



EPA's 33/50 Program Company Profile

Douglas & Lomason Company



THE 33/50 PROGRAM

This Company Profile is part of a series of reports being developed by EPA to highlight the accomplishments of companies participating in the 33/50 Program. The 33/50 Program is an EPA voluntary pollution reduction initiative that promotes reductions in direct environmental releases and offsite transfers of 17 high-priority toxic chemicals. The program derives its name from its overall goals -- an interim goal of a 33% reduction by 1992 and an ultimate goal of a 50% reduction by 1995. The program uses 1988 Toxics Release Inventory (TRI) reporting as a baseline. In February, 1991, EPA began contacting the parent companies of TRI facilities that reported using 33/50 Program chemicals since 1988 to request their participation in the 33/50 Program. As of April, 1994, a total of 1,216 companies had elected to participate in the Program, pledging to reduce emissions of the 17 target chemicals by more than 355 million pounds by 1995. Companies are encouraged to set their own reduction targets, which may vary from the Program's national 33% and 50% reduction goals. Company commitments and reduction pledges continue to be received by EPA on a daily basis.

The 1992 TRI data revealed that releases and transfers of 33/50 Program chemicals declined by 40% between 1988 and 1992, surpassing the Program's 1992 interim reduction goal by more than 100 million pounds. This accomplishment, together with evidence from analysis of facilities' projected releases and transfers of the 17 priority chemicals, reported to TRI under the Pollution Prevention Act, offers strong encouragement that the 33/50 Program's ultimate goal of a 50% reduction by 1995 will be achieved.

EPA is committed to recognizing companies for their participation in the 33/50 Program and for the emissions reductions they achieve. The Program issues periodic Progress Reports, in which participating companies are listed and highlighted. In addition, Company Profiles, such as this one, are being prepared to provide more detailed information about companies that have written to EPA describing significant emissions reduction initiatives. Information presented in these profiles is drawn primarily from the company's written 33/50 Program communications and the annual TRI reports submitted by their facilities (including Pollution Prevention Act data reported to TRI in Section 8 of Form R). All company communications to EPA regarding the 33/50 Program are available to the public upon request.

EPA does not endorse the performance, worker safety, or environmental acceptability of any of the technical options discussed in this Profile. Mention of any product or procedure in this document is for informational purposes only, and does not constitute a recommendation of any such product or procedure, either express or implied, by EPA.

17 PRIORITY CHEMICALS TARGETED BY THE 33/50 PROGRAM

BENZENE
CADMIUM & COMPOUNDS
CARBON TETRACHLORIDE
CHLOROFORM
CHROMIUM & COMPOUNDS
CYANIDES
DICHLOROMETHANE*
LEAD & COMPOUNDS
MERCURY & COMPOUNDS
METHYL ETHYL KETONE
METHYL ISOBUTYL KETONE
NICKEL & COMPOUNDS
TETRACHLOROETHYLENE
TOLUENE
1,1,1-TRICHLOROETHANE
TRICHLOROETHYLENE
XYLENES

* Also referred to as methylene chloride

For information on the 33/50 Program, contact the TSCA Hotline at (202) 554-1404 or contact 33/50 Program staff directly by phone at (202) 260-6907 or by mail at Mail Code 7408, Office of Pollution Prevention and Toxics, U.S. EPA, 401 M Street, SW, Washington, D.C. 20460.

Douglas & Lomason Company

Douglas & Lomason Company reduced its total releases and transfers of 33/50 Program chemicals by 88% from 1988 to 1992, surpassing its reduction goal for 1995. Douglas & Lomason has been active at all of its facilities in ongoing efforts to reduce total releases and transfers of 33/50 Program chemicals. The company has estimated that additional efforts will bring total reductions to 94% by 1994.

I. CORPORATE BACKGROUND

Douglas & Lomason Company is a manufacturer of automobile and truck components, primarily seat and trim parts. The company is headquartered in Farmington Hills, Michigan and currently operates 16 manufacturing facilities nationwide. In 1988, 7 facilities reported to TRI, one of which has since closed.

In 1988, Douglas & Lomason reported releases and transfers of four 33/50 Program chemicals: methyl ethyl ketone, toluene, 1,1,1-trichloroethane, and xylene. The company also reported relatively small releases and transfers of several non-33/50 TRI chemicals at its facilities.

Douglas & Lomason Company achieved an 88% reduction in releases and transfers of 33/50 Program chemicals by 1992, surpassing its goal of an 80% reduction by 1995.

