

**COLUMBIA FOREST PRODUCTS, CHATHAM, VA  
HARDWOOD PLYWOOD PLANT  
SYNTHETIC MINOR OPERATING PERMIT APPLICATION**

SECOR International Incorporated (SECOR) has been retained by Columbia Forest Products to prepare a Synthetic Minor Operating Permit application for their hardwood plywood manufacturing plant (CFP-VA) located just north of Chatham, Virginia.

Major sources of regulated air pollutants are required to apply for a federal operating permit under Title V of the Clean Air Act Amendments of 1990. A major source, as defined in 40 CFR Part 70 and VR 120-08-0502, is any stationary source that emits or has the potential to emit 100 tons/yr of any criteria pollutants (in attainment areas), or 10 tons/yr of any hazardous air pollutant (HAP) or 25 tons/yr or more of any combination of HAPs. The criteria pollutants are: total suspended particulate (TSP), particulate smaller than 10 micron (PM<sub>10</sub>), nitrogen oxides (NO<sub>x</sub>), carbon monoxide (CO), sulfur dioxide (SO<sub>2</sub>), and volatile organic compounds (VOCs). Chatham, Virginia is located in Pittsylvania County, which is in attainment for all pollutants.

Based on potential to emit, CFP-VA is a major Title V source for a single HAP (methanol emissions would exceed 10 tons/yr if panel gluing was operated 8,760 hours per year at the highest potential throughput rate). CFP-VA has chosen to apply for a state operating permit as a "synthetic minor" source. CFP-VA will stay out of the Title V federal operating permit program by taking an enforceable limitation on its "Potential to emit" as defined in VR 120-08-04(3). By substituting a maximum operating scenario (which limits the methanol emissions from the resin used in the panel-bonding glues) for the potential to emit, the facility will become a "synthetic" minor source.

**FACILITY DESCRIPTION**

The main product of the plant is 4 foot x 8 foot x 3/4 inch thick hardwood veneer faced panels. The hardwood veneer is brought in from other locations, in a pre-dried condition. The core components consist of a variety of core materials (for instance, composite panels, such as medium density fiberboard, or veneer manufactured by others). The hardwood face veneer is glued to the core material to create hardwood plywood.

Glue is spread on the veneer sheets and/or solid core material, then the hardwood face veneers are placed at the top and bottom of each assembly. After gluing, the laid-up panels are pressed in one of two hot presses.

The plywood panels exiting the hot presses are trimmed by the Greenlee or Jenkins saws. Voids in the panel faces are filled with putty and are run through the sanders. The sanded panels are inspected and packaged for shipment. A portion of the panels can be sent to the ultraviolet light-cured (UV) roll coating line to be sealed.

The wood by-products or "residuals" are handled as shown in Figure 1. Dust from the sanders, as well as sawdust and hogged ply-trim from the saws are routed through the No. 34 cyclone.

Particulate emissions from the No. 34 cyclone are controlled by the Clark Baghouse. The material from the No. 34 cyclone and Clark Baghouse hoppers is transported pneumatically to the Pneumafil Baghouse. End trim from the Greenlee saw and scrap wood are transported to the Williams hog and then through one of the two hog cyclones. The particulate emissions from the two hog cyclones will be controlled by a new baghouse. The exact specifications of the baghouse are yet to be determined. The cyclones and the Pneumafil Baghouse direct the hogged wood and sawdust into the fuel storage silo for use in the boiler. Excess residuals are transported by screw auger and drop chute to an open trailer for sale off site.

Steam for the presses is provided by the boiler. The boiler is hogged fuel fired, with the fuel being generated on site and consisting primarily of hogged wood waste. There is no alternative fuel source for this boiler. The other combustion source at this facility is the Cummins diesel engine which powers the Williams hog.

### EMISSIONS INVENTORY

An emissions inventory of regulated air contaminants for actual emissions based on 1995 calendar year operations was prepared utilizing data provided by CFP-VA. These emissions estimates are presented in Table 1 through Table 9. As appropriate, backup documentation is presented immediately behind the multiple tables for each emission unit. The backup documentation provides a written description of the emission unit and a description of assumptions utilized in the calculations.

Table 9, which is a summary of 1995 actual emissions, shows that current operations do not exceed any Title V major source thresholds. However, potential to emit (PTE) estimates (which are not presented in this document) indicate that methanol emissions from the resin used to bond the plywood would exceed the 10 ton/yr threshold for any individual hazardous air pollutant (HAP). Therefore, CFP-VA would be required to submit a Title V (federal air operating permit) application or apply for Synthetic Minor status.

### SYNTHETIC MINOR MAXIMUM OPERATING SCENARIO

CFP-VA has chosen to implement a maximum operating (max-op) scenario to limit methanol emissions to no more than 9.95 tons/yr in order to remain below the major source threshold for HAP emissions. For the resin that is currently utilized by the facility, the resin usage would be limited to 2,926 tons/yr under the max-op scenario. The proposed compliance demonstration method is presented in the next section. Emissions estimates for the max-op scenario are presented in Table 1a through Table 9b.

Table 1a describes the throughput assumptions which were used for the max-op scenario. The quantity of panels was calculated from the resin usage assuming 100% production of 3-ply panels, which results in the highest panel production for a given amount of resin. Wood residual throughput, as well as the diesel combustion powering the hog, is based on this worst case max-op panel production scenario. However, neither the boiler nor the UV coating line have been limited by resin usage in the proposed max-op scenario. Boiler emissions were calculated on rated

capacity, running 8,760 hours per year and the UV line emissions were estimated on the previously permitted potential production.

CFP-VA plans to install a baghouse to control the particulate emissions from the two hog cyclones. Therefore, this additional control equipment is incorporated into the emissions estimates for the max-op scenario and into the application even though some of the details are not yet known and will have to be submitted at a later date.

The max-op scenario summary of annual emissions, Table 9a, indicates that the estimated emissions of regulated pollutants will be substantially below major source threshold categories.

### COMPLIANCE DEMONSTRATION OF ENFORCEABLE LIMIT

In order to demonstrate that the methanol emissions from the facility will not exceed the 9.95 tons/yr proposed in the max-op scenario, CFP-VA proposes the following compliance demonstration method.

Recordkeeping will be used to keep track of the incoming quantity of methanol in the resin, so that no more than 9.95 tons of methanol will be received annually by the plant as a component of the resin. In order to monitor the incoming methanol, for each shipment of resin received the quantity of methanol will be calculated based on the methanol percent content of that particular resin product. The current MSDS for the resin product received will be utilized (or other vendor information provided for the specific product and/or shipment). The quantity of methanol received will be added to the total quantity of methanol previously received during the annual compliance period. The actual calculations will be performed once a month.

By this method, the quantity of methanol emissions from the plant will be limited to an amount lower than 9.95 tons/yr, assuring that CFP-VA is operating within its max-op scenario.



3A-04

## COMMONWEALTH of VIRGINIA

## DEPARTMENT OF ENVIRONMENTAL QUALITY

George Allen  
GovernorBecky Norton Dunlop  
Secretary of Natural Resources

## LYNCHBURG SATELLITE OFFICE

7701-03 Timberlake Road  
Lynchburg, Virginia 24502  
(804) 582-5120

FAX (804) 582-5125

<http://www.deq.state.va.us>Thomas L. Hopkins  
DirectorThomas L. Henderson  
Regional Director

July 1, 1996

Mr. Brad Thompson  
Panel Products General Manager  
Columbia Forest Products  
P. O. Drawer F  
Chatham, VA 24531Registration No.: 30120  
County/Plant No.: 143/0017

Dear Mr. Thompson:

This will acknowledge the receipt of your application for a State Operating Permit dated June 17, 1996. The Department of Environmental Quality (DEQ) Lynchburg Satellite Office staff has completed its initial review of your permit request. Processing of applications for new or modified sources takes precedence over applications for State Operating Permits. Also, all processing is on a first-come-first-served basis. Therefore, a thorough review of your application will be delayed. However, the initial review revealed the following issues that could be addressed in the interim.

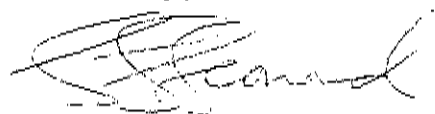
- A. On page 5, please add a footnote to define "panel" dimensions.
- B. For all of the coatings and adhesives, please submit MSDSs (and/or CPDSs) to support the calculations for VOCs and HAPs. Submit additional vendor information if necessary.
- C. On page 11, please correct the boiler fuel data.
- D. On page 12 and elsewhere, a new fabric filter is proposed to control emissions from the hogs. Although a permit to construct this fabric filter would not be required, this device could not be included in the State Operating Permit until it is in operation.
- E. On page 15 of Form 7, a methanol limit of 9.95 tons/yr is requested. Since this would be rounded off to 10 tons/yr, your facility would be classified as a major source and a Title V

permit would be required. To avoid a Title V permit, it will be necessary to reduce the methanol limit to 9 tons/yr (preferred), or 9.4 tons/yr at the absolute maximum.

- F. On page 15 of the text, the compliance demonstration implies that recordkeeping will be limited to tracking purchases. The permit will require demonstrating compliance by consumption from a material balance. That is, consumption of methanol equals opening inventory plus purchases minus closing inventory. This must be done no less frequently than monthly. A rolling 12-month total will be required to demonstrate compliance with the annual limit. (The same procedure will be used for formaldehyde, etc.)
- G. On page 17 of the text, there is a problem with the wood balance. That is, there is more wood waste produced than being combusted or trucked off.
- H. On page 18 of the text, the annual boiler rate was scaled up for increased panel production; however, the rate assumes operation at 80% of capacity. Will this be sufficient for establishing permit limits?
- I. On page 19 of the text, the hog cyclone control efficiency is given as 99% whereas in the footnote on page 20, the efficiency is listed as 85%.
- J. On pages 22 & 23, please be sure that the heating value of wood waste and the tons combusted are consistent throughout, and corrected to 10% moisture.
- K. On pages 27 & 28, emission factors for the diesel engine were taken from AP-42, Table 3.4-2. Section 3.4 of AP-42 is for large (>600 HP) engines. Since the engine listed on page 4 of Form 7 is only 380 HP, emission factors should be taken from Section 3.3 of AP-42.

5120. If you have any questions on the above, please contact me at (804) 582-

Sincerely,



L. S. Leonard  
Air Permit Manager



November 20, 1996

NOV 26 1996

DEQ LYNCHBURG

Mr. L.S. Leonard  
 Air Permit Manager  
 Commonwealth of Virginia  
 Department of Environmental Quality  
 7701-03 Timberlake Road  
 Lynchburg, Virginia 24502

RE: Synthetic Minor Application  
 Registration No: 30120  
 County/Plant No: 143/0017  
 Columbia Forest Products Chatham, Virginia Facility  
 SECOR PN: F0169-007-01

Dear Mr. Leonard:

Thank you for your prompt initial review of Columbia Forest Products, Chatham, Virginia, Synthetic Minor Application. Each of the comments in your July 1, 1996 letter is reproduced here, followed by a brief description of the action that has been taken in response.

- A. On page 5, please add a footnote to define "panel" dimensions.  
*A footnote was added to define "panel" dimensions.*
- B. For all of the coatings and adhesives, please submit MSDSs (and/or CPDSs) to support the calculations for VOCs and HAPs. Submit additional vendor information if necessary.  
*Vendor information is attached.*
- C. On page 11, please correct the boiler fuel data.  
*The higher heating value of the hogged wood fuel was corrected for moisture content.*
- D. On page 12 and elsewhere, a new fabric filter is proposed to control emissions from the hogs. Although a permit to construct this fabric filter would not be required, this device could not be included in the State Operating Permit until it is in operation.  
*The purchase order for the new fabric filter was placed on August 27, 1996. As agreed, a letter of commitment containing milestone dates has been submitted.*

Mr. L.S. Leonard  
November 20, 1996  
Page 2

- E. On page 15 of Form 7, a methanol limit of 9.95 tons/yr is requested. Since this would be rounded off to 10 tons/yr, your facility would be classified as a major source and a Title V permit would be required. To avoid a Title V permit, it will be necessary to reduce the methanol limit to 9 tons/yr (preferred), or 9.4 tons/yr at the absolute maximum.

*As agreed, a methanol limit of 9.80 tons/yr will be used for the facility. Emissions estimates have been revised in the updated application.*

- F. On page 15 of the text, the compliance demonstration implies that recordkeeping will be limited to tracking purchases. The permit will require demonstrating compliance by consumption from a material balance. That is, consumption of methanol equals opening inventory plus purchases minus closing inventory. This must be done no less frequently than monthly. A rolling 12-month total will be required to demonstrate compliance with the annual limit. (The same procedure will be used for formaldehyde, etc.)

*Language to include inventory calculations was added.*

- G. On page 17 of the text, there is a problem with the wood balance. That is, there is more wood waste produced than being combusted or trucked off.

*The problem with material balance was corrected. Clarifying notes were added, including a "check calculation" to show that material in equals material out, on a weight basis. The result of the correction was a minor change in estimated emissions.*

- H. On page 18 of the text, the annual boiler rate was scaled up for increased panel production; however, the rate assumes operation at 80% of capacity. Will this be sufficient for establishing permit limits?

*It was decided to base the emissions on 100% boiler capacity, and to add a 10% safety factor to the short-term emission rate.*

- I. On page 19 of the text, the hog cyclone control efficiency is given as 99% whereas in the footnote on page 20, the efficiency is listed as 85%.

*In order to provide a safety factor for the maximum operating (max-op) scenario emissions from the hog cyclone baghouse, the control efficiency of the hog cyclone was purposely reduced below the expected performance for this cyclone and material stream. A note of explanation has been added to Table 2a.*

- J. On pages 22 & 23, please be sure that the heating value of wood waste and the tons combusted are consistent throughout, and corrected to 10% moisture.

*All calculations were checked and found to be consistent; however, for improved clarity, the method of correcting for moisture content was revised. Instead of correcting both the fuel and the emission factors to zero moisture content, the fuel has been corrected to 50% moisture*

Mr. L.S. Leonard  
November 20, 1996  
Page 3

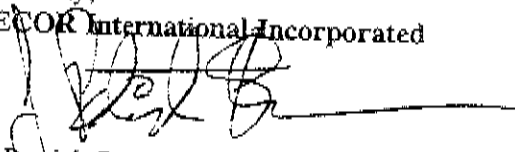
*content to match the emission factors as presented by AP-42. There were no changes to the estimated emissions as a result of this revision; however, because of the changes made in response to item H, the max-op scenario emissions have increased.*


- K. On pages 27 & 28, emission factors for the diesel engine were taken from AP-42, Table 3.4-2. Section 3.4 of AP-42 is for large (> 600 HP) engines. Since the engine listed on page 4 of Form 7 is only 380 HP, emission factors should be taken from Section 3.3 of AP-42.

*The calculations were revised as suggested.*

If you have any questions regarding these comments, please contact us at (503) 691-2030.

Sincerely,  
SECOR International Incorporated

  
J. Patrick Stevens  
Associate Mechanical Engineer

  
Jay W. Russell  
Principal Chemist

JPS/JWR:kld/kh  
Attachment

ASB

GFB

**SECOR**  
7730 Southwest Mohawk Street  
Post Office Box 1508  
Tualatin, Oregon 97062-1508  
(503) 691-2030  
FAX (503) 692-7074

DEC 03 1997  
DEQ LYNCHBURG

**FAX COVER**

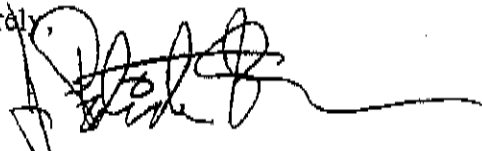
TO:	▶ Larry Leonard Frank Bowman	FROM:	▶ Patrick Stevens
COMPANY:	▶ DEQ, Lynchburg	DATE:	December 3, 1997
FAX NUMBER:	▶ 804-582-5125	NO. PAGES:	▶ 4
PHONE NUMBER:	▶ 804-582-5120	HARD COPY TO FOLLOW:	<u>  </u> Y <u>  </u> N

**COMMENTS:**

Thank you for taking the time to meet with us today in the conference call regarding Columbia Forest Product's Chatham Facility draft operating permit. During the call we agreed that the draft permit condition designed to limit the facility to less than 10 tons/yr of a single HAP and 25 tons/yr of total HAPs would be changed. Instead of limiting resin usage, the permit condition will limit the actual emissions and the compliance demonstration will be by means of monthly record keeping.

We also agreed that the permit limit for total VOC and total HAP emissions will be adjusted slightly to include a maximum of 9.8 tons/yr of methanol and 9.8 tons/yr of formaldehyde emitted simultaneously during the year. To assist in that adjustment, SECOR revised the emission calculation Tables 7a, 9a and 9b. These revised tables are attached.

Feel free to call if you have any questions.

Sincerely,  


J. Patrick Stevens  
Associate Mechanical Engineer

cc: Doane Cowan, Columbia Forest Products, Chatham, VA FAX: 804-432-1598  
Brad Thompson, Columbia Forest Products, Danville, VA FAX: 804-799-7921



# COMMONWEALTH of VIRGINIA

## DEPARTMENT OF ENVIRONMENTAL QUALITY

LYNCHBURG SATELLITE OFFICE

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George Allen  
Governor

Becky Norton Dunlop  
Secretary of Natural Resources

Thomas L. Hopkins  
Director

Thomas L. Henderson  
Regional Director

### LETTER OF NONCOMPLIANCE

July 11, 1997

Mr. Doane Cowan  
Regional Engineer  
Columbia Forest Products  
100 Paul Road S. W.  
P.O. Drawer F  
Chatham, VA 24531

RE: LON-LSO-97020  
Columbia Forest Products (Chatham facility)  
Registration No. 30120


Dear Mr. Cowan:

Enclosed is a copy of the report generated as a result of the June 26, 1997, inspection of Columbia Forest Products (Chatham facility), by the Lynchburg Air Office of the Virginia Department of Environmental Quality. Please review the report and, within 10 days of receipt of this letter, submit any comments or corrections you wish to be made a part of the inspection record.

The comments section of the report indicates that deficiencies were found in the area of record keeping for the permitted UV finishing line (see condition #10 of the June 2, 1995, air permit). The DEQ requests that you make the necessary corrections to your records and provide a copy of these to the Lynchburg office not later than August 11, 1997. Please provide monthly totals and 12 month period (rolling) totals going back to July of 1996 (12 months after UV line start-up) to the present. Failure to respond may result in enforcement action by the Department.

Please note that neither this Letter of Noncompliance or the inspection report is an agency determination which may be considered a case decision under the Virginia Administrative Process Act, Va. Code § 9-6.14:1 et seq. The compliance status listed in the report is based upon observations during the inspection and information reviewed in support of report generation. You are cautioned that existence of an inspection report, indicating specific compliance deficiencies, should not be construed to certify that your operation is automatically in compliance with all other aspects of the Regulations for the Control and Abatement of Air Pollution. Regional personnel will be continually evaluating all sources for compliance with the Regulations.

Your point of contact for issues concerning compliance with the Virginia Regulations for the Control and Abatement of Air Pollution is Todd Green at 804-582-5120. Please contact him if you have any questions about the content of the report or need guidance in achieving or maintaining compliance.

