

Y4  
. C 13/2

1041

941/4  
C73/2  
941/93

94-93

# HAZARDOUS MATERIALS TRANSPORTATION ACT

GOVERNMENT DOCUMENTS

Storage

NOV 10 1976

THE LIBRARY  
KANSAS STATE UNIVERSITY

## HEARING

BEFORE THE

### SUBCOMMITTEE ON SURFACE TRANSPORTATION

OF THE

### COMMITTEE ON COMMERCE

### UNITED STATES SENATE

NINETY-FOURTH CONGRESS

SECOND SESSION

ON

S. 2991

TO AMEND THE HAZARDOUS MATERIALS TRANSPORTATION ACT TO AUTHORIZE APPROPRIATIONS, AND FOR OTHER PURPOSES

MARCH 4, 1976 ✓

Serial No. 94-93

Printed for the use of the Committee on Commerce



U.S. GOVERNMENT PRINTING OFFICE

KSU LIBRARIES

5E2E56 00611A

AY  
C. 13/2  
49-40

COMMITTEE ON COMMERCE

WARREN G. MAGNUSON, Washington, *Chairman*

- |                                    |                                     |
|------------------------------------|-------------------------------------|
| JOHN O. PASTORE, Rhode Island      | JAMES B. PEARSON, Kansas            |
| VANCE HARTKE, Indiana              | ROBERT P. GRIFFIN, Michigan         |
| PHILIP A. HART, Michigan           | HOWARD H. BAKER, Jr., Tennessee     |
| HOWARD W. CANNON, Nevada           | TED STEVENS, Alaska                 |
| RUSSELL B. LONG, Louisiana         | J. GLENN BEALL, Jr., Maryland       |
| FRANK E. MOSS, Utah                | LOWELL P. WEICKER, Jr., Connecticut |
| ERNEST F. HOLLINGS, South Carolina | JAMES L. BUCKLEY, New York          |
| DANIEL K. INOUE, Hawaii            |                                     |
| JOHN V. TUNNEY, California         |                                     |
| ADLAI E. STEVENSON, Illinois       |                                     |
| WENDELL H. FORD, Kentucky          |                                     |
| JOHN A. DURKIN, New Hampshire      |                                     |

- MICHAEL PERTSCHUK, *Chief Counsel*  
 S. LYNN SUTCLIFFE, *General Counsel*  
 EDWARD B. COHEN, *Staff Counsel*  
 MALCOLM M. B. STERRETT, *Minority Counsel*  
 JOHN C. KIRTLAND, *Minority Staff Counsel*

SUBCOMMITTEE ON SURFACE TRANSPORTATION

VANCE HARTKE, Indiana, *Chairman*

- |                                    |                                     |
|------------------------------------|-------------------------------------|
| HOWARD W. CANNON, Nevada           | LOWELL P. WEICKER, Jr., Connecticut |
| ERNEST F. HOLLINGS, South Carolina | J. GLENN BEALL, Jr., Maryland       |
| RUSSELL B. LONG, Louisiana         | JAMES L. BUCKLEY, New York          |
| ADLAI E. STEVENSON III, Illinois   |                                     |
| WENDELL H. FORD, Kentucky          |                                     |



# CONTENTS

	Page.
Opening statement by Senator Hartke.....	1
Text of S. 2991.....	3

## LIST OF WITNESSES

Curtis, James T., Jr., Director, Materials Transportation Bureau, Department of Transportation; accompanied by Alan I. Roberts; and Leon Santman .....	4
Letters of:	
February 13, 1976.....	17
April 12, 1976.....	86
Harvison, Clifford J., managing director, National Tank Truck Carriers, Inc., Washington, D.C.....	37
Todd, Hon. Webster B., Jr., Chairman, National Transportation Safety Board; accompanied by Fritz L. Puls; Henry H. Wakeland; and Ludwig Benner .....	31

## ADDITIONAL ARTICLES, LETTERS, AND STATEMENTS

Dehmlow, Louis H. T., chairman, special committee of Suppliers to the Reinforced Plastics Industry, statement.....	46
Magnuson, Hon. Warren G., U.S. Senator from Washington and Chairman, Senate Committee on Commerce, letter of January 20, 1976.....	16
Nicholls, Gerald J., chairman, Transportation Committee, National Association of Wholesaler-Distributors, statement.....	44
White, John C., Private Truck Council of America, Inc., letter of March 12, 1976 .....	43

CONTENTS

1 Opening statement by Senator Harbo ..... 1  
2 Text of H. R. 2001 ..... 2

LIST OF WITNESSES

3 Curtis James T. Hill, Director, Materials Transportation Bureau, Depart-  
ment of Transportation; accompanied by Alan A. Roberts and John  
4 Hamilton .....  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60  
61  
62  
63  
64  
65  
66  
67  
68  
69  
70  
71  
72  
73  
74  
75  
76  
77  
78  
79  
80  
81  
82  
83  
84  
85  
86  
87  
88  
89  
90  
91  
92  
93  
94  
95  
96  
97  
98  
99  
100  
101  
102  
103  
104  
105  
106  
107  
108  
109  
110  
111  
112  
113  
114  
115  
116  
117  
118  
119  
120  
121  
122  
123  
124  
125  
126  
127  
128  
129  
130  
131  
132  
133  
134  
135  
136  
137  
138  
139  
140  
141  
142  
143  
144  
145  
146  
147  
148  
149  
150  
151  
152  
153  
154  
155  
156  
157  
158  
159  
160  
161  
162  
163  
164  
165  
166  
167  
168  
169  
170  
171  
172  
173  
174  
175  
176  
177  
178  
179  
180  
181  
182  
183  
184  
185  
186  
187  
188  
189  
190  
191  
192  
193  
194  
195  
196  
197  
198  
199  
200  
201  
202  
203  
204  
205  
206  
207  
208  
209  
210  
211  
212  
213  
214  
215  
216  
217  
218  
219  
220  
221  
222  
223  
224  
225  
226  
227  
228  
229  
230  
231  
232  
233  
234  
235  
236  
237  
238  
239  
240  
241  
242  
243  
244  
245  
246  
247  
248  
249  
250  
251  
252  
253  
254  
255  
256  
257  
258  
259  
260  
261  
262  
263  
264  
265  
266  
267  
268  
269  
270  
271  
272  
273  
274  
275  
276  
277  
278  
279  
280  
281  
282  
283  
284  
285  
286  
287  
288  
289  
290  
291  
292  
293  
294  
295  
296  
297  
298  
299  
300  
301  
302  
303  
304  
305  
306  
307  
308  
309  
310  
311  
312  
313  
314  
315  
316  
317  
318  
319  
320  
321  
322  
323  
324  
325  
326  
327  
328  
329  
330  
331  
332  
333  
334  
335  
336  
337  
338  
339  
340  
341  
342  
343  
344  
345  
346  
347  
348  
349  
350  
351  
352  
353  
354  
355  
356  
357  
358  
359  
360  
361  
362  
363  
364  
365  
366  
367  
368  
369  
370  
371  
372  
373  
374  
375  
376  
377  
378  
379  
380  
381  
382  
383  
384  
385  
386  
387  
388  
389  
390  
391  
392  
393  
394  
395  
396  
397  
398  
399  
400  
401  
402  
403  
404  
405  
406  
407  
408  
409  
410  
411  
412  
413  
414  
415  
416  
417  
418  
419  
420  
421  
422  
423  
424  
425  
426  
427  
428  
429  
430  
431  
432  
433  
434  
435  
436  
437  
438  
439  
440  
441  
442  
443  
444  
445  
446  
447  
448  
449  
450  
451  
452  
453  
454  
455  
456  
457  
458  
459  
460  
461  
462  
463  
464  
465  
466  
467  
468  
469  
470  
471  
472  
473  
474  
475  
476  
477  
478  
479  
480  
481  
482  
483  
484  
485  
486  
487  
488  
489  
490  
491  
492  
493  
494  
495  
496  
497  
498  
499  
500  
501  
502  
503  
504  
505  
506  
507  
508  
509  
510  
511  
512  
513  
514  
515  
516  
517  
518  
519  
520  
521  
522  
523  
524  
525  
526  
527  
528  
529  
530  
531  
532  
533  
534  
535  
536  
537  
538  
539  
540  
541  
542  
543  
544  
545  
546  
547  
548  
549  
550  
551  
552  
553  
554  
555  
556  
557  
558  
559  
560  
561  
562  
563  
564  
565  
566  
567  
568  
569  
570  
571  
572  
573  
574  
575  
576  
577  
578  
579  
580  
581  
582  
583  
584  
585  
586  
587  
588  
589  
590  
591  
592  
593  
594  
595  
596  
597  
598  
599  
600  
601  
602  
603  
604  
605  
606  
607  
608  
609  
610  
611  
612  
613  
614  
615  
616  
617  
618  
619  
620  
621  
622  
623  
624  
625  
626  
627  
628  
629  
630  
631  
632  
633  
634  
635  
636  
637  
638  
639  
640  
641  
642  
643  
644  
645  
646  
647  
648  
649  
650  
651  
652  
653  
654  
655  
656  
657  
658  
659  
660  
661  
662  
663  
664  
665  
666  
667  
668  
669  
670  
671  
672  
673  
674  
675  
676  
677  
678  
679  
680  
681  
682  
683  
684  
685  
686  
687  
688  
689  
690  
691  
692  
693  
694  
695  
696  
697  
698  
699  
700  
701  
702  
703  
704  
705  
706  
707  
708  
709  
710  
711  
712  
713  
714  
715  
716  
717  
718  
719  
720  
721  
722  
723  
724  
725  
726  
727  
728  
729  
730  
731  
732  
733  
734  
735  
736  
737  
738  
739  
740  
741  
742  
743  
744  
745  
746  
747  
748  
749  
750  
751  
752  
753  
754  
755  
756  
757  
758  
759  
760  
761  
762  
763  
764  
765  
766  
767  
768  
769  
770  
771  
772  
773  
774  
775  
776  
777  
778  
779  
780  
781  
782  
783  
784  
785  
786  
787  
788  
789  
790  
791  
792  
793  
794  
795  
796  
797  
798  
799  
800  
801  
802  
803  
804  
805  
806  
807  
808  
809  
810  
811  
812  
813  
814  
815  
816  
817  
818  
819  
820  
821  
822  
823  
824  
825  
826  
827  
828  
829  
830  
831  
832  
833  
834  
835  
836  
837  
838  
839  
840  
841  
842  
843  
844  
845  
846  
847  
848  
849  
850  
851  
852  
853  
854  
855  
856  
857  
858  
859  
860  
861  
862  
863  
864  
865  
866  
867  
868  
869  
870  
871  
872  
873  
874  
875  
876  
877  
878  
879  
880  
881  
882  
883  
884  
885  
886  
887  
888  
889  
890  
891  
892  
893  
894  
895  
896  
897  
898  
899  
900  
901  
902  
903  
904  
905  
906  
907  
908  
909  
910  
911  
912  
913  
914  
915  
916  
917  
918  
919  
920  
921  
922  
923  
924  
925  
926  
927  
928  
929  
930  
931  
932  
933  
934  
935  
936  
937  
938  
939  
940  
941  
942  
943  
944  
945  
946  
947  
948  
949  
950  
951  
952  
953  
954  
955  
956  
957  
958  
959  
960  
961  
962  
963  
964  
965  
966  
967  
968  
969  
970  
971  
972  
973  
974  
975  
976  
977  
978  
979  
980  
981  
982  
983  
984  
985  
986  
987  
988  
989  
990  
991  
992  
993  
994  
995  
996  
997  
998  
999  
1000

# HAZARDOUS MATERIALS TRANSPORTATION ACT

THURSDAY, MARCH 4, 1976

U.S. SENATE,  
COMMITTEE ON COMMERCE,  
SUBCOMMITTEE ON SURFACE TRANSPORTATION,  
*Washington, D.C.*

The subcommittee met at 9:50 a.m. in room 5110 of the Dirksen Senate Office Building; Hon. Vance Hartke (chairman of the subcommittee) presiding.

Senator HARTKE. Good morning everyone.

The statement I will make will be preceded by a statement by Senator Magnuson, the chairman of the full committee, which will be inserted into the record.

[The statement follows:]

STATEMENT OF HON. WARREN G. MAGNUSON, CHAIRMAN, COMMITTEE ON  
COMMERCE, AND U.S. SENATOR FROM WASHINGTON

One and a half years ago, a shipment of monomethylamine nitrate solution unexpectedly and violently exploded during routine switching operations in Burlington Northern's Apple Yard in Wenatchee, Washington. When the smoke had cleared, two persons were dead, 113 others were injured and the economic loss exceeded \$7.5 million. That blast was a sober reminder to Congress and the country of the dreadful risks that we assume when we transport hazardous materials.

It was because of this tragedy and others like it that motivated us to enact the Hazardous Materials Transportation Act. The Wenatchee accident and other similar hazardous materials accidents that we had been encountering during 1974 compelled the Commerce Committee to initiate a thorough review of our regulatory programs in the federal government. What we found was shocking: Over a half dozen agencies were responsible for the regulation of the transportation of hazardous materials. The regulations were complex and ambiguous. Enforcement authority was weak. Container manufacturers were not even subject to the law and virtually thousands of shipments were being transported under "special permits"—exemptions from the regulations granted by DOT without legal authority to do so.

A major reorganization and revision of the law was needed and the Hazardous Materials Transportation Act was enacted. While it is a coincidence that our first oversight hearings on this Act are being held at the same time the National Transportation Safety Board is releasing its report on the Wenatchee accident, it helps to underscore an important aspect of the new law.

The NTSB found that the Wenatchee shipment was being transported under a "special permit" and that while there were a number of ways the accident might have happened, the special permit granted by DOT was granted without an analysis of the safety risks involved. A failure to put forth efforts to identify the risks, the NTSB reported, using methodical safety analysis techniques, may result in similar accidents occurring in the future.

The new Hazardous Materials Transportation Act which we enacted immediately after the Wenatchee accident anticipated this problem. We provided that before any additional "special permits" could be granted or renewed, the public must be given the opportunity to comment. Also, we require the applicant to

Staff members assigned to this hearing: Edward Cohen and John Kirtland.

prepare a safety analysis to show that his shipment anticipates hazards and that precautions have been taken.

The NTSB has recommended that DOT make guidelines available for the safety analysis effort. Based on our experience with the Wenatchee accident, I am convinced that the safety analysis must be done and that they be done well. Only through this approach can we prevent another Wenatchee.

### OPENING STATEMENT BY SENATOR HARTKE

Senator HARTKE. Fourteen months ago, Congress enacted the Hazardous Materials Transportation Act, which reorganized and revamped the Federal Government's regulatory program for the transportation of hazardous materials. This major legislation evolved as a result of a series of hazardous materials transportation catastrophes, the most notable involving the explosion of a railroad tank car in Wenatchee, Wash., in which 2 were killed and over 100 injured.

This legislation was badly needed. The existing hazardous materials program was in a state of disarray; more than a half dozen agencies had regulatory responsibilities in the hazardous materials area; enforcement and compliance powers were weak; container manufacturers were not even subject to the act; literally thousands of exemptions from the regulations were being granted secretly and probably without statutory authority; and the sanctioning authority was so complex that it probably deterred few from violating the law. In short, we were saddled with an inefficient and woefully inadequate regulatory program.

The purpose of our hearing this morning is to evaluate the success of the Department of Transportation (DOT) and the Ford administration in implementing this new authority.

Five months ago, Secretary Coleman was informed that this hearing would be held and he was informed of 10 specific areas which we would examine to assess the DOT's progress in implementing the act.

In addition, prior to convening this hearing, the committee submitted to the Department a series of questions on the hazardous materials transportation program.

Finally, pursuant to the committee's request, the Materials Transportation Bureau has provided us with information with respect to the Bureau's fiscal year 1977 budget.

The Department's answers to our questions and the budget information will form the basis of my questions this morning.

[The bill follows:]

94TH CONGRESS  
2D SESSION

# S. 2991

---

## IN THE SENATE OF THE UNITED STATES

FEBRUARY 18, 1976

Mr. MAGNUSON (for himself and Mr. PEARSON) (by request) introduced the following bill; which was read twice and referred to the Committee on Commerce

---

## A BILL

To amend the Hazardous Materials Transportation Act to authorize appropriations, and for other purposes.

1 *Be it enacted by the Senate and House of Representa-*  
2 *tives of the United States of America in Congress assembled,*

3 That this Act may be cited as the "Hazardous Materials  
4 Transportation Act Amendments of 1976".

5 SEC. 2. Section 106 (c) of the Hazardous Materials  
6 Transportation Act (49 U.S.C. 1805 (c)) is amended by  
7 striking out "extremely" each time it appears.

8 SEC. 3. Section 107 (a) of the Hazardous Materials  
9 Transportation Act (49 U.S.C. 1806 (a)) is amended by  
10 striking out the phrase "transports or causes to be transported

1 or shipped hazardous materials in a manner so as to achieve”  
2 and insert in lieu thereof: “will provide for”.

3 SEC. 4. The text of section 115 of the Hazardous Ma-  
4 terials Transportation Act (49 U.S.C. 1812) is amended to  
5 read as follows: “There are authorized to be appropriated for  
6 the Materials Transportation Bureau, United States Depart-  
7 ment of Transportation, to carry out programs relating to  
8 the transportation of hazardous materials and for the Secre-  
9 tary for other activities carried out pursuant to this Act not  
10 to exceed \$7,000,000 for the fiscal year ending Septem-  
11 ber 30, 1977; and not to exceed \$7,000,000 for the fiscal  
12 year ending September 30, 1978.”

Senator HARTKE. The first witness this morning is Mr. James Curtis, Jr., the Director of the Materials Transportation Bureau (MTB) of the Department of Transportation.

**STATEMENT OF JAMES T. CURTIS, JR., DIRECTOR, MATERIALS  
TRANSPORTATION BUREAU, DEPARTMENT OF TRANSPORTA-  
TION; ACCOMPANIED BY ALAN I. ROBERTS; AND LEON SANTMAN**

Mr. CURTIS. Mr. Chairman, I am pleased to be before your subcommittee to discuss the DOT's hazardous materials program, particularly as it relates to activities since January 3, 1975, the date the Hazardous Materials Transportation Act was signed into law.

Prior to the Hazardous Materials Transportation Act, the organizational structure within the Department for the handling of hazardous materials functions can best be described as “decentralized.” This structure, providing each modal administrator with separate hazardous materials responsibility for his administration, was mandated by the legislation that established that a shipment of hazardous materials may move through all or several of the modes of transportation over which the heads of the operating administrations have cognizance.

It was, therefore, essential that shippers and carriers be able to refer to a cohesive set of authoritative regulations upon which they

may rely in preparing, shipping, and transporting hazardous materials, regardless of the mode of transportation.

Recognizing this, the Department established the Hazardous Materials Regulations Board, which consisted of representatives of each modal administration and appropriate representatives from the Office of the Secretary.

The Board was responsible for: (1) developing the format of hazardous materials regulations; (2) developing procedures for handling proposed additions or changes to the regulations; and (3) reviewing proposals for new regulations or revisions to existing regulations, and recommending the adoption and issuance of those found to be satisfactory.

The establishment of the Board was an attempt to centralize the Department's hazardous materials functions. However, the effectiveness of this attempt was limited.

The existence of the Board did not effect the authority of any operating administration to adopt and publish hazardous materials regulations or to carry out any other function relating to the safe transportation of hazardous materials.

In fact, the decentralized responsibility for hazardous materials functions mandated by statute, by its very nature, frustrated the development of any uniform approach to carrying out those functions. This situation was recognized in the enactment of the Hazardous Materials Transportation Act, a measure in which this subcommittee and staff were particularly instrumental.

The declared policy of Congress in passing that act was to improve the regulatory and enforcement authority of the Secretary of Transportation to protect the Nation adequately against the risks to life and property which are inherent in the transportation of hazardous materials.

As you know, certain of the provisions of the act reflect that policy by accomplishing the following:

The removal of statutory restrictions on the Secretary's authority to centralize DOT regulatory activities relating to the safe transportation of hazardous materials by various modes.

The extension of the Secretary's authority to impose civil penalties to violations committed in the rail and highway modes.

A significant increase in the criminal sanctions for violations of hazardous materials regulations.

Provision of various forms of specific relief as additional enforcement tools.

A broadening of the definition of "commerce" to include transportation, which affects interstate transportation.

A broadening of the application of hazardous materials regulations in certain geographical locations.

Federal preemption of inconsistent State and local regulations and law .

An extension of the Secretary's regulation authority to the manufacturers of packages and containers used in the transportation of hazardous materials.

Authorization for the Secretary to require shippers and carriers of hazardous materials, and manufacturers of hazardous materials containers, to register with the Department of Transportation.

To effectively exercise the powers and perform the duties vested in the Secretary of Transportation by the act, as well as those vested in him by earlier laws dealing with hazardous materials, the establishment of a line organizational element within the Department, reporting to the Secretary, was considered necessary.

On July 1, 1975, the MTB was formed to answer that need. The Bureau became operational on July 7, 1975, and is responsible for exercising the authority vested in the Secretary with respect to intermodal hazardous materials functions and the issuance of all hazardous materials regulations and exemptions except for those regulations and exemptions governing bulk shipment of hazardous materials by water.

The organization of the MTB necessitated a series of redelegations within the Department to define the interface of responsibilities between MTB and the operating modes. Although a substantial part of the Secretary's hazardous materials authority was delegated to the MTB, the individual modes retain responsibilities, primarily in the area of inspection, compliance, and enforcement.

There were several considerations that led to this result. First, it is necessary to adequate inspection that hazardous materials inspectors have a working knowledge of the mode by which a shipment is being carried.

Second, the modes maintain existing field forces that have had considerable experience with inspection of hazardous materials shipments and it seemed prudent to use this experience.

In practice, this continued modal responsibility appears to be justified. In carrying out their responsibilities for monitoring and enforcing the regulations governing the actual transportation of hazardous materials by motor vehicle, railroad, vessel, and aircraft, the operating administrations are continuing to place increasing emphasis on inspections to detect and correct violations by shippers and carriers.

For example, during 1975, the number of hazardous materials inspections performed by the FAA increased more than 50 percent over those performed during the previous year.

Likewise, hazardous materials inspections by Federal Railroad Administration personnel in 1975 increased more than 50 percent over those in 1974. In the case of the highway transportation of hazardous materials, the Federal Highway Administration's Bureau of Motor Carrier Safety in 1975 more than doubled the volume of their 1974 inspections.

On the waterfront and onboard vessels, the Coast Guard inspection activities continued at their previously established high level.

More importantly, the overall increase of inspection activity in 1975 was accompanied by marked improvement in compliance with the hazardous materials regulations.

The various indicators by which compliance can be measured—violations detected and enforcement actions taken—showed a general downward trend in 1975. Particularly significant were the figures for aviation where detected violations were down 21 percent.

This overall reduction in violations during a year when there was an increase in the amount of hazardous materials being transported and a 20-percent increase in inspections is, in our view, attributable in large measure to the educational efforts of the last few years.

Training and educational activities of the MTB and the Department's modal administrations have been directed at adding to the knowledge and improving the skills of our own inspectors.

In addition, the Department has devoted considerable effort to better informing the regulated industries—particularly shippers of hazardous materials and their employees who are the day-to-day packagers and handlers of the shipments of hazardous materials.

Of equal significance have been the self-education activities of the regulated industries. Trade associations, shipper groups and carrier organizations have conducted public seminars and training sessions on various aspects of the transportation of hazardous materials. As evidenced by the requests, we have received for assistance and guidance in conducting these sessions, they have been held with increasing frequency and at a range of locations.

With passage of the act, the Department faced the task of dealing with the ongoing and increasing stream of hazardous materials in commerce as well as implementing the new authority given to the Secretary under the act.

Even before the Materials Transportation Bureau was organized, the FAA moved to implement section 108 of the act, in a notice of proposed rulemaking that was published in early February 1975.

Section 108 required the Secretary to issue regulations within 120 days of enactment prohibiting the transportation of radioactive materials aboard passenger aircraft unless those materials are intended for use in, or incident to, research, or medical diagnosis or treatment, and unless they do not pose an unreasonable hazard to health or safety.

This regulation was published in final form in April and became effective on the 3d day of May, 1975, 120 days after the act became law.

After the MTB was established, one of the first matters that it considered was the existing rulemaking under docket HM-112. This rulemaking, which we expect to issue in final form within the next 30 days, is essentially a consolidation of existing regulations that, like the Secretary's hazardous materials authority, were scattered through the regulatory provisions of the various modes.

Provisions regarding air shipments appears in title 46, while rail and highway appear in title 49. Until this consolidation is completed, shippers will continue to face a scattered, unnecessarily confusing regulatory situation.

Consolidation, in addition to encouraging shipper compliance with the regulations, will aid the Department's surveillance and enforcement efforts. HM-112 will also result in clearer identification of hazardous materials to further lessen the chance of improper introduction of those materials into commerce.

The rulemaking, moreover, provides for uniform placarding and labeling requirements to eliminate another source of difficulties with intermodal shipments. Finally, HM-112 includes general editorial amendments improving clarity, removing references and requirements no longer necessary, and reflecting updated information.

The value of a uniform, consolidated set of hazardous materials regulations was recognized at the time the Department itself was organized, but it was not until 1971 that the Department was able to

undertake a sustained effort to achieve that goal, given the extensive material involved (as a matter of interest, the final rule will be about 700 typewritten pages).

In January 1974, a notice of proposed rulemaking opened docket HM-112, and the consolidation effort was still underway when the MTB came into existence last July.

Given the effects of this rulemaking and the very substantial resources already devoted to it, we felt that completion of the rulemaking was imperative and gave it priority treatment.

Another matter which the MTB had to face immediately involved the exemption procedures of the act. The Department had interpreted the act's exemption procedures, which require Federal Register publication of all nonemergency applications for exemptions, to be ineffective until implementing regulations had been published as part of our overall implementation of the act.

As you know, implementing regulations are required by the act to be published "as soon as practicable," but in any event, within 2 years.

Several years before, a consumer group had commenced litigation over the exemption procedures employed by the FAA. Shortly before the MTB became operational, this litigation resulted in a Federal district court decision that the exemption procedures of the Hazardous Materials Transportation Act became effective at the same time the act itself became law.

In addition to jeopardizing FAA approvals of regulatory deviations granted since January 3, 1975, the effect of this decision was applicable to all the modes. As a result, the Department moved to immediately develop and promulgate implementing regulations for the act's exemption procedures.

The various authorities to grant administrative relief from the hazardous materials regulations exercised by the four modal administrations under the laws predating the Hazardous Materials Transportation Act were consolidated and transferred to the MTB on July 7, 1975, together with the exemption responsibility under section 107 of the new act.

An immediate rulemaking (HM-127) was initiated to establish a single set of procedures which would fully implement section 107 and replace the various means by which the FAA, USCG, BMCS, and FRA separately and collectively have previously issued special permits, exemptions, authorizations to deviate, and waivers.

In less than 3 months the new procedures were finalized, issued, and placed in effect. In addition to providing for public notice and comment opportunities in all but emergency cases, the new procedures provide for Federal Register publication of the action taken by the MTB on all applications including those involving emergencies.

They also specify the criteria used by the MTB in deciding whether to grant emergency exemptions, criteria, and procedures for the suspension or revocation of exemptions, and procedures for seeking protection of trade secrets from disclosure.

The district court's order implementing its decision was ultimately vacated as a consequence of appellate court action, largely because we succeeded in establishing exemption procedures under the act.

Implementation of this consolidated and centralized system, however, has not been without operational difficulties. A major problem

at the outset was how to handle the special situation in Alaska where the lack of other means of transportation was creating a need for over 100 grants of administrative relief per month for air shipments of hazardous materials.

Nearly all of these situations were being handled by local FAA district offices in Alaska. In nearly every case, there was a compelling reason for quickly granting the relief.

However, few would qualify as "emergencies" within the section 107 concept of that term. Analysis of several hundred of the "waivers" that had been granted during the first 6 months of 1975 showed that with few exceptions, they were for the same four or five basic purposes such as air transportation of explosives for blasting, gasoline and other flammable liquids for vehicles and heating, and propane for construction work.

Based on the experience gained under those "waivers," the MTB and the FAA proceeded to develop specific rules applicable to each group whereby the hazardous material could be safely transported.

The regulations were then quickly amended to authorize the identified groups of hazardous materials to be transported by air, subject to the rules, in Alaska and to other remote areas not having other means of transportation. (HM-128.)

In addition to providing a sizable reduction in the reliance on the exemption process, this use of experience gained under the exemption process as the basis for permanent regulations of general application demonstrates a valid technique which we anticipate putting to more frequent use in the future.

Having put the exemption procedures behind us, and with gradual completion of the effort that has been directed to consolidating the hazardous materials regulations, we published on March 3, a notice of proposed rulemaking (HM-134) which addresses the subject of reissuance of the existing regulations under the new authority of the Hazardous Materials Transportation Act.

The effect of reissuance will be to place the Department's hazardous materials regulations, which at present are based on various laws that predate the act, under the authority of the act itself. Reissuance will have several important effects on our efforts to implement the act, which I would like to outline for you.

One very significant effect of reissuance will be to bring into play the new enforcement provisions of the act: civil penalty authority, increased criminal sanctions, preemption of conflicting State law, and the assistance of Federal district courts in halting violations and in dealing with situations involving the threat of imminent hazards where ordinary proceedings would be too time-consuming to be effective.

Violations of hazardous materials regulations for all modes have in the past been punishable by criminal penalties, therefore, the increased criminal penalties provided in the act fit readily into the existing enforcement framework.

To some extent, imposition of the civil penalties authorized by the act will require new procedures for full implementation.

Although the USCG and the FAA have authority to impose civil penalties that predates the act, their existing civil penalty procedures may require some adjustment to meet the procedural requirements of

the act. Although the FRA and the Bureau of Motor Carrier Safety have been exercising civil penalty authority for other safety violations, in the past they have lacked the authority to impose civil penalties for hazardous materials violations.

Consequently, additional procedures will have to be added to the existing ones for those two modes.

Another significant effect of reissuance will be extension of the geographic coverage of the Department's existing hazardous materials regulations to Puerto Rico, the Virgin Islands, American Samoa, and Guam, in addition to all of the States to which they now apply.

Finally, reissuance will make the specifications for hazardous materials containers enforceable against the manufacturers of those containers.

At present, as you know, the Department is able to enforce container specifications against shippers and carriers only. Following reissuance, we will be able to take the impact of enforcement authority directly to the sources of containers used to ship hazardous materials.

In an evaluation of shipper and container manufacturer compliance with the hazardous materials regulations that was completed February 10, 1976, we found indications that container manufacturers have not been very well informed, in some cases, on the specifications applicable to the containers that they manufacture which are used to ship hazardous materials.

In one instance, we found a manufacturer of fiberboard cartons, which were used to ship hazardous materials, who had constructed those cartons to specifications provided by a customer without reference to the regulatory specifications which were applicable because of the end use for which the cartons were intended.

Quite probably out of an awareness that the Department is moving to exercise direct regulatory authority over the manufacture of packaging and containers under the new act, a group of hazardous materials packaging manufacturers recently joined the growing list of organizations conducting seminars and training sessions.

Independent of reissuance, the MTB continues to review the field of hazardous materials transportation for improvements in our methods of operation and in the overall safety level that has been achieved.

We have been examining the use of performance standards for certain classes of hazardous materials for possible replacement of some of the existing design standards now applicable to containers and packages.

Performance standards are standards that are keyed to the actual performance of the package in question, rather than the details of exactly how it is constructed. One advantage to the use of performance standards is that packaging innovations and changes in packaging technology can proceed without the necessity of recurrent changes in the applicable regulations or the interim use of exemption procedures.

Another very important area of continuing evaluation is the hazardous materials incident reporting system.

Carriers are required to provide reports on incidents occurring in transportation that involve release of hazardous materials. Immediate notification is required of incidents resulting in death, injury, \$50,000 in property damage, or spillage of radioactive or etiological materials.

For several years now, these incident reports have been fed into a

computer system to provide a data bank from which a statistical overview of such incidents can be compiled.

Computer retrieval allows a wide-ranging examination of particular aspects of hazardous materials incidents for repeated patterns, which is useful in spotting developing problem areas at an early stage, flagging possible changes in our regulations, as well as noting possible violations and unsafe practices by shipper or carrier.

In 1975, approximately 11,000 such reports were filed. The materials most frequently named in these reports were paint and its related compounds, gasoline and batteries and battery fluid.

There are areas of the act for which we are developing implementation programs. One such area is the authority provided in section 106 (b) of the act under which the Secretary may require shippers and carriers of hazardous materials, as well as hazardous materials container manufacturers, to register with the Department.

At the present time, we do not think that an across-the-board requirement that all such persons register with the Department would be prudent.

Since the registration provision is directed at the problem of identifying such persons, we believe that registration should be considered on a case-by-case basis.

For example, a requirement that all rail carriers handling hazardous materials register with the Department does not appear necessary, since virtually every rail carrier handles some hazardous materials and rail carriers are relatively easy to identify.

On the other hand, it may be appropriate to require carriers and shippers of, or container manufacturers for, a particular hazardous commodity to register where their identities are unclear and the hazard involved is sufficiently great to warrant exact identification.

Another provision of the act, which I would like to mention is section 109(d) (2), which requires the Department to establish and maintain a central reporting system and data center to provide law enforcement and firefighting personnel and other interested persons advice on meeting hazardous materials transportation emergencies.

The Manufacturing Chemists Association, since 1971, has been operating the Chemical Transportation Emergency Center or "Chemtrec." Chemtrec provides response information for chemical transportation emergencies from data on chemicals provided by the chemical producers themselves.

This service is available by phone at any time, night or day. After providing advice on how to deal with a particular chemical transportation emergency, the system also immediately notifies the shipper by phone, as well as other entities that may have resources that could be brought to bear on the problem—the Nuclear Regulatory Commission, for example.

The second information system is known as the Chemical Hazard Response Information System, or "Chris," which is partially operational at present.

It is being developed under contract by the Coast Guard and is directed primarily at emergencies involving the bulk water transport of hazardous chemicals.

The Chris system will also provide, in addition to emergency information, certain basic nonemergency information to improve the

level of safety in bulk shipment by water of hazardous chemicals. Chris will include a hazard assessment computer system and a series of reference manuals dealing with emergency responses as well as general and specific considerations regarding water carriage of hazardous chemicals.

The MTB, in addition to maintaining liaison with Chemtrec, also answers inquiries regarding the proper classification of hazardous materials, as well as distributing a substantial number of publications to insure wide familiarity with requirements applicable to the packaging and shipment of hazardous materials.

Finally, in response to section 108(d)(1) of the act, during fiscal year 1977, we expect to attempt to select a qualified laboratory to perform classification testing of hazardous materials.

We have in the past relied on the Bureau of Explosives for such testing but intend, according to the mandate of the act, to develop that capability ourselves.

I now have a few remarks on the subject of S. 2042 and S. 2991, administration proposed hazardous materials authorization bills which were introduced in the Senate on June 26, 1975, and February 18 of this year, respectively.

The administration's budget for fiscal year 1976, submitted to the Congress shortly after the Hazardous Materials Transportation Act was signed into law, included staffing and resource increases for meeting the Department's new responsibilities under the act.

Additional positions for this purpose were funded as part of the DOT Appropriation Act for fiscal year 1976 (Public Law 94-134), which became law on November 22, 1975.

Recruiting and selecting persons having the requisite qualifications have been tailored to the MTB's newly assigned responsibilities under the Hazardous Materials Transportation Act, particularly those concerning regulatory authority over manufacturers of packages and containers for shipping hazardous materials and the revised exemptions program.

We have already been fortunate in attracting several persons with outstanding qualifications and expect to complete the expansion of the Bureau's hazardous materials staff within a few weeks.

S. 2991 would amend section 115 of the act to authorize appropriations of \$7 million for each of fiscal years 1977 and 1978.

In the past, the Department has proposed that authorizations for this program be provided on a basis that would allow appropriations to be made in such amounts as required to carry out our responsibilities under the act. S. 2042 is such a proposal. However, in view of the desire of congressional committees that specific annual amounts be authorized, the administration bill S. 2991 proposes that authorizations for hazardous materials activities be extended for 2 years at the level of \$7 million, which is the amount Congress authorized for fiscal year 1976.

While the proposed levels in S. 2991 exceed the amount recommended in the President's budget for fiscal year 1977, we believe those levels are appropriate and will provide sufficient latitude to meet foreseeable program needs.

Both bills propose two clarifying amendments to the Hazardous Materials Transportation Act. An amendment to section 106 is proposed that will strike the word "extremely" from subsection 106(c).

Section 106, as it was passed by the Senate, limited the requirement of registering with the Department of Transportation to shippers and carriers of, and manufacturers of containers for extremely hazardous materials.

The conference committee rejected this limitation and deleted the word "extremely" at several places in section 106 but apparently overlooked subsection 106(c), leaving an internal inconsistency.

A second amendment will adjust subsection 107(a) of the act to make it clear that the Secretary's authority to grant exemptions extends to manufacturers of hazardous materials containers, as well as to shippers and carriers.

This change is consistent with the rest of the act, which makes all three—shippers, carriers, and container manufacturers—subject to the Secretary's safety authority.

This completes my statement, Mr. Chairman. I would be happy to answer any questions the subcommittee may have.

[The attachments follow:]

#### HAZARDOUS MATERIALS INSPECTIONS

Operating administration	1974	1975	Change	Percent change
USCG:				
Port facilities <sup>1</sup> .....	10,247	9,980	-267	-3
Vessels <sup>1</sup> .....	32,857	33,586	+729	+2
FAA.....	9,053	13,724	+4,671	+52
FHWA (BMCS).....	2,886	6,243	+3,357	+116
FRA.....	2,514	3,832	+1,318	+52
Total.....	57,557	67,370	+9,813	+17

<sup>1</sup> Performed as multimission port safety, law enforcement and pollution prevention inspections.

#### HAZARDOUS MATERIALS REGULATIONS VIOLATIONS AND ENFORCEMENT ACTIONS

Operating administration—Activity/action	1974	1975	Change	Percent change
USCG:				
Port facilities:				
Total violations detected.....	2,871	1,932	-939	-33
Corrected on spot.....	1,605	668	-937	-58
Advisory warnings issued.....	1,266	1,264	-2	0
Vessels:				
Civil penalties initiated.....	1,155	866	-289	-25
Civil penalties collected.....	1,080	900	-180	-17
Total collected.....	\$139,990	\$84,500	-\$55,490	-40
Average penalty.....	\$130	\$94	-\$36	-28
FAA:				
Total enforcement actions.....	244	192	-52	-21
Administrative actions.....	106	88	-18	-17
Civil penalties.....	138	104	-34	-25
Total assessed.....	\$178,150	\$202,900	+\$24,750	+14
Average penalty assessed.....	1,291	1,951	+660	+51
Total collected.....	\$104,400	\$78,150	-\$26,250	-25
FHWA (BMCS):				
Total enforcement actions.....	269	205	-64	-24
Criminal case initiated.....	79	159	+80	+101
Criminal cases closed.....	103	64	-39	-38
Fines adjudged.....	\$67,200	\$24,865	-\$42,335	-63
Average fine.....	\$652	\$389	-\$263	-40
FRA:				
Administrative corrective action cases.....	1,200	2,100	+900	+75
Criminal counts initiated.....	19	36	+17	+89
Criminal counts closed.....	32	17	-15	-47
Fines adjudged.....	\$15,850	\$7,100	-\$8,750	-55
Average fine/count.....	\$495	\$418	-\$77	-16
Civil claims <sup>1</sup> .....	0	7	-----	-----
Total collected.....	0	\$11,000	-----	-----
Average penalty/claim.....	-----	\$1,570	-----	-----

<sup>1</sup> Under Federal Railroad Safety Act of 1970 for violations of FRA Emergency Order No. 5 prohibiting the free rolling switching of certain tank cars filled with high pressure compressed gas.

## HAZARDOUS MATERIALS INCIDENT REPORTS RECEIVED, BY MODE OF TRANSPORT

	Reporting carriers					Reports submitted				
	1971	1972	1973	1974	1975 <sup>1</sup>	1971	1972	1973	1974	1975
Air carriers.....	3	11	15	32	41	5	32	48	155	200
For hire highway carriers.....	233	323	353	380	450	1,633	3,613	5,092	7,254	9,000
Private highway carriers.....	54	58	73	82	100	258	352	450	361	900
Rail carriers.....	28	35	35	40	49	346	337	412	617	650
Water carriers.....	10	8	7	17	20	13	10	12	26	50
Total.....	328	435	483	551	660	2,255	4,344	6,014	8,413	10,800

<sup>1</sup> Estimated.

Note: Not included in the above 1974 and 1975 tabulation are about 40 reports submitted by freight forwarders stevedoring firms and other miscellaneous interested organizations.

## COMMODITIES MOST FREQUENTLY NAMED IN 1975 HAZARDOUS MATERIALS INCIDENT REPORTS

	Number <sup>1</sup>	Percent of total
Paint and paint related compounds.....	2,378	22.0
Gasoline.....	1,385	12.8
Batteries and electrolyte battery fluid.....	1,332	12.3
Cleaning compounds.....	857	7.9
Sulfuric acid.....	338	3.1
Flammable liquids, n.o.s.....	307	2.8
Cement, liquid, n.o.s.....	299	2.7
Hydrochloric acid.....	286	2.6
Corrosive liquids, n.o.s.....	266	2.4
Insecticides, liquid.....	194	1.8
Alcohol, n.o.s.....	130	1.2
Liquefied petroleum gas.....	111	1.0
Acid, liquid, n.o.s.....	103	1.0
Ink.....	102	1.0

<sup>1</sup> Estimated.

## HAZARDOUS MATERIALS INCIDENTS (ACCIDENTS) INVOLVING DEATH OR INJURY

	Deaths	Injuries <sup>1</sup>	Number of reports
<b>1974:</b>			
Air.....	4	5	3
Water.....	0	21	2
Rail.....	10	593	68
Highway.....	18	276	170
Freight forwarder.....	0	4	1
Other.....	0	1	1
Total.....	32	900	245
<b>1975:</b>			
Air.....	0	4	4
Water.....	0	2	2
Rail.....	0	95	74
Highway.....	27	489	193
Freight forwarder.....	0	15	2
Other.....	0	<sup>2</sup> 51	1
Total.....	27	656	276

<sup>1</sup> Includes injuries to individuals who were admitted to hospital on outpatient basis, treated, and released.

<sup>2</sup> Incident involved tank car of chlorine which was unloading at consignee's plant. Report submitted by consignee FRA notified OHMO that incident was not considered to be in transportation.

Senator HARTKE. Thank you.

The questions and answers submitted prior to the hearing will be made a part of the record.<sup>1</sup>

Mr. CURTIS. Thank you, sir.

<sup>1</sup> See p. 62.

Senator HARTKE. As part of the prehearing request, you submitted to the committee some information on the budget of the Office of Hazardous Materials Operations for the fiscal transition period and fiscal year 1977 to begin on July 1, 1976. At that time you were asked to trace your budget through each stage of review in the Department and through the OMB and to discuss the impact of your program changes in each stage of the process.

According to the data you have submitted, you had requested a total of 144 employees for the Office of Hazardous Materials Operations. But the President's budget submitted to the Congress allows for only 67 employees. Is that right?

Mr. CURTIS. That is correct.

Senator HARTKE. Also you had requested a total of \$2.6 million for planning, research, and development for the Office of Hazardous Materials Operation. The budget allows only \$400,000.

Is that correct?

Mr. CURTIS. That is right.

Senator HARTKE. When we asked you to trace the impact of these decreases on your program you stated, "We are unable to completely quantify the impact of resource changes in the various budget reviews."

Why can't you quantify the impact? At each level of the budget process, were specific programs or program activities cut or were you merely told that your resource commitment would be lower and that you could delete whatever programs you wished?

Mr. CURTIS. I was dealing in total numbers.

Senator HARTKE. In other words, this was made without reference to the ultimate value of the commitment itself, that is, this was just a hatchet job, right?

Mr. CURTIS. I just did the total numbers against the programs that I had presented on the basis of trying to make the most positive contribution that I could, sir, in the most critical program areas.

Senator HARTKE. In other words, what you are telling me is that as far as you were concerned there was no evaluation made other than by yourself in the ultimate within the framework of the numbers and the dollars that you were told you could have?

Mr. CURTIS. That is correct, sir.

In other words, there was no ongoing review process with my office, sir.

Senator HARTKE. Now, in identifying the impact on the program that cuts in the transportation planning, research, and development area would, have you stated "secretarial allowance for research and development provided work in all major areas for which funds were requested. Major funding increases were included in both of these areas."

Can you tell me if that has any meaning and if so, what it means?

Mr. CURTIS. I believe that you are referring to my remarks regarding what was left in the budget after the review was made by the Secretary. And there was a substantial amount of the research and development funds still available above the past fiscal year.

And on review it appeared that we would at least be able to start work in the number of areas that we had indicated.

We would not be able to bring that work to fruition in the year 1977 as we had initially planned but we would be able to start some effort in each of the areas that we had initially gone in at budget time.

Senator HARTKE. Research and development—it appears to be a contradiction I have to admit, if it means anything at all.

Maybe it doesn't mean anything.

Mr. CURTIS. Possibly we were not quite clear in explaining to you what we intended.

Senator HARTKE. Here is what your statement is. I have to admit I don't understand it. It is meaningless to me. And I am asking you if you can help me get some meaning out of it.

“The secretarial allowance,” in other words, the amount that was allowed by the Secretary in his final determination for research and development, “provided for work in all major areas for which funds were requested. Major funding increases were included in both of these areas.”

Mr. CURTIS. In other words, we had asked for an increase. Let's start at the beginning, if I might, sir.

We had submitted a budget which, after review at the secretarial level had left enough moneys to begin work on all the programs.

Now, the 1976 fiscal year request represented an increase of funds over the previous fiscal year, 1976, sir. That is the intention of it.

Senator HARTKE. Well, can you define for me the specific areas in which you sought funding increases?

Mr. CURTIS. I do not have all the specific numbers with me. But I will give you a couple of the major areas.

Senator HARTKE. Well, can you submit for the record the total and the analysis of that?

Mr. CURTIS. Yes, sir. The comple of major areas were field forces and moneys to take back the delegation from the Bureau of Explosives, Laboratory Operations, those were the two major funding areas.