33/50 Program chemicals have been used primarily in two processes: painting metal seat and trim parts, and molding foam seat pads. Methyl ethyl ketone, toluene, and xylene are used as solvents for applying paint to metal seat and trim parts. The company used 1,1,1-trichloroethane as a solvent for applying a mold-release agent to the molds used to produce foam seat pads.

Douglas & Lomason reported 599,755 pounds of releases and transfers of 33/50 Program chemicals in 1988, all of which were air emissions. Table I, at the end of this profile, presents data on releases and transfers of TRI chemicals for the company, while Table II provides these data for several of the facilities that have implemented successful pollution reduction projects.

Releases and Transfers of TRI Chemicals Reported by Douglas & Lomason¹ (1000 pounds)

	1988	1992
<i>33/50 Chemicals</i>		
Methyl ethyl ketone	27	8
Toluene	263	39
1,1,1-Trichloroethane	96	0
Xylenes	214	27
Chromium/Nickel	<1	<1
33/50 Subtotal	600	74
<i>Other TRI Chemicals</i>	64	109
<i>Total²</i>	663	183

¹ Data only for facilities participating in the 33/50 Program.

² Columns may not sum to totals due to rounding.

II. 33/50 PROGRAM GOALS AND POLLUTION REDUCTION ACTIVITIES

Douglas & Lomason established a company-wide goal of reducing total releases and transfers of 33/50 Program chemicals by 80% by 1995, based on 1988 levels. At the time the company set this goal in 1991, releases and transfers of 33/50 Program chemicals had already been reduced by 60%.

Two Douglas & Lomason facilities -- La Grange, GA and Amory, MS -- did not report to TRI in 1988 and, therefore, were not included in the 1988 company baseline. These facilities have subsequently begun reporting to TRI. Although the releases and transfers from these two facilities have been relatively small, accounting for 8% of company-wide releases and transfers of TRI chemicals in 1992, the company plans to incorporate these two facilities into their progress reports to the 33/50 Program for 1994. This additional reporting has been prompted by the company's successful participation in the 33/50 Program.

To meet its 33/50 Program goals, Douglas & Lomason has undertaken a number of source reduction activities, primarily product and process reformulation. The company has completed

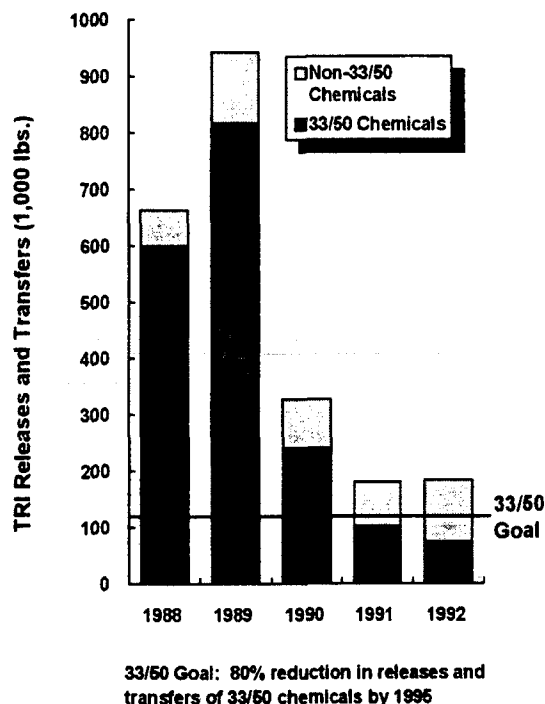
projects to reduce chemical use in both the molding and painting processes.

- **Implementing a new mold-release agent formulation.** The Havre-de-Grace, MD, facility manufactures foam seat pads using a molding process. This process involves applying a wax mold-release agent to the mold to facilitate the removal of the finished molded product. Douglas & Lomason's traditional mold-release agent, which contained 1,1,1-trichloroethane as a solvent, was replaced with a water-based formulation. This substitution completely eliminated the use of 1,1,1-trichloroethane, a reduction of 350,000 pounds.
- **Using "high-solids" paint formulations.** At one facility, Douglas & Lomason manufactures metal trim parts which are painted. The amount of solvent, such as toluene, xylene, and methyl ethyl ketone, used in these paints was reduced through the use of reformulated "high-solids" paint. "High-solids" paint uses a reduced percentage of solvent in formulating the paint, thereby increasing the percentage of solids. This approach resulted in emissions reductions of over 70,000 pounds of 33/50 chemicals at the Phenix City, AL, facility.
- **Using water-reducible paint.** At several facilities, Douglas & Lomason manufactures metal seat frames which are painted for rust protection. The use of solvents in the paint was eliminated by using water-reducible paints, in which the solvents (in this case toluene and xylene) are replaced with ethylene glycol and water. This approach was used at the Columbus, NE, facility, resulting in reductions of 86,454 pounds of toluene and xylene releases between 1988 and 1992.

