

**ENVIRONMENTAL PROTECTION AGENCY
WOOD FURNITURE REGULATORY NEGOTIATION
LETTER OF ENDORSEMENT OF FINAL DOCUMENT**

_____ participated as a party to the Wood Furniture Regulatory Negotiation Committee which was chartered under the Federal Advisory Committee Act on June 8, 1993. Over the course of its deliberations, the Committee developed a framework and principles to serve as a basis for the draft NESHAP and draft CTG being developed by the Environmental Protection Agency for the wood furniture industry. The results of this effort are set forth in the Committee's Final Document, dated October 27, 1994.

In signing this letter of endorsement, each Committee member or other signatory is stating that the party he or she represents endorses the Final Document. Furthermore, assuming all parties to the negotiation sign this Letter of Endorsement, each agrees to the following:

1. EPA agrees that any draft NESHAP* and draft CTG* that it publishes in the Federal Register for the Wood Furniture industry will be based on, and have the same substance and effect as, the provisions of the Committee's Final Document.
2. EPA agrees to provide each Committee member with draft language of the NESHAP and CTG prior to publication and to work with Committee members to assure that the draft language has the same substance and effect as the provisions of the Committee's Final Document.
3. Each party agrees not to file negative comments in response to -- and not to challenge in court -- any provisions of the published draft NESHAP and draft CTG addressing issues covered by, and having the same substance and effect as, the provisions of the Committee's Final Document. Each party is released fully from these commitments with respect to all provisions of the published draft NESHAP and CTG if any such provisions addressing issues covered by the Committee's Final Document do not have the same substance and effect as the provisions of the Committee's Final Document, or if any other party fails to live up to either of these commitments.

Representing:

Date:

* "NESHAP" and "CTG" as used herein to refer broadly to both the core documents and associated documents such as the preamble to the NESHAP, any enabling documents, model rules, or other guidance documents referenced in the Committee's Final Document.

**ENVIRONMENTAL PROTECTION AGENCY
WOOD FURNITURE REGULATORY NEGOTIATION**

FINAL DOCUMENT

October 27, 1994

INTRODUCTION

The Wood Furniture Regulatory Negotiation Committee has been meeting over the course of sixteen months. Previously, members of the Committee and other members of the public had participated in a series of public meetings which laid the groundwork for the negotiations in terms of identifying information needs and beginning to define the scope of issues. Committee members represent Federal and State regulators, large and small wood furniture manufacturers, coatings and resin manufacturers, and the environmental community.

The Committee's charge has been to develop a framework and principles to serve as a basis for a draft national emission standard for hazardous air pollutants (NESHAP) and a control techniques guideline (CTG) covering volatile organic compound (VOC) emissions for the wood furniture industry. The United States Environmental Protection Agency, a party to these negotiations, is responsible for issuing the NESHAP and CTG, and has agreed to use any framework and principles, that it and all the other Committee members agree to during the course of these negotiations, as the basis for the draft NESHAP and CTG.

The Committee has been successful in this endeavor. Set forth below are provisions containing the framework and principles that the Committee has developed.

NESHAP

PRELIMINARY MATTERS

1. Category or Sub-Categories A single, industry-wide category.
2. Units of Measurement Emissions should be measured in terms of pounds of HAPs per pound of solids used (except for solvents under the compliant coatings approach, see #3a below).

(In this document, "pounds of HAPs per pound of solids used" is sometimes abbreviated to "pounds of HAPs per pound of solids" or "lbs. HAPs/lb. solids.")

- 2a. Volatile and Non-Volatile HAPs Volatile and non-volatile HAPs should be addressed in this NESHAP through requirements for transfer efficient application technology (see #4 below). The allowable emissions levels set forth in this NESHAP should be stated in terms of pounds of volatile HAPs — "VHAPS" — per pound of solids (see #3 below).