[The following information was subsequently received for the record:]

SENATE COMMERCE COMMITTEE,  
January 20, 1976.

Mr. JIM CURTIS,  
*Director, Materials Transportation Bureau, Department of Transportation,  
Washington, D.C.*

DEAR MR. CURTIS: During the next 2 months, the Senate Commerce Committee will be evaluating the budgetary needs of the Materials Transportation Bureau and specifically, the Office of Hazardous Materials Operations and the Office of Pipeline Safety Operations. This evaluation is in preparation of amendments to the Hazardous Materials Transportation Act and the Natural Gas Pipeline Safety Act to provide additional authorization of appropriations.

To facilitate our consideration of this matter, please provide the Committee with the following information with respect to each office within the next 2 weeks:

(1) The budget request, broken down by program activity, that the Office of Hazardous Materials Operations and the Office of Pipeline Safety Operations submitted to the Office of the Secretary (through the Materials Transportation Bureau).

(2) The budget request, broken down by program activity, that the Office of the Secretary submitted to the Office of Management and Budget. This information should include an explanation of the impact on the programs of any deviations from the initial budget request.

(3) The budget request, broken down by program activity, that was included in the President's budget. This information should include an explanation of the impact on the programs of any deviations from the Secretary's request.

I look forward to receiving this information.

Sincerely yours,

WARREN G. MAGNUSON,  
*Chairman.*

DEPARTMENT OF TRANSPORTATION,  
MATERIALS TRANSPORTATION BUREAU,  
Washington, D.C., February 13, 1976.

Hon. WARREN G. MAGNUSON,  
Chairman, Committee on Commerce, U.S. Senate, Washington, D.C.

DEAR MR. CHAIRMAN: This responds to your request of January 20, 1976. You asked that we provide you with the FY 1977 budget proposal of the Materials Transportation Bureau (MTB) broken down by program activity, as it appeared in the request to the Office of the Secretary (OST), then to the Office of Management and Budget, and finally in the President's transmittal to Congress. You also asked for explanation of the program impact of "any deviations" from MTB's initial request to OST, and the Department's request to that ultimately included in the President's budget.

In the enclosed table, you will note that we have traced the MTB budget through the various stages of review. Although we are unable to completely quantify the impact of resource changes in the various budget reviews, I can provide you with some indication of how the changes might affect our programs overall.

For the most part, the difference between the Secretary's request and that submitted by MTB for the Salaries and Expenses Appropriation is that of the number of field offices proposed for establishment in 1977 relating mainly to section 109(c) of the Hazardous Materials Transportation Act. The initial proposal was for nine field offices, five in the early part of FY 1977 and four later in the fiscal year. Further review at the Secretarial level indicated that the proposed establishment of a second set of four field offices later in the fiscal year should be deferred in 1977 while MTB gained experience in the field force activity. A collary adjustment was made in the Headquarters staffing request comparable with the field office decision. There were no changes in the request for grants for the natural gas pipeline safety program. The Secretarial allowance for research and development provided for work in all major areas for which funds were requested. Major funding increases were included in both of these areas.

The President's 1977 budget proposed a continuation of the programs provided for by the Congress in fiscal year 1976 appropriations with a decrease in research funds, but an increase in grants-in-aid for pipeline safety and a staff increase which is intended primarily for hazardous materials operations. It will continue in-place the current responsibilities of the Department's operating administrations and increase Federal support to States for carrying out pipeline safety programs.

My preliminary review of MTB's statutory responsibilities and the resources available to carry them out suggests that careful attention must be given to concentrating our efforts on areas where the potential payoff in safety gains is the greatest. This may require some adjustments in the way personnel and funds are presently allocated within the organization. In any event, I can assure you that with the resources in the President's budget, we will carry out a regulatory program that will enhance public safety in the transportation of hazardous materials by surface, air, and pipeline modes.

Sincerely,

JAMES T. CURTIS, Jr.

Enclosure.

MATERIALS TRANSPORTATION BUREAU—COMPARISON OF FISCAL YEAR 1977 BUDGET REQUESTS—SUMMARY  
TABLE

[Dollars in thousands]

	MTB request to DOT	DOT request to OMB	President's budget
1. Salaries and expenses:			
Staffing:			
Office of the Director, MTB.....	5	5	4
Office of hazardous materials operations.....	144	112	67
Office of pipeline safety operations.....	58	50	40
Total staffing.....	207	167	111
Funding.....	\$4,853	\$4,228	\$4,987
2. Transportation planning, research, and development:			
Office of hazardous materials operations.....	\$2,600	\$900	\$400
Office of pipeline safety operations.....	2,750	900	400
Total.....	5,350	1,800	800
3. Grant-in-aid funds for pipeline safety: Office of pipeline safety operations.....	2,500	2,500	2,500
Total funding.....	12,703	8,528	6,287

Senator HARTKE. All right.

You evidently thought there were some programs, specific areas, and also other things, which needed to be done but now will not be done.

Mr. CURTIS. They will not be brought to completion in the fiscal year that we had thought they would be when I first submitted the budget, sir.

In other words, I will not be able to do all the work in 1977 that I had intended to do when I first submitted the budget.

Senator HARTKE. The net result will pose for the public additional risk and hazards which otherwise could have been avoided?

Mr. CURTIS. I don't think that we get through with what we are trying to accomplish. I think the administration in review and with limited funds may—

Senator HARTKE. You are telling me they are right and you are wrong?

Mr. CURTIS. No, sir.

Senator HARTKE. Why would you ask to do something which does not need to be done?

Mr. CURTIS. Well, in my opinion at the time that I submitted the budget I thought they needed to be accomplished.

Senator HARTKE. Have they brainwashed you since then?

Mr. CURTIS. I could use some additional funds to accomplish some of the things.

Senator HARTKE. I don't think this is funny. You can smile about it but I don't think this is funny at all. I think this Ford black magic has to be exposed to the public and it better be exposed for what it is. It is not just a game we are playing here. We are fooling around with some of the most vital functions of America's life. You are talking about killing and injuring people and exposing people to things which they don't have to be exposed to simply because they have fallen down and worshipped the almighty dollar in an election year. I am not going to excuse you for that.

When those people get killed I don't think you can excuse yourself; you are going to have to sleep with it yourself.

Mr. CURTIS. It is my responsibility and I will have to live with the situation. I am not trying to shirk it.

Senator HARTKE. It is appropriate during this Bicentennial year to keep in mind what Washington kept saying: "The conscience of the Nation depends upon the conscience of the individuals who administer the Government."

If you are not willing to stand up and fight for this, who is going to fight for it? You are in a position to know what is going on. You had some reason to ask for additional people and you had to have documented what needs to be done.

Let me reiterate the question: Is there or is there not additional risk for the public which will be exposed as a result of failure to do some of the things which you had proposed if the budget numbers and budget amount which you requested had been granted?

Mr. CURTIS. Senator, we believe that we would make some positive contributions to safety and obviously if we had more funds we could do a greater range of things.

Now, in doing that greater range of activities we probably—not probably, we would cover a greater range of potential things that could happen.

So, therefore, as to the statistical evidence as to when or how they might happen, there exists that possibility that we will not cover all the things that we should, sir.

Senator HARTKE. Can you give me an explanation as to why the Department itself and the OMB assign such a low priority to this particular operation of Government, allowing only one-sixth of what the Agency itself thought was necessary in the public interest?

Mr. CURTIS. I cannot give you the rationale of OMB. But I can assure you that the Secretary himself does not assign a low priority to it. We have discussed additional funding and—this is not a low priority on his budget, sir.

Senator HARTKE. Why didn't he make some public statement about it then? This is not something unique. You have another agency which suffered the same fate: the Office of Pipeline Safety. Isn't that right?

Mr. CURTIS. That is correct.

Senator HARTKE. The same lack of concern for home and life and the worship of the almighty dollar.

Isn't that right?

Mr. CURTIS. I would not characterize it that way.

Senator HARTKE. How would you characterize it?

Mr. CURTIS. I would not want to think that anyone in this administration—

Senator HARTKE. I am one who is willing to say it and I think it ought to be said and I also think you ought to say it if it is what you believe. Those nuclear engineers quit GE on account of the potential for nuclear disaster; they gave up a whole lifetime of employment. That takes a lot of courage.

Mr. CURTIS. I would like to think, sir, that that is not the case and if I did not think that the Secretary and this administration were interested in these functions I would not myself have come to Government to attempt to draw together these responsibilities for the Secretary.

Senator HARTKE. I cannot think of a single field in which the health and safety of the people of the United States has not suffered a substantial budgetary decrease from the request of the agency to the amount granted by OMB.

It is true across the board—in the DOT, railway safety has been cut back again.

In the Health Department, the research on cancer, the research on heart disease, the research on circulatory diseases all have been cut back. In the VA \$194 million less for the hospitals in the United States for veterans than there was last year with the increase in demand.

This whole administration has said to the people of the United States, you are not worthy of the Government's consideration of your safety and your health. I think somebody ought to stand up in one of these departments and have the courage and the guts to say, "Look, the country put you in office to get something done. We passed the law and we are catching the devil because you don't administer the law properly."

Mr. CURTIS. As I indicated in my statement, sir, I put credence in the \$7 million that the Congress authorized in 1976 and indicated support for that, sir, in 1977 and 1978, sir.

I thought that represented an appropriate funding level to accomplish the range of tasks available.

Senator HARTKE. How long have you been aboard?

Mr. CURTIS. Five months.

Senator HARTKE. In response to the committee's first written question you indicated that the rulemaking procedure is designed to consolidate the hazardous materials regulations which have been pending for 2 years and that they would be promulgated April 1, 1976.

Mr. CURTIS. Yes, sir.

Senator HARTKE. Why did it take so long?

Mr. CURTIS. I have reviewed that and I am not going to second-guess the efforts of those who preceded me.

I don't know what planning went into the situation. It was a very complicated rulemaking process, possibly it could have been segmented into parts and moved on more rapidly but that was strictly, that would be a second-guessing thing on my part.

Senator HARTKE. Is April 1 going to be met?

Mr. CURTIS. Yes, sir. I can assure you it will be met or I will not stay in the Government.

Senator HARTKE. That at least sounds good, better than what I have been hearing.

Can you estimate the number of man-hours which have been expended by the Office of Hazardous Materials Operations each year in this rulemaking procedure?

Mr. CURTIS. Mr. Roberts, do you have any manpower estimate of this?

Mr. ROBERTS. Senator, it is very difficult to give you a figure on that. I would say that the HM-112 action has involved, has been the major regulatory activity in our office for the past 3 years. Just as a brief explanation I should point out that we are involved in more than 1,500 pages of Federal regulations that have never been revised in their entirety or revamped in 60 years. And the net result of this rulemaking action will be the elimination of approximately 700 pages of those regulations by consolidation.

One of the things we have had to face in this rulemaking are the 5 U.S.C. 553 requirements and we have had literally thousands of itemized comments on this action and we had to catalog those comments in order to go through an orderly process to handle the rulemaking action.

We gave serious considerations to all the comment made and it took more time than we originally anticipated. Believe me, we, on the staff and the office, are more desirous of getting this document on the streets than probably anyone anywhere.

Senator HARTKE. Are you going to have enough people to get this job done?

Mr. ROBERTS. Yes, sir. We are in the process of now preparing the Xerox copies of this document that we are talking about for delivery to the respective modal staffs for their review within the next week. And we intend to have that done by April 1.

We cannot warrant what the GPO will do when they receive it, it only took 35 days to get it printed the last time. But we intend to deliver it by the end of March.

Senator HARTKE. In response to the committee's second question, you stated there have been four regulations promulgated under the new law.

Now, I think three of these were required to be promulgated under the statute. Is that correct?

Mr. CURTIS. Yes, sir.

Senator HARTKE. The fourth was a continuation of the 1974 FAA document. Is that correct?

Mr. CURTIS. That is correct.

Senator HARTKE. Were no other regulations needed, or was there any reason why they were not initiated under the new act?

Mr. CURTIS. Yes, sir. There were several things to be done. As we have indicated, a great amount of time has been spent on this consolidation work in HM-112. We have devoted almost the total resources to the HM-112 rulemaking or to the new exemptions program.

It was necessary to get the consolidation out of the way before we could move forward to anything else. As I indicated in my prepared statement, there is one additional action, HM-134 which was in the Federal Register yesterday, which provides for the reissuance of rules under the new act, sir.

Senator HARTKE. In your answer to our question No. 3, you conceded that your failure to reissue all of your existing regulations under the new act prevents you from using the new enforcement authority for highway and rail regulations. But in yesterday's Federal Register, you did issue a notice of proposed rulemaking to reissue the existing regulations under the new act.

Why couldn't this transfer have occurred by simple notice in the Federal Register a year ago?

Mr. CURTIS. It could have, but—

Senator HARTKE. This is not a long proceeding. In fact it is one page. It is rather simple. I will insert in the record at this point a copy of that notice.

[The notice follows:]

DEPARTMENT OF TRANSPORTATION

MATERIALS TRANSPORTATION BUREAU

[14 CFR Part 103]

[46 CFR Parts 64 and 146]

[49 CFR Parts 171-179]

[Docket No. HM-134 ; Notice No. 76-2]

HAZARDOUS MATERIALS REGULATIONS

Notice of Proposed Rule Making

The Materials Transportation Bureau of the Department of Transportation proposes to amend certain of the hazardous materials regulations for which it has responsibility to expressly reflect a reissuance of those regulations under

the authority of the Hazardous Materials Transportation Act (Title I of Pub. L. 93-933). To accomplish that purpose the Bureau proposes to revise the authority citations and, where necessary, the applicability of the hazardous materials regulations in 15 CFR Part 103, 46 CFR Parts 64 and 146, and 49 CFR Parts 171-179.

On January 3, 1975, the Hazardous Materials Transportation Act (HMTA) was signed into law. It was the declared policy of Congress in enacting the HMTA ". . . to improve the regulatory and enforcement authority of the Secretary of Transportation to protect the Nation adequately against the risks to life and property which are inherent in the transportation of hazardous materials in commerce."

Some of the provisions of the HMTA that more clearly reflect the declared policy accomplish the following:

1. Broaden the definition of commerce to include transportation which affects interstate transportation;
2. Provide for a broader application of hazardous materials regulations in certain geographical locations;
3. Provide for Federal pre-emption of inconsistent state and local regulations and law;
4. Extend the Secretary's authority to impose civil penalties to violations committed in the rail and highway modes;
5. Remove statutory restrictions on the Secretary's authority to centralize Department of Transportation regulatory activities relating to the safe transportation of hazardous materials by the various modes; and
6. Extend the Secretary's regulatory authority to cover the manufacturers of packages and containers to be used in the transportation of hazardous materials.

Congress recognized that prior to January 3, 1975, much had already been done with respect to providing for the safe transportation of hazardous materials but was convinced of the necessity to bring those previous actions into conformity with the purposes and provisions of the HMTA. Section 114(b)(2) of the HMTA reads in part, "The Secretary shall take all steps necessary to bring orders, determinations, rules, and regulations into conformity with the purposes and provisions of this title as soon as practicable. . . ."

This proposal to revise the citations of authority and, where necessary, the applicability of certain hazardous materials regulations in Titles 14, 46, and 49 of the Code of Federal Regulations, to expressly reflect a reissuance of those regulations under the authority of the HMTA is one step in meeting that Congressional mandate.

Although the Bureau considers reissuance of the hazardous materials regulations under the authority of the HMTA to be mandatory and therefore leaving the Bureau without discretion in the matter, the Bureau wants the affected public to be aware of the pending reissuance and desires that interested persons submit written views and comments with respect to matters which they regard as being affected by that reissuance.

Comments by interested persons should refer to the docket number and be submitted in duplicate to the Section of Dockets, Office of Hazardous Materials Operations, Department of Transportation, Washington, D.C. 20590. All comments received before the close of business on April 1, 1976, will be considered, and will be available for examination in Room 6213 Trans Point Building, 2100 Second Street, SW., Washington, D.C., both before and after the closing date. Comments received after the closing date and too late for consideration will be treated as suggestions for future rule making.

(49 U.S.C. 1801-1811; 49 CFR 1.53(e)).

Issued in Washington, D.C., on February 27, 1976.

ALAN I. ROBERTS,  
Director, Office of  
Hazardous Materials Operations.

[FR Doc.76-6128 Filed 3-2-76;8:45 am]

Mr. CURTIS. Yes, sir. It is not a complex document. I would concede that.

However, to have issued this earlier and not gone ahead with doing it, that would have been incorrect, and we were in the process of completing the rulemaking with HM-112, and we were in the process of the new exemption procedures. Therefore, we would not have gone

to work on it. We would have done no more than make a simple issuance of it.

Senator HARTKE. What is different? This is something that could have been done a year ago. In other words, your excuse for nonperformance is that this was not done a year ago because it would have been unenforceable.

Now it is applicable under the new act, but you are a year behind on this simple procedure.

Mr. Santman, can you shed some light on this rather dark subject? rather dark subject?

Mr. SANTMAN. Perhaps. By moving the regulations under the new act, the list of things that have been inventoried by Mr. Curtis in his testimony and have been mentioned in the notice of proposed rule-making that you cited that was in yesterday's Federal Register and which was mentioned in answer to question 3, in each of those places there is an inventory of things triggered as soon as the regulations flow from the new act.

One of them involves the preemption provisions of section 112. As you may recall, those preemption provisions say that State and local requirements that are inconsistent with the regulations issued under this new act are preempted. However, States and localities may apply to the Secretary and make their case for the local regulation being equal to or greater than the Federal regulation as to the level of safety it provides and make a showing that it does not provide an undue burden on commerce. Based on inquiries that we have received from States and localities and our own examination of State and local regulation, we anticipate that as soon as this shift is made we will necessarily be fielding many of these kinds of requests coming from States and localities. One thing we had to do was anticipate how we were going to handle those and be prepared to handle them.

Second, with respect to the civil penalty provisions, there were questions that we needed to deal with there, as to what is meant by "opportunity for a hearing." To what extent is a formal hearing necessary to address the civil penalty proceedings that are going to occur?

A third area where the shifting of the new regulations involves new activity or expanded activity and raises questions that need to be addressed is in the geographic extension of jurisdiction. By moving the regulations under the new act, for example, Puerto Rico is covered.

Those are areas—those are examples of areas where things needed to be examined and we needed to prepare internally for new activities that would flow from the reissuance of these regulations under the new act.

Senator HARTKE. In the first place, the DOT asked for this legislation, so you certainly were not taken by surprise. We held long hearings on it. You should have at least been prepared to implement the act. It is not something that just dropped out of the sky. The end result is that, in a whole year, the act's procedures and benefits have been lost.

Mr. SANTMAN. Senator, the Department asked for an act that was much simpler than this. We asked for amendments to the existing hazardous materials laws to do three things. To just put plain civil penalties in, not ones requiring formal hearings.

We asked for a second thing, to eliminate the required delegations of all authority through the operating administrations. We asked for the authority to perform the consolidation.

The third thing we asked for was the authority to reach directly the manufacturers.

Senator HARTKE. Let's take that third one.

In your opening statement, you said the failure to reissue the regulations under the act means that you have been unable to enforce the regulations against the manufacturer of containers. That is just what you said the Department asked for, but that was a year ago.

Why did it take so long to implement, if that is the reason you asked for the legislation?

Mr. SANTMAN. Immediately after the act was signed into law, the budget request came forward to the Congress, and it included requests for increased positions. Those positions were received by the Department when the appropriations act was signed into law in late November of last year.

Each of these new positions was needed for the three functions that we asked for, plus the others that were provided to us gratuitously in the Hazardous Materials Transportation Act. They all involve need for additional people and resources to carry them out.

Immediately after the Transportation Act was passed in January of last year, the budget request came to the Hill, asking for the additional resources. And what we got we got in November of last year.

Senator HARTKE. Is this budget cutback of people and money going to have the same disastrous effects, as far as implementation is concerned? Is that going to be the excuse we are going to hear from you people?

Mr. SANTMAN. I don't believe there is a cutback from the present level.

Senator HARTKE. You asked for 106 employees and funds have only been allocated for 66.

Mr. SANTMAN. My reference was to budget requests that were made in January of 1975. The administration's budget that came to the Hill that month asked for a number of additional persons in addition to those then in the hazardous material operation. Some of those were included in the appropriations act of the Department of Transportation and enacted into law in November of last year.

Since November of last year and at the present time, as Mr. Curtis testified, he has been filling those positions and staffing up to the level, the increased level that came out of the budget for the current fiscal year. These people that have been added are focused on just these areas we are talking about implementing now with this notice of proposed rulemaking issued yesterday.

Senator HARTKE. Let me ask you this: In response to question number 4, you estimated that less than 1 percent of all shipments of hazardous materials are monitored by the DOT inspection force.

In our hearings last year, Mr. Burns testified that 2 percent of the hazardous materials are being monitored. In other words, you are monitoring now half the number you did at that time. At the same time, the Director of the Office of Hazardous Materials indicated that a 10-percent inspection effort would be required to insure a high level of compliance.

You went from 2 percent to 1 percent, and the Director said you had to have at least 10 percent to assure compliance. Would you not agree that your compliance inspection efforts are woefully inadequate now?

Mr. CURTIS. If you start with the basic assumption that there was validity in the 2-percent factor and that there was validity in going to the 10-percent factor. Right now, I have not in my own mind established what is the proper number that we should be.

Senator HARTKE. Is 1 percent sufficient?

Mr. CURTIS. I would like to see a larger number than that.

Senator HARTKE. Now that is a bureaucratic answer. Is 1 percent sufficient?

Mr. CURTIS. If you compare the inspection that we are doing and you compare the record of safety in moving hazardous materials, there is a pretty good track record with the 1 percent. We would like to improve that track record.

I have some numbers regarding inspections. They went up last year, if I might cite those for you, and we can enter them in the record, if you would like, sir.

The USCG inspections, as I indicated in my numbers, had increased 2 percent. The FAA increased 52 percent. They went from 9,000 inspections to 13,000. Federal Highway to Bureau of Motor Carrier Safety in 1974 accomplished 2,800 inspections; in 1975, they accomplished 6,200 plus, with an increase of 3,300 or 116 percent.

The FRA, comparing numbers in 1974, went from 2,500 to 3,800 in 1975, an additional 1,300 inspections, or 52 percent. If you take the DOT overall, we went from 57,000-plus inspections in 1974 to 67,000-plus in 1975, an additional 9,800 inspections or a 17-percent increase.

Senator HARTKE. In enforcement in those same fields you had a decrease of 25 percent in the marine mode, an air mode decrease of 21 percent, and in the highway mode, a decrease of 24 percent. These are according to your own tables.

Mr. CURTIS. In violations. That's correct.

Senator HARTKE. In transportation on the highway you had a 24-percent decrease in enforcement activities, a 50-percent increase in deaths, and a 75-percent increase in injuries. I see your problem. But I don't see it being alleviated. I think you will be back here a year from now and we won't see any improvement. Should we abolish the program?

Mr. CURTIS. Not in my opinion.

Senator HARTKE. Would it be best just to quit and not make any pretense, that is to just stop the black magic and abolish the program?

Mr. CURTIS. If you're asking my opinion, if we should do it incorrectly versus not doing it at all, I would rather see it not done at all.

Senator HARTKE. In your statement this morning your hazardous materials inspection tables say there was 17-percent increase in the total number of inspections made. Is that right?

Mr. CURTIS. That's correct.

Senator HARTKE. How could this increase have occurred if your monitoring percentage has fallen 50 percent?

Mr. CURTIS. I did not know what the basis for the 2-percent statement was last year, sir.

Senator HARTKE. What about the 1-percent monitoring?

Mr. CURTIS. One percent, I think that's a correct estimate.

Senator HARTKE. You don't think the previous 2-percent figure was correct?

Mr. CURTIS. I didn't say that. I just don't have the data.

Senator HARTKE. All right. In your prehearing responses you indicated that the new compliance branch at MTB has completed preliminary analysis of shipper and container manufacturer compliance with the hazardous material regulations. What has been the general finding of that analysis?

Mr. CURTIS. The general finding is that, as I indicated in the case of container manufacturers, that there are a number of them that are not as aware of their responsibilities under the law as they should be, sir.

Senator HARTKE. You indicated in your response that additional inspection resources may be necessary. Did you request such additional resources in your fiscal 1977 budget?

Mr. CURTIS. Yes, sir.

Senator HARTKE. Were they cut?

Mr. CURTIS. Yes, sir.

Senator HARTKE. How much?

Mr. CURTIS. All the field forces I asked for were eliminated.

Senator HARTKE. So we can't expect any improvement in that field?

Mr. CURTIS. That was the reason I indicated we have the compliance branch at the headquarters level. We will try to continue our surveillance through that branch. We have hired a compliance chief and there are three people assigned to that.

Senator HARTKE. Was the consolidation an attempt to simplify some of the regulations? Is that being done?

Mr. ROBERTS. Yes, sir. We hope to vastly simplify the regulations, make them more understandable. This has been a considerable effort. One of the reasons we were delaying it, and I was one of the principals involved in the decision many months ago of publishing under the new act, we had underway a major recodification project. It was announced and partially discussed in the preamble of the notice to completely realine the Department's regulations into a new structure; part of which was being performed under a contract with the National Archives' Service. They were assisting us with professional staff members in a major recodification effort.

Our timetable was set back and the major reason for that setting back was the fact that we had to implement the exemptions procedure much earlier than we had anticipated.

A major block of our resources has been put into the conduct of the exemptions program because of the turmoil that was created by this rapid changeover we had to make.

Senator HARTKE. Are you going to continue to make some effort to get this into layman's language so that people can understand the regulations.

Mr. ROBERTS. Yes, sir, we hope so.

Mr. CURTIS. I might add that I am a little tired of people coming into my office and telling me that the regulations are incomprehensible. So that's one of the major efforts to be done.

Senator HARTKE. What does a local firefighter do at the present time to cope with the risks involved in a transportation accident involving hazardous materials? In other words, how does he know when he has a hazardous material involved in an accident and how does he know how to fight the hazard?

Mr. CURTIS. As I indicated, the chemical emergency transportation center—

Senator HARTKE. Where is that?

Mr. CURTIS. That's here in Washington, sir, as part of the Manufacturing Chemists Association. We monitor that activity. And—

Senator HARTKE. Who pays for that?

Mr. CURTIS. That's paid for by private industry, sir. By the membership of the Manufacturing Chemists Association.

Senator HARTKE. How does the firefighter know what's in the truck, for example?

Mr. ROBERTS. One of the basic requirements of our system is the placarding of highway and rail vehicles. You might have seen recently in Washington fuel oil trucks now bear "combustible" signs as a result of one of our recent rulemaking actions where previously many of those trucks were placarded "nonflammable." The placarding system is really the basic communicator to the people, telling the potential hazardous materials in the vehicle. We have been working on several different methods to improve this placarding program. And we will be publishing shortly a completely new placarding system for all modes.

Senator HARTKE. How long will that take?

Mr. ROBERTS. That will be in the document HM-112.

Senator HARTKE. You talk about this industrialized control. I was just recently at the two local fire departments in part of what is now Indianapolis, Indiana. I asked them about this situation. They have this monitoring system and they said they called Du Pont. What did they mean?

Mr. ROBERTS. A number of the corporations have their individual emergency centers. I believe Du Pont's is called TERP. And several of the other corporations have this.

However, there has been a major move in recent years for the Chemtrec operation to take over the entire realm of hazardous materials.

Chemtrec is operated by the Manufacturing Chemists Association, but the thing that is noteworthy about Chemtrec is that they will receive calls on any transportation incident or accident involving hazardous materials, not their own products. They are receiving calls on U.S. Government shipments, for example. Shipments of pesticides that are not manufactured by their members. This operates 24 hours a day, 7 days a week, fully funded by industry and that has been in operation for about 4 years.

Senator HARTKE. Does the fire department pay for that?

Mr. ROBERTS. No, sir. It's free to any caller who has an emergency situation.

Senator HARTKE. The firefighters told me we have the system but we don't know what to tell them. They said we have a fire out there, we look out and see the fire but we don't know what to ask them.

Mr. ROBERTS. This is a problem sometimes. We are dealing with an estimated 200,000 or more chemicals, different kinds of hazardous materials.

Nobody really knows how many there are, but we estimate more than 200,000. Many of these are transported under generic descriptions under our regulations such as "flammable liquid, N.O.S.," meaning "not otherwise specified."

We have now put the commodity list in a computer system and printout so we can get it through the GPO and we intend to vastly expand our commodity list in the future.

Senator HARTKE. How long have you been trying to get a hazardous information system?

Mr. ROBERTS. Admiral Smith, in 1969, directed that we begin developing regulations to implement a hazardous information system.

Senator HARTKE. How long do you think it will take to get it done?

Mr. ROBERTS. I have given up guessing on it, Senator. I am unable to give you an estimate on that. I would hope that as soon as possible it can be done.

There are several systems now being considered again. And we will be completing our evaluation on the input through a recent publication to again make some kind of decision on which way we should proceed in this area.

I might point out that we have attempted to come up with a consensus—from the drivers' standpoint, from the shippers' standpoint, and from the carriers' standpoint, and to get a harmonious type agreement as to what system would be best and the purpose, to what end or purpose.

And we thought we had a good one. We proposed it. The decision was made not to adopt it, based on the comments received.

Senator HARTKE. Who made that decision?

Mr. ROBERTS. The Hazardous Materials Regulation Board.

Senator HARTKE. Now, they ditched it?

Mr. ROBERTS. No. That particular proposal was terminated and another document was published, listing a number of different systems which should be reconsidered, asking for views and comments.

Mr. CURTIS. This is something that the Government is going to have to make a hard call on, as I see it. We will do that, and you will not have to ask that question again.

Senator HARTKE. That is not going to be a pleasant decision for anybody. You will have to just grab that and go with it.

The United Nations, as I understand, is developing a hazardous information system for the rest of the world. Are you working with them on that?

Mr. CURTIS. Yes, sir. We have representatives at Geneva in a meeting now, and that is one of the items on the agenda.

Senator HARTKE. Will that be one which will complement the system here in the United States?

Mr. CURTIS. It will be practically the same kind of system, sir.

Senator HARTKE. Has the Department ever denied any petition for exemption based on the grounds that an inadequate safety analysis was filed?

Mr. ROBERTS. Yes, sir. For many, many years we had sent back applications for special permits for exemptions—

Senator HARTKE. Was that under this act?

Mr. ROBERTS. Yes, sir, the most recent one was to a law firm here in Washington, D.C., back in early January.

Senator HARTKE. In its report on the Wenatchee, Wash., explosion, the NTSB recommended that the DOT make guidelines available to assist in compiling the safety analysis.

Will you do that?

Mr. CURTIS. I have not seen the report. But from what you are saying to me, I would not say that we would not proceed with that.

Senator HARTKE. You would say you would not?

Mr. CURTIS. I would say that we would. But I have not seen the report, so I cannot comment accurately on it, sir.

Senator HARTKE. Now, the Hazardous Materials Transportation Act introduces the concept of quantity and form into the definition of "hazardous materials," and we specifically did this so the Department could define its regulations so as to not unduly burden the transportation of materials while, doing the job for those things which needed to be done. That is, we did not want to impose any restrictions on those products which while technically "hazardous materials," in reality, pose no real hazard.

You stated in your written responses that the hazardous material regulations have "used the quantity and form concept since the early 1900's" and you cite the combustible liquids regulations as an example.

Isn't it true that the combustible liquid regulations were promulgated in 1974?

Mr. ROBERTS. That is right, sir, January 24, 1974. I would point out that we just put that in there for a simple illustration.

First of all, quantity and form are two considerations and significant considerations, but the other one is the properties or characteristics of the material. Leading from the kind of hazard we then go into quantity and form. We would agree with anyone that we should not impose serious and expensive regulations on shipments of nail polish remover which—

Senator HARTKE. Do you today?

Mr. ROBERTS. Yes, sir. We require its identification.

Senator HARTKE. Isn't it also true that if, for example, you have a one-tenth ounce vial of a 70-percent solution of nitric acid and water as part of a 500-pound diagnostic computer that will be shipped by air, it would require that the shipper fill out the papers?

Mr. ROBERTS. That is correct.

Senator HARTKE. Would the pilot be notified?

Mr. ROBERTS. That is correct.

Senator HARTKE. He must comply with the compatibility regulations?

Mr. ROBERTS. That is right.

Senator HARTKE. Which is all unnecessary?

Mr. ROBERTS. Not necessarily. We are finalizing contract work to come up with the bottom line for nitric acid. We feel it is very important that we take this position.

If that bottle should break, it could initiate a fire. I am not talking about that percentage, but a vial containing nitric acid, if it were crushed in the package, regardless if even it is a small quantity, it could initiate a fire. And we are concerned about those kinds of things.

Senator HARTKE. What about perfume?

Mr. ROBERTS. Perfume, again, in docket HM-112, we are proposing to require only its identification.

Senator HARTKE. What about deodorants?

Mr. ROBERTS. Yes, sir. Certain kinds of deodorants, if they meet our classifications.

Senator HARTKE. Coca-Cola sirup?

Mr. ROBERTS. Yes.

Senator HARTKE. How long will it take to get these items exempt?

Mr. ROBERTS. I do not suggest that we are going to exempt Coca-Cola sirup in its full strength; this is a hazardous material.

Senator HARTKE. Why is it so hazardous?

Mr. ROBERTS. It is a rather corrosive material. It is corrosive to—

Senator HARTKE. What about Pepsi Cola?

Mr. ROBERTS. Well, I think you have to understand that these materials are in full strength. They are shipped in very strong concentrates. They are cut way, way down, in terms of what you finally imbibe.

Senator HARTKE. Does Pepsi Cola have the same problem?

Mr. ROBERTS. Yes.

Senator HARTKE. And Royal Crown?

Mr. ROBERTS. These are full strength materials, and, again, quantity and form does again come back into this, relative to properties. For example, we have pesticides that we do not regulate, because they have been diluted down to a point where we do not think they pose an acute hazard.

However, if you take some of these materials in their technical grade levels, these materials can be considered extremely toxic.

Senator HARTKE. What you are saying to me is that with regard to this quantity and form issue, that you will have to make these decisions.

How long will it take you to come out with some general overall rules? On the one hand, you do not want to make people comply with stiff regulations where no hazard is posed.

Mr. ROBERTS. I would suggest that a large portion of our program now takes into account quantity and form. We made the decision based on all the information we had that it was not necessary to regulate combustible liquids in quantities less than 110 gallons. We made decisions at certain levels of regulation in the area of explosives.

If you look at one section of our regulations, we deal with the explosive mechanism in certain kinds of valves for fire extinguisher systems. And in that quantity, in that form, in that valve, we do not impose the full constraints of our regulatory system.

Senator HARTKE. Is it general practice for the hazardous materials regulations to exempt certain hazardous materials, based on quantity and form?

Mr. ROBERTS. Yes, sir.

Senator HARTKE. All right.

Let's go ahead.

You have had some disputes with the CAB. You said that you did not list the CAB as one of the agencies in which there is a conflict in regulation.

Mr. ROBERTS. The tariff published by the Air Transport Association on file with the CAB is not a regulation, sir.

Senator HARTKE. But the CAB tariffs present a conflict with the Office, do they not? In other words, is there a reason why CAB felt that a tariff regulation was needed for certain hazardous materials? You say it is not a regulation, but it has the same effect, because they argue the Office of Hazardous Materials is not competent in this field.

Mr. SANTMAN. Perhaps I can bring you up to date on that.

There were a number of air carriers who filed tariff amendments with the CAB, tariff amendments addressing hazardous materials in

a manner that was inconsistent with our regulations. In some cases, they would say in their tariff, we are not going to carry this particular material.

The CAB addressed a large number of those tariffs by issuing an order rejecting those tariff amendments and in the terms of their order requiring the carriers to modify their tariffs to track and conform with the exact letter of the DOT regulations.

That has been contested by one of the air carriers in court. The case was argued just last week on the 24th of February before a three-judge panel here in Washington, on the question of whether or not it was proper for the CAB to reject those amendments.

I might add that the CAB in issuing the order rejecting the amendments, did exactly what we had asked them to do in our filings with the CAB. So I do not think that there was any conflict between us and the CAB.

Senator HARTKE. In other words, you are working things out with them pretty well?

Mr. SANTMAN. Yes, sir. However, I am not sure how the court action will come out.

Senator HARTKE. In response to question 18, you were asked to provide the committee with your program plan of activities and objectives to be achieved in the next 5 years under the Hazardous Material Transportation Act.

Now, isn't your answer nothing more than a list of the pet projects?

Mr. CURTIS. Well—

Senator HARTKE. Have you developed such a plan?

Mr. CURTIS. We are in the process of doing it. What you see here are some individual things that will be accomplished as part of that particular situation. The 5-year plan is under development.

Senator HARTKE. How long will it take you to get that done?

Mr. CURTIS. By midyear.

Senator HARTKE. Will you submit that to us?

Mr. CURTIS. Yes, sir.

Senator HARTKE. And at the same time give us a timetable?

Mr. CURTIS. Yes, sir, we will.

Mr. SANTMAN. I think that was one of the items on the shopping list you sent us.

Senator HARTKE. I have more questions here, but I will submit them for the record.<sup>1</sup>

Thank you.

Mr. CURTIS. Thank you.

Senator HARTKE. The next witness is the Honorable Webster B. Todd, Jr., chairman, National Transportation Safety Board.

You may proceed, sir.

**STATEMENT OF HON. WEBSTER B. TODD, JR., CHAIRMAN, NATIONAL TRANSPORTATION SAFETY BOARD; ACCOMPANIED BY FRITZ L. PULS; HENRY H. WAKELAND; AND LUDWIG BENNER**

Mr. TODD. Good morning, Mr. Chairman.

I would like to introduce for the record those accompanying me. On my right is Fritz Puls, our general counsel. Henry Wakeland, Director

<sup>1</sup> See p. 86.

of the Bureau of Surface Transportation Safety; and Ludwig Benner, Chief of the Hazardous Materials Safety Division of the NTSB.

It is an honor to appear before the committee to present the NTSB views on implementation of the Hazardous Materials Transportation Act.

The act is comprehensive in scope and, in our opinion, provides the DOT with the authority needed to work toward adequate protection against the risks inherent in the transportation of hazardous materials in commerce. We are aware of no major criticisms of or deficiencies in the act during the past 13 months of its effect that should be brought to your attention, yet we recognize that implementation of the act has not advanced sufficiently to permit a more than tentative assessment in this regard.

Major actions of record taken by the Department to implement the act dealt with section 107 (Exemptions) and section 108 (Transportation of Radioactive Materials on Passenger-carrying Aircraft). The Safety Board has no comments about the implementation of section 108.

We did, however, express our concern about the Department's proposed procedures for handling petitions for exemptions authorized by section 107. Our concern was with the inadequacy of safety analysis required of applicants by the Department's procedures. The concern is influenced by our findings in accidents where the safety problems would probably have been discovered earlier if a systematic search for unsafe relationships or behavior had been undertaken.

The explosion at Wenatchee, Wash., is an example of this problem. In that accident, several credible ways the accident might have happened were found during our investigation. Each of these possibilities would probably have been discovered and safeguards established before the permit or exemption was issued, if a systematic search for hazards had been required or made. The \$7.6 million cost of that accident and its investigation would have paid for a massive safety analysis effort. Requirements for an acceptable safety analysis should be specified by the Secretary for applicants for exemptions covered by section 107, and we have made a recommendation to that effect (Recommendation HM-75-2, issued September 12, 1975). The systematic search for hazards, especially those with catastrophic potential, should be required of all parties applying for exemptions to insure that each gives adequate consideration to the safety of its proposal.

On December 3, 1975, without advance notice, the Materials Transportation Bureau (MTB) changed its procedures by authorizing persons to become a full party to an exemption through the constructive adoption of the original applicant's submission. This seems to restore the opportunity for nearly unlimited expansion on numbers of operations under one exemption, with the resultant economic distortion of future safety decisions if unfavorable accident experience develops.

It is our understanding that the intent of the statute required each applicant to do a safety analysis for his own conditions, thereby decreasing the likelihood of a horizontal expansion problem. The Department has apparently concluded otherwise. We plan to observe the administration of these procedures to determine whether a safety problem does or does not develop.

Since the act came into force, it appears that significant changes by DOT to conform to the legislative intent, as we understand it, have

yet to be made. It is not clear to us how the MTB program efforts will meet that intent. The MTB recently indicated to the Safety Board that "primary emphasis should remain on policy, which has been practical over the past several years, aimed at accomplishing the following objectives:

(a) A system for classification of HM's based on degree of hazard determined by quantitative criteria.

(b) Establishment of degrees of performance standards based on environmental parameters which may be encountered under normal and/or accidental conditions or transportation.

(c) Establishment of uniform packaging regulations for all modes, based on a combination on engineering and performance-oriented standards.

(d) Uniform labeling and marking, as well as an emergency information system for handling of incidents.

Problems with the classification system for hazardous materials have been observed in several accidents. The classification criteria reflect intrinsic characteristics of materials rather than the risks determined when the quantity and form being transported are also considered. The Safety Board discussed classification problems recently in our Wenatchee report, and in the Houston, Tex., railroad accident report in 1972. We expect to undertake a study of the impact of the classification problem on safety in the near future.

The second objective, involving establishment of degrees of performance standards, seems to reflect the MTB's philosophy that perfection in achieving containment is the best way to achieve safety, a philosophy that forms the basis for its regulations. This is in contrast with the Congress' concerns about the harmful effects of hazardous materials in accidents when not contained. These concerns are reflected in the act's definition of a hazardous material. Our attempts to increase the regulatory attention given these effects have not been favorably received by MTB. In DOT, only the USCG is actively studying the effects of spills.

MTB's third and fourth objectives, uniformity of packaging regulations, and marking and labeling, receive continuing regulatory priority. Our experience in accident investigations suggests that safety requirements for packaging and marking vary significantly among the modes, and that the compromises needed to achieve a truly multimodal system might require reexamination.

Uniformity is further challenged by new data on accident environments being developed by the Energy Research and Development Administration. We are not convinced that uniformity of packaging, marking, and labeling across all modes will improve safety. We intend in future accident investigations to examine this question from an empirical viewpoint: Uniformity should not be imposed on doctrinaire grounds alone, but should be adopted only if it proves valuable in safety results.

Finally, in reviewing the hazardous materials problems cited in the Safety Board's last previous appearance before this committee, we find varying degrees of improvement. For example, we see little change in the MTB's safety analysis requirements or accomplishments. On the other hand, the USCG and industry safety analysis of liquified natural gas transportation before accidents is being vigor-

ously pursued in substantial detail. ERDA and the Nuclear Regulatory Commission also continue their constructive efforts in safety analysis.

Crash behavior of containers is getting some attention, and recent MTB rulemaking has addressed this problem, as, for example, in docket 124, which deals with protection of bottom outlet valves on MC-312 cargo tanks.

Compliance with the safety regulations is receiving more attention from many groups, private and public, involved in hazardous materials commerce, but we have no basis at the Safety Board for asserting that compliance is better or worse than in 1974. We would like to look into the compliance issues, resources permitting, since new approaches to insuring compliance may be needed, as noted in our Wenatchee report.

Protection of the public in accidents involving hazardous materials is among the criteria proposed in the MTB's reexamination of hazard information systems needs. We were pleased to note this change in the position of the DOT. However, regulatory emphasis on controlling the harmful effects attributable to the quantity, form, and characteristics of hazardous materials after they escape or react in accidents, does not appear to be getting the priority attention implied by the act, except in the marine mode.

Delays in correction of newly identified safety problems continue to occur in some instances. For example, we remain concerned that other materials with unrecognized destructive potential may still be moving in tank car lots as monomethylamine nitrate was before Wenatchee.

The consolidation of the regulations into a user-oriented document, first described in the Federal Register in January of 1974, remains uncompleted. This need becomes more pressing as shippers and carriers find their efforts to improve compliance hindered by the complexity of the regulations.

The need for improving emergency management of hazardous materials emergencies continues, although significant advances have been made in marine spills and accidents. The outlook for successful management of other accident emergencies is less encouraging, partly because the harmful behavior of escaping or reacting hazardous materials in accidents is not being recorded or studied except in the marine field.

In summary, Mr. Chairman, progress is being made but much remains to be done to achieve the objectives of the Hazardous Materials Transportation Act of 1974 as we understand them.

That completes my prepared statement, Mr. Chairman. I will be happy to try to answer any questions you or other members of the committee may have.

Senator HARTKE. Do you believe that the personnel budget as submitted by the President is adequate to do the job which you think needs to be done?

Mr. TODD. As far as the MTB is concerned?

Senator HARTKE. Yes.

Mr. TODD. We really have not analyzed it, sir.

Mr. WAKELAND. We have not examined their budget, or their plans for adequacy.

Senator HARTKE. Why would you not do that? For example, why wouldn't you in this field be seeing and looking over their shoulder and saying, you know, one of the reasons you can't get the job done is because you do not have enough personnel?

Mr. TODD. One of the things we are required to do under our new act, the Independence Act of 1974, is the biennial overview of the activities of other agencies and 1976 is one of those years and we will be undertaking that shortly and I believe they will be included.

Senator HARTKE. You will be doing that then?

Mr. TODD. We will be undertaking that shortly. We have a requirement to complete that this year.

Senator HARTKE. If you are going to be doing it this year, then I would be interested in having you submit the report on that to the committee.

Title III of the Transportation Safety Act mandated that the NTSB increase its efforts in the safety of hazardous material. I wonder if you could describe the plan you have to comply with that mandate.

Mr. TODD. Mr. Benner is our expert and I will turn him loose.

Mr. BENNER. On the first of March we doubled our staff. There are two of us now.

Senator HARTKE. Do you need more personnel?

Mr. BENNER. If we get what we ask for we will have what we need.

Senator HARTKE. How much are you asking for?

Mr. BENNER. A total of five through the 1977 budget.

Senator HARTKE. We just don't want you overstaffed now.

We have to watch this bulge in Government employees, you know, it is a serious problem in this country. Those additional employees may require a serious disruption in the labor force.

Mr. BENNER. That is what we have requested.

Senator HARTKE. Go right ahead. You do have some plans, then, to implement the requirement that you increase your efforts in the safety and transportation of hazardous materials?

Mr. BENNER. Absolutely.

Senator HARTKE. Where are they?

Mr. BENNER. I did not bring them with us, but I can outline them for you.

