January 1, 2011, 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~~ December 31, 2010. Beginning ~~July 1, 2010~~ January 1, 2011, 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 Using 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 that does not comply with the Phase 1 and Phase 2 effective dates specified in section 93120.2(a) may be used, sold, supplied, offered for sale by fabricators ~~for up to eighteen months after each of the specified effective dates~~ until the specific sell-through dates specified below. During the eighteen month sell-through period, fabricators may sell finished goods made before the effective date of the Phase 2 emission standards that contain Phase 1 composite wood products; may use Phase 1 composite wood products from their inventory to make finished goods; and may purchase Phase 1 composite wood products during applicable sell-through periods for manufacturers, importers, distributors, and retailers, and use those products to make finished goods. 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 ~~June 30, 2010~~December 31, 2011. Beginning ~~July 1, 2010~~January 1, 2012, 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 ~~June 30, 2011~~December 31, 2012. Beginning ~~July 1, 2011~~January 1, 2013, 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 December 31, ~~2010~~2011. Beginning January 1, ~~2011~~2012, 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 December 31, 2013. Beginning 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 ~~June 30, 2010~~December 31, 2011. Beginning ~~July 1, 2010~~January 1, 2012, 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 ~~June 30, 2012~~ December 31, 2012. Beginning ~~July 1, 2012~~ January 1, 2013, 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 ~~June 30, 2010~~ December 31, 2011. Beginning ~~July 1, 2010~~ January 1, 2012, 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 June 30, 2013. Beginning 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~~ until 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~~2010. Beginning January 1, ~~2010~~2011, 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, 2010, that do not comply with the Phase 2 standard may be sold, supplied, or offered for sale by retailers until December 31, 2010. Beginning January 1, 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~~December 31, 2010. Beginning ~~July 1, 2010~~January 1, 2011, 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~~2010. Beginning January 1, ~~2010~~2011, 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~~2010. Beginning January 1, ~~2010~~2011, 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 eighteen months after each of the specified effective dates. ~~The until 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~~December 31, 2012. Beginning ~~July 1, 2010~~January 1, 2013, 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, 2011~~December 31, 2013. Beginning ~~July 1, 2011~~January 1, 2014, 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~~2012. Beginning January 1, ~~2011~~2013, 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~~December 31, 2012. Beginning ~~July 1, 2010~~January 1, 2013, 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~~December 31, 2013. Beginning ~~July 1, 2012~~January 1, 2014, 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~~December 31, 2012. Beginning ~~July 1, 2010~~January 1, 2013, 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~~December 31, 2013. Beginning ~~July 1, 2013~~January 1, 2014, 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 product types for manufacturers who have received ARB approval to use ~~no-added formaldehyde based~~ NAF resins or ULEF resins that have been exempted from third party certification requirements for those product types, except for the purpose of applying for re-approval to continue to use ~~no-added formaldehyde based~~ NAF resins as specified in section 93120.3(c) or ULEF resins as specified in section 93120.3(d).

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, and recordkeeping. These requirements are designed to ensure that certified unfinished (including sanded) composite wood products meet the applicable emission standards. Note: All panels must be tested in an unfinished condition, prior to application of a finishing or topcoat.

(b) *Responsibility for Product Performance.*

The manufacturer is responsible for the performance of all certified products, including meeting the applicable standard(s) in section 93120.2(a) against which its products are certified. Quality control data must be obtained within a sufficient amount of time to avoid shipping of non-complying lots.

(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.

(d) *Quality Control Facilities.*

At each manufacturing plant or location designated by manufacturers with more than one manufacturing plant, laboratory facilities and equipment shall be provided and properly maintained as a quality control facility for conducting such tests as are required by Appendix 2. Alternatively, the quality control facility may be a contract laboratory or a laboratory operated by an approved third party certifier. 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 approve all reports of routine small scale testing conducted on the plant's production. If a manufacturer with one or more manufacturing plants uses a testing facility to test routine quality control production samples, the quality control manager shall be responsible for ensuring that the samples are collected, packaged, and shipped according to the procedures specified in the quality control manual. The plant quality control manager shall be responsible for working with the company's testing facility to monitor results, and shall immediately inform the third party certifier by telephone, email, 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 for operation of the quality control test method.

(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 based on the manufacturer's range in expected formaldehyde emissions; the employee to be certified shall test another portion of the same solution. The results of each test must be within a range of concentrations established by the third party certifier, to verify the correlation of the quality control test method.

(B) Blind Samples

The employee to be certified must determine the formaldehyde content of four sample solutions submitted to them by the third party certifier or plant Quality Control Manager. The formaldehyde content of the four sample solutions must be determined to be within a range of concentrations established by the third party certifier, to verify the correlation of the quality control test method.

