

Permit No.: 34-2060  
Expiration Date: 8-1-97  
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AIR CONTAMINANT DISCHARGE PERMIT

Department of Environmental Quality  
811 SW Sixth Avenue  
Portland, OR 97204-1390  
Telephone: (503) 229-5696

Issued in accordance with the provisions of ORS 468A.040 and based on the land use compatibility findings included in the permit record.

ISSUED TO:

White Consolidated Industries, Inc.  
dba Schrock Cabinet Co.  
PO Box 547  
Hillsboro, Oregon 97123

REFERENCE INFORMATION:

Source Specific RACT Determination,  
Submitted 3-22-93  
Additional information submitted  
7-30-93, and 3-16-94

PLANT SITE LOCATION:

600 SW Walnut Street  
Hillsboro, Oregon 97123

ISSUED BY THE DEPARTMENT OF ENVIRONMENTAL QUALITY

*Tom Bispham*

Tom Bispham, Northwest Region Administrator

AUG 9 1995

Dated

ADDENDUM NO. 2

As required by OAR 340-22-104, the Department has determined VOC RACT requirements for this source. These modifications are subject to EPA approval and will be effective one year after notice of approval is given to the source. In accordance with OAR 340-14-040, Air Contaminant Discharge Permit No. 34-2060, Conditions 6, 8, 9 and 11 through 16 shall read as follows:

Department of Environmental Quality  
Air Quality Division

DEPARTMENT INITIATED MODIFICATION

AIR CONTAMINANT DISCHARGE PERMIT REVIEW REPORT

White Consolidated Industries, Inc.  
dba Schrock Cabinet Co.  
600 SW Walnut Street  
Hillsboro, Oregon 97123

GENERAL BACKGROUND INFORMATION

1. White Consolidated Industries, Inc. operates a cabinet manufacturing facility under the name of Schrock Cabinet Co., located at 600 SW Walnut Street in Hillsboro. The processes include the construction and finishing of kitchen cabinets. Schrock Cabinet Co. employs a three-step process for coating kitchen cabinets. The cabinets receive one coating of stain or toner, one of sealer, and one of topcoat. The coating process includes an overhead conveyor line.
2. This is a Department initiated modification to Air Contaminant Discharge Permit (ACDP) No. 34-2060, which was issued on 4-13-94 and is scheduled to expire on 8-01-97. This modification documents the source specific Reasonably Available Control Technology (RACT) determination that the Department and the permittee conducted pursuant to Oregon Administrative Rules (OAR) 340-22-104 (5), and under the provisions of OAR 340-20-047. This modification establishes RACT limits and/or operating conditions for the processes at the facility which use and emit volatile organic compounds (VOC).

Reasonably Available Control Technology (RACT)

Portland Ozone Attainment Status

3. The Portland Metropolitan area is currently designated as a marginal nonattainment area for ozone. The Schrock Cabinet Co. facility is located within the nonattainment area. However, for the years 1991 through 1993, the Portland area airshed met the criteria for an ozone attainment area. One exceedence of the ozone National Ambient Air Quality Standard of 0.125 occurred in 1991 and 1992, while no exceedences occurred in 1993. At this time, the Department is drafting an ozone maintenance plan to submit to the EPA as part of the Oregon State Implementation Plan. Upon approval of the maintenance plan by the EPA, the Portland area will be considered in attainment with the ozone standard. The RACT permit conditions will be required in the future as an element of the pollution prevention efforts to remain in attainment with the ozone standard.

## T Determination

This RACT-permit modification places limits on the VOC content of coatings used in the finishing steps of wood cabinet production and VOC handling methods used in solvent related cleaning. The implementation of the permit conditions will result in lower VOC emissions than previously permitted through the use of coatings containing higher concentrations of solid and utilizing best management practices during solvent cleaning operations, as listed in Condition 14. of the permit Addendum.

The RACT review of the permittee's operations focused on the coating processes.

## ting Processes

The coating processes contribute to the majority (approx. 90%) of Schrock Cabinet Co. VOC emissions. RACT determinations for similar coating operations in other states were evaluated as well as the effectiveness of applying control technologies that capture and remove VOC. The following three areas were included in the coating evaluation:

- a. Alternative coatings
- b. Increased transfer efficiency of coating solids to substrate
- c. Add-on controls

The RACT analysis and supplements submitted by Schrock Cabinet Co. (March 1993, July 1993, and March 1994) included a comparison of the requirements of different states for wood products coatings as included in the RACT/BACT/LAER Clearinghouse. In addition, White Consolidated Industries is a participant in the wood furniture coating regulatory negotiation (reg-neg) process. This is the follow-up process to EPA's draft Control Technique Guideline from October, 1991.

A few of the Clearinghouse entries were potentially comparable to the Schrock Cabinet Co. facility. These RACT decisions included specific coating limits (lb VOC/gal), which were found to be comparable to the coatings already in use at Schrock Cabinet Co.. An increase in transfer efficiency was implied for some facilities by the requirement of a coating application technology, such as Air Assisted Airless (AAA) or high volume, low pressure (HVLP). The operations at these facilities were being reviewed for RACT or BACT determinations (best available control technology). This type of requirement was considered for the Schrock Cabinet Co. facility along with a coating limit where applicable. Add-on controls were required only for facilities subject to LAER (lowest achievable emission rate) and BACT requirements. Typical add-on controls include thermal oxidation and carbon adsorption.