Sincerely,  
  
David J. Brown  
Environmental Manager-Field

enclosure

c: T. Green

DEPARTMENT OF ENVIRONMENTAL QUALITY

SOURCE INSPECTION REPORT FORM

LSO 4/22/98  
80

3A-12

I. GENERAL INFORMATION:

- A. SOURCE NAME: Columbia Forest Products (Chatham)
- B. REGISTRATION NUMBER: 30120 AQCR: 222  
COUNTY/PLANT NO: 143/0017 AIR CODE: 0
- C. DATES: INSPECTION: 26 March 98 REPORT: 14 April 98
- D. ESTIMATED DATE OF NEXT INSPECTION: March 99
- E. SOURCE CLASSIFICATION: A
- F. PERSON CONTACTED DURING INSPECTION: Kevin Goins, Doane Cowan
- G. SOURCE LOCATION (STREET, COUNTY/CITY): Rt. 1424 off Rt 57, P.O. Drawer F, Chatham, VA - Pittsylvania County
- H. TELEPHONE NUMBER: (804) 432-2591

II. INSPECTION INFORMATION:

- A. INSPECTOR'S NAME: Margaret O. Wagner STAFF CODE: P1115
- B. WEATHER CONDITIONS: Clear, ~55°F
- C. REASONS FOR INSPECTION: (CHECK APPROPRIATE ITEMS)
  - SCHEDULED INSPECTION
  - COMPLAINT INVESTIGATION
  - OTHER (SPECIFY): \_\_\_\_\_
  - FINAL INSPECTION: PERMIT DATE: \_\_\_\_\_ VEE: \_\_\_\_\_
- D. INSPECTION LEVEL(S) PERFORMED: 2
- E. ANNOUNCED INSPECTION: YES: \_\_\_\_\_ NO:
- F. VISIBLE EMISSION EVALUATION PERFORMED: YES:  NO: \_\_\_\_\_  
COMMENTS: no excess visible emissions observed
- G. PRODUCTION RATE: ~300,000 ft<sup>2</sup>/day (-9,400 @ 4'x 8' panels/day)

III. INSPECTION RESULTS:

- A. COMPLIANCE STATUS: IN: \_\_\_\_\_ OUT:  COMPLIANCE CODE(S): 1
  - B. PERMIT CONDITIONS BEING MET: YES: \_\_\_\_\_ NO:  N/A: \_\_\_\_\_
- DATED: 09 Feb 98

NOT EVALUATED: \_\_\_\_\_

IV. INSPECTION COMMENT:

A. INSPECTOR'S: This source manufactures veneered particle board and plywood panels, mainly for the furniture and cabinet industries, by processing wood panels with hardwood veneers. The particle board and the hardwood veneer are both brought in. Source operates a 20 opening and a 24 opening plywood press. Source now operates one UV finishing line, with a sander, a roll coater and a UV lamp set but is permitted for two UV lines. Condition #22 of the newly issued air permit dated Feb. 9, 1998 requires the permittee to maintain records of the monthly and yearly consumption of woodwaste by the boiler; monthly and annual consumption of diesel oil by the Cummins engine; monthly and annual production of number of square feet of plywood surface processed by the roll coater (UV line); monthly and annual material balance for the roll coater to include emissions of VOCs and HAPs; and monthly and annual material balance for the presses including the throughput and emissions of VOCs and HAPs. These records are to be calculated, monthly, as the sum of each consecutive 12 month (rolling) period. The inspection revealed that the source is failing to maintain these records in the required format, with the exception of condition 22c which is the monthly and annual production of number of square feet of plywood surface processed (roll coater); A "Letter of Noncompliance" will be sent to the source to address these issues and request corrective measures be taken to resolve the deficiencies. A portion of the facility's collected wood waste is transferred into a partially enclosed trailer (to be sold). The trailer is parked in a 3 sided (plus roof) building during loading. The trailer loading area is equipped with water spray nozzles (on timers) to help control particulate emissions from the process.

The air permit required Visible Emissions Evaluations (VEEs) on the boiler stack, diesel engine stack and the press stacks. The VEEs were conducted during this inspection. The boiler stack did have spurts of 15% opacity but overall remained below the permitted 20%. Both the diesel engine stack and the press stacks were below the permitted 20%.

INSPECTOR'S SIGNATURE: Margaret D. Wagner DATE: 14 April 98

B. SUPERVISOR'S: \_\_\_\_\_

SUPERVISOR'S SIGNATURE: [Signature] DATE: 4/22/98



# COMMONWEALTH of VIRGINIA

## DEPARTMENT OF ENVIRONMENTAL QUALITY

James S. Gilmore, III  
Governor

John Paul Woodley, Jr.  
Secretary of Natural Resources

LYNCHBURG SATELLITE OFFICE  
7705 Timberlake Road, Lynchburg, Virginia 24502  
(804) 582-5120 Fax (804) 582-5125  
<http://www.deq.state.va.us>

Thomas L. Hopkins  
Director

Thomas L. Henderson  
Regional Director

### LETTER OF NONCOMPLIANCE

April 22, 1998

Mr. Doane Cowan  
Regional Engineer  
Columbia Forest Products  
100 Paul Road S.W.  
P.O. Drawer F  
Chatham, VA 24531

RE: LON-LSO-98012  
Columbia Forest Products, Chatham Facility  
Registration No. 30120

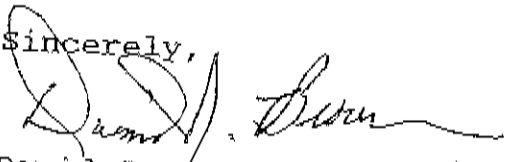
Dear Mr. Cowan:

On March 26, 1998, Department of Environmental Quality, Lynchburg Satellite Office, staff conducted an inspection at Columbia Forest Products, Chatham facility. Staff observed that the Columbia Forest Products Chatham facility has not been maintaining records of monthly and annual consumption of woodwaste by the boiler, monthly and annual consumption of diesel oil by the Cummins engine, monthly and annual consumption of resin, and not maintaining monthly and annual material balances for the roll coater or the presses to include the throughput and emissions of VOCs and HAPs. These records are required by the facility's February 9, 1998 air permit, condition #22 a, b, d, e, and f, as more fully described in the enclosed inspection report.

Please review the report, and submit, no later than May 6, 1998, a written explanation of corrective actions your facility intends to take or has taken to correct the identified compliance deficiencies. Please include a time schedule for these corrective actions.

Your letter will assist our staff in maintaining a complete and accurate record of the compliance status of your facility. Compliance may be verified by on-site inspection or other appropriate means. If correction of these deficiencies will take longer than 90 days from the date of the inspection, please submit a plan and schedule for inclusion in a Consent Order. Failure to respond may result in enforcement action by DEQ.

This Letter of Noncompliance is not an agency proceeding or determination which may be considered a case decision under the Virginia Administrative Process Act, Va. Code § 9-6.14:1 *et seq.* Your point of contact for resolution of these deficiencies will be Margaret Wagner at (804)582-5120. Please contact her if you have any questions about the content of this letter or need additional guidance in achieving or maintaining compliance

Sincerely,  


David J. Brown  
Environmental Manager-Field

enclosure

c: M. Wagner

Dear Ms. Mitchell,

I will try to answer your questions in regard to the FOIA dated June 14, 2004 to Jan Granzow of the Department of Environmental Quality's South Central Regional Office (SCRO).

I hope this helps explain why the SCRO of DEQ does not have the ability to provide you with the information you are requesting.

Your request was for the:

1. August to December 2002 and all of the 2003 monthly data sheets on glue usage.
2. August to December 2002 and all of the 2003 monthly data sheets for the amount of plywood produced.
3. Information specifying the times and processes that constitute the plants production during the periods from August to December 2002 and all of 2003.

I first need to clarify that DEQ does not keep this type of data on file unless it was copied from the facilities records during an onsite inspection, provided in response to an emission request, or provided by the company during a permit action.

The August 28, 2003 permit issued to Columbia Forest does require the permittee to keep records for the monthly and annual production of number of square feet of plywood surface processed (roll coater) [23 c]; and the monthly and annual consumption of resin (glue) [23 d], not DEQ.

In reference to the Letter of Noncompliance (LON) issued July 11, 1997 to the facility. DEQ staff conducted an inspection on June 26, 1997 and noted that the required records were not being kept in an appropriate format (12-month rolling average). As a result of the inspection a LON was issued requesting that the company submit a copy of the records of concern.

Once a company meets the request for information and provides the copy of records requested, the inspector will review the data and (if deemed correct) will close the related enforcement action.

The company still has to maintain the records on site for review (as per the permit requirement) but does not have to send the data (indefinitely) to the Department. The only requirement is that the records be available for review upon inspection in an appropriate format. That's what is intended by the statement "will be by means of monthly record keeping", in the company's response to DEQ.

So, the assumption that the plant's permit requirements have been lessened is incorrect.

If I can answer any of your questions please feel free to call me or email me at any time in regard to Columbia Forest Products.

Sincerely

Craig R. Nicol  
Compliance Enforcement Specialist Sr.  
Department of Environmental Quality  
South Central Regional Office  
(434) 582-5120 ext. 6029  
New e-mail address as of June 15, 2004: [crnicol@deq.virginia.gov](mailto:crnicol@deq.virginia.gov)

> -----Original Message-----

> From: Granzow,Jan  
> Sent: Tuesday, June 15, 2004 1:06 PM  
> To: Nicol,Craig  
> Subject: FW: Columbia Forest Products, Chatham, VA

>  
> Jan Granzow, Office Manager  
> South Central Regional Office  
> Lynchburg  
> (434) 582-5120, ext. 6018  
> (434) 582-5125 fax  
> [spgranzow@deq.state.va.us](mailto:spgranzow@deq.state.va.us)

> -----Original Message-----

> From: [sarahmitchell@vintagedesigns.com](mailto:sarahmitchell@vintagedesigns.com) [SMTP:[sarahmitchell@vintagedesigns.com](mailto:sarahmitchell@vintagedesigns.com)]  
> Sent: Monday, June 14, 2004 11:52 PM  
> To: Granzow,Jan  
> Subject: RE: Columbia Forest Products, Chatham, VA

>  
> According to the August 28, 2003 permit issued to Columbia Forest  
> Products, the plant is required to keep records of:

>  
> 1. The monthly and annual production of number of square feet of  
> plywood surface processed [23 c]; and

> 2. The monthly and annual consumption of resin (glue) [23 d].

>  
> From February 1998 to July 2002, the monthly data for resin, the  
> number of panels coated, and the number of hours per month that the  
> boiler were operated were submitted; and the days per month that the  
> boiler were in operation were submitted.

>  
> The plant was cited in 1997 for not turning over the monthly totals  
> and 12-month-period totals for the throughput of the the square feet  
> of plywood surface processed and the VOC emissions from the UV  
> finishing line -- so I assume that the plant is still supposed to be

> turning over such records, unless the permit's conditions have been  
> lessened.  
>  
> Also in 1997, the plant agreed that the compliance demonstration on  
> the amount of HAP emissions from resin usage "will be by means of  
> monthly record keeping."  
>  
> So, I now clarify my request: under the Freedom of Information Act,  
> I am requesting August to December 2002 and all of the 2003 monthly  
> data sheets on glue usage and the amount of plywood produced per  
> month; and the paperwork that shows the times that the plant's  
> different operations were and were not operating.  
>  
> Thank you very much!  
>  
> Sarah E. Mitchell  
> P. O. Box 429  
> Chatham, VA 24531  
>  
> On 9 Jun 2004 at 8:02, Granzow, Jan wrote:  
>  
>> Dear Ms. Mitchell,  
>>  
>> I spoke with Craig Nicol, the air inspector for this facility,  
>> concerning your request. He checked the files and said the only data  
>> of this nature that we have was listed on the 2003 air emissions  
>> inventory information which was supplied to you in an earlier request.  
>>  
>> Craig said he would be glad to speak with you and try to answer any  
>> questions you might have. He also suggested you might talk with Mona  
>> Pedersen, our Air Compliance Engineer.  
>>  
>> We've been having major problems with our phone system this week. We  
>> cannot receive calls right now, but, we can make calls out. If you  
>> email Craig or Mona, they will call you back, or, you can email them  
>> your questions.  
>>  
>> Craig also suggested asking the plant for the information.  
>>  
>> I apologize for taking so long to get back to you, and, for our  
>> lack of phone communications!  
>>  
>> Jan Granzow, Office Manager  
>> South Central Regional Office  
>> Lynchburg  
>> (434) 582-5120, ext. 6018  
>> (434) 582-5125 fax  
>> spgranzow@deq.state.va.us  
>>

>>> -----Original Message-----

>>> From: sarahmitchell@vintagedesigns.com

>>> [SMTP:sarahmitchell@vintagedesigns.com]

>>> Sent: Wednesday, June 02, 2004 6:36 PM

>>> To: Granzow, Jan

>>> Subject: Columbia Forest Products, Chatham, VA

>>>

>>> Dear Ms. Granzow,

>>>

>>> I believe I neglected to thank you for the two packets of  
>>> information that you sent on Columbia Forest Products; please accept  
>>> my apologies and my sincere thanks for the information.

>>>

>>> I would like to request, under the Freedom of Information Act, the  
>>> 2003 monthly data sheets on glue usage and the monthly data sheets  
>>> on the amount of plywood produced per month. In addition, I notice  
>>> that the 2003 paperwork states that the plant's boiler, presses, and  
>>> sawing/sanding operations were operating 6400 hours per year and the  
>>> UV roll coater 7000 hours per year; I need to see the paperwork that  
>>> shows the times that the plant's different operations were and were  
>>> not operating.

>>>

>>> Thank you so much!

>>>

>>> Yours truly,

>>>

>>> Sarah E. Mitchell

>>> P. O. Box 429

>>> Chatham, VA 24531

>>>

>>

>

>

>

February 25, 1999

MAR 01 1999

DEQ LYNCHBURG

Mr. Dave Skelly  
Department of Environmental Quality  
7705 Timberlake Road  
Lynchburg, Virginia 24502

RE: Emission Data For Calendar Year 1998  
Columbia Forest Products, Chatham, Virginia  
SECOR Project No.: F0169-017-03

Dear Mr. Skelly:

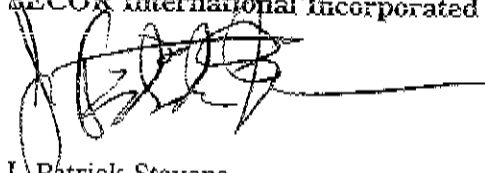
SECOR International Incorporated has been retained by Columbia Forest Products to assist them in completing the 1998 Emissions Data Forms that are to be submitted to the Virginia Department of Environmental Quality (DEQ). This letter is to document that the DEQ granted a 30-day extension for submittal of the 1998 Emissions Statement Form to Columbia Forest Products, based on our February 25, 1999 telephone conversation.

The original completion date for the Certification Statement, Emission Forms, and AIRs database sheet was February 26, 1998. Per our conversation, the AIRs database Form will be completed and faxed to the DEQ by February 26, 1999. The other forms are to be completed and submitted by March 27, 1999.

Thank-you for your assistance in this matter. If you have any questions or require additional information, please call me at (503) 691-2030.

Sincerely,

SECOR International Incorporated



J. Patrick Stevens  
Senior Mechanical Engineer

JPS:pef

cc: Mr. George Bowen, Columbia Forest Products, Chatham, Virginia  
Mr. Brad Thomsson, Columbia Forest Products, Danville, Virginia



COMMONWEALTH of VIRGINIA  
DEPARTMENT OF ENVIRONMENTAL QUALITY

James S. Gilmore, III  
Governor

John Paul Woodley, Jr.  
Secretary of Natural Resources

LYNCHBURG SATELLITE OFFICE  
7705 Timberlake Road, Lynchburg, Virginia 24502  
(804) 582-5120 Fax (804) 582-5125  
<http://www.deq.state.va.us>

Dennis H. Treacy  
Director

Thomas L. Henderson  
Regional Director

February 26, 1999

Mr. J. Patrick Stevens  
Senior Mechanical Engineer  
Secor International Inc.  
7730 MW Mohawk St.  
P.O. Box 1508  
Tualatin, Oregon 97062

Location: Chatham, Va.  
Registration No.: 30120  
County/Plant Nos.: 143/00017

Dear Mr. Stevens:

This will acknowledge the receipt of your letter dated February 26, 1999 requesting an extension to the deadline to submit the AIRS Update, Emissions Statement and Document Certification for the Columbia Forest Products facility in Chatham, Virginia. The Department of Environmental Quality (DEQ) staff has completed its review of your request. Your request for an extension to submit the AIRS Update, Emissions Statement and Document Certification until March 27, 1999 has been approved by the Lynchburg Satellite Office.

Your timely action on this request will be greatly appreciated. These reports are required to fulfill your legal obligations.

If you have any questions concerning this matter please contact me at (804) 582-5120.

Sincerely,

Dave Skelly  
Senior Environmental Engineer

Level 2 conducted 5/13/98 JATZ  
Source found in compliance. now!  
M.D. Wagner  
See - Memo to file

30120

**Columbia Forest Product**  
**100 Paul Road**  
**Drawer F**  
**Chatham, Virginia 24531**  
**804-432-2591**



May 4, 1998

Ms. Margaret Wagner  
Dept. of Environmental Quality  
Lynchburg Satellite Office  
7705 Timberlake Road  
Lynchburg, Virginia 24502  
804-582-5120

Re: LON-LSO-98012

Dear Madam:

Please find enclosed the monthly records your office has requested to satisfy the requirements for our facility air permit. We apologize for the delay, however, the additional time was required to allow our environmental engineers, Secor, to review and verify we were providing accurate information.

Do not hesitate to contact me at 804-432-2591, ext. 2125, if you require further information or have any questions with regard to this matter.

Sincerely,

A handwritten signature in cursive script that reads "George D. Bowen".

George D. Bowen  
Regional Project Engineer

Enclosure  
Cc: Dave Abts,  
Doane Cowan

Estimates

February 1998  
 Monthly Recordkeeping for Operating Permit  
 Columbia Forest Products, Chatham, VA - Registration No. 30120

Date	22a Boiler Operation		22b Diesel for Hog	22c UV Coating		22e Estimated UV VOCs (c) (lbs)	22e Estimated UV HAPs (d) (lbs)	22s UV Coating Purch'd (gals)	22d Resin Purchased (lbs)	22f Formaldehyde From Resin		22f Methanol From Resin		22f Total VOCs From Resin	
	Operating Time (hours)	Wood Fuel Burned (a) (tons)		Panels Coated (number)	Surface Two Sides(b) (Sq.Ft.)					(%)	(lbs)	(%)	(lbs)	(%)	(lbs)
02/01/98		0.00		0		0.0	0								
02/02/98		0.00		0		0.0	0								
02/03/98		0.00		0		0.0	0								
02/04/98		0.00		0		0.0	0								
02/05/98		0.00		0		0.0	0								
02/06/98		0.00		0		0.0	0								
02/07/98		0.00		0		0.0	0								
02/08/98		0.00		0		0.0	0								
02/09/98	24	20.44		1,784	114,176	16.3	0								
02/10/98	24	20.44		1,737	111,168	15.9	0	150							
02/11/98	24	20.44		1,897	121,408	17.4	0		45,120	0.10%	45.1	0.34%	153.4	0.64%	288.8
02/12/98	24	20.44		1,506	96,384	13.8	0								
02/13/98	24	20.44	141.8	2,190	140,160	20.0	0								
02/14/98		0.00		0	0	0.0	0								
02/15/98		0.00		0	0	0.0	0								
02/16/98	24	20.44		1,650	105,600	15.1	0		44,900	0.10%	44.9	0.34%	152.7	0.64%	287.4
02/17/98	24	20.44		1,487	95,168	13.6	0								
02/18/98	24	20.44		1,646	105,344	15.1	0	200	44,800	0.10%	44.6	0.34%	151.6	0.64%	285.4
02/19/98	24	20.44		1,816	103,424	14.8	0		44,940	0.10%	44.9	0.34%	152.8	0.64%	287.6
02/20/98	24	20.44	141.4	2,148	137,472	19.7	0		44,660	0.10%	44.7	0.34%	151.9	0.64%	286.0
02/21/98	24	20.44		0	0	0.0	0		45,120	0.10%	45.1	0.34%	153.4	0.64%	288.8
02/22/98		0.00		0	0	0.0	0								
02/23/98	24	20.44		381	25,024	3.6	0								
02/24/98	24	20.44		1,390	98,960	12.7	0		45,040	0.10%	45.0	0.34%	153.1	0.64%	288.3
02/25/98	24	20.44		1,783	114,112	16.3	0								
02/26/98	24	20.44		1,498	95,936	13.7	0		30,320	0.10%	30.3	0.34%	103.1	0.64%	194.0
02/27/98	24	20.44	144.2	3,887	248,768	35.6	0								
02/28/98		0.00		0	0	0.0	0								
		0.00		0	0	0.0	0								
		0.00		0	0	0.0	0								
		0.00		0	0	0.0	0								
		0.00		0	0	0.0	0								
Totals:	384	327.0	427.4	26,611	1,703,104	244	0	350	344,720		345		1,172		2,208

(a) Wood fuel burned = (Operating hours) X (1,703 lbs fuel/hr); based on field study data adjusted to a 100% firing rate.  
 (b) Two sided surface area = (Number of panels) X (64 Sq.Ft./ Panel); assumes all panels are coated both sides, a conservatively high assumption.  
 (c) VOC estimate = (0.143 lbs VOC/Msq.Ft.) X (Surface) / (1000 Sq.Ft.); based on UV line permit application 84,096 MSq.Ft and 52,428 gals of highest VOC product (0.23 lb/gal).  
 (d) None of the UV coating products currently in use at the Chatham facility list HAPs in the product MSDS.