(f) *Primary or Secondary Method Tests.*

(1) Initial (Qualifying) Primary or Secondary Method Test

Each product type, from each production line of each plant must be tested in a primary or secondary method testing chamber. The laboratory operating the chamber must be accredited by an accreditation body that is a signatory to the International Laboratory Accreditation Cooperation Mutual Recognition Arrangement (ILAC, 2000) ARB-approved third party certifier or an accredited laboratory listed as a subcontractor to an ARB-approved third party certifier. The formaldehyde test methods used by the laboratory must be stated in its scope of accreditation. For the purpose of a qualifying test and with approval of the third party certifier, a manufacturer may group two or more product types together if they have similar emission characteristics. If a plant elects to have all or multiple products represented by a single product type, an initial qualification test failure by that representative product will cause certification 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 and Linear Regression Equation of Primary or Secondary Method and Small Scale Test Values

In order to qualify for certification, the manufacturer must establish a statistical correlation and linear regression equation between values obtained from the primary or secondary test method and the values from the small scale tests ~~for~~ to be representative of each product type and production line. For purposes of establishing this correlations and linear regression equations, data for products from the manufacturer's plant or data obtained by a third party certifier must be used. The correlation and linear regression must be based on a minimum sample size of five data pairs.

(3) Subsequent (Verifying) Primary or Secondary Method Tests

(A) Quarterly Chamber Test

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

At least quarterly, a primary or secondary method test shall be conducted on randomly selected samples of each product type, as determined by the third party certifier. Manufacturers that use ULEF resins and have received ARB approval under section 93120.3(d)(1) to test their products less frequently need only have primary or secondary method tests conducted every six months. For the purpose of a verifying primary or secondary method test, a manufacturer may group two or more product types together if they have similar emission characteristics. If a plant elects to have all or multiple products represented by a single product type, a quarterly qualification test failure by that representative product will cause certification 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 primary or secondary method 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. Manufacturers that use ULEF resins and have received ARB approval under section 93120.3(d)(1) to test their products less frequently need only have primary or secondary method tests conducted every six months. For the purpose of a verifying primary or secondary method test, a manufacturer may choose to group two or more product types together if they have similar emission characteristics. If a plant elects to have all or multiple products represented by a single product type, a quarterly qualification test failure by that representative product will

cause certification to lapse on all other products represented. The emissions from each product type must not exceed the applicable standard.

(B) Failure of a Primary or Secondary Method Test

1. Exceedance of standards

If the emission value obtained during a subsequent (verifying) primary or secondary method test exceeds the applicable standard, the tested product will be in violation of section 93120.2(a) and certification of that product type will be suspended until re-qualification. In such an event, the third party certifier is required to notify the manufacturer and ARB within 30 days, along with an explanation of the steps taken by the certifier to follow-up with the manufacturer. If primary or secondary method and small scale test results on the same product differ, the primary or secondary method result shall be considered the benchmark value.

Manufacturers must submit the last month of quality control testing data to the third party certifier, for verification that the quality control limit (QCL) or shipping QCL (if applicable) reflects an accurate correlation between the primary or secondary method and the plant's quality control tests.

2. Re-qualification

Should an exceedance occur, plant production of that product type may be reinstated only upon successful completion of another primary or secondary method test. The re-qualification primary or secondary method 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 primary or secondary method 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); and (2) panels randomly selected from the treated panels are tested under and pass the primary or secondary method test within six weeks of the initial determination of a failed lot.

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

Each manufacturing plant shall conduct small scale quality control tests ~~for~~ to be representative of each product type and production line to ascertain that its certified panels do not exceed the applicable emission standard.

Alternatively, the quality control tests may be conducted by a contract laboratory or a laboratory operated by an approved third party certifier.

Unless prior notice is given, all lots of each product type being certified for compliance at each plant will be tested, with each lot's small scale quality control tests reported to the certifier. Background concentrations of formaldehyde for the plant's conditioning area and the make-up air for the small scale testing laboratory shall be measured and these data shall be recorded and reported along with quality control test results. The selection of samples for quality control testing shall be done in a consistent manner, as specified in the quality control manual, regarding whether products shall be tested immediately out of the press (hot) or after a defined period of time has passed to allow products to cool.

(1) Approved Small Scale Test Methods

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

- (A) ASTM D 5582-00(2006) (desiccator);
- (B) ASTM D 6007-02(2008) (small chamber); and
- (C) alternative small scale tests that can be shown to correlate to the primary or secondary method tests as specified in subsection (g)(2) and are approved by the Executive Officer. ARB will list all approved alternative small scale test methods on the ARB composite wood products webpage.

