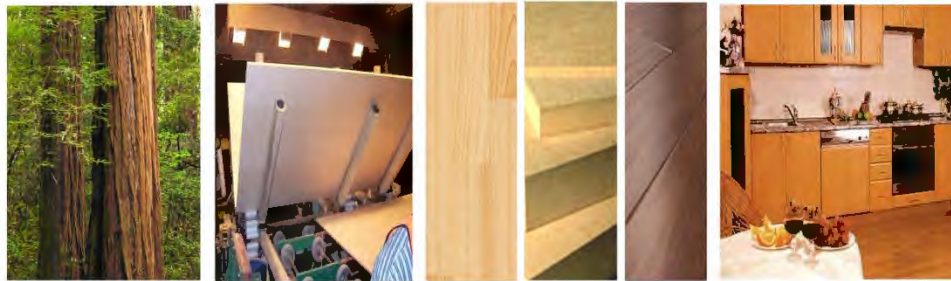


Public Workshop to Discuss Proposed Amendments to the Airborne Toxic Control Measure to Reduce Formaldehyde Emissions from Composite Wood Products



*November 20, 2013
Byron Sher Auditorium
Cal/EPA Headquarters, Sacramento*

California Environmental Protection Agency



Air Resources Board

Workshop Overview

- Background
- Proposed amendments to the Composite Wood Products ATCM
 - ✓ Overview of amendments proposed at May 2012 workshop
 - ✓ Additional amendments at November 2013 workshop
- Additional discussion topics
- Laminated products discussion
- Stakeholder presentations
- Open discussion
- Next steps

BACKGROUND



Airborne Toxic Control Measure (ATCM)

- Establishes formaldehyde emission standards for composite wood products: particleboard (PB), medium density fiberboard (MDF), and hardwood plywood (HWPW) panels
- Requires finished goods to be made from compliant PB, MDF, and HWPW panels
- Includes sell-through provisions
- Requires panel manufacturers to be third party certified
- Provisions for NAF/ULEF products

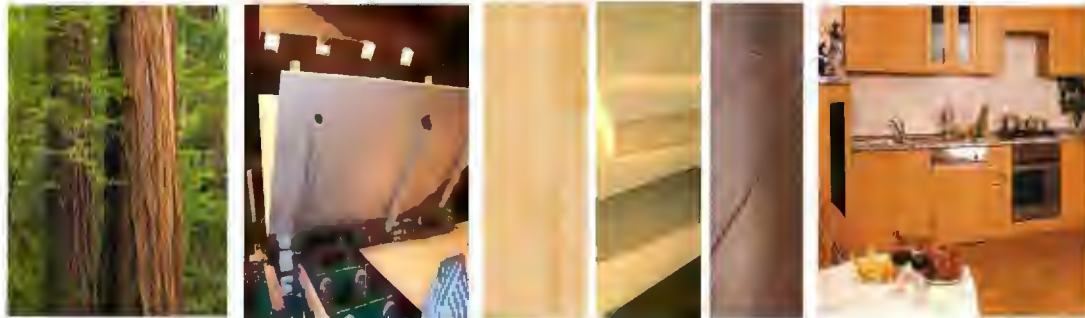
ATCM Emission Standards*

Effective Date	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	-----	-----	-----

* Based on ASTM E1333-96 (2002) in parts per million; P1=Phase 1 and P2=Phase 2
HWPW-VC=hardwood plywood veneer core; HWPW-CC= hardwood plywood composite core;
MDF=medium density fiberboard; PB=particleboard