MEASURES TO REDUCE HAPs EMISSIONS AND RELATED PROVISIONS

3. Allowable Emissions Level, In Pounds of VHAPs Per Pound of Solids, For Existing Major Sources For existing major sources, the allowable emissions level for HAPs should be 1.0 pound of VHAPs per pound of solids. If materials used in wood furniture coatings are added to or deleted from the HAPs list, the allowable emissions level for existing major sources should be reviewed and appropriately adjusted.
- 3a. Compliance Approaches for Meeting the Allowable Emissions Levels A source should have the option of complying with the allowable emissions level set forth above either by using compliant coatings, averaging across finishing steps, or other methods that have been demonstrated, to the satisfaction of the Administrator, to achieve an equivalent (or lower) level of HAPs emissions:

Compliant Coatings A source should be able to comply with the allowable emissions level set forth above by using topcoats, sealers, and stains that do not exceed 1.0 pound of VHAPs per pound of solids as applied. Also under this compliance approach, thinning solvents with 10% or less HAPs by weight should be deemed compliant. Washcoats, basecoats, and enamels should be deemed compliant if they are purchased ready-made from a coating supplier and meet the 1.0 pound of VHAPs per pound of solids as applied, or if they are made at the furniture facility using compliant

topcoat or sealers and thinning solvents containing 3% or less VHAPs by weight.

Averaging Across Finishing Steps A source should be able to comply with the allowable emissions level set forth above by not exceeding 1.0 pound of VHAPs per pound of solids for the weighted average of all the finishing steps applied in the facility.

Equivalency A source should be able to comply with the allowable emissions level set forth above by methods that have been demonstrated, to the satisfaction of the Administrator, to achieve an equivalent (or lower) level of HAPs emissions.

4. Application Technology Requirement Major sources should be prohibited from using conventional manual air spray guns for applying coatings except for:

coatings with a VOC content that does not exceed 1.0 pound of VOCs emitted per pound of solids applied,

touch-up and repair under the following conditions: (1) the touch-up and repair occurs after completion of the finishing operation; or (2) the touch-up and repair occurs after the application of stain and before the application of any other type of finishing material, and the materials used are applied from a container that has a volume of no more than 2.0 gallons,

automated spray,

when add-on controls are employed,

if the cumulative application is less than 5% of the total gallons of coatings used semi-annually,

stains applied on finishing lines where it is technically or economically necessary to use conventional manual air spray application due to linespeed, and size and/or configuration of the furniture pieces.

5. "VHAPS of Potential Concern" A list of "VHAPS of Potential Concern" currently used by in wood furniture finishing processes has been established by the Committee for wood furniture coating processes. This list is based on the CAA 112g "nonthreshold," "high concern," and "unrankable" lists. Baseline annual usage levels (pounds per year) for each "VHAP of potential concern" should be identified by existing major sources. The baseline annual usage should be the annual usage in the year 1994, 1995, or 1996, whichever is highest. De minimis usage levels have been established by the Committee based on the 70 year exposure value for emissions rates developed by EPA under CAA

112g. EPA should request comment on the use of 70 year and 7 year exposure values in the preamble to the NPRM.

The VHAPs of Potential Concern and their de minimis usage levels are: dimethyl formamide (1.0 tons/yr); free formaldehyde (0.2 tons/yr); methylene chloride (4.0 tons/yr); 2-nitropropane (1.0 tons/yr); isophorone (0.7 tons/yr); styrene monomer (1.0 tons/yr); phenol (0.1 tons/yr); diethanolamine (5.0 tons/yr); 2-methoxyethanol (10.0 tons/yr); 2-ethoxyethyl acetate (5.0 tons/yr).

Each major source should keep annual usage records for each "VHAP of potential concern," excluding those used in quantities not subject to MSDS reporting under the OSHA Hazard Communication rule.

After three years from promulgation of the NESHAP, if a major source exceeds its annual baseline or its de minimis usage level, whichever is greater (if an annual baseline has not been established the de minimis level should be used), for a "VHAP of potential concern," it should be required to provide an explanation to its permitting agency. If a source uses a VHAP on one of the three CAA 112g lists referenced above that is not identified on the list of "VHAPs of potential concern," the source should take the same steps with respect to that VHAP.