*[Handwritten signature]*

**March 1998**  
**Monthly Recordkeeping for Operating Permit**  
**Columbia Forest Products, Chatham, VA - Registration No. 30120**

Date	22a E boiler Operation		22b Diesel for Hog	22c UV Coating		22e Estimated UV VOCs (c) (lbs)	22a Estimated UV HAPs (d) (lbs)	22e UV Coating Purch'd (gals)	22d Resin Purchased (lbs)	22f Formaldehyde From Resin		22f Methanol From Resin		22f Total VOCs From Resin	
	Operating Time (hours)	Wood Fuel Burned (e) (tons)		Panels Coated (number)	Surface Two Sides(b) (Sq.Ft.)					(%)	(lbs)	(%)	(lbs)	(%)	(lbs)
03/01/98		0.00		0	0	0.0	0	100	0.0	0.0	0.0	0.0	0.0	0.0	0.0
03/02/98	24	20.44		951	60,864	8.7	0	200	0.0	0.0	0.0	0.0	0.0	0.0	0.0
03/03/98	24	20.44		1,926	123,264	17.6	0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
03/04/98	24	20.44		1,737	111,168	15.9	0		0.10%	45.4	0.34%	154.2	0.84%	280.3	0.84%
03/05/98	24	20.44		1,658	106,112	15.2	0		0.10%	45.1	0.34%	153.3	0.84%	288.5	0.84%
03/06/98	24	20.44	127	1,868	119,652	17.1	0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
03/07/98	24	0.00		0	0	0.0	0	177	0.0	0.0	0.0	0.0	0.0	0.0	0.0
03/08/98	24	20.44		1,940	124,160	17.8	0		0.10%	47.0	0.34%	159.7	0.84%	300.5	0.84%
03/09/98	24	20.44		1,754	112,256	16.3	0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
03/10/98	24	20.44		1,816	116,224	16.6	0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
03/11/98	24	20.44		1,520	97,280	13.9	0		0.10%	42.5	0.34%	144.4	0.84%	271.7	0.84%
03/12/98	24	20.44		3,275	209,600	30.0	0		0.10%	45.0	0.34%	153.0	0.84%	288.0	0.84%
03/13/98	24	20.44	124	0	0	0.0	0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
03/14/98	24	0.00		0	0	0.0	0	200	0.0	0.0	0.0	0.0	0.0	0.0	0.0
03/15/98	24	20.44		1,449	92,736	13.3	0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
03/16/98	24	20.44		1,852	118,528	16.8	0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
03/17/98	24	20.44		1,720	110,980	15.7	0		0.10%	44.7	0.34%	151.9	0.84%	286.0	0.84%
03/18/98	24	20.44		2,090	133,760	19.1	0		0.10%	36.3	0.34%	123.5	0.84%	232.4	0.84%
03/19/98	24	20.44		1,534	98,176	14.0	0		0.10%	45.1	0.34%	153.3	0.84%	288.6	0.84%
03/20/98	24	20.44	105.2	0	0	0.0	0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
03/21/98	24	0.00		0	0	0.0	0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
03/22/98	24	20.44		1,669	106,816	15.3	0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
03/23/98	24	20.44		1,798	115,072	16.5	0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
03/24/98	24	20.44		1,940	124,160	17.8	0	200	0.10%	45.0	0.34%	153.0	0.84%	288.0	0.84%
03/25/98	24	20.44		1,784	114,176	16.3	0		0.10%	26.4	0.34%	89.8	0.84%	169.1	0.84%
03/26/98	24	20.44	111.9	1,626	104,084	14.9	0		0.10%	45.4	0.34%	154.4	0.84%	290.5	0.84%
03/27/98	24	0.00		0	0	0.0	0		0.10%	45.1	0.34%	153.3	0.84%	288.5	0.84%
03/28/98	24	0.00		0	0	0.0	0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
03/29/98	24	20.44		1,780	113,920	16.3	0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
03/30/98	24	20.44		1,828	116,992	16.7	0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
03/31/98	24	20.44		39,515	2,528,960	362	0	677	512,860	513	1,744	3,282	0.0	0.0	0.0
Totals:	552	470.0	468.1	39,515	2,528,960	362	0	677	512,860	513	1,744	3,282	0.0	0.0	0.0

(a) Wood fuel burned = (Operating hours) X (1,703 lbs fuel/hr); based on field study data adjusted to a 100% firing rate.  
 (b) Two sided surface area = (Number of panels) X (64 Sq.Ft./ Panel); assumes all panels are coated both sides, a conservatively high assumption.  
 (c) VOC estimate = (0.143 lbs VOC/M Sq.Ft.) X (Surface) / (1000 Sq.Ft.); based on UV line permit application 84,098 MSq.Ft and 52,428 gals of highest VOC product (0.23 lb/gal).  
 (d) None of the UV coating products currently in use at the Chatham facility list HAPs in the product MSDS.

7 22 & 7

April 1998  
 Monthly Recordkeeping for Operating Permit  
 Columbia Forest Products, Chatham, VA - Registration No. 30120

Date	Boiler Operating Time (hours)	22a Wood Fuel Burned (a) (tons)	22b Diesel for Hog (gals)	22c UV Coating		22a Estimated UV VOCs (c) (lbs)	22e Estimated UV HAPs (d) (lbs)	22e UV Coating Purch'd (gals)	22d Resin Purchased (lbs)	Formaldehyde From Resin (%)	22f Methanol From Resin (%)	22f Total VOCs From Resin (%)	22f (lbs)	
				22c Panels Coated (number)	22c Surface Two Sides (b) (Sq.Ft.)									
04/01/98	24	20.44		691	44,224	6.3	0		45,200	0.10%	0.34%	0.64%	153.7	
04/02/98	24	20.44		668	42,762	6.1	0		44,920	0.10%	0.34%	0.64%	152.7	
04/03/98	24	20.44		1,369	87,616	12.5	0	150	0.0				0.0	
04/04/98	24	20.44		1,378	88,192	12.6	0		0.0				0.0	
04/06/98	24	0.00			0	0.0	0		0.0				0.0	
04/08/98	24	20.44		1,892	121,088	17.3	0		0.0				0.0	
04/07/98	24	20.44		1,559	99,776	14.3	0		44,920	0.10%	0.34%	0.64%	152.7	
04/08/98	24	20.44		1,744	111,616	16.0	0		45,140	0.10%	0.34%	0.64%	153.5	
04/09/98	24	20.44	173	1,839	117,696	16.8	0		0.0				0.0	
04/10/98	24	20.44		1,635	104,640	15.0	0		44,960	0.10%	0.34%	0.64%	152.9	
04/11/98	24	0.00			0	0.0	0		0.0				0.0	
04/12/98	24	0.00			0	0.0	0		0.0				0.0	
04/13/98	24	20.44			0	0.0	0		0.0				0.0	
04/14/98	24	20.44		1,008	64,512	9.2	0		44,760	0.10%	0.34%	0.64%	152.3	
04/15/98	24	20.44		2,041	130,624	18.7	0	200	0.0				0.0	
04/16/98	24	20.44		1,968	125,312	17.9	0		45,280	0.10%	0.34%	0.64%	154.0	
04/17/98	24	20.44	105.7	2,335	149,440	21.4	0		0.0				0.0	
04/18/98	24	0.00			0	0.0	0		0.0				0.0	
04/19/98	24	0.00			0	0.0	0		0.0				0.0	
04/20/98	24	20.44		1,532	98,048	14.0	0		44,960	0.10%	0.34%	0.64%	152.9	
04/21/98	24	20.44		1,551	99,264	14.2	0	200	0.0				0.0	
04/22/98	24	20.44		1,722	110,208	15.8	0		45,040	0.10%	0.34%	0.64%	153.1	
04/23/98	24	20.44		1,922	123,008	17.6	0		44,620	0.10%	0.34%	0.64%	151.7	
04/24/98	24	20.44	138.1	1,630	108,160	15.5	0		0.0				0.0	
04/25/98	24	0.00			0	0.0	0		0.0				0.0	
04/26/98	24	0.00			0	0.0	0		0.0				0.0	
04/27/98	24	20.44		1,825	116,800	16.7	0		45.3	0.10%	0.34%	0.64%	154.0	
04/28/98	24	20.44		2,024	129,536	18.5	0		0.0				0.0	
04/29/98	24	20.44		1,423	91,072	13.0	0		0.0				0.0	
04/30/98	24	20.44		2,169	138,816	19.9	0		0.0				0.0	
04/30/98	24	0.00			0	0.0	0		0.0				0.0	
Totals:	552	470.0	416.8	35,975	2,302,400	329	0	550	485,100				1,683	
														3,169

(a) Wood fuel burned = (Operating hours) X (1,703 lbs fuel/hr); based on field study data adjusted to a 100% firing rate.  
 (b) Two sided surface area = (Number of panels) X (64 Sq.Ft./ Panel); assumes all panels are coated both sides, a conservatively high assumption.  
 (c) VOC estimate = (0.143 lbs VOC/MSq.Ft.) X (Surface) / (1000 Sq.Ft.); based on UV line permit application 84,086 MSq.Ft and 52,426 gals of highest VOC product (0.23 lb/gal).  
 (d) None of the UV coating products currently in use at the Chatham facility list HAPs in the product MSDS.

3A-25

Table 7a  
 Panel Gluing VOC Emissions - Emission Unit 4  
 Maximum Operating Scenario: Annual and Short-term Emissions  
 Columbia Forest Products, Chatham, VA Plywood Plant

Manufacturer <sup>1</sup>	Resin <sup>1</sup>	Ply	Annual Resin Usage (ton/yr) <sup>2</sup>	Short-term Resin Usage (lb/hr) <sup>3</sup>	% Free Formaldehyde <sup>3</sup>	% Methanol <sup>7</sup>	% Total VOCs <sup>8</sup>	Formaldehyde Emissions <sup>4</sup>		Methanol Emissions <sup>5</sup>		Total VOC Emissions <sup>6</sup>	
								Annual (TPY)	Short-term (lb/hr)	Annual (TPY)	Short-term (lb/hr)	Annual (TPY)	Short-term (lb/hr)
Various	Resin	3-ply	2,882	1,438	0.34	0.34	0.68	9.80	4.89	9.80	4.89	19.60	9.78

Notes:

- <sup>1</sup> Obtained from Columbia Forest Products, Virginia.
- <sup>2</sup> Calculated based on information provided by Columbia Forest Products.
- <sup>3</sup> Maximum % given this resin usage
- <sup>4</sup> Formaldehyde Emissions = (Resin Usage) X (% Free Formaldehyde)
- <sup>5</sup> Methanol Emissions = (Resin Usage) X (% Methanol)
- <sup>6</sup> Total VOC Emissions = (Resin Usage) X (% VOCs)
- <sup>7</sup> Obtained from North American (Borden)
- <sup>8</sup> Sum of % free formaldehyde and % methanol

**ATTACHMENT 2**  
**REVISED RECORDKEEPING SPREADSHEETS**

January 1998  
 Monthly Recordkeeping for Operating Permit  
 Columbia Forest Products, Chatham, VA - Registration No. 30120

Date	22a Boiler Operation		22b Diesel for Hog	22c UV Coating		22e Estimated UV VOCs (c) (lbs)	22e Estimated UV HAPs (d) (lbs)	22e UV Coating Purch'd (gals)	22d Resin Purchased (lbs)	22f Formaldehyde From Resin		22f Methanol From Resin		22f Total VOCs From Resin	
	Operating Time (hours)	Wood Fuel Burned (a) (tons)		Panels Coated (number)	Surface Two Sides (b) (Sq. Ft.)					(%)	(lbs)	(%)	(lbs)	(%)	(lbs)
01/01/98		0.00		0		0.0	0			0.10%	0.0	0.186%	0.0	0.486%	0.0
01/02/98	24	10.30	173.6	532	34,048	4.9	0			0.10%	0.0	0.186%	0.0	0.486%	0.0
01/03/98	24	10.30		699	44,736	8.4	0			0.10%	0.0	0.186%	0.0	0.486%	0.0
01/04/98		0.00		0	0	0.0	0			0.10%	0.0	0.186%	0.0	0.486%	0.0
01/05/98	24	10.30		1,823	116,672	16.7	0		46,200	0.10%	46.2	0.186%	85.9	0.486%	224.5
01/06/98	24	10.30		1,797	115,008	16.4	0	150	44,600	0.10%	44.6	0.186%	83.0	0.486%	216.8
01/07/98	24	10.30		1,109	70,976	10.1	0			0.10%	0.0	0.186%	0.0	0.486%	0.0
01/08/98	24	10.30		1,882	120,448	17.2	0			0.10%	0.0	0.186%	0.0	0.486%	0.0
01/09/98	24	10.30	183.1	1,761	112,704	16.1	0			0.10%	0.0	0.186%	0.0	0.486%	0.0
01/10/98		0.00		0	0	0.0	0			0.10%	0.0	0.186%	0.0	0.486%	0.0
01/11/98		0.00		0	0	0.0	0			0.10%	0.0	0.186%	0.0	0.486%	0.0
01/12/98	24	10.30		1,419	90,816	13.0	0		44,660	0.10%	44.7	0.186%	83.1	0.486%	217.0
01/13/98	24	10.30		1,659	106,176	15.2	0		44,840	0.10%	44.8	0.186%	83.4	0.486%	217.9
01/14/98	24	10.30		1,491	95,424	13.6	0			0.10%	0.0	0.186%	0.0	0.486%	0.0
01/15/98	24	10.30	101.9	1,606	102,784	14.7	0	175	44,580	0.10%	44.5	0.186%	82.9	0.486%	216.7
01/16/98	24	10.30		1,758	112,512	16.1	0			0.10%	0.0	0.186%	0.0	0.486%	0.0
01/17/98		0.00		0	0	0.0	0			0.10%	0.0	0.186%	0.0	0.486%	0.0
01/18/98		0.00		0	0	0.0	0			0.10%	0.0	0.186%	0.0	0.486%	0.0
01/19/98	24	10.30		1,150	73,600	10.5	0			0.10%	0.0	0.186%	0.0	0.486%	0.0
01/20/98	24	10.30		1,125	72,000	10.3	0			0.10%	0.0	0.186%	0.0	0.486%	0.0
01/21/98	24	10.30	105.1	929	59,456	8.5	0		89,620	0.10%	89.6	0.186%	166.7	0.486%	435.6
01/22/98	24	10.30		1,215	77,760	11.1	0	100	44,860	0.10%	45.0	0.186%	83.6	0.486%	218.5
01/23/98	24	10.30		1,437	91,968	13.2	0			0.10%	0.0	0.186%	0.0	0.486%	0.0
01/24/98	24	10.30		688	44,032	6.3	0			0.10%	0.0	0.186%	0.0	0.486%	0.0
01/25/98		0.00		0	0	0.0	0		45,360	0.10%	45.4	0.186%	84.4	0.486%	220.4
01/26/98	24	10.30		1,212	77,568	11.1	0	150	44,980	0.10%	45.0	0.186%	83.7	0.486%	218.6
01/27/98	24	10.30	118.4	1,637	104,768	15.0	0		44,680	0.10%	44.7	0.186%	83.1	0.486%	217.1
01/28/98	24	10.30		1,745	111,680	16.0	0			0.10%	0.0	0.186%	0.0	0.486%	0.0
01/29/98	24	10.30		1,700	108,800	15.6	0		44,120	0.10%	44.1	0.186%	82.1	0.486%	214.4
01/30/98	24	10.30	69.5	1,960	125,440	17.9	0			0.10%	0.0	0.186%	0.0	0.486%	0.0
01/31/98		0.00		0	0	0.0	0			0.10%	0.0	0.186%	0.0	0.486%	0.0
Totals:	552	236.9	751.6	32,334	2,069,376	296	0	575	535,600	539	1,002	2,518			

(a) Wood fuel burned = (Operating hours) X (858.4 lbs fuel/hr)/2000; based on field study data at 80% firing rate (which is the normal maximum operating rate).  
 (b) Two sided surface area = (Number of panels) X (64 Sq. Ft./Panel); assumes all panels are coated both sides, a conservatively high assumption.  
 (c) VOC estimate = (0.143 lbs VOC/Msq.Ft.) X (Surface) / (1000 Sq.Ft.); based on UV line permit application 84,096 MSq.Ft. and 52,428 gals of highest VOC product (0.23 lb/gal).  
 (d) None of the UV coating products currently in use at the Chatham facility list HAPs in the product MSDS.

February 1998  
 Monthly Recordkeeping for Operating Permit  
 Columbia Forest Products, Chatham, VA - Registration No. 30120

Date	22a Boiler Operation		22b Diesel for Hog	22c UV Coating		22e Estimated UV VOCs (c) (lbs)	22e Estimated UV HAPs (d) (lbs)	22e UV Coating Purch'd (gals)	22d Resin Purchased (lbs)	22f Formaldehyde From Resin		22f Methanol From Resin		22f Total VOCs From Resin	
	Operating Time (hours)	Wood Fuel Burned (e) (tons)		Panels Coated (number)	Surface Two Sides (b) (Sq.Ft.)					(%)	(lbs)	(%)	(lbs)	(%)	(lbs)
02/01/98		0.00		0		0.0	0			0.10%	0.0	0.186%	0.0	0.486%	0.0
02/02/98	24	10.30		1,604	102,656	14.7	0			0.10%	0.0	0.186%	0.0	0.486%	0.0
02/03/98	24	10.30		1,674	107,136	15.3	0			0.10%	0.0	0.186%	0.0	0.486%	0.0
02/04/98	24	10.30		1,705	109,120	15.6	0			0.10%	0.0	0.186%	0.0	0.486%	0.0
02/05/98	24	10.30		1,696	108,544	15.5	0	150	32,065	0.10%	32.1	0.186%	59.6	0.486%	155.8
02/06/98	24	10.30		1,428	94,392	13.1	0			0.10%	0.0	0.186%	0.0	0.486%	0.0
02/07/98	24	10.30		1,631	104,384	14.9	0			0.10%	0.0	0.186%	0.0	0.486%	0.0
02/08/98	24	0.00			0	0.0	0			0.10%	0.0	0.186%	0.0	0.486%	0.0
02/09/98	24	10.30		1,784	114,176	16.3	0		44,960	0.10%	45.0	0.186%	63.6	0.486%	218.5
02/10/98	24	10.30		1,737	111,168	15.9	0	150	45,120	0.10%	0.0	0.186%	0.0	0.486%	0.0
02/11/98	24	10.30		1,897	121,408	17.4	0			0.10%	45.1	0.186%	83.9	0.486%	219.3
02/12/98	24	10.30		1,506	96,384	13.8	0			0.10%	0.0	0.186%	0.0	0.486%	0.0
02/13/98	24	10.30	141.8	2,190	140,160	20.0	0			0.10%	0.0	0.186%	0.0	0.486%	0.0
02/14/98	24	0.00			0	0.0	0			0.10%	0.0	0.186%	0.0	0.486%	0.0
02/15/98	24	0.00			0	0.0	0			0.10%	0.0	0.186%	0.0	0.486%	0.0
02/16/98	24	10.30		1,650	105,600	15.1	0		44,900	0.10%	44.9	0.186%	83.5	0.486%	218.2
02/17/98	24	10.30		1,487	95,168	13.6	0			0.10%	0.0	0.186%	0.0	0.486%	0.0
02/18/98	24	10.30		1,646	105,344	15.1	0	200	44,600	0.10%	44.6	0.186%	83.0	0.486%	216.8
02/19/98	24	10.30		1,616	103,424	14.8	0			0.10%	44.9	0.186%	83.8	0.486%	218.4
02/20/98	24	10.30	141.4	2,148	137,472	19.7	0		44,660	0.10%	44.7	0.186%	83.1	0.486%	217.1
02/21/98	24	10.30		0	0	0.0	0		45,120	0.10%	45.1	0.186%	83.9	0.486%	219.3
02/22/98	24	0.00			0	0.0	0			0.10%	0.0	0.186%	0.0	0.486%	0.0
02/23/98	24	10.30		391	25,024	3.5	0			0.10%	0.0	0.186%	0.0	0.486%	0.0
02/24/98	24	10.30		1,390	88,960	12.7	0		45,040	0.10%	45.0	0.186%	83.8	0.486%	218.9
02/25/98	24	10.30		1,783	114,112	16.3	0		45,120	0.10%	45.1	0.186%	83.9	0.486%	219.3
02/26/98	24	10.30		1,499	95,936	13.7	0		30,320	0.10%	30.3	0.186%	56.4	0.486%	147.4
02/27/98	24	10.30	144.2	3,687	248,788	35.6	0			0.10%	0.0	0.186%	0.0	0.486%	0.0
02/28/98	24	0.00			0	0.0	0			0.10%	0.0	0.186%	0.0	0.486%	0.0
02/29/98	24	0.00			0	0.0	0			0.10%	0.0	0.186%	0.0	0.486%	0.0
02/30/98	24	0.00			0	0.0	0			0.10%	0.0	0.186%	0.0	0.486%	0.0
02/31/98	24	0.00			0	0.0	0			0.10%	0.0	0.186%	0.0	0.486%	0.0
Totals:	528	226.6	427.4	36,349	2,326,336	333	0	500	466,865		467		868		2,269

(a) Wood fuel burned = (Operating hours) X (838.4 lbs fuel/hr/2000); based on field study data at 80% firing rate (which is the normal maximum operating rate).  
 (b) Two sided surface area = (Number of panels) X (64 Sq.Ft./ Panel); assumes all panels are coated both sides, a conservatively high assumption.  
 (c) VOC estimate = (0.143 lbs VOC/MSq.Ft.) X (Surface) / (1000 Sq.Ft.); based on UV line permit application 84,096 MSq.Ft and 52,428 gals of highest VOC product (0.23 lb/gal).  
 (d) None of the UV coating products currently in use at the Chatham facility list HAPs in the product MSDS.