(2) Correlation and Linear Regression of Quality Control Tests with Primary or Secondary Method Tests

Each plant's quality control test results must be shown to correlate to primary or secondary method test results. The correlation and linear regression equation must be based on a minimum sample size of five data pairs. If data shows variation from the previously used correlation and linear regression equation, 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 and linear regression equation will be established for the manufacturer by the certifier.

(3) Quality Control Limit

Manufacturers will work with their third party certifier to establish a Quality Control Limit (QCL) at each manufacturer's plant for each product type and production line. The QCL is the value for any approved small scale quality control test which is based on the correlative equivalent to the value in a primary or secondary method test permitted by the applicable standard. The QCL shall be based on testing data collected no longer than 30 days after production, because the data must correlate with a primary or secondary method test that must be within 30 days of production. In addition to the QCL, an excursion limit shall be established to account for process and testing variation to keep the product's emissions from exceeding the applicable standard. The excursion limit should be based on the range in quality control data collected during the development of the QCL.

In the event that a manufacturer produces product lots that consistently exceed the applicable QCL, based on exceedance criteria established by the third party certifier, the certifier shall be notified promptly. A manufacturer shall examine the possible causes of the exceedances (e.g., change in resin or a problem with small scale testing) and double their frequency of small scale quality control tests for one month to ensure the QCL is not being regularly exceeded. In addition, a manufacturer will collect hourly small scale quality control samples, with a minimum of three samples per panel, for one eight or twelve hour shift, to verify that one sample per shift (or one sample per week for small hardwood plywood manufacturers) is adequate for process quality control.

(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, plus or minus one hour of production) for each production line for each product type. ~~Manufacturers of PB and MDF that use ULEF resins and have received ARB approval under section 93120.3(d) must conduct routine quality control tests at least weekly for each production line for each product type.~~ Quality control samples shall be analyzed within a period of time specified in the manufacturer's quality control manual to avoid distribution of non-complying lots. 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 formaldehyde 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 panel 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, based on criteria established by the 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)~~(B) 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. Quality control samples shall be analyzed within a period of time specified in the manufacturer's quality control manual to avoid distribution of non-complying lots. Testing frequency shall be as follows:

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

(C) Reduced Testing Frequency

1. Testing frequency for manufacturers of PB and MDF 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, based on criteria established by the certifier, including a minimum of six months of small scale quality control testing. Manufacturers must obtain advance written approval from the third party certifier and keep this written approval as part of the manufacturer record keeping requirements.

2. Manufacturers of PB and MDF that use ULEF resins and have received ARB approval under section 93120.3(d) to test their products less frequently must conduct routine quality control tests at least weekly for each production line and product type.
3. Manufacturers of HWPW that use ULEF resins and have received ARB approval under section 93120.3(d) to test their products less frequently and that have weekly production amounts of 200,000 square feet or more are allowed to reduce their testing frequency to once per week for each production line and product type.

(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).

(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~~one test panels shall be selected from each of three separate bundles. ~~They~~ The panels 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 QCL or shipping QCL.
- (D) In the event that a non-complying lot cannot be certified, the certifier shall be informed promptly in writing.

(9) Shipping QCL

A manufacturer may choose to establish a Shipping QCL, defined the same way as is the QCL above in subsection (g)(3), but based on panels prior to shipment rather than immediately after manufacturing. If a manufacturer chooses to establish a Shipping QCL that is distinct from the QCL, the manufacturer shall work with their third party certifier to establish this limit. The Shipping QCL shall be based on testing data collected no longer than 30 days after production, because the data must correlate with a primary or secondary method test that must be within 30 days of production. The procedures for handling lots that do not comply with the Shipping QCL, and the procedures for retesting of such lots, are identical to the procedures for lots that do not comply with the QCL, as described above in subsections (g)(5) through (g)(8).

(10) Plant Reporting

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

- (A) QCL;
- (B) excursion limit;
- (C) shipping QCL (if applicable);
- (D) results of quality control tests; and
- (E) retest values.

(h) *Recordkeeping.*

Manufacturers shall maintain complete records documenting the following:

- (1) small scale test results, including testing frequency;
- (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 ratio 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 primary or secondary test methods (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.

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), and when applicable, product types for manufacturers who are applying for re-approval to continue to use ~~no-added formaldehyde based~~ NAF resins as specified in section 93120.3(c) or ULEF resins as specified in section 93120.3(d). Certifications issued by third party certifiers shall only be for the manufacturing of composite wood products specified in section 93120.1(a)(9).