Explanations that would relieve the facility from further action should include that: (1) the exceedance is less than 15%, or (2) the facility is still in compliance with its State's air toxic program (if one exists that addresses the VHAP of potential concern in question), or (3) the source of the pollutant is a finishing material with a VOC content of not more than 1.0 pound VOC per pound solids as applied, or (4) usage of the VHAP of potential concern is below the de minimis level established for it (sources using a control device may adjust their usage based on the overall control efficiency of the control system).

If the exceedance cannot be explained as described above, the facility should confer with its permitting agency to discuss practical and reasonable technology-based solutions for reducing the usage. The evaluation of whether a technology is practical and reasonable should be based on cost, quality and marketability of the product, whether the technology is being used successfully by other wood furniture manufacturing operations, or other criteria mutually agreed upon by the permitting agency and the owner or operator.

If there are no practical or reasonable solutions, the facility need not take further action. If there are solutions, the owner or operator should be required to develop a plan to reduce the usage of the VHAP of potential concern to the extent feasible.

6. Trends Report The preamble to the NESHAP should call for a "Trends Report" which should be developed every two years by the industry, with input from EPA and the States, and made available to interested parties by EPA. In developing the Trends Report, a sample of the industry which is determined to be

representative of the entire industry should be surveyed. 1994 data collected in this way by the industry should be used to establish a baseline in the first Trends Report which should be completed in 1995. This baseline should be used in subsequent years to determine whether the industry's overall use of VHAPs and VOCs is increasing or decreasing. Data on increases and/or decreases in the use of individual VHAPs and VOCs should also be addressed. Any individual data submissions that reflect confidential business practices and/or trade secrets should not be disclosed publicly.

Subsequent Trends Reports should be developed every other year, with the second one covering 1996, until one year after EPA is required to complete the "residual risk" review of this NESHAP pursuant to 42 U.S.C. Section 7412 (f) (2).

These Trends Reports should also include a brief discussion of technologies being used by the industry to reduce emissions, and a discussion of evolving technologies including new finishing materials, adhesives, and improved application equipment. This discussion should not be an attempt to explain the emission trends, but rather it should be an independent review by industry experts of new technologies that are getting increased use or are being developed.

A working group should be formed from interested Committee members to provide further input on the details of the scope of the report.

7. Work Practice Standards The following work provisions concerning work practice standards should be included in the NESHAP:

Finishing Operations

- A. Develop a written inspection and maintenance plan addressing leaks and preventive maintenance for all fluid transfer and application equipment and regular inspection of application equipment performance.
- B. All storage tanks, drums, buckets, and mixing equipment containing solvents or solvent-laden materials (e.g., rags) shall be kept covered when not in active use in a manner that will minimize emissions.

Gun and Line Cleaning

- C. Gun and line flushing solvents shall be collected in a container that can be covered.
- D. Keep all containers covered when not in active use.

Spray Booth Cleaning

- E. Spray booth floors, walls, and ceilings shall be coated with a peelable or strippable material. Solvent shall not be used for booth cleaning except for the cleaning of conveyers or metal filters, unless the spray booth is being

refurbished. If the spray booth is being refurbished, then not more than 1.0 gallon of organic solvent per booth should be used to prepare the surface of the booth prior to applying the booth coating.

- F. Booth coatings containing greater than 0.8 lb. VOCs/lb. solids shall not be used.

Furniture Wash-off

- G. Wash-off or cleanup material shall not contain any EPA listed known (Type A) or probable (Type B1 or B2) human carcinogen in concentrations greater than OSHA requirements as demonstrated by the material safety data sheet.
- H. Keep wash-off tank covered when not in active use.
- I. Minimize dragout by tilting and/or rotating part to drain as much solvent as possible and allowing sufficient dry time to minimize emissions.