**March 1998**  
**Monthly Recordkeeping for Operating Permit**  
**Columbia Forest Products, Chatham, VA - Registration No. 30120**

Date	22a Boiler Operation		22b Diesel for Hog	22c UV Coating		22e Estimated UV VOCs (c) (lbs)	22a Estimated UV HAPs (d) (lbs)	22e UV Coating Purch'd (gals)	22d Resin Purchased (lbs)	22f Formaldehyde From Resin		22f Methanol From Resin		22f Total VOCs From Resin		
	Operating Time (hours)	Wood Fuel Burned (a) (tons)		Panels Coated (number)	Surface Two Sided (b) (Sq.Ft.)					(%)	(lbs)	(%)	(lbs)	(%)	(lbs)	
03/01/98		0.00		0		0.0	0				0.10%	0.0	0.186%	0.0	0.486%	0.0
03/02/98	24	10.30		851	60,864	8.7	0	100			0.10%	0.0	0.186%	0.0	0.486%	0.0
03/03/98	24	10.30		1,926	123,264	17.6	0	200			0.10%	0.0	0.186%	0.0	0.486%	0.0
03/04/98	24	10.30		1,737	111,168	15.9	0		45,360		0.10%	45.4	0.186%	84.4	0.486%	220.4
03/05/98	24	10.30		1,658	106,112	15.2	0		45,080		0.10%	45.1	0.186%	83.8	0.486%	219.1
03/06/98	24	10.30	127	1,868	119,552	17.1	0				0.10%	0.0	0.186%	0.0	0.486%	0.0
03/07/98		0.00		0	0	0.0	0				0.10%	0.0	0.186%	0.0	0.486%	0.0
03/08/98		0.00		0	0	0.0	0	177	46,960		0.10%	47.0	0.186%	87.3	0.486%	228.2
03/09/98	24	10.30		1,940	124,160	17.8	0				0.10%	0.0	0.186%	0.0	0.486%	0.0
03/10/98	24	10.30		1,754	112,256	16.1	0				0.10%	0.0	0.186%	0.0	0.486%	0.0
03/11/98	24	10.30		1,816	116,224	16.6	0		42,460		0.10%	42.5	0.186%	79.0	0.486%	206.4
03/12/98	24	10.30		1,520	97,280	13.9	0		45,000		0.10%	45.0	0.186%	83.7	0.486%	218.7
03/13/98	24	10.30	124	3,275	209,600	30.0	0				0.10%	0.0	0.186%	0.0	0.486%	0.0
03/14/98		0.00		0	0	0.0	0				0.10%	0.0	0.186%	0.0	0.486%	0.0
03/15/98		0.00		0	0	0.0	0	200			0.10%	0.0	0.186%	0.0	0.486%	0.0
03/16/98	24	10.30		1,449	92,736	13.3	0				0.10%	0.0	0.186%	0.0	0.486%	0.0
03/17/98	24	10.30		1,852	116,528	16.9	0		44,680		0.10%	44.7	0.186%	83.1	0.486%	217.1
03/18/98	24	10.30		1,720	110,080	15.7	0		36,320		0.10%	36.3	0.186%	67.6	0.486%	176.5
03/19/98	24	10.30		2,090	133,760	19.1	0		45,100		0.10%	45.1	0.186%	83.9	0.486%	219.2
03/20/98	24	10.30	105.2	1,534	98,176	14.0	0				0.10%	0.0	0.186%	0.0	0.486%	0.0
03/21/98	24	10.30		0	0	0.0	0				0.10%	0.0	0.186%	0.0	0.486%	0.0
03/22/98		0.00		0	0	0.0	0				0.10%	0.0	0.186%	0.0	0.486%	0.0
03/23/98	24	10.30		1,659	106,816	15.3	0				0.10%	0.0	0.186%	0.0	0.486%	0.0
03/24/98	24	10.30		1,798	115,072	16.5	0	200	45,000		0.10%	45.0	0.186%	83.7	0.486%	218.7
03/25/98	24	10.30		1,940	124,160	17.8	0		28,420		0.10%	28.4	0.186%	49.1	0.486%	128.4
03/26/98	24	10.30	111.9	1,784	114,176	16.3	0		45,400		0.10%	45.4	0.186%	84.4	0.486%	220.6
03/27/98	24	10.30		1,626	104,064	14.9	0		45,080		0.10%	45.1	0.186%	83.8	0.486%	219.1
03/28/98		0.00		0	0	0.0	0				0.10%	0.0	0.186%	0.0	0.486%	0.0
03/29/98		0.00		0	0	0.0	0				0.10%	0.0	0.186%	0.0	0.486%	0.0
03/30/98	24	10.30		1,780	113,920	16.3	0				0.10%	0.0	0.186%	0.0	0.486%	0.0
03/31/98	24	10.30		1,828	116,992	16.7	0				0.10%	0.0	0.186%	0.0	0.486%	0.0
<b>Totals:</b>	<b>552</b>	<b>236.9</b>	<b>468.1</b>	<b>39,515</b>	<b>2,528,950</b>	<b>362</b>	<b>0</b>	<b>877</b>	<b>512,660</b>	<b>513</b>	<b>0.186%</b>	<b>954</b>	<b>0.486%</b>	<b>2,492</b>	<b>0.0</b>	<b>0.0</b>

(a) Wood fuel burned = (Operating hours) X (858.4 lbs fuel/hr/2000); based on field study data at 80% firing rate (which is the normal maximum operating rate).  
 (b) Two sided surface area = (Number of panels) X (54 Sq.Ft./Panel); assumes all panels are coated both sides, a conservatively high assumption.  
 (c) VOC estimate = (0.143 lbs VOC/Msq.Ft.) X (Surface) / (1000 Sq.Ft.); based on UV line permit application 84,096 MSq.Ft and 52,428 gals of highest VOC product (0.23 lb/gal).  
 (d) None of the UV coating products currently in use at the Chatham facility list HAPs in the product MSDS.

April 1988  
 Monthly Recordkeeping for Operating Permit  
 Columbia Forest Products, Chatham, VA - Registration No. 30120

Date	22a		22b	22c		22e	22e	22e	22d	22f		22f	22f		
	Boiler Operation Time (hours)	Wood Fuel Burned (tons)		UV Coating Panels Coated (number)	UV Coating Surface Two Sides (Sq. Ft.)					Estimated UV VOCs (c) (lbs)	Estimated UV HAPs (d) (lbs)			UV Coating Purch'd (gals)	Resin Purchased (lbs)
04/01/88	24	10.30		891	44,224	6.3	0		45,200	0.10%	45.2	0.186%	84.1	0.486%	219.7
04/02/88	24	10.30		868	42,752	6.1	0		44,920	0.10%	44.9	0.186%	83.6	0.486%	218.3
04/03/88	24	10.30		1,369	87,616	12.5	0	150		0.10%	0.0	0.186%	0.0	0.486%	0.0
04/04/88	24	10.30		1,378	88,192	12.6	0			0.10%	0.0	0.186%	0.0	0.486%	0.0
04/05/88	24	10.30		1,892	121,088	17.3	0		44,920	0.10%	44.9	0.186%	83.6	0.486%	218.3
04/06/88	24	10.30		1,559	99,776	14.3	0		45,140	0.10%	45.1	0.186%	84.0	0.486%	219.4
04/07/88	24	10.30		1,744	111,516	16.0	0		44,960	0.10%	45.0	0.186%	83.8	0.486%	218.5
04/08/88	24	10.30	173	1,839	117,696	16.8	0			0.10%	0.0	0.186%	0.0	0.486%	0.0
04/09/88	24	10.30		1,635	104,640	15.0	0			0.10%	0.0	0.186%	0.0	0.486%	0.0
04/10/88	24	10.30		0	0	0.0	0			0.10%	0.0	0.186%	0.0	0.486%	0.0
04/11/88	24	10.30		0	0	0.0	0			0.10%	0.0	0.186%	0.0	0.486%	0.0
04/12/88	24	10.30		0	0	0.0	0		44,780	0.10%	44.8	0.186%	83.3	0.486%	217.8
04/13/88	24	10.30		1,008	64,512	9.2	0			0.10%	0.0	0.186%	0.0	0.486%	0.0
04/14/88	24	10.30		2,041	130,624	18.7	0	200	45,280	0.10%	45.3	0.186%	84.2	0.486%	220.1
04/15/88	24	10.30		1,958	125,312	17.9	0			0.10%	0.0	0.186%	0.0	0.486%	0.0
04/16/88	24	10.30	105.7	2,335	149,440	21.4	0			0.10%	0.0	0.186%	0.0	0.486%	0.0
04/17/88	24	10.30		0	0	0.0	0			0.10%	0.0	0.186%	0.0	0.486%	0.0
04/18/88	24	10.30		1,532	98,048	14.0	0		44,960	0.10%	45.0	0.186%	83.6	0.486%	218.5
04/19/88	24	10.30		1,551	99,264	14.2	0	200	45,040	0.10%	45.0	0.186%	83.8	0.486%	218.9
04/20/88	24	10.30		1,722	110,208	15.8	0		44,620	0.10%	44.6	0.186%	83.0	0.486%	216.9
04/21/88	24	10.30	138.1	1,922	123,088	17.5	0			0.10%	0.0	0.186%	0.0	0.486%	0.0
04/22/88	24	10.30		1,680	108,160	15.5	0			0.10%	0.0	0.186%	0.0	0.486%	0.0
04/23/88	24	10.30		1,825	116,800	16.7	0		45,280	0.10%	45.3	0.186%	84.2	0.486%	220.1
04/24/88	24	10.30		2,024	129,536	18.5	0			0.10%	0.0	0.186%	0.0	0.486%	0.0
04/25/88	24	10.30		1,423	91,072	13.0	0			0.10%	0.0	0.186%	0.0	0.486%	0.0
04/26/88	24	10.30		2,169	138,816	19.9	0			0.10%	0.0	0.186%	0.0	0.486%	0.0
04/27/88	24	10.30		0	0	0.0	0			0.10%	0.0	0.186%	0.0	0.486%	0.0
04/28/88	24	10.30		1,825	116,800	16.7	0			0.10%	0.0	0.186%	0.0	0.486%	0.0
04/29/88	24	10.30		2,169	138,816	19.9	0			0.10%	0.0	0.186%	0.0	0.486%	0.0
04/30/88	24	10.30		0	0	0.0	0			0.10%	0.0	0.186%	0.0	0.486%	0.0
Totals:	552	236.9	416.8	35,975	2,302,400	329	0	550	495,100		495		921		2,406

(a) Wood fuel burned = (Operating hours) X (868.4 lbs fuel/hr)/2000; based on field study data at 80% firing rate (which is the normal maximum operating rate).  
 (b) Two sided surface area = (Number of panels) X (64 Sq. Ft./Panel); assumes all panels are coated both sides, a conservatively high assumption.  
 (c) VOC estimate = (0.143 lbs VOC/Msq.Ft.) X (Surface) / (1000 Sq.Ft.); based on UV line permit application 84,096 MSq.Ft and 52,428 gals of highest VOC product (0.23 lb/gal).  
 (d) None of the UV coating products currently in use at the Chatham facility list HAPs in the product MSDS.

May 1998  
 Monthly Recordkeeping for Operating Permit  
 Columbia Forest Products, Chatham, VA - Registration No. 30120

Date	22a Boiler Operation		22b Diesel for Hog	22c UV Coating		22e Estimated UV HAPs (g)	22e UV VOCs (c) (lbs)	22e UV Coating Purch'd (gals)	22d Resin Purchased (lbs)	22f Formaldehyde		22f Methanol		22f Total VOCs	
	Operating Time (hours)	Wood Fuel Burned (tons)		Panels Coated (number)	Surface Two Sides (Sq.Ft.)					(%)	(lbs)	(%)	(lbs)	(%)	(lbs)
05/01/98	24	10.30		1,653	105,792	0	15.1	150	45,060	0.10%	0.0	0.186%	0.0	0.486%	0.0
05/02/98	24	10.30		1,609	102,976	0	14.7			0.10%	45.1	0.186%	83.8	0.486%	219.0
05/03/98		0.00			0	0	0.0			0.10%	0.0	0.186%	0.0	0.486%	0.0
05/04/98	24	10.30		1,934	123,776	0	17.7			0.10%	0.0	0.186%	0.0	0.486%	0.0
05/05/98	24	10.30		1,929	123,456	0	17.7			0.10%	45.0	0.186%	83.7	0.486%	218.8
05/06/98	24	10.30		1,523	97,472	0	13.9			0.10%	44.9	0.186%	83.6	0.486%	218.3
05/07/98	24	10.30		1,646	105,344	0	15.1			0.10%	0.0	0.186%	0.0	0.486%	0.0
05/08/98	24	10.30		1,767	113,088	0	16.2			0.10%	0.0	0.186%	0.0	0.486%	0.0
05/09/98	24	10.30		873	43,072	0	6.2			0.10%	44.7	0.186%	83.1	0.486%	217.1
05/10/98		0.00			0	0	0.0			0.10%	0.0	0.186%	0.0	0.486%	0.0
05/11/98	24	10.30		1,853	105,792	0	15.1			0.10%	0.0	0.186%	0.0	0.486%	0.0
05/12/98	24	10.30		1,597	102,208	0	14.6			0.10%	0.0	0.186%	0.0	0.486%	0.0
05/13/98	24	10.30		1,561	99,904	0	14.3			0.10%	44.6	0.186%	82.9	0.486%	216.6
05/14/98	24	10.30	103.3	1,669	106,816	0	15.3	150	44,860	0.10%	0.0	0.186%	0.0	0.486%	0.0
05/15/98	24	10.30		1,708	109,312	0	15.6			0.10%	44.9	0.186%	83.5	0.486%	218.1
05/16/98		0.00			0	0	0.0			0.10%	0.0	0.186%	0.0	0.486%	0.0
05/17/98		0.00			0	0	0.0			0.10%	0.0	0.186%	0.0	0.486%	0.0
05/18/98	24	10.30		1,461	93,504	0	13.4			0.10%	0.0	0.186%	0.0	0.486%	0.0
05/19/98	24	10.30		1,803	115,392	0	16.5			0.10%	45.0	0.186%	83.6	0.486%	218.5
05/20/98	24	10.30		1,873	119,372	0	17.1			0.10%	44.9	0.186%	83.6	0.486%	218.3
05/21/98	24	10.30	747.5	1,762	112,768	0	16.1			0.10%	0.0	0.186%	0.0	0.486%	0.0
05/22/98	24	10.30		1,839	117,696	0	16.8	150	44,900	0.10%	44.9	0.186%	83.5	0.486%	218.2
05/23/98		0.00			0	0	0.0			0.10%	0.0	0.186%	0.0	0.486%	0.0
05/24/98		0.00			0	0	0.0			0.10%	0.0	0.186%	0.0	0.486%	0.0
05/25/98		0.00			0	0	0.0			0.10%	0.0	0.186%	0.0	0.486%	0.0
05/26/98	24	10.30		1,594	101,376	0	14.5			0.10%	0.0	0.186%	0.0	0.486%	0.0
05/27/98	24	10.30		1,628	104,192	0	14.9			0.10%	44.7	0.186%	83.1	0.486%	217.1
05/28/98	24	10.30		2,120	135,680	0	19.4			0.10%	45.0	0.186%	83.8	0.486%	218.9
05/29/98	24	10.30		1,894	117,376	0	16.8			0.10%	0.0	0.186%	0.0	0.486%	0.0
05/30/98	24	10.30		1,673	107,072	0	15.3			0.10%	44.7	0.186%	83.1	0.486%	217.2
05/31/98		0.00			0	0	0.0			0.10%	0.0	0.186%	0.0	0.486%	0.0
Totals:	552	236.9	853.8	38,499	2,453,936	0	352	450	538,320		538		1,001		2,616

(a) Wood fuel burned = (Operating hours) X (858.4 lbs fuel/2000; based on field study data at 80% firing rate (which is the normal maximum operating rate).  
 (b) Two sided surface area = (Number of panels) X (64 Sq.Ft./ Panel); assumes all panels are coated both sides, a conservatively high assumption.  
 (c) VOC estimate = (0.143 lbs VOC/Msq.Ft.) X (Surface) / (1000 Sq.Ft.); based on UV line permit application 84,096 MSq.Ft and 52,428 gals of highest VOC product (0.23 lb/gal).  
 (d) None of the UV coating products currently in use at the Chatham facility list HAPs in the product MSDS.

June 1998  
 Monthly Recordkeeping for Operating Permit  
 Columbia Forest Products, Chatham, VA - Registration No. 30120

Date	22a Boiler Operation		22b Diesel for Hog (gals)	22c UV Coating		22e Estimated UV HAPs (d) (lbs)	22a Estimated UV VOCs (c) (lbs)	22a UV Coating Purch'd (gals)	22d Resin Purchased (lbs)	22f Formaldehyde From Resin		22f Methanol From Resin		22f Total VOCs From Resin	
	Operating Time (hours)	Wood Fuel Burned (a) (tons)		UV Coating Panels Coated (number)	Surface Two Sided (b) (Sq. Ft.)					(%)	(lbs)	(%)	(lbs)	(%)	(lbs)
06/01/98	24	10.30		1,911	122,304	0	17.5		44,880	0.10%	44.9	0.186%	83.5	0.486%	218.1
06/02/98	24	10.30		2,121	135,744	0	19.4			0.10%	0.0	0.186%	0.0	0.486%	0.0
06/03/98	24	10.30		1,880	120,320	0	17.2			0.10%	0.0	0.186%	0.0	0.486%	0.0
06/04/98	24	10.30		1,805	115,520	0	16.5		44,880	0.10%	44.9	0.186%	83.4	0.486%	218.0
06/05/98	24	10.30		3,344	214,016	0	30.6			0.10%	0.0	0.186%	0.0	0.486%	0.0
06/06/98		0.00		0	0	0	0.0			0.10%	0.0	0.186%	0.0	0.486%	0.0
06/07/98		0.00		0	0	0	0.0			0.10%	0.0	0.186%	0.0	0.486%	0.0
06/08/98	24	10.30		1,916	122,624	0	17.5		44,980	0.10%	45.0	0.186%	83.7	0.486%	218.6
06/09/98	24	10.30		1,926	123,264	0	17.6		44,880	0.10%	44.9	0.186%	83.4	0.486%	218.0
06/10/98	24	10.30		1,752	112,128	0	16.0			0.10%	0.0	0.186%	0.0	0.486%	0.0
06/11/98	24	10.30		1,947	124,608	0	17.8	200		0.10%	0.0	0.186%	0.0	0.486%	0.0
06/12/98	24	10.30		1,799	115,136	0	16.5		45,000	0.10%	45.0	0.186%	83.7	0.486%	218.7
06/13/98	24	10.30		1,795	114,880	0	16.4			0.10%	0.0	0.186%	0.0	0.486%	0.0
06/14/98		0.00		0	0	0	0.0			0.10%	0.0	0.186%	0.0	0.486%	0.0
06/15/98	24	10.30		1,789	114,496	0	16.4		45,220	0.10%	45.2	0.186%	84.1	0.486%	219.8
06/16/98	24	10.30		1,615	103,360	0	14.8		45,240	0.10%	45.2	0.186%	84.1	0.486%	219.9
06/17/98	24	10.30		1,337	85,568	0	12.2			0.10%	0.0	0.186%	0.0	0.486%	0.0
06/18/98	24	10.30		1,487	95,168	0	13.6			0.10%	0.0	0.186%	0.0	0.486%	0.0
06/19/98	24	10.30		2,275	145,600	0	20.8			0.10%	0.0	0.186%	0.0	0.486%	0.0
06/20/98	24	10.30		1,945	124,480	0	17.8			0.10%	0.0	0.186%	0.0	0.486%	0.0
06/21/98		0.00		0	0	0	0.0			0.10%	0.0	0.186%	0.0	0.486%	0.0
06/22/98	24	10.30		2,304	147,456	0	21.1		47,680	0.10%	47.7	0.186%	88.7	0.486%	231.7
06/23/98	24	10.30		2,002	128,128	0	18.3		44,800	0.10%	44.8	0.186%	83.3	0.486%	217.7
06/24/98	24	10.30		1,550	99,200	0	14.2		47,020	0.10%	47.0	0.186%	87.5	0.486%	228.5
06/25/98	24	10.30		1,801	115,264	0	16.5			0.10%	0.0	0.186%	0.0	0.486%	0.0
06/26/98	24	10.30	214.5	2,377	152,128	0	21.8			0.10%	0.0	0.186%	0.0	0.486%	0.0
06/27/98		0.00		0	0	0	0.0			0.10%	0.0	0.186%	0.0	0.486%	0.0
06/28/98		0.00		0	0	0	0.0			0.10%	0.0	0.186%	0.0	0.486%	0.0
06/29/98	24	10.30		2,091	133,824	0	19.1		46,120	0.10%	46.1	0.186%	85.8	0.486%	224.1
06/30/98	24	10.30		2,153	137,792	0	19.7		47,280	0.10%	47.3	0.186%	87.9	0.486%	229.8
		0.00		0	0	0	0.0			0.10%	0.0	0.186%	0.0	0.486%	0.0
Totals:	576	247.2	214.5	46,922	3,003,008	0	429	200	547,940		548		1,019		2,863

(a) Wood fuel burned = (Operating hours) X (858 A lbs fuel/hr)/2000; based on field study data at 80% firing rate (which is the normal maximum operating rate).  
 (b) Two sided surface area = (Number of panels) X (64 Sq. Ft./ Panel); assumes all panels are coated both sides, a conservatively high assumption.  
 (c) VOC estimate = (0.143 lbs VOC/Msq.Ft.) X (Surface) / (1000 Sq.Ft.); based on UV line permit application 84,096 MSq.Ft and 52,428 gals of highest VOC product (0.23 lb/gal).  
 (d) None of the UV coating products currently in use at the Chatham facility list HAPs in the product MSDS.