(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) Verify manufacturer small scale test results compared to primary or secondary method results.
- (C) Work with manufacturers to establish quality control, excursion, and, if applicable, shipping quality control limits for each product type and production line. In addition, certifiers will inform manufacturers of criteria that will be used to determine if product lots are consistently exceeding the applicable QCL, as specified in section 93120.12, Appendix 2, subsection (g)(3); and criteria the certifier will use to allow a reduction in testing frequency for PB and MDF, as specified in section 93120.12, Appendix 2, subsection (g)(4)(~~B~~)(C).
- (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 that are accredited and approved for use by ARB to perform primary or secondary methods tests. for conducting testing that are certified by an accreditation body that is a signatory to the International Laboratory Accreditation Cooperation Mutual Recognition Arrangement (ILAC, 2000). Accreditation must be by an internationally recognized accreditation body and may include, but is not limited to, accreditation to ISO Standard 17025. The formaldehyde test methods

used by the laboratory shall appear in its scope of accreditation. Each laboratory must be re-certified annually. Each laboratory must also participate in an interlaboratory testing comparison with laboratories using similar primary or secondary methods for the same composite wood products. Laboratories must participate in an interlaboratory comparison during the first year the laboratory is used by a third party certifier, followed by participation in annual interlaboratory comparisons ~~every two years~~.

- (G) Maintain records in electronic or hard copy form for two years, for review by ARB upon request, 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 primary or secondary test methods utilized by the third party certifier, including the test conditions, conditioning time, background concentrations of formaldehyde in the conditioning area and the make-up air for the primary or secondary method, test results, and the types of composite wood products used to establish equivalence of a secondary method;
 4. correlations and linear regression equations between small scale test results and primary or secondary method results by manufacturer;
 5. manufacturers of PB and MDF that were allowed to reduce their testing frequency, as specified in section 93120.12, Appendix 2, subsection (g)(4)~~(B)~~(C); and
 6. 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, results of quarterly mill tests, dates of quarterly mill tests and audits, and corrective actions that resulted from mill tests and audits;
 2. list of non-complying events by manufacturer as specified in section 93120.12, Appendix 2, subsection (g)(5), disposition of non-complying lots, and corrective actions that resulted from non-complying events;

3. certified laboratories, ~~and~~ primary or secondary test methods utilized by the third party certifier, and secondary method equivalence data; and
 4. results of interlaboratory testing comparisons for laboratories used by the third party certifier.
- (l) Provide monthly updates to ARB identifying the mills that have been approved or disapproved as manufacturers of certified composite wood products, under section 93120.3.

(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 primary or secondary method qualifying test(s);
- (4) routine small scale quality control test(s), approved by the third party certifier;
- (5) a procedure for selecting samples, approved by the third party certifier; and
- (6) correlation values and linear regression equations between the routine small scale quality control test(s) and the primary or secondary method test(s) that are approved by the third party certifier.

(d) *Primary or Secondary Method 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

Primary or secondary method 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 primary or secondary method 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) Primary or Secondary Method Tests

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

(3) Witnessing of Primary or Secondary Method Tests

The third party certifier may, in its discretion, agree to witness primary or secondary method testing at a certified laboratory rather than performing the test at its laboratory.

(A) Conditioning

Conditioning of samples collected during an initial plant inspection or quarterly plant audit shall be initiated no later than 30 days after the production date. 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 the primary or secondary method during the conditioning period.

(B) Testing

The third party certifier or the primary or secondary method operator under the certifier's supervision shall take air samples and analyze them for formaldehyde according to the primary or secondary method. The results will be reported to the manufacturer and to the certifier.

The primary or secondary method 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 the primary or secondary method.

If the second sample set of air specimens falls within a range of concentrations, established by the third party certifier, 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 the range of concentrations, established by the third party certifier, from the first, the primary or secondary method test shall be null and void.

(C) Identification

Upon completion of the test, the chamber used in the primary or secondary method test shall be opened and the certifier shall verify that the panels or samples inside are the proper test specimens.

(e) *Inspections by Third Party Certifier.*

(1) Purpose

After a manufacturer has been verified by an ARB-approved third party certifier to report their products as being certified with the certifier's ARB-assigned number, the certifier shall conduct periodic on-site inspections of the plant and production line where each certified 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 personnel may also conduct on-site inspections at the manufacturer to ensure compliance with the standards in section 93120.2(a).

(2) Frequency

Inspections shall occur at least once per quarter.

(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 certification.

(f) *Re-Inspections.*

In the event that a manufacturer produces product lots that consistently exceed the applicable QCL, the certifier shall be notified promptly. The certifier may re-inspect or audit 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.

Note: Authority cited: Sections 39600, 39601, 39650, 39658, 39659, 39666, 41511, and 41712, Health and Safety Code. Reference: Sections 39650, 39658, 39659, 39665, 39666, 41511, and 41712, Health and Safety Code.