Senator HARTKE. Well, how would you evaluate the quality of the safety analysis required to accompany a petition for exemption from the regulations under section 107 of the act?

Mr. BENNER. Several ways. First, of the available safety analysis tools that exist in the field and are appropriate to the problem, were they applied to the discovery of hazards? Second, for those hazards discovered, are they treated in the proposal?

Senator HARTKE. When OHM reviews an analysis, how do you make a determination whether it is adequate? Do you make a determination, or is that not done?

Mr. BENNER. Senator, let me—my answer may be a little lengthy, but—

Senator HARTKE. In other words, what I am asking you is about the same thing I asked DOT this morning. Do you review what they are doing to see whether or not you think they are doing the job in evaluating their analysis?

Mr. BENNER. Where the analysis accompanies the exemption, yes. But we have not had any to examine against the standards that I suggested to you. There have not been any safety analysis of the type I described that have been available for us to examine in the DOT exemption petitions.

Senator HARTKE. Are you making a suggestion that they are not doing the job?

Mr. BENNER. Yes. That is a fair conclusion.

Senator HARTKE. A fair conclusion?

Mr. BENNER. Yes.

Senator HARTKE. Why don't you do this? Why don't you make a little report on that—and you submit a report on your position in this issue to them?

Mr. BENNER. We have recommended action in the Wenatchee accident report, sir.

Senator HARTKE. What is the cost of doing these safety analyses? Can you make an estimate on the cost?

Mr. WAKELAND. We have not analyzed the costs of making them. We do not consider that the cost is large in comparison with the potential loss which may be prevented. In the Wenatchee case, \$7.6 million.

Senator HARTKE. And it could have been prevented?

Mr. WAKELAND. Yes. We feel that probably all of the hazards would have been found by an adequate hazard analysis in advance.

Senator HARTKE. In other words, what you are saying is that unless you do have these analyses we would have a repeat performance of the Washington incident?

Mr. WAKELAND. Not quite, sir. The changes that were made after the accident can prevent a recurrence. The basic approach of the safety analysis is to attempt to prevent the explosion from ever occurring. With new materials or a request for an exemption, for example, you do not know from accident experience what the hazard condition is. You have to predict it by studying it.

Senator HARTKE. That can be done, can it not?

Mr. WAKELAND. Yes, sir.

Senator HARTKE. You don't think the cost is excessive in comparison to the danger involved?

Mr. WAKELAND. No, sir. The losses are far higher than the cost of analysis, and experience will quickly reduce the cost of analysis.

Senator HARTKE. You said in your statement that you are not convinced that uniformity of packaging or labeling across all modes will improve safety. Isn't that one of the major problems in this area—the fact that regulations are too complex and confusing for the laymen to understand?

Mr. BENNER. There are two different problems really. The requirements to achieve safe transportation vary among the modes. When you have a private truck operator, the control of that shipment is vested in a single party. Where you have a movement of a package in air carriage, there are sometimes as many as eight or nine different parties that handle that package.

This suggests that the specific requirements for each type of movement may vary substantially. The ERDA studies have shown that the accident environments vary significantly among the modes. In other words, the stresses imposed on packages in accidents vary significantly

among the modes. So, there are compromises that you may have to make to achieve uniformity.

Mr. WAKELAND. One of the problems we found, sir, was that the requirements were much too high and that they were widely variable. The requirements were variable among the modes and we discussed that in detail in a study on the concepts of risk about 3 years ago.

Senator HARTKE. Our last witness is Mr. Clifford J. Harvison, the managing director of the National Tank Truck Carriers.

Go right ahead, sir.

**STATEMENT OF CLIFFORD J. HARVISON, MANAGING DIRECTOR,  
NATIONAL TANK TRUCK CARRIERS, INC., WASHINGTON, D.C.**

Mr. HARVISON. Mr. Chairman, my name is Clifford J. Harvison, and I am managing director of National Tank Truck Carriers, Inc. Our offices are located at 1616 P Street, N.W., Washington, D.C. 20036.

NTTC represents over 225 for-hire trucking companies, primarily involved in the transportation of commodities in bulk, in tank trucks throughout the 48 continental United States.

As such, we represent over 75 percent of the for-hire tank truck capacity in the United States. Because of the nature of the bulk transportation, over 60 percent of the total tonnage hauled by our carriers is considered hazardous by the Department of Transportation.

We are, therefore, obviously, concerned with the entire concept of hazardous materials—legislative, regulatory, and, of course, operational.

Allow me to note, firsthand, that while government and industry oftentimes maintain a necessarily adversary relationship, we have been and continue to be impressed by the high quality of professionalism that has developed within the cadre of hazardous materials regulators at the Department.

I only wish I could extend the same compliment to other entities of the Federal structure which have literally stumbled into transportation safety regulation. It is in this context that I address my comments.

I firmly believe that when the Congress enacted the Transportation Safety Act of 1974, as well as the original DOT, it intended to consolidate and centralize Federal responsibility and oversight, and to specify that responsibility within the office of the Secretary of Transportation.

Regretfully, such is not the case—for today we have numerous Federal agencies, such as the Occupational Safety and Health Administration and the EPA issuing regulations, which directly and materially impact transportation—yet are so wholly impractical in their application to transportation as to literally prohibit compliance.

Allow me to list just one example.

On October 4, 1974, OSHA published Standards on Employee Exposure to Vinyl Chloride. This explicitly covered employees in the transportation sector.

Shortly thereafter, I along with other trucking industry representatives, met with the Director of industry standards of OSHA, who admitted: (1) That OSHA had no expertise in transportation; (2) The research, which formed the basis for the standard, had never even

investigated transportation operations; (3) OSHA had no idea of the transportation characteristics of vinyl chloride or related products; and finally, (4) OSHA had no intention of changing the regulations to fit transportation nor even to investigate the situation it created.

Resultantly, today, we have two sets of shipping paper requirements as well as differing sets of loading, unloading, labeling, and placarding requirements.

The fundamental problem is, of course, that the OSHA regulation was designed explicitly for manufacturing or processing sites where vinyl chloride is handled as a base material. Obviously, one can't apply a standard designed for a factory to a vehicle rolling down the highway.

Now, I want to impress upon the committee that this is not just another industry-oriented tirade against OSHA.

What I wish to emphasize is that here is an instance where a bona fide Federal agency, OSHA, determined a substance to be hazardous—vinyl chloride; but chose to ignore the opportunity to consult with transportation regulators, who, like themselves, are on the Federal payroll.

The reason that appropriate consultation is not done appears to be two-fold: (a) Petty bureaucratic jealousy over jurisdiction, and (b) The lack of a clear congressional definition of jurisdictional responsibilities.

The solution to the problem is, realistically, quite easy. In my example of vinyl chloride, there was nothing that prohibited the Occupational Safety and Health Administration from petitioning the Secretary of Transportation to begin a rulemaking on the subject of exposure standards to transportation employees, and present their evidence on public docket just like any other public or private entity.

After working for 13 years in this city, both within and without the Federal structure, I'm convinced that only clear congressional mandate can prevent the wasteful duplication of effort and the "left hand not knowing what the right hand is doing" syndrome that produces poor, disjointed regulation—regulation which neither serves nor protects anyone.

Unfortunately, the Congress has shown a propensity to pass legislation which only encourages communications between agencies. Verbiage such as "the administrator of this should consult with the Secretary of that" is so vague that it only serves to promote the petty jurisdictional jealousies I spoke of earlier.

Today, among industry representatives in Washington, it is axiomatic that, in a conflict between two Federal bureaucracies, the one with the biggest budget will win out—regardless of the merits of the issue.

Personally and professionally, I believe that an excellent start in rectifying this problem can be made by amending both the Department of Transportation Act and the Transportation Safety Act of 1974.

The sense of the amendments should specify Congress' intent that, "Whenever the regulatory activities of another Federal Agency impact the safety of transportation employees and/or equipment, that Agency must publicly petition the Secretary of Transportation for appropriate rulemaking action within the scope and structure of Title

49 of Code of Federal Regulations and within the constraints of the Administrative Procedures Act.”

Should this be done, I’m confident that a true and workable consolidation of regulatory activity would take place. Importantly, the expertise of a nontransportation agency would not be lost—just presented to the transportation industry, and their regulators, in a form and language they understand.

Mr. Chairman, I thank both the committee and its staff for the time granted me, and I’ll be happy to respond to any questions.

Senator HARTKE. All right. As I understand the OSHA legislation, they do not have authority to move in any area in which there is another governmental agency which has assumed authority or has the authority to act.

Mr. HARVISON. Senator, that is not technically correct. The verbiage used in the OSHA legislation specifies that OSHA cannot act where another agency has exercised jurisdiction. The problem is with the word “exercised” and how it’s being interpreted at OSHA and other agencies.

Senator HARTKE. In this case, has the DOT exercised, or even attempted to exercise, jurisdiction in this field of vinyl chloride?

Mr. HARVISON. They have exercised jurisdiction in areas where vinyl chloride is transported as a flammable compressed gas.

The problem is very frankly that OSHA has attempted to create a situation where they are regulating a workplace. Unfortunately, those regulations fall upon the transportation sector. What we wish to point out is that the workplace characteristics—

Senator HARTKE. I hear you. I am as interested as anyone else in eliminating this conflict of jurisdiction.

But did the DOT move effectively in this field—we have right now at this very moment a vinyl chloride accident which occurred outside of Fort Wayne 2 days ago, and the people are scared.

Now, what I am asking you is: Did the Department move in this field? Did you petition them to move in this field? Have you asked them for rulemaking?

Mr. HARVISON. We have attempted to get OSHA to go to the Secretary of Transportation.

Senator HARTKE. No. Did you petition the Bureau to promulgate a regulation in this field?

Mr. HARVISON. When the OSHA stand was promulgated the MTB as such was nonexistent. Mostly—taking this one particular example, OSHA handled this almost on an emergency basis.

For instance, transportation was not included in the OSHA standard until the final rulemaking was published in the Federal Register. We had no indication of the inclusion of it.

Senator HARTKE. I hear you, but look, they are moving in the field. I have got this same thing with EPA in the whole question of toxic substances.

Yet at the same time, it is my judgment that they fail to exercise the responsibility which they already have, for example, with lead poisoning which occurred in Indianapolis, Ind.

We have two plants there, and these workers are all going to die from lead poisoning. There is no law out there in this case. But

here the predecessor agency was there—the MTB. Why didn't you move in and ask them to move in this field?

Mr. HARVISON. When we looked at the OSHA standard when it was first published; it was written in such a form as to have no applicability to transportation whatsoever. It was a square-peg-round-hole situation, and we said, "Obviously, they are not talking about us."

Senator HARTKE. I would be glad to talk to them about it and I will take this up with them.

These oversight hearings ought to be done more frequently.

Mr. HARVISON. I agree.

Senator HARTKE. One of the real problems is not the fact that people are opposed to the regulation. People want regulation, but they want it done right.

What they are talking about is that they just don't want to go ahead and have Kepone put in their fishing water when they are supposed to use it for fishing.

Mr. Roberts, what about it? Come up here and tell us all about it. If he has got a legitimate complaint, let's straighten it up, get the two of you fighting at the table. Go right ahead.

Mr. ROBERTS. I will try and explain this as simply as possible, Mr. Chairman.

OSHA addressed vinyl chloride as a carcinogen, cancer causative agent. The DOT has been regulating vinyl chloride as a flammable compressed gas for many, many years, since it was first introduced into transportation.

We have had full regulatory controls over the transportation of vinyl chloride in tankers, tank trucks, cylinders, what have you, for many years.

We do not address the material as presenting a hazard as a cancer causative agent.

Senator HARTKE. In other words, you don't go into that aspect of it?

Mr. ROBERTS. Not as a cancer causative agent. We have no evidence before us that indicates that a single exposure, which is what we would look to in the transportation environment, would cause cancer to anyone. Including the people out there in Indiana, if the material leaked in a single incident involving transportation.

There is a vast amount of information still to be collected concerning this material and many other cancer causative agents or suspect agents, as to where and when we should apply regulations in transportation.

Senator HARTKE. The toxic substances bill which I passed out of this committee deals with that, and I have brought together all the chemical people with all the environmental people, which I think is a rather unique operation, to try taking that to EPA and try to make that determination.

I really agree with you that when you have this duplication and this conflict, that there certainly is no question that it needs to be eliminated.

I am going to get into this field, and I would appreciate it if both of you would cooperate with us, and we will try to come to some satisfactory conclusion.

Mr. ROBERTS. One of the things that cause great concern in the transport community was the fact that the OSHA requirement required a display of the words "cancer suspect agent" on the exterior of the transport vehicle. There is a great question as to when and where.

This is a situation where you have a vehicle going through the communities of this country bearing this language. Now, if it does not pose that kind of hazard based on a single exposure of a single vehicle moving through a community, then we could characterize it as crying wolf when the situation does not really exist.

The people who were alleged to be contracting cancer, the information I read about it was based on many years of exposure in this working environment, and quite often it was alleged in very small concentrations, but not based on a single exposure.

I don't believe there is any evidence anywhere that that kind of material presents that hazard.

Senator HARTKE. I think in many cases, industry has been very derelict in always hoping we can avoid all the regulations when they would be a lot better off, and they would avoid a lot of danger and exposure, if they would come into the governmental agency themselves and say, "Look, we think we need regulation in this field. We'll help you write them."

I am one that will protect you people in that, although I will be criticized by a lot of people saying we're bringing the agencies together.

But I think you can do yourself a great deal of good by putting the proper regulations in to begin with.

Mr. HARVISON. I represent trucking companies. They don't have doctors or chemists on the payroll. Our position is very much akin to yours.

If a product we handle offers a hazard to our employees, we want it regulated. We just want the regulation in a place where we can find it, and where we can understand it.

Senator HARTKE. I am with you. The hearing is adjourned.

[Whereupon, at 11:55 a.m., the hearing was adjourned.]



## ADDITIONAL ARTICLES, LETTERS, AND STATEMENTS

PRIVATE TRUCK COUNCIL OF AMERICA, INC.,  
Washington, D.C., March 12, 1976.

Senator WARREN G. MAGNUSON,  
Chairman, Senate Commerce Committee, Dirksen Senate Office Building, Wash-  
ington, D.C.

DEAR SENATOR MAGNUSON: The Private Truck Council of America has been following with great interest your Subcommittee on Surface Transportation's oversight hearings on the Hazardous Materials Transportation Act of 1974.

We regret we were unable to personally testify before the Subcommittee. We understand, however, that the hearing record will remain open until March 22, 1976.

We hereby respectfully request that the enclosed comments we have filed with the DOT concerning the Hazardous Materials Transportation Act of 1974 be incorporated in the Subcommittee on Surface Transportation's hearing record for full consideration by the Subcommittee in its deliberations.

Sincerely,

JOHN C. WHITE.

Enclosure.

PRIVATE TRUCK COUNCIL OF AMERICA, INC.,  
Washington, D.C., March 12, 1976.

SECTION OF DOCKETS,  
Office of Hazardous Materials Operations, Department of Transportation, Wash-  
ington, D.C.

GENTLEMEN: These comments are being filed on behalf of the Private Truck Council of America, the national organization representing interests of more than 1000 non-transportation companies which operate trucks in furtherance of their primary businesses.

It has been well over one year since the Hazardous Materials Transportation Act was signed by the President. It was our understanding that prior to the action of the newly organized Materials Transportation Bureau reissuing existing hazardous materials regulations (Titles 14, 46 and 49 of the Code of Federal Regulations) under the authority of the Hazardous Materials Transportation Act, certain revisions were to have been made, such as final issuance of HM-112.

It was our understanding that the reason for effecting certain revisions first was to avoid the extension of various unnecessary and burdensome regulations.

As is pointed out in DOT Notice No. 76-2, one of the policy derivatives of the Hazardous Materials Transportation Act is to broaden the definition of commerce to include transportation which affects interstate transportation. We submit that there is indeed little commerce which does not affect interstate transportation. So, by reissuing existing regulations under authority of the new legislation, you are extending their application to intra-state operations.

This is important to the Private Truck Council of America for the following reasons. Many of our member companies transport small packaged articles classified as hazardous, such as cosmetics, aerosols, household cleaners, pharmaceuticals, and medical supplies. They must now comply with burdensome and unnecessary shipping paper requirements under existing hazardous materials requirements when operating in inter-state commerce, though the realistic potential for bodily harm is virtually non-existent.

On June 23, 1975, we petitioned the DOT for relief from these burdensome requirements in connection with HM-112 which was then pending and is still pending. No decision appears to be forthcoming.

So at present our members are still subject to these requirements when operating in interstate commerce. And if all present regulations are reissued pursuant to Docket No. HM-134, Notice No. 76-2, our members will then be subject to it in intra-state operations as well.

Indeed, it could conceivably mean that the housewife driving home with a load of groceries from the supermarket which contains a can of aerosol spray deodorant could be cited and fined by the DOT for not possessing the proper shipping papers. Such an example may have its humorous connotations, but they can be frightfully serious, too, because the example is indicative of the overwhelming and all encompassing pervasiveness of these regulations.

We therefore respectfully request that the issuance of the existing hazardous materials regulations pursuant to the Hazardous Materials Act of 1974 be deferred until the shipping paper requirement for small packaged articles classified as hazardous materials is suspended. This could be largely accomplished by a prompt and speedy decision on HM-112.

Sincerely,

JOHN C. WHITE.

---

STATEMENT OF GERALD J. NICHOLLS, CHAIRMAN, TRANSPORTATION COMMITTEE,  
NATIONAL ASSOCIATION OF WHOLESALER-DISTRIBUTORS

Mr. Chairman; My name is Gerald J. Nicholls, Manager of the Transportation Department of Noland Company, headquartered at 2700 Warwick Blvd., Newport News, Virginia. The following comments regarding the paperwork requirements for small shipments of hazardous materials are made in my capacity as Chairman of the Transportation Committee of the National Association of Wholesaler-Distributors.

The National Association of Wholesaler-Distributors (NAW) is a federation of 98 national commodity line associations with approximately 32,000 member firms representing merchant wholesaler establishments or warehouse operations in the 50 states.

Merchant wholesaling is an industry composed mainly of small, independent firms. According to the U.S. Department of Commerce data, 88 percent of the total number of merchant wholesaling firms posted annual sales of less than \$2 million each in 1972, and 97 percent had fewer than 50 employees. We are nonetheless a significant factor in the economy, with sales by merchant wholesalers estimated at \$450.7 billion in 1975—and expected to reach \$498 billion this year.

Our members who carry inventories of items numbering in the thousands, in every imaginable commodity line, are currently faced with the physical impossibility of placing upon their shipping documents Department of Transportation hazardous materials descriptions when they break bulk and send out only one or two items from a case of items, which may be considered to be a hazardous material. The DOT regulates these materials by categories, or classes, of hazard. Once a material is categorized it remains regulated, no matter how small the quantity of that material in the shipment. Therefore, innumerable common consumer commodities such as cosmetics, aerosol, household cleaners, pharmaceutical and medical supplies come within the scope of the regulations. DOT has recognized the minimal hazard of these items through what they call "partial" exemptions from the regulation, which relieves such articles from the specification packaging, marking, labeling and surface carrier requirements of the regulations, but continue to require the materials be documented on shipping papers.

The so-called shipping paper must note the product by its proper DOT shipping name, its category or class, and the total quantity of the material in the shipment, followed by the words, "no label required." First of all, it is almost impossible for our members to determine the proper DOT shipping name and category or class of a supposedly hazardous consumer product. These shipping names and categories or classes are written in scientific chemical terms which makes relating them to a specific consumer product extremely difficult. Often times our members have even requested from manufacturers information as to whether or not a specific consumer product should be considered "hazardous" under the regulations and have received answers which indicate the manufacturer doesn't know either.

Almost a year ago we testified to the Secretary of the Hazardous Materials Regulations Board of the Department of Transportation urging that two Dockets HM-112 and HM-103 which discussed a shipping document exemption, be broken out from numerous other issues of the two Dockets and acted upon as soon as possible. To date, DOT has taken no action to ease the burden of the shipping paper requirements for small quantities of hazardous materials. In fact, if anything, enforcement of this spurious regulation has increased.

Under the new Hazardous Materials Transportation Act, the Department of Transportation's responsibilities have been dramatically expanded to all transportation, not only that which is interstate or foreign in nature, but includes all commerce and personal transportation which affects trade, traffic, commerce, or transportation that is interstate or foreign in nature. There is no way that small wholesaler-distributors are going to be able to separate out from the extremely complicated list, what constitutes a hazardous material and which particular product should be noted as hazardous on the shipping papers. Even if he could, the record-keeping and paperwork involved would be impossibly burdensome. We note with extreme interest comments contained in DOT Docket HM-112 from the President of the Uniform Fire Fighters Association of Greater New York expressing his view that the shipping papers for materials covered by the partial exemptions in the regulations, serve little or no benefit to fire fighters. We believe the paperwork cost gives no requisite return in increased safety in the transportation of small quantities of hazardous materials.

Our members who deal with extremely hazardous materials, such as explosives and toxic chemicals in quantity are well aware of O.H.M. regulations and truck placarding requirements and we believe are in full compliance with the law. We fear the lack of simple information regarding hazardous material regulations and the impossibility of determining what constitutes a hazardous material in a consumer product from the extremely technical list of hazardous materials, finds many of our smaller members in the position of being unable to comply. They have neither the personnel, expertise or financial capabilities to meet the requirements when small quantities of hazardous materials are incidentally contained in shipments loaded on a truck for a day's delivery to their customers.

Actually, if the law were strictly administered a box of groceries from the corner grocery store to a home in that same neighborhood, which included an aerosol can of window cleaner and a bottle of hair tonic would have to be accompanied by a shipping paper prepared by the grocer which indicated "Compressed gas, n.o.s., Nonflammable compressed gas, No Label Required, 1 can; Flammable liquid, n.o.s., Flammable liquid, no label required, 8 ozs". That shipping paper would have to be carried in the cab of the delivery truck until the time of delivery, and would have to be supported by the grocer's certified statement that, "the above named articles are properly classified, described, packaged, marked and labeled, an are in proper condition for transportation, according to the applicable regulations of the Department of Transportation". This certificate would have had to have been signed by the grocer, and to carry the case even further, should the housewife change her mind and want to return that aerosol or hair tonic, she would have to prepare the D.O.T. shipping papers and so certify compliance with all regulations to do so. This may sound like an extreme example, which of course it is, but this is exactly what our wholesaler-distributors face in breaking bulk and shipping extremely limited quantities of consumer products to retail outlets on a daily basis.

This incidental transportation by wholesaler-distributors of small quantities of hazardous materials certainly does not create a hazard to either the driver or the public. Supposedly, the function of shipping papers is to communicate the hazard of that shipment in a vehicle to emergency and fire personnel who may be called to the scene of an accident involving that vehicle. As we have noted earlier the Uniformed Fire Fighters Association of Greater New York indicated it does not believe that shipping papers on small quantities would be of benefit and the general manager of the International Association of Fire Chiefs has indicated "it is our opinion . . . the shipping paper notations serve no practical purpose. They could be eliminated for all those commodities which, because of their relatively low hazard, have been exempted from virtually all of the requirements of the regulations".

Mr. Chairman, we would urge your committee to adopt language to amend the Hazardous Material Transportation Act, signed into law January 3, 1975, to exempt from shipping paper requirements small quantities of hazardous materials. At the time of the bills' signing the President said, "I am directing the Secretary of Transportation to implement this bill in such a way as to insure the public safety, while at the same time not putting any unnecessary burden or paperwork on our nation's industry and trade. I think regulations on hazardous materials can be enforced in a way to meet both these objectives". It is our industry's contention that this has not occurred and we urgently request your committee take action in this area to alleviate the staggering economic impact shipping paper requirements force upon our industry.

We appreciate this opportunity to explain the problems our industry is having regarding the shipment of small quantities of hazardous materials.

STATEMENT OF LOUIS H. T. DEHMLOW, CHAIRMAN, SPECIAL COMMITTEE OF SUPPLIERS TO THE REINFORCED PLASTICS INDUSTRY

I. INTRODUCTION

The Special Committee of Suppliers to the Reinforced Plastics Industry ("Special Committee") is composed of sixteen firms which distribute polyester resins ("resins") to over 9,500 reinforced plastics fabricators. Our businesses, and those of the fabricators whom we serve, have been severely disrupted by recent Department of Transportation (DOT) regulations classifying resins as "flammable liquids," despite the absence of any record of personal injury or property damage attributable to a fire caused by them.

Resins are viscous, syrupy substances. They are the major ingredient used in the production of fiberglass and cultured marble products. In over forty years of use there is no record of loss of life or property related to the storage, shipment or use of resins. Prior to January 1, 1976, DOT did not regard resins as "hazardous." Yet, because the "flash point" of resins is below 100° F., they are now considered "flammable liquids"<sup>1</sup> and steel drums carrying resins must be "red-labelled." As a result, thousands of resin users and distributors—most of whom are small businessmen—will be forced to incur significant capital outlays for the reconstruction of their plants and storage facilities. Ultimately, these costs will be reflected in the higher prices paid by consumers for fiberglass products and in the increased number of our nation's unemployed.

To avoid the unwarranted economic costs of "red-labelling" products, such as polyester resin, which have never been regarded as combustion hazards, the Special Committee recommends that this Committee amend the Hazardous Materials Transportation Act to prohibit DOT from arbitrarily classifying as "hazardous," a substance which DOT has not tested to determine its flammability potential. Such tests should measure the substance's rate of evaporation and viscosity as well as its flash point.

II. POLYESTER RESINS ARE NOT "HAZARDOUS MATERIALS"

To the knowledge of the Special Committee there is no known incident of loss of life, property or personal injury related to the handling, transporting, or storing of resins. The Special Committee has surveyed users and distributors of resins to solicit first-hand information regarding incidents of damages to property or loss of life resulting from fires attributable to resins. Not a single respondent to our survey reported having knowledge of a fire caused by resins. To the contrary, many users brought forth evidence which indicates that resins are not hazardous liquids. A typical response to our questionnaire was provided by a cultured marble fabricator in Kearney, Nebraska:

"I have been working with Polyester Resin for the past nine years and have never considered it a hazard in any way. I believe the so-called dangers of this product have been extremely exaggerated."<sup>2</sup>

In a further effort to uncover any reports of injury or property loss attributable to polyester resin, counsel to the Special Committee submitted a Freedom of Information Act request to the Department of Transportation requesting all documents on file at the Department which would indicate the dangers of transporting resins. The Department's response to this request—consisting of materials submitted to the Department since 1971 from representatives of private corporations, trade associations, local fire departments, and agencies of the Federal Government—failed to include a single reference to the flammability dangers of resins. Not one of the eighty documents received from the Department includes evidence that the use or transportation of resins has led to personal injury or property loss.

The fact that resins are not hazardous substances is documented in the reports of several instances in which plants containing drums of resin were burned, but the resin did not ignite and was subsequently sold. On June 13, 1970, fire completely destroyed the Fiberglass Hawaii facility at 1377 Colburn

<sup>1</sup> See 49 C.F.R. § 173.115(a) as promulgated on Jan. 24, 1974, 39 Fed. Reg. 2770 (1974).

<sup>2</sup> A copy of this response is attached hereto as Appendix A.

Street in Honolulu, Hawaii. This fiberglass plant contained thirty drums of resin. All thirty drums were recovered from the fire damages and later sold.<sup>3</sup> On December 18, 1974 a cement block building housing Craftline Industries located at 1880 Fruit Road in Algonac, Michigan, 48001, was totally destroyed by fire. The heat generated was so intense that steel beams within the building were twisted, yet resins stored in drums within the building did not ignite and were subsequently sold.<sup>4</sup> Most recently, in a letter dated March 5, 1976, the President of Cemcel Corporation of Greenbrae, California described a fire at his plant which was most intense in the portion of his building which contained two drums of polyester resin. After the fire was extinguished, he discovered that the resin had not ignited and, in fact, it was later used in production.<sup>5</sup>

### III. THE PHYSICAL AND CHEMICAL PROPERTIES OF RESIN PRECLUDE IT FROM BEING A HAZARDOUS LIQUID

The rate of evaporation of polyester resin and its viscous texture are two of the major factors which preclude polyester resin from being a combustion hazard.

(a) *Rate of evaporation.*—The major physical property of a substance producing a fire hazard is the rate at which it produces combustible vapors at a given temperature. Tests conducted for the Special Committee on equipment owned by the Shell Development Company demonstrate that the hazard of a fire from polyester resin is markedly below that of flammable liquids because of the retarded rate of evaporation with time. The results of these tests, attached hereto as Appendix E, establish that the evaporation rate of the average polyester resin sample was sixteen times slower than that of the slowest of two flammable liquids tested. As measured by Shell's Evaporometer, the n-butyl acetate and styrene samples fully evaporated in 1.6 and 3.1 hours respectively. In contrast, only 28.3 percent of the volatile portion of the average polyester resins sample had evaporated after 5 hours.

(b) *Viscosity.*—Unlike flammable liquids, resins are thick, viscous materials. Like all organic compounds, they will burn under certain conditions when ignited. In such instances, the material will behave like roofing tar, and not run off rapidly as will gasoline and other flammable liquids. Once again, there is a radical and dramatic difference in viscosity between resin and flammable liquids. At 100° F., resin has a viscosity of 200 centapoise to 3,000 centapoise. By contrast, the viscosity of acetone is 0.3 centapoise.

### IV. THE DEPARTMENT OF TRANSPORTATION HAS NEVER TESTED POLYESTER RESIN TO DETERMINE WHETHER IT IS A "HAZARDOUS MATERIAL"

Section 104 of the Transportation Safety Act of 1974 reads as follows: "Upon a *finding* by the Secretary [of the Department of Transportation] . . . that the transportation of a particular quantity and form of material in commerce may pose an unreasonable risk to health and safety or property, he shall designate such quantity and form of material . . . as a hazardous material." (Emphasis added)

This provision clearly requires that the Secretary of DOT thoroughly investigate potentially "hazardous materials and subject to the Department's regulations only those substances which have, in fact, been proven to be "hazardous." The factual data supporting the regulations classifying resins as "hazardous" must appear in the administrative record.<sup>6</sup> DOT may not simply base its regulations on its "experience" without providing the required factual support.<sup>7</sup> The federal courts require that federal agencies provide a factual basis in support of their regulations because: "[a] regulation perfectly reasonable and appropriate in the face of a given problem may be highly capricious if that problem does not exist."<sup>8</sup>

The classification of polyester resin as a hazardous material is "highly capricious" because there is no evidence to indicate that its transportation poses

<sup>3</sup> An affidavit supporting these statements, signed by Mr. Kenneth E. Culler, is attached hereto as Appendix B.

<sup>4</sup> An affidavit supporting these statements, signed by Mr. James L. Brenner, is attached hereto as Appendix C.

<sup>5</sup> A copy of a letter from Charles Marsh, Jr., to Robert Elliott, dated Mar. 5, 1976, in support of these statements is attached hereto as Appendix D.

<sup>6</sup> *Associated Industries of New York State Incorporated v. U.S. Department of Labor*, 487 F.2d 343, 353 (2d Cir. 1973).

<sup>7</sup> *National Nutritional Foods Association v. Weinberger*, 512 F.2d 688, 701, n.11 (2d Cir. 1975).

<sup>8</sup> *City of Chicago v. FPC*, 458 F.2d 731, 742 (D.C. Cir. 1971).

a threat to life or property. As indicated above, there are no documents on file at DOT which reveal a single injury or property loss attributable to resins. Moreover, no tests have been conducted on the physical and chemical properties of resin to determine their flammability potential. By arbitrarily classifying as "flammable" all liquids with "flash points" below 100° F., DOT has failed to comply with the statutory mandate in § 104 of the Transportation Safety Act of 1974. It has classified resins "flammable" without having found that they "may pose an unreasonable risk to health and safety or property." Instead, the Department has "shortcutted" its statutory responsibilities by relying on one criteria, the "flashpoint" of a substance, in determining whether a material may be "hazardous."

#### V. THE "FLASHPOINT" IS NOT A RATIONAL INDEX OF FLAMMABILITY

When DOT promulgated its "flammable liquid" regulations it heavily relied on a 1970 Report by the Bureau of Mines. The first sentence of this Report conceded that the flammability hazard of a particular liquid is only partly defined by the liquid's "flashpoint," the temperature at which flammable vapor-air mixtures can be formed.<sup>9</sup> This statement is logical considering the results of an earlier Bureau of Mines Report which demonstrated that the flashpoint of a given substance can vary by as much as 50° F., depending upon the test method used.<sup>10</sup> In adopting the "flashpoint" method of measuring flammability, DOT impliedly rejected the recommendation of Dr. Norman White whose studies had shown that: "the most significant factor in the *creation* of a fire hazard is the rate of evaporation of the liquid."<sup>11</sup>

If the Department had tested polyester resin to determine whether it was actually "flammable" or, in accordance with Dr. White's recommendation, if DOT had measured resin's rate of evaporation, these tests would provide a rational basis for gauging the dangers, if any, posed by the transportation of resin. By ignoring resin's retarded rate of evaporation and its extremely viscous texture DOT has failed to classify resins as "flammable" on any rational basis.<sup>12</sup> The economic consequences of these errors, particularly for the small businessman, may be disastrous.

#### VI. THOUSANDS OF SMALL BUSINESSES WILL BE ECONOMICALLY DISRUPTED BY THE UNWARRANTED CLASSIFICATION OF RESINS AS "FLAMMABLE LIQUIDS"

An Economic Impact Study prepared by Frank Lynn & Associates of Chicago, Illinois, attached hereto as Appendix F, has produced the following conclusions regarding the impact on small businesses of classifying resins as "flammable liquids":

Resins are used by 9,641 firms. Seventy-three percent of these firms (7,000) are small businesses which use less than ten drums of resins each month. More than 60,000 men and women are employed by 9,100 affected firms with less than 20 employees each.

<sup>9</sup> Kuchta, Joseph M. and David Burgess, "Recommendation of Flash Point Method for Evaluation of Flammability Hazard in the Transportation of Flammable Liquids," Report No. 54131 (Apr. 29, 1970).

<sup>10</sup> Humphrey, H. B. and Morgis, G., "Safety With Solvents," Bu. Mines, IC 7757 (1957).

<sup>11</sup> Letter from Dr. Norman White, Shell Chemical Company, to Mr. W. K. Byrd, Secretary, Hazardous Materials Regulations Board, dated Apr. 29, 1965.

<sup>12</sup> Although we challenge the propriety of using the "flash point" method to measure a substance's flammability potential, it should be observed that even using this method, resin is less flammable than vanilla extract, Vicks NyQuil, and many other products in everyday use. The flash point of resin lies between 85° F. and 90° F., whereas the flash point of vanilla extract is 81° F., and the flash point of Vicks NyQuil is 80° F.

The presence of a red label on resin containers would bring thousands of small businesses into violation of their local fire codes. To assure compliance with these codes, small businesses would be forced to rebuild their facilities. Specifically, they would be required to install fire walls, new electrical systems, new windows and doors, new heating and ventilation systems, and sprinklers.

For the 9,100 small businesses with less than 20 employees each affected by these regulations, the cost of reconstructing their plants to accommodate red label material under local fire codes would exceed \$292 million. These costs represent more than two years' net profits for those firms. For many, financing for such drastic reconstruction is neither feasible nor available.

Because many of the costs of compliance are fixed, the impact will be greater upon the smaller companies. For the 7,000 smallest firms, the cost of reconstruction will exceed \$150 per square foot. For the 541 largest users, costs will range from \$73 per square foot to zero for those now fully equipped to handle red label material. A great number of the small businesses depend upon resin in their sole line of business. An undefined but large number of these will be forced to close down with a loss of millions of dollars in investment and thousands of jobs.

#### VII. CONCLUSION

Throughout the last several months, the Special Committee has vigorously pursued DOT's administrative channels to challenge the propriety of classifying polyester resin as a "flammable liquid."<sup>13</sup> To date, polyester resin remains classified as a "hazardous material," despite the absence of evidence that resin poses a threat to life or property.<sup>14</sup>

The plight of the distributor and user of polyester resin may be shared by many other firms which handle products which have been arbitrarily classified by DOT as "hazardous materials" solely by use of the Department's "flashpoint" method of gauging flammability. The Special Committee urges this Committee to strengthen the Hazardous Materials Transportation Act by requiring DOT to concentrate on the regulation of those materials which are proven threats to life or property. Polyester resin poses no such threat. The resources employed by DOT to establish and enforce the "flammable liquid" regulations are misallocated to the extent that they are directed toward regulating the transportation of polyester resin. We recommend that the first sentence of § 104 of the 1974 Act be amended to read as follows:

"Sec. 104. Upon a finding by the Secretary, *based upon established methodology which takes into account all relevant chemical and physical properties of each particular material*, that the transportation of a particular quantity and form of material in commerce may pose an unreasonable risk to health and safety or property, he shall designate such quantity and form of material or group or class of such materials as a hazardous material." (Italicized language to be added to present § 104.)

We will be pleased to assist the Committee in any way during the consideration of any amendments to the Hazardous Materials Transportation Act.

<sup>13</sup> An Application for Exemption was originally filed with the Department's Office of Hazardous Materials Operations on Dec. 17, 1975 and a revised Application was submitted on Jan. 28, 1976.

<sup>14</sup> DOT has exempted many products which are more flammable than resin. A complete exemption from DOT's Hazardous Materials Regulations has been granted to certain alcoholic beverages having a rated capacity of one gallon or less. See 40 Fed. Reg. 22265 (1975). As measured by DOT's "flashpoint" test, one of these liquids, scotch whiskey, has a flashpoint of 82° F., four degrees lower than resins. A partial exemption has been granted to liquids having flash points of 73° F. and above which are shipped in containers having a rated capacity of one gallon or less, provided strong outside containers are used. Steel drums, however, are not required.

## APPENDIX A

## SURVEY QUESTIONNAIRE

Please provide the following information:

Your type of business:  Distributor of polyester resin  
 (Please check)  User of polyester resin  
 Others: \_\_\_\_\_  
 (Please list)

On the average, how many drums of polyester resin does your firm use or handle each month? 20-25

-----  
 Please respond to the following questions:

1. Has your firm ever had a fire due to polyester resin \_\_\_ Yes  No
2. If the answer to Question No. 1 is YES, how many fires? \_\_\_\_\_
3. Do you know of any fires in your area or in your experience which have started due to polyester resin? \_\_\_ Yes  No
4. If the answer to Question No. 3 is YES, how many fires? \_\_\_\_\_
5. In what type of building is your manufacturing area located?  
 Pre-engineered metal building  
 Concrete block  
 Masonry  
 Wood frame  
 Other: \_\_\_\_\_  
 (Please list)
6. In what type of building is your storage or warehousing area located?  
 Pre-engineered metal building  
 Concrete block  
 Masonry  
 Wood frame  
 Other: \_\_\_\_\_  
 (Please list)
7. How many square feet of space does your manufacturing area consume? 5000
8. How many square feet of space does your storage or warehousing area consume? Stored in same area
9. Do you have an explosion-proof electrical system (Class 1, Group D) in your manufacturing area? \_\_\_ Yes  No
10. Do you have an explosion-proof electrical system (Class 1, Group D) in your storage or warehousing area? \_\_\_ Yes  No
11. Is your manufacturing area sprinklered? \_\_\_ Yes  No
12. Is your storage or warehousing area sprinklered? \_\_\_ Yes  No

13. What type of heating do you have in your manufacturing area?  
 Open flame, forced air  
 Air makeup  
 Other: \_\_\_\_\_  
 (Please list)
14. What type of heating do you have in your storage or warehousing area?  
 Open flame, forced air  
 Air makeup  
 Other: \_\_\_\_\_  
 (Please list)
15. What type of lighting do you have in your manufacturing area?  
 Incandescent  
 Florescent  
 Other: \_\_\_\_\_  
 (Please list)
16. What type of lighting do you have in your storage or warehousing area?  
 Incandescent  
 Florescent  
 Other: \_\_\_\_\_  
 (Please list)
17. Being as specific as possible, what will be the economic impact of the polyester resin RED LABEL upon your firm? Probably  
Higher cost
18. Will it go as far as to throw you out of business? \_\_\_ Yes \_\_\_ No  
 Maybe
19. Please feel free to make additional comments or suggestions: \_\_\_\_\_

*I have been working with Polyester Resin for the last 9 years and have never considered it a hazard in any way. I believe the so called dangers of this product have been extremely exaggerated.*

thank you for your help.

*Patony Custom Marble  
 Keno, Mo.*

## APPENDIX B

## AFFIDAVIT OF KENNETH E. CULLER

STATE OF HAWAII, CITY AND COUNTY OF HONOLULU

KENNETH E. CULLER, being first duly sworn on oath, deposes and says:

1. That he is now and has been since 1966 President and General Manager of Fiberglass Hawaii, Inc.;
2. That they have been located in a metal warehouse located at 1377 Colburn Street, Honolulu, Hawaii, since 1966;
3. That on June 13, 1970, the metal warehouse at the above-stated address was destroyed by fire;
4. That also located in the building was furniture, lumber, and pre-fabrication building units in addition to polyester resin;
5. That the fire destroyed the lumber, pre-fabrication units, and furniture;
6. That the heat in the building was so intense that the steel beams twisted and partially collapsed;
7. That there were 30 drums of polyester resin;
8. That although these drums were seared by the flames and intense heat, the resin was not harmed and was subsequently moved to a temporary location and sold.

Further affiant sayeth not.

DATED: Honolulu, Hawaii, this 11th day of December, 1975.

KENNETH E. CULLER.

Subscribed and sworn to before me this 11th day of December, 1975.

\_\_\_\_\_, *Notary Public*.*First Judicial Circuit, State of Hawaii.*

My Commission Expires March 30, 1979.

## APPENDIX C

## AFFIDAVIT

STATE OF MICHIGAN, COUNTY OF WAYNE

JAMES L. BRENNER, being duly sworn deposes and says that on December 18, 1974, I was president of Craftline Industries, Inc. of Algonac, Michigan and on that date a fire occurred at our plant located at 1880 Fruit Road after the close of work. We were in the process of producing industrial and architectural fiberglass components.

Algonac is a small community of approximately 5,000 residents and, therefore, the fire departments of several surrounding communities were called to assist in the fire.

The building burned to the ground and the premises were still smoldering several days later.

The main building was of block construction with a composition roof. Attached to the main building was a "Strand Steel" type building with a total area of 18,800 square feet. The sides of the steel building turned white from the heat and the steel girders were twisted.

At the back of the plant in the steel structure there was a steel tank containing approximately 40,000 pounds of general purpose polyester resin. After the fire the resin was drained from the tank and sold for further use. The tank itself was reusable though the exterior was charred, and was sold for further use.

Additional resin (fire retardant polyester resin) stored in approximately 30 to 40-55-gallon steel drums was also on the premises. To our best knowledge, information and belief, most of the resin in the unopened drums was reusable. Part of the resin was unusable because of age and the heat of the fire caused it to coagulate.

JAMES L. BRENNER.

Subscribed and Sworn to before me this 12th day of December, 1975.

BEVERLY DAVIS, *Notary Public*,*Macomb County, Mich., Acting in Wayne.*

My Commission expires October 29, 1977.

## APPENDIX D

CEMCEL, CORP.,  
Greengrae, Calif., March 5, 1976.

Mr. ROBERT ELLIOTT,  
Royell, Inc.  
Mountain View, Calif.

DEAR BOB: Following are comments of mine based on Cemcel's experience with polyester resins and their flammability.

About ten years ago, while we were in our Sausalito location, we had a plant fire on a Saturday which was started in dried grass alongside the building. The building was plywood and the fire worked into the building and ignited our supply of cardboard packaging materials plus an inventory of FRP sheet material. The fire developed considerable heat because it melted some acrylic sheets at the other end of the room. The hottest part of the fire occurred near our mixing area where we had two drums of polyester resin.

The fire was extinguished in time by the fire department and we found that the polyester had not ignited, and, in fact, was unaffected and was later used in production. Consequently, I have questioned whether polyester resin is really as flammable as the fire safety people state it to be.

Because of the recent red labelling our local fire department is now requiring us to store all our polyester resin stock, except for 240 gallons, outside of our building. We now are in a sprinklered steel building. We are limited outside space and in order to protect adjacent properties we will have to construct a 6' block wall enclosure at an expense of about \$2500.

So we are very interested in your contention that polyester resins are in fact not as flammable as claimed and therefore should not be red lebeled.

Yours truly,

CHARLES MARSH, Jr., *President.*

## APPENDIX E

ANALYSIS OF THE ECONOMIC IMPACT RESULTING FROM A HAZARDOUS MATERIAL LABELING OF POLYESTER RESIN STORED AND USED IN DRUMS BY THE REINFORCED PLASTICS INDUSTRY

(For the Special Committee of Supplies to the Reinforced Plastics Industry, Dec. 12, 1975)

This report presents the findings and conclusions of an analysis of the projected economic impact to the reinforced plastics industry and U.S. economy resulting from the "Red Labeling" of polyester resin as a hazardous material.

The analysis is based on data derived from the following sources:

A "special committee" survey of selected representative end-users;

Interviews with key management people within the industry, including: Resin manufacturers, resin distributors, resin users, trade associations, architectural/design engineers, fire prevention departments, and insurance companies;

Statistical data available from: Industry associations, U.S. Department of Commerce, and industry trade publications.

Interviews, data collection and economic impact analyses were executed by Frank Lynn and Associates of Chicago—the company is an industrial consulting firm whose compensation for this independent economic analysis is in no way related to the outcome or result of its use.

## ECONOMIC IMPACT CONCLUSIONS

*Introduction*

The following portrays a profile of the minimum economic impact resulting from a hazardous material labeling requirement for polyester resin transported, stored and used in drums.

The term "minimum" applies to the number of firms affected—a consequence of the industry being inherently "small business" in nature, with many firms difficult to identify due to their lack of visibility statistically and low participation rate within trade associations.

The dollar impact is ranged due to variances in . . .

The square footage of manufacturing and storage area requiring conversion for compliance with local hazardous material fire codes. Individual companies operate in "available" space rather than "optimum" space, therefore, the actual space devoted to resin storage and use for a given production capacity varies considerably.

The cost/square foot in design, materials and labor to convert existing facilities.