July 1998  
 Monthly Recordkeeping for Operating Permit  
 Columbia Forest Products, Chatham, VA - Registration No. 30120

Date	22a Boiler Operation		22b Diesel for Hog (gals)	22c UV Coating		22e Estimated UV VOCs (c) (lbs)	22e Estimated UV HAPs (d) (lbs)	22e UV Coating Purch'd (gals)	22d Resin Purchased (lbs)	22f Formaldehyde From Resin		22f Methanol From Resin		22f Total VOCs From Resin	
	Operating Time (hours)	Wood Fuel Burned (a) (tons)		Panels Coated (number)	Surface Two Sides (b) (Sq.Ft.)					(%)	(lbs)	(%)	(lbs)	(%)	(lbs)
07/01/98	24	10.30		1,833	117,912	16.8	0		46,500	0.10%	46.5	0.186%	86.5	0.486%	226.0
07/02/98	24	10.30		2,352	150,528	21.5	0			0.10%	0.0	0.186%	0.0	0.486%	0.0
07/03/98	24	10.30		0	0	0.0	0			0.10%	0.0	0.186%	0.0	0.486%	0.0
07/04/98	0.00	0.00		0	0	0.0	0			0.10%	0.0	0.186%	0.0	0.486%	0.0
07/05/98	0.00	0.00		0	0	0.0	0			0.10%	0.0	0.186%	0.0	0.486%	0.0
07/06/98	0.00	0.00		0	0	0.0	0			0.10%	0.0	0.186%	0.0	0.486%	0.0
07/07/98	0.00	0.00		0	0	0.0	0			0.10%	0.0	0.186%	0.0	0.486%	0.0
07/08/98	0.00	0.00		0	0	0.0	0			0.10%	0.0	0.186%	0.0	0.486%	0.0
07/09/98	0.00	0.00		0	0	0.0	0			0.10%	0.0	0.186%	0.0	0.486%	0.0
07/10/98	0.00	0.00		0	0	0.0	0			0.10%	0.0	0.186%	0.0	0.486%	0.0
07/11/98	0.00	0.00		0	0	0.0	0			0.10%	0.0	0.186%	0.0	0.486%	0.0
07/12/98	0.00	0.00		0	0	0.0	0			0.10%	0.0	0.186%	0.0	0.486%	0.0
07/13/98	24	10.30		3,861	247,104	35.3	0	200	44,640	0.10%	44.6	0.186%	83.0	0.486%	217.0
07/14/98	24	10.30		2,425	155,200	22.2	0			0.10%	0.0	0.186%	0.0	0.486%	0.0
07/15/98	24	10.30		2,254	144,256	20.6	0		45,120	0.10%	45.1	0.186%	83.9	0.486%	219.3
07/16/98	24	10.30		2,951	188,864	27.0	0		44,800	0.10%	44.8	0.186%	83.3	0.486%	217.7
07/17/98	24	10.30	309.2	2,152	137,728	19.7	0		45,220	0.10%	45.2	0.186%	84.1	0.486%	219.8
07/18/98	24	10.30		2,716	173,824	24.9	0			0.10%	0.0	0.186%	0.0	0.486%	0.0
07/19/98	24	0.00		0	0	0.0	0			0.10%	0.0	0.186%	0.0	0.486%	0.0
07/20/98	24	10.30		2,368	151,552	21.7	0			0.10%	0.0	0.186%	0.0	0.486%	0.0
07/21/98	24	10.30		2,546	162,944	23.3	0			0.10%	0.0	0.186%	0.0	0.486%	0.0
07/22/98	24	10.30		1,568	100,352	14.4	0		46,820	0.10%	46.8	0.186%	87.1	0.486%	227.5
07/23/98	24	10.30		1,835	117,440	16.8	0		47,620	0.10%	47.6	0.186%	88.6	0.486%	231.4
07/24/98	24	10.30	109	2,417	154,688	22.1	0			0.10%	0.0	0.186%	0.0	0.486%	0.0
07/25/98	24	10.30		2,227	142,528	20.4	0			0.10%	0.0	0.186%	0.0	0.486%	0.0
07/26/98	24	0.00		0	0	0.0	0			0.10%	0.0	0.186%	0.0	0.486%	0.0
07/27/98	24	10.30		2,596	166,144	23.8	0		44,860	0.10%	44.7	0.186%	83.1	0.486%	217.0
07/28/98	24	10.30	111	3,025	193,600	27.7	0		45,160	0.10%	45.2	0.186%	84.0	0.486%	219.5
07/29/98	24	10.30		2,879	184,256	26.3	0			0.10%	0.0	0.186%	0.0	0.486%	0.0
07/30/98	24	10.30		2,652	169,728	24.3	0	250	44,860	0.10%	44.9	0.186%	83.4	0.486%	218.0
07/31/98	24	10.30		2,549	163,136	23.3	0		45,120	0.10%	45.1	0.186%	83.9	0.486%	219.3
Totals:	480	206.0	529.2	47,206	3,021,184	432	0	450	500,520		501		931		2,433

(a) Wood fuel burned = (Operating hours) X (858.4 lbs fuel/hr)/2000; based on field study data at 80% firing rate (which is the normal maximum operating rate).  
 (b) Two sided surface area = (Number of panels) X (64 Sq.Ft./Panel); assumes all panels are coated both sides, a conservatively high assumption.  
 (c) VOC estimate = (0.143 lbs VOC/MSq.Ft.) X (Surface) / (1000 Sq.Ft.); based on UV line permit application B4,096 MSq.Ft and 52,428 gals of highest VOC product (0.23 lb/gal).  
 (d) None of the UV coating products currently in use at the Chatham facility list HAPs in the product MSDS.

**August 1998**  
**Monthly Recordkeeping for Operating Permit**  
**Columbia Forest Products, Chatham, VA - Registration No. 30120**

Date	22a Boiler Operation		22b Diesel for Hog	22c UV Coating		22e Estimated UV VOCs (c) (lbs)	22e Estimated UV HAPs (d) (lbs)	22a UV Coating Purch'd (gals)	22d Resin Purchased (lbs)	22f Formaldehyde From Resin		22f Methanol From Resin		22f Total VOCs From Resin (lbs)
	Operating Time (hours)	Wood Fuel Burned (a) (tons)		Panels Coated (number)	Surface Two Sides (b) (Sq.Ft.)					(%)	(lbs)	(%)	(lbs)	
08/01/98	24	10.30		2,616	167,424	23.9	0			0.10%	0.0	0.186%	0.0	0.0
08/02/98		0.00			0	0.0	0			0.10%	0.0	0.186%	0.0	0.0
08/03/98	24	10.30		2,464	157,696	22.6	0		45,080	0.10%	45.1	0.186%	83.8	219.1
08/04/98	24	10.30		2,992	191,488	27.4	0			0.10%	0.0	0.186%	0.0	0.0
08/05/98	24	10.30		2,713	173,632	24.8	0			0.10%	0.0	0.186%	0.0	0.0
08/06/98	24	10.30	206	2,689	172,096	24.6	0		47,300	0.10%	47.3	0.186%	88.0	229.9
08/07/98	24	10.30		2,578	164,992	23.6	0			0.10%	0.0	0.186%	0.0	0.0
08/08/98		0.00			0	0.0	0			0.10%	0.0	0.186%	0.0	0.0
08/09/98		0.00			0	0.0	0			0.10%	0.0	0.186%	0.0	0.0
08/10/98	24	10.30		5,473	350,272	50.1	0		46,660	0.10%	46.7	0.186%	86.8	226.8
08/11/98	24	10.30		2,510	160,640	23.0	0			0.10%	0.0	0.186%	0.0	0.0
08/12/98	24	10.30		2,891	185,024	26.5	0	300		0.10%	0.0	0.186%	0.0	0.0
08/13/98	24	10.30		3,261	208,704	29.8	0		44,600	0.10%	44.6	0.186%	83.0	216.8
08/14/98	24	10.30	127.1	7,748	495,872	70.9	0			0.10%	0.0	0.186%	0.0	0.0
08/15/98		0.00			0	0.0	0			0.10%	0.0	0.186%	0.0	0.0
08/16/98		0.00			0	0.0	0			0.10%	0.0	0.186%	0.0	0.0
08/17/98	24	10.30		2,104	134,656	19.3	0			0.10%	0.0	0.186%	0.0	0.0
08/18/98	24	10.30		3,369	215,616	30.8	0		45,040	0.10%	45.0	0.186%	83.8	218.9
08/19/98	24	10.30		2,776	177,664	25.4	0		44,860	0.10%	44.9	0.186%	83.5	218.1
08/20/98	24	10.30		2,811	179,904	25.7	0			0.10%	0.0	0.186%	0.0	0.0
08/21/98	24	10.30		8,718	557,952	79.8	0		40,300	0.10%	40.3	0.186%	75.0	195.9
08/22/98		0.00			0	0.0	0			0.10%	0.0	0.186%	0.0	0.0
08/23/98		0.00			0	0.0	0			0.10%	0.0	0.186%	0.0	0.0
08/24/98	24	10.30		3,387	216,768	31.0	0		44,640	0.10%	44.8	0.186%	83.4	217.9
08/25/98	24	10.30		1,702	108,928	15.6	0			0.10%	0.0	0.186%	0.0	0.0
08/26/98	24	10.30		2,515	160,960	23.0	0		45,120	0.10%	45.1	0.186%	83.9	219.3
08/27/98	24	10.30		2,786	178,944	25.6	0		44,680	0.10%	44.7	0.186%	83.1	217.1
08/28/98	24	10.30		2,914	186,496	26.7	0			0.10%	0.0	0.186%	0.0	0.0
08/29/98	24	10.30		5,628	360,192	51.5	0		46,420	0.10%	46.4	0.186%	86.3	225.6
08/30/98		0.00			0	0.0	0			0.10%	0.0	0.186%	0.0	0.0
08/31/98	24	10.30		2,613	167,232	23.9	0			0.10%	0.0	0.186%	0.0	0.0
Totals:	552	236.9	333.1	79,268	5,073,152	725	0	300	494,920		495		921	2,405

(a) Wood fuel burned = (Operating hours) X (568.4 lbs fuel/hr/2000); based on field study data at 80% firing rate (which is the normal maximum operating rate).  
 (b) Two sided surface area = (Number of panels) X (64 Sq.Ft./ Panel); assumes all panels are coated both sides, a conservatively high assumption.  
 (c) VOC estimate = (0.143 lbs VOC/MSq.Ft.) X (Surface) / (1000 Sq.Ft.); based on UV line permit application 84,096 MSq.Ft. and 52,428 gals of highest VOC product (0.23 lb/gal).  
 (d) None of the UV coating products currently in use at the Chatham facility list HAPs in the product MSDS.

3A-36

September 1998  
 Monthly Recordkeeping for Operating Permit  
 Columbia Forest Products, Chatham, VA - Registration No. 30120

Date	Boiler Operation Operating Time (hours)	22a Boiler Operation Wood Fuel Burned (a) (tons)	22b Diesel for Hog (gals)	22c UV Coating		22a Estimated UV VOCs (c) (lbs)	22e Estimated UV HAPs (g) (lbs)	22e UV Coating Purch'd (gals)	22d Resin Purchased (lbs)	Formaldehyde From Resin (%)	22f (lbs)	Methanol From Resin (%)	22f (lbs)	Total VOCs From Resin (%)	22f (lbs)
				Panels Coated (number)	Surface Two Sides(b) (Sq.Ft.)										
09/01/98	24	10.30		3,170	202,880	29.0	0	300	46,640	0.10%	46.6	0.186%	86.8	0.486%	226.7
09/02/98	24	10.30		2,879	184,256	26.3	0		46,620	0.10%	46.6	0.186%	86.7	0.486%	228.6
09/03/98	24	10.30		2,716	173,824	24.9	0	50		0.10%	0.0	0.186%	0.0	0.486%	0.0
09/04/98	24	10.30		7,502	480,128	68.7	0		48,700	0.10%	46.7	0.186%	86.9	0.486%	227.0
09/05/98	24	10.30			0	0.0	0			0.10%	0.0	0.186%	0.0	0.486%	0.0
09/06/98	24	10.30			0	0.0	0			0.10%	0.0	0.186%	0.0	0.486%	0.0
09/07/98	24	10.30			0	0.0	0			0.10%	0.0	0.186%	0.0	0.486%	0.0
09/08/98	24	10.30		2,105	134,720	19.3	0			0.10%	0.0	0.186%	0.0	0.486%	0.0
09/09/98	24	10.30		2,788	178,432	25.5	0			0.10%	0.0	0.186%	0.0	0.486%	0.0
09/10/98	24	10.30		2,518	161,152	23.0	0		47,260	0.10%	47.3	0.186%	87.9	0.486%	229.7
09/11/98	24	10.30		2,611	167,104	23.9	0	300	44,660	0.10%	44.7	0.186%	83.1	0.486%	217.0
09/12/98	24	10.30			0	0.0	0			0.10%	0.0	0.186%	0.0	0.486%	0.0
09/13/98	24	10.30			0	0.0	0			0.10%	0.0	0.186%	0.0	0.486%	0.0
09/14/98	24	10.30		5,024	321,536	46.0	0			0.10%	0.0	0.186%	0.0	0.486%	0.0
09/15/98	24	10.30		3,999	255,936	36.6	0			0.10%	0.0	0.186%	0.0	0.486%	0.0
09/16/98	24	10.30		2,007	128,448	18.4	0		45,060	0.10%	45.1	0.186%	83.8	0.486%	219.0
09/17/98	24	10.30	132.2	2,047	131,008	18.7	0		47,320	0.10%	47.3	0.186%	88.0	0.486%	230.0
09/18/98	24	10.30		8,181	523,584	74.9	0	500		0.10%	0.0	0.186%	0.0	0.486%	0.0
09/19/98	24	10.30			0	0.0	0			0.10%	0.0	0.186%	0.0	0.486%	0.0
09/20/98	24	10.30			0	0.0	0			0.10%	0.0	0.186%	0.0	0.486%	0.0
09/21/98	24	10.30		1,804	115,456	16.5	0			0.10%	0.0	0.186%	0.0	0.486%	0.0
09/22/98	24	10.30		2,524	161,536	23.1	0		44,660	0.10%	44.7	0.186%	83.1	0.486%	217.0
09/23/98	24	10.30		3,226	206,464	29.5	0		91,360	0.10%	91.4	0.186%	169.9	0.486%	444.0
09/24/98	24	10.30		2,005	128,320	18.3	0			0.10%	0.0	0.186%	0.0	0.486%	0.0
09/25/98	24	10.30		2,390	152,960	21.9	0			0.10%	0.0	0.186%	0.0	0.486%	0.0
09/26/98	24	10.30			0	0.0	0			0.10%	0.0	0.186%	0.0	0.486%	0.0
09/27/98	24	10.30			0	0.0	0			0.10%	0.0	0.186%	0.0	0.486%	0.0
09/28/98	24	10.30		8,885	568,640	81.3	0			0.10%	0.0	0.186%	0.0	0.486%	0.0
09/29/98	24	10.30		1,610	103,040	14.7	0		45,060	0.10%	45.1	0.186%	83.8	0.486%	219.0
09/30/98	24	10.30		2,389	152,896	21.9	0		44,620	0.10%	44.6	0.186%	83.0	0.486%	216.9
09/30/98	24	0.00			0	0.0	0			0.10%	0.0	0.186%	0.0	0.486%	0.0
Totals:	696	288.7	132.2	72,380	4,632,320	662	0	1,150	549,960		550		1,023		2,673

(a) Wood fuel burned = (Operating hours) X (856.4 lbs fuel/hr/2000); based on field study data at 80% firing rate (which is the normal maximum operating rate).  
 (b) Two sided surface area = (Number of panels) X (64 Sq.Ft./Panel); assumes all panels are coated both sides, a conservatively high assumption.  
 (c) VOC estimate = (0.143 lbs VOC/MSq.Ft.) X (Surface Area) X (1000 Sq.Ft.); based on UV line permit application #4,096 MSq.Ft. and 52,428 gals of highest VOC product (0.23 lb/gal).  
 (d) None of the UV coating products currently in use at the Chatham facility list HAPs in the product MSDS.