PROPOSED AMENDMENTS

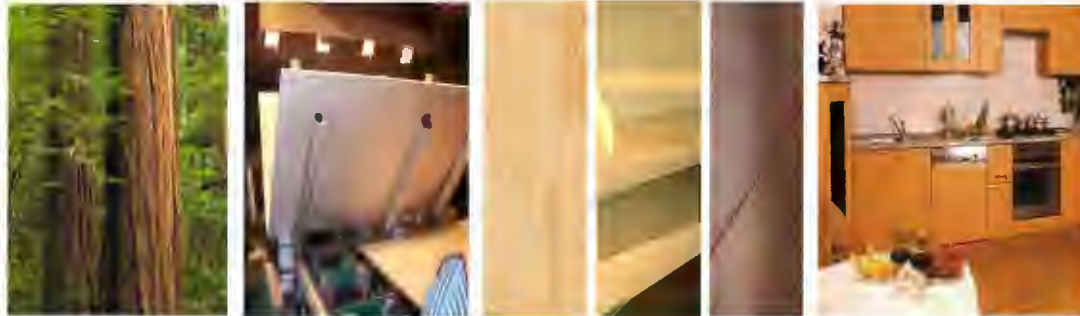
**Title 17, California Code of Regulations,
Section 93120**



Objectives

- Clarify requirements and applicability
- Improve enforceability
- Align ATCM with proposed U.S. EPA regulations to extent practicable
 - ✓ Encourage U.S. EPA to adjust federal proposal where appropriate
- Propose ATCM amendments for ARB consideration after U.S. EPA regulation finalized

OVERVIEW OF “MAY 2012” PROPOSED AMENDMENTS BEING RETAINED



Exemptions

- Consolidate exemptions and place in section 93120(d)
- Retain exemption for curved plywood
- Provide exemptions for:
 - ✓ Packaging materials and dunnage
 - ✓ Exempt inventories of replacement component parts
 - ✓ Molded products

Proposed Amendments to Definitions (Added or Revised)

- Hardboard
- Curved plywood
- Dunnage
- Molded products
- Packaging materials
- Replacement parts
- Veneer
- Hardwood Plywood
- MDF
- Particleboard
- Platform
- Special back material
- Ultimate purchaser
- Used good

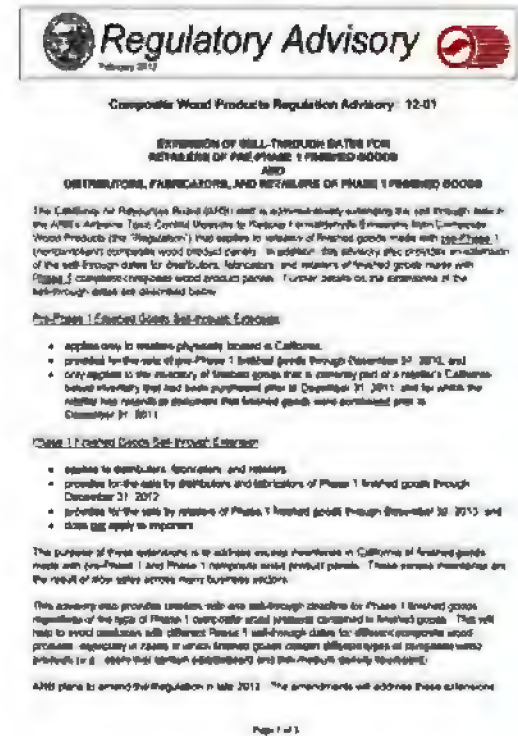
Proposed Amendments to Labeling Requirements

- Require manufacturers to label each panel produced
- Clarify that bar codes cannot be sole form of label
- Require fabrication date to be month/year format

May 2012 Proposed Amendments

Proposed Amendments to Reference Documents and Sell-Through Dates

- Update sell-through periods to reflect regulatory advisories
- Incorporate updated ANSI and ASTM documents
 - ✓ e.g., ANSI/HPVA HP-1-2009 for HWPW; ANSI A208.2-2009 for MDF



Proposed Amendments to NAF/ULEF Requirements

- For qualification of ULEF exempt/reduced testing applications, reduce period for collecting QC data from 6 to 4 months
- Require additional information in application/renewal request for NAF/ULEF exempt from testing
 - ✓ Results of one or two primary/secondary method test reports
 - ✓ Copies of resin purchases for 6-months preceding the expiration of the Executive Order
 - ✓ Production data for 6-months preceding the expiration of the Executive Order
 - ✓ Signed affirmations of exclusive use of resin