#### ECONOMIC IMPACT OVERVIEW

The total potential economic impact on the reinforced plastics industry:

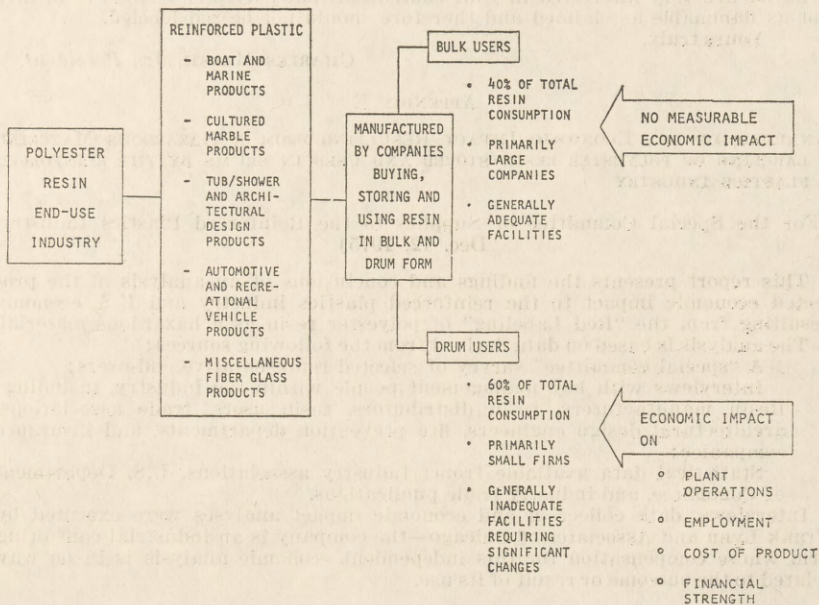
The primary impact will be on the small firms in the industry that buy polyester resins in drums;

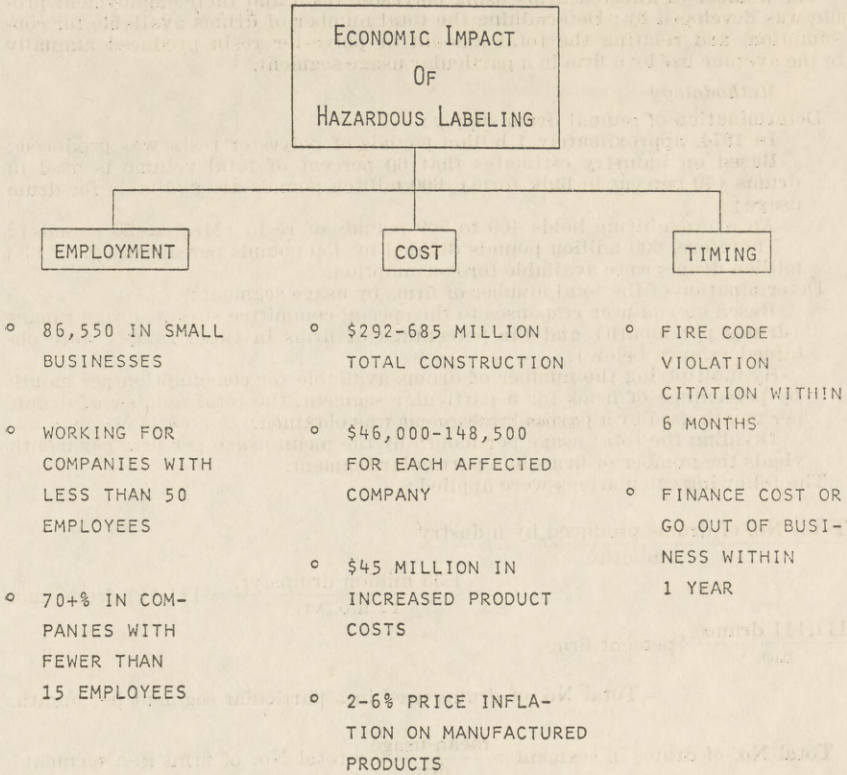
These small firms employ a total of 86,500 workers, with approximately 60,000 in firms with less than 20 employees;

The cost of upgrading their existing facilities to comply with existing fire codes will entail an estimated \$292-685 million investment by the affected firms;

These facility changes will have to be made within a 5-8 month period or these firms will be liable for fines of \$200/day for non-compliance; and

The added costs due to increased raw material costs (i.e., insurance premiums, transportation charges and handling costs) and the cost of financing these required facility improvements will increase the price to the consumer by \$90-150 million/year.





**CONCLUSION SUMMARY AND SUPPORTING DATA**

*Industry universe affected*

The majority of manufacturing firms using polyester resin in drums are small businesses employing an average of less than 20 people.

**AFFECTED INDUSTRY PROFILE**

Number of firms affected	Average number of employees per firm	Total employees affected
7,000	4	128,000
2,000	15	131,500
541	50	27,050
9,641	-----	86,550

<sup>1</sup>Approximately 60,000 in firms employing less than 20 people.

The number of affected firms using polyester resin and their employment profile was developed by: Determining the total number of drums available for consumption, and relating the total amount of polyester resin produced annually to the average use by a firm in a particular usage segment.

#### Methodology

Determination of annual drum supply:

In 1974, approximately 1 billion pounds of polyester resin was produced;

Based on industry estimates that 60 percent of total volume is used in drums (40 percent in bulk form), 600 million pounds are available for drum usage;

An average drum holds 400 to 500 pounds of resin (Mean=450 pounds);

Therefore, 600 million pounds divided by 450 pounds per drum equals 1.33 million drums were available for consumption.

Determination of the total number of firms by usage segment:

Based on end-user responses to the special committee survey, usage ranges (drums per month) and the percentage of firms in these ranges were obtained (shown below).

By multiplying the number of drums available for consumption per month by percentage of firms for a particular segment, the total number of drums per month used by a particular segment was obtained.

Dividing the total usage per month by the mean usage per firm per month yields the number of firms in a particular segment.

The following calculations were applied:

$$\begin{aligned} & \frac{\text{Total No. of drums produced by industry}}{\text{month}} \\ & \quad = \frac{1.33 \text{ million drums/yr.}}{12 \text{ mo./yr.}} = 111,111 \text{ drums/mo.} \\ & \frac{111,111 \text{ drums}}{\text{mo.}} \times \text{percent firms} \\ & \quad = \text{Total No. of drums used in a particular segment per month.} \end{aligned}$$

$$\text{Total No. of drums in segment} \div \frac{\text{mean usage}}{\text{firm}} = \text{total No. of firms in a segment}$$

Range (drums per month)	Percent firms	Total drums used per month	Range mean (drums per month)	Firms in range segment
1 to 10.....	31	34,444	5	~7,000
11 to 30.....	38	42,222	20	2,100
31 to 75.....	18	20,000	53	377
76 to 100.....	13	14,445	88	164
Total.....		111,111		~9,641

Determination of employee pattern for firms using polyester resin in drums: Information from the industry associations regarding average number of employees per firm by production output classification plus the estimate of total number of firms gives the following:

Usage segment (drums per month)	Average number of employees per firm	Number of firms	Average number of employees in segment
1 to 10.....	<sup>1</sup> 3-5	7,000	28,000
11 to 30.....	<sup>2</sup> 10-20	2,100	31,500
31 to 75.....	( <sup>3</sup> )	540	27,050
More than 75.....			
Total employees in drum segment.....			86,550

<sup>1</sup> Average.

<sup>2</sup> Average 15.

<sup>3</sup> Average 50.

*Economic impact to the industry*

The minimum economic impact to affected firms (users of polyester resin in drums) is determined to be a combination of two factors: The increased annual cost of raw materials resulting from incremental increases in insurance, transportation and handling—\$45 million; and the total construction cost for bringing existing facilities into compliance with local codes governing use of hazardous materials—\$292 million to \$685 million.

These dollar figures were developed from the following:

*Determination of raw material cost increase.—*

Industry estimated impact=15 percent (combined cost of transportation, packing, insurance, and handling).

Total current annual cost of raw material in drums:

$$\$0.50/\text{lb (average)} \times 600 \text{ million lbs}^1 = \$300 \text{ million}$$

Total increased cost:

$$\$300 \text{ million} \times 15 \text{ percent} = \$45 \text{ million}$$

*Determination of construction costs.—*

Average requirements to be met: 4 hr. rated firewall; class I, group D electrical connections; 2 hr. fire rated ceilings; 2 hr. fire rated 48 inch door with 4 inch sill; sprinkler system with separate water supply; and heated make-up air to provide 1CEM/sq. ft. floor area ventilation.

Cost ranges developed from actual quotations by architectural/engineering firms for 1000 sq. ft. work areas:

Exterior walls-----	\$15,000-\$22,000
Ceiling-----	1,000- 3,000
Doors-----	500- 2,000
Ventilation-----	5,000- 10,000
Electrical fixtures-----	2,000- 5,000
Sprinklers-----	2,000- 5,000
<hr/>	
Total cost per 1,000 sq. ft.-----	25,500- 47,000
Cost per sq. ft.-----	25.50 - 47.00

Manufacturers using polyester resin products indicate small firms would require conversion of 20 to 25 percent of their present facilities, 15 to 20 percent for larger firms.

Using the "special committee" survey, the following sq. ft. requirements by industry segments is developed:

Size of firm (drums per month)	Number of firms in segment	Average total square feet	Square feet to be converted	Cost per firm	
				\$25.50 per square foot	\$47.00 per square foot
1 to 10-----	7,000	4,900	980 to 1,225	\$24,990 to \$31,237	\$46,060 to \$57,575
11 to 30-----	2,100	10,500	1,575 to 2,100	\$40,162 to \$53,550	\$74,025 to \$98,700
31 or more-----	541	15,800	2,370 to 3,160	\$60,435 to \$80,580	\$111,390 to \$148,520

Based on the above, the range of total industry conversion cost is determined to be:

7,000 firms at \$25,000 to \$57,000=\$175 Million to \$399 Million  
 2,100 firms at \$40,000 to \$98,000=\$84 Million to \$206 Million  
 541 firms at \$60,000 to \$148,000=\$33 Million to \$80 Million  
 =\$292 Million to \$685 Million

<sup>1</sup> Sixty percent of total resin production.

*Impact on the economy*

The annual impact on the economy resulting from the industry's need to recover increased business costs through increased prices will be . . .

	<i>Millions</i>
Annual increased cost of raw materials.....	\$45
Annual construction cost (based on "short hand" calculation for 10 yr. financing at 10 percent).....	45-105
<b>Total .....</b>	<b>90-105</b>

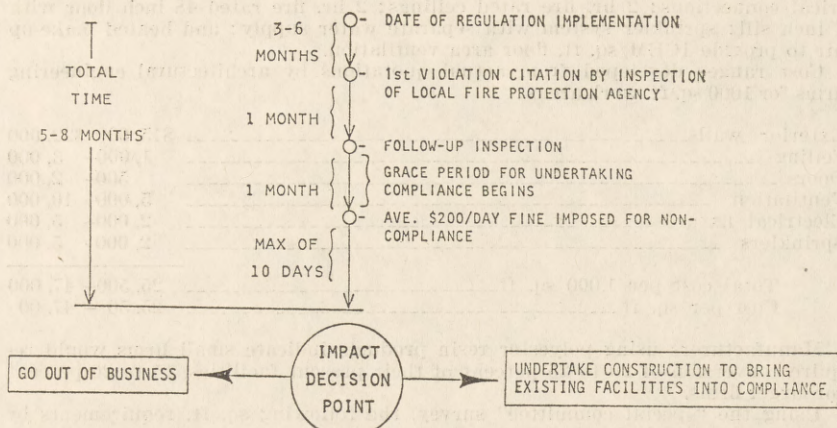
Inflationary impact on products sold by affected firms :

	<i>Estimated sales of affected firms (billions)</i>
Estimated inflationary impact of increased business cost :	
4 percent to 6 percent.....	\$2.4
2 percent to 3 percent.....	4.7

*Economic impact timing*

The analysis concludes that existing fire protection inspection procedures will result in the economic impact of hazardous labeling being experienced by an affected firm within the 1st year of the regulation's implementation.

The decision path for affected firm will be :



## APPENDIX F

SHELL DEVELOPMENT Co.,  
Houston, Tex., January 15, 1976.

Mr. MORGAN G. WHITE,  
Houston, Tex.

DEAR MR. WHITE: This is in response to your visit on January 6, 1976 regarding the evaporation rate of styrene alone and in admixture with polyester resins. As pointed out by Mr. E. C. Larson, our conventional volatility measurements are made on solvents only using the Shell Evaporometer (automatic recording) using a filter paper for the evaporating surface. This surface is not applicable for resin solutions. In these instances the filter paper is replaced with an aluminum foil container 12mm×4mm×2mm (lwd) and the sample size is approximately 0.09 ml instead of 0.70 ml as used for solvents on filter paper. Otherwise the operating conditions are unchanged.

The evaporation data for styrene is given in Table 1. Data for the resin solutions (samples supplied by Mr. Louis Dehmlow of Great Lakes Solvents, Chicago, Illinois) are shown in Table 2 along with comparable results for styrene only and normal butyl acetate (99 percent purity). The "label" identity of the polyester solutions is given in Table 2. You will note that we measured the non-volatile content of the samples in order to calculate the evaporation loss based on the percentage of volatiles present. Since the evaporation rates were so slow we did not carry the tests to completion and expressed the percentage evaporated

for the first five hours. The evaporation data in Table 2 are compared graphically in figure 1.

Our Setafash measurements (ASTM D 3273-73) showed that all five resin solutions and styrene had flash points below 100° F. We did not establish the exact flash points.

We trust that this information is satisfactory for your purposes.

G. W. EDWARDS,  
(for R. E. Young).

Enclosures.

TABLE 1.—EVAPORATION CHARACTERISTICS OF STYRENE<sup>1</sup>  
SHELL THIN FILM EVAPOROMETER

Test conditions:	
Temperature.....	25° C.
Relative humidity.....	0-5 percent.
Airflow.....	21 l/min (¾ cu ft/min).
Substrate.....	9 cm Whatman No. 4 Filter Paper.
Sample size.....	0.70 ml.

% evaporated	Evaporation time, seconds
10.....	102
20.....	200
30.....	300
40.....	400
50.....	500
60.....	600
70.....	700
80.....	805
90.....	<sup>2</sup> 915
95.....	985
100.....	1,120

<sup>1</sup> From MC/B, stabilized.

<sup>2</sup> Normal butyl acetate (99 percent purity) has a 90 percent evaporation time of 470 seconds.

TABLE 2.—EVAPORATION CHARACTERISTICS OF SOLVENT FROM POLYESTER SOLUTIONS—  
SHELL EVAPOROMETER

Test conditions:	
Temperature.....	25°C.
Relative humidity.....	0-5 percent.
Airflow.....	21 l/min (¾ cu ft/min).
Substrate.....	Aluminum foil vessel, 12×4×2 mm.

Sample identity	(1)	(2)	(3)	(4)	(5)	NBAc	Styrene
Nonvolatile content, % w.....	59.9	72.2	67.2	54.5	66.9	0	0
Total sample, mg.....	94.0	100.0	99.0	96.5	98.3	( <sup>1</sup> )	( <sup>1</sup> )
Volatiles in sample, mg.....	37.7	27.8	32.5	43.9	32.5	74	80
Percent by weight volatile evaporated							
Evaporation time, hours:							
1.....	18.6	9.4	20.6	19.4	3.4	72	40
2.....	21.2	10.8	27.7	25.1	4.6	( <sup>2</sup> )	70
3.....	22.5	13.7	33.8	30.0	5.2	-----	96
4.....	24.1	15.5	40.0	-----	5.8	-----	( <sup>2</sup> )
5.....	25.7	16.2	43.1	-----	-----	-----	-----

<sup>1</sup> 0.09 ml.

<sup>2</sup> 100 percent in 1.6 hr.

<sup>3</sup> 100 percent in 3.1 hr.

Sample identity:

(1)=COREZYN 277W from commercial resins, division of Interplastics Corp., Minneapolis, Minn.

(2)=COREZYN 1032 1B from commercial resins division of Interplastics Corp., Minneapolis, Minn.

(3)=GC E-2119 from commercial resins division of Interplastics Corp., Minneapolis, Minn.

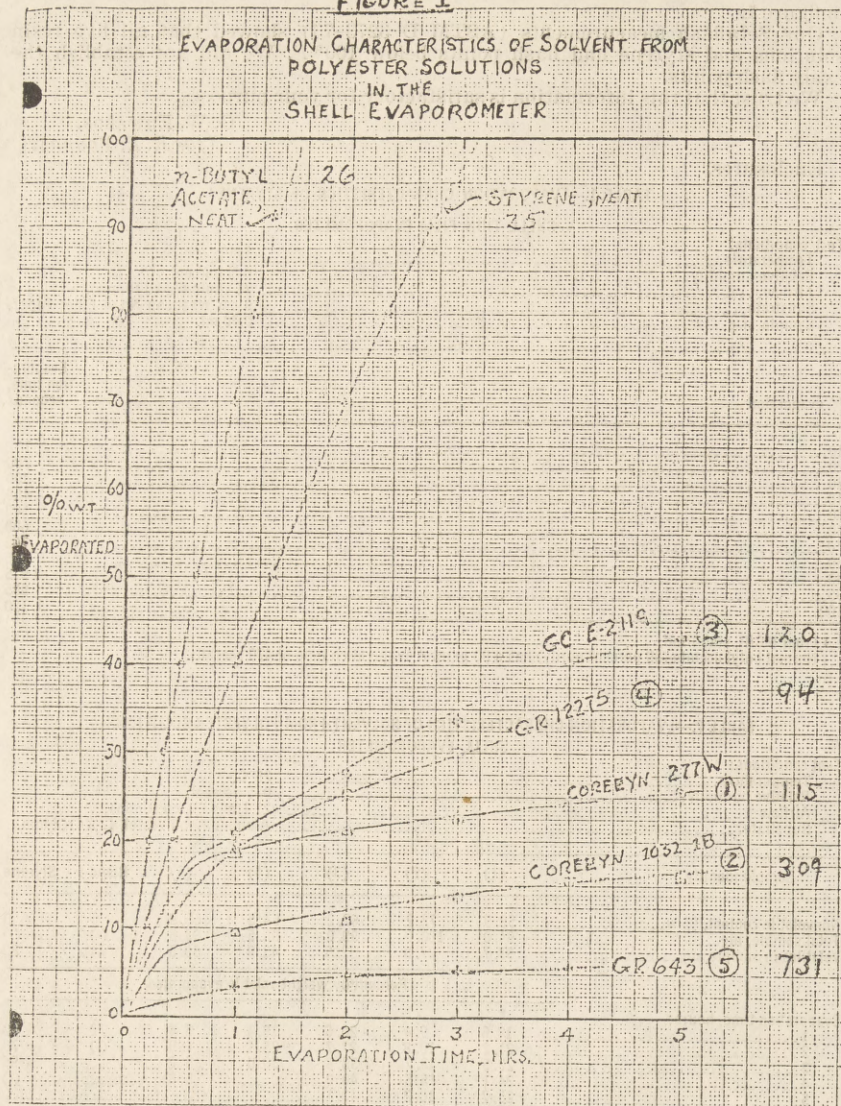
(4)=GR 12275 from W. R. Grace, Jacksonville, Ark.

(5)=GR 643 from W. R. Grace, Jacksonville, Ark.

NBAc=Normal butyl acetate, 99 percent purity.

Styrene=Stabilized styrene from NC/B.

FIGURE 1



## REPORT OF EVAPORATION RATE STUDY

Evidence has been submitted in the past<sup>1</sup> to support the contention that the degree of hazard presented by substances with flash points above 60 F° and more importantly those above 80 F° is relatively minor as the causal agent in the initiation of accidental fires and explosions. It has been pointed out that the rate of evaporation plays in important part in the fire causing potential of a substance. In addition, viscosity must also be considered when the evaluation of hazard is undertaken. In the case of a leak or spill, a viscous liquid will not spread as far or as rapidly as a low viscosity material and will therefore be easier to confine. The viscosity also retards the rate at which volatile materials escape from a mixture.

<sup>1</sup> Letter, White to Byrd, DOT, Apr. 29, 1968.

The following information and attachments are presented to support the position taken by the Special Committee of Suppliers to the Reinforced Plastics Industry, in regard to the classification of polyester resins as flammable liquids.

Reported, are tests on n-butyl acetate (nBa), styrene (sty) and five commercial products consisting of polyester resin-styrene mixtures. In end use applications the mixture is catalyzed and the reactive diluent styrene reacts with the polyester and forms a solid material. In the absence of an added catalyst the styrene will slowly release from the mixture to the atmosphere or to the air space in a containing vessel. In a closed container of polyester resin the concentration of styrene will reach equilibrium and at a temperature of about ninety degrees F°, will flash when tested by the closed cup method. In the open air, with only a slight movement of air over the surface of the viscous fluid the vapors will not ignite at 90 F° unless the surface of the liquid is actually touched by the ignition source. Once ignited the mixture will continue to burn with a very smokey flame which is very easily extinguished by the use of water. Styrene in the pure form is lighter than water and will float on the surface and is more difficult to extinguish. The resins are heavier than water and can be flooded. The rate at which styrene escapes from the polyester mixture has been determined by a modification of a procedure developed by the Shell Development Company, Houston, Texas. The method was originally developed to study the evaporation rates of solvents used in the surface coating industry.

The method as used for free flowing solvents employ a Whatman filter paper 9 cm in diameter which provides both sides of a 63.3 cm<sup>2</sup> surface or 127 cm<sup>2</sup> evaporation area. Tested in this manner, nBa and styrene evaporate at 0.918 and 0.487 milligrams per second per 100 cm<sup>2</sup> respectively. This gives a relative rate of evaporation sty/nBa of 0.528. Measured by the modified method which employs a 12mm x 4 mm x 2 mm (1wd) aluminum foil container (0.48 cm<sup>2</sup> area) to make possible a controlled area exposure for viscous substances, the rates were determined to be 3.08 and 1.85 mg/sec/100 cm<sup>2</sup> giving a relative evaporation rate sty/nBa of .600 which is in rather good agreement considering the fact that the area of exposure differs by a factor of 205. The difference in the measured rate between the two modifications undoubtedly results from auto-cooling and heat transfer factors.

It should be noted that the tests were conducted at 25 C° (77 F°), approximately 13 F° below the flash point of styrene. It is acknowledged that the rate of evaporation would be higher if measured at 90 F° and as a result the time required to generate a L.E.L. level would be less but not significantly. Whatever the exact rate might be, the relative rate when compared with the neat solvent would not change.

Fig. 1 reveals graphically the differences in evaporation rates. nBa is commonly used as the reference material for this property. The retarded rate of evaporation is plainly evident for the resin mixtures. From the data in Table 2 the milligrams of volatile material evaporated per second per 100 cm<sup>2</sup> can be calculated by the following formula:

$$\frac{\text{mg of sample} \times \text{percent loss}}{\text{time in seconds} \times \text{cm}^2} \times 100 = \text{mg/sec/100cm}^2 \text{ (ER)}$$

By dividing (ER) into the milligrams per liter required to generate a flammable concentration of a given substance in the 10 cm layer of air immediately above the 100 cm<sup>2</sup> area, one obtains the number of seconds required to create a fire hazard 4 inches above the surface of the substance—assuming complete mixing in the liter volume and in the complete absence of air movement! These values, ranging from 94 to 731 seconds for the 5 polyresin mixtures, compared to 25 seconds for styrene, clearly suggest that the vapors of styrene-polyester resins studied will not "travel" to a source of ignition under ordinary conditions of air movement, the source of ignition must be brought to the surface of the solution!

The calculations and values obtained are shown on the attached Appendix A. This information, demonstrating the reduced hazard of the styrene polyester resins, provides the justification for further consideration of exemption under the flammable liquids labeling regulation. It would appear appropriate to introduce viscosity and rates of evaporation as properties to be considered in fire hazard evaluation and labeling requirements.

Respectfully submitted.

NORMAN G. WHITE, Ph. D.

## CALCULATIONS

n-Butyl Acetate :

Mol Wt. 116.

L.E.L. 1.7 percent=17,000 ppm.

1 ppm=0.00474 mg/liter 17,000×0.00474=80.58 mg/l at the flash point (L.E.L.).

Styrene:

Mol Wt. 104.

L.E.L. 1.15=11,000 ppm.

1 ppm=0.00425mg/l 11,000×0.00425=46.75 mg/l at the flash point (L.E.L.).

Thin Film Evaporation Rate at 90 percent evaporated (values from table I) :

$$\text{NBA} \frac{\text{gr. wt evaporated sec}}{(0.7 \times 0.872 \times 0.9) \div 470} \times \frac{\text{cm}^2}{127.2} = 0.00918 \text{ mg/sec} \times 100 = 0.918 \text{ mg/sec/100cm}^2$$

$$\text{Sty. } (0.7 \times 0.9 \times 0.9) \div 915 \times 127.2 = 0.00487 \text{ mg/sec/cm}^2 = 0.487 \text{ mg/sec/100cm}^2$$

Relative rate of Evaporation Sty/nBA=.528

Aluminum foil Container Evaporation rate at 3,600 seconds (from table II) :

$$\text{nBA } (74 \times 0.72) / 3,600 \times 0.48 = 0.0308 \times 100 = 3.08 \text{ mg/sec/100cm}^2$$

$$\text{Sty} / (80 \times 0.40) / 3,600 \times 0.48 = 0.0185 \times 100 = 1.85 \text{ mg/sec/100cm}^2$$

Relative rate of Evaporation Sty/nBA .600.

Spl. No.	Milligram	Percent evaporation	Sec × 0.48cm <sup>2</sup>	Milligram/sec/100cm <sup>2</sup>	Sec to L.E.I.
1-----	37.7	0.185	(3,600×0.48)	0.4058	115
2-----	27.8	.094	1728	.1512	309
3-----	32.5	.206	1728	.3874	120
4-----	43.9	.194	1728	.4928	94
5-----	32.5	.034	1728	.0639	731
nBa-----	74.0	.72	1728	3.08	26
sty-----	80.0	.40	1728	1.85	25

[The following information was referred to on p. 14:]

*Question 1.* It has been 2 years since the Department of Transportation proposed the consolidation of Hazardous Materials Regulations.

(a) Describe why the DOT endeavored to consolidate these regulations.

(b) What is the status of this rule making proceeding and why has it taken so long?

(c) What actions, if any, has the Department taken to expedite this rule making proceeding?

(d) When will action be complete on this docket?

Answer. (a) The purpose of the consolidation of the Department's Hazardous Materials Regulations is to provide a single volume of regulations which in its format will present uniform and easily understood requirements for shippers and carriers of hazardous materials. All of these regulations except for those dealing with bulk shipment by vessel will now appear in Title 49 rather than in Titles 14, 46, and 49.

(b) The rule making activity identified as Docket HM-112 is very complex and consolidates in excess of 1,400 pages of regulations. The several thousand comments to this docket, which are quite voluminous, were considerably varied and require detailed study. Rule making is now in the final stages of refinement and submission to the Federal Register for publication is anticipated within the next 30 days.

(c) In order to accomplish the necessary revisions to regulations and to achieve compatibility of the requirements for all four modes of transport, the Bureau has devoted a major part of its regulatory development effort to this activity. This includes the temporary reassignment of personnel within the Office of Hazardous Materials Operations and close liaison with representatives of the modal administrations and the Office of the Assistant General Counsel for Materials Transportation Law.

(d) Publication in the Federal Register is expected before April 1, 1976.

*Question 2.* Please list all Hazardous Materials Regulations which have been promulgated under Title I of P.L. 93-633.

Answer. 1. HM-127—Exemption procedures (40 FR 48466, 3/15/75).

Public hearings. 8/26/75 Washington, D.C.; 9/3/75 Anchorage, Alaska.

HM-127, Amendment 1—Technical and clarifying changes to exemption procedures (40 FR 56442, 12/3/75).

HM-127 Amendment 2—Requiring foreign applicants for exemptions to designate U.S. agent for service of process (41 FR 7509, 2/19/76).

2. FAA (Docket No. 14249 Amdt. No. 103-24) Carriage of RAM on Passenger-Carrying Aircraft (40 FR 17141, 3/17/75).

Public Hearing 1/20/75 prior to notice.

Public Hearing 2/27/75 after notice.

3. MTB-1—MTB Rulemaking Procedure (40 FR 31767, 7/29/75).

\*4. HM-131—Proposed Inspection and Monitoring Requirements for Radioactive Materials (40 FR 57688, 12/11/75).

*Question 3.* (a) Why did the Department choose to consolidate the regulations and transfer them to the new Act simultaneously rather than to transfer the regulations en masse and then to consolidate them?

(b) Doesn't this mean that the enforcement provisions and sanctions available to the DOT in Title I of P.L. 93-633 cannot be used until the regulations have been transferred?

(c) Couldn't this transfer have occurred by a simple notice in the Federal Register indicating that such a transfer was to take place? If so, why was this not done?

Answer. (a) The Department has not attempted to simultaneously consolidate and reissue the existing Hazardous Materials Regulations.

The consolidation rule making, identified as Docket No. HM-112 was published in January 1974. DOT efforts with regard to the HM-112 rule making began in 1971.

By July 1975, when the reorganization within DOT to implement the provisions of the HMTA was completed, a vast amount of time by both the Department and the affected public had already been invested in the HM-112 rule making. Because of that time and because further delay of the rule making would have major consequences on persons associated with all modes of transportation, the MTB considered finalizing of HM-112 to be its foremost priority.

Upon completion of HM-112 it was the MTB's intention to immediately move to reissue the consolidated regulations under the authority of the HMTA and develop procedural regulations to implement certain provisions of the Act.

(b) Because of conforming amendments to 46 U.S.C. 170 and 49 U.S.C. 1471 and 1472 provided for by the HMTA, the enforcement and sanctions provided for by the Act were available when the transportation of hazardous materials involved air and water modes, despite the fact that the air and water regulations had not been reissued under the authority of the HMTA.

On the other hand, highway and rail regulations would have to be reissued under the authority of the HMTA, before the enforcement and sanctions provided for by the Act, could be used for violations of those regulations.

(c) Yes. The answer to question 3(a) explains why a notice of reissuance was not published in the Federal Register. The following is an update on the subject of reissuance: Because of the delay in finalizing the rule making in Docket HM-112 the MTB has decided to treat the reissuance of existing hazardous materials under the authority of the HMTA independent of the completion of HM-112. The Bureau has drafted a notice of proposed rule making on the subject reissuance and after the necessary concurrences are acquired, the notice will be published in the Federal Register. It is expected that a 30-day period for public comment will be provided. After the comments are considered, a final rule will be published with a 30-day delay on the effective date.

*Question 4.* In hearings before the House Government Operations Committee on October 8, 1975, a DOT official was quoted as stating that about 75% of the shipments examined in air terminals in 1975 were in violation of the hazardous materials regulations.

(a) Why?

(b) What steps is the Department taking to insure greater compliance?

(c) How would you evaluate the degree of compliance with existing hazardous materials regulations by the other modes?

\*Question 2 deals with regulations promulgated under Title I of Public Law 93-633 and HM-131 has been published as a Notice of Proposed Rule Making under that Title.

(d) Has the Department acquired a safety inspection capability commensurate with the magnitude of the hazardous materials shipments to date?

(e) What percentage of hazardous materials shipments are monitored?

(f) One of the purposes of Title I of P.L. 93-633 was to consolidate enforcement of the hazardous materials regulations so that they may be better coordinated by the Secretary. How has this new authority been applied in upgrading enforcement activities, particularly with respect to intermodal shipments?

Answer. (a) The 75% figure quoted in the October 1975 hearing was based on a series of inspections conducted much earlier. Often overlooked by those who like to quote that figure is the fact that DOT inspectors are trained to seek out, inspect and record shipments which, based on their experience and knowledge, are the ones most likely to involve a violation and not waste time with shipments which in all probability are in compliance. To record all shipments observed would be very time consuming and an unnecessary utilization of manpower. It should also be recognized that the October 8 quote was offered by a representative of an organization which was deeply involved in litigation relating to the same general matter.

(b) DOT is continuing its training seminar program with greater emphasis on shipper education. The number of seminars will be increased this year. MTB has created a Compliance Branch in the headquarters of OHMO. It consists of a Chief and three Compliance Inspectors that are performing field inspections on a monitoring basis at shipper and container manufacturers' facilities.

By amendments to the Federal Aviation regulations dated February 4, 1975, which became effective on March 7, 1975, new responsibilities with regard to certification and inspection of hazardous materials shipments were placed on air carriers. (See FAA Docket No. 13668; Amendment No. 103-33). The thrust of the amendments is to require the air carrier to accept for shipment only those hazardous materials packages which have been certified by the shipper to be in compliance with regulations and which have been inspected by the air carrier to assure package integrity and compliance with regulations.

It is believed that these new air carrier requirements have played a major role in causing the marked improvement in 1975, on the part of shippers, freight forwarders, and aircraft operators in complying with hazardous materials regulations. Even though the number of hazardous materials inspections has increased 51 percent since 1974 (13,724 in 1975 vs. 9,053 in 1974), the number of enforcement actions is down by 20 percent. In addition to the new air carrier requirements discussed above, this improvement in compliance is attributed to the more extensive education and surveillance program and to a 51% increase in civil penalties collected (an average of \$1,951 per civil penalty in 1975 vs. \$1,291 per civil penalty in 1974).

(c) The MTB has not yet performed a compliance overview of the transport modes. However, a review of the inspections and violations reported shows an improvement. Specifically, the FAA attributes a 20% increase in compliance to increased education and surveillance programs and to an increase in the civil penalty assessments. The FRA in 1975 raised by 50% the number of hazardous materials inspections performed in 1974 (3,832 vs. 2,514).

(d) As with any regulatory agency, an increase in inspection efforts will result in a higher level of compliance. The MTB bases its inspection efforts on experience, and anticipates that additional inspection resources may become necessary.

(e) Our best estimate is that less than 1% of all shipments are monitored by DOT inspection forces.

(f) The Secretary has delegated to the MTB all hazardous materials rule-making authority except that pertaining to bulk shipments by vessel, which is exercised by the Coast Guard. He has also delegated to the MTB enforcement responsibility with respect to container manufacturers and with respect to intermodal aspects of shipper activities. As mentioned in (b), a Compliance Branch has been formed to carry out this function. The Branch has recently completed a preliminary analysis of shipper and container manufacturer compliance with the hazardous materials regulations. The findings of that analysis will be one factor in determining future MTB efforts with respect to its enforcement responsibilities.

*Question 5.* A problem with the hazardous materials regulations that many carriers have emphasized has been the complexity and changing character of

the regulations. What has the Department done in the past and what plans does it have for the future to simplify the regulations?

Answer. Since becoming responsible for the safety regulation of hazardous materials transportation in 1967, the Department has endeavored in its rule makings to simplify the content of the regulations. This has been a difficult task in view of the history of the development of the regulations which the Department inherited from the ICC. In addition, the organizational structure of decentralized responsibility for hazardous materials activities that existed in the DOT prior to the establishment of the MTB had, by its very nature, frustrated any attempt at simplification. The recent effort at consolidating the regulations for all modes into Title 49 is the most significant step thus far at simplification. Following this, a major restatement and reorganization of the regulations will follow, which will complete the transition to a more simplified, cohesive set of regulations. It is, in fact, because of the complexity of the regulations as they came to DOT and the MTB and our desire to minimize the number of times that carriers and other users will have to experience changes of character en route to a consolidated and simplified set of regulations that we are being so careful and deliberate in finalizing HM-112.

*Question 6.* On June 25, 1975, the Federal Register announced the termination of a proposal on the Hazard Information System (Docket HM-103) because of adverse comments from many interested parties.

(a) What is the status of the Department's efforts to establish a Hazard Information System?

(b) Describe the relationship, if any, between the Hazard Information System and HM-112.

(c) Summarize the criticisms that were levied against the proposal containing HM-103 which were terminated on June 25, 1975.

(d) What alternatives are now available to the Department with respect to hazard information systems? Please provide the Committee with the Department's anticipated rulemaking plans on this important subject (e.g., by what date will such a system be promulgated? By what date will such system become effective?)

Answer. (a) On the same day (June 25, 1975) the proposal concerning the Hazard Information System was dropped from Docket HM-103, a new notice soliciting comments concerning the merits of various hazard information systems, was published in the Federal Register. The notice was designated Docket No. HM-126 and reflected the Department's position that, despite the termination under Docket No. HM-103, there is still a sufficient need for the development and implementation of an effective hazard information system.

In that notice, the characteristics of various hazard information systems were made available for public comment. The comment period was scheduled to close November 5, 1975, but as the result of public requests, the comment period has been extended to March 25 of this year.

(b) There was a distinct relationship between the Hazard Information System proposed in Docket HM-103 and Docket HM-112. However, these two dockets were designed so that the termination of the proposed HI System would not preclude the continued work and publication of HM-112. The direct relationship of the HI System and Docket HM-112 was the association of named hazardous materials with appropriate two digit numbers to identify the hazards of materials and the numbers could then be affixed to the appropriate placards and labels. This precluded the shipper or carrier from determining the hazards.

(c) A copy of June 25, 1975, Federal Register document that terminated that portion of Docket No. HM-103 dealing with hazard information systems is attached. The blocked-in portions of that document are in response to Question 6(c).

(d) A copy of the proposal under Docket No. HM-126 is attached in response to that portion of the question relating to hazard information system alternatives. In response to the committee's questions regarding rulemaking plans and effective dates, definite responses cannot be given at this time. The scheduled closing date for comments to HM-126 is March 25, 1976. Because the subject of hazard information systems has evoked much public interest and controversy, and because HM-126 invited interested persons to discuss hazard information systems and evaluation criteria not discussed in the notice, it is not only difficult to predict the time required to review these comments, but also the appropriate next step in the rule making process.

[Attachment to question 6(c)]

DEPARTMENT OF TRANSPORTATION  
HAZARDOUS MATERIALS REGULATIONS BOARD  
WASHINGTON, D.C.

What has become clear to the Board as a result of the oral and written comments is that there is a definite lack of agreement among the carrier and shipper industries affected, emergency response personnel, and the general public as to the merits of the HI System. Disagreement arises with assertions that the system is too complex its economic burdens are too great, the HI numbers do not adequately communicate hazard information, and that other hazard communication systems need to be evaluated by the Board and made available for public comment.

The assertion of complexity is based on the assumption that any system must be workable from the standpoint of carrier and shipping industry personnel to assure a high degree of correct compliance. A large number of commenters stated that the proposed HI System is not workable for this purpose with approximately 59 two-digit hazard information numbers to be applied according to specified criteria to the 14 different placards envisioned by the proposal there has been serious concern expressed whether proper affixment of the correct type and number of placards on a transport vehicle by either shipper or carrier personnel can be achieved without massive education and re-education programs. The concern with complexity is heightened when placarding of mixed load is considered.

The foreseeable economic burden of the proposed HI system is considered by the Board as too great in light of the division over the merits of the system and is of special concern because of the present economic situation. Again in terms of the economic question, it has been expressed that the international implications of any unilateral U.S. action are enormous. It has been stated that it is economically essential that whatever system we adopt be either adopted by the United Nations or be compatible with the U.N. System (still under development).

Doubts have also been expressed about whether the two-digit Hazard Information Number adequately communicates hazard information. The reliance on Hazard Information Cards in addition to the two-digit number to communicate potential hazard and emergency response actions is a major concern. The concern centers around the logistics of supplying all emergency personnel with Hazard Information Manuals (containing hazard information cards or pages) and the assumption that the manual would be available when needed. Some persons believe that the logistics of supply would be next to impossible and that it is inane to assume availability of the manual when needed. It has been asserted that because the first digit of the two-digit HI number indicates only the United Nation's primary hazard and because the second digit does not relate to the first and does not have a constant meaning, the HI number offers no additional information over that provided by non-numbered labels and placards without the manual.

The rail industry has pointed to the failure of the HI System to give direct warning of the hazard of containment rupture which they consider a greater hazard in rail transportation than toxicity or corrosiveness. They object to the necessity of emergency response personnel having to get close enough to a tank car in order to read the HI number so that they can determine from the manual the potential hazard and the appropriate emergency response.

Several commenters have also cited examples where the information provided in the manual relative to the HI numbers assigned to certain materials gave inaccurate (and potentially dangerous) emergency response information.

The lack of agreement on the merits of the HI System also stems from the fact that several alternate hazard communication systems have come to the attention of the Board since publication of Docket No. HM-103. There has been a call for further Board evaluation of these systems and an opportunity for public review and comment on them.

[Attachment to question 6(d)]

DEPARTMENT OF TRANSPORTATION

HAZARDOUS MATERIALS REGULATIONS BOARD

WASHINGTON, D.C.

[49 CFR Parts 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189]

[Docket No. HM-126]

HAZARD INFORMATION SYSTEMS

Request for Comments

The Hazardous Materials Regulations Board (the Board) is soliciting comments concerning the merits of various Hazard Information Systems (HI-Systems). The Board believes there are deficiencies in the hazard communication requirements of its regulations and that a HI-System may be necessary to provide for the adequate communication of hazards of materials in transportation. Some of the benefits that could be derived through implementation of a HI-System are:

1. Recognition of multiple hazards of individual materials;
2. Recognition of multiple hazards of mixed loadings; and
3. Provision of stringent information whereby fire fighting and other emergency response personnel can acquire immediate information to make better informed judgments on how to handle emergency situations.

By publication of a notice in this issue of the FEDERAL REGISTER (40 FR 26687) the Board has announced termination of further consideration of the use of two digit numbers to identify the hazards of materials during transportation under Docket No. HM-103; Notice 73-10. The Board also stated that there is still sufficient need for development and implementation of an effective hazard information system and made reference to the hazard information systems and criteria included in this advance notice for public comment.

The Board believes that in analyzing various HI-systems it is obvious that, even though they are intended to achieve the same end result, i.e., convey emergency response information, they pursue several different routes or philosophies by attempting to provide (1) information concerning the hazards of a material, (2) information concerning the hazards of a material in combination with the degree of risk involved; and (3) information concerning the actions to be taken during an emergency response situation.

The systems discussed in this notice incorporate these basic philosophies to different degrees and for reasons that can be attributed, at least in part, to the economic, social and/or industrial structures of a particular nation, and the authority or interest advocating them. The differences in these philosophies are both subtle and obvious, and they lead to analytical difficulties in choosing criteria by which to evaluate the various systems.

The Board believes that the following criteria, though not necessarily inclusive, are factors to be considered in the evaluation of hazard information systems:

1. Capability of the general public to recognize the existence of the immediate dangers presented by a material;
2. Presentation of information in a manner so that the general public will be able to accurately transmit basic information to emergency response personnel;
3. Compatibility, intermodally and internationally;

4. Capability of application to both bulk and non-bulk shipments;
5. Capability of functioning without use of a manual or other subsidiary documents;
6. Capability to meet the needs of emergency response personnel, carriers, shippers, and the general public;
7. Capability of integration with documentation, packaging, and vehicle identification requirements to help insure accuracy;
8. Capability of implementation without undue economic burden on shippers and carriers; and
9. Capability of indicating degree of hazard.

It is the Board's position that any alpha/numeric/symbolic hazard information system adopted in the future be compatible with and adaptable to the placards it adopts under Docket HM-103.

The following existing or proposed hazard information systems are summarized in this notice:

1. The previously proposed DOT HI System.
2. The NFPA 704M System.
3. The RID/ADR System.
4. The HAZCHEM System.
5. A proposal by Union Carbide Corporation (similar to a proposal submitted by Air Products and Chemicals Corporation).
6. A proposal by the U.S. Coast Guard.
7. The Canadian System (rail).
8. A proposal by the International Air Transport Association.
9. A proposal by Pennwalt Corporation.

#### THE DOT HAZARD INFORMATION

This system is based on two digit hazard information numbers on shipping papers, package labels and vehicle placards as hazards communicators. A two digit hazard information number would identify the primary and additional (if any) hazards of a material. The first digit of a hazard information number is the United Nations class number for the material and the second digit indicates whether there are significant additional hazards. A zero indicates there are no significant additional hazards.

There are approximately 59 hazard information numbers to identify materials with hazards ranging from a single hazard, such as "Nonflammable Gas" with the HI number 20, to five hazards for a material that is a "Flammable Solid" that is also "Pyrophoric, Poisonous, Water Reactive and Corrosive" which would have the HI number 47.

Defining criteria for each hazard and a specified precedence of hazards for the assignment of hazard information numbers have been developed so a material meeting a specific defining criteria will always be assigned the same hazard information number—in most cases without review by a government agency. A shipping paper containing the shipping name and classification of a hazardous material would also contain its hazard information number. A package label and a vehicle placard would bear the hazard information number in the lower corner.

An important element of the system is an Emergency Response Manual which consists of a card for each hazard information number to identify the expected health, fire and explosion hazards for each material. These cards also contain suggested responses for use by emergency response personnel during the first 10 to 30 minutes of an incident involving hazardous materials in transportation as well as suggested first aid actions.

#### NFPA 704 SYSTEM

The system identifies the hazards of the material in terms of three principal categories, namely "health", "flammability", and "reactivity" (instability); and indicates the order of severity numerically by five divisions ranging from "Four (4)", indicating a severe hazard, to "Zero (0)", indicating no special hazard.

The information is presented by a spatial system of diagrams of a diamond shape signal divided into four segments with "health" always being on the left; "flammability" at the top; and "reactivity (instability)" on the right. Color categories for backgrounds are blue for "health" hazard, red for "flammability", and yellow for "reactivity (instability)."

A fourth space in the diagram should be used to indicate unusual reactivity with water, and is indicated by placing the letter "w" with a line through the center (w) in the space. The space may also be used to indicate other additional information such as pressurized vessels, radioactivity, proper fire extinguishing agent, or protective equipment required in case of fire or other emergencies.

The system for ranking degrees of hazard is based on relative rather than absolute values. The system prescribes the number to be used in each category by describing the effects of the material, in order of severity, in each category, i.e., health, flammability, and reactivity.

#### RID/ADR SYSTEM (EUROPE)

The RID/ADR System applies only to bulk transport by rail and highway in Europe. It requires that in addition to a placard on the format of the U.N. label, tank vehicles and rail cars must display an orange colored plate 30 cm high and on it in black, two numbers, one above the other. The top number may be either two or three digits and may or may not be preceded by the letter "X". This is the Hazard Identification number. The second number is the United Nations Serial Number of the particular commodity.