**October 1988**  
**Monthly Recordkeeping for Operating Permit**  
**Columbia Forest Products, Chatham, VA - Registration No. 30120**

Date	22a		22b	22c		22e	22e	22d	22f		22f			
	Boiler Operating Time (hours)	Wood Fuel Burned (a) (tons)		UV Coating Panels Coated (number)	UV Coating Surface Two Sides (b) (Sq.Ft.)				Estimated UV VOCs (c) (lbs)	Estimated UV HAPs (d) (lbs)		UV Coating Purch'd (gals)	Resin Purchased (lbs)	Formaldehyde From Resin (%)
10/01/98	24	10.30		1,699	108,736	15.5	0	45,120	0.10%	45.1	0.186%	93.9	0.486%	219.3
10/02/98	24	10.30	167.9	1,940	124,160	17.8	0	44,920	0.10%	0.0	0.186%	0.0	0.486%	0.0
10/03/98	24	10.30		6,182	395,648	56.6	0		0.10%	44.9	0.186%	83.5	0.486%	218.3
10/04/98		0.00			0	0.0	0		0.10%	0.0	0.186%	0.0	0.486%	0.0
10/05/98	24	10.30		2,169	138,816	19.9	0		0.10%	0.0	0.186%	0.0	0.486%	0.0
10/06/98	24	10.30		2,536	162,304	23.2	0		0.10%	47.9	0.186%	89.1	0.486%	232.8
10/07/98	24	10.30		2,451	156,864	22.4	0	46,820	0.10%	46.8	0.186%	87.1	0.486%	227.5
10/08/98	24	10.30	130	1,433	91,712	13.1	0		0.10%	0.0	0.186%	0.0	0.486%	0.0
10/09/98	24	10.30		6,424	411,136	58.8	0	47,660	0.10%	47.7	0.186%	86.6	0.486%	231.6
10/10/98		0.00			0	0.0	0		0.10%	0.0	0.186%	0.0	0.486%	0.0
10/11/98		0.00			0	0.0	0		0.10%	0.0	0.186%	0.0	0.486%	0.0
10/12/98	24	10.30		2,442	156,288	22.3	0		0.10%	0.0	0.186%	0.0	0.486%	0.0
10/13/98	24	10.30		1,489	95,296	13.8	0		0.10%	0.0	0.186%	0.0	0.486%	0.0
10/14/98	24	10.30		1,525	97,600	14.0	0	45,280	0.10%	45.3	0.186%	84.2	0.486%	220.1
10/15/98	24	10.30		2,725	174,400	24.9	0	45,000	0.10%	45.0	0.186%	83.7	0.486%	218.7
10/16/98	24	10.30	130.3	1,417	90,688	13.0	0		0.10%	0.0	0.186%	0.0	0.486%	0.0
10/17/98		0.00			0	0.0	0	200	0.10%	0.0	0.186%	0.0	0.486%	0.0
10/18/98		0.00			0	0.0	0		0.10%	0.0	0.186%	0.0	0.486%	0.0
10/19/98	24	10.30		2,835	181,440	25.9	0	45,000	0.10%	0.0	0.186%	0.0	0.486%	0.0
10/20/98	24	10.30		744	47,616	6.8	0		0.10%	45.0	0.186%	83.7	0.486%	218.7
10/21/98	24	10.30		2,148	137,472	19.7	0	45,160	0.10%	45.2	0.186%	84.0	0.486%	219.5
10/22/98	24	10.30		1,428	91,284	13.1	0		0.10%	0.0	0.186%	0.0	0.486%	0.0
10/23/98	24	10.30	186.4	1,201	76,864	11.0	0	44,900	0.10%	44.9	0.186%	83.5	0.486%	218.2
10/24/98	24	10.30		217	13,888	2.0	0		0.10%	0.0	0.186%	0.0	0.486%	0.0
10/25/98		0.00			0	0.0	0		0.10%	0.0	0.186%	0.0	0.486%	0.0
10/26/98	24	10.30		2,206	141,184	20.2	0	45,340	0.10%	45.3	0.186%	84.3	0.486%	220.4
10/27/98	24	10.30		1,440	92,160	13.2	0		0.10%	0.0	0.186%	0.0	0.486%	0.0
10/28/98	24	10.30		1,924	123,136	17.6	0		0.10%	0.0	0.186%	0.0	0.486%	0.0
10/29/98		0.00		846	54,144	7.7	0	45,260	0.10%	45.3	0.186%	84.2	0.486%	220.0
10/30/98		0.00		6,206	397,184	56.8	0	45,260	0.10%	45.3	0.186%	84.2	0.486%	220.0
10/31/98		0.00			0	0.0	0		0.10%	0.0	0.186%	0.0	0.486%	0.0
<b>Totals:</b>	<b>528</b>	<b>226.6</b>	<b>763.0</b>	<b>55,625</b>	<b>3,560,900</b>	<b>509</b>	<b>0</b>	<b>593,620</b>		<b>594</b>		<b>1,104</b>		<b>2,886</b>

(a) Wood fuel burned = (Operating hours) X (858.4 lbs fuel/hr/2000), based on field study data at 80% firing rate (which is the normal maximum operating rate).  
 (b) Two sided surface area = (Number of panels) X (64 Sq.Ft./ Panel); assumes all panels are coated both sides, a conservatively high assumption.  
 (c) VOC estimate = (0.143 lbs VOC/Msq.Ft.) X (Surface) / (1000 Sq.Ft.); based on UV line permit application 84,088 MSq.Ft and 52,428 gals of highest VOC product (0.23 lb/gal).  
 (d) None of the UV coating products currently in use at the Chatham facility list HAPs in the product MSDS.

November 1998  
 Monthly Recordkeeping for Operating Permit  
 Columbia Forest Products, Chatham, VA - Registration No. 30120

Date	22a Boiler Operation		22b Diesel for Hog	22c UV Coating		22e Estimated UV HAPs (d) (lbs)	22e Estimated UV VOCs (c) (lbs)	22d Resin Purchased (lbs)	22f Formaldehyde From Resin		22f Methanol From Resin		22f Total VOCs From Resin	
	Operating Time (hours)	Wood Fuel Burned (a) (tons)		Panels Coated (number)	Surface Two Sides (b) (Sq.Ft.)				UV Coating Purch'd (gals)	(%)	(lbs)	(%)	(lbs)	(%)
11/01/98	0.00			0		0.0	0.0		0.10%	0.0	0.186%	0.0	0.486%	0.0
11/02/98	24	10.30		123,968		0.0	17.7		0.10%	0.0	0.186%	0.0	0.486%	0.0
11/03/98	24	10.30		58,624		0.0	8.4		0.10%	0.0	0.186%	0.0	0.486%	0.0
11/04/98	24	10.30		51,328		0.0	7.3		0.10%	0.0	0.186%	0.0	0.486%	0.0
11/05/98	24	10.30		92,736		0.0	13.3		0.10%	0.0	0.186%	0.0	0.486%	0.0
11/06/98	24	10.30	180.3	115,904		0.0	16.6		0.10%	46.6	0.186%	86.6	0.486%	228.3
11/07/98	24	10.30		189,120		0.0	27.0		0.10%	0.0	0.186%	0.0	0.486%	0.0
11/08/98	0.00			0		0.0	0.0		0.10%	0.0	0.186%	0.0	0.486%	0.0
11/09/98	24	10.30		80,000		0.0	11.4		0.10%	0.0	0.186%	0.0	0.486%	0.0
11/10/98	24	10.30		2,003		0.0	18.3	200.0	0.10%	47.4	0.186%	88.2	0.486%	230.4
11/11/98	24	10.30		1,488		0.0	13.6		0.10%	0.0	0.186%	0.0	0.486%	0.0
11/12/98	24	10.30	261	95,232		0.0	21.2		0.10%	0.0	0.186%	0.0	0.486%	0.0
11/13/98	24	10.30		2,320		0.0	14.8		0.10%	0.0	0.186%	0.0	0.486%	0.0
11/14/98	24	10.30		148,480		0.0	14.2		0.10%	0.0	0.186%	0.0	0.486%	0.0
11/15/98	24	10.30		99,264		0.0	31.1		0.10%	0.0	0.186%	0.0	0.486%	0.0
11/16/98	0.00			217,600		0.0	0.0		0.10%	0.0	0.186%	0.0	0.486%	0.0
11/17/98	24	10.30		0		0.0	0.0		0.10%	0.0	0.186%	0.0	0.486%	0.0
11/18/98	24	10.30		96,512		0.0	19.8		0.10%	0.0	0.186%	0.0	0.486%	0.0
11/19/98	24	10.30		144,448		0.0	20.7	46,560	0.10%	46.6	0.186%	86.6	0.486%	226.3
11/20/98	24	10.30		116,928		0.0	18.0	46,980	0.10%	0.0	0.186%	0.0	0.486%	0.0
11/21/98	0.00		219.4	125,632		0.0	0.0		0.10%	47.0	0.186%	87.4	0.486%	228.3
11/22/98	0.00			0		0.0	0.0	44,740	0.10%	0.0	0.186%	0.0	0.486%	0.0
11/23/98	0.00			0		0.0	0.0		0.10%	44.7	0.186%	83.2	0.486%	217.4
11/24/98	24	10.30		290,624		0.0	41.6		0.10%	0.0	0.186%	0.0	0.486%	0.0
11/25/98	24	10.30		25,920		0.0	3.7	150.0	0.10%	0.0	0.186%	0.0	0.486%	0.0
11/26/98	24	10.30	150.1	84,096		0.0	12.0		0.10%	0.0	0.186%	0.0	0.486%	0.0
11/27/98	0.00			0		0.0	0.0	44,700	0.10%	44.7	0.186%	83.1	0.486%	217.2
11/28/98	0.00			0		0.0	0.0		0.10%	0.0	0.186%	0.0	0.486%	0.0
11/29/98	0.00			0		0.0	0.0		0.10%	0.0	0.186%	0.0	0.486%	0.0
11/30/98	24	10.30		135,040		0.0	19.3		0.10%	0.0	0.186%	0.0	0.486%	0.0
12/01/98	0.00			0		0.0	0.0		0.10%	0.0	0.186%	0.0	0.486%	0.0
Totals:	480	206.0	810.8	2,419,648		346	0	323,440	323	602	1,572			

(a) Wood fuel burned = (Operating hours) X (858.4 lbs fuel/hr)/2000; based on field study data at 80% firing rate (which is the normal maximum operating rate).  
 (b) Two sided surface area = (Number of panels) X (84 Sq.Ft./ Panel); assumes all panels are coated both sides, a conservatively high assumption.  
 (c) VOC estimate = (0.143 lbs VOC/Msq.Ft.) X (Surface) / (1000 Sq.Ft.); based on UV line permit application 84,096 Msq.Ft and 52,428 gals of highest VOC product (0.23 lb/gal).  
 (d) None of the UV coating products currently in use at the Chatham facility list HAPs in the product MSDS.

**December 1998**  
**Monthly Recordkeeping for Operating Permit**  
**Columbia Forest Products, Chatham, VA - Registration No. 30120**

Date	22a Boiler Operation		22b Diesel for Hog	22c UV Coating		22e Estimated UV VOCs (c) (lbs)	22e Estimated UV HAPs (d) (lbs)	22e UV Coating Purch'd (gals)	22f Resin Purchased (lbs)	22f Formaldehyde From Resin		22f Methanol From Resin		22f Total VOCs From Resin	
	Operating Time (hours)	Wood Fuel Burned (e) (tons)		Panels Coated (number)	Surface Two Sided(b) (Sq.Ft.)					(%)	(lbs)	(%)	(lbs)	(%)	(lbs)
12/01/98	24	10.30		2,394	153,216	21.9	0		45,220	0.10%	45.2	0.186%	84.1	0.486%	219.8
12/02/98	24	10.30		2,204	141,056	20.2	0	200		0.10%	0.0	0.186%	0.0	0.486%	0.0
12/03/98	24	10.30	141.9	2,394	153,216	21.9	0		44,700	0.10%	44.7	0.186%	83.1	0.486%	217.2
12/04/98	24	10.30		2,482	159,488	22.8	0			0.10%	0.0	0.186%	0.0	0.486%	0.0
12/05/98	24	10.30		4,724	302,336	43.2	0			0.10%	0.0	0.186%	0.0	0.486%	0.0
12/06/98	24	10.30			0	0.0	0			0.10%	0.0	0.186%	0.0	0.486%	0.0
12/07/98	24	10.30		882	56,448	8.1	0		47,820	0.10%	47.8	0.186%	88.6	0.486%	231.4
12/08/98	24	10.30		1,156	74,624	10.7	0			0.10%	0.0	0.186%	0.0	0.486%	0.0
12/09/98	24	10.30		1,946	124,544	17.8	0	100	44,920	0.10%	44.9	0.186%	83.6	0.486%	218.3
12/10/98	24	10.30	224.4	2,784	178,176	25.5	0		45,100	0.10%	45.1	0.186%	83.9	0.486%	219.2
12/11/98	24	10.30		1,840	117,760	16.8	0	100		0.10%	0.0	0.186%	0.0	0.486%	0.0
12/12/98	24	10.30		2,727	174,528	25.0	0			0.10%	0.0	0.186%	0.0	0.486%	0.0
12/13/98	24	10.30			0	0.0	0			0.10%	0.0	0.186%	0.0	0.486%	0.0
12/14/98	24	10.30		692	44,288	8.3	0			0.10%	0.0	0.186%	0.0	0.486%	0.0
12/15/98	24	10.30		1,858	118,912	17.0	0			0.10%	0.0	0.186%	0.0	0.486%	0.0
12/16/98	24	10.30		937	59,968	8.6	0	300	45,020	0.10%	45.0	0.186%	83.7	0.486%	218.8
12/17/98	24	10.30	218.4	702	44,928	6.4	0		45,120	0.10%	45.1	0.186%	83.9	0.486%	219.3
12/18/98	24	10.30		1,271	81,344	11.6	0			0.10%	0.0	0.186%	0.0	0.486%	0.0
12/19/98	24	10.30		1,512	96,768	13.8	0			0.10%	0.0	0.186%	0.0	0.486%	0.0
12/20/98	24	0.00			0	0.0	0			0.10%	0.0	0.186%	0.0	0.486%	0.0
12/21/98	24	10.30		4,169	266,816	38.2	0		45,080	0.10%	45.1	0.186%	83.8	0.486%	219.1
12/22/98	24	10.30		1,342	86,888	12.3	0			0.10%	0.0	0.186%	0.0	0.486%	0.0
12/23/98	24	10.30		0	0	0.0	0			0.10%	0.0	0.186%	0.0	0.486%	0.0
12/24/98	24	0.00			0	0.0	0			0.10%	0.0	0.186%	0.0	0.486%	0.0
12/25/98	24	0.00			0	0.0	0			0.10%	0.0	0.186%	0.0	0.486%	0.0
12/26/98	24	0.00			0	0.0	0			0.10%	0.0	0.186%	0.0	0.486%	0.0
12/27/98	24	0.00			0	0.0	0			0.10%	0.0	0.186%	0.0	0.486%	0.0
12/28/98	24	0.00			0	0.0	0			0.10%	0.0	0.186%	0.0	0.486%	0.0
12/29/98	24	0.00	280.1		0	0.0	0			0.10%	0.0	0.186%	0.0	0.486%	0.0
12/30/98	24	0.00			0	0.0	0			0.10%	0.0	0.186%	0.0	0.486%	0.0
12/31/98	24	0.00			0	0.0	0		45,120	0.10%	45.1	0.186%	83.9	0.486%	219.3
Totals:	480	206.0	842.8	38,086	2,434,304	348	0	700	407,900	0.10%	408	0.186%	759	0.486%	1,982

(a) Wood fuel burned = (Operating hours) X (858.4 lbs fuel/hr/2000); based on field study data at 80% firing rate (which is the normal maximum operating rate).  
 (b) Two sided surface area = (Number of panels) X (64 Sq. Ft./ Panel); assumes all panels are coated both sides, a conservatively high assumption.  
 (c) VOC estimate = (0.143 lbs VOC/Msq.Ft.) X (Surface) / (1000 Sq.Ft.); based on UV line permit application 84,066 MSq.Ft. and 52,428 gals of highest VOC product (0.23 lb/gal).  
 (d) None of the UV coating products currently in use at the Chatham facility list HAPs in the product MSDS.

**Twelve Month Totals**  
**Annual Recordkeeping Calculated Monthly for Operating Permit**  
**Columbia Forest Products, Chatham, VA - Registration No. 30120**

Month	22a Boiler Operation		22b Diesel for Hog	22c UV Coating		22e Estimated UV VOCs (c) (lbs)	22e Estimated UV HAPs (d) (lbs)	22e UV Coating Purch'd (gals)	22d Resin Purchased (lbs)	22f Formaldehyde From Resin (lbs)	22f Methanol From Resin (lbs)	22f Total VOCs From Resin (lbs)
	Operating Time (hours)	Wood Fuel Burned (a) (tons)		Panels Coated (number)	Surface Two Sides(b) (Sq.Ft.)							
1 January 1998	552	236.9	751.6	32,334	2,089,376	286	0	575	538,600	539	1,002	2,618
2 February 1998	528	226.6	427.4	36,349	2,326,336	333	0	500	466,865	487	868	2,269
3 March 1998	552	236.9	468.1	39,515	2,528,960	362	0	877	512,860	513	954	2,492
4 April 1998	552	236.9	416.8	35,975	2,302,400	329	0	550	495,100	495	921	2,406
5 May 1998	552	236.9	853.8	38,499	2,463,936	352	0	450	538,320	538	1,001	2,616
6 June 1998	576	247.2	214.5	46,922	3,003,008	429	0	200	547,940	548	1,019	2,663
7 July 1998	480	206.0	529.2	47,206	3,021,184	432	0	450	500,520	501	831	2,433
8 August 1998	552	236.9	333.1	79,268	5,073,152	725	0	300	494,920	495	921	2,405
9 September 1998	696	298.7	132.2	72,380	4,632,320	662	0	1,150	549,960	550	1,023	2,673
10 October 1998	528	226.6	783.0	55,625	3,560,000	509	0	1,082	593,620	594	1,104	2,885
11 November 1998	480	206.0	810.8	37,807	2,419,648	346	0	550	323,440	323	802	1,572
12 December 1998	480	206.0	842.8	38,036	2,434,304	348	0	700	407,900	408	759	1,982
Totals:	6,528	2,802	6,543	559,916	35,834,624	5,124	0	7,384	5,970,045	5,970	11,104	29,014
				Tons:		Tons:		Tons:		Tons:	Tons:	Tons:

Permit Limits:

60,000 (gals/yr)	84,096,000 (Sq.Ft./yr)	6.0 (Tons/yr)	9.8 (Tons/yr)	9.8 (Tons/yr)	19.6 (Tons/yr)
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- (a) Wood fire burned = (Operating hours) X (855.4 lbs fuel/hr)/2000; based on field study data at 60% firing rate (which is the normal maximum operating rate).
- (b) Two sided surface area = (Number of panels) X (64 Sq.Ft./Panel); assumes all panels are coated both sides, a conservatively high assumption.
- (c) VOC estimate = (0.143 lbs VOC/MSq.Ft.) X (Surface)/(1000 Sq.Ft.); based on UV line permit application 84,096 MSq.Ft. and \$2,428 gals of highest VOC product (0.23 lb/gal).
- (d) None of the UV coating products currently in use at the Chatham facility list HAPs in the product MSDS.



COMMONWEALTH of VIRGINIA  
DEPARTMENT OF ENVIRONMENTAL QUALITY

James S. Gilmore, III  
Governor

John Paul Woodley, Jr.  
Secretary of Natural Resources

LYNCHBURG SATELLITE OFFICE  
7705 Timberlake Road, Lynchburg, Virginia 24502  
(804) 582-5120 Fax (804) 582-5125  
<http://www.deq.state.va.us>

Dennis H. Treacy  
Director

Thomas L. Henderson  
Regional Director

LETTER OF NONCOMPLIANCE

May 10, 1999

Mr. George Bowen  
Columbia Forest Products, Chatham  
100 Paul Road S.W.  
P.O. Drawer F  
Chatham, VA 24531

RE: LON-LS099008  
Columbia Forest Products, Chatham  
Registration No. 30120

Dear Mr. Bowen:


On March 25, 1999, the Department of Environmental Quality, Lynchburg Satellite Office, received a letter from SECOR, the consultant retained by Columbia Forest Products. The letter was a request to revise the method used to calculate methanol emissions for the 1998 Emissions Statement as well as future record keeping at the Columbia Forest Products facility located at 100 Paul Road in Chatham, Virginia. As stated in the letter, CFP found that calculations for the methanol content of resin used were conservatively high. Testing conducted by Borden, the resin supplier, indicated a maximum value of 0.190% methanol rather than 0.34% which had been used in original calculations. The DEQ has some concern regarding this matter. According to records supplied and attached to the letter dated March 25, 1999, the permit limit for methanol using the 0.34% value was exceeded in December 1998. Methanol from resin usage would have been 10.15 tons when using the 0.34% value. The Feb. 9, 1998 permit limit for methanol is listed as 9.8 tons per year. Information supplied by CFP using original calculations of 0.34% methanol content indicate an apparent violation of the Feb. 9, 1998 air permit, condition #13.

Please submit, no later than May 17, 1999, a written

explanation of corrective actions your facility intends to take or has taken to correct the identified compliance deficiencies. Please include confirmation that the emission revisions for methanol are based on a re-calculation due to data supplied by the resin supplier and not due to a re-formulation of the resin used.

Your letter will assist our staff in maintaining a complete and accurate record of the compliance status of your facility. Compliance may be verified by on-site inspection or other appropriate means. If correction of these deficiencies will take longer than 90 days from the date of the inspection, please submit a plan and schedule for inclusion in a Consent Order. Failure to respond may result in enforcement action by DEQ.

This Letter of Noncompliance is not an agency proceeding or determination which may be considered a case decision under the Virginia Administrative Process Act, Va. Code § 9-6.14:1 et seq. Your point of contact for resolution of these deficiencies will be Margaret Wagner at (804)582-5120. Please contact her if you have any questions about the content of this letter or need additional guidance in achieving or maintaining compliance.

Sincerely,  
  
David J. Brown  
Environmental Manager-Field

cc: M. Wagner

3A-43

**BORDEN CHEMICAL, INC.**

155 West A Street, Building A-1 • Springfield, OR 97477

Phone: 541-744-3256

Fax: 541-744-3250



April 09, 1999

Columbia Forest Products  
100 Paul Road, S.W.  
Chatham, VA 24531

Attention: Mr. David Abts

Dear Sir:

This correspondence is in regards to the methanol content of the Borden Chemical product Casco-Resin CR-595LF supplied to your facility by the Borden Chemical Fayetteville, NC plant.

As stated in my letter of March 05, 1999, to Mr. Jay Russell of SECOR International, Inc., eleven retained QA samples were tested by Dr. Tenhaeff of the Borden Chemical Springfield R&D laboratory. The average methanol content of the eleven samples was 0.121 % by weight, with the highest test resulting in a 0.186% methanol content.