Douglas & Lomason estimates that its total reductions in releases and transfers of 33/50 Program chemicals will reach 94% by 1994.

- **Eliminating the use of paints.** Solvent use has also been reduced or eliminated through the implementation of two new processes that eliminate the need to paint certain parts. First, the spray-application of rust inhibitors

Douglas & Lomason's Progress Towards Meeting 33/50 Goals



has eliminated the need for painting, thereby reducing and in some cases eliminating the use of solvents. A second process implemented by Douglas & Lomason involves the chemical application of a coating to metal parts using a process that requires no solvents. The Red Oak, IA, facility used this process to eliminate releases and transfers of 61,000 pounds of toluene and xylene.

This process was also used when the Havre-de-Grace, MD, plant opened, thereby completely avoiding the use of toluene and xylene. Later, through a customer design change, surface coating of the seat frame was eliminated altogether.

III. PROGRESS TOWARDS 33/50 REDUCTION GOALS

As a result of these and other efforts, Douglas & Lomason has made outstanding progress in reducing its releases and transfers of 33/50 Program chemicals, including surpassing its 1995 reduction goal several years early. Douglas & Lomason succeeded in reducing its releases and

transfers of 33/50 Program chemicals by 88% between 1988 and 1992, a reduction of 525,285 pounds. This reduction in releases and transfers was achieved despite an increase in production between 1988 and 1989.

As part of Douglas & Lomason's efforts, the Havre-de-Grace, MD, Red Oak, IA, and Columbus, NE facilities have completely eliminated their use of 33/50 Program chemicals. The company as a whole has completely eliminated the use of 1,1,1-trichloroethane.

Douglas & Lomason's projections for 1994, as shown in their Pollution Prevention Act (PPA) Reporting (Table III), indicate that the company plans to continue reducing releases and transfers of 33/50 Program solvents. Total releases and transfers of 33/50 Program chemicals are projected to

be reduced to 34,460 pounds in 1994, for a 94% reduction from 1988 levels.

IV. SUMMARY OF DOUGLAS & LOMASON'S EXPERIENCE

Douglas & Lomason Company has been extremely successful in its 33/50 Program participation. By 1992, Douglas & Lomason had already surpassed its 1995 goals of reducing releases and transfers of 33/50 Program chemicals by 80%. Douglas & Lomason has achieved these successes through a variety of product and process reformulation projects. This success is projected to continue, and Douglas & Lomason expects to achieve further reductions in releases and transfers of 33/50 Program chemicals in 1994. The company is projecting that reductions will reach 94% from 1988 levels by 1994.

Table I
Douglas and Lomason Company (1)
Releases and Transfers of TRI Chemicals, 1988-1992
(all data from TRI unless otherwise noted)