The first figure of the Hazard Identification number indicates the primary hazard as follows:

2. Compressed Gas.
3. Flammable Liquid.
4. Flammable Solid.
5. Oxidizer Material or Organic Peroxide.
6. Toxic Material.
8. Corrosive Material.

The second and third digits indicate secondary or tertiary hazards respectively as follows:

0. No Additional Hazard.
1. Explosion Risk.
2. Gas May Be Given Off.
3. Flammability Risk.
5. Oxidizer Risk.
6. Toxic Risk.
8. Corrosive Risk.
9. Risk of Violent Reaction from Spontaneous Decomposition.

When the first and second digits are the same, an intensification of the primary hazard is indicated e.g., 33 indicates a highly flammable liquid, 66 indicates a very dangerous toxic substance, etc. A refrigerated gas is indicated by a hazard identification number of 22. The number 42 would indicate a flammable solid which may give off a gas upon contact with water. The letter "X" preceding a hazard identification number indicates that water should not be applied to the commodity.

The hazard information number is established by the governmental authorities for each material transported in bulk.

#### HAZCHEM SYSTEM (UNITED KINGDOM)

In an attempt to give to emergency services information which will enable them to act independently of reference books and instructions, the "Hazchem System" was developed. The basic principle of "Hazchem" is that it gives direct information on the action to be taken by firemen and policemen and requires no interpretation of information on hazards. The United Kingdom accepts the system for international highway and railroad traffic.

The specified hazard identification panel is fire resistant and has an orange reflectorized background on which appears two numbers. The top number gives information on the hazards to be expected and the lower number is the United Nations number by means of which the substance can be precisely identified.

The "Hazchem" code gives information under the following headings:

1. Firefighting media.
2. Personal protection.
3. Explosive risk.
4. Spillages.
5. Evacuation.

The "Hachem" scale gives information on the firefighting media to be used by the use of the numbers 1, 2, 3, or 4, and information on personal protection, explosive risk and spillage action by the letters PRST and WXYZ. Where the policeman or fireman should consider the possibility of initiating the evacuation of an area the letter E is added. Each fireman and policeman would carry a durable card showing the "Hazchem" scale enabling him to translate letters on

a transport vehicle into direct action, simple first aid measures appear on the reverse side of the card.

#### UNION CARBIDE PROPOSAL

This proposal involves placarding, labeling and documentation to convey hazard information. The placard would be rectangular in shape and would be in two levels. The upper level would display the word "DANGEROUS" in 4-inch high letters. The lower level would consist of 6-inch squares, each bearing a hazard symbol within a diamond, accompanied by appropriate language associated with the hazard symbol. The system contemplates the addition or removal of symbol squares, either by the use of sliding rail holders or self-adhesive squares, as commodities are placed in or removed from the placard vehicles. For empty unpurged vehicles, the "DANGEROUS" placard would be left visible, with the word "EMPTY" displayed on the lower level.

Another proposed placard is diamond shaped similar to the placards presently used by rail carriers. This placard is proposed for both rail and highway and consists of the word "DANGER" displayed diagonally across the placard. The hazard symbols would be attached to the placard as proposed for the rectangular placard. The reverse side of the placard would bear the words "DANGER-EMPTY", for use on empty unpurged rail cars or motor vehicles.

The labeling system proposed by Union Carbide would make use of the present DOT labels used singly for commodities with a single hazard only, and multiple labels for dual or triple hazard materials. As an alternative, single labels with imprinted multiple symbols for dual hazard and triple hazard materials could be utilized.

For shipping paper identification, Union Carbide proposes that for each hazardous material entry, some distinctive letters, such as "HAZ", "DOT", or "HM" be shown preceding the description. In addition, all of the hazard classifications applicable to each material would be shown.

An emergency response manual is suggested by Union Carbide as a means of furnishing supplemental information to emergency personnel. The manual would be alphabetically indexed and cross referenced to all hazards and combinations thereof. The manual would be keyed to the language obtained from the shipping documents, placards or labels.

The United States Coast Guard proposed a Hazard Information System as an alternative to the HI System proposed in HM-103. In this approach, the UN label or a placard incorporating the basic design of the UN label is used to identify the primary hazard. A two digit number is applied to the lower quadrant of the label or placard.

The first digit, a number from 1 to 5, indicates the relative degree of the primary hazard (i.e., the hazard identified by the label or placard). The first digit of the hazard information number relates to the primary hazard as follows:

1. Low degree of hazard such as: Combustible liquids with flashpoint over 141°F; solid Class B poison, poisonous by ingestion only; corrosive solid, corrosive to metals only.

2. Intermediate degree of hazard such as: Combustible or flammable liquid with flashpoint between 73-141°F; liquid Class B poison, poisonous by ingestion only; corrosive liquid, corrosive to metals only.

3. High degree of hazard such as: Flammable liquid with flashpoint between -18°F and 73°F; Class B poisons, poisonous by inhalation or skin absorption; corrosive materials, corrosive to skin.

4. Extremely high degree of hazard such as: Flammable liquids with flashpoints below -18°F or Reid vapor pressure above 27 PSIA with flashpoint below 73°F; Class A poisons; pyroforic material.

5. Evacuate area, do not attempt to control fire or spill.

The second digit would indicate the secondary hazard of the commodity based on the U.N. Class Number as follows:

2d digit:	Meaning
0-----	No secondary hazard.
1-----	Thermal instability hazard.
2-----	Hazard resulting from gas evolution.
3-----	Flammable.
4-----	Flammable solid—dangerous when wet.
5-----	Oxidizer.
6-----	Poison.
7-----	Radioactive.
8-----	Corrosive.

When no hazard information number has been published for a particular commodity the shipper could determine a hazard information number based on the above criteria. Prior to the initial shipment of the commodity, the shipper would submit the number assigned plus supporting data to the Department of Transportation for approval and subsequent publication in the Federal Register. The shipper could ship the commodity under the hazard number he has determined until such time as the final determination of the number is published by the Department.

Placards on vehicles containing mixed lading bearing different hazard information numbers would bear the hazard information number derived as follows:

1. The first digit would be the highest first digit of all the hazard information numbers on the commodities within the vehicle.

2. The second digit would be one of the second digits of all the hazard information

CANADIAN SYSTEM.—HAZARD INFORMATION—EMERGENCY RESPONSE FORM,  
CARLOADS

Carload, trailerload, and containerload shipments of dangerous commodities, as defined in regulations, originating in Canada would be accompanied by a Hazard Information—Emergency Response Form which would be furnished by the shipper to the carrier and which would accompany the car, trailer, or container from the shipper's siding to the consignee's siding.

When multi-unit shipments of a single dangerous commodity are made from one shipper at point of origin to one consignee at one destination, one only Hazard Information—Emergency Response Form would accompany each such shipment, and a list of the car numbers would be shown thereon.

In the case of compartmentized tank cars loaded with more than one regulated commodity, a separate response form would be required for each commodity and its location in the car indicated in the appropriate block provided on the form.

The Emergency Response Form would include information on the potential hazards of the commodity under the headings:

Fire	Health
Explosion	

Immediate Action Information would be included under the headings:

General	Spill or Leak
Fire	First Aid

The shipper modifies the potential hazard and immediate action information sections where necessary by adding or deleting instructions applicable to the particular commodity being shipped.

In addition, the response form provides the following information:

1. Placard endorsement.
2. Car initials and number.
3. Consignee.
4. Destination.
5. Routing.
6. Proper shipping name.
7. Classification.
8. Placard notation.
9. Date shipped.
10. Shipper.
11. Shipping point.
12. Weight or volume.
13. Shipper's certificate.
14. Emergency telephone number.

IATA SYSTEM

The system identifies the hazards of the material by a two digit number, with the first digit, which corresponds to the United Nations Class number identifies the main danger; the second digit, which is an arbitrary figure, indicates subsidiary risks. The second digit would be zero (0) if there were no subsidiary risk.

\* \* \* \* \*

The information is presented in a spatial system of diagrams on a rectangular shaped placard divided into three segments, with the primary hazard number always on the bottom left, the secondary hazard number or numeral always on the bottom right. The system provides for a barred "W" in the top portion to indicate reactivity with water. Background colors indicate the following: Orange for first group of each class, white for the second group, and green for the third group, with blue provided for the barred "W".

The system suggests placing the appropriate danger labels next to the placard to make the system more explicit.

The system calls for a "simple rigid card" to be carried by emergency response personnel concerning actions which should be taken from the hazard communication.

#### PROPOSAL BY THE PENNWALT CORPORATION

The system involves labeling, placarding, and documentation as a means of hazard communicators, and is predicated upon the establishment of an "Order of Importance" listing of hazard classifications in which one classification precedes in degree of severity, those which follow it. The assignments are as follows:

1. Explosive materials.
2. Compressed gases.
3. Flammable liquids, combustible liquids, flammable gases.
4. Flammable solids.
5. Oxidizing agents.
6. Poisonous materials.
7. Radioactive materials.
8. Corrosive materials.
9. Miscellaneous materials not covered by any other classification but of sufficiently dangerous character that some means of warning should be displayed.

The corresponding primary hazard number would be printed in the space provided on labels of design similar to the DOT HI System. If the product presents multiple hazards, numbers corresponding to each of the additional hazards would also be printed, with the primary hazards, in the space provided.

Placards are of the general size and shape of present placards required for the various modes of transportation by DOT regulations, with the appropriate label for the material, the shipping name of the material, the corresponding hazard number(s), and the primary classification.

Documentation contains a column, of contrasting background, whose use is restricted solely to entry of the hazard number(s) for each product listed, with the shipping name and classification.

In order to assist interested persons in their efforts to understand the various hazard information systems mentioned in this Notice, copies of all material available to the Board concerning specific systems will be made available for review or will be furnished to persons requesting such additional information. Requests should be addressed to: Chief, Regulations Division, Office of Hazardous Materials, Department of Transportation, Washington, D.C. 20590.

Interested persons are invited to give their views on these hazard information systems or other hazard information systems not discussed in this Notice. In addition, comments are invited relative to the evaluation criteria contained herein or any other criteria that should be considered. Communications should identify the docket number and be submitted in duplicate to the Secretary, Hazardous Materials Regulations Board, Department of Transportation, Washington, D.C. 20590. Communications received on or before November 5, 1975 will be considered before further action is taken. All comments received will be available for examination by interested persons at the Office of the Secretary, Hazardous Materials Regulations Board, Room 6215 Trans Point Building,

Second and V Streets, S.W., Washington, D.C., both before and after the closing date for comments.

(18 U.S.C. 831-835; Sec. 6, Pub. L. 89-670, 80 Stat. 937 (49 U.S.C. 1655); Title VI and Sec. 902(h) of Pub. L. 85-726 (49 U.S.C. 1421-1431, 1472(h)).)

Issued in Washington, D.C. on June 20, 1975.

**J. A. FERRARESE,**  
*Alternate Board Member for the  
Federal Aviation Administration.*

**ROBERT A. KAYE,**  
*Board Member for the  
Federal Highway Administration.*

**ROBERT WRIGHT,**  
*Board Member for the  
Federal Railroad Administration.*

**J. V. CAFFERY,**  
*Alternate Board Member for the  
United States Coast Guard.*

[FR Doc.75-16548 Filed 6-24-75;8:45 am]

[Attachment to question 6(d)]

DEPARTMENT OF TRANSPORTATION

MATERIALS TRANSPORTATION BUREAU

WASHINGTON, D.C.

[Docket No. HM-126]

HAZARD INFORMATION SYSTEMS

Postponement of Date for Filing Comments

On June 25, 1975, the Hazardous Materials Regulations Board published a Notice (40 FR 26688) under Docket No. HM-126 soliciting comments concerning the merits of various hazard information systems. The closing date for filing comments was November 5, 1975. On September 26, 1975, the date for filing comments in Docket HM-126 was extended from November 5, 1975 to February 5, 1976 (40 FR 44336).

Several requests have been received from potential commenters who have asked for additional time to make complete presentations based on information and views obtained at various meetings. Since the purpose of the Notice was to obtain as much information and as many viewpoints as possible, we believe that additional time should be allowed for such a purpose. In consideration of the foregoing, the date for filing comments on the Notice under Docket HM-126 is changed from February 5, 1976 to March 25, 1976.

(18 U.S.C. 831-835; 49 U.S.C. 1472(h) (1), 49 CFR 1 53(g) and (h) and paragraphs (a) (1) and (a) (3) of App. A to Part 102)

Issued in Washington, D.C. on February 2, 1976.

**ALAN I. ROBERTS,**  
*Director, Office of  
Hazardous Materials Operations.*

[FR Doc. 76-3480 Filed 2-4-76; 8:45 am]

[Attachment to question 6(d)]

DEPARTMENT OF TRANSPORTATION

MATERIALS TRANSPORTATION BUREAU

WASHINGTON, D.C.

[49 CFR Parts 170 through 189]

[Docket No. HM-126]

HAZARD INFORMATION SYSTEMS

Postponement of Date for Filing Comments

By petition dated August 19, 1975, the Hazardous Materials Advisory Committee (HMAC), an independent organization under the aegis of the Transportation Association of America, has requested an extension from November 5, 1975 to January 5, 1976 of the comment period on various hazard information systems.

On June 25, 1975, the Hazardous Materials Regulations Board (the Board) published a notice (40 FR 26688) under Docket No. HM-126 soliciting comments concerning the merits of various hazard information systems. The petitioner points out that development and preparation of comments in response to the notice is a herculean task and in all fairness impossible to accomplish within the time frame indicated in the Docket. Also, petitioner states that an extension of time for study and comment now will lead to a sounder set of regulations.

In consideration of the petitioner's request, a portion of which is discussed above, the comment period is extended from November 5, 1975 to February 5, 1976 for the submission of views and recommendations on hazard information systems under Docket No. HM-126 as published (40 FR 26688) on June 25, 1975.

Interested persons are reminded of two statements made by the Board in the June 25, 1975 issue of the FEDERAL REGISTER. One was, "All other proposals made under Notice 73-10, including revisions to the placarding requirements, are still under active consideration by the Board" (Docket HM-103; 40 FR 26687) and the other, "It is the Board's position that any alpha/numeric/symbolic hazard information system adopted in the future be compatible with and adaptable to the placards it adopts under Docket HM-103" (Docket HM-126; 40 FR 26688). This reiteration is provided in case there is some confusion relative to the various systems described in the Notice under Docket HM-126, and the fact that it was not the Board's intent to delay further the adoption of uniform placarding requirements.

(18 U.S.C. 831-835, sec. 6 of Pub. L. 89-670, 80 Stat. 937 (49 U.S.C. 1655); Title VI and sec. 902(h) of Pub. L. 85-726 (49 U.S.C. 1421-1431, 1472(h))

Issued in Washington, D.C. on September 18, 1975.

ALAN I. ROBERTS,  
Director, Office of  
Hazardous Materials Operations.

[FR Doc. 75-25698 Filed 9-25-75; 8:45 am]

*Question 7.* Section 107(a) of the Act requires that in the issuance of an exemption, the level of safety must be equal to or exceed the level of safety which would have been attained if the petitioner were to comply with the regulations.

(a) Define the procedures which the Department follows to insure the proper levels of safety in the transportation of hazardous materials under an exemption.

(b) Evaluate the quality of the risk analyses required to be performed with each exemption application. What guidelines has the Department published to assist applicants in preparing satisfactory risk analyses?

(c) To what extent does the Department evaluate and test the risk analyses for accuracy as a predictor of real-world experience situations?

Answer. (a) Application for exemptions must be submitted in accordance with 49 CFR 107.103, 107.105 or 107.113, as appropriate. The information required for a new exemption includes properties and characteristics of the commodity, and a complete description of the packaging, including drawings, plans, calculations, procedures, test results, etc. to support packaging integrity and to enable a com-

parison to be made against prescribed DOT packaging requirements, as appropriate.

(b) The applicant is required to specify the proposed mode of transportation, identify any increased risks that are likely to result if the exemption is granted, and specify the safety control measures which are considered necessary or appropriate to compensate for those increased risks. Based on this information, any additional information which may be required by the Department under Section 107.109(b), any information provided by commenters following publication in the Federal Register, and the Department's own expertise, knowledge and overall evaluation a determination is made whether the proposed package reasonably and adequately provides for safety in transportation and what, if any, additional requirements are to be imposed if it is granted.

(c) Applications for exemptions are essentially based on needs to accommodate (1) research and development; (2) new commodities; (3) improved packagings; (4) innovations in the operations of shippers, carriers, container manufacturers; and (5) emergency conditions. An exemption is issued or denied based on the merits of the request, including the justification thereof, and the various safety factors involved. Shipping experience is required to be submitted by the exemption holder upon application for renewal of an exemption. This must include a statement on the approximate number of shipments made or packages shipped, the number of shipments or packages involved in any loss of contents and, if no accidents have been experienced, a certification to that effect. In addition, the applicant must revalidate the information previously submitted in support of the original exemption.

*Question 8.* A large percentage of the exemptions requested and granted by the Department of Transportation have been for alternative container designs.

(a) Why? Have the container specifications outlined in the Hazardous Materials Regulations kept pace with new technology?

(b) What mechanisms does the Department employ to insure that its regulations, particularly those written in terms of design criteria, do not impede or inhibit the development of new technology?

Answer. (a) Construction requirements for DOT packaging are specific. Little or no latitude was provided in the past for materials of construction, gauge thickness, styles, closures, physical tests, etc. The DOT specifications for packagings are technologically sound, but the specific nature of the design and material oriented provisions have not kept pace with needs to implement novel or otherwise new packaging methods. Experience relative to new or modified packagings is primarily gained through the exemptions process.

(b) The mechanism which is currently employed to preclude the impedance or inhibition of the development of new packaging technology is the exemption procedure. New packaging designs may be used under exemptions and once sufficient experience has been gained these designs are considered for incorporation into the regulations. In those instances where practical the Department has incorporated performance-oriented standards in its regulations. Additionally, the Department has studies under way which are addressed to the conversion of design criteria type packaging to performance-oriented standards.

*Question 9.* Most of the Department's hazardous materials regulations have been written in terms of design criteria as opposed to performance criteria.

(a) To what extent is it technologically feasible and practical to write performance rather than design standards for the transportation of hazardous materials?

(b) What work has the Department of Transportation done to evaluate the practicality of drafting its regulations in terms of performance rather than design criteria? What are the long-range prospects for utilizing performance rather than design criteria?

(c) The Energy Research and Development Administration has been doing substantial work in the area of performance criteria. To what extent has the Department of Transportation coordinated its efforts in this area with the Department?

Answer. (a) The exact extent to which it is practicable to transform the packaging regulations from detailed design requirements to a performance-oriented basis is still an open question. It does not appear feasible or desirable to implement a 100 percent performance-oriented packaging system. In certain areas, e.g., pressure cylinder specifications. It appears desirable to retain the present detail for design and material specifications. In other areas, such as drums and pails, performance-oriented specifications appear more desirable.

For low-level hazard radioactive materials packaging, a performance specification has been applicable in the hazardous materials regulations since 1969.

(b) The Department is sponsoring several R&D programs aimed at recasting certain of the present design-oriented packaging specifications into performance-oriented specifications. These programs have been established on a class basis, i.e., drums and pails, boxes and cases and bags and carboys. A summary report of the work performed by the Naval Surface Weapons Center (formerly N.O.L.) is available to the public as report No. TES-20-74-7, entitled "Development of Performance-Oriented Specifications for Drums and Pails Used for Packaging of Hazardous Materials for Transportation." The report on the work for boxes and cases (by the Naval Air Development Center) and bags and carboys (by the Naval Surface Weapons Center, should be completed by mid-1976 and late 1976, respectively. For the long range, we envision a continuing program utilizing staff resources to convert the above performance-oriented packaging standards into regulatory applications. This work necessarily must progress through the appropriate rule-making procedure process. Close coordination with the related work of the United Nations Group of Experts is also required. The major part of the effort involves the correlation of the levels of performance for the required packaging to the severity of the hazards of the material to be packaged and transported.

(c) Both the Energy Research & Development Administration (ERDA) and the U.S. Nuclear Regulatory Commission (NRC) utilize performance criteria in their packaging standards for packaging of fissile and large quantities of radioactive materials. The ERDA requirements in its ERDA Operating Manual Chapter 0529 and NRC requirements in 10 CFR 71 are essentially identical to those of this Department in 49 CFR 173.398(c). To this extent, therefore, the Department has in the past and continues to coordinate its effort in this area as well as other areas with those agencies.

*Question 10.* Title I of P.L. 93-633 defines a "hazardous material" as ". . . a substance or material in a quantity and form which may pose an unreasonable risk to health and safety or property when transported in commerce." (Emphasis added) What has been done to incorporate the concept of "quantity and form" into the Hazardous Materials Regulations? What long-term plans does the Department have for incorporating this concept into the regulations?

Answer. The Hazardous Materials Regulations have used the quantity and form concept since the early 1900's. For example, we recently implemented regulations for combustible liquids, but only in quantities of 110 gallons or more per container.

*Question 11.* To what extent does the Department of Transportation coordinate and benefit from work done in the area of hazardous materials transportation by other federal agencies, including the Department of Defense?

Answer. The Department of Transportation attempts to coordinate its work in the transportation of hazardous materials whenever it appears that another agency may be able to contribute beneficial information. In turn, the Department extends this courtesy to these agencies.

Several agencies of the United States Government have some interest in the safety of hazardous materials shipments and transportation. Those that play an important role include: Defense, Treasury, Labor, Agriculture, Health Education and Welfare, Maritime Administration, Postal Corporation, Consumer Product Safety Commission, Energy Research & Development Administration, Nuclear Regulatory Commission, and the Environmental Protection Agency. Approximately 95% of all Department of Defense shipments are shipped via commercial carriers and therefore are subject to DOT's regulations.

*Question 12.* To what extent are there conflicts in the jurisdiction of the Department of Transportation with other federal agencies in regulating the transportation of hazardous materials? What steps have been taken to resolve these conflicts? Is Congressional intervention necessary in order to clarify the jurisdiction of each of the respective agencies?

Answer. As discussed in response to Question (11), several agencies have some interest in the safe transportation of hazardous materials and many have jurisdiction over some activity involving hazardous materials. The Department must and does cooperate and coordinate with an agency that is developing regulatory standards that contain possible conflicts with DOT standards. It is the desire of the Department that all standards be as uniform as possible.

DOT personnel participate on the committees an advisory groups of other agencies. The Department also occasionally participates as an interested party

in proceedings bearing on regulatory standards promulgated by the Department of Transportation.

At this time we do not see the need for congressional intervention to resolve any jurisdictional questions between Federal agencies with respect to safety in the transportation of hazardous materials.

*Question 13.* Section 106 of Title I of P.L. 93-633 authorizes the Secretary to establish criteria for handling hazardous materials and to require the registration of individuals who engage in the transportation of certain hazardous materials.

(a) To what extent has the authority to establish criteria for handling hazardous materials been utilized by the Secretary?

(b) Under what circumstances do you plan to exercise this authority?

(c) To what extent has the Department utilized its registration authority?

(d) Under what circumstances will such authority be exercised?

Answer. (a) The criteria for the handling of hazardous materials which § 106(a) authorizes the Secretary to establish may include, a minimum number of personnel; a minimum level of training and qualification for such personnel; type and frequency of inspection equipment to be used for detection, warning, and control risks posed by such materials; specifications regarding the use of equipment and facilities used in the handling and transportation of such materials; and a system of monitoring safety assurance procedures for the transportation of such materials.

Although the authority of 106(a) has not yet been exercised, certain regulations in effect prior to the HMTA and still in effect, as well as several outstanding proposed rule makings, do concern themselves with the kinds of criteria that § 106(a) speaks to. For example:

(1) The FAA requires training programs for carrier personnel that handle hazardous materials and has published FAA Advisory Circular 103-3 that provides an information guide for training programs.

(2) See answer to Question 4(b) for air carrier responsibilities with respect to certification and inspection of hazardous materials shipments.

(3) Proposed inspection and monitoring requirements for radioactive material shipments aboard aircraft have been published. (See 40 FR 57688, 12/11/75) This proposal specifies monitoring equipment.

(4) The existing regulations place a duty on each shipper and carrier of hazardous materials to thoroughly instruct employees in relation to hazardous materials regulations.

(5) The proposal with respect to hazardous information systems (Docket No. HM-126; 40 FR 26688; 6/25/75) for the warning and control of risks posed by hazardous materials is another example. These purposes are also served by the Department's labeling and placarding requirements for hazardous materials.

(b) With respect to the establishing of criteria for handling of hazardous materials, § 106(a) does not expressly require that public rulemaking procedures must be followed before adopting such criteria. It appears that such authority can be very useful in the development and dissemination of advisory instructions and when necessary to ensure the safe handling of particular hazardous materials in specific circumstances where time precludes the normal rulemaking process.

(c) The Materials Transportation Bureau has not exercised its registration authority under § 106(b) of the HMTA.

(d) The burden of registration should not be imposed on any segment of the public solely for the sake of registration alone. It recognizes, however, that registration, as envisioned by the Act, has the limited purpose of identifying those persons involved in a particular aspect of the transportation of hazardous materials (this conclusion is supported by the Conference Report on the Act which states, "The Secretary is not authorized to revoke or suspend any registration statement which is filed"). Before requiring registration the Bureau, having limited resources, wants to insure that the benefits derived from a registration program warrant the time and resources required to develop and monitor such a program.

*Question 14.* What procedures will DOT follow with respect to enforcement actions? Have such procedures been announced in the Federal Register, and if not, when will they be announced?

Answer. Under existing delegations of authority, the Commandant of the Coast Guard and the Administrators of the FAA, FRA, and FHWA have been given the responsibility to carry out the functions vested in the Secretary by

Sections 109(a), (b), and (e), 110, and 111, of the HMTA relating to investigations, records, inspections, penalties, and specific relief, so far as they apply to the transportation or shipment of hazardous materials by water, air, rail, and highway.

Prior to the HMTA, the Coast Guard and the FAA had the authority to impose civil penalties for violations of hazardous materials laws and regulations. Procedures for determining and assessing such civil penalties were also in place prior to the HMTA. Prior to the HMTA, the FRA and FHWA did not have the authority to impose civil penalties for violations of hazardous materials law and regulations, but did have civil penalty authority with respect to other areas within their regulatory jurisdiction. Procedures to implement that authority were in place prior to the HMTA.

Recognizing that the civil penalty provisions of the Hazardous Materials Transportation Act establish certain guidelines for determining and assessing civil penalties, the existing procedures of the Coast Guard, FAA, FRA, and FHWA can be used to implement those provisions to the extent they meet, or are flexible enough to meet, the guidelines of those provisions.

The enforcement efforts of the Materials Transportation Bureau will primarily be with respect to shippers and manufacturers of containers and packaging materials destined for use in transportation of hazardous materials. Although the Bureau has not yet promulgated procedures for use in its expected enforcement functions, the Bureau has the intention to do so as soon as practicable after the reissuance of the existing Hazardous Materials Regulations. (See discussion on reissuance in answer to Question 3(c).)

*Question 15.* Does the Department plan to utilize the existing regional offices of the Office of the Secretary for enforcement and education or will the hazardous materials program establish its own network of regional offices? If such regional offices will be established, what will be their responsibilities and what will be their resource commitment?

*Answer.* The Materials Transportation Bureau will establish its own network of regional offices when such offices are authorized.

The initial proposal for the fiscal year 1977 budget was for nine field offices, five in the early part of fiscal year 1977 and four later in the fiscal year. Further revision at the Secretary level indicated the proposed establishment of a second set of four field offices later in the fiscal year should be deferred in 1977 while MTB gains experience in the field force activity.

The president's 1977 budget proposed a continuation of the proposal provided for by the Congress in fiscal year 1976 appropriations. Therefore, no field offices will be established in light of the fiscal year 1977 budget as currently proposed to the Congress; however, the MTB has established a compliance branch in the Office of Hazardous Materials Operations for the purpose of monitoring the compliance program of the Department.

*Question 16.* What mechanisms are used to utilize the accident reporting system as a means of establishing priorities for new rule making activities?

*Answer.* The incident reporting system is useful in supplying information and experience with respect to existing regulations and exemptions. The information and experience can often lead to the conclusion that an existing regulation should be amended or that new requirements are needed.

With respect to exemptions, the review of information and experience gained from incident reports can be used to evaluate performance under an exemption. This evaluation can be used to support decisions on renewal, termination, or suspension of an exemption or a decision to provide by regulation what has in the past been permitted only by exemption.

In addition to establishing priorities for rulemaking, the incident reporting system can also be useful in promoting a more efficient and productive enforcement effort.

*Question 17.* The Act defines "commerce" to mean "trade, traffic, commerce, or transportation within the jurisdiction of the United States, (A) between a place in a state and any place outside of such state, or (B) which affects trade, traffic, commerce, or transportation described in clause (A)" (emphasis added). The Act further provides for preemption of state hazardous materials regulations. What steps has the Department taken to implement the new jurisdiction with respect to hazardous materials transportation affecting commerce?

*Answer.* The operation of the pre-HMTA hazardous materials statutes and the nature of rail, water and air commerce are such that, for all practical purposes, any hazardous materials shipment by those modes is in "interstate" commerce. Therefore, only with respect to highway transportation does "intrastate" com-

merce become a distinct consideration. In that regard, under Title 18, U.S.C. 831-835, the Department exercises jurisdiction over hazardous materials shipments transported by any motor carrier engaged in interstate commerce. This means that such carrier, when conducting intrastate commerce, was still subject to the hazardous materials jurisdiction of the Department.

The Department for all practical purposes has had, prior to the HMTA, jurisdiction over all transportation, both inter and intra state, by air, rail, and water modes. The many highway carriers that are not presently under DOT jurisdiction because of limited authority under 18 U.S.C. 831-835 and that are determined to be involved in activities affecting interstate commerce will be subject to such jurisdiction when reissuance of the existing hazardous materials regulations under the authority of the HMTA becomes effective.

Under the new Act, section 112(a) provides that any requirement of a State or political subdivision thereof, which is inconsistent with any requirement in the Act or a regulation issued under the Act, is preempted. There have been several States that have attempted to establish or implement laws that are inconsistent with Federal standards. These States have been advised that such non-Federal requirement would be preempted under section 112(a). However, they have been also told that they may be able to apply for exemption from preemption provided they can meet all conditions as stated in section 112(b). No procedures have been prescribed or published with regard to the requirements set forth in section 112(b). It is anticipated that this will be done in the near future concurrent with reissuance of the existing regulations under the HMTA (see answer to question 3(c) for reissuance discussion).

*Question 18.* Has the Department of Transportation established a plan of activities and objectives to be achieved in the next five years? If so, how was that program plan developed?

Answer. The specific rule making actions contemplated are:

(a) *Cylinder consolidation.*—A consolidation of the packaging specifications for compressed gas cylinders into three categories: Seamless, welded, and acetylene. existing specifications. This program will be accomplished by outlining and This program plan developed from an awareness of the need by the staff as well as industries' expressions of a need for more consistency and simplicity in the existing specifications. This program will be accomplished by outlining and setting forth the basic requirements common to all cylinders and supplementing this by providing separately those distinguishing characteristics applying to each individual type of cylinder. The program will be carried out using OHMO staff resources, supplemented by outside consultation with the National Bureau of Standards (NBS) Metallurgy Division.

(b) *Other packaging consolidations.*—Consolidation, reorientation, and simplification of the predominately hardware-oriented packaging specifications for drums and pails, boxes and cases, and bags and carboys into performance-oriented specifications. This program plan was developed several years ago as a long-range effort to simplify and to the extent practicable, provide for packaging prescriptions on a performance-oriented basis related to the degree of hazard of contents. The program is being carried out via outside contracts to develop the proposed specifications and staff resources to translate these into proposed rule making.

(c) *Aluminum high pressure cylinder specification.*—A program to develop and publish a packaging specification for an aluminum high pressure cylinder. The program plan was developed by examining and evaluating the history of the use of such cylinders for many years under special permits, wherein annual production of such cylinders has reached more than 200,000 units. Program will utilize staff resources supplemented by outside consultation with the NBS.

(d) *Cryogenic liquid cargo tank specification.*—A program to develop and publish a specification (Docket HM-115). Plan was developed by consideration of industry input, examination of the history of the many special permits for transport of cryogenic liquids, and an advanced notice of proposed rule making. Work is being carried out by OHMO staff assisted by FHWA.

(e) *Revise radioactive materials (RAM) regulations.*—

(1) Regulations for transport of RAM will be revised to incorporate the 1973 revisions of the international standards as promulgated by the International Atomic Energy Agency (IAEA). A need to maintain consistency of domestic and international standards dictates that such changes be made as appropriate in 49 CFR. Program plan was developed by USA participation since 1970 in IAEA Experts Panels to develop proposed changes to the 1967 standards. Work is to be carried out by OHMO staff coordinating with U.S. Nuclear Regulatory Commission, which will be making concurrent changes to its 10 CFR Part 71.

(2) Revised regulations for air transport of radioactive materials will be published, affecting the air carrier stowage rules, maximum package radiation level, and other matters. The program plan resulted from recommendations of DOT by the former USAEC in 1974 and development of proposed changes based thereon by the FAA in consultation with the OHMA staff.

(f) *Recodification of the regulations.*—An editorial revision and reorganization of the various sections of 49 CFR, primarily those not addressed in Docket No. HM-112, so as to provide a simplified and more easily usable format and presentation. The program plan has been developed by the OHMO staff with major outside contractual assistance from the National Archives.

(g) *Regulatory criteria for environmental hazards.*—A program to develop and publish regulatory criteria for such environmental or “non-acute” hazards as polychlorinated biphenyls, carcinogenic materials, and certain hazardous wastes not already regulated as “acute” hazards in transportation. The program plan has developed from a recognized need to address hazards of HM in transport from a long term, “chronic” hazard exposure standpoint, rather than the “acute” hazard standpoint. Assistance, recommendations and input will be obtained from other concerned agencies such as DOL/OSHA and EPA.

(h) *Revise etiologic agents regulations.*—A program to revise the existing definitions and criteria for transport of etiologic agents. The program plan developed from a recognized need for certain changes, based on comments from HEW, EPA, and Agriculture.

(i) *Hazards information systems.*—Completion of the development and publication of a hazard information system. (Dockets HM-103 and HM-126) The plan developed from an earlier notice of proposed rule making. A hazard information system is needed to provide for the adequate communication of hazards of materials in transportation.

(j) *Revise classification definitions and test criteria.*—A continuation of the on-going program to improve and establish the quantitative test and classification criteria for certain classifications of HM. These will include separate actions on oxidizers and flammable solids, thermally unstable materials, solid and non-solid explosives, poisons, spontaneously combustible materials, waste-reactive materials, and organic peroxides. The plan is a systematic effort started several years ago, utilizing staff resources, augmented by outside contractual projects.

(k) *Rule making to complete withdrawal of B of E delegations.*—A continuation of the removal of the ministerial and discretionary delegations of authority in 49 CFR to the Bureau of Explosives, Association of American Railroads. This plan is a systematic effort, utilizing staff resources and outside laboratory assistance to perform the necessary testing formerly done by the B of E and involves numerous specific regulatory sections which must be deleted or amended.

(l) *Open head plastic pail specifications.*—A program to provide a new specification for polyethylene drums and to authorize their use with dry, solid paste materials. The program plan developed from an earlier notice of proposed rule making (HM-119) and public comments thereon, carried out by OHMO staff.

(m) *Glass carboy specifications.*—A program to provide a specification for glass carboys in polystyrene packagings for use with various hazardous materials. Program plan developed by an earlier notice of proposed rule making (HM-117) and public comments thereon, carried out by OHMO staff.

(n) *Consolidate inside plastic packagings specifications.*—A program to consolidate and upgrade the various specifications for inside plastics packagings. The plan was developed on staff analyses of various industry comments and several petitions.

*Question 19.* Section 104 of Title I of P.L. 93-633 authorizes the Secretary to designate materials as hazardous if their transportation poses “an unreasonable risk . . .” Among the provisions contained in HM-112\* are new flammable liquid test methods.

(a) Please explain the reasons for altering the test method for establishing the classification of flammable liquids.

(b) Has the new classification been met by opposition from industry? What is the nature of the opposition, if any?

(c) Does this new definition encompass many materials which do not actually exhibit hazardous behavior? If so, will numerous exemptions from the regulation be sought?

\*Your reference to HM-112 in this question should be replaced by HM-102.

Answer. (a) In 1969, a contract (DOT-OS-00007) was established with the Bureau of Mines for an evaluation of the Department's hazard classification system and test methods. This resulted in the publication of a report in April 1970 titled, "Recommendation of Flash Point Method for Evaluation of Flammability Hazard in the Transportation of Flammable Liquids." The report analyzed the flammability hazard present in transportation, and recommended a definition for flammable liquids and a method of test as a criterion for this definition. An additional contract (DOT-OS-00038) was let in 1969 for the study of the transportation environment. An extensive report was published under this contract in October, 1971 by the General American Transportation Corporation, titled "A Survey of Environmental Conditions Incident to the Transportation of Materials." Much of this study was devoted to the temperature environment encountered in transportation. Based on these two studies, the proposed definition of a flammable liquid was considered to be somewhat conservative with respect to the maximum temperature limit to be encountered in transportation.

(b) Meetings were held with industry and trade associations such as the Manufacturing Chemists Association, the National Fire Protection Association, the National Paints and Coating Association, the American Petroleum Institute, the Society of the Plastics Industries, Inc., and the American Society for Testing and Materials. Of concern was the appropriate definition for flammable liquids considering the transportation environment, and the need for compatibility with the flammable liquid definitions of other government agencies. The recommended test method specified for evaluating the flammability hazard of liquids was discussed extensively with these groups. The new criteria and test methods were published over two years ago and, after two postponements, became effective on January 1, 1976. Just before that effective date some segments of industry voiced increased opposition to the new flammable liquid classification. The principal objections appeared to be cost oriented. They asserted that this new classification represents significant increases primarily in their non-transportation costs. The additional expense in transportation is represented by the application of a label and the marking of each package which is considered minimal (only a few cents per package) in comparison with the safety benefits accruing from the increased knowledge of the fire hazard of materials which fall into this category. Most of the costs cited by industry are actually the result of OSHA requirements which have been in existence since 1971.

(c) In the opinion of this Bureau, materials which meet the new definitions of a flammable liquid, developed after much study and exchange of information (see answers 19 (a) and (b) above), represent a potential hazard in transportation. Although an exemption is being sought for one material, the Bureau has no reason to believe that there are likely to be "numerous" requests.

*Question 20.* What lines of communication and cooperation exist between federal and state governments pertaining to the transportation of hazardous materials?

Answer. Numerous formal and informal lines of communication between federal and state governments exist at both the Washington Headquarters levels and at the regional levels through the field offices of the modal operating administrations. One example is the program of state participation in enforcement activities relating to highway transportation of hazardous materials. Also, the FAA is working with the NRC on a partially completed state survey of air transportation of radioactive materials, which includes an examination of compliance levels. State agencies are actively involved in these surveys. The 13 individual State surveys completed to date indicate a generally acceptable level of regulatory compliance.

Other examples of such formal lines include organizations such as the Southern Interstate Nuclear Board, Western Interstate Nuclear Board, the Conference of Radiation Control Program Directors, and numerous State departments of transportation. It is anticipated that within the implementation of procedures under § 112 of the Act, a continuing and increasing interface of the Bureau with State governments will take place.

*Question 21.* Are there any amendments to Title I of P.L. 93-633 which the Department needs in order to insure the safe transportation of hazardous materials in the United States?

Answer. Other than the clarifying amendments to the Hazardous Materials Transportation Act requested in the hazardous materials authorization bill (S. 2991) sent to the Hill on January 22 of this year, and the desired legislative

amendment to § 108 of the Act discussed in answer to questions 23 (d) and (e), the Materials Transportation Bureau sees no necessity for any other amendments at this time.

*Question 22.* Briefly describe the organizational changes that have taken place in the Department in order to carry out the provisions of Title I, P.L. 93-633.

Answer. On January 3, 1975, the Hazardous Materials Transportation Act of 1974, Title I of Public Law 93-633 was signed into law. The Act provides the authority for the Secretary to draw together previously fragmented regulatory and enforcement power over the movement of hazardous materials in commerce into one consolidated and coordinated effort.

To properly and efficiently exercise the powers and perform the duties vested in the Secretary of Transportation by the Hazardous Materials Transportation Act, as well as those vested in him by earlier laws dealing with hazardous materials and the transportation of hazardous liquids and natural gas by pipeline, the establishment of a line organizational element within the Department reporting to the Secretary was considered appropriate. On July 1, 1975, the Materials Transportation Bureau was established in answer to that need. The Bureau became operational on July 7, 1975, and is responsible for exercising the authority vested in the Secretary with respect to intermodal hazardous materials functions and the issuance of all hazardous materials regulations and exemptions except for those regulations and exemptions governing hazardous materials in bulk carried on board vessels.

The two operating elements within the Bureau are the Office of Hazardous Materials Operations and the Office of Pipeline Safety Operations.

Other organizational activity will take place shortly which will furnish further organizational refinements and provide better utilization of limited resources.

*Question 23.* Section 108 provides that regulations with respect to the transportation of radioactive materials on passenger carrying aircraft in commerce shall be issued within 120 days of enactment of the Act.

(a) What regulations have been issued in this regard?

(b) Describe how newly issued regulations for radioactive material air transport have significantly changed the previously existing regulations.

(c) As specified under part (a) of Section 108, what "effective procedures for monitoring and enforcing" the provisions of these regulations have been made?

(d) Are there any difficulties forseen in the monitoring or enforcing of these particular regulations?

(e) Would further legislation be required to aid in this aspect?

(f) Would the DOT interpretation of the word "research" in Section 108 allow private industries to transport quantities of radioactive materials on passenger carrying aircraft for use in the development of commercial products/processes?

Answer. (a) On April 17, 1975, the Department (FAA) published Amendment No. 103-24 to 14 CFR Part 103 (Docket No. 103-24, F.R. Vol. 40 No. 75). This amendment implemented § 108 of the Act, and became effective on May 3, 1975, 120 days within enactment of the Act.

(b) Amendment 103-24 has significantly changed the previously existing regulations for air transport of radioactive material to the extent that the end use of the material to be transported by passenger aircraft must be taken into account. Unless the material is intended for use in a research or medical application, it may not be offered for transportation by passenger-carrying aircraft. The major impact of this new requirement has been the prohibition on such aircraft of shipments of sealed sources of radioactive material which are used in industrial gamma radiography.

(c) The procedures for monitoring and enforcing the provisions of the regulations have been effected through a greatly increased inspection and enforcement program by the Federal Aviation Administration.

(d) One difficulty in the monitoring of the regulations resulting from § 108 has been the interpretation of the word "research." Some persons have interpreted the statute and regulation as being confined to the term "medical research." Both the FAA and the MTB, however, have concluded that the term "research" must be construed to cover *non-medical* as well as medical research. An intended use which would otherwise qualify as "research" is not disqualified because the use is or can be identified as "industrial" or "academic" research, neither of which are identified as terms in the statute.

Another difficulty in § 108 is its inclusion of many items having such an insignificant level of radioactivity as to have been excluded from the coverage of all other regulations applicable to radioactive materials. Under regulatory Amendment 103-24, the continuation of provisions for shipment of such low

level, non-research or non-medical items was provided for by applying the exemption provisions of § 107 to a revision of 14 CFR 103.1(c)(4). This mechanism will, of course, require a regulatory change every two years to continue the authorization for "exempt" packages.

(e) We believe that a legislative amendment to correct the oversight discussed in paragraph (d) is highly desirable. The legislative record leading to P.L. 93-633 seems to be clear in that it was not intended to preclude the shipment of items having insignificant levels of radioactive packages for shipment on passenger-carrying aircraft, regardless of their end use.

(f) In response to a request by the Honorable William P. Randall, Chairman, Subcommittee on Government Activities and Transportation of the House Committee on Government Operations, a legal opinion by the Chief Counsel of the FAA and concurred in by the General Counsel of the Department of Transportation, on the interpretation of the word "research" as used in § 108 of the HMTA has been written.

The transmittal letter and opinion are attached in answer to your Question 21(f).

HON. WILLIAM J. RANDALL,  
Chairman, Subcommittee on Government Activities and Transportation, Committee on Government Operations, House of Representatives, Washington, D.C.

DEAR MR. CHAIRMAN: In response to your letter of November 20, I am forwarding a legal opinion from the Chief Counsel of the Federal Aviation Administration concerning the scope of the word "research" as used in Section 108(a) of Public Law 93-633.

The conclusions stated in that opinion are consistent with the views of the General Counsel of the Department of Transportation on this matter.

Sincerely,

WILLIAM T. COLEMAN, JR.

Enclosure.

#### INTERPRETATION OF SECTION 108 OF THE TRANSPORTATION SAFETY ACT OF 1974

(Public Law 93-633)

Section 108(a) of Public Law 93-633 requires the Secretary of Transportation to issue regulations with respect to the transportation of radioactive materials on passenger-carrying aircraft in air commerce, as defined in the Federal Aviation Act of 1958. Section 108(a) provides, in pertinent part, that such regulations shall prohibit any transportation of radioactive materials on any passenger-carrying aircraft "unless the radioactive materials involved are intended for use in, or incident to, research, or medical diagnosis or treatment, so long as such materials as prepared for and during transportation do not pose an unreasonable hazard to health and safety."

The question asked is whether the research referred to in Section 108(a) pertains only to medical research or whether it encompasses as well other research, including "industrial research."

It is our opinion that the term "research" as used in Section 108(a) must be construed to include research other than medical research. Although the statute does not define "research" and does not contain any reference to or definition of "industrial research" there is nothing in the pertinent statutory provision that would exclude research performed by or for industrial entities, as long as the intended use of the radioactive material otherwise qualifies as "research". Conversely, the statutory provision does require the prohibition of shipment on passenger-carrying aircraft of radioactive materials intended for industrial uses other than research.

Our conclusion is based upon a reading of the statutory language and the rules of statutory construction elaborated upon in the paragraphs which follow.

a. *The language of section 108 is clear and unambiguous on its face.*—It is a general rule of statutory construction that where a statute is clear and unambiguous on its face it is not open to interpretation and should be administered or enforced according to its terms. In *Caminetti v. United States*, 242 U.S. 470 (1916) the Supreme Court declared, "where the language is plain and admits of no more than one meaning the duty of interpretation does not arise and the rules which are to aid doubtful meanings need no discussion."

b. *Each word should be given effect.*—If possible, every word, clause and sentence of a statute must be given effect. "A statute should be construed so

that effect is given to all of its provisions, so that no part will be inoperative or superfluous, void or insignificant, and so that one section will not destroy another unless the provision is the result of obvious mistake or error. 2A *Sutherland on Statutory Construction*, § 46.06 (4th ed. 1973).