As requested, Dr. Tenhaeff created two batches of Casco-Resin CR-595LF in the Springfield R&D laboratory using spiked formaldehyde solutions with 0.5% and 1.5% by weight methanol content. The two batches were made following the master recipe used at the Borden Chemical Fayetteville plant to produce this product. The methanol content in the first and second distillate from each batch was analyzed, along with the final resins produced. The results were as follows:

<u>Resin</u>	<u>% methanol in formaldehyde</u>	<u>Final methanol content</u>
615-102	0.5%	0.0862
615-104	1.5%	0.1899

The results are consistent with the analysis of the retained QA samples analyzed in early March.

I spoke with the QA laboratory Supervisor in Fayetteville this morning about the methanol content in the 50% formaldehyde used to produce the Casco-Resin CR-595LF. The average methanol content in the 50% formaldehyde produced during 1998 was approximately 1.0%, with an upper specification limit of 1.5%.

3A-44

Columbia Forest Products Letter  
April 09, 1999  
Page 2

Based on the analysis of the retained QA samples, the results of the laboratory batches produced by Dr. Tenhaeff and the methanol content of the 50% formaldehyde produced at the Fayetteville plant, I am confident in stating that the Casco-Resin CR-595LF produced at the Borden Chemical Fayetteville plant and provided to your facility in 1998 met the following specifications:

Methanol content:	0.190% by weight Maximum
Formaldehyde content:	0.120% by weight Maximum
Total VOC content:	0.457%

The Borden Chemical Sales Department and the Fayetteville QA laboratory has suggested that a methanol analysis be performed by Borden Chemical once per quarter on a specific lot produced for your facility to ensure the methanol content of the product being supplied to your facility is below the maximum methanol content specified above.

Please contact me if you have any questions or concerns on this matter.

Sincerely,



David L. Bishop  
Manager, Hazard Communications

Copy: G. Bowen  
B. Thompson  
W. Rowland  
S. McIntyre  
J. Russell  
P. Stevens



# BORDEN CHEMICAL, INC.

155 West A Street, Building A-1 • Springfield, OR 97477  
Phone: 541-744-3256 Fax: 541-744-3250

May 13, 1999

Columbia Forest Products  
100 Paul Road, S.W.  
Chatham, VA 24531

Attention: Mr. David Abts

Dear Sir:

This correspondence is in response to the request by the Virginia State DEQ about the product Casco-Resin CR-595 LF supplied to your facility by Borden Chemical.

The values for the methanol, formaldehyde and total VOC content supplied to you in my letter of April 09 are a result of actual analysis being performed on the resin and are not the result of any type of reformulation of the product.

This product was originally developed in 1992 and has not had any formulation changes since 1996.

The values as stated in the April 09 letter are as follows:

Methanol content:	0.190% by weight Maximum
Formaldehyde content:	0.120% by weight Maximum
Total VOC content:	0.457%

Please contact me if you have any questions or concerns on this matter.

Sincerely,

A handwritten signature in cursive script, appearing to read "David L. Bishop".

David L. Bishop  
Manager, Hazard Communications

Copy: G. Bowen  
B. Thompson  
W. Rowland  
S. McIntyre  
J. Russell  
P. Stevens

3A-46



# BORDEN CHEMICAL, INC.

## Certified Product Data Sheet

Customer: **Columbia Forest Products**  
100 Paul Road, S.W.  
Chatham, VA 24531

Product: **Casco-Resin CR-595LF**

Product Density: 10.51 Pounds/Gallon  
Total Solids: 59.890 % by weight  
Total Volatiles: 0.457 % by weight  
Water Content: 39.653 % by weight  
HAPS Content: 0.311 % by weight  
VOC of product (neat): 5.74 grams/liter 0.048 pounds/gallon  
VOC sans water: 9.54 grams/liter 0.080 pounds/gallon

### HAPS

CAS Number	Chemical Description	Weight %
50-00-0	Formaldehyde**	0.120
67-56-1	Methanol**	0.190
111-42-2	Diethanolamine	0.001

Please contact Borden Chemical, Inc. for analytical test methods and specific test parameters for this product prior to analysis.

**\*\*Data based on laboratory analysis of retained QA samples.**  
**Information on diethanolamine is calculated from theoretical formulation data.**

AUTHORIZED SIGNATURE 	David L. Bishop Manager, Hazard Communication
--------------------------	--

DATE (DD/MM/YY) 27/04/99	TELEPHONE NUMBERS =>	(Voice) 541-744-3256	(Facsimile) 541-744-3250
-----------------------------	-------------------------	-------------------------	-----------------------------

The information contained in this document is provided to assist the user of this product in complying with federal, state, and local laws and regulations. Although Borden Chemical believes the data contained herein to be accurate and to have been derived from reliable sources, the providing of this information is not intended to constitute a warranty or a representation of performance by Borden Chemical, Inc.

155 West A Street, Building A-1 • Springfield, OR 97477

**WORLDWIDE PACKAGING and INDUSTRIAL PRODUCTS**  
DIVISION OF BORDEN, INC.



November 17, 1995

Mr. Jeff Weiler  
SECOR  
Fax 503/692-7074

Dear Mr. Weiler:

This letter will confirm our conversation concerning the organic volatiles in Borden Casco-Resin 595-LF which you are evaluating for Columbia Forest Products.

The free formaldehyde content of the resin is typically 0.15% and the methanol content is typically 0.34%. Lab tests have shown that essentially all of the methanol is emitted prior to and during board pressing.

The emission of formaldehyde is more complex. Lab studies of particleboard pressing of nominal 46 lb/ft<sup>3</sup> boards have shown that formaldehyde emissions increase with increasing resin content, increasing water content, higher temperature, longer time and with thinner boards. At 350°F the formaldehyde emissions reach 50% of free formaldehyde in the resin after 1-2 minutes, 100% at 5 minutes and 300% in 60 minutes. The last figure is explained by hydrolysis of methylolurea present in the resin.

If you have further questions please call.

Sincerely,

Robert J. Boudreau  
Director, Regulatory Compliance &  
Product Stewardship  
North American Resins Division

RJB/st

cc: R. Kline

**NORTH AMERICAN RESINS**

LABORATORY - 6210 CAMPGROUND ROAD, LOUISVILLE, KENTUCKY 40216 - TELEPHONE 502-449-6200 - FAX 502-447-4529

3A-48

**COMMONWEALTH OF VIRGINIA**

**Department of Environmental Quality  
Lynchburg Satellite Office**

**MEMORANDUM**

**To:** File

**From:** Elizabeth S. Doan

**Subject:** Columbia Forest Products- Chatham  
Changes in Emission Calculations  
Engineering Analysis

**Date:** April 19, 1999

Registration No.: 30120  
County/Plant No.: 143/0017

**Introduction and Background**

On March 25, 1999, the Department received a letter from Columbia Forest Products-Chatham facility dated March 25, 1999, to change the emission calculations for methanol and for boiler emissions for their facility located at 100 Paul Road in Chatham. The letter contained all required information and was deemed to be complete on April 9, 1999, after receipt of additional testing information. CFP found that the calculations for the methanol content of the resin were conservatively high. After testing from Borden, a maximum value of 0.190 % was found rather than the 0.34% which had been used in the original calculations. After the test results were received, more general information was requested, to show that they would consistently be able to meet the new limit. This information was provided by Borden, the manufacturer of the resin. According to testing at Borden, the content should not go over 0.190% methanol. In addition, the testing at Borden showed the appropriate formaldehyde concentration to use in calculations would be 0.12% rather than 0.10%.

With regards to the change in calculation for the boiler, until we have feed rate information provided by the source, or steam load information provided by the source, then as a "worst case" it must be assumed that the boiler is running at full load. If the metered wood screw is installed and calculation made of the hourly feed rate as well as the hours of operation, it would then be appropriate to calculate the boiler emissions at less than full load.

I recommend a letter be sent to CFP stating that as long as they meter their wood burned they can use a lower number in order to calculate the boiler emissions assuming less than full load. And as long as CFP continues to receive a certified methanol content with every shipment, the lower value can be used in their emission calculations.



# COMMONWEALTH of VIRGINIA

## DEPARTMENT OF ENVIRONMENTAL QUALITY

James S. Gilmore, III  
Governor

John Paul Woodley, Jr.  
Secretary of Natural Resources

LYNCHBURG SATELLITE OFFICE  
7705 Timberlake Road, Lynchburg, Virginia 24502  
(804) 582-5120 Fax (804) 582-5125  
<http://www.deq.state.va.us>

Dennis H. Treacy  
Director

Thomas L. Henderson  
Regional Director

April 20, 1999

Mr. Brad Thompson  
Panel Products General Manager  
Columbia Forest Products  
100 Paul Road, SW  
P.O. Drawer F  
Chatham, VA 24531

Location: Chatham  
Registration: 30120  
County/Plant No: 143-0017

Dear Mr. Thompson:

The staff of the Department of Environmental Quality (DEQ) has received and analyzed SECOR's submittal of March 25, 1999, to change the method of calculation for the emissions at the hardwood panel consolidation facility in Chatham.

Based upon information submitted, the methanol calculations may be changed at this time. Calculation using the lower methanol value of 0.190% is contingent upon the receipt of certified methanol content with every shipment of resin received. In addition, use of a different formaldehyde and VOC value than listed on the MSDS for the resin will require a certified formaldehyde and VOC content with every shipment. With regards to the change in calculation for the boiler, until feed rate information can be provided by the source, or steam load information provided by the source, a "worst case" that the boiler is running at full load must be assumed. If the proposed metered wood screw is installed and calculation made of the hourly feed rate as well as the hours of operation, it would then be appropriate to calculate the boiler emissions at less than full load. You are advised that the conditions of the Department's permit dated February 9, 1998 are still valid.

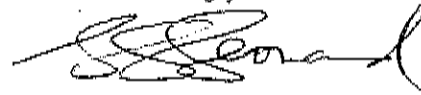
This decision concerning permit applicability is not a case decision by or binding upon the DEQ and you are cautioned that this should not be construed to mean that your operation is automatically in compliance with all aspects of the Regulations for the Control and Abatement of Air Pollution. Regional personnel will be constantly evaluating all sources for compliance with the Regulations.

Mr. Brad Thompson  
April 20, 1999  
Page 2

In addition, yearly updating of emissions from sources will require visits by staff personnel. Compliance with air pollution regulations must be a continuing full-time effort.

If you have any questions concerning this determination, please contact Elizabeth Doan or Margaret Wagner of this office at (804) 582-5120.

Sincerely,



Larry Leonard  
Air Permit Manager

LSL:esd

cc: Margaret Wagner  
filename: 30120\_r.led



IF IT'S BORDEN-IT'S  
GOT TO BE GOOD

# MATERIAL SAFETY DATA SHEET

Emergency Telephone  
(614) 431-6600

Borden, Inc.  
Packaging and Industrial Products Division  
180 EAST BROAD STREET, COLUMBUS, OHIO 43215

THE OSHA HAZARD COMMUNICATION STANDARD 29 CFR 1910.1200 REQUIRES THAT THE INFORMATION CONTAINED ON THESE SHEETS BE MADE AVAILABLE TO YOUR WORKERS. INSTRUCT YOUR WORKERS TO HANDLE THIS PRODUCT PROPERLY, FOR INDUSTRIAL USE ONLY

COLUMBIA FOREST PRODUCTS  
ATTN: BENNIE CREWS, PLT-MGR

NON-EMERGENCY TELEPHONE  
(708) 524-3176

MUMMAN, AR

DESCRIPTION: CASCO-RESIN CR-595LF  
PRODUCT TYPE: LIQUID UF RESIN  
APPLICATION: HIGH TACK RESIN FOR PLYWOOD

PAGE 1  
CUR ISS 18-FEB-95

### SIGNAL WORD

**CAUTION:**

This material presents possible health hazards as determined when reviewed according to the requirements of the Occupational Safety and Health Administration 29 CFR Part 1910.1200 "Hazard Communication" Standard.

### CHEMICAL HAZARD RATING

HEALTH=1(slight)  
FIRE=0(least)  
REACTIVITY=1(slight)  
CHRONIC\*\*

### 29CFR1910.1200 HAZARDOUS INGREDIENTS/REPORTED HEALTH EFFECTS CAS/REGISTRY NO. MATERIAL DESCRIPTION

The ingredients listed below have been associated with one or more of the listed immediate and/or delayed(\*) health hazards. Risk of damage and effects depends upon duration and level of exposure. BEFORE USING OR HANDLING, READ AND UNDERSTAND THE MSDS.

50-00-0 \*Formaldehyde  
POTENTIAL CANCER HAZARD.  
Rats chronically exposed to 14 ppm formaldehyde contracted nasal cancers. Based on animal data and limited epidemiological evidence, NTP and IARC have listed formaldehyde as a probable human carcinogen. OSHA regulates formaldehyde as a potential human carcinogen.

May cause allergic skin reaction. Some reports suggest that formaldehyde may cause respiratory sensitization, such as asthma, and that pre-existing respiratory and skin disorders may be aggravated by exposure.

OSHA has identified 0.5 ppm as the "Action Level",



IF IT'S BORDEN-IT'S  
GOT TO BE GOOD

# MATERIAL SAFETY DATA SHEET

Borden, Inc.

Packaging and Industrial Products Division

180 EAST BROAD STREET, COLUMBUS, OHIO 43215

Emergency Telephone  
(614) 431-6800

DESCRIPTION: CASCO-RESIN CR-595LF  
PRODUCT TYPE: LIQUID UF RESIN  
APPLICATION: HIGH TACK RESIN FOR PLYWOOD

PAGE 2  
CUR ISS 18-FEB-95

## CFR 1910.1200 HAZARDOUS INGREDIENTS/REPORTED HEALTH EFFECTS CAS/REGISTRY NO. MATERIAL DESCRIPTION

29CFR 1910.1048. Please refer to the OSHA Standard for guidance applicable to your specific operations.  
ACGIH TLV: 0.3 ppm (0.37 mg/m<sup>3</sup>) Ceiling  
OSHA PEL: 0.75 ppm (0.9 mg/m<sup>3</sup>) TWA; 2 ppm (2.5 mg/m<sup>3</sup>) 15min STEL  
NIOSH DOCUMENT NUMBER: 77-126

## PHYSICAL DATA

IRRM. FREE, GLASS U.F.'S	<0.25% AFTER 72 HOURS
STORAGE LIFE @ 70F	6 WEEKS @ 21C (70F)
Boiling pt @ 25C	~8.0
APPEARANCE	CLEAR/HAZY LIQUID
COLOR	COLORLESS/WHITE
OR	LITTLE OR NONE
CFR 173.140 CLASS 9	RQ FORMALDEHYDE
FLASH POINT	~102C
EVAPORATION RATE	~0.3 (N-BUTYL ACETATE=1)
SMELT POINT	NOT APPLICABLE
FREEZING POINT	<-10C
IGNITION TEMPERATURE	NOT APPLICABLE
MIN. EXPLOSION LIMIT	NOT APPLICABLE
PERCENT EVAPORATION BY WT.	~40% @ 105C
SOLUBILITY IN WATER	SEE STORAGE SECTION
SPECIFIC GRAVITY	~1.26
MIN. EXPLOSION LIMIT	NOT APPLICABLE
VAPOR DENSITY	NOT APPLICABLE
VAPOR PRESSURE	~0.1 MM HG @ 20C

*Weight Based*  
*VOC*

## IMMEDIATE HEALTH HAZARD DATA

SKIN ABSORPTION: No hazards known to Borden.  
INGESTION: Not expected to be harmful under normal conditions of use.  
INHALATION: Not expected to be harmful under normal conditions of use. However, if allowed to become airborne, may cause irritation of nose, throat and lungs.  
SKIN: May cause irritation on prolonged or repeated contact.  
EYES: May cause irritation on prolonged or repeated contact.

## WORKING PRECAUTIONS

INHALATION: Avoid prolonged or repeated breathing of vapor.  
SKIN: Avoid prolonged or repeated contact with skin.



IF IT'S BORDEN-IT'S  
GOT TO BE GOOD

# MATERIAL SAFETY DATA SHEET

Borden, Inc.

Packaging and Industrial Products Division

180 EAST BROAD STREET, COLUMBUS, OHIO 43215

Emergency Telephone  
(614) 431-6600

DESCRIPTION: CABCO-RESIN CR-39SLF  
PRODUCT TYPE: LIQUID UF RESIN  
APPLICATION: HIGH TACK RESIN FOR PLYWOOD

PAGE 3  
CUR ISS 16-FEB-95

## HANDLING PRECAUTIONS

EYES: Avoid prolonged or repeated contact with eyes.

Handle in accordance with good industrial hygiene and safety practices. These practices include avoiding unnecessary exposure and removal of the material from eyes, skin and clothing.

Wash thoroughly after handling.

## EMERGENCY AND FIRST AID PROCEDURES

INGESTION: If accidentally swallowed, dilute by drinking large quantities of water. Immediately contact poison control center or hospital emergency room for any other additional treatment directions.

INHALATION: Remove to fresh air.

SKIN CONTACT: In case of irritation, flush with water.

EYE CONTACT: Immediately flush eyes with plenty of water. Call a physician if irritation persists.

## FLAMMABLE AND EXPLOSION HAZARD DATA

Will not burn unless water has evaporated.

In case of fire, water should be used to keep fire-exposed containers cool.

## STABILITY DATA

Normally stable, but may become unstable at high temperatures or may react with water.

Hazardous polymerization:

May occur.

Decomposition products may include:

CO, CO2, aldehydes (including formaldehyde), hydrogen cyanide, particulate matter and other organic compounds.

## CONTROL MEASURES

If airborne contaminants are generated when the material is heated or handled, sufficient ventilation in volume and air flow patterns should be provided to keep air contaminant concentration levels below acceptable criteria.

## PERSONAL PROTECTION INFORMATION

Where air contaminants can exceed acceptable criteria, use NIOSH/MSHA approved respiratory protection equipment. Respirators should be selected based on the form and concentration of contaminants in air in accordance with OSHA 29 CFR 1910.134 or other applicable standards or guidelines.

3A-54



IF IT'S BORDEN-IT'S  
GOT TO BE GOOD

# MATERIAL SAFETY DATA SHEET

Borden, Inc.

Packaging and Industrial Products Division

180 EAST BROAD STREET, COLUMBUS, OHIO 43215

Emergency Telephone  
(614) 431-6600

DESCRIPTION: CASCO-RESIN CR-595LF  
PRODUCT TYPE: LIQUID UF RESIN  
APPLICATION: HIGH TACK RESIN FOR PLYWOOD

PAGE 4  
CUR 165 18-FEB-95

## SPILL OR LEAK PROCEDURES

Large quantities: Enclose with diking material to prevent seepage into natural bodies of water, then consult Borden, Inc.

Small quantities: Soak up with absorbent material and remove to a chemical disposal area.

## WASTE DISPOSAL

Recover free liquid. Absorb residue and dispose of according to local, state/provincial, and federal requirements.

## STORAGE PRECAUTIONS

### NOTES

Not harmed by freezing, but thaw frozen resin slowly and stir before using.

Store in a cool place. High temperatures shorten storage life. Urea formaldehyde resin thickens with age. Rotate stock in storage to use oldest first.

Limited storage life - Refer to product specifications.

Solubility in water of urea resins can vary from infinite to insoluble depending on manufacturing procedure and age. Warm water helps in washing up resins with limited solubility.

## TRANSPORT INFORMATION

REFER TO YOUR BILL OF LADING FOR PROPER DOT DESCRIPTION

12-595LF- PREVIOUS ISSUE: 08-AUG-94 CURRENT ISSUE: 18-FEB-95  
INT DATE: 08-Jun-95 02:31 PM

THIS IS THE LAST PAGE



# MATERIAL SAFETY DATA SHEET

Borden, Inc.

Packaging and Industrial Products Division

180 EAST BROAD STREET, COLUMBUS, OHIO 43215

Emergency Telephone  
(614) 431-6600

## SARA TITLE III SECTION 313 AND 40 CFR Part 372 TOXIC CHEMICAL NOTIFICATION SHEET

### CASCO-RESIN CR-595LF

This product contains the following toxic chemical(s) subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986, and Subpart C-Supplier Notification Requirement of 40 CFR Part 372.

#### Registry

Number	Chemical Name	Pct. By Weight
50-00-0	Formaldehyde	0.20

This Toxic Chemical Notification Sheet must not be detached from the Material Safety Data Sheet (MSDS). Any copying and redistribution of this MSDS shall include copying and redistribution of this notification sheet attached to copies of the MSDS subsequently redistributed.