General Work Practice, Recordkeeping

- J. All new employees using solvent for coatings, wash-off, or cleanup shall be trained to minimize emissions. At a minimum, training shall include proper application and cleanup technique, proper equipment setup and adjustment to minimize coating usage and overspray, and proper management of cleanup wastes. All operators (new and existing) shall be re-trained annually.
- K. Maintain a tracking system for wash-off operations to track the number and main reason each piece is washed off.
- L. Keep a running log of organic solvents used for cleanup and wash-off. Net cleanup and wash-off solvent use shall be tallied monthly, accounting for solvent sent offsite for recycling or disposal or recovered for reuse onsite. Records shall include the types of solvents used for cleanup or wash-off.
- M. Develop a written work practice standards implementation plan.

Suggestions (not regulations) to be included in preamble

- N. Facilities are encouraged to expand their Work Practice Standards Implementation Plan into a multi-media pollution prevention plan which addresses hazardous waste generation, solid waste generation, water pollutant releases, and worker exposure to hazardous materials in addition to air emissions.
- O. Position workpiece to minimize overspray. Also, the piece to be coated should be positioned to make spraying as comfortable as possible for the operator to increase the likelihood that good spray techniques are used.
- P. Whenever practical, use heat instead of solvent to reduce coating viscosity.
- Q. Optimize spray pattern and technique to the work piece size, shape, and orientation (e.g., coat slender pieces with a narrow spray pattern).

- R. Use self-contained recycling gun washers.
 - S. Whenever practical, schedule colors light to dark to minimize level of cleanliness necessary (e.g., roll coating applications), and try to schedule long runs to minimize material changeover and associated cleaning.
 - T. Reduce need for cleaning by using dedicated equipment for high-volume coatings.
 - U. Use the shortest possible lines to reduce solvent needed for line cleaning.
 - V. Drain lines prior to solvent cleaning and use air pressure, pigs/squeegees, or solvent pulse cleaning.
 - W. Reuse dirty cleanup and wash-off solvents for non-critical uses wherever possible, and recycle (onsite or offsite) the solvents when too contaminated to be reused. All reuse and recycling of solvent should be done in a manner which minimizes solvent emissions.
 - X. Further suggestions on reducing emissions from cleanup processes can be found in EPA's Alternative Controls Technique Document for Cleaning.
8. Requirements for New Major Sources New major sources should have to comply with the application technology requirements and work practice standards set forth above and meet an allowable emissions level of 0.8 pounds of VHAPs per pound of solids. A new major source should be able to employ any of the compliance approaches available to existing major sources, including methods other than reformulation that have been demonstrated, to the satisfaction of the Administrator, to achieve an equivalent (or lower) level of HAPs emissions. If materials used in wood furniture coatings are added to or deleted from the HAPs list, the allowable emissions level for new major sources should be reviewed and appropriately adjusted.
- A new major source should be able to comply with the allowable emissions level by using topcoats and sealers that do not exceed 0.8 pounds of VHAPs per pound of solids as applied and stains that do not exceed 1.0 pounds of VHAPs per pound of solids as applied. Washcoats, basecoats, and enamels used by new major sources should be deemed compliant if they are purchased ready-made from a coating supplier and meet the 0.8 pound of VHAPs per pound of solids as applied, or if they are made at the furniture facility using compliant topcoat or sealers and thinning solvents containing 3% or less VHAPs by weight.
- A new major source should be able to comply with the allowable emissions level by not exceeding 0.8 pounds of VHAPs per pound of solids for the weighted average of all the finishing steps applied in the facility.
9. Emissions Standards for Gluing Operations EPA should develop NESHAP provisions addressing gluing operations in consultation with interested parties, but not as part of this regulatory negotiation.

RECORDKEEPING, REPORTING, AND AVERAGING PERIOD

10. Averaging Period The averaging period for sources employing an averaging compliance approach should be monthly.
11. Recordkeeping and Reporting Sources using compliant coatings should maintain records of coatings and thinning solvents purchased that show the VHAPs content of the coatings and that any solvents added to coatings contain 10% or less VHAPs by weight. Solvents used to wash-off or clean pieces of furniture are addressed in the work practice standards (see #7 above).