Section 108 expressly refers to "research, or medical diagnosis or treatment." Thus, it appears that Congress has gone to some lengths, through the use of syntax and punctuation, to exempt two categories ("research" and "medical diagnosis or treatment") from the prohibition against transporting radioactive materials on passenger-carrying aircraft. We do not believe that Congress would make a distinction between these two categories if it intended to limit the meaning of "research" to "medical research."

c. "*Research, or medical diagnosis or treatment*" should be read disjunctively.—Unless a contrary intent is clearly indicated, the term "or" is presumed to be used in the disjunctive. It has been commonly held that the word "or" used in a statute is disjunctive and indicates an alternative. *Ohio Fuel Co. v. Paxton*, 1 F.2d 662 (S.D., Ohio, E. D. 1924).

The language of Section 108, "research, or medical diagnosis or treatment" is written in the disjunctive. Therefore, the term "research" is separated from "medical diagnosis or treatment" and these two distinct categories are excerpted from the general prohibition against transporting radioactive materials aboard passenger-carrying aircraft.

d. *The Act should be read as punctuated*.—Section 108 places a comma between the terms "research" and "medical diagnosis or treatment," thereby indicating that these two exceptions should be treated separately. It is a general rule of statutory construction that:

"An act should be read as punctuated, however, unless there is some reason to do otherwise . . . [w]hen punctuation discloses a proper legislative intent or conveys a clear meaning the courts should give weight to it as evidence." *Sutherland, supra*, § 47.15.

If Congress had intended to create only one exception, "medical research," it would have written "medical research or diagnosis or treatment." However, placement of a comma between "research" and "medical diagnosis or treatment," indicates a contrary intent.

e. *Legislative history*.—Since it appears from the foregoing that the language must, on its face, be construed to include research other than medical research, there would ordinarily be no cause to resort to the legislative history as an aid to interpretation. For the sake of completeness, however, we have reviewed the pertinent legislative history, and find that it does not alter our initial conclusion.

The original House bill (H.R. 15223) as passed by the House on June 24, 1974, contained no provision equivalent to Section 108(a). A proposed Senate bill would have prohibited the transportation of all radioactive materials on passenger-carrying aircraft except those "intended for use in medical research, diagnosis or treatment". In commenting on the proposal, the Secretary of Transportation wrote to Senator Pearson, a member of the Senate subcommittee considering the proposal, that the exception to the prohibition against transporting radioactive materials should not be limited to "medical research." In his letter of September 24, 1974, Secretary Brinegar stated:

"Finally, Section 108 would prohibit the transportation of all radioactive materials on passenger aircraft, except those used for medical purposes. This prohibition is too broad and would preclude a great many non-medical packages which see an important usage in industrial and academic research programs and whose transportation does not pose an unreasonable risk to the public." (S. Rep. No. 93-1192, Senate Commerce Committee, 93d Cong. 2d Sess., pp. 84-85 (1974)).

A few days after receipt of these comments, the proposed Section 108 was amended to read "research, or medical diagnosis or treatment." This amended language was in the bill as reported by the Senate Committee on Commerce on September 30, 1974. In pertinent part, the Senate Report stated that at a minimum the regulations to be prescribed by the Secretary "must prohibit transportation of all radioactive materials not involved in or incident to research activities or to medical diagnosis or treatment activities. Radioactive materials intended for research, or medical treatment or diagnosis, can be transported only so long as they do not impose an unreasonable hazard to health and safety." (S. Rep. No. 93-1192, p. 35).

The provision, with the identical wording and punctuation except for one change not relevant here, was retained in the final version recommended by the House-Senate conference committee and enacted by Congress. The only dis-

cussions concerning the pertinent provision were the following statements by members of the Conference Committee in the Senate and the House.

In offering the conference report, Senator Hartke stated:

"The conference report would ban all radioactive materials from passenger-carrying aircraft except those used for research or medical diagnosis or treatment. In enacting this provision, we reasoned that while it would be unwise to burden hospitals requiring radiopharmaceuticals or other nuclear medicines, such a need did not exist by those who use radioactive materials for industrial purposes. It should be noted, however, that industrial users of radioactive materials may still utilize cargo planes or air taxi services for quick deliveries." 120 Cong. Rec. S. 21944 (December 18, 1974).

A more limited statement was made by Senator Magnuson with respect to Section 108 when he declared:

"It also prohibits the shipment of radioactive materials aboard passenger aircraft, unless they are intended for medical research or treatment." 120 Cong. Rec. S. 21945 (December 18, 1974).

In the House, Representative Jarman presented the conference report with these words pertaining to Section 108:

"We also ban radioactive materials from passenger aircraft unless it is necessary for use in research or medical activity." 120 Cong. Rec. H. 12351, December 19, 1974).

While the statement by Senator Magnuson possibly may be cited to support a narrower interpretation of the statute, the statements by Senator Hartke and Representative Jarman most clearly reflect the language of Section 108 as actually written and finally enacted into Public Law 93-633. They both refer to research or medical diagnosis or treatment in the disjunctive thereby indicating the intent to have two separate categories of exceptions to the prohibition against carriage of radioactive materials on passenger-carrying aircraft. No distinction is attempted between non-medical research and medical research, thereby evidencing an intent to broadly construe the term "research" to mean non-medical as well as medical research. Although Senator Hartke's reference to "industrial purposes" is somewhat ambiguous, it does not negative the earlier general reference to "research" or require the exclusion of industrial research. On balance, taking into account the amendment which followed receipt of the Secretary's letter and the entirety of the legislative history on this point, we do not believe that the legislative history indicates the attribution of any constricted meaning to the word "research".

In conclusion the language of Section 108 is clear and unambiguous on its face and does not warrant statutory interpretation. Nevertheless, the rules of statutory construction and an examination of the legislative history also support the conclusion that the term "research" as used in Section 108(a) includes the carriage of radioactive materials on passenger-carrying aircraft intended for use in, or incident to, non-medical research as well as medical research.

*Question 24.* Have the "emergency circumstances" to grant exemptions from regulatory requirements, as set out in Sec. 107(d) of Title I ever been used? If so, how was/is the word "emergency" defined?

Answer. Yes. The requirements pertaining to applications for and processing of emergency exemption are set forth in 49 CFR 107.113. The parameters for determination of existing emergency are set forth in 49 CFR 107.115. A copy of the above mentioned exemption procedures is attached hereto.<sup>1</sup>

*Question 25.* Sec. 105(b) calls for a cooperative arrangement between the Secretary and representatives of the Interstate Commerce Commission regarding the routing of hazardous materials. Please discuss this arrangement.

Answer. Existing routing regulations (49 CFR 397.3 pertaining to motor carriers) were established prior to enactment of the HMTA. In addition, the Coast Guard has authority under the Ports and Waterways Safety Act of 1972 (P.L. 92-340) to establish routing schemes for vessels carrying certain hazardous materials (e.g. LNG, LPG, and explosives). To the extent the Materials Transportation Bureau undertakes future substantive changes or additions to those regulations, it will consult with and entertain relevant suggestions of the ICC on the matter. The Bureau does not feel the necessity at this time to establish a formal arrangement with the ICC for such consultation and cooperation.

*Question 26.* Sec. 109(a) provides, among other things, that "after notice and an opportunity for a hearing" the Secretary may issue orders directing compliance with Title I, or with *regulations* issued under the Title.

<sup>1</sup> The attachment was not reproducible.

(a) Please list the hearings held, and the regulations or provisions covered, since enactment of the Act.

(b) Please list regulations which have been issued without the benefit of hearings and discuss the circumstances.

Answer. (a) There have been no orders issued under the authority of § 109(a) of the Hazardous Materials Transportation Act. This is a subject which the Bureau contemplates covering in a future issuance of enforcement procedural regulations along with civil penalties which together with criminal penalties (§ 110(b)) and specific relief (§ 111) form a comprehensive arrangement of enforcement tools. Hazardous materials regulations issued under the Hazardous Materials Transportation Act are listed in the answer to question (2). Those that have been issued with the benefit of a public hearing are as follows:

HM-127—Exemption procedures (40 FR 48466, 3/15/75).

FAA Docket No. 14249; Amendment No. 103-24 Carriage of radioactive materials on passenger-carrying aircraft (40 FR 17141, 3/17/75).

(b) This question appears to be directed to hazardous materials regulations issued under the Act rather than orders issued specifically under § 109(a) of the Act.

Hazardous materials regulations issued under the HMTA are listed in the answer to question (2). Those that have been issued without the benefit of a public hearing are as follows:

MTB-1: MTB & Rulemaking Procedures (40 FR 31767, 7/29/75).

HM-127, Amendment 1—Technical and clarifying changes to exemption procedures (40 FR 56442, 12/3/75).

HM-127, Amendment 2—Requiring foreign applicants for exemptions to designate U.S. agent for service of process (41 FR 7509, 2/19/76).

[The following information was referred to on p. 31:]

DEPARTMENT OF TRANSPORTATION,  
MATERIALS TRANSPORTATION BUREAU,  
Washington, D.C., April 12, 1976.

HON. VANCE HARTKE,  
Chairman, Surface Transportation Subcommittee, U.S. Senate,  
Washington, D.C.

DEAR MR. CHAIRMAN: This refers to your letter concerning the oversight hearing held on March 4, 1976. You have requested additional answers to questions pertaining to both hazardous materials and pipeline transportation.

Please find enclosed herewith the requested answers in the same order as asked.

In addition, I am taking the liberty of adding Question No. 16 to clarify our position on Section 108(b) concerning "radioactive materials."

Sincerely,

JAMES T. CURTIS, JR.

Enclosures.

Question 1. Section 107(a) of the Act relating to exemptions from the standards requires a petitioner to provide a safety analysis as prescribed by the Secretary to justify the grant of the exemption. What kind of data is submitted in response to the statutory requirement for a safety analysis? Is the data ever evaluated to see whether it is reliable and accurate?

Answer. Docket No. H.M.-127 (Establishment of Exemption Procedures) requires the applicant to furnish a safety analysis. Each application for an exemption or renewal of an exemption must include a detailed description of the proposal, including drawings, plans, calculations, procedures, test results, previous exemptions, properties and characteristics of the commodity and other supporting information.

In addition, the applicant must state why he believes the proposal, including any safety control measures he specifies, will achieve a level of safety which is at least equal to that specified in the regulations from which the exemption is sought or will be consistent with the public interest and will adequately protect against the risks of life and property which are inherent in the transportation of hazardous materials in commerce.

All data furnished is thoroughly evaluated to determine whether a level of safety equal to that established in the regulations will be achieved.

Applications that are incomplete or deficient in technical data or justification are either held in abeyance pending receipt of additional information requested, returned to the applicant, or denied.

*Question 2.* How many regulations in the past two years have been modified because of experience gained through the exemption process?

*Answer.* There were 21 sections of the regulations that were modified. The list of these changes is attached.

FOR NEW OR MODIFIED PACKAGINGS REGULATIONS MODIFIED IN LAST 2 YR BECAUSE OF EXEMPTION  
EXPERIENCE

Amendment No. and type container	49 CFR sec.	Regulation change	Exemption numbers
HM-105: Cargo tanks and rail cars.....	173.123, 0.141, 0.145.	Additional restrictions for bottom unloading.	4455, 4499.
HM-106:			
Fire extinguishers.....	173.306.....	Increased service pressure and clarified burst pressure requirements.	3455, 4132.
Tank cars and cargo tanks.....	173.252.....	Modified tank lining and loading requirements.	5004.
HM-111: Radioactive materials packaging..	178.120, 0.121, 0.194, 0.195, 0.103.	Added specification packaging.	4909, 5800, 5909, 5021.
HM-104:			
Accumulator.....	173.306.....	Capacity increase and pressure increase.	2787, 4177.
Metal 2N container.....	178.32.....	Change in size of container.	2545.
HM-121:			
DOT 5 drums.....	173.208.....	Increase in capacity of drums.	3348.
DOT 33A.....	178.134.....	Using polystyrene case as an overpack.	4248.
DOT 5 and 6.....	178.81, 178.83.	Changes in dimensions of rolling bars and hoops.	3989, 3439.
6D drum with PE liner.....	173.247(a).....	Added 6D with PE liner as approved container.	4586.
2S or 2SL in 37M overpack.....	173.299(a).....	Increase capacity of 2S or 2SL in a 37M overpack.	5337.
Glass containers in 33A case.....	173.245.....	Glass container in 33A polystyrene case— Increase in capacity.	4248.
21C drum with aluminum liner.....	173.217.....	Revise thickness of aluminum liner in 21C container.	5849.
Cargo tanks or rail cars.....	173.354.....	Allowing tanks designed to but not marked with ASME code.	5883.

*Question 3.* You indicate in your response to question 14 that the MTB has not yet promulgated procedures for enforcing the Hazardous Materials Transportation Act with respect to the shippers and manufacturers of containers but that the Bureau has the intention to do so "as soon as practicable" after the reissuance of the existing hazardous materials regulations. Wouldn't it have made more sense to have the enforcement procedures in place before promulgating standards under the Act? What do you mean by "as soon as practicable"?

*Answer.* I expect to issue these procedures to be effective at the same time as the substantive regulations are transferred to be applicable under the new Act. This will occur approximately July 1, 1976.

*Question (4) (a).* You note in your answers to our pre-hearing questions that it was the intention of the MTB to establish its own network of regional offices and that you intended to establish nine field offices during fiscal 1977. However, the White House did not include funding for those field offices in its budget. Why? What impact will it have on MTB's ability to enforce the Act?

*Answer.* The MTB has established a small Compliance Branch staffed by one clerical employee and four professional employees for the purpose of ascertaining the degree of compliance with the Regulations as specified by Section 109(d) of the new Act. When such a determination has been made, future budget requests concerning the funding of field offices will be submitted.

*Question (4) (b).* You failed to define what the purpose of these field offices would be in your response to our pre-hearing questions. Would you please provide that information now?

*Answer.* The purpose of the field offices include enforcement, inspection, surveillance, and educational activities on a regional basis. This type of organization provides closer liaison with the regulated industries and allows MTB personnel to more readily assist them in compliance with the regulations concerning the safe transportation of hazardous materials. The field organization will pro-

vide close contact with state personnel concerning their hazardous materials programs as affected by the pre-emption provisions of Section 112 of the new Act.

*Question 5.* Assume a truck transporting plutonium overturns in a densely populated area and assume further that the packaging fails. What emergency procedures are in effect to deal with this kind of situation?

Answer. The assumption of packaging failure from an accident involving a truck overturn would be highly pessimistic, as the packaging required must withstand very severe accidents without failure. In such an unlikely event, however, the consequences of the event would be mitigated by the observance of the regulatory procedures which are required to be followed by the carriers. These procedures include: segregation of the packages from persons (49 CFR 177.861 (a)); immediate notification of the shipper and the DOT in the event of accident, fire, or a suspected leaking package (49 CFR 177.861(a) and 171.15(a)), as well as a requirement that vehicles, areas, and equipment not be placed in service again until surveyed, and where necessary, decontaminated. In practice, the carrier can call upon the services of an existing system, called the Interagency Radiological Assistance Plan (IRAP). The IRAP makes available trained radiological monitors who are equipped to assess the extent of the radiological problem, if any, and competent to act as advisors in the cleanup. The radiological assistance teams, which are maintained at each of eight regional field offices of the Energy Research and Development Administration (ERDA), are dispatched immediately in response to calls for emergency assistance. This assistance has been utilized, as needed, over many years and has been highly effective in the few transportation accidents which have occurred involving radioactive materials. Should a major release of radioactivity occur in an accident, this type of assistance would help to mitigate the impact of the release.

Recognizing the need, however, for better overall radiological incident emergency response planning, the Federal Preparedness Administration, General Services Administration (GSA), published a notice on December 24, 1975 in the *Federal Register*. This notice provided full public information concerning the general course and method by which certain radiological incident emergency response planning responsibilities are channeled and determined among the interested Federal Agency. The recent notice replaces an earlier January 29, 1973 (39 FR 2356) notice by the Office of Emergency Preparedness which deal solely with planning for incidents involving fixed nuclear facilities. The new notice extends the considerations to those involving transportation incident planning. Under this notice, the Department of Transportation is responsible for:

(1) Providing guidelines, in cooperation with NRC and other Federal Agencies, and consistent with NRC guidance, for the development of that portion of State and local emergency plans pertaining to transportation incidents as described in the notice.

(2) Assistance to State and local governments in emergency planning for such transportation incidents.

It is anticipated that as a result of this notice, the MTB will be increasingly involved with assisting State and regional groups in their planning for handling radiological incidents in transportation.

*Question 6(a).* When petitions for rule-making are submitted to the Office of Hazardous Materials Operations, how do you determine which ones are to receive priority?

Answer. Upon receipt of a petition for rule making, a preliminary review is made and a priority is assigned based on the urgency of the petition and the anticipated effect upon hazardous materials transportation. Each petition is evaluated on the basis of the possible impact on the current regulations, e.g., the number of special permits or exemptions in existence which relate to the petition and the safety experience associated with those special permits or exemptions. For those petitions for which no safety experience is available, the proposals are subject to a safety engineering evaluation to assure that safety in transportation is maintained. Consideration is also given to the environmental and inflationary aspects of any proposed modification to the regulations.

*Question 6(b).* How soon after a petition is filed does OHMO either grant or deny the petition? Please provide for the record a list of all petitions filed with the Office of Hazardous Materials or its predecessor, which have neither been granted or denied and the date such petition was filed.

Answer. The time required for the response to any petition is of course, dependent upon the complexity of the proposed modification of the regulations as well as the availability of the data required to completely evaluate the request. Some petitions have been acted upon within a few months, while others may require extensive study and research. Frequently, it is considered necessary to accumulate experience with a proposed procedure or packaging or to obtain additional information from a petitioner.

Attached are listings of petitions for rule making upon which no final action has been taken<sup>1</sup> and those to which a response has been given in the form of a rule making action or a denial of the petition.<sup>2</sup>

In those cases where rule making is involved, several man-months may be required in the preparation of a notice of proposed rule making, the receipt and evaluation of public comments, and the publication of final amendments.

The Bureau is presently reviewing the list of petitions on which no action has been taken. Many of these petitions have been overtaken by events and are no longer outstanding. However, the petitions have not been formally withdrawn.

---

<sup>1</sup> See attached listing for "Petitions to Amend the Regulation."

<sup>2</sup> See attached listing for "List of Disposed Petitions (Denial or Rule Making)."

## PETITIONS TO AMEND THE REGULATIONS

Petition No.	Dated	Received	Origin	Nature of request	Disposition
P-1	July 18, 1968	July 19, 1968	Manufacturing Chemists' Association, Inc., Washington, D.C.	Proposes to consolidate specifications 44B, 44C, 44D, and 44E, multiwall paper sacks, into one at sec. 178.236.	
P-3	July 23, 1968		Stauffer Chemical Co., New York, N.Y.	Proposes to amend sec. 173.254(b)(3) to perform shipment of anhydrous hydrofluoric acid in MC-330 cargo tanks.	
P-4	July 12, 1968	July 18, 1968	Chemagro Corp., Kansas City, Mo.	Proposes to amend sec. 173.337(O)(1) to provide for shipment of dry mixtures of organic phosphate compound mixtures.	
P-6	July 9, 1968		Bureau of Explosives (AAR), New York, N.Y.	To amend sec. 173.239(a) to authorize use of 37A metal drum for high explosives.	
P-8	Aug. 19, 1968		Industrial Chemicals Division, Morristown, N.J.	Proposes to amend sec. 173.234(a)(2) to permit use of 4-ply extensible kraft bags with a minimum basis weight of 240 lb including 10-lb polyethylene inner sheet on laminate.	
P-9	Aug. 23, 1968		Department of the Army, MTMTS, Washington, D.C.	To amend commodity list sec. 172.5(g) to show "Irritant" instead of "Tear Gas."	
P-17	Aug. 22, 1968	Aug. 27, 1968	Kaiser Chemicals, Oakland, Calif.	Proposes to amend sec. 173.314(c) to authorize 112A400W tank cars for dichlorodifluoromethane.	
P-19	Aug. 30, 1968	Aug. 31, 1968	Manufacturing Chemists' Association, Inc., Washington, D.C.	Proposes to amend sec. 177.834 by adding paragraph (d) regarding loading of class B poisons.	
P-29	Oct. 1, 1968	Oct. 7, 1968	Compressed Gas Association, Inc., New York, N.Y.	Proposes to amend sec. 178.59-16(a) regarding acetylene cylinder specifications 8 and 8AL.	
P-30	Aug. 22, 1968	Aug. 26, 1968	Bureau of Explosives (AAR), New York, N.Y.	Recommends that specification 3AL, seamless aluminum cylinder, be added to pt. 178.	
P-31	Oct. 17, 1968	Oct. 21, 1968	Department of the Army, MTMTS, Washington, D.C.	Recommends that sec. 172.5(a) be amended to show separate listing for ammunition for cannon with inert empty or solid projectile as explosive, class C.	
P-35	Oct. 31, 1968	Nov. 1, 1968	Bureau of Explosives (AAR), New York, N.Y.	Recommends that sec. 173.182(c)(3) be amended to include 440 plastic bags.	
P-46	Jan. 27, 1969		Steel Shipping Container Institute, New York, N.Y.	Suggests adding a paragraph to various sections in pt. 178 to provide for less expensive steel.	
P-68	Apr. 30, 1969	May 1, 1969	Charles Donley & Associates, Pittsburgh, Pa.	Proposes to amend secs. 173.118 and 173.128 regarding adhesive thinning compounds.	
P-89	Apr. 17, 1969	July 15, 1969	Olin Mathieson Chemical Corp., Stamford, Conn.	Proposes to amend sec. 173.254(b)(2) and 179.102(a)(3) to permit shipment of anhydrous hydrofluoric acid.	
P-96	Aug. 19, 1969	Aug. 21, 1969	Manufacturing Chemists Association, Washington, D.C.	Proposes to amend sec. 173.266(a)(2) to restrict LCL or LTL shipments of high strength peroxide to drums of design approved by the Bureau of Explosives.	
P-97	.....do.....do.....do	.....do.....do.....do	.....do.....do.....do	Proposes to amend sec. 172.5 commodity list in keeping with proposed TH1 system; see, HM-7 comments.	
P-114	Oct. 30, 1969	Nov. 5, 1969	Industrial Chemicals Division, Morristown, N.J.	Proposes change in sec. 178-236-3 to authorize use of 44B bags—3-ply, 180 lb, polyethylene moisture barrier.	
P-117	Jan. 19, 1970	Jan. 21, 1970	Bureau of Explosives (AAR), New York, N.Y.	Proposes to add Lead peroxide to the commodity list, sec. 172.5(a).	
P-120	Jan. 8, 1970		John J. Boyle, Alexandria, Va.	Proposes to amend sec. 173.272(f) to provide for composite container.	
P-126	Jan. 8, 1970	Jan. 12, 1970	Compressed Gas Association, New York, N.Y.	Proposes to amend sec. 173.302(c) regarding filling of cylinders.	

P-130	Mar. 18, 1970	Mar. 20, 1970	Fibre Drum, Carteret, N.J.	Proposes to amend sec. 178.24, specification 2U.
P-137	May 21, 1970		American Cyanamid Co., Wayne, N.J.	Proposes to amend sec. 173.377(a)(1) to permit a 15½ lb maximum limitation for 2D bags.
P-140	June 3, 1970	June 4, 1970	Steel Shipping Container Institute, Union, N.J.	Proposes to add 4-mo destructive drop and hydrostatic tests in 5A, 5B, 6A, 6B, 6C, 6J, 6K, 17C, 17E, 17F, 17H, and 17X in pt. 178.
P-142	June 16, 1970	June 18, 1970	Stauffer Chemical Co., New York, N.Y.	Proposes to amend sec. 173.264 to authorize transportation of anhydrous hydrofluoric acid in MC 330 cargo tanks. See petition P-3.
P-147	July 16, 1970	July 17, 1970	Manufacturing Chemists Association, Washington, D.C.	Recommends that DOT adopt placarding system "TH1" and expedite introduction of MCA emergency center.
P-148			The Gillette Co., Andover, Mass.	Proposes to add (C)(1) in sec. 173.256 to permit motor vehicle shipments of hydrogen peroxide in solution—not over 2 oz in 12B fiberboard boxes with glass or polyethylene bottles.
P-149	Aug. 3, 1970	Aug. 6, 1970	Steel Shipping Container Institute, Union, N.J.	Proposes to consolidate into 1 specification, specifications in 17 and 37 series steel drums and balls.
P-154	Aug. 24, 1970	Aug. 26, 1970	Compressed Gas Association, Inc., New York, N.Y.	Proposes to amend sec. 173.302 to provide for the filling of non-toxic, nonliquefied flammable compressed gases in cylinders to 110 percent of the marked service pressure.
P-155	Sept. 3, 1970		Stauffer Chemical Co., New York, N.Y.	Proposes to amend sec. 173.358 to authorize shipment of dyfonate in 105A300W tank car tanks.
P-156	Sept. 11, 1970	Sept. 14, 1970	Bureau of Explosives(AAR) New York, N.Y.	Proposes to amend sec. 173.100(r)(3) for clarification of sparklers.
P-158	Sept. 1, 1970	Sept. 3, 1970	Republic Steel Corp., Cleveland, Ohio	Proposes less stringent requirements re steel in specifications 48A, 8AL, and 48W steel cylinders.
P-168	Dec. 1, 1970	Dec. 3, 1970	Association of American Railroads, Washington, D.C.	Proposes to amend secs. 177.823 and 174.544 by adding new paragraphs that would clarify exemption from marking, labeling, and packaging.
P-169	Nov. 30, 1970	Dec. 3, 1970	do	Proposes to amend sec. 173.289 to authorize shipment of formic acid (38 percent concentration) in 103A-ALW and 111A60AL tank cars.
P-174	Jan. 27, 1971	Jan. 29, 1971	Manufacturing Chemists Association, Washington, D.C.	Proposes to consolidate specifications 42B, 42C, 42D, 42F, 42G, and 42H aluminum drums.
P-179	Feb. 18, 1971	Feb. 22, 1971	Department of the Army(WTMTS), Washington, D.C.	Proposes to amend sec. 173.55 showing "Item, exempt",
P-181	Feb. 12, 1971	Feb. 16, 1971	Consolidated Freightways, Chicago, Ill.	Proposal to amend loading charts regarding heading class B poisons with class A.
P-182	Feb. 18, 1971	Feb. 22, 1971	Allied Chemical Corp., Morristown, N.J.	Proposes to amend sec. 173.34(e)(15)(ii) to include sulfur hexafluoride.
P-185	Feb. 9, 1971		General American Transportation Corp., Sharon, Pa.	Proposes amendment of 179.100-7(a), 179.200-7(e), 179.300-7(e) authorizing "pressure vessel steels",
P-189	Apr. 20, 1971		Escambia Chemical Corp., Pensacola, Fla.	Proposes to authorize shipments of anhydrous methylamines in 112A340W tank cars (special permit 4388).
P-193	May 12, 1971	May 18, 1971	American Can Co., Greenwich, Conn.	Proposes to amend sec. 173.163 to authorize shipment of wet chlorate via tank motor vehicle; also, permit sodium chlorate solution wet with 10 percent or more water in specification 300 series tank motor vehicles.
P-198	June 9, 1971	June 14, 1971	The Chlorine Institute, Inc. New York, N.Y.	Proposes to include pamphlet No. 59, "Design Recommendations for Chlorine Cargo Tanks", in sec. 171.7.
P-199	June 16, 1971	June 21, 1971	E. I. Du Pont De Nemours & Co., Wilmington, Del.	Proposes to authorize shipment of desensitized liquid explosives (type 5) in 5-gal polyethylene bottles, etc. (special permit 2946).

## PETITIONS TO AMEND THE REGULATIONS—Continued

Petition No.	Dated	Received	Origin	Nature of request	Disposition
P-201	July 2, 1971	July 6, 1971	U.S. Department of the Interior, Washington, D.C.	Proposes to amend sec. 173.31(d) to extend moratorium on re-testing specification 107A seamless steel tanks used in helium service.	
P-202	June 9, 1971		Sherwin Williams Chemicals, Bound Brook, N.J.	Proposes to amend sec. 173.377(XI) by adding, "Where extensible kraft is used the minimum total basis weight shall be 290 pounds."	
P-206	July 19, 1971		American Cyanamid Co., Wayne, N.J.	Discrepancies between various parts of sec. 173.314 regarding filling of tank cars with anhydrous ammonia or LPG.	
P-210	Aug. 25, 1971	Aug. 30, 1971	Compressed Gas Association, Inc., New York, N.Y.	Proposes to amend sec. 178.341-5 and 178.342-5 to require an additional closure, manually operated valve, on flammable liquid cargo tanks.	
P-215	Oct. 6, 1971	Oct. 13, 1971	Allied Tank Truck Equipment Co., Collegeville, Pa.	Proposes to amend sec. 173.234(a)(2) to permit use of 4-ply ext. kraft bag, etc. having a 10-lb polyethylene laminate.	
P-216	Oct. 7, 1971		Allied Chemical Corp., Morristown, N.J.	Proposes to amend secs. 173.314(d) and 173.315(c) to authorize certain liquefied and flammable dispersant and refrigerant compressed gas mixtures in 105, 106 and 110A tank cars and MC 330 and 331 cargo tanks, specification 51 portable tanks.	
P-217	Oct. 18, 1971	Oct. 19, 1971	E. I. du Pont de Nemours & Co., Wilmington, Del.	Refers to dockets HM-89 and 90 amendments and proposes that ASTM specifications be referenced without date, and a semi-annual notice updating the specifications be published—also, editorial changes.	
P-224	Nov. 24, 1971	Nov. 29, 1971	Phillips Petroleum Co., Bartlesville, Okla.	Recommends that sec. 173.34(e)(15)(iii) be deleted—hammer test.	
P-227	Jan. 6, 1972	Jan. 10, 1972	Air Transport Association, Washington, D.C.	Recommends that 105A600W tank car be authorized for shipment of hydrogen sulfide, Special permit 5107.	
P-229	Jan. 13, 1972		Stauffer Chemical Co., New York, N.Y.	Recommends that MC-312 tank cars be authorized for shipment of sulfur trioxide, Special permit 5867.	
P-230	Jan. 14, 1972		do.	Recommends that 21C fiber drums with polyethylene liners be authorized for solid carbolic acid in less than truckload lots. Special permit 2365.	
P-231	Jan. 18, 1972		Allied Chemical Corp., Morristown, N.J.	Recommends that sec. 179.222 be added to authorize 115A tank cars for chloroethene.	
P-234	Jan. 25, 1972	Jan. 26, 1972	Association of American Railroads, Washington, D.C.	Recommends amendment of sec. 178.343-1(G) to include "design pressure should not be less than vapor pressure at 115F," etc.	
P-237	Jan. 28, 1972	Feb. 1, 1972	Manufacturing Chemists Association, Washington, D.C.	Recommends that a new "Metal Chime Reinforced Polyethylene Drum" be added. It is similar to specification 34.	
P-240	Dec. 30, 1971	Dec. 30, 1971	Greif Bros. Corp., Union, N.J.	Recommends amending regulations to permit shipment of flammable liquids which are also corrosive in specifications 37P and 37M containers.	
P-241	Feb. 17, 1972		E. I. du Pont de Nemours & Co., Wilmington, Del.	Recommends that M15 grenades be classed as an explosive class B with shipping name "Special fireworks (incendiary grenade)".	
P-242	May 18, 1970		Armed Services Explosives Safety Board, Washington, D.C.		

P-249	Mar. 10, 1972	Mar. 13, 1972	Compressed Gas Association, Inc., New York, N.Y.	Recommends amendment of sec. 173.301(d), additional safety requirements for tube trailers.
P-250	Mar. 20, 1972	Mar. 24, 1972	Phillips Petroleum Co., Bartlesville, Okla.	Proposes changes to sec. 173.314(c)(1) table to authorize shipments tank cars.
P-252	Apr. 4, 1972	Apr. 10, 1972	Lubbock Manufacturing Co., Lubbock, Tex.	Recommends that wording be changed in sec. 178.337-3(d) to require that welding pads be of same material as the tank apply only to quenched and tempered.
P-257	Apr. 14, 1972	Apr. 17, 1972	Allied Chemical Corp., Morristown, N.J.	Suggests that sec. 173.314, 173.315 be amended to authorize shipment of halogenated hydrocarbon gas mixtures in 105A300W, etc. cars. (Special permit 4719).
P-258	Apr. 19, 1972	Apr. 25, 1972	Institute of Makers of Explosives, New York, N.Y.	Recommends reclassification of nitro carbo-nitrate and water gel or water slurry to be called "Blasting agents", in sec. 172.5 and related sec. 178.221-4(c)(1) be amended to be more explicit on marks as in 178.225-3.
P-260	May 9, 1972	May 12, 1972	Fibre Drum, Carteret, N.J.	Recommends that sec. 172.478(d) be amended regarding testing of means testing systems; sec. 173.340-4(a) structural integrity.
P-262	May 22, 1972	May 25, 1972	Truck Trailer Manufacturers Association, Washington, D.C.	Recommends that sec. 173.264(a)(11) be amended to authorize use of proper other lined equipment in aqueous HF acid service.
P-264	May 26, 1972		Pennwalt Corp., Philadelphia, Pa.	Recommends that parts of sec. 178.39 be amended to remove an inconsistency in the specification involving ratio of yield to tensile strength.
P-266	June 16, 1972	June 19, 1972	Compressed Gas Association, Inc., New York, N.Y.	Recommends amendment of secs. 174.510, 177.817 and 103.13 regarding shipping papers of small quantities of flammable liquids.
P-267	June 21, 1972	June 21, 1972	Powell & Becker, Washington, D.C.	Requests amendment of sec. 173.335-5 air retest period for hydrostatic testing of cylinders and aircraft evacuation systems.
P-272			Switlik Parachute Co., Inc., Trenton, N.J.	Recommends that sec. 179.400-18(c)(2) be amended regarding minimum size relief valves only.
P-274	July 11, 1972	July 13, 1972	Association of American Railroads, Washington, D.C.	Recommends that sec. 173.306(c)(1)(i) be amended to authorize up to 3,000 lbs. of group I refrigerants via motor and rail. (Special permit 5013).
P-277	June 6, 1972		Carrier Air Conditioning Co., Syracuse, N.Y.	Recommends revisions to packaging requirements for hydrofluoric acid and anhydrous hydrogen fluoride. (Citation P-1)
P-278	July 28, 1972	July 31, 1972	Manufacturing Chemists Association, Washington, D.C.	Recommends adding paragraph (D) in sec. 179.270-15, 179.400-12 to provide less exposure of filling of F-1's in 115 tank cars.
P-279	Aug. 9, 1972	Aug. 10, 1972	Association of American Railroads, Washington, D.C.	Recommends adding secs. 179.102-4(g)(6), and 179.102-4(p)(4) as well cannot be X-rayed because of location.
P-286	do	do	do	Recommends that sec. 179.200-7(D) table footnote 2, 179.200-5(a) and 179.220-7(d) be deleted to go with change in AAR specifications for tank cars.
P-287	do	do	do	Recommends that sec. 179.200-7 and 179.220-7 be amended to resolve difference between AAR specifications for tank cars and ASTM specification.
P-288	do	do	do	Recommends that sec. 179.200-15(b) be amended to extend application of regulations.
P-289	do	do	do	Recommends that an addition be made in pt. 179 to indicate that the current specification is the electric one.
P-290	do	do	do	Recommends amendments in the footnotes to table in sec. 173.31 regarding frangible discs.
P-291	do	do	do	

## PETITIONS TO AMEND THE REGULATIONS—Continued

Petition No.	Dated	Received	Origin	Nature of request	Disposition
P-292	Sept. 5, 1972	-----	The Gillette Co., St. Paul, Minn.	Recommends amendment of sec. 173.244 to extend exemption of 4-oz bottles in limited number in outer container (special permit 6304).	
P-293	Sept. 15, 1972	Sept. 20, 1972	Association of American Railroads, Washington, D.C.	Recommends that DOT-120A200ALW car be added in class 120.	
P-294	-----do-----	-----do-----	-----do-----	Recommends that secs. 173.103-5(b)(1), 173.200-17(a)(1) be amended to reference app. E of AAR specifications.	
P-299	Sept. 29, 1972	Oct. 3, 1972	-----do-----	Recommends that 173.200-14(c) be amended to require an additional reinforcement of the opening of the tank shell.	
P-300	Oct. 2, 1972	Oct. 4, 1972	U.S. Atomic Energy Commission, Washington, D.C.	Recommends that the term "radioactive materials" be added in 177.834(a) and (c).	
P-301	Oct. 26, 1972	Oct. 30, 1972	Compressed Gas Association, Inc., New York, N.Y.	Recommends miscellaneous amendments to the list of hazardous materials and various sections in pt. 173 regarding dispersant and refrigerant gases.	
P-303	Nov. 27, 1972	Nov. 29, 1972	Walter S. Wilpiseszki, Roselle, N.J.	Recommends that "Valves must be protected by properly secured caps during transportation" be added in sec. 173.301(g)(4).	
P-304	Nov. 30, 1972	Dec. 6, 1972	DuBois Chemicals, Cincinnati, Ohio	Recommends that secs. 173.28(m) and 173.240 be amended to show definition of liquid alkaline corrosive materials.	
P-307	Jan. 2, 1973	Jan. 5, 1973	Association of American Railroads, Washington, D.C.	Recommends that sec. 179.100-9(a) be amended to give control over weld hardness testing.	
P-308	Jan. 8, 1973	Jan. 10, 1973	Manufacturing Chemists Association, Washington, D.C.	Recommends that sec. 177.337(c)(1) be amended to recognize safer and more reliable methods of bonding the cargo tank to the unloading piping.	
P-309	-----do-----	-----do-----	-----do-----	Recommends that secs. 173.33 and 178.340-7(c) be amended to make appropriate reference to requirements for double bulkheads in compartmented cargo tanks.	
P-310	Dec. 26, 1972	-----	Truck Trailer Manufacturers Association, Washington, D.C.	Recommends that the MC specification tables be amended to show minimum decimal thicknesses instead of gage thicknesses for shells, heads, bulkheads and baffles.	
P-311	Jan. 10, 1973	Jan. 15, 1973	Ethyl Corp., Baton Rouge, La.	Recommends that 173.34(e)(9) and (10) be amended to extend exemption of 4BA cylinders in methyl chloride service to those used for vinyl chloride or ethyl chloride.	
P-312	Jan. 8, 1973	-----	Canadian Transport Commission, Ottawa, Ontario, Canada.	Recommends that sec. 178.51-18 be amended to be similar to 178.61-19.	
P-314	Jan. 24, 1973	Jan. 26, 1973	Compressed Gas Association, Inc., New York, N.Y.	Recommends new rules dealing with nomenclature. See docket No. HM-97, proposal B.	
P-316	Jan. 30, 1973	Jan. 31, 1973	Truck Trailer Manufacturers Association, Washington, D.C.	Recommends that all MC specification tables be amended to show minimum decimal thicknesses rather than gauge thicknesses for shells, heads, bulk heads and baffles.	
P-317	-----do-----	Feb. 2, 1973	-----do-----	Recommends amending secs. 177.824(d)(4) and 178.340-4(a) to express in terms of percentage maximum pressure differential; stress value not exceed 20 percent of minimum ultimate strength of material.	
P-319	Jan. 3, 1973	-----	Allied Chemical Corp., Morristown, N.J.	Recommends that paragraph (a)(5) be added in sec. 173.224 to handle cumene hydroperoxide (special permit 3364).	

P-322	Feb. 23, 1973	Mar. 2, 1973	do	Recommends that sec. 173.234(a)(2) be revised to include 2 multiwall bags now authorized by special permits 3966, and 4763.
P-323	Mar. 6, 1973	Mar. 8, 1973	Compressed Gas Association, Inc., New York, N.Y.	Extension of life of 3 HT cylinders.
P-326	Apr. 4, 1973	Apr. 11, 1973	Ministry of Consumer and Commercial Relations, Toronto, Ontario, Canada.	Study of emergency valves, manhole covers, vents, emergency valve pumps, manifolds for mixed loads and flexible pipe couplings.
P-327	Feb. 12, 1973	Feb. 14, 1973	Truck Trailer Manufacturers Association, Washington, D.C.	Recommends that specifications MC 304, 307, and 331 be amended by deleting gage glass reference and indicate they are not permitted on a cargo tank.
P-328	Apr. 19, 1973		Philco, Newport Beach, Calif.	Recommends that C-seless Ammunition, 25 MM, with solid projectiles be added in sec. 173.100 as class C explosives.
P-329	May 4, 1973	May 12, 1973	Association of American Railroads, Washington, D.C.	Recommends amendment of secs. 179.202(g) and 179.301(a) to clarify 179 as tank car tank construction requirements and 173 as shipping requirements.
P-330	May 10, 1973	May 17, 1973	do	Recommends numerous changes in pt. 173 pertaining to physical tests of cylinders during time of manufacture.
P-331	do	do	Air Products & Chemicals, Inc., Allentown, Pa.	Recommends that sec. 170.11(c) be amended to show 30 days.
P-333	May 21, 1973	May 25, 1973	Reading Co., Reading, Pa.	Recommends that secs. 174.596 and 174.598 be amended to permit trains operated under sec. 232.19 to pass interchange points without inspections.
P-334	June 7, 1973	June 11, 1973	Military Traffic Management and Terminal Service, Washington, D.C.	Recommends that sec. 173.53(g) be amended with regard to the hazards of ammunition.
P-335	Oct. 11, 1968		Department of the Army (MTMTS), Washington, D.C.	Recommends that loading charts in secs. 174.538 and 177.848 be amended regarding mixed loadings (rail and or motor).
P-337	May 31, 1973	June 13, 1973	Silas Mason Co., Inc., Burlington, Iowa.	Recommends amending sec. 173.64 to authorize specification 15A boxes to a gross weight of 500 lb.
P-340			Stauffer Chemical Co., Westport, Conn.	Recommends amendment to permit use of MC-331 insulated cargo tanks equipped with bottom outlets for use in hydrogen sulfide service.
P-341	July 2, 1973	July 6, 1973	Manufacturing Chemists Association, Washington, D.C.	Recommends that sec. 178.343-1 be amended to improve the service performance of cargo tanks transporting hydrofluoric acid and anhydrous hydrogen fluoride.
P-343	July 10, 1973	July 16, 1973	ICI America Inc., Chattanooga, Tenn.	Recommends that secs. 178.209-3, 178.209-9 be amended by adding a "600" strength board, and lining tube "is not required for one-piece single wall containers, etc.
P-344	July 19, 1973	July 24, 1973	Coyne Cylinder Co., Memphis, Tenn.	Recommends that an approval be given for a specification acetylene cylinder (combination 4-BW and 8-AL) special permit 6517.
P-345	July 20, 1973	July 26, 1973	Department of the Army (MTMTS), Washington, D.C.	Requesting that note 2 in sec. 173.400(a) be reinstated—was canceled in HM-3.
P-349	Aug. 17, 1973	Aug. 22, 1973	Compressed Gas Association, Inc., New York, N.Y.	Recommends rulemaking regarding specifications 3T cylinders—filling densities (HM-99).
P-350	July 18, 1973		Halocarbon Products Corp., Hackensack, N.J.	Recommends that sec. 178.61-18 be amended regarding 4BW cylinders (special permit 6803).
P-351	Aug. 22, 1973	Aug. 24, 1973	Association of American Railroads, Washington, D.C.	Recommends that sec. 179.102-1(a)(1) be amended to include ASTM A-240, etc., stainless steel for fabrication of anchor legs.
P-353	Sept. 13, 1973	Sept. 18, 1973	Amtrol Inc., West Warwick, R.I.	Recommends that paragraph (f) be added in sec. 173.306—water pressure storage tanks.

## PETITIONS TO AMEND THE REGULATIONS—Continued

Petition No.	Dated	Received	Origin	Nature of request	Disposition
P-354	Sept. 7, 1973		Allied Chemical Corp., Morristown, N.J.	Recommends that sec. 173.272 be revised to authorize sulfuric acid of 57.9 percent and 62.2 percent concentrations in MC 310, 311, or 312 tank motor vehicles.	
P-355	Sept. 25, 1973	Sept. 27, 1973	Compressed Gas Association, Inc., New York, N.Y.	Recommends that sec. 173.304(a)(2) Table be amended to provide a broader range of filling densities for pressurized liquid oxygen, nitrogen and argon in DOT-4L cylinders.	
P-358	Oct. 2, 1973	Oct. 5, 1973	International Air Transport Association, Geneva, Switzerland.	Recommends that sec. 173.26(b) and (c) be amended to facilitate international transportation in countries where the metric system is in force.	
P-360	Sept. 28, 1973		IG-LO Products Corp., Memphis, Tenn.	Recommends that sec. 173.304(e) be amended to call for a safety relief device on 15 oz cans.	
P-363	Oct. 1, 1973	Oct. 24, 1973	International Air Transport Association, Geneva, Switzerland.	Asks that the IAEA recommendations be implemented as soon as possible.	
P-364	Oct. 22, 1973		Stauffer Chemical Co., Westport, Conn.	Recommends that sec. 173.272(h) be amended to authorize sulfur trioxide in MC-312 cargo tanks.	
P-367	Oct. 25, 1973		Economics Laboratory, Inc., St. Paul, Minn.	Recommends that sec. 178.205-7(a) be amended to include use of pressure sensitive tape. Special permit 6705.	
P-368	Nov. 13, 1973	Nov. 16, 1973	United States Steel Products, Pittsburgh, Pa.	Recommends that sec. 179.201-6 be amended to include more secure closure of the manway.	
P-370	Nov. 27, 1973	Nov. 29, 1973	Association of American Railroads, Washington, D.C.	Recommends that sec. 173.206(a)(9) be amended to authorize use of No. 2 packer can for lithium metal wire.	
P-371	Nov. 30, 1973		Foote Mineral Co., Exton, Pa.	Recommends that sec. 173-214 be amended to authorize shipment of wet zirconium metal powder in 6D pails.	
P-372	Nov. 29, 1973		do	Recommends that sec. 173.141 be amended to include 109A300-ALW cars for flammable liquids.	
P-374	Oct. 3, 1973		Phillips Petroleum Co., Bartlesville, Okla.	Proposes a 2H polyethylene composite container to save polyethylene.	
P-376	Dec. 20, 1973	Dec. 28, 1973	Greif Bros. Corp., Union, N.J.	Recommends that sec. 173.357(b)(2) be amended to authorize use of DOT-5B closed-head drums for chloropicrin (special permit 6174).	
P-377	Jan. 9, 1974		Great Lakes Chemical Corp., West Lafayette, Ind.	Recommends that sec. 173.92(c) be amended to include items in special permit 5777.	
P-378	Jan. 8, 1974		Department of the Army (DMTMS), Washington, D.C.	Recommends that sec. 173.100(p) and 173.109(a) be amended to provide for shipment of toy plastic caps (special permit 6812).	
P-379	Jan. 16, 1974		The Ohio Art Co., Bryan, Ohio	Recommends that sec. 173.31(c)(1) be amended regarding retesting.	
P-380	Dec. 24, 1973		Association of American Railroads, Washington, D.C.	Recommends amendment of sec. 173.247a to authorize shipment of vanadium oxychloride in MC 310, 311, and 312 cargo tanks (special permit 6211).	
P-381	Jan. 11, 1974	Jan. 17, 1974	Stauffer Chemical Co., Westport, Conn.	Recommends amending sec. 173.245 to include acetic anhydride.	
P-382	Jan. 17, 1974	Jan. 21, 1974	Tennessee Eastman Co., Kingsport, Tenn.	Recommends that sec. 173.377(b) be amended to authorize shipment of guthion 50 percent wettable powder, etc., in 2D paper bags (special permit 5167).	
P-383	Jan. 17, 1974		Chemagro, Kansas City, Mo.		