Chemical	Year	Total Air Emissions (pounds)	Surface Water Discharges (pounds)	Transfers to POTW (pounds)	Transfers Off-site for Treatment/Disposal/Other (pounds)	Total Releases and Transfers (2) (pounds)	Percent Change 1988-1992 Total Release and Transfer
Methyl ethyl ketone	1988	27,128	0	0	0	27,128	
	1989	39,000	0	0	0	39,000	
	1990	29,800 (3)	0	0	0	29,800 (3)	
	1991	7,700 (3)	0	0	0	7,700 (3)	
	1992	8,240 (3)	0	0	0	8,240 (3)	-70%
Toluene	1988	262,851	0	0	0	262,851	
	1989	174,000	0	0	0	174,000	
	1990	76,500 (3)	0	0	0	76,500 (3)	
	1991	55,900 (3)	0	0	0	55,900 (3)	
	1992	39,100 (3)	0	0	0	39,100 (3)	-85%
1,1,1-Trichloroethane	1988	96,259	0	0	0	96,259	
	1989	384,000	0	0	0	384,000	
	1990	8,300	0	0	0	8,300	-100%
Xylene (mixed isomers)	1988	213,517	0	0	0	213,517	
	1989	219,000	0	0	0	219,000	
	1990	124,680 (3)	0	0	0	124,680 (3)	
	1991	39,200 (3)	0	0	0	39,200 (3)	
	1992	27,130 (3)	0	0	0	27,130 (3)	-87%
Chromium & Nickel	1989	173	18	0	250	441	
	1990	500	0	0	0	500	
<u>33/50 Program Chemicals</u>	1988	599,755	0	0	0	599,755	
	1989	816,441	18	0	250	816,441	
	1990	239,780 (3)	0	0	0	239,780 (3)	
	1991	102,800 (3)	0	0	0	102,800 (3)	
	1992	74,470 (3)	0	0	0	74,470 (3)	-88%
Non 33/50 Program Chemicals	1988	59,675	0	0	4,004	63,679	
	1989	119,372	2,621	3,900	750	126,643	
	1990	84,775	250	2,900	10	87,935	
	1991	77,020	0	0	0	77,020	
	1992	109,020	0	0	0	109,020	71%
All TRI Chemicals	1988	659,430	0	0	4,004	663,434	
	1989	935,813	2,639	3,900	1,000	943,084	
	1990	324,555 (3)	250	2,900	10	327,715 (3)	
	1991	179,820 (3)	0	0	0	179,820 (3)	
	1992	183,490 (3)	0	0	0	183,490 (3)	-72%
<u>Percent Change, 1988-1992</u>							
33/50 Program Chemicals		-88%	--	--	--	-88%	
Non 33/50 Program chemicals		83%	--	--	-100%	71%	
All TRI Chemicals		-72%	--	--	-100%	-72%	

Notes: (1) Includes data only for facilities that participate in the 33/50 Program.

(2) 1991 and 1992 Total Releases and Transfers do not include on- or off-site recycling or energy recovery.

(3) Includes data provided by company in progress reports to the 33/50 Program.

Table II
Douglas and Lomason Company
Releases and Transfers of TRI Chemicals at Selected Facilities, 1988-1992
(all data from TRI unless otherwise noted)

Facility/Chemical	Year	Total Air Emissions (pounds)	Surface Water Discharges (pounds)	Transfers to POTW (pounds)	Transfers Off-site for Treatment/ Disposal/Other (pounds)	Total Releases and Transfers (1) (pounds)
<u>Douglas & Lomason Co., Havre De Grace, MD</u>						
1,1,1-Trichloroethane	1988	56,347	0	0	0	56,347
	1989	350,000	0	0	0	350,000
Other 33/50 Program Chemicals	1989	13	0	0	0	13
<u>All 33/50 Program Chemicals</u>	1988	56,347	0	0	0	56,347
	1989	350,013	0	0	0	350,013
All TRI Chemicals	1988	57,097	0	0	4,004	61,101
	1989	351,021	0	0	500	351,521
	1990	25	0	0	10	35
	1991	20	0	0	0	20
	1992	20	0	0	0	20
<u>Douglas & Lomason Co., Phenix City, AL</u>						
Methyl ethyl ketone	1989	15,000	0	0	0	15,000
	1990	3,800 (2)	0	0	0	3,800 (2)
	1991	1,100 (2)	0	0	0	1,100 (2)
	1992	740 (2)	0	0	0	740 (2)
Toluene	1988	21,492	0	0	0	21,492
	1989	43,000	0	0	0	43,000
	1990	15,000	0	0	0	15,000
	1991	12,000	0	0	0	12,000
	1992	13,000 (2)	0	0	0	13,000 (2)
Xylene (mixed isomers)	1988	68,804	0	0	0	68,804
	1989	62,000	0	0	0	62,000
	1990	49,000	0	0	0	49,000
	1991	20,000 (2)	0	0	0	20,000 (2)
	1992	5,300 (2)	0	0	0	5,300 (2)
<u>33/50 Program Chemicals</u>	1988	90,296	0	0	0	90,296
	1989	120,000	0	0	0	120,000
	1990	67,800 (2)	0	0	0	67,800 (2)
	1991	33,100 (2)	0	0	0	33,100 (2)
	1992	19,040 (2)	0	0	0	19,040 (2)
All TRI Chemicals	1988	108,263	0	0	0	108,263
	1989	182,000	0	3,900	0	185,900
	1990	99,800 (2)	0	2,900	0	102,700 (2)
	1991	33,100 (2)	0	0	0	33,100 (2)
	1992	19,040 (2)	0	0	0	19,040 (2)
<u>Douglas & Lomason Co., Red Oak, IA</u>						
Toluene	1988	21,866	0	0	0	21,866
	1989	25,000	0	0	0	25,000
	1990	22,000	0	0	0	22,000
	1991	26,000	0	0	0	26,000
	1992	19,000	0	0	0	19,000

