Economic Impact Analysis for the Wood Building Products NESHAP

Final Report

EPA 452/R-03-003
January 2003

Economic Impact Analysis for the Wood Building Products NESHAP

By:
Robert H. Beach
RTI
Research Triangle Park, North Carolina

Prepared for:
John L. Sorrels, Project Officer
U.S. Environmental Protection Agency
Office of Air Quality Planning and Standards
Innovative Strategies and Economics Group, C339-01
Research Triangle Park, NC 27711

Contract No. 68-D9-9024
Task Order No. 3-84

U.S. Environmental Protection Agency
Office of Air Quality Planning and Standards
Air Quality Strategies and Standards Division
Research Triangle Park, NC 27711

CONTENTS

LIST OF TABLES

SECTION 1

INTRODUCTION

The environmental regulation of the wood building products (WBP) industry potentially affects large and small manufacturers engaged in the surface coating of WBP, but small firms may encounter special problems with compliance. The Regulatory Flexibility Act (RFA), as amended by the Small Business Regulatory Enforcement and Fairness Act of 1996 (SBREFA), requires the U.S. Environmental Protection Agency (EPA) to consider the economic impacts of this regulatory action on these small entities. Therefore, RTI completed a preliminary screening analysis to assist the Agency in determining whether this rule is likely to impose a significant impact on a substantial number of small businesses. This analysis consists of a “sales test” and a “profit test.” The “sales test” involves computing the annualized compliance cost as a share of sales for each company and comparing the distribution of these costs across large and small companies. The “profit test” involves comparing the company profit margins with and without regulation, assuming full cost absorption by industry. The analysis provides the following insights:

- *Number of facilities directly affected:* There are 42 major source facilities in the WBP project database that would be subject to the proposed NESHAP. However, the project database represents only a subset of the industry. Extrapolating from the project database using information collected by EPA, RTI estimates that 215 major sources in the United States would be directly affected by the proposed regulation (Dail, 2003a).
- *Number of small businesses:* The Small Business Administration (SBA) size standard for the WBP industry (Standard Industrial Classification [SIC] codes 2426, 2431, 2435, 2439, and 2493) is 500 employees for each of the SIC codes in this industry. Of the 17 companies in the project database that own and operate the 42 major source WBP manufacturing plants included in the database, four companies can be classified as small using this definition. Assuming that the major sources in our database are a representative sample, we can scale the number of companies included in the database to get an estimate of the total number of affected companies in the United States. The total number of companies expected to be affected by the regulation is estimated by extrapolating from the number of companies in the database operating in each of the five subcategories of WBP (doors, windows, and miscellaneous; flooring; interior wall paneling and tileboard; other interior panels; and exterior siding and primed doorskins) using independent scaling factors for each subcategory (Dail, 2003a).

For those companies that own facilities in more than one of the subcategories, the scaling factors for the subcategories in which they operate were averaged to provide the scaling factor for that company. Based on this method of extrapolation, approximately 112 companies in the United States own major sources affected by this rule, and about 28 of those are expected to be small companies.

- *Engineering costs:* The engineering analysis estimates that the aggregate annual compliance cost for small businesses in the WBP database is $0.47 million, or approximately 10 percent of the total annual industry costs of $4.67 million. Extrapolating the engineering costs to the total estimated population of WBP facilities implies that the total annual cost to all WBP facilities is estimated to equal $22.5 million (Dail, 2003b).
- *Sales test:* A simple "sales test," in which the annualized compliance costs are computed as a share of sales for each company, shows that *no company* (small or large) in the database for which cost data are available is expected to incur costs greater than 1 percent of their sales. In fact, the largest cost-to-sales ratio (CSR) estimated for any company in the database is 0.62 percent. However, the coatings usage and material costs for one large company are considered confidential business information (CBI), so no CSR was calculated for this company. In addition, the WBP project database includes only a subset of WBP firms expected to be affected by this regulation. Nonetheless, assuming the database is representative of the universe of companies that will be affected, it appears unlikely that companies will incur costs greater than 1 percent of their sales.
- *Profit data:* Data on net income as a percentage of sales were available for six large parent companies owning major sources in the WBP project database, and this measure of the profit ratio ranged from 0.4 to 7.5 percent. No net income information was available for the other five large parent companies or any of the six small parent firms that would potentially incur costs under this regulation. Data on industrywide profitability from Dun & Bradstreet (1997) indicate that the median return on sales for the SIC codes affected by this regulation ranges from 2.8 to 4.7 percent. Using the actual profit ratio if available and the median profit margin for the primary parent company SIC code if company-level data are not available, we estimate that no companies would have a negative profit margin as a result of the regulation under a full-cost absorption scenario.