- P-384..... Feb. 7, 1974 Feb. 11, 1974 Manufacturing Chemists Association, Washington, D.C. Recommends that sec. 173.31(c)(9) be amended to clarify provisions relating to retest of lined specification cars from which lining has been removed and car converted to another spec. Proposes to amend specification 21C (sec. 173.294) to increase minimum strength for fiber bottoms and delete maximum inside diameter requirements.
- P-388..... Mar. 5, 1974 Mar. 7, 1974 The Harshaw Chemical Co., Cleveland, Ohio. Recommends that "Ammonium bifluoride" be labeled—sec. 173.5(a).
- P-389..... Mar. 13, 1974 .....do. Recommends that sec. 178.252-2(b) be amended to authorize loggie-type clamping ring in place of 12-gage bolted ring closure.
- P-390..... .....do. Recommends adding specification 2W, inside polyethylene jar, for dry products, to the regulations. Special permit 5654.
- P-391..... Mar. 27, 1974 .....do. Recommends that sec. 173.301(d)(1) be amended to authorize containers manifolded together with a single safety relief device.
- P-392..... Apr. 3, 1974 .....do. Recommends that secs. 173.249(d)(13), 173.249(d)(2), and 173.258(a)(6) be amended to include specification 37 portable tanks (Special permit 5820).
- P-393..... Mar. 28, 1974 .....do. Recommends that sec. 177.848(c) be amended to reflect same meaning as 177.835.
- P-395..... Apr. 29, 1974 May 6, 1974 Department of the Army (WTMTS), Washington, D.C. Recommends that a new paragraph be added to sec. 171.3 for definition of a "unit load."
- P-397..... May 20, 1974 May 21, 1974 Association of American Railroads, Washington, D.C. Recommends that in sec. 179.100-13(d) the words "such as may be encountered" be deleted.
- P-398..... .....do. Recommends that in secs. 179.200-18(b)(1), 179.201-1, and 179.201-7 the rupture disc settings for vent equipped non-pressure tank cars be raised from "not more than 75 percent of tank test pressure" to 100 percent of tank test pressure.
- P-399..... May 30, 1974 June 3, 1974 Steel Shipping Container Institute, Union, N.J. Recommends that sec. 173.119(a)(3) be amended to authorize shipment of flammable liquids with flash point of 20F. and below in 20-gage steel drums not exceeding 30 gal meetings performance of 17E drums.
- P-301..... June 12, 1974 June 12, 1974 Lawrence W. Bierlein, Washington, D.C. Proposes to add to new specification fiberboard box with inside containers of polyethylene.
- P-402..... May 1, 1974 May 6, 1974 Harstan Chemical Corp., Brooklyn, N.Y. Recommends that packaging requirements from fluoboric acid be basically the same as for corrosive liquids, n.o.s.
- P-403..... June 14, 1974 June 17, 1974 Compressed Gas Association, Inc., New York, N.Y. Recommends that secs. 173.8(b), 173.301(f) be amended to restate the reciprocal arrangement between the United States and Canada to permit each other cylinders to be used freely in both countries.
- P-404..... June 17, 1974 June 19, 1974 .....do. Recommends that secs. 173.34(c) and 173.301(a) be amended to provide for marking compressed gas cylinders to identify those having nonmetallic internal linings, and add prohibition against shipping such cylinders with lading that may react with the lining.
- P-405..... June 24, 1974 June 27, 1974 Fisher Controls Co., McKinney, Tex. Recommends that sec. 178.337-11 be amended to eliminate requirement for a remote closure station on vapor discharge openings of 1½ in size internal valves.

## PETITIONS TO AMEND THE REGULATIONS—Continued

Petition No.	Dated	Received	Origin	Nature of request	Disposition
P-408	July 3, 1974	July 9, 1974	E. I. Du Pont De Nemours & Co., Wilmington, Del.	Recommends that sec. 173.314 be amended to include specification 117A340W and 112A400W tank cars for use in shipment of anhydrous monomethylamine, anhydrous dimethylamine and anhydrous trimethylamine.	
P-411	July 8, 1974	July 9, 1974	American Cylinder Manufacturers Committee, Washington, D.C.	Recommends amendment of secs. 173.8 and 173.301(C) regarding tests required by specifications made in the United States or Canada.	
P-412	July 29, 1974	July 31, 1974	Taylor-Wharton Co., Easton, Pa.	Proposes to amend sec. 178.37-5 to change the silicon range.	
P-413	July 30, 1974	Aug. 5, 1974	Pressed Steel Tank Co., Milwaukee, Wis.	Proposes to amend sec. 178.37-5 to lower silicon range.	
P-415	Aug. 7, 1974	Aug. 12, 1974	Trojan-U.S. Powder, Allentown, Pa.	Recommends amendment of sec. 177.835(g)(2)(i) to require a label in IME 22 doesn't call for additional exterior packaging.	
P-417	June 12, 1974	Sept. 6, 1974	Economics Laboratory, Inc., Washington, D.C.	Proposes to add a new fiberboard specification, specification 17A.	
P-418	Sept. 3, 1974	Sept. 6, 1974	Tank Trailer Manufacturer Association, Washington, D.C.	Proposes an addition to sec. 178.340-10 (b) and 372 car tanks. Includes certification plates to MC 306, 307 and 312 car tanks.	
P-419	Sept. 26, 1974	Sept. 27, 1974	Department of the Army, Military Traffic Management Command, Washington, D.C.	Recommends amendment of secs. 173.404 and 173.430b regarding applying labels to exempt dangerous goods.	
P-420	Aug. 15, 1974		Stauffer Chemical Co., Westport, Conn.	Recommends amending sec. 173.358 to authorize shipment of Dynamite which contains ethyl-phenyl-diethyl-sulphonodithioate in DOT 05A300W tanks (special permit 5680).	
P-421	Oct. 7, 1974	Oct. 8, 1974	Manufacturing Chemists Association, Washington, D.C.	Consolidation DOT specification 12 series fiberboard boxes—pls. 175 and 178.	
P-422	Jan. 22, 1973		Department of Health, Education, and Welfare, Rockville, Md.	Proposes changes in sec. 173.386 regarding samples for analysis.	
P-423	Oct. 28, 1974		Montsanto Co., St. Louis, Mo.	Proposal contained in comments to docket HM-96.	
P-425	Nov. 21, 1974	Nov. 25, 1974	Compressed Gas Association, Inc., New York, N.Y.	Recommends amendment of sec. 173.182(C) to authorize container under special permit 6003 for its carbo nitrate.	
P-428	Dec. 10, 1974	Dec. 16, 1974	Bennett Industries, Pectone, Ill.	Recommends that a new sec. 173.317 be added to cover transportation of liquefied ethylene tank cars.	
P-429	Nov. 19, 1974		American Trucking Associations, Inc., Washington, D.C.	Recommends that the net index be amended in sec. 178.19-2(a).	
P-430	Dec. 2, 1974	Dec. 26, 1974	Fruhauf Corp., Omaha, Neb.	Asks for change in "limiting restrictions", filed as comment in docket No. HM-112.	
P-431	Dec. 9, 1974	Dec. 18, 1974	Department of Defense Explosives Safety Board, Washington, D.C.	Recommends amendment of specification 51 in sec. 178.245.	
P-432	Feb. 10, 1975	Feb. 13, 1975	Compressed Gas Association, Inc., New York, N.Y.	Recommends that the B or E impact test be deleted from CFR. Asks that Board delete from its specifications for new construction, acetylene cylinder specification DOT-8 and 8AL, and add in its place a new specification DOT-8W.	
P-433	Feb. 12, 1975	Feb. 14, 1975	O'Connor, Cavanagh, Anderson, Westover, Killingsworth & Besthears for UBC an Arizona Corporation.	Recommends that a new specification 70 be added for fiberglass portable tanks.	
P-434	Feb. 20, 1975	Feb. 24, 1975	American Trucking Association, Inc., Washington, D.C.	Recommends correcting 177.823(a)(1) reference to sec. 173.414(d).	
P-436	Feb. 10, 1975	Feb. 18, 1975	Thomas D. Richardson, Palos Verdes Estates, Calif.	Recommends that "Nitrogen trifluoride" be added to Commodity List—sec. 172.3.	
P-437	Feb. 14, 1975	Feb. 19, 1975	The Lubrizol Corp., Cleveland, Ohio	Recommends that regulations be amended to provide for metal inside packaging for commodities not corrosive to metal.	

- P-438..... Feb. 27, 1975 Mar. 3, 1975 Dow Chemical U.S.A., Freeport, Tex.----- Recommends that "Dichloroisopropyl ether" be removed from sec. 172.5.
- P-439..... Feb. 28, 1975 Mar. 4, 1975 Fibre Drum Technical Council, Washington, D.C.----- Recommends that secs. 178.224 and 178.225 be amended by adding "SU".
- P-440..... Mar. 10, 1975 Mar. 11, 1975 Manufacturing Chemists Association, Washington, D.C.----- Recommends that secs. 179.102-13 and 179.202-20 be amended to provide special requirements for tank car tanks for anhydrous hydrogen fluoride and hydrofluoric acid.
- P-441..... do..... do..... Recommends that sec. 174.561 be amended to clarify and update requirements for unloading tank cars.
- P-442..... do..... do..... Sherwin Williams Co., Cleveland, Ohio----- Recommends that "para-cresol" be added to commodity list—sec. 172.5.
- P-443..... Mar. 11, 1975 Mar. 14, 1975 Association of American Railroads, Washington, D.C.----- Recommends that sec. 179.400-15(e) be amended to update reference.
- P-444..... do..... do..... Sherwin Williams Co., Cleveland, Ohio----- Recommends adding "Barium monohydrate" to commodity list—sec. 172.5.
- P-445..... do..... do..... Tote Systems, Beatrice, Nebr.----- Recommends amending sec. 173.119 to include Tote's tanks fabricated in accordance with DOT specification 57.
- P-446..... Feb. 12, 1975 ----- Apache Container Corp., St. Paul, Minn.----- Recommends that sec. 178.33-7 be amended to include steel aerosol container (special permit 6839).
- P-448..... Mar. 21, 1975 Mar. 28, 1975 Air Products & Chemicals, Inc., Wayne, Pa.----- Recommends amending sec. 173.11 to provide for shipment of samples of new unadmitted products other than new explosives, etc.
- P-449..... Mar. 27, 1975 Mar. 31, 1975 The Harshaw Chemical Co., Cleveland, Ohio----- Recommends adding ammonium hydrogen fluoride to the commodity list, sec. 172.5.
- P-450..... Apr. 1, 1975 Apr. 4, 1975 Lawrence W. Bierlein for COSTHA, Washington, D.C.----- Recommends removal of the regulatory distinction now drawn between aerosol packaging of less than 35 cc in<sup>3</sup> and those aerosol shaving a 35 to 50 cc in<sup>3</sup> capacity, sec. 173.506-6(3) note 1, (3)(2) note and (3)(4).
- P-451..... do..... do..... RACON Inc., Wichita, Kans.----- Recommends amending sec. 173.33(e) to permit pneumatic refilling of over-the-road tank transports used for fluorocarbons or mixtures thereof.
- P-452..... Apr. 8, 1975 Apr. 10, 1975 Truck Trailer Manufacturer Association, Washington, D.C.----- Recommends amending secs. 178.337-10(d) and 178.340-8(b) by incorporating the structural requirements of the rear bumper in the lower crossmember.
- P-453..... Nov. 7, 1974 ----- National Barrel & Drum Association, Inc., Washington, D.C.----- Regarding authority of the Bureau of Explosives in secs. 178.116-8(C) regarding closure of drums.
- P-454..... Apr. 14, 1975 Apr. 17, 1975 Olin Corp., Stamford, Conn.----- Recommends adding insecticides or fungicides, agricultural, liquid in the commodity list, sec. 172.5(a).
- P-455..... Apr. 1, 1975 ----- Penwalt Corp., Philadelphia, Pa.----- Recommends that difluoroethylene be added in paragraph (3)(3) of sec. 173.301.
- P-456..... Apr. 28, 1975 May 2, 1975 Chemagro, Kansas City, Mo.----- Recommends amending sec. 173.377(b)(5) to read, "Authorized only for mixtures in which the liquid is absorbed in concentration not greater than 60 percent."
- P-457..... May 7, 1975 May 9, 1975 Compressed Gas Association, Inc., New York, N.Y.----- Recommends that paragraphs (I), (J), (K), and (L) in sec. 173.34 be deleted and replaced by a new paragraph (O) covering the repair and rebuilding of compressed gas cylinders.
- P-458..... Apr. 15, 1975 Apr. 18, 1975 Sandvik Special Metals Corp., Kennewick, Wash.----- Asks that clarification that solid metal wrought zirconium products in form of billet, tube, plate, sheet, strip, rod, and machined parts are not of a hazardous nature, sec. 172.5.

## PETITIONS TO AMEND THE REGULATIONS—Continued

Petition No.	Dated	Received	Origin	Nature of request	Disposition
P-459	May 8, 1975	May 13, 1975	Pierce & Stevens Chemical Corp., Buffalo, N.Y.	Recommends that sec. 173.119 be amended to authorize use of 17H drum for materials with a flash point below 20 F.	
P-461			Western Electric, Lee's Summit, Mo.	Recommends amending sec. 173.247(a)(1) to authorize shipment of a corrosive liquid not presently authorized (special permit 5038).	
P-462	May 12, 1975	May 15, 1975	The Marison Co., South Elgin, Ill.	Recommends deleting "spun" from the following secs. 178.35, 178.37, 178.38, 178.40, 178.43, 178.44, and 178.55.	
P-463	May 12, 1975	May 16, 1975	Phillips Petroleum Co., Bartlesville, Okla.	Recommends that sec. 173.346(a)(10) be revised by adding specification 109A300ALW.	
P-464	May 15, 1975	May 19, 1975	OSMOSE, Buffalo, N.Y.	Recommends that sec. 173.22(m) be revised to authorize use of 17E drums for reuse in shipping class B poisons.	
P-465	May 21, 1975	May 23, 1975	Dow Chemical U.S.A., Midland, Mich.	Recommends that paragraph (c) be added in sec. 177.834 to prohibit loading of an explosive or other hazardous material into a drum from a cargo tank or into a cargo tank from a drum unless transfer system is specifically and safely designed for that purpose.	
P-466	May 19, 1975	May 23, 1975	Compressed Gas Association, Inc., New York, N.Y.	Recommends that the requirement for periodic retest at 1.5 times design pressure for vacuum insulated cargo and portable tanks used in transporting low temperature fluids having inner containers of 304 stainless steel, etc., be removed.	
P-467	do	do	Stauffer Chemical Co., Westport, Conn.	Recommends that sec. 173.249(a) be amended to authorize shipment of phosphoric acid solutions not exceeding 75 percent strength in MC 303 cargo tanks (special permit 6887).	
P-468	do	do	Mobil Chemical Co., Plainfield, N.J.	Recommends that sec. 173.245 be amended to authorize use of 5-gal plastic pails in shipping of a partial hydrolyzed ethyl silicate solution (special permit 6758).	
P-469	May 22, 1975	May 23, 1975	American Package Express Carriers Association, Washington, D.C.	Recommends that secs. 177.817 (a) and (b) be amended to exempt packages of 65 lb or less from the requirement of being entered on shipping papers.	
P-471	July 3, 1975	July 7, 1975	Compressed Gas Association, Inc., New York, N.Y.	Recommends amending 4L insulated cylinder specification to provide for use of insulation jackets made of aluminum in addition to steel jackets currently authorized—sec. 178.57.	
P-472	July 2, 1975	July 7, 1975	Commercial Solvents Corp., Terre Haute, Ind.	Recommends that classification be listed 1st on shipping papers and followed by the technical name of product in parenthesis, sec. 172.5.	
P-473	June 10, 1975		Lawrence W. Bierlein for COSTHA, Washington, D.C.	Petition for expedited action on consumer commodity shipping papers.	
P-474	July 2, 1975		Collier, Shannon, Riff & Edwards for National Association of Food Chains, Washington, D.C.	Petition for consumer commodity exemption from shipping papers requirements.	
P-475	Mar. 7, 1975		Reynolds Industries Inc., Los Angeles, Calif.	Recommends that exploding bridgewire detonator class C explosive be added to the commodity list, sec. 172.5.	
P-476	July 17, 1975	July 21, 1975	Hercules Inc., Wilmington, Del.	Requesting amendment to sec. 178.24a to include polypropylene copolymer resins as an authorized material for 2E container.	

P-477	July 18, 1975	July 22, 1975	E. I. du Pont de Nemours & Co., Wilmington, Del.	Recommendations amending sec. 173.273 to authorize shipment of sulfur trioxide in 103AW tank cars (special permit 6281).
P-479	July 17, 1975	do	do	Recommendations amending sec. 173.354(c) (regarding motor fuel anti-knock class B poisonous solid) (special permit 5893).
P-480	June 5, 1975	June 5, 1975	Monsanto Co., St. Louis, Mo.	Recommendations that sec. 173.253 be revised to include specification MC 310, 311 and 312 for shipment of chloroacetyl chloride (special permit 6909).
P-481	July 30, 1975	July 31, 1975	E. I. du Pont de Nemours & Co., Wilmington, Del.	Recommendations that sec. 173.206(c)(2) be revised by deleting reference to weight limitation when using 17C drums.
P-482	July 7, 1975	July 7, 1975	Air Transport Association of America, Washington, D.C.	Requesting amendment of sec. 173.34(e)(3)(iii) to extend life DOT 311 cylinder from 15 to 24 yr.
P-483	May 23, 1975	May 25, 1975	Gallery Chemical Co., Gallery, Pa.	Recommendations that diborane be added to the commodity list, sec. 172.5(c), special permits 930 and 970.
P-484	Aug. 7, 1975	Aug. 13, 1975	Louis Reznick, special counsel for private carrier conference, Washington, D.C.	Recommendations: (1) in exemption sections delete "except sec. 177.817," (2) include exemptions from 397 of the MC safety regulations, (3) delete 173.427(a)(2) and 177.817(b). This will provide relief from shipping paper requirements.
P-	July 22, 1975	July 24, 1975	Nuclear Regulatory Commission, Washington, D.C.	Recommendations changes to labeling of radioactive materials as well as on shipping papers.
P-	Sept. 4, 1975	Sept. 11, 1975	Group of tank truck carriers, Rocky Mountain region—Bennett Industries, Pacoima, Calif.	Recommendations regarding revisions to HM-102 (asphalts, etc.).
P-	Sept. 5, 1975	Sept. 10, 1975	Rings for Drums, Inc., Edison, N.J.	Recommendations regarding specifications 34 regarding melt index portion of material specification which would allow for an injection-molded as well as blow-molded construction.
P-	Aug. 27, 1975	Sept. 10, 1975	Department of California Highway Patrol, Sacramento, Calif.	Recommendations adding footnote 5 to sec. 178.118-6 incorporating "Rings for Drums, Inc."
P-	Aug. 25, 1975	Aug. 25, 1975	Rings for Drums, Inc., Edison, N.J.	Recommendations revising sec. 173.115, 173.343, and 173.346 regarding definition of poisonous liquids and class B poison; use of ethylene bottles as inner containers for flammable liquids and poisonous liquids, class B.
P-	Sept. 25, 1975	Sept. 29, 1975	Pennwalt Corp., Philadelphia, Pa.	Recommendations revising sec. 178.118-6 by adding footnote 4 under "Reusable Head Sheet," 4, 18-gage, authorized, provided there are one or more corrugations in the cover near the periphery, and the closure is that authorized in BA 2058.
P-483	Sept. 25, 1975	Sept. 30, 1975	Pennwalt Corp., Philadelphia, Pa.	Recommendations revising sec. 173.314(c) table to include 112A340W and 112A340V canisters, monochlorodifluoromethane.
P-484	Sept. 24, 1975	Oct. 1, 1975	Department of the Air Force, Tinker Air Force Base, Okla.	Recommendations revising sec. 173.314(c) table to include note 24 opposite Methyl Chloroform, changes to sec. 172.5; add "Batteries, electric dry wet", "flow", "automobiles, motorcycles, tractors, jet, self-propelled vehicles", "engines, internal combustion, jet", "propellers" to the type.
P-485	Oct. 8, 1975	Oct. 8, 1975	Polaroid, Needham Heights, Mass.	Recommendations that sec. 103.9(a)(2) be amended to permit shipment of a desiccant "SY-70" by air (special permit 7032).
P-486	Oct. 17, 1975	Oct. 17, 1975	Martin L. Freidman for Pacific States Reilcar Co. and Phillips Petroleum Co., Washington, D.C.	Requesting amendment of sec. 173.314(c) note 23 and 179.100-23 (c) by adding "exceeding 15,000 gallons water capacity."
P-487	Oct. 10, 1975	Oct. 10, 1975	Shell Oil Co., Houston, Tex.	Recommendations that sec. 173.19(b) be revised to authorize use of 12P box, etc. for insecticide liquid, special permit 6725.
P-488	Oct. 9, 1975	Oct. 9, 1975	E. I. du Pont de Nemours & Co., Wilmington, Del.	Recommendations amendment of sec. 173.314 to authorize shipment of hexafluoropropylene oxide in 110A500-W tanks, special permit 6701.

## PETITIONS TO AMEND THE REGULATIONS—Continued

Petition No.	Dated	Received	Origin	Nature of request	Disposition
P-499	Oct. 22, 1975	Oct. 28, 1975	Compressed Gas Association, Inc., New York, N.Y.	Requesting an amendment to sec. 171.7(d)(3)(ii) to update reference to CGA Pamphlet C-6, "Standards for Visual Inspection of Compressed Gas Cylinders", 1975 edition.	
P-500	Nov. 3, 1975	Nov. 6, 1975	Compressed Gas Association, Inc., New York, N.Y.	Recommends adding a new seamless aluminum compressed gas cylinder, specification DOT-3AL, to pt. 178 of the regulations.	
P-	Nov. 3, 1975		American Cyanamid Co., Wayne, N.J.	Recommends revising sec. 173.377(a)(1), (a)(1)(i), (g), (g)(3), (h)(1), and (h)(2) to accommodate provisions of special permits 4666, 5719, and 6296.	
P-	Nov. 5, 1975	Nov. 10, 1975	Compressed Gas Association, Inc., New York, N.Y.	Recommends that sec. 173.34(e)(1) be revised to include reference to CGA Pamphlet C-1, "Methods of hydrostatic testing of compressed gas cylinders", and identification of cylinder testers and inspectors approval of retest facilities.	
P-	Nov. 10, 1975	Nov. 12, 1975	Hercules Inc., Wilmington, Del.	Recommends revising secs. 173.154 and 173.401 (a)(1) to incorporate the provisions of special permit 6662—authorizes shipments of molten dicumyl peroxide and vul-cup-R in specification 57 metal portable tanks.	
P-	Nov. 17, 1975	Nov. 21, 1975	Polaroid Corp., Needham Heights, Mass.	Recommending that special permits 7032 and 7040 be incorporated into regulations sec. 103.9 (a)(1) and (a)(2) regarding shipment of film developer.	
P-	Aug. 27, 1975		The Chlorine Institute, Inc., New York, N.Y.	Recommends a rewrite of pt. 179 subpt. E adding new specifications in secs. 179.300, 179.301, 179.302, and 179.303—stamp new specification number on tank cars to readily identify them for chlorine usage. Special permit 7007.	
P-	Mar. 7, 1975	Mar. 12, 1975	Department of the Army (MTMC), Washington, D.C.	Recommends amending sec. 172.5 by adding bombs and weapons containing only flammable liquids.	
P-508	Dec. 9, 1975	Dec. 11, 1975	Myers Drum Co., Oakland, Calif.	Recommending that DOT authorize covering 55-gal, 18-gage, drums to 17H specifications through addition of a 3d swedge, etc.	
P-510	Dec. 22, 1975		Safety issues pertaining to amendments in docket HM-102.		
P-511	Jan. 12, 1976	Jan. 16, 1976	Association of American Railroads, Washington, D.C. International Air Transport Association, Geneva, Switzerland.	Recommends that sec. 173.188(a) (1) and (5) be amended to authorize polyethylene bottles, hermetically sealed with membranes, as an inner receptacle for phosphoric anhydride.	
P-512	Jan. 13, 1976	Jan. 16, 1976	Stauffer Chemical Co., Westport, Conn.	Recommending a change in the definition of pyrophoric liquid, sec. 173.115(c). Also recommends use of "paper char test" as an alternate procedure to the B of E "Saw-dust test" for gaging the pyrophoricity of metal alkyl solutions.	

- P-513..... Jan. 16, 1976 Roy E. Hanson, Jr., Manufacturing, Los Angeles, Calif. Petitioning for approval of flanged foot for use on MC-331 cargo tanks mounted on frame-type motor vehicles, sec. 178.337.
- P-515..... Feb. 17, 1976 Mar. 1, 1976 Pressed Steel Tank Co., Inc., Milwaukee, Wis. Recommending that secs. 178.36-15, 178.37-15, 178-44-17 be amended by changing "after hydrostatic test" to read "after heat treatment."
- P-516..... Feb. 11, 1976 Feb. 18, 1976 Sea-Land Service, Inc., Elizabeth, N.J. Recommends amending sec. 146.21-25(a) by adding "Flammable liquids whose flash points are above 73° F. may be stowed 'under deck' in unventilated holds."
- P-517..... Mar. 2, 1976 Mar. 3, 1976 Association of American Railroads, Washington, D.C. Recommends revisions in secs. 173.241(a) and 179.201-1 to correct fragile disc failures regarding outages.
- P-518..... do..... Mar. 5, 1976 do..... Recommends changing the section reference for acetate anhydride in sec. 172.5 from sec. 173.245 to sec. 173.247.
- P-519..... Mar. 12, 1976 Mar. 17, 1976 Aerojet Solid Propulsion Co., Sacramento, Calif. Recommends amending sec. 173.239(a) by adding "Bins without bottom or bottom side unloading doors shipped under special permits prior to Dec. 31, 1976 may be continued in service. No new construction is authorized."
- P-520..... Mar. 16, 1976 Mar. 17, 1976 Association of American Railroads, Washington, D.C. Recommends amending sec. 173.31 retest table 1 by changing retest pressure, safety relief valve, vapor tight, from 95 p.s.i. to 92 p.s.i. for 113A175W tank cars.
- P-521..... do..... Mar. 18, 1976 do..... Recommends amending retest table 1 in sec. 173.31 by changing footnote 6 and adding footnote 12 in sec. 179.100-15(C) to change concept of combination safety relief devices for pressurized tank cars.
- P-522..... Mar. 17, 1976 Mar. 22, 1976 do..... Recommends amending portions of secs. 179.100-14, 179.103-5, 179.200-17, 179.220-18 regarding bottom fittings on tank cars in classes 103A, 104A, 109A, 111A, 114A, and 115A.
- P-523..... Mar. 18, 1976 Mar. 22, 1976 The Fertilizer Institute, Washington, D.C. Recommends adding a new section to cover approximately 300,000 nurse tanks currently in service for anhydrous ammonia.
- P-524..... Mar. 17, 1976 Mar. 22, 1976 The Association of American Railroads, Washington, D.C. Recommends amending sec. 173.31 retest table 1 by adding footnote reference "4" in column heading "Safety relief valve" and a new footnote "4" in order to permit cars with safety relief valves having a start-to-discharge pressure of 25 p.s.i. to remain in service without costly retrofit.
- P-526..... Mar. 15, 1976 Mar. 17, 1976 Railway Progress Institute, Committee on Tank Cars, Chicago, Ill. A petition for an advance notice of proposed rulemaking regarding HM-125; 75-4 and HM-109; amendment Nos. 173.83 and 179-15.

## LIST OF DISPOSED PETITIONS (DENIAL OR RULEMAKING)

Petition No.	Dated	Received	Origin	Nature of request	Disposition
PB-1	Nov. 6, 1975		Hazardous Materials Advisory Committee, Washington, D.C.	Recommends changes in 102.19 and 102.27(a)—changing "must" to should, and delete sentence in 102.27(a) re hearings.	Denied; Nov. 28, 1975.
P-2	July 19, 1968	July 22, 1968	Department of the Army, MTWTS, Washington, D.C.	Proposes to amend sec. 177.8230—placarding.	HM-42; notice 70-3; Feb. 12, 1970.
P-7	Aug. 13, 1968	Aug. 16, 1969	Phillips Petroleum Co., Bartlesville, Okla.	Proposes to amend sec. 173.315(a)(1) and note 2, sec. 177.817(a)(2) regarding "sweet" LP gas.	HM-34; notice 69-26; Aug. 12, 1969.
P-10	do	Sept. 15, 1968	Bureau of Explosives (AAR), New York, N.Y.	Proposes to add (a)(1) in sec. 173.358, specification 6D which inside 2S or 2SL for materials that will not react with polyethylene.	HM-44; notice 70-5; Apr. 8, 1970. HM-94; notice 71-29 Nov. 15, 1971.
P-11	do	do	do	Proposes to amend sec. 173.348(a)(20), see P-10 above.	Filed with specification ED.
P-12	Aug. 26, 1968	Aug. 28, 1968	do	Proposes to amend reference in sec. 173.402(c)(4) and (5).	See Docket HM-2; amendment 173-3; Sept. 26, 1968.
P-14	Aug. 20, 1968	Aug. 22, 1968	Dow Chemical Co., and Bureau of Explosives, Midland, Mich., and New York.	Proposes to add in sec. 172.5(a) Commodity List methylacetyl propadiene, stabilized (map) gas.	HM-77; notice 71-4; Jan. 27 1971.
P-15	Aug. 26, 1968	Aug. 22, 1968	Wallinckrodt Chemical Works, St. Louis, Mo.	Proposes to amend sec. 173.245 to provide for 12P fiberboard boxes.	See section file 173.245(a).
P-16	Aug. 19, 1968	Aug. 22, 1968	American Trucking Associations, Inc., Washington, D.C.	Proposes to amend sec. 177.823—placarding.	HM-42; notice 70-3; Aug. 26, 1970.
P-18	Aug. 29, 1968		Columbian Carbon Co., Lake Charles, La.	Proposes to amend sec. 173.315(a)(1), note 15, to authorize 330 and 331 cargo tanks for LPG only.	HM-34; notice 69-26; Aug. 21 1969.
P-20	Sept. 23, 1968	Sept. 25, 1968	Penn Central, New York, N.Y.	Proposes to amend sec. 174.584(a) by adding immediately following, "as prescribed in sec. 172.5," "and the classification prescribed in sec. 172.4 of this chapter."	HM-103; advance notice; June 16, 1972.
P-21	Sept. 24, 1968	Sept. 24, 1968	do	Proposes to amend sec. 170.13(b) by adding "petitioner shall certify that a copy of the petition has been served upon the Bureau for the Safe Transportation of Explosives and other Dangerous Articles, 2 Pennsylvania Plaza, New York, N.Y.	Petition denied by the Hazardous Materials Regulations Board.
P-22	Sept. 26, 1968	Sept. 27, 1968	Bureau of Explosives (AAR), New York, N.Y.	Proposes to amend sec. 173.100(v) by increasing grains of propellant powder from 200 to 350 and adding, "Cartridges shall be so designed and or packed that they shall be incapable of functioning en masse as a result of the functioning of any single cartridge in the container or as a result of exposure to external flame."	HM-43; notice 70-4; Mar. 3, 1970.
P-23	Sept. 4, 1968	Sept. 6, 1968	do	Proposes to amend sec. 173.85(d)(4) regarding shipping of samples of explosives to laboratory, and related sections.	Petition denied by the Hazardous Materials Regulations Board.
P-24		Sept. 13, 1968	American Cryogenics, Inc., Atlanta, Ga.	Proposes to amend sec. 178.59 to provide for 3-piece construction—specification 8.	HM-23; notice 69-7; Aug. 15, 1969.
P-25	Sept. 26, 1968	Sept. 30, 1968	Lennox Industries, Inc., Columbus, Ohio.	Proposes to amend sec. 178.68-2(a) "center circumferential weld"—too restrictive.	Sec. HM-13; amendment 178-4; May 19, 1969.
P-26	Sept. 17, 1968		Manufacturing Chemists' Association, Inc., Washington, D.C.	Proposes to amend sec. 173.119(b)(8) to authorize use of certain tanks for flammable liquids.	HM-52; notice 70-1; June 4, 1970. HM-106; notice 73-2; Mar. 15, 1973.
P-28	Oct. 3, 1968	Oct. 7, 1968	Compressed Gas Association, Inc., New York, N.Y.	Proposes to amend sec. 173.34(c)(10) by adding to table 4B and 4BA for anhydrous mono, di, trimethylemine.	HM-76; notice 71, Jan. 19, 1971.

P-32	Oct. 23, 1968	Steel Tank Institute, Chicago, Ill.	Recommendations amendment of sec. 178.340-8—"Design and construction requirements."	HM-88; board action; July 9, 1971.
P-33	Oct. 30, 1968	Compressed Gas Association, Inc., New York, N.Y.	Recommendations amendment of sec. 173.314(C) table to require multi-unit tank cars. 106A800X, when used in hydrogen sulfide service to have valve outlets equipped with gas-tight plugs, etc.	HM-97; notice 72-1; Feb. 2, 1972.
P-34	do	Manufacturing Chemists Association, Washington, D.C.	Proposes to amend sec. 173.32(a)(2) to permit shipping 51 portable tanks in excess of 20,000 lb.	HM-112; notice 73-9; Dec. 21, 1973.
P-35	Nov. 18, 1968	E. R. Squibb & Sons, Inc., New Brunswick, N.J.	Recommendations that sec. 173.427(G) include an addition showing radioactive pharmaceuticals, n.o.s. yellow III label applied on bill of lading.	See sec. 173.427(G).
P-37	Dec. 11, 1968	Hercules Inc., Wilmington, Del.	Recommendations that specification 106A500 be used to transport nitrogen tetroxide—sec. 173.337.	HM-97; notice 72-1; Feb. 2, 1972.
P-38	Dec. 12, 1968	American Can Co., New York, N.Y.	Proposed to amend sec. 173.247 to permit tin tetrachloride anhydrous to be shipped in all-welded steel cylinders.	HM-76; notice 71-3; Jan. 19, 1971. HM-94; notice 71-29; Nov. 13, 1971.
P-39	Aug. 24, 1968	Tri-State Motor Transit Co., Joplin, Mo.	Proposes to amend Administrative Procedures Act—sec. 177.835 (C)(1).	HM-24; notice 69-1; May 5, 1969.
P-40	Apr. 11, 1968	Tote Systems, Division of Hoover Ball & Bearing Co., Beatrice, Nebr.	Proposes changes in specifications 52, 53—secs. 178.246, 178.247.	HM-68; notice 70-3; Dec. 2, 1970.
P-41	Dec. 17, 1968	Bureau of Explosives (AAR), New York, N.Y.	Amend secs. 178.205-6, 178.206-6, 178.207-5, 178.209-5, 178.214-5, 178.219-4, 178.218-4 to permit use of an additional type of staple, increasing flexibility in box construction.	HM-41; notice 70-2; Jan. 23 1970.
P-42	Dec. 26, 1968	Manufacturing Chemists' Association, Washington, D.C.	Proposes to amend sec. 173.28(h)—reused containers.	HM-27; notice 69-19; July 15, 1969.
P-43	Jan. 6, 1969	Department of the Army, MTMTS, Washington, D.C.	Proposes to amend pt. 174 to delete "multiple choice" of placards in sec. 174.526(O)(4), etc.	H, -103; advance notice; June 16, 1972.
P-44	Dec. 20, 1968	Phillips Petroleum Co., Bartlesville, Okla.	Proposes to amend sec. 173.314(G) to authorize transportation of propylene in DOT 112A340W tank cars.	HM-88; board action; July 9, 1971.
P-45	Jan. 16, 1969	E. I. du Pont de Nemours & Co., Wilmington Del.	Recommendations that sec. 173.370 be amended to permit shipment of cyanide of sodium, solid, in 37A metal drums.	HM-121; notice 74-12; Oct. 4, 1974.
P-47	Jan. 29, 1969	Bureau of Explosives (AAR), New York, N.Y.	Proposes to classify uses as flammable solids rather than class C explosives—sec. 172.5(a).	HM-46; notice 7; Apr. 16, 1970.
P-48	Feb. 10, 1969	Connelly, Inc.—Iron Sponge & Chemical Iron Products, Chicago, Ill.	Proposes to remove "Iron sponge, wet" and "Iron sponge, not properly oxidized" from sec. 172.5(a).	Commodities not regulated in HM regulations.
P-49	Feb. 12, 1969	Lucidol—Division of Wallace & Tiernan, Inc., Buffalo, N.Y.	Proposes to remove "dimethylhexane dithioproperoxide" from sec. 172.5(a).	HM-32; notice 69-24; Aug. 12, 1969.
P-50	Feb. 27, 1969	Foley, Sammond & Lardner for Globe-Union, Inc., Milwaukee, Wis.	Proposes to amend sec. 173.260(e) so exemption provisions would apply when batteries were the only commodity in the railroad car or motor vehicle, etc.	HM-21; notice 69-9; Apr. 9, 6919
P-51	do	Delaware Plastics Division of Container Corp., of America, Wilmington, Del.	Proposes to amend sec. 178.24-2 to include containers with a density of 0.935-0.950.	See P-71; HM-55; notice 70-16 Aug. 18, 1970.
P-52	Feb. 24, 1969	E. I. du Pont de Nemours & Co., Wilmington, Del.	Proposes to add in pt. 178, specification 1M, glass carboy in a polystyrene outside container.	HM-17; notice 74-8; June 10, 1974.
P-53	Dec. 18, 1968	Matheson Gas Products, East Rutherford, N.J.	Proposes to cancel note 3 in sec. 173.304 regarding shipment of carbon dioxide in cylinders filled to 68 percent.	HM-97; notice 72-1; Feb. 12, 1972.
P-54	Feb. 17, 1969	Hooker Chemical Corp., New York, N.Y.	Amend sec. 173.247 to permit use of specification 1K carboy for thionyl chloride.	HM-35; notice 69-22; Aug. 12, 1969.
P-55	Feb. 18, 1969	M & T Chemicals, New York, N.Y.	Amend sec. 173.247 to permit shipment of tin tetrachloride, anhydrous.	HM-94; notice 71-29; Nov. 15, 1971.

## LIST OF DISPOSED PETITIONS (DENIAL OR RULEMAKING)

Petition No.	Dated	Received	Origin	Nature of request	Disposition
P-56	Mar. 7, 1969	Mar. 10, 1969	E. I. du Pont de Nemours & Co., Wilmington, Del.	Proposes to amend sec. 173.128(a)(3) to permit use of portable tanks for paint, etc., capacity not over 575 gal.	HM-63; notice 70-24; Dec. 2, 1970.
P-57	Mar. 10, 1969	Mar. 12, 1969	National LP-Gas Association, Chicago, Ill.	Proposes to amend secs. 173.315(a)(1) and 177.817(a) regarding referencing of NGPA 2140 LP-gas specifications.	HM-34; notice 69-203 Aug. 12, 1969.
P-58	Mar. 11, 1969	Mar. 13, 1969	Compressed Gas Association, Inc., New York, N.Y.	Proposes to amend sec. 173.304(a)(2) to authorize transportation of dichlorodifluoromethane-difluoroethane mixtures in specification 4E240 aluminum cylinders.	HM-104; notice 72-10; Aug. 3, 1972.
P-59	Mar. 12, 1969	Mar. 14, 1969	Hooker Chemical Corp., New York, N.Y.	Proposes to amend sec. 173.247 to authorize 6D drums for sulfuric chloride.	HM-121; notice 74-12; Oct. 4, 1974.
P-60	Mar. 13, 1969	Mar. 17, 1969	Olin Mathieson Chemical Corp., Stamford, Conn.	Proposes to amend sec. 173.401(a) regarding the marking with proper shipping name.	HM-32; notice 63-24; Aug. 12, 1969.
P-61	Mar. 17, 1969	Mar. 19, 1969	Compressed Gas Association, Inc., New York, N.Y.	Proposes to add specification DOT-42, in pt. 178, for nonrefillable inside containers for compressed gases.	HM-69; notice 70-25; Dec. 4, 1970.
P-62	Mar. 20, 1969	Mar. 24, 1969	Bureau of Explosives (AAR), New York, N.Y.	Proposes to amend sec. 173.132(b) to allow shipment of cement, liquid, n.o.s. in containers (1 qt) with fiberboard bodies.	HM-87; notice 71-18; June 8, 1971. HM-94; notice 71-25; Nov. 15, 1971.
P-63	Mar. 27, 1969	Apr. 2, 1969	Scientific Apparatus Makers Association, Washington, D.C.	Proposes to amend sec. 173.26 regarding quantity limitations.	HM-85; notice 71-14; May 18, 1971.
P-64	Apr. 7, 1969	-----	Stauffer Chemical Co., New York, N.Y.	Proposes to amend regulations to permit movement of dimethyl phosphorochloridothionate and diethyl phosphorochloridothionate in 103W tank car tanks and Mc 311 or 312 cargo tanks.	HM-87; notice 71-18; June 8, 1971.
P-65	Apr. 25, 1969	Apr. 28, 1969	Owens-Corning Fiberglas Corp., Toledo, Ohio	Proposes to amend sec. 173.312(b) to allow shipment of cement, liquid, n.o.s. in 1-qt containers.	HM-112; notice 73-9; Dec. 21, 1973.
P-66	Apr. 14, 1969	-----	Bureau of Explosives (AAR), New York, N.Y.	Proposes to amend sec. 173.532(L)(5) to require all shipments of 1 or more carloads of class A poison gas or liquid to be accompanied by qualified technical escort.	See HM-26; notice 69-18; July 8, 1969.
P-67	Apr. 23, 1969	Apr. 28, 1969	Phillips Petroleum Co., Bartlesville, Okla.	Proposes to delete special orders following sec. 173.68-20.	HM-31; notice 69-23; Aug. 15, 1969.
P-68	Apr. 30, 1969	May 1, 1969	Charles Dontley & Associates, Pittsburgh, Pa.	Proposes to amend secs. 173.118 and 173.128 regarding adhesive thinning compounds.	Withdrawn—see petition file memo 4-30-74.
P-69	Apr. 30, 1969	-----	Bureau of Explosives (AAR), New York, N.Y.	Proposes to amend sec. 173.34(e)(13) regarding testing of cylinders (number of years).	HM-37; notice 71-4; Jan. 27, 1971.
P-70	May 7, 1969	May 9, 1969	Bureau of Explosives (AAR), New York, N.Y.	Proposes to amend sec. 170.553(h), note 1 to make detonation test more precise.	HM-58; notice 70-17; Sept. 9, 1970.
P-72	May 13, 1969	May 15, 1969	Dow Chemical Co., Midland, Mich.	Proposes to add "methylacetylene-propadiene"—sec. 172.5(e) to list of flammable gases.	HM-55; notice 70-16; Aug. 18, 1970.
P-73	May 16, 1969	May 20, 1969	Manufacturing Chemists Association, Washington, D.C.	Proposes to amend sec. 173.31(c)(9) to provide for retest of tanks after damage.	HM-121; notice 71-12; Oct. 4, 1974.
P-74	May 5, 1969	-----	Mallinckrodt Chemical Works, St. Louis, Mo.	Proposes to amend sec. 173.263 to authorize shipment of hydrochloric acid and hydrofluoric acid (52 percent) in 2SL 55-gal containers.	HM-55; notice 70-16; Aug. 18, 1970.
P-75	Mar. 25, 1969	-----	Hercules Inc., Wilmington, Del.	Proposes to ship nitrogen tetroxide mixtures in 106A500X tank car tanks.	HM-121; notice 71-12; Oct. 4, 1974.