RACT for the coating processes at Schrock Cabinet Co. was determined to include the use of high-solids coatings, water based coatings, and the most efficient transfer of coating using applicator technology. The

proposed coating standards are equivalent to those proposed in the reg-neg process (as compared with the Jan. 9, 1994 straw person draft document). Although the coatings in use at the facility are of a similar VOC content to limits in other States, it was determined that further VOC reductions were feasible and reasonable through the use of a water based topcoat. As determined in the RACT analysis submittal, add-on controls do not represent RACT due to the cost of capturing the dilute VOC airstream followed by a control technology. The cost of these systems exceed \$3,000 per ton VOC removed, with most control devices showing a cost effectiveness of greater than \$10,000 per ton VOC removed.

Coating limits were established for :

VOC Limits for Coatings, as applied, to Wood Products

COATINGS CATEGORY	LB VOC/GAL (approx. equivalent)*	LB VOC/LB SOLID
Water Based Topcoats	(3.0)	0.8
Pigmented Coatings	4.5	—
High Solids Topcoats <sup>b</sup>	—	1.8
Alkyd Amino Vinyl Topcoats	(5.0)	2.0
High solids Sealers	(5.1)	1.9
Alkyd Amino Sealers	(5.4)	2.3
Sealers used with Water Based Topcoats	5.6	—

- a) The equivalent as calculated using the standard solvent density of 7.36 lb/gal and the density of the solid material in typical coatings of the category. The lb VOC/gal standard should be used as an estimate: actual compliance should be based on the lb VOC/lb solid standard where one is given.
- b) High solids topcoats other than alkyd amino vinyl topcoats.

The coating limits are expressed in terms of pound VOC/pound solid applied (lb VOC/lb solid). This is consistent with the units proposed through the reg-neg process. Where a limit is expressed in terms of lb VOC/gal, as applied, no limits were proposed in the reg-neg process, and the equivalent limit was not determined due to insufficient coating-solids content data.

Transfer Efficiency

As a special condition, the permittee must use the most efficient spray application method appropriate for each coating. The water-based topcoat and high-solids coatings will be applied using conventional air spray. These methods of application have shown to be more effective (by White Consolidated Industries) than the HVLP or air-assisted airless (AAA) equipment due to the physical properties of the water-based formulation. The use of conventional air spray equipment is allowed for touch-up operations and for up to 5% of the total annual gallonage. The 5% allowance for use of conventional air spray on coatings other than water-based or high solids is designed to give Schrock some flexibility to apply custom coatings for short production runs or special orders.

#### lvent Cleaning Operations

The solvent cleaning operations permit conditions are based on the Alternative Control Techniques Document--Industrial Cleaning Solvents (EPA-453/R-94-015) document along with the measures proposed by the permittee. The EPA document summarizes nationwide regulations for industrial cleaning solvents. The measures in the permit are some of the typical requirements specified for cleaning equipment from coating operations when a solvent-based cleaning solution is used. The purpose of the solvent recovery still is to encourage recycling of spent solvent that is captured during the cleaning operations. The spray equipment must be cleaned in such a way as to capture the cleaning solvent and minimize evaporative losses. Any cleaned equipment that holds cleaning liquid (solvent) must be drained into a sealable container. This measure is required to prevent the cleaning liquid to be sprayed out of the equipment onto an exposed surface and evaporated. The final measure is intended to make all other cleaning operations be conducted utilizing best management practices. This is part of the reg-neg language that recognizes the futility is specifying conditions for all cleaning operations, when good housekeeping and standard pollution prevention practices are all that is needed to minimize the evaporation of VOC.

#### ANT SITE EMISSION LIMIT (PSEL)

The RACT adjusted PSEL is 213 tpy, based on 105,290 gallons of coatings and solvents, at an average of 4.04 lb VOC/gal.

The PSEL has been adjusted from the previous permit due to the establishment of RACT limits. Because of limited data from the baseline operations, it is difficult to accurately determine the amount of adjustment based on the RACT limits. However, this was done simplistically through a comparison of the average gallon of coating (finishing material) from baseline and to the average gallon of coating, post RACT implementation. Within the last few years, Schrock Cabinet Co. has had an average lb VOC/gal coating of approximately 5.2 to 5.3, which is the same as the baseline operations. The simplistic comparison results in an adjusted PSEL:

Baseline: 5.25 lb VOC/gal average, 105,290 gallons  
RACT adjusted: 4.04 lb VOC/gal average  
 $(4.04 \text{ lb VOC/gal}) * (105,290 \text{ gal/yr}) / (2000 \text{ lb/ton}) = 213 \text{ tons/year}$

- a) The RACT adjusted average VOC content was determined by the permittee, replacing current solvent based topcoats with a water based topcoat. This estimate is based on 1993 coatings usage but replacing VOC content with those specified in the RACT limits, resulting in 34,094 gallons of finishing material producing 137,800 lbs of VOC emissions for an average of 4.04 lb VOC/gal. This represents a 23% reduction from the baseline emission rate:  $276 \text{ tpy} - 213 \text{ tpy} = 63 \text{ tpy}$ ,  $63/276 * 100\% = 22.8\%$
9. The Plant Site Emission Limit for normal operation is the same as the baseline emission rate of 213 tons per year, and 2,560 lbs/day. The daily VOC emission rate is based on 213 tons/yr divided by 250 days/yr plus 50% increase to account for highest day usage fluctuations.

PUBLIC NOTICE

0. The RACT determination is submitted to the EPA as a source specific revision to the State Implementation Plan and contains performance standards and decreases in the emission limits at the facility. Federal regulations require a notice to the public and a hearing for a State Implementation Plan submittal. A public hearing was held on January 12, 1995 in Hillsboro to receive oral comments on the proposed permit. Written comments were accepted until 5:00 pm on January 13, 1995. Based on the written and oral comments, minor revisions were made to the permit.

RJB:GBD:e  
July 20, 1995  
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