SECTION 2

SCREENING-LEVEL ANALYSIS

For the purposes of assessing the potential impact of this rule on affected small businesses, RTI calculated the ratio of annual compliance costs to baseline sales for each company. For companies owning multiple facilities, the costs for each of the facilities are summed to develop the total costs for that company. For this analysis, annual compliance costs were defined as the costs of changing the coating materials (including monitoring, recordkeeping, capital, and material costs). They do not reflect changes in the production process that may occur in response to imposition of these costs and the resulting market adjustments. Company revenue was collected from American Business Information, Inc. (2000), Gale Research, Inc. (1998), General Business File International (1999), Hoover's Incorporated (2000), and Yahoo! Finance (2000). Table 2-1 shows the average, minimum, and maximum CSR for companies affected by the proposed regulation. The CSRs for major source small businesses range from 0.08 to 0.62 percent, while those for large companies range from 0.0003 to 0.08 percent (excluding one large company for which cost data are CBI). No companies, either large or small, have a CSR greater than 1 percent, but the CSR is only calculated for those companies in the database. However, assuming the database is a representative sample of the universe of affected firms, it is reasonable to expect that the remaining affected companies in the United States will have a similar distribution of CSRs.

In addition to computing the CSRs, RTI also computed the companies' expected profit margins with the regulation, assuming that revenues would remain unchanged and costs would be fully absorbed by the affected companies. For those companies without profit margin data, the profit margin without the regulation was assumed to equal the median profit margin for the four-digit SIC code industry in which that company operates. The profit margin with the regulation was calculated as the profit margin without the regulation minus the CSR. If profit margins fall below zero, a company may consider shutting down all operations in the long run. Note that, because the profit margins considered here are for the entire company, it is possible that the costs of regulation may result in the closure of affected facilities even if the parent company remains in business. Table 2-2 shows that no companies are expected to have negative profit margins as a result of the regulation. The median profit margin for all companies decreases from 2.80 percent to 2.77 percent, while the average profit margin falls from 3.31 percent to 3.22 percent, with small companies being

Table 2-1. Summary Statistics for SBREFA Screening Analysis: Impacts of the Regulation of Surface Coating of Wood Building Products

	Small		Large		All Companies	
Total Number of Companies	4		13		17	
Annual Compliance Costs ($\$10^6$/yr)	$0.47		$4.20		$4.67	
	Number	Share	Number	Share	Number	Share
Companies with Sales and Cost Data	4		12[a]		16	
Compliance costs are <1% of sales	4	100%	12	100%	16	100%
Compliance costs are ≥1 to 3% of sales	0	0%	0	0%	0	0%
Compliance costs are ≥3% of sales	0	0%	0	0%	0	0%
Compliance Cost-to-Sales Ratios						
Average	0.26%		0.02%		0.08%	
Median	0.18%		0.01%		0.03%	
Maximum	0.62%		0.08%		0.62%	
Minimum	0.08%		<0.00%		<0.00%	

Note: Assumes no market responses (i.e., price and output adjustments) by regulated entities.

[a]Statistics for large companies do not include one company whose costs are CBI.

Table 2-2. Profit Margins With and Without Regulation

	Small Companies	Large Companies[a]	All Companies
Profit Margins before Regulation			
Average	2.9%	3.4%	3.3%
Median	2.8%	3.1%	2.8%
Maximum	3.3%	7.5%	7.5%
Minimum	2.8%	0.4%	0.4%
Number of firms with profit margin less than zero	0	0	0
Profit Margins with Regulation			
Average	2.7%	3.4%	3.2%
Median	2.7%	3.0%	2.8%
Maximum	2.7%	7.5%	7.5%
Minimum	2.6%	0.4%	0.4%
Number of firms with profit margin less than zero	0	0	0

Note: Assumes no market responses (i.e., price and output adjustments) by regulated entities.
[a]Statistics for large companies do not include one company whose costs are CBI.

slightly more affected than large companies although neither large nor small companies are affected very much on average.