12-595LF-

PRINT DATE: 08-Jun-95 02:31 PM



**BORDEN PACKAGING and INDUSTRIAL PRODUCTS**  
DOMESTIC AND INTERNATIONAL  
DIVISION OF BORDEN, INC.

BLD 253  
Revised 11/92

### CASCO RESIN<sup>(R)</sup> 595LF

**APPLICATION:** Urea formaldehyde liquid resin adhesive designed specifically for hardwood plywood prepress operations.

**PHYSICAL PROPERTIES (AT TIME OF MANUFACTURE):** This data is presented to describe typical properties of the product and is not intended to serve as product specifications.

pH	7.6 - 8.0
Viscosity* (@ 25°C), cps.	950 - 1100
Specific Gravity @ 25/25°C	1.256 - 1.266
Solids, %	60 ± 1
Free Formaldehyde,	< 0.20% @ -72 hours
Storage Life, Months	
@ 50°F	3
@ 70°F	1 1/2
@ 90°F	1
@ 110°F	Not Recommended

\*Brookfield RVP 1/20

**REMARKS:** CASCO RESIN<sup>(R)</sup> 595LF is designed for hardwood plywood operations where good prepress qualities are desired. Degree of reactivity of the resin can be controlled by varying the amount and makeup of the catalyst. It is a relatively short storage life product and caution should be used in storing the resin for any extended period of time.

**TECHNICAL ASSISTANCE:** For additional information or assistance, please contact your nearest BORDEN Technical Service Representative or Sales Manager at High Point, North Carolina (919) 884-8918.

CASCO RESIN<sup>(R)</sup> is a Registered Trademark of BORDEN, Inc., Packaging and Industrial Products Division.

#### ADHESIVES & RESINS

##### DISCLAIMER

The information and recommendations contained herein are offered as a service to our customers, but are not intended to relieve the user from its responsibility to investigate and understand other pertinent sources of information and to comply with all laws and procedures applicable to the safe handling and use of these materials. The information and recommendations provided herein were believed by Borden to be accurate at the time of preparation or obtained from sources believed to be generally reliable. However, Borden makes no warranty concerning their accuracy and Borden will not be liable for claims relating to any party's use of or reliance on information or recommendations contained herein, regardless of whether it is claimed that the information or recommendations are inaccurate, incomplete or otherwise misleading. 180 EAST BROAD STREET, COLUMBUS, OHIO 43215-3739 - TELEPHONE 614-225-7154



34-57  
**MATERIAL SAFETY DATA SHEET**  
**Neste Resins Corporation**

Post Office Box 270 \* Springfield, OR 97477  
Emergency Telephone (503) 746-6601

Issued October 1, 1993

E.2

#### PRODUCT IDENTIFICATION

Product Name: Chembond 712, Liquid Urea Formaldehyde Resin  
Chemical Name: Urea-Formaldehyde Polymer  
CAS Number: Trade Secret

#### HAZARDOUS COMPONENTS

Formaldehyde, CAS No. 50-00-0,  $\leq 0.5\%$  by weight as free formaldehyde.  
Exposure Limits: OSHA: 0.75 ppm 8 hour TWA, 2.0 ppm STEL. ACGIH: 0.3 ppm Ceiling.  
Warning: Potential Cancer Hazard. Formaldehyde has demonstrated nasal carcinogenic activity in rats during chronic exposure laboratory testing. However, no epidemiological evidence exists that demonstrates that formaldehyde is a human carcinogen. Formaldehyde is listed by IARC, NTP and OSHA as a potential carcinogen. It is harmful to eyes, skin, respiratory system, and may cause skin allergies.

#### HAZARDS IDENTIFICATION

#### EMERGENCY OVERVIEW

Water clear to white opaque liquid, with slight formaldehyde odor. May cause eye, skin, nasal or respiratory passage irritation. Avoid contact with strong acids or elevated temperature in uncontrolled conditions. May emit hydrogen cyanide when burned.

#### Exposure Effects/Toxicity Data

**Eyes:** may cause burns, reddening and weeping

**Inhalation:** may cause coughing and burning sensation, may result in bronchitis, laryngitis and pulmonary edema.

**Ingestion:** may cause burning sensation to mucous membrane, nausea, dizziness and convulsions.

**Skin:** may cause redness, dryness, cracking and, in sensitive people, dermatitis.

#### FIRST AID

Treat as an emergency - never give anything to an unconscious person.

**Eyes:** irrigate with a gentle stream of water, for at least fifteen minutes. Secure medical attention.

**Inhalation:** remove patient to fresh air, keep warm and quiet, use oxygen if indicated. Secure medical attention.

**Ingestion:** If conscious, administer large quantities of water, induce vomiting. After vomiting, administer large quantities of water again. Secure medical attention immediately. If unconscious or in convulsions, secure transportation to a hospital immediately.

**Skin:** remove contaminated clothing, flush contaminated skin with water and wash with mild soap and warm water.

**FIRE FIGHTING**

**Fire Fighting Procedure:** use water spray, dry chemical, foam, or CO<sub>2</sub>. Use water spray to cool containers. Keep product out of sewers and public waters.

**Special equipment required:** wear full protective clothing and NIOSH approved self-contained breathing apparatus.

**Hazardous combustion products:** may be hydrogen cyanide, carbon monoxide, carbon dioxide, formaldehyde, nitrogen oxides, sulfur oxides, sodium oxide and sodium carbonate particulates.

**ACCIDENTAL RELEASE PROCEDURES**

Large spills or leaks should be confined by diking so as to prevent entry into natural waters. Minimal quantities of water should be used to wash spilled materials to waste storage or sumps. May precipitate when rinsed with water. Recycle waste material using proper adjustment in product use. Small leaks or spills may be recovered with sorbent material. Dispose of sorbents in compliance with all Federal, State and local regulations. This material is NOT a RCRA hazardous waste if spilled.

**HANDLING AND STORAGE**

Store in cool place. Rotate stock to use oldest first. Do not store near strong acids.

**EXPOSURE CONTROLS AND PERSONAL PROTECTION**

**Respiratory protection:** exposure should be minimized by engineering or administrative controls so as to prevent overexposure. In the absence of suitable controls and/or if overexposure may occur, wear a NIOSH/MSHA approved respirator suitable for formaldehyde. **Eyes:** chemical safety goggles are recommended.

**Skin:** avoid repeated or prolonged skin contact. Wash hands and face with soap and water prior to eating or drinking. Wear rubber gloves if handling in open containers.

**PHYSICAL AND CHEMICAL PROPERTIES**

**Solubility in Water:** Insoluble to infinitely soluble (varies with product and age)

**Specific Gravity (H<sub>2</sub>O=1.0):** 1.23-1.34. **Flash Point:** >200°F. **Volatile by Weight:** 30%-50%

**Appearance and Odor:** Water clear to white opaque liquid, slight formaldehyde or amine odor.

**STABILITY AND REACTIVITY**

Exposure to elevated temperatures or strong acids will cause rapid, but non-explosive, polymerization with evolution of formaldehyde and water.

**REGULATORY INFORMATION****SARA Title III**

Section 304 emergency notification substances contained: formaldehyde (RQ 100 pounds).

Section 311/312 hazard categories: acute hazard, chronic hazard.

Section 313 emissions reporting: formaldehyde (see **HAZARDOUS COMPONENTS** section).

**Department Of Transportation**

>20,000 lbs:

RQ, Other regulated substance, liquid, n.o.s., 9, NA3082, PG III (formaldehyde)

<20,000 lbs:

Not regulated

**DISCLAIMER**

The information and recommendations contained herein are offered as a service to our customers but are not intended to relieve the user from its responsibility to investigate and understand other pertinent sources of information and to comply with all laws and procedures applicable to the safe handling and use of these materials. The information and recommendations provided herein were believed by NESTE RESINS CORP. to be accurate at the time of preparation or obtained from sources believed to be generally reliable. However, NESTE RESINS CORP. makes no warranty concerning their accuracy and NESTE RESINS CORP. will not be liable for claims relating to any party's use of or reliance on information or recommendations contained herein regardless of whether it is claimed that the information or recommendations are inaccurate, incomplete, or otherwise misleading.



# Neste Resins Corporation

475 North 28th Street Post Office Box 270

Springfield, Oregon 97477

(541) 746-6501 (800) 547-9525

Office Fax: (541) 746-6273 Plant Fax: (541) 746-5305

TO: Jay Russell COMPANY: \_\_\_\_\_

FROM: Tom Holloway DATE: 5/20

Number of Pages sent 2 (including this page)

For multiple recipients, please copy and distribute to:

<u>John Corley</u>	<u>Neste - Winnfield</u>	_____
<u>Kevin Griffin</u>	<u>Neste - Moncure</u>	_____
<u>Fred Carter</u>	<u>" "</u>	_____

### MESSAGE

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If there is any problem with this transmission, please call (541) 746-6501.



Date: 5/20/96  
To: Jay Russell  
From: Tom C. Holloway  
cc: LWL, JHC, KDG, FSC, SLW

Subject: Free HCHO Content of Neste's 712 Product for Columbia at Chatham, Va.

Dear Jay,

The 712 resin that we supplied Columbia in 1995 had a free formaldehyde content of less than 0.290% at a 99.0% confidence level. The testing was done approximately 30 hrs. after manufacturing. Generally the 24-30 hr. % free HCHO content of a resin is much higher than what we would expect to see in our customer's storage tank. The 0.290% free HCHO is a conservative number that can safely be used in your calculations for emissions. If the formaldehyde content presents a problem, we will need to quantify a lower more realistic free HCHO content.

Regards,

A handwritten signature in cursive script that reads "Tom Holloway".

Tom Holloway

3A-01

**1999 Emission Calculations**  
**Option II: Engineering Estimates or Material Balance Method**  
**Press Emissions**  
**Columbia Forest Products, Chatham, Virginia**

Registration No. : 30120      Point No. : 022      Segment No. : 01      SCC No. : 30700707

Raw Material <sup>(1)</sup>				Raw Material Component <sup>(1)</sup>				Annual Resin Usage (lbs/yr)	Annual Emissions <sup>(2)</sup>		
Common Name	Product Name	Manufacturer	Density (lb/gal)	Name	Amount In Product	VOC (Y/N)	HAP (Y/N)		VOC (tons/yr)	HAP (tons/yr)	
Resin	CR-595LF	Borden	10.51	Total VOC *	0.457	Wt%	Y	5,588,450 (2)	12.8	8.7	
				Formaldehyde	0.120	Wt%	Y				3.4
				Methanol	0.190	Wt%	Y				5.3
				Diethanolamine	0.001	Wt%	Y				0.0
<b>Total:</b>									<b>12.8</b>	<b>8.7</b>	

\* Includes Formaldehyde, Methanol, and Diethanolamine

**Notes:**

(a) Annual Emissions = [resin usage (lb/yr)] X [VOC amount in product (%)] / [2000 lb/ton] OR  
 Annual Emissions = [resin usage (lb/yr)] X [HAP amount in product (%)] / [2000 lb/ton]

**References:**

- (1) Information provided by vendor, MSDSs and/or Certified Product Data Sheet (4/27/99).
- (2) Chatham Record Keeping Spreadsheets.



# MATERIAL SAFETY DATA SHEET

FOR INDUSTRIAL USE ONLY

DESCRIPTION: Casco-Resin CR-601

## 1. Chemical Product and Company Identification

DESCRIPTION: Casco-Resin CR-601  
 PRODUCT CODE: 325142  
 PRODUCT TYPE: Urea Formaldehyde Resin  
 APPLICATION: Low Formaldehyde Plywood Adhesive

## Manufacturer/Supplier Information

MSDS prepared by:  
 BORDEN CHEMICAL, INC.  
 155 West A Street, Bldg. A-1  
 Springfield, OR  
 97477

For Emergency Medical Assistance  
 Call Health & Safety Information Services  
 1-866-303-6949

For additional health and safety or regulatory information, call (541)744-3256.

## 2. Composition, Information on Ingredients

The ingredients listed below have been associated with one or more immediate and/or delayed(\*) health hazards. Risk of damage and effects depends upon duration and level of exposure. BEFORE USING, HANDLING, OR EXPOSURE TO THESE INGREDIENTS, READ AND UNDERSTAND THE MSDS.

	% by weight
50-00-0 *Formaldehyde	0.1 - 1.0

## 3. Hazards Identification

### 3.1 Emergency Overview

Appearance	Opaque white liquid
Odor	Slight formaldehyde

#### CAUTION!

Hazardous polymerization may occur.  
 Will polymerize at high temperatures with some evolution of heat.  
 May cause eye irritation.  
 May cause allergic skin reaction.

## HMIS Rating

HEALTH	=	1 (slight)
FLAMMABILITY	=	0 (minimal)
REACTIVITY	=	1 (slight)
CHRONIC	=	*

### 3.2 Potential Health Effects

#### Immediate Hazards

INGESTION:	Not expected to be harmful under normal conditions of use.
INHALATION:	Not expected to be harmful under normal conditions of use. However, if allowed to become airborne, may cause irritation of nose, throat and lungs.
SKIN:	May cause irritation on prolonged or repeated contact.
EYES:	May cause irritation on prolonged or repeated contact.

#### Delayed Hazards

##### 50-00-0 Formaldehyde

**POTENTIAL CANCER HAZARD.** Rats chronically exposed to 14 ppm formaldehyde contracted nasal cancers. Based on animal data and limited epidemiological evidence, NTP and IARC have listed formaldehyde as a probable human carcinogen. OSHA regulates formaldehyde as a potential human carcinogen.

May cause allergic skin reaction. Some reports suggest that formaldehyde may cause respiratory sensitization, such as asthma, and that pre-existing respiratory and skin disorders may be aggravated by exposure. OSHA has identified 0.5 ppm as the "Action Level", 29CFR 1910.1048. Please refer to the OSHA Standard for guidance applicable to your specific operations.

### 4. First Aid Measures

INGESTION:	If accidentally swallowed, dilute by drinking large quantities of water. Immediately contact poison control center or hospital emergency room for any other additional treatment directions.
INHALATION:	Remove to fresh air.
SKIN:	In case of irritation, flush with water.
EYES:	Immediately flush eyes with plenty of water. Call a physician if irritation persists.

### 5. Fire Fighting Measures

Flash point	Greater than 93.4 °C (200.1 °F) Pensky-Martens Closed Cup ASTM D 93
Lower explosion limit	Not available
Upper explosion limit	Not available
Autoignition temperature	Not available

Will not burn unless water has evaporated. Dried material may burn.  
In case of fire, water should be used to keep fire-exposed containers cool.

### 6. Accidental Release Measures

Contain and/or absorb spill with inert material (e.g. sand, vermiculite), then place in a suitable container. For large spills, use water spray to disperse vapors and flush spill area. Prevent runoff from entering waterways or sewers. Use appropriate Personal Protective Equipment (PPE).

### 7. Handling and Storage

7.1 Handling

Handle in accordance with good industrial hygiene and safety practices. These practices include avoiding unnecessary exposure and removal of the material from eyes, skin and clothing. Wash thoroughly after handling. Always use appropriate Personal Protective Equipment (PPE).

- INHALATION: Avoid prolonged or repeated breathing of vapor.
- SKIN: Avoid prolonged or repeated contact with skin and clothing.
- EYES: Avoid prolonged or repeated contact with eyes.

7.2 Storage

Not harmed by freezing, but thaw frozen resin slowly and stir before using.  
 Store in a cool place. High temperatures shorten storage life. Urea formaldehyde resin thickens with age. Rotate stock in storage to use oldest first.  
 Limited storage life - Refer to product specifications.  
 Solubility in water of urea resins can vary from infinite to insoluble depending on manufacturing procedure and age. Warm water helps in washing up resins with limited solubility.

8. Exposure Controls/Personal Protection

8.1 Exposure Controls

If airborne contaminants are generated when the material is heated or handled, sufficient ventilation in volume and air flow patterns should be provided to keep air contaminant concentration levels below acceptable criteria.

8.2 Personal Protection

Where air contaminants can exceed acceptable criteria, use NIOSH (42 CFR Part 84) approved respiratory protection equipment. Respirators should be selected based on the form and concentration of contaminants in air in accordance with OSHA laws and regulations or other applicable standards or guidelines, including ANSI standards regarding respiratory protection. Use goggles if contact is likely. Wear impervious gloves as required to prevent skin contact.

8.3 Exposure Guidelines

50-00-0	Formaldehyde			
ACGIH TLV	Ceiling	0.3 ppm	0.37 mg/m3	A2 - Suspected Human Carcinogen; SEN
OSHA PEL	8-hr TWA	0.75 ppm	0.9 mg/m3	
	STEL (15 min)	2 ppm	2.5 mg/m3	

9. Physical and Chemical Properties

- Appearance: Opaque white liquid
- Odor: Slight formaldehyde
- Odor threshold: Not available
- Specific gravity: 1.254 - 1.264
- pH: 7.8 - 8.2 @25 °C (77 °F)
- Viscosity: 750 - 1,200 cPs Brookfield

Freezing point	Less than -10 °C (14 °F)
Solubility in water	Soluble
Octanol/water partition coefficient	Not available
Vapor pressure	Approx. 22 mm Hg @25 °C (77 °F)
Vapor density	Not available
Evaporation rate	Approx. 0.3 (Butyl Acetate = 1)
Boiling point, 760 mm Hg	Approx. 102 °C (216 °F)
Typical % solids	Approx. 60.00 % (m)

## 10. Stability and Reactivity

Normally stable, but will polymerize at high temperatures with some evolution of heat.

### Decomposition products may include:

CO, CO<sub>2</sub>, aldehydes (including formaldehyde), hydrogen cyanide, particulate matter and other organic compounds by thermal decomposition in air.

### Hazardous polymerization:

May occur.

## 11. Toxicological Information

See Section 3 Hazards Identification information.

50-00-0 Formaldehyde

LC50: rat=0.59 mg/l (Sax)

LD50: Oral-rat= 800 mg/kg (Merck); Skin-rabbit= 270 mg/kg (Sax)

## 12. Ecological Information

No data for ecotoxicity has been found. Effects are expected to be minimal. The material is a soil mobile liquid initially which will solidify on aging. Biodegradation is expected to be very slow; bioaccumulation negligible.

## 13. Disposal Considerations

Recover free liquid. Absorb residue and dispose of according to local, state/provincial, and federal requirements.

## 14. Transport Information

### 14.1 U.S. Department of Transportation (DOT)

The data provided in this section is for information only and may not be specific to your package size. You will need to apply the appropriate regulations to properly classify your shipment for transportation.

### 14.2 Canadian Transportation of Dangerous Goods (TDG)

## 15. Regulatory Information (Selected Regulations)

**15.1 U.S. Federal Regulations****OSHA Hazards Communication Standard 29CFR1910.1200**

This material presents possible health hazards as determined when reviewed according to the requirements of the Occupational Safety and Health Administration 29 CFR Part 1910.1200 "Hazard Communication" Standard.

**SARA Title III: Section 311/312**

Immediate health hazard  
Delayed health hazard  
Reactivity hazard

**SARA Title III: Section 313 and 40 CFR Part 372**

This product contains the following toxic chemical(s) subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986, and Subpart C- Supplier Notification Requirement of 40 CFR Part 372.

Formaldehyde	50-00-0	0.19%
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**TSCA Section 8(b) Inventory**

All reportable chemical substances are listed on the TSCA Inventory. We rely on certifications of compliance from our suppliers for chemical substances not manufactured by us.

**15.2 Canadian Regulations****Workplace Hazardous Materials Information System (WHMIS)**

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulation (CPR) and the MSDS contains all the information required by the CPR.

Class D2A

**Canadian Environmental Protection Act (CEPA)**

All reportable chemical substances are listed on the Domestic Substances List (DSL) or otherwise comply with CEPA new substance notification requirements.

**National Pollutant Release Inventory (NPRI)**

This product contains the following chemical(s) subject to the reporting requirements of the Canadian Environmental Protection Act (CEPA) subsection 16(1), National Pollutant Release Inventory.

None required.

**16. Other Information****User's Responsibility**

The OSHA Hazard Communication Standard 29CFR 1910.1200 and the Workplace Hazardous Materials Information System (WHMIS) require that the information contained on these sheets be made available to your workers. Educate and train your workers regarding OSHA and WHMIS precautions. Instruct your workers to handle this product properly. Consult with appropriate experts to guard against hazards associated with use of this product and its ingredients.

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#### Disclaimer

SELLER MAKES NO WARRANTY, EXPRESS OR IMPLIED, CONCERNING THE PRODUCT OR THE MERCHANTABILITY OR FITNESS THEREOF FOR ANY PURPOSE, except that the product shall conform to contracted specifications, and that the product does not infringe any valid United States or Canadian patent. No claim of any kind shall be greater in amount than the purchase price of the quantity of product in respect of which damages are claimed. In no event shall Seller be liable for incidental or consequential damages, whether Buyer's claim is based on contract, breach of warranty, negligence or otherwise.

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