P-76	May 20, 1969	May 21, 1969	Air Cruisers Co., Belmar, N.J.	To amend sec. 173.26 to extend or remove 12-yr limitation on 3HT-3000 psi cylinders.	HM-31; notice 69-23; Aug. 15, 1969.
P-77	May 28, 1969	May 29, 1969	Manufacturing Chemists Association, Washington, D.C.	Proposes to revise specification 2U, sec. 178.24 to authorize use of high density polyethylene in manufacturing of 2U containers.	HM-55; notice 70-16; Aug. 18, 1970.
P-78	May 27, 1969	.....do.....	.....do.....	Proposes to amend, by adding sec. 173.265(d)(6) to permit class LLLA cars in hydrofluosulfuric acid service.	HM-81; notice 71-8; Mar. 12, 1971.
P-79	May 28, 1969	June 2, 1969	.....do.....	Proposes to amend sec. 172.5(a) to change maximum quantity of motor fuel antiknock in 1 outside container by rail express from 65 to 69 gal.	HM-121; notice 74-12; Oct. 4, 1974.
P-80	.....do.....	June 3, 1969	.....do.....	Proposes to revise sec. 173.272 for sulfuric acid for clarification, updating, etc.	HM-81; notice 71-8; Mar. 12, 1971.
P-81	May 6, 1969	June 16, 1969	Union Carbide Corp., New York, N.Y.	Request amendment of sec. 173.304(a)(2) shipment of carbon dioxide at a filling density of 69 percent in prescribed cylinders.	HM-97; notice 72-1; Feb. 22, 1972.
P-82	June 27, 1969	July 1, 1969	Union Carbide Corp., South Charleston, W. Va.	Proposes to add sec. 173.124(a)(6) specification 51 portable tanks not over 22 gal for ethylene oxide.	HM-100; notice 72-4; Mar. 31, 1972.
P-83	Apr. 19, 1969	Apr. 21, 1969	.....do.....	Proposes to amend sec. 173.143(a)(1) to add 5P drum, for monoethylamine, referred to also as ethylamine, anhydrous.	HM-97; notice 72-1; Feb. 22, 1972.
P-84	July 7, 1979	July 9, 1969	Compressed Gas Association, Inc., New York, N.Y.	Proposes to amend sec. 173.315(a)(1) to permit shipment of propylene in MC-330 and 331 cargo tanks.	HM-34; notice 69-26; Aug. 12, 1969.
P-85	July 8, 1969	July 10, 1969	Air Transport Association of America, Washington, D.C.	Proposes to amend labeling requirements, secs. 173.406(b) and 173.407(d)(1)(i).	HM-89; notice 70-13; July 13, 1970.
P-86	June 20, 1969	.....do.....	Pennwalt Corp., Philadelphia, Pa.	Proposes to amend sec. 173.217 to permit shipment of nitrogen tetroxide.	HM-121; notice 7-12; Oct. 4, 1970.
P-87	July 9, 1969	July 10, 1969	Atomic Industrial Forum, Inc., New York, N.Y.	Proposes to amend sec. 173.22—see HM-2 comments.	HM-124; notice 69-14; May 20, 1969.
P-88	.....do.....	July 11, 1969	Gray Chemical, Inc., Gloucester, Mass.	Proposes to amend sec. 172.5(a) by reclassifying silana from a poisonous gas to an "inflammable gas."	HM-112; notice 73-9; Dec. 21, 1973.
P	July —, 1969	July —, 1969	Compressed Gas Association, Inc., New York, N.Y.	Proposes to amend sec. 173.34(e) to authorize 5-yr external visual inspection.	HM-76; notice 71-3; Jan. 19, 1971.
P	July —, 1968	July 22, 1969	.....do.....	Proposes to amend sec. 173.34(e) to clarify type of welded cylinders authorized for visual inspection.	HM-76; notice 71-3; Jan. 19, 1971.
P	Aug. 6, 1969	Aug. 8, 1969	.....do.....	Proposes to amend sec. 173.301(d)(1) to authorize manufacturing of containers charged with neon in same manner now authorized for nonflammable, nonliquefied gases.	HM-99; notice 72-3; Mar. 28, 1972.
P	.....do.....	.....do.....	.....do.....	Proposes to amend 173.302(a)(3), 173.304(a)(1) and (d)(3) to authorize 4AA460 cylinders where 4B and 4BA are now authorized.	HM-99; notice 72-3; Mar. 28, 1972.
P	Aug. 7, 1969	Aug. 11, 1969	Bureau of Explosives (BAE), New York, N.Y.	Proposes to amend footnote 2 in 179.100-7 and 179.200-7 to show temper 52L instead of 113.	Handled in HM-10; see petition (note); notice 70-26; Dec. 11, 1970.
P	Aug. 8, 1969	.....do.....	Compressed Gas Association, Inc., New York, N.Y.	Consolidation of compressed gas cylinder specifications. (Petition in 6 pts.)	1970-1-HM-76; notice 71-3; 1971-HM-89; notice 71-14; Jan. 19, 1971.
P	Aug. 26, 1969	Aug. 28, 1969	Manufacturing Chemists Association, Washington, D.C.	Proposes to amend sec. 173.287 in its entirety.	HM-35; notice 71-14; May 18, 1971.
P	Aug. 22, 1969	Aug. 26, 1969	Boyle-Midway, New York, N.Y.	Petition for reconsideration; sec. 173.30 in Dkt. HM-3; amendment 173-6, and staying of effective date.	Petition denied by Hazardous Materials Regulation Board, Sept. 2, 1969.

## LIST OF DISPOSED PETITIONS (DENIAL OR RULEMAKING)

Petition No.	Dated	Received	Origin	Nature of request	Disposition
P-100	Sept. 12, 1969	Sept. 16, 1969	Bureau of Explosives (AAR) for Tenneco Oil Co., New York, N.Y.	Amend sec. 172.5(a) to add paraxylene and orthoxylene.	Not sufficient justification for rule change. Canceled—specification 12.
P-101	Oct. 13, 1969	Oct. 17, 1969	John J. Boyle, representing Hedwin Corp., Alexandria, Va.	Proposes to amend sec. 173.211 to include fiberboard boxes of 275 single wall corrugated board, 250 double wall side and end liners for gross weights not in excess of 80 lb. Proposes to amend regulations to use nicker-clad cargo tanks to transport bromine via highway.	MM-85; notice 71-14; May 18, 1971. HM-121; notice 74-12; Oct. 4, 1974.
P-102	Oct. 10, 1969	Oct. 14, 1969	Dow Chemical Co., Midland, Mich.	Forwarding the Steel Shipping Container Institute's proposal to update references re gauge thickness of steel drums beginning at sec. 178.80.	
P-103	Oct. 16, 1969	Oct. 21, 1969	Bureau of Explosives (AAR), New York, N.Y.	Suggests packing requirements as in sec. 173.225 for phosphorus pentasulfide.	HM-30; notice 71-7; Mar. 4, 1971. HM-51; request for advice; Feb. 5, 1971.
P-104	Oct. 22, 1969	Oct. 24, 1969		Proposes to remove cacodylic acid from the Commodity List—sec. 172.5(a).	Denied Aug. 20, 1973; see sec. 178.340-10.
P-105	Oct. 29, 1969	Oct. 30, 1969	Truck Trailer Manufacturers Association, Washington, D.C.	Proposes to amend sec. 178.340-10 to require a single certification plate.	HM-55; notice 70-16; Aug. 18, 1970.
P-106	Mar. 12, 1969		Hooker Chemical Corp., New York, N.Y.	Proposes to amend regulations re DOT-2SL polyethylene container.	
P-107	Nov. 6, 1969		Institute of Makers of Explosives, New York, N.Y.	Recommends changes in Commodity List re safety fuses—sec. 172.5(a).	HM-46; notice 70-7; Apr. 16, 1970.
P-108	Sept. 26, 1969	Sept. 30, 1969	Boyle-Midway, New York, N.Y.	Exceptions to denial of petition for reconsideration (MM-3; amendment 173-6).	Petition denied by HMRB—Nov. 18, 1969.
P-109	Dec. 1, 1969	Dec. 2, 1969	Air Transport Association of America, Washington, D.C.	Requests that reference to sec. 173.244 be deleted in Commodity List—sec. 172.5 (a) re vanadium oxytrichloride and vanadium tetrachloride.	HM-112; notice 73-9; Dec. 21, 1973.
P-110				Requests revision of pt. 103.1(c)(3) re shipments of radioactive materials.	Petition will be handled by FAA—M. Langford; Jan. 14, 1970.
P-111	Nov. 3, 1969		Olin Mathieson Chemical Corp., Winchester-Western Division, East Alton, Ill.	Amend sec. 173.107(b) to authorize specification 21C fiber drums for empty primed cartridge cases.	HM-97; notice 72-1; Feb. 22, 1972.
P-112	Jan. 7, 1970	Jan. 12, 1970	Chematron Noury Corp., Burt, N.Y.	Proposes to amend sec. 173.157 to eliminate any confusion over instrumentation of maximum quantities per inside shipping	HM-97; notice 72-1; Feb. 22, 1972.
P-113	Jan. 9, 1970	Jan. 14, 1970	Manufacturing Chemists Association, Washington, D.C.	Proposes to amend sec. 173.51(a)(3) to provide for use of 111A *** 3 tank car tanks wherever 111A are specified.	HM-54; notice 70-1; July 1, 1970.
P-114	Jan. 28, 1970	Jan. 29, 1970		Proposes to amend sec. 173.271(a)(14) to provide for the optional use of stainless steel.	HM-97; notice 72-1; Feb. 22, 1972.
P-115				Proposes to add (a)(5) and (a)(6) to provide for shipment of acrolein in certain cyclinders and portable tanks.	HM-61; notice 70-19; Oct. 21, 1970.
P-116	Jan. 8, 1970		John J. Boyle, Alexandria, Va.	Proposes to amend sec. 173.272(f) to provide for composite container.	
P-117	Feb. 3, 1970	Feb. 6, 1970	Philip A. Hunt Chemical Corp., Palisades Park, N.J.	Proposes to amend sec. 173.263 to provide for MC 311 or 312 tank trucks with 31C stainless steel for sodium chlorite of 42 percent strength.	HM-85; notice 71-14; May 18, 1971.

P-122	Feb. 5, 1970	Feb. 9, 1970	Bertz-O-Matic Corp., Rochester, N.Y.	Proposes to add a sentence in sec. 173.306(a)(6) to permit construction compliance of container for shipment of fire alarm systems.	HM-106; notice 73-2; Mar. 15, 1973.
P-123	Mar. 4, 1970	Mar. 4, 1970	American Trucking Associations, Inc., Washington, D.C.	Proposes to add a new sec. 173.12 re shipping documents covering incompatible dangerous articles.	Used as background; Dkt. HM-103; Dec. 21, 1973.
P-124	Mar. 6, 1970	Mar. 10, 1970	Woolfolk Chemical Works, Ltd., Fort Valley, Ga.	Proposes to remove "lead arsenate" from class B poison classification. C. L. sec. 172.5.	HM-112; notice 73-9; Jan. 24, 1974.
P-125	Feb. 20, 1970	Feb. 24, 1970	Compressed Gas Association, New York, N.Y.	Proposes to amend sec. 171.7(g) to update addenda to the ASME Code.	HM-48; notice 70-10; May 26, 1970.
P-127	Mar. 16, 1970	Mar. 19, 1970	Bureau of Explosives, New York, N.Y.	Proposes to amend sec. 173.430 and 174.511 to read similarly.	Withdrawn—Apr. 2, 1970.
P-128	Mar. 17, 1970	do	Fire Marshals Association of North America, Boston, Mass., and miscellaneous fire groups.	Asking for inclusion of portions of 704M as required marking.	HM-103; notice 73-18; Dec. 21, 1973.
P-129	Mar. 20, 1970	Mar. 23, 1970	Skelly Oil Co., Kansas City, Mo.	Proposes to amend sec. 172.5(a), Commodity List, by deleting "solid" from "carbohic acid," entry.	HM-111; notice 73; Dec. 21, 1973.
P-131	Apr. 24, 1970	Apr. 27, 1970	Manufacturing Chemists Association, Washington, D.C.	Proposes to amend sec. 173.122(a)(3) to authorize use of specification 105A300W tank cars in acrolein service.	HM-62; notice 70-18; Oct. 21, 1970.
P-132	Mar. 30, 1970	do	Weyerhaeuser Co., Pennsauken, N.J.	Proposes to amend sec. 178.205-37 to include multiwall bag.	HM-25; notice 70-15; Aug. 18, 1970.
P-133	Apr. 21, 1970	do	American Metal Climax, Inc., New York, N.Y.	Proposes to amend sec. 173.182(b)(6) to authorize use of plastic bag for potassium nitrate.	Cancelled—see file 300P.
P-134	Apr. 16, 1970	do	Sundstrand Corp., Rockford, Ill.	Proposes to amend sec. 173.276 to authorize use of aircraft fuel tanks.	Not considered a request for rule change.
P-135	Aug. 13, 1969	do	E. I. du Pont de Nemours & Co., Wilmington, Del.	Proposes to amend sec. 173.245 to authorize transportation of di-sulfuric acid in 30-gal specification 23 container with 30-gal capacity 6D overpack.	HM-104; notice 72-10; Aug. 3, 1972.
P-136	May 15, 1970	do	Stauffer Chemical Co., New York, N.Y.	Proposes to authorize titanium sulfate solutions, 45 percent methyl and diethyl phosphorochloroethionate in 183W tank car tanks and HS 331 or 312 cargo tanks.	HM-85; notice 71-14; May 18, 1971.
P-138	May 28, 1970	June 1, 1970	Manufacturing Chemists Association, Washington, D.C.	Proposes to amend sec. 178.245-1(C) to white, aluminum or similar light reflecting color or finish.	HM-106; notice 73-2; Mar. 15, 1973.
P-139	May 13, 1970	do	Wilson & Geo. Mayer & Co., South San Francisco, Calif.	Proposal to amend sec. 173.182 to remove calcium nitrate from regulations.	Not to be removed from Commodity List; July 27, 1970.
P-141	June 10, 1970	do	Compressed Gas Association, Inc., New York, N.Y.	Proposes to add a new specification 341—Cryogenic tank truck specification.	HM-104; notice 72-1; Aug. 3, 1972.
P-143	June 4, 1970	do	Kaiser Chemicals, Oakland, Calif.	Proposes to amend sec. 173.304(a)(2) to authorize dichlorodifluoromethane and difluoroethane in 4E240 cylinders.	HM-115; notice 74-3; Feb. 21, 1974.
P-144	do	do	do	Proposes to amend regulations to authorize shipment of monofluorochloromethane pressurized with nitrogen in 4E240 cylinders.	See P-58; HM-104; notice 72-10; Aug. 3, 1972.
P-145	June 10, 1970	do	Footo Mineral Co., Exton, Pa.	Proposes to amend regulations to authorize shipment of lithium metal in ribbon and wire forms.	HM-106; notice 73-2; Mar. 15, 1973.
P-146	July 24, 1970	July 29, 1970	Olin Mathieson Chemical Corp., Stamford, Conn.	Proposes to amend sec. 173.272 to authorize shipment of 61 percent sulfuric acid in 103AW, 111A100F2 and 111A100W2 tank cars equipped with acid resistant phenolic lining inner-ventures to lading.	HM-81; notice 71-8; Mar. 12, 1971.
P-150	July 20, 1970	do	Mallinckrodt Chemicals Works, St. Louis, Mo.	Proposes to increase capacity of 2S or 2SL polyethylene container in specifications 37M, sec. 173.299 from 30 to 55 gal.	HM-121; notice 74-12; Oct. 4, 1974.

## LIST OF DISPOSED PETITIONS (DENIAL OR RULEMAKING)

Petition No.	Dated	Received	Origin	Nature of request	Disposition
P-151	Aug. 6, 1970	Aug. 10, 1970	Norsk Hydro Sales Corp., New York, N.Y.	Proposes to amend sec. 173.182 to authorize shipment of calcium nitrate in plastic bags.	HM-104; notice 72-10; Aug. 3, 1972.
P-152	Aug. 3, 1970	Aug. 6, 1970	Phillips Petroleum Co., Bartlesville, Okla.	Proposes to amend sec. 173.119(a)(12), (e) (2), and (f)(3) to authorize use of specification 109A100ALW tank cars for transporting flammable liquids.	HM-85; notice 71-14; May 18, 1971.
P-156	Aug. 5, 1970	Aug. 12, 1970	Pargas, Waldorf, Md.	Proposes to amend sec. 173.34(c) and (e) to use a steel plate instead of dye-stamping.	HN-76; notice 71-3; Jan. 19, 1971.
P-157	Sept. 18, 1970	Sept. 22, 1970	PPG Industries, Inc., Pittsburgh, Pa.	Proposes to amend sec. 173.28(m) re flash points above 20 F.	See Docket HM-27—petition to reconsider; July 15, 1969.
P-158	Sept. 1, 1970	Sept. 3, 1970	Republic Steel Corp., Cleveland, Ohio	Proposes less stringent requirements re steel in specs. 4BA, 8AL, and 4BW steel cylinders.	
P-159	Sept. 8, 1970	Sept. 9, 1970	U.S. Atomic Energy Commission, Washington, D.C.	Transfer of requirements for approval of type B packaging from DOT to AEC.	HM-73 notice 71-1; Jan. 4, 1971.
P-160	Sept. 1, 1970	Oct. 5, 1970	Compressed Gas Association, Inc., New York, N.Y.	Proposes to amend several sections to authorize shipment of cold liquefied compressed gases in tank cars.	HM-91; notice 71-25; Oct. 8, 1971.
P-161	Oct. 8, 1970	Oct. 9, 1970	Air Transport Association (ATA), Washington, D.C.	Petition to amend 103.9 re fueled automobiles by air, etc.	Not a petition—a request for technical advice.
P-162	Oct. 19, 1970	Oct. 22, 1970	American Cyanamid Co., Wayne, N.J.	Proposes to amend sec. 173.332(c)(3)-hydrocyanic acid in 2N specification (see special permit 5410).	HM-104; notice 72-10; Aug. 3, 1972.
P-163	Oct. 1, 1970	Nov. 16, 1970	National Cargo Bureau, Inc., New York, N.Y.	Wool shipments should be classified as "flammable solids," sec. 172.5(g).	Returned to USCS—not a petition.
P-164	Nov. 16, 1970	Nov. 19, 1970	TTMA Tank Conference, Washington, D.C.	Proposes to amend sec. 178.340-8(g) to clarify accident damage protection.	HM-87; notice 71-18; June 8, 1971.
P-165	Nov. 17, 1970	do	Association of American Railroads, Washington, D.C.	Proposes to amend sec. 174.565, 174.566 with regard to unloading.	HM-2; amendment 173-14; May 20, 1969.
P-166	Nov. 25, 1970	Nov. 27, 1970	Virginia Chemicals, Inc., Portsmouth, Va.	Proposes to amend sec. 173.306(a)(1) to authorize use of 2Q container without safety relief valve for compressed gases such as dichlorodifluoromethane.	HM-85; notice 71-14; May 18, 1971.
P-167	Nov. 23, 1970	Dec. 1, 1970	National LP-Gas Association, Chicago, Ill.	Proposes amendment to sec. 178.337-9 to update "safety relief device standards", compressed gas tank truck internal valves.	HM-86; notice 71-15; May 28, 1971.
P-170	Oct. 20, 1969	Oct. 22, 1969	McLean Trucking Co., Winston-Salem, N.C.; Chevron Chemical Co.	Lars asked for an interpretation of sec. 177.841(e)—background calls for an amendment.	HM-112; notice 73-9; Dec. 21, 1973.
P-171	May 21, 1970	do	Phillips Petroleum Co., Bartlesville, Okla.	Proposes to amend regulations, sec. 173.301 to authorize shipment of anhydrous hydrogen chloride in manifolded cylinders (special permit 1550).	HM-83; notice 71-10; Mar. 30, 1971.
P-172	Jan. 15, 1971	Jan. 21, 1971	Association of American Railroads, Washington, D.C.	Suggests updating reference to AAR specifications for tank cars in sec. 171.7(d).	HM-22; notice 71-11; Apr. 7, 1971.
P-173	Nov. 3, 1970	do	Consolidated Freightways, Chicago, Ill.	Proposes to amend sec. 177.854(g) re "closed garage".	HM-110; notice 73-5; Aug. 21, 1973.
P-175	Feb. 1, 1971	Feb. 4, 1971	Association of American Railroads, Washington, D.C.	Proposes to amend sec. 173.31(c) Retest table 1, footnote b, to establish special commodity requirements for 103A-ALW or 1030W in hydrazine service.	HM-92; notice 71-26; Oct. 8, 1971.

P-176	Feb. 4, 1971	.....do.....	.....do.....	Proposes to amend sec. 173.31(d)(2) table by adding note 7—ARAV, 105, 105A cars not to be used in chlorine service.	HM-84; notice 71-12; Apr. 12, 1971.
P-177	Feb. 9, 1971	General American Transportation Corp., Sharon, Pa.	.....do.....	Proposes to amend tables in secs. 179.100-7(a), 179.200-7(a), and 179.300-7(e) with regard to grades of steel.	HM-90; notice 71-24; Aug. 16, 1971.
P-178	Feb. 8, 1971	Compressed Gas Association, Inc., New York, N.Y.	.....do.....	Proposes to amend ASME Code reference in sec. 171.7(d)(1).	HM-22; notice 71-11; Apr. 7, 1971.
P-180	Feb. 23, 1971	Air Transport Association of America, Washington, D.C.	.....do.....	Proposes to amend sec. 173.390(q) by adding (q)(3) to transport in vehicle containing no other shipments of radioactive materials.	HM-73; notice 71-30; Nov. 5, 1973.
P-183	Feb. 18, 1971	WADCO, Richland, Wash.	.....do.....	Proposes to amend sec. 173.206 to include 19A and 19B wooden boxes for shipment of metallic sodium.	HM-106; notice 73-2; Mar. 15, 1973.
P-184	Mar. 16, 1971	B. F. Goodrich Chemical Co., Cleveland, Ohio	.....do.....	Proposes to amend sec. 173.314(e) to include vinyl chloride.	Cancelled—385—
P-186	Mar. 12, 1971	Noury Chemical Corp., Burlington, N.Y.	.....do.....	Proposes to amend sec. 173.211-2(b)—exceptions to L2P fiber-board box.	Cancelled—specification 12.
P-187	Mar. 23, 1971	Phillips Petroleum Co., Bartlesville, Okla.	.....do.....	Proposes to amend sec. 173.141 to provide for shipment of mercaptans in portable tanks.	HM-106; notice 73; Mar. 15, 1973.
P-188	Apr. 15, 1971	Hazardous Substances Transportation Board, State Department of Transportation, Harrisburg, Pa.	.....do.....	Proposes to add phosphorus pentasulfide in sec. 172.5.	HM-80; notice 71-7; Mar. 4, 1971.
P-190	Apr. 23, 1971	Monsanto Co., St. Louis, Mo.	.....do.....	Proposes amendment of sec. 173.271 to add isocyanurate (special permit 4598).	See P-263; HM-104; notice 72-10; Aug. 3, 1972.
P-191	Apr. 29, 1971	Bureau of Explosives (AAR)	.....do.....	Proposes to incorporate by reference B. of E. pamphlets 6, 6A, and 6C.	HM-22; notice 71-21; June 23, 1971.
P-192	May 4, 1971	CSMA Chemical Specialties Manufacturers Association, Inc., New York, N.Y.	.....do.....	Proposes to amend sec. 173.304(d)(3)(ii) by changing 26 to 35 psig and 84 to 100 psig.	HM-106; notice 73-2; Mar. 15, 1973.
P-194	May 5, 1971	Shell Chemical Co., Houston, Tex.	.....do.....	Proposes to amend sec. 173.359 to permit use of packaging for shipment of Pois. B not already authorized (special permit 4086).	HM-94; notice 71-29; Nov. 15, 1971.
P-195	May 13, 1971	Association of American Railroads, Washington, D.C.	.....do.....	Proposes to amend reference in sec. 173.314(c) table 17 note to show sec. 179.100-15 instead of sec. 178.289-13.	HM-91; notice 71-25; Oct. 8, 1971.
P-196	Undated	Fertilizer Institute, Washington, D.C.	.....do.....	Proposes to amend the definition of "ammonium nitrate fertilizer" in sec. 173.182(a) and related paragraphs.	HM-104; notice 72-10; Aug. 3, 1972.
P-197	June 4, 1971	Stauffer Chemical Co., New York, N.Y.	.....do.....	Proposes to amend pt. 173 to authorize shipment of ethyl chloride in 112A340W tank care tanks.	HM-105; notice 72-11; Aug. 22, 1972.
P-200	June 25, 1971	Compressed Gas Association, Inc., New York, N.Y.	.....do.....	Proposes to amend sec. 172.5 in order to permit marking compressed gas cylinders containing mixtures with specific names of gases.	HM-97; notice 72-1; Feb. 22, 1972.
P-203	July 19, 1971	.....do.....	.....do.....	Proposes to amend sec. 171.7(d) to update the ASME Code to 1971 Aug. 30, 1971.	HM-22; amendment 171-12; Aug. 30, 1971.
P-205	Oct. 14, 1970	.....do.....	.....do.....	Proposes to amend 172.5(a), "Propane", and include butane, iso-butane, isobutylene, propane and propylene in Roman print.	HM-94; notice 71-29; Nov. 15, 1971.
P-207	Aug. 6, 1971	Compressed Gas Association, Washington, D.C.	.....do.....	Proposes to amend sec. 173.31(G)(10) by adding a sentence to provide that safety relief valves tested within previous 12-mo period of installation for purposes of marking test date on tank car tank.	HM-105; notice 72-11; Aug. 22, 1972.
P-208	Aug. 10, 1971	Manufacturing Chemists Association, Washington, D.C.	.....do.....	Proposes to amend sec. 173.124 and sections in pt. 179 to permit transportation of ethylene oxide in tank cars.	HM-100; notice 72-4; Mar. 31, 1972.
P-209	Aug. 23, 1971	Association of American Railroads, Washington, D.C.	.....do.....	Proposes to amend sec. 175.655(D)(3) note 2 to show correct title of B. of E. pamphlet No. 22.	HM-56; 1971; Sept. 9, 1971.
P-211	Aug. 25, 1971	General Motors Corp., Detroit, Mich.	.....do.....	Proposes to amend sec. 173.306(d)(2) to add pressurized passive passenger restraint systems and pressurized bumper cushioning to items exempt from specification packaging, marking, etc.	HM-104; notice 72-10; Aug. 3, 1972.

## LIST OF DISPOSED PETITIONS (DENIAL OR RULEMAKING)

Petition No.	Dated	Received	Origin	Nature of request	Disposition
P-212	Sept. 9, 1971	Sept. 14, 1971	Compressed Gas Association, Inc., New York, N.Y.	Suggests that HMRB review standards in CGA pamphlet S-1.1 with a view to referencing in sec. 171.7.	HM-106; notice 73-2; Mar. 15, 1973.
P	Aug. 24, 1971		Thiokol Chemical Corp., Brigham City, Utah	Proposes to amend sec. 173.182 to authorize shipment of sodium nitrate in specification 53 containers.	HM-104; notice 72-10; Aug. 3, 1972.
P	Sept. 16, 1971		J. T. Baker Chemical Co.	Proposes to amend sec. 173.119(a)(2)(5) to authorize use of 2E bottle for shipment of acetone, with overpack of 12A fiberboard box.	HM-121; notice 74-12; Oct. 4, 1974.
P	Oct. 19, 1971		Trinity Industries, Inc.	Proposes to amend sec. 176.61-9(G) to permit attachment of tank supports to shell plate on horizontal cylinders.	File 350—"Dip Tubes for Cylinders."
P	Nov. 3, 1971	Nov. 9, 1971	National LP-Gas Association, Chicago, Ill.	Proposes to amend sec. 173.304(d)(4) to permit filling all sizes of containers by fixed length dip tube gagging device.	HM-106; notice 73-2; Mar. 15, 1973.
P	Oct. 19, 1971		Allied Chemical Corp., Morristown, N.J.	To permit shipment of wet zirconium metal powder in 6-D steel pails, etc. (special permit 5279).	Do.
P-221	Oct. 19, 1971		Footo Mineral Co., Exton, Pa.	Proposes to amend Commodity List, sec. 172.5(c) by adding "trichlorofluoromethane" to the entry "dichlorodifluoromethane."	HM-97; notice 72-1; Feb. 22, 1972.
P-222	Nov. 17, 1971	Nov. 22, 1971	Union Carbide Corp., Tarrytown, N.Y.	Proposes to amend sec. 173.245 to permit certain packaging not presently authorized (special permit 4330).	HM-106; notice 73-2; Mar. 15, 1973.
P-223	Nov. 23, 1971		Matheson Gas Products, East Rutherford, N.J.	Suggests revision of sec. 173.222(a)(9) as shown in docket HM-85 pertaining to weight of bromine loaded into tank.	Do.
P-225	Dec. 3, 1971	Dec. 10, 1971	Ethyl Corp., Baton Rouge, La.	Requests that dichlorobutene be included in Dsc. 173.245a (docket HM-85).	HM-105; notice 72-11; Aug. 22, 1972.
P-226	Aug. 12, 1971		E. I. du Pont de Nemours & Co., Wilmington, Del.	Recommends that sec. 173.31(c)(15)(ii) be deleted—hammer test.	
P-227	Jan. 6, 1972	Jan. 10, 1972	Air Transport Association, Washington, D.C.	Recommends amending sec. 173.223 to authorize specification 6D 37M with ZSL for peracetic acid—special permit 2650.	HM-121; notice 74-12; Oct. 4, 1974.
P-228	Jan. 10, 1972	Jan. 14, 1972	FMC Corp., New York, N.Y.	Editorial changes to sec. 173.31 footnotes.	HM-97; notice 71-26; Oct. 8, 1971.
P-232	Jan. 25, 1972	Jan. 26, 1972	Association of American Railroads, Washington, D.C.	Recommends that sec. 173.31(c)(7) be amended to clarify re-stamping requirements.	HM-105; notice 72-11; Aug. 22, 1972.
P-233		do	do	Recommends that sec. 173.119(b)(4) be amended by adding 12B or 12C fiberboard boxes (special permit 9035).	HM-121; notice 74-12; Oct. 4, 1974.
P-235	Dec. 15, 1971		Quaternion Chemical Industries, Oakland, Calif.	Recommends that sec. 173.345 be amended to authorize use of 33A nonreusable polystyrene case with inside glass bottle for poisonous liquids or solids (special permit 3477).	HM-121; notice 74-12; Oct. 4, 1974.
P-236	Jan. 13, 1972		Tennessee Eastman Co., Kingsport, Tenn.		

- P-238..... Feb. 1, 1972 Feb. 4, 1972 Association of American Railroads, Washington, D.C. .... HM-105; notice 72-11; Aug. 22, 1972.
- P-239..... Feb. 9, 1972 Feb. 14, 1972 Ethyl Corp., Baton Rouge, La. .... HM-121; notice 74-12; Oct. 4, 1974.
- P-241..... Feb. 17, 1972 ..... E. I. du Pont de Nemours & Co., Wilmington, Del. .... Pt. HM-57; 71-17; June 7, 1971. Pt. HM-85; 71-14; May 26, 1971.
- P-244..... Feb. 23, 1972 Feb. 25, 1972 Bell Transfer Co., Inc., Meridian, Miss. .... HM-103; advance notice; June 16, 1972.
- P-245..... Feb. 24, 1972 Feb. 28, 1972 Ethyl Corp., Baton Rouge, La. .... HM-105; notice 72-11; Aug. 22, 1972.
- P-246..... Feb. 9, 1972 Feb. 18, 1972 Department of the Air Force, Kelly Air Force Base, Tex. .... HM-105; notice 72-11; Aug. 22, 1972.
- P-247..... Feb. 29, 1972 Mar. 2, 1972 Compressed Gas Association, Inc., New York, N.Y. .... Recommends that restocking of 3A and 3AA cylinders be amended. .... Answered by letter, Mar. 27, 1972.
- P-248..... Mar. 10, 1972 Mar. 13, 1972 .....do..... Recommends that the ASME Code be updated by adding the summer and winter addenda for 1971.
- P-251..... Mar. 21, 1972 Mar. 24, 1972 Midland Manufacturing Corp., Skokie, Ill. .... Safety devices on hydrogen sulfide containers. HM-106; notice 73-2; Mar. 15, 1973. Proposes to amend sec. 173.315(a) and related sections in pt. 178 to permit usage of closed gagging devices in tank.
- P-253..... Apr. 7, 1972 Apr. 10, 1972 Williams Energy Co., Tulsa, Okla. .... Recommends that sec. 173.402 be amended to require cylinders be painted with aluminum and decal color be 1 color—red.
- P-254..... Mar. 28, 1972 ..... Dow Chemical Co., Midland, Mich. .... Recommends amendment of sec. 173.357(b)(5) re shipment of chlorpicrin in tank cars.
- P-255..... Dec. 16, 1971 ..... Allied Chemical Corp., Morristown, N.J. .... Recommends that sec. 173.234 be amended to authorize 50- and 100-lb bags and remove carload and truckload restrictions.
- P-256..... Jan. 10, 1972 ..... Association of American Railroads, Washington, D.C. .... Recommends that sec. 173.31(G)(10) be amended to show year of test unless retest is required during month retest falls due.
- P-259..... Apr. 6, 1972 ..... Stauffer Chemical Co., New York, N.Y. .... Recommends amendment of sec. 173.245a to authorize transportation of DMPCT/DEPCT in 103W or 111A60WI tank cars and MC 311 or 312 stainless steel cargo tanks.
- P-261..... May 10, 1972 ..... E. I. du Pont de Nemours & Co., Wilmington, Del. .... Recommends that sec. 173.154 be amended to authorize shipment of aqueous solution containing Pt-M crystals classed as a F.S. in 55-gal drums, etc. (Special permit 6463).
- P-263..... May 22, 1972 May 30, 1972 Monsanto Co., St. Louis, Mo. .... Recommends that sec. 173.154 and 173.217 be amended to authorize use of specification 56 portable bins in the shipment of dry potassium dichloroisocyanurate and dry sodium dichloroisocyanurate (special permit 3114).
- P-265..... July 6, 1972 ..... Southern Dyestuff Co., Charlotte, N.C. .... Recommends that sec. 173.65(p)(C) be amended to authorize a new container and wooden barrel for picric acid, wet, etc. (Special permit 6064).
- P-267..... June 28, 1972 June 29, 1972 Compressed Gas Association, Inc., New York, N.Y. .... Recommends amendment of sec. 171.7(O)(3)(iii) to update CGA pamphlet C-8.
- P-269..... June 13, 1972 ..... Allied Chemical Corp., Morristown, N.J. .... Suggests addition of new paragraph in sec. 173.348 to include not more than 30-gal capacity and 450 lb of product.
- P-270..... June 8, 1972 June 16, 1972 Dow Chemical U.S.A., Midland, Mich. .... Recommends that sec. 173.139(a)(4) be amended to include 105A100W tank cars for ethyleneimine, inhibited. HM-121; notice 74-12; Oct. 4, 1974.

## LIST OF DISPOSED PETITIONS (DENIAL OR RULEMAKING)

Petition No.	Dated	Received	Origin	Nature of request	Disposition
P-271	do	do	GAF Corp., New York, N.Y.	Recommends that the word "inhibited" be stricken in sec. 173.314 re uninhibited vinyl methyl ether.	HM-121; notice 74-12; Oct. 4, 1974.
P-273	June 29, 1972	July 3, 1972	Toyota Motor Sales, Inc., Lynchhurst, N.J.	Requests that special consideration be given to high pressure restraint system required by standard No. 208.	HM-104; notice 72-10; Aug. 3, 1973.
P-275	July 14, 1972	July 18, 1972	Association of American Railroads, Washington, D.C.	Requests that sec. 174.525(C)(30) be amended by inserting "or governing station" after forwarding station.	HM-112; notice 73-9; Dec. 21, 1973.
P-276	July 7, 1972	do	Powell & Becker, Washington, D.C.	Requests that reconsideration be given to docket No. 10270 (103-12) published June 17, 1972.	Removed from proposal file filed FAA file.
P-280	Aug. 14, 1972	do	Mallinckrodt Chemical Works, St. Louis, Mo.	Recommends that sec. 173.299 be amended to increase the capacity of specification with 2S or 2SL to 95 gal.	HM-121; notice 74-12; Oct. 4, 1974.
P-281	Aug. 16, 1972	Aug. 18, 1972	Association of American Railroads, Washington, D.C.	Recommends that sec. 171.8(g) be amended re definition of "portable tank."	HM-97; notice 72-1; Feb. 22, 1972.
P-282	June 30, 1972	do	K. Iser Aluminum & Chemical Corp., Oakland, Calif.	Recommends that sec. 173.304 be amended to authorize shipment of monofluorotrichloromethane pressurized with nitrogen in 4E240 cylinders. (special permit 4879).	HM-121; notice 74-12; Oct. 4, 1974.
P-283	July 11, 1972	July 13, 1972	Atomic Energy Commission, Washington, D.C.	Recommends miscellaneous changes regarding radioactive materials.	HM-111; notice 73-7; Oct. 11, 1973.
P-284	Sept. 6, 1972	Sept. 8, 1972	Kaiser Aluminum & Chemical Corp., Erie, Pa.	Recommends that sec. 173-306(C) be amended to require a minimum burst pressure of six times the service pressure.	HM-106; notice 73-42; Mar. 15, 1973.
P-295	Sept. 22, 1972	Sept. 25, 1972	Compressed Gas Association, Inc., New York, N.Y.	Recommends that the ASME Code be updated to include addenda of summer 1972.	HM-22; notice 72-12; Apr. 17, 1969.
P-296	Sept. 19, 1972	do	do	Recommends that CGA's pamphlet C-8 be updated to 1972.	HM-22; notice 72-12; Nov. 14, 1972.
P-297	Sept. 20, 1972	do	Virginia Chemicals Inc., Portsmouth, Va.	Recommends that sodium hydrosulfite be shipped in portable bins under sec. 173.204.	HM-106; notice 73-2; Mar. 15, 1973.
P-298	Sept. 6, 1972	do	Fabricated Metals, Inc., San Leandro, Calif.	Suggests that design of the "container tie-down function" be done by technical people.	See docket HM-104—Comments; Aug. 3, 1972.
P-302	Nov. 10, 1972	do	Stauffer Chemical Co., New York, N.Y.	Recommends that sec. 173.244 be amended to permit shipment of titanium tetrachloride, etc., in 3AA2015, etc., cylinders (special permit 4338).	HM-121; notice 74-12; Oct. 4, 1974.
P-305	Dec. 7, 1972	Dec. 12, 1972	National Association of Corrosion Engineers, Houston, Tex.	Recommends numerous rule changes re stress corrosion.	HM-113; notice 73-11; Dec. 26, 1973.
P-306	do	do	U.S. Atomic Energy Commission, Washington, D.C.	Recommends that sec. 173.86(a) be amended to authorize USAEC to examine and approve new explosives for shipment.	HM-116; notice 74-5; Mar. 28, 1974.
P-313	Jan. 24, 1973	Jan. 24, 1973	Powell & Becker, Washington, D.C.	Recommends that sec. 174.532(m), 175.655(k), and 177.841(e) be amended to permit transportation of class A or B poisons with foodstuffs.	HM-103; advance notice; June 16, 1972.
P-318	Feb. 6, 1973	do	Stauffer Chemical Co., Westport, Conn.	Reclassification of ethyl chloroethanolformate from corrosive liquid, n.o.s. to class B poison, n.o.s.	HM-121; notice 74-12; Oct. 4, 1974.
P-320	Feb. 5, 1973	Feb. 9, 1973	Compressed Gas Association, Inc., New York, N.Y.	Recommends updating of ASME Code by adding addendas through Dec. 31, 1972.	HM-22; notice 73-3; Apr. 17, 1973.
P-321	Feb. 26, 1973	do	Sun Oil Co. of Pennsylvania.	Recommends that toluene and * mylene be added to list of hazardous materials in sec. 172.5.	HM-112; notice 73-9; Dec. 21, 1973.

P-335	Apr. 17, 1973	Apr. 18, 1973	BASF Wyandotte Corp., Parsippany, N.J.	Recommends that sec. 173.9(c) be amended to prescribe markings on containers for import shipments.	HM-112; notice 73-9; Dec. 21, 1973.
P-336	June 6, 1973	June 13, 1973	PPG Industries, Inc., Pittsburgh, Pa.	Requests the addition of a new package (polyethylene bag with heat sealed top and bottom, etc.)	HM-57; notice 73-1; Feb. 6, 1973.
P-338	June 14, 1973	June 19, 1973	Dow Chemical Co., Midland, Mich.	Recommends amending secs. 172.5, 173.329(b), and 173.353 re methyl bromide.	HM-121; notice 74-12; Oct. 4, 1974.
P-339			Inland Steel Corp., Chicago, Ill.	Recommends that sec. 173.359(c) be amended to permit use of 2120 gage monostress II drums in shipping of parathion mixtures (special permit 6496).	HM-121; notice 74-12; Oct. 4, 1974.
P-342	June 25, 1973		Chemagro, Kansas City, Mo.	Recommends that sec. 173.37 be amended to authorize shipment of organic phosphate compounds in specification 44-B multiwall bags not over 10 lb (special permit 5064).	HM-121; notice 74-12; Oct. 4, 1974.
P-346	Aug. 9, 1973	Aug. 13, 1973	Compressed Gas Association, Inc., New York, N.Y.	Requests amendment of sec. 171.7 to update ASME Code.	HM-22; notice 73-8; Dec. 21, 1973.
P-348	Aug. 7, 1973	Aug. 16, 1973	American Can Co., Greenwich, Conn.	Requests that par. (c) in sec. 173.287 be amended so that solutions tested not to be corrosive may be exempt from this regulation.	HM-112; notice 73-9; Jan. 24, 1974.
P-352	Aug. 31, 1973		Olin Corp., Stamford, Conn.	Requests that sec. 173.217(a)(5) be amended to include provisions in special permit 5849 re calcium hypochlorite mixtures.	HM-121; notice 74-12; Oct. 4, 1974.
P-356	Sept. 21, 1973	Sept. 25, 1973	John J. Boyle for Turco Products, a Division of Purex Corp., Wilmington, Calif.	Requests that sec. 173.28(m) be amended by adding "corrosive materials which are not corrosive to steel."	HM-57; notice 73-6; Feb. 6, 1973.
P-357	Sept. 28, 1973		Mallinckrodt Chemical Works, St. Louis, Mo.	Recommends that sec. 173.245(a)(2)(7) be amended to authorize phosphoric acid in 33A containers (special permits 4248).	HM-121; notice 74-12; Oct. 4, 1974.
P-359	Oct. 3, 1973	Oct. 9, 1973	U.S. Atomic Energy Commission, Washington, D.C.	Requests that 173.86 be amended to authorize the USAEC to examine and classify explosives.	HM-116; notice 74-5; Mar. 28, 1974.
P-361	do	do	Pennwalt Corp., Philadelphia, Pa.	Recommends that sec. 173.163 be amended to permit sodium chlorate and potassium chlorate in aluminum bins (special permit 4765).	HM-121; notice 74-12; Oct. 4, 1974.
P-362	Oct. 16, 1973	Oct. 19, 1973	Dow Chemical U.S.A., Midland, Mich.	Requests that consideration be given in developing a guideline in identifying a commodity as a liquid or a solid—173.245 and 173.245b.	HM-112; notice 73-9; Dec. 21, 1973.
P-365	Oct. 23, 1973	Oct. 29, 1973	do	Recommends that "caustic soda, liquid" be amended to "solution" in Commodity List.	HM-112; notice 73-9; Dec. 21, 1973.
P-366	Oct. 26, 1973	do	do	Recommends that sec. 173.401(a)(1) be changed to show a minimum lettering height of 2 in for all commodities (special permit 6760).	HM-103; notice 73-1; Dec. 21, 1973.
P-368	Nov. 1, 1973		Chlorine Institute, Inc., New York, N.Y.	Recommends that drawings be updated in CFR per attached	HM-22; notice 74 4; Apr. 2, 1974.
P-369	Nov. 9, 1973	Nov. 12, 1973	Inland Steel Container, Chicago, Ill.	Recommends that requirements for use of heavy I in by 1½ in I-bar rolling hoops on specification 5 and 6 drums be changed.	HM-121; notice 74-12; Oct. 4, 1974.
P-373	Dec. 11, 1973	Dec. 13, 1973	Compressed Gas Association, Inc., New York, N.Y.	Recommends that sec. 173.304(a)(2) table be amended to include DOT-4E 240.	HM-121; notice 74-12; Oct. 4, 1974.
P-375	Dec. 13, 1973	Dec. 18, 1973	Nuclear Transportation Department, Wilmington, Del.	Recommends amendment of sec. 173.393(c) be amended to provide thermal testing of packaging.	See HM-111—Comments; Oct. 11, 1973.
P-386	Feb. 6, 1974	Feb. 8, 1974	Association of American Railroads, Washington, D.C.	Recommends amending pertinent sections to replace BoE pamphlet 22 with pamphlets 1 and 2.	HM-22; amendments 171-23, 174-20, 175-11, 177-30, 178-31; Nov. 21, 1973.
P-387	Mar. 4, 1974	Mar. 7, 1974	Compressed Gas Association, Inc., New York, N.Y.	Asks that ASME Code be updated through Dec. 31, 1973	HM-22; notice 74-6; Apr. 18, 1974.
P-394	Apr. 26, 1974	May 3, 1974	Stauffer Chemical Co., Westport, Conn.	Recommends that sec. 173.247(a)(17) be amended to show safety relief devices authorized for titanium tetrachloride.	HM-121; notice 74-12; Oct. 4, 1974.

## LIST OF DISPOSED PETITIONS (DENIAL OR RULEMAKING)

Petition No.	Dated	Received	Origin	Nature of request	Disposition
P-396	May 10, 1974	May 13, 1974	Lawrence W. Bierlein, Washington, D.C.	Recommends that sec. 173.242 be amended to authorize packaging represented by the Sonic denture cleaning system.	HM-121; notice 74-12; Oct. 4, 1974.
P-400	May 29, 1974		GAF, New York, N.Y.	Recommends that secs. 172.5, 173.304, and 173.314 be amended by deleting the word "inhibited" from vinyl methyl ether.	HM-121; notice 74-12; Oct. 4, 1974.
P-406	July 2, 1974	July 5, 1974	Olin Corp., East Alton, Ill.	Recommends amending sec. 173.184 to authorize use of Sealdbin 70 for nitrocellulose.	Request for special permit.
P-407	June 5, 1974	June 10, 1974	Thiokol, Brigham City, Utah.	Recommends that sec. 172.5 be amended to include "cyclotetra-methylene tetranitroamine."	HM-121; notice 74-12; Oct. 4, 1974.
P-	July 15, 1974	July 17, 1974	Compressed Gas Association, Inc., New York, N.Y.	Recommends that sec. 171.7(d) be amended to authorize 1974 edition of the ASME Code—secs. VIII and IX.	HM-22; notice 74-13; Dec. 10, 1974.
P-	July 12, 1974	July 16