Based on this analysis of the subset of companies contained in the project database, this regulation is unlikely to have a significant impact on a substantial number of small entities. No small companies are affected above 1 percent (the largest CSR is 0.62 percent), while the median profit margin for companies in the WBP SIC codes ranges from about 2.8 percent to 4.7 percent, implying that small entities affected by this rule will have sufficient resources to absorb the compliance costs without causing financial distress.

SECTION 3

REFERENCES

American Business Information, Inc. 2000. <http://www.abii.com>.

Dail, H. L., EPA/CCPG. January 7, 2003a. Memorandum to Docket A-97-52. "Estimated Number of Major Sources Subject to the Wood Building Products (Surface Coating) National Emission Standards for Hazardous Air Pollutants (NESHAP)."

Dail, H. L., EPA/CCPG. January 7, 2003b. Memorandum to Docket A-97-52. "Tabular Cost Estimates for Wood Building Products Surface Coating National Emission Standards for Hazardous Air Pollutants (NESHAP)."

Dun & Bradstreet. 1997. *Industry Norms & Key Business Ratios: Desk-Top Edition 1996-1997*. Murray Hill, NJ: Dun & Bradstreet, Inc.

Gale Research, Inc. 1998. *Ward's Business Directory of U.S. Private and Public Companies*. Detroit, MI: Gale Research, Inc.

General Business File International (formerly Business ASAP). 1999. Gale Group Collections. As obtained from InfoTrac Web.

Hoover's Incorporated. 2000. Hoover's Company Profiles. Austin, TX: Hoover's Incorporated. <http://www.hoovers.com>.

Yahoo! Finance. 2000. Yahoo! Finance Profiles. <http://finance.yahoo.com>.

TECHNICAL REPORT DATA

(Please read Instructions on reverse before completing)

1. REPORT NO.	2.	3. RECIPIENT'S ACCESSION NO.
EPA-452/R-03-003		

4. TITLE AND SUBTITLE Economic Impact Analysis for the Wood Building Products NESHAP–Final Report	5. REPORT DATE January 2003
	6. PERFORMING ORGANIZATION CODE
7. AUTHOR(S) Robert Beach, RTI	8. PERFORMING ORGANIZATION REPORT NO. RTI Project Number 7647.004.384
9. PERFORMING ORGANIZATION NAME AND ADDRESS Research Triangle Institute (RTI) Center for Regulatory Economics and Policy Research, Hobbs Bldg. Research Triangle Park, NC 27709	10. PROGRAM ELEMENT NO. 11. CONTRACT/GRANT NO. 68-D-99-024
12. SPONSORING AGENCY NAME AND ADDRESS Tom Curran, Director Office of Air Quality Planning and Standards Office of Air and Radiation U.S. Environmental Protection Agency Research Triangle Park, NC 27711	13. TYPE OF REPORT AND PERIOD COVERED Final 14. SPONSORING AGENCY CODE EPA/200/04

15. SUPPLEMENTARY NOTES

16. ABSTRACT
This report evaluates the economic impacts of the final NESHAP to control hazardous air pollutants (HAPs) emitted in the coating of wood building products (WBP). The estimated total annual cost for WBP facilities to comply with the proposed maximum achievable control technology (MACT) standard is about $22.5 million across approximately 215 affected facilities. Based on the economic impact analysis, this NESHAP would not have a significant impact on the firms in the WBP industry.

17. KEY WORDS AND DOCUMENT ANALYSIS

a. DESCRIPTORS	b. IDENTIFIERS/OPEN ENDED TERMS	c. COSATI Field/Group
Economic impacts Small business impacts	Air pollution control Environmental regulation Economic impact analysis Small business screening analysis, Maximum achievable control technology Wood building products	

18. DISTRIBUTION STATEMENT	19. SECURITY CLASS *(Report)*	21. NO. OF PAGES
Release Unlimited	Unclassified	12
	20. SECURITY CLASS *(Page)* Unclassified	22. PRICE

EPA Form 2220-1 (Rev. 4-77) PREVIOUS EDITION IS OBSOLETE

United States
Environmental Protection
Agency

Office of Air Quality Planning and Standards
Air Quality Strategies and Standards Division
Research Triangle Park, NC

Publication No. EPA 452/R-03-003
January 2003