Sources complying with the allowable emissions level through an averaging approach should maintain records of the amount and HAPs content of coatings used during the averaging period, except solvents used to wash-off or clean pieces of furniture.

Recordkeeping requirements for sources using some other equivalent compliance approach should be established on a case-by-case basis. Whichever compliance approach is employed, compliance should be determined at the point of application. Reporting should be semi-annual, except for the case where continuous monitoring system data are to be used directly for compliance determination (e.g. to sources complying through the use of control devices) and the source experienced excess emissions. In this case the source should follow a quarterly reporting format for at least one year after the excess emissions occur and until a reduced reporting frequency is approved.

TIMING ISSUE

12. Compliance Timeframe Compliance with the NESHAP should be required in 2 years after promulgation, but in no case before November 21, 1997, for sources emitting 50 tons or more of HAPs per year. For sources emitting less than 50 tons of HAPs per year, compliance with the NESHAP should be required in 3 years after promulgation.

CTG

PRELIMINARY MATTERS

13. Whether to Segment the Industry The industry should not be segmented because the low-emitting reference technologies identified below are reasonably available throughout the industry.
14. Units of Measurement Emissions should be measured in terms of pounds of VOCs per pound of solids used.

(In this document, "pounds of VOCs per pound of solids used" is sometimes abbreviated to "pounds of VOCs per pound of solids" or lbs. VOCs/lb. solids.")

MEASURES CONCERNING THE CTG REFERENCE TECHNOLOGIES

15. Reference Technologies To Serve As Presumptive Norms The CTG should identify the following emission reduction technologies as presumptive norms for RACT: waterborne topcoats, high solids topcoats and sealers, and in most situations application technology with higher transfer efficiency than conventional manual spray guns (see #16 below for exceptions).
- 15a. Compliance Approaches Consistent with the CTG The CTG should state that, alternatively, a source should be able to comply by any other technique or combination of techniques (e.g., reverse hybrid, add-on controls, averaging) that are demonstrated, to the satisfaction of the permitting agency (who in turn must seek approval from the Administrator), to achieve a level of VOCs emissions that is equivalent to (or lower than) the level it would achieve using the presumptive norm reference technologies set forth in the CTG. A means of implementing this "equivalency" provision, consistent with EPA's broader, evolving regulatory framework for VOCs, should be incorporated into the CTG to the satisfaction of all parties.
16. Standards Defining Presumptive Norm Reference Technologies The CTG should use the following standards to define the reference technologies:

Waterborne Topcoats For topcoats to meet the definition of the waterborne topcoats reference technology, they must have a VOC content that does not exceed 0.8 pounds of VOCs per pounds of solids. Compliance for these purposes should be measured at the point of application.

High Solids Topcoats and Sealers For topcoats and sealers to meet the definition of the high solids topcoats and sealers reference technology, the topcoats must have VOC contents not exceeding 1.8 pounds of VOCs per pound of solids and the sealers must have VOC contents not exceeding 1.9 pounds of VOCs per pound of solids, except as noted in the next sentence. Acid-cured alkyd amino conversion varnish topcoats must not exceed 2.0 pounds of VOCs per pound of solids and acid-cured alkyd amino vinyl sealers must not exceed 2.3 pounds of VOCs per pound of solid. Compliance for these purposes should be measured at the point of application.

Transfer Efficient Application Technology Application technology with higher transfer efficiency than conventional manual air spray guns should be employed except for:

coatings with a VOC content that does not exceed 1.0 pound of VOCs emitted per pound of solids applied,

touch-up and repair under the following conditions: (1) the touch-up and repair occurs after completion of the finishing operation; or (2) the touch-up and repair occurs after the application of stain and before the application of any other type of finishing material, and the materials used are applied from a container that has a volume of no more than 2.0 gallons,

automated spray,

when add-on controls are employed,

if the cumulative application is less than 5% of the total gallons of coatings used semi-annually,

stains applied on finishing lines where it is technically or economically necessary to use conventional manual air spray application due to linespeed, and size and/or configuration of the furniture pieces.