Table II
Douglas and Lomason Company
Releases and Transfers of TRI Chemicals at Selected Facilities, 1988-1992
(all data from TRI unless otherwise noted)

Facility/Chemical	Year	Total Air Emissions (pounds)	Surface Water Discharges (pounds)	Transfers to POTW (pounds)	Transfers Off-site for Treatment/ Disposal/Other (pounds)	Total Releases and Transfers (1) (pounds)
Xylene (mixed isomers)	1988	21,866	0	0	0	21,866
	1989	24,000	0	0	0	24,000
	1990	39,000	0	0	0	39,000
	1991	11,000	0	0	0	11,000
	1992	12,000	0	0	0	12,000
Other 33/50 Program Chemicals	1989	158	0	0	0	158
	1990	500	0	0	0	500
<u>All 33/50 Program Chemicals</u>	1988	43,732	0	0	0	43,732
	1989	49,158	0	0	0	49,158
	1990	61,500	0	0	0	61,500
	1991	37,000	0	0	0	37,000
	1992	31,000	0	0	0	31,000
All TRI Chemicals	1988	43,982	0	0	0	43,982
	1989	49,252	0	0	0	49,252
	1990	61,750	0	0	0	61,750
	1991	37,000	0	0	0	37,000
	1992	45,000	0	0	0	45,000
<u>Douglas & Lomason Co., Columbus, NE</u>						
Toluene	1988	45,674	0	0	0	45,674
	1989	33,000	0	0	0	33,000
	1990	21,000	0	0	0	21,000
	1991	3,200 (2)	0	0	0	3,200 (2)
Xylene (mixed isomers)	1988	40,780	0	0	0	40,780
	1989	32,000	0	0	0	32,000
	1990	21,000	0	0	0	21,000
	1991	1,000 (2)	0	0	0	1,000 (2)
<u>33/50 Program Chemicals</u>	1988	86,454	0	0	0	86,454
	1989	65,000	0	0	0	65,000
	1990	42,000	0	0	0	42,000
	1991	4,200 (2)	0	0	0	4,200 (2)
All TRI Chemicals	1988	86,704	0	0	0	86,704
	1989	65,250	0	0	0	65,250
	1990	73,250	0	0	0	73,250
	1991	81,200 (2)	0	0	0	81,200 (2)
	1992	95,000	0	0	0	95,000

Notes: (1) 1991 and 1992 Total Releases and Transfers do not include on- or off-site recycling or energy recovery.
(2) Data provided by company in progress reports to the 33/50 Program.

Table III
Douglas and Lomason Company (1)
Pollution Prevention Act Reporting (2)

Chemical	Year	Energy Recovery Off-Site (pounds)	Treated On-Site (pounds)	Quantity Released (pounds)	Percent Change 1991-1994 Quantity Released	Total Production Related Wastes (pounds)	Percent Change 1991-1994 Production Related Wastes
Toluene	1991	2,382	0	50,000		52,382	
	1992	1,070	0	31,000		32,070	
	1994	860	0	12,000	-76%	12,860	-75%
Xylene (mixed isomers)	1991	27	0	11,000		11,027	
	1992	150	0	12,000		12,150	
	1994	0	0	0	-100%	0	-100%
<u>33/50 Program Chemicals</u>	1991	2,409	0	61,000		63,409	
	1992	1,220	0	43,000		44,220	
	1994	860	0	12,000	-80%	12,860	-80%
Non 33/50 Program Chemicals	1991	87	485,000	85,109		570,196	
	1992	160	521,000	109,007		630,167	
	1994	0	530,000	95,007	12%	625,007	10%
All TRI Chemicals	1991	2,496	485,000	146,109		633,605	
	1992	1,380	521,000	152,007		674,387	
	1994	860	530,000	107,007	-27%	637,867	1%
<u>Percent Changes, 1991-1994</u>							
33/50 Program chemicals		-64%	--	-80%		-80%	
Non 33/50 Program chemicals		-100%	9%	12%		10%	
All TRI Chemicals		-66%	9%	-27%		1%	

Notes: (1) Includes data only for facilities participating in the 33/50 Program.

(2) Actual data for 1991 and 1992; projections for 1994.