Proposed Amendments to TPC Program Management

- Adjustments to improve and streamline program management:
 - ✓ Require TPCs “evidence” of product certification agency accreditation to be based on ISO Guide 65 (through September 2015) or ISO/IEC 17065
 - ✓ Include conflict of interest criteria to preclude manufacturer/fabricator from being a TPC

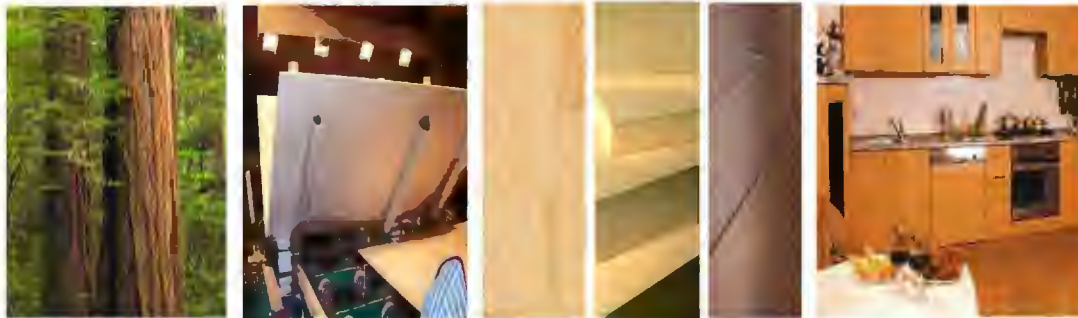
Proposed Amendments to TPC Reporting and Recordkeeping

- To improve strength of TPC program and ARB's ability to evaluate TPC performance require:
 - ✓ TPCs to report steps taken if exceedance occurs
 - ✓ Keep records including:
 - Background concentrations of formaldehyde measurements
 - Linear regression equation used to calculate the mill's QC limit
 - ✓ Annual report include:
 - Disposition of non-complying lots and corrective actions taken
 - Secondary test method equivalence data (as applicable)
 - Quarterly primary or secondary test results, and dates and outcome of mill audits
 - ✓ TPCs to notify ARB of changes to certified mills (within 30 days of change)

Proposed Amendments to TPC Procedures

- Equivalence – secondary test method
 - ✓ Decrease frequency from once a year to every two years
 - Separate demonstrations of equivalence are not required for identical size secondary method test systems
 - ✓ Restate ranges for determining equivalence
- Require annual participation in interlaboratory comparisons

NOVEMBER 2013 PROPOSED AMENDMENTS



Exemptions

- Provide exemption for:
 - ✓ Cellulosic fiber insulating boards
 - ✓ Cross-laminated timber
 - ✓ Hardboard made by wet or semi-dry forming

Emission Standards

- Require platforms used to make HWPW-CC to meet applicable Phase 2 emission standard
 - ✓ Improves enforceability of finished goods
 - ✓ Most manufacturers currently using compliant platforms
 - ✓ Not applicable to lumber core/special core when used as platform
- Dry-formed hardboard classified as MDF
 - ✓ Different approach than U.S. EPA

Labeling Requirements

- Require manufacturers to label each panel produced
 - ✓ Label may be applied as a stamp, edge printed, or as a removable label
- Labeling finished goods
 - ✓ Required information need not all be in one label

Proposed Amendments to NAF/ULEF Requirements

- Retained two year renewal period
- ARB approval and amended Executive Order required when changes occur that may affect emissions i.e., *addition/replacement of resin system, addition of products, increase in resin application rate*
- Additional tests required:
 - ✓ ULEF PB/MDF – 1 TPC verification test and 1 month of QC data
 - ✓ ULEF HWPW – 1 TPC verification test and 2 months of QC data
 - ✓ NAF PB/MDF/HWPW – 1 TPC verification test

Manufacturer Quality Assurance Requirements

- Require manufacturer to have TPC approved plan for notification of noncomplying lots
 - ✓ Notification required within 72 hours
- Failure of Primary or Secondary Test
 - ✓ Invalidates approval for ULEF-reduced testing
 - ✓ Requalification requires verifying test plus one month QC data (2 months for HWPW)
- Identified situations when QC tests need to be performed for HWPW (same as for PB and MDF)