RECORDKEEPING AND REPORTING

17. **Recordkeeping and Reporting** For coatings supplied as compliant to which no solvent is added, "as supplied" VOC data sheets should be kept for each coating used. For coatings supplied as compliant to which solvent is added, "as applied" data sheets should be kept that calculate the VOC content of the coating after each time solvent has been added. For sources complying by some other equivalent technique or combination of techniques (e.g., reverse hybrid, add-on controls, averaging), recordkeeping requirements should be established on a

case-by-case basis. For each compliance approach, semi-annual reporting should be required.

TIMING ISSUE

19. Timing of Issuance of Guidance to the States Parties to this negotiation have taken all reasonable steps to promote the timely issuance of guidance to the States based on the framework and principles set forth herein so as to allow sufficient time for compliance by sources.

SMALL BUSINESS ISSUES

20. Annual Emissions Thresholds Triggering Major Source Status With respect to the NESHAP, a source should have to meet the requirements for major sources if it emits 10 tons or more of a single HAP or 25 tons of any combination of HAPs annually. With respect to the CTG, a source in a non-attainment area should have to meet the requirements for major sources if it emits 25 tons or more of VOCs annually (10 tons or more in Los Angeles). If an existing source exceeds these thresholds, it should be required to meet the requirements for existing major sources even if its HAPs emissions subsequently fall back below these thresholds.
21. Recordkeeping and Reporting Requirements for Demonstrating Compliance with Federally Enforceable HAPs and VOCs Emissions Limits Below the Relevant Annual Emissions Thresholds An enabling guidance document should be drafted setting forth appropriate recordkeeping and reporting requirements for non-major sources ("synthetic minors") in this industry. It should call for sources with HAPs emissions of 75% or less of the relevant HAPs (10/25 tons) or VOCs (25 tons, 10 tons in LA) annual emissions thresholds to maintain records based on purchases adjusted by inventory and to submit annual reports. Sources with annual emissions of more than 75% of the annual thresholds should keep records either based on purchases adjusted by inventory or based on usage, with quarterly reporting. A source whose emissions cross from below the 75% level to above should notify the permitting agency and submit quarterly reports for the remainder of that year and the next year. If such a source emits at the 75% or less level throughout that next year, it can return to annual reporting the third year.
22. Implementation of Work Practice Standards The preamble to the NESHAP should explicitly recognize the burden that implementation of the work practice standards (set forth in #7 above) may impose on small major sources and

should suggest that the States do what they can generally to minimize this burden as small major sources implement the work practice standards.

23. Clarification Regarding New Source Review for Non-Major Sources The preambles to the NESHAP and CTG should reference a memo, to be developed by EPA, responding to questions developed by the Committee's Small Business Workgroup concerning the application of requirements for new major sources, and new source review, to non-major sources.
24. Guidance and Encouragement for Use of General Permits The preambles to the NESHAP and CTG should explain and encourage the use of general permits and "synthetic minor" permits.
25. Information Outreach for Small Business The preambles to the NESHAP and CTG should call for the establishment of an information outreach program to serve as a resource for small wood furniture manufacturers. The program should develop printed materials, videos, workshops, etc., to advise small business about such implementation issues as permitting requirements, how to prepare for "case-by-case" determinations, alternative methods for reducing emissions, thresholds for permits and reporting, how to become a "synthetic minor," calculating potential emissions, record keeping, etc. The State of North Carolina Small Business Ombudsman Office and EPA should lead this effort. They should work with other state small business offices and interested members of the industry to explore program/materials design and development, funding and resource issues, etc. The details of this information outreach program should be laid out in a guidance document.
26. Extension of CTG Compliance Date for Small Sources A source emitting less than 50 tons of VOCs annually should be allowed an additional period of time to establish federally enforceable emissions limits or, if a major source, to research technologies, train employees, and develop recordkeeping capabilities. This period of time should be up until November, 1996.