Proposed Amendments to TPC Procedures

- Equivalence – secondary test method
 - ✓ Allow decreased frequency from once a year to every two years, only after 3 consecutive years of successful equivalence determinations
 - ✓ Require equivalence in two ranges with the means differing by at least 0.03 ppm
 - ✓ Provide flexibility for laboratories to only test within one range
- Require annual participation in interlaboratory studies
 - ✓ ARB provided flexibility to require every two years
 - ✓ ARB to determine proficiency criteria

Proposed Amendments to TPC Requirements

- Require TPCs to undergo auditing by their respective accreditation bodies. The audit will verify:
 - ✓ Standard operating procedures on testing consistency with regard to following ASTM standards
 - ✓ Small chambers being operated properly as secondary method
 - ✓ If multiple small chambers are operated as secondary methods they show comparable results
 - ✓ TPC's duties on auditing manufacturers
 - ✓ TPC provided a mill with recommendation on corrective action based on TPC's audit
- Copy of audit report to be submitted with TPC renewal application

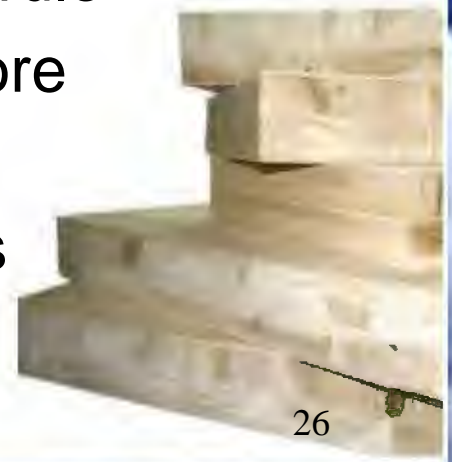
ADDITIONAL DISCUSSION TOPICS



Additional Discussion Topics

Two-ply & Lumber Core/Special Core HWPW

- Exempt hardwood plywood with two-ply and lumber core or special core material
 - ✓ Consistent with FAQ
 - ✓ Inconsistent with U.S. EPA's proposed rule
 - U.S. EPA proposes to include all core types in the definition of HWPW
 - ✓ Looking for feedback from stakeholders



Additional Discussion Topics

Secondary Test Method (ASTM D 6007)

- Require all TPCs and contract laboratories to operate secondary method
 - ✓ Most TPCs/labs possess small chambers
 - ✓ After equivalency established can be used for certification and verification tests
 - ✓ Allows one panel to be sent for ILCs, eases cost, logistics and preparation
- Nine specimens representing a panel may be tested individually or in groups of 3
- Should 3 specimens be allowed to represent a panel?



Additional Discussion Topics

TPC Proficiency Criteria

- ATCM amendments provide that ARB will determine proficiency criteria for TPC/contract lab performance in interlaboratory comparisons
 - ✓ Integrity of the TPC program is critical to ensuring compliant products manufactured world-wide
- Proposed proficiency criteria for evaluating interlaboratory comparisons:
 - ✓ Laboratory performance expressed as z-score
 - ✓ $z \leq \pm 2.0$: Satisfactory performance
 - ✓ $z > \pm 2.0$: Unsatisfactory performance and follow-up required.
 - Failure to achieve proficiency in the follow-up study will result in further investigation (i.e., program audit by ARB and additional round of testing)
 - Termination of Executive Order if unable to rectify problems during follow-up evaluation

Confidential Resin Information

- Eliminate requirement to provide detailed resin formulation as part of NAF/ULEF applications
 - ✓ What alternative approach will provide assurance that resin and additives are not changed over duration of approval?
 - At minimum, require resin supplier name and resin name
 - Signed statement of certification for resins and additives used
 - Other?

LAMINATED PRODUCTS



Laminated Products - Current ATCM

- Applies to laminated products made by fabricators
 - ✓ Laminate consists of wood veneer or synthetic material
- Requires use of certified platform



Laminated Products – U.S. EPA Proposed Rule

- Applies to laminated products made by manufacturers or fabricators
 - ✓ Laminate consists of wood veneer
- U.S. EPA proposal requires use of certified platform, third party certification, and quality control (QC) testing
 - ✓ Wood veneer attached to a certified platform using NAF resin would be exempt from third party certification
 - ✓ Producers required to maintain records of NAF resin and certified platform purchases

ARB Staff Preliminary Thoughts re: Laminated Products

- Requiring TPC certification on all laminators and fabricators likely to result in significant cost increases
- Many laminators/fabricators are small to mid-size businesses
 - ✓ Cost impact to replace equipment to be able to use NAF resin may be significant
 - ✓ Unfamiliar with concepts of TPC and QC
- May not be sufficient TPC capacity to provide certification services
 - ✓ Potentially thousands of affected fabricators worldwide

Why Should Laminated Products be Held to a Different Standard than HWPW-CC/VC?

- Laminated products:
 - ✓ Not sold as hardwood plywood panels or as complying with ANSI/HPVA HP-1
 - Not subject to the bond line requirements or strength testing
 - ✓ Larger variation in the size and volume of laminated panels/components
 - ✓ Greater variety of veneers, cores, resins resulting in hundreds of product lines
 - ✓ Thousands of fabricators, many small shops, hand lay up without hot presses

Laminated Products – Discussion Proposal

- Establish emission performance standard of 0.11 ppm (finished and unfinished)
 - ✓ Standard would apply to all laminated products; synthetic and wood veneers
 - ✓ Under U.S. EPA's rule only apply to wood veneers affixed to certified platform
 - ✓ Proposed standard based on highest Phase 2 emission standard typically used as platform
- Other requirements would continue i.e., labeling, use of certified platform
- Routine quality control testing and third party certification not required
 - ✓ Fabricators determine best way to ensure compliance
 - ✓ Fabricators access to TPC verification data critical

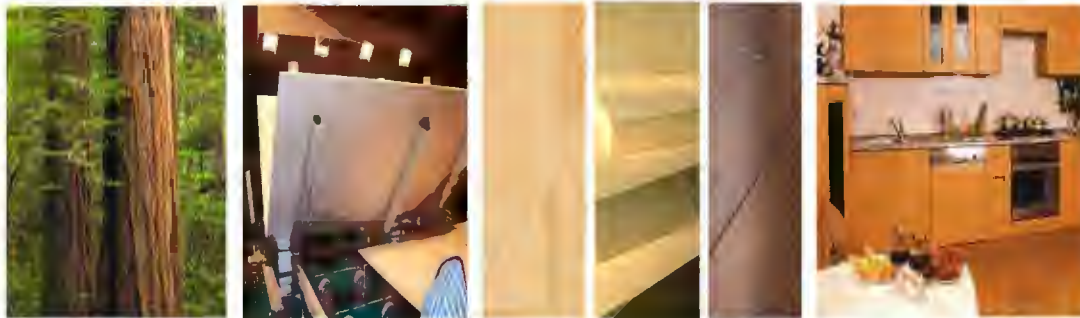
Benefits of Laminated Products Discussion Proposal

- Achieves additional emission reductions beyond ATCM requirements
- Performance-based
- Minimizes economic burden on small businesses
- Simplifies enforcement
 - ✓ No deconstruction needed to determine the type of platform material used in laminated product

Next Steps

- Evaluate stakeholder input
- Additional data collection and collaboration on key issues
- Evaluate U.S. EPA's final regulation
- Additional public workshops as needed
- ARB Board consideration (after release of final U.S. EPA federal regulation)

STAKEHOLDER PRESENTATIONS



OPEN DISCUSSION



Contacts



Angela Csondes, Air Pollution Specialist

916-445-4448 or acsondes@arb.ca.gov

Lynn Baker, Staff Air Pollution Specialist

916-324-6997 or lbaker@arb.ca.gov

Peggy Taricco, Manager

916-323-4882 or ptaricco@arb.ca.gov

Composite Wood Products ATCM Website:

<http://www.arb.ca.gov/toxics/compwood/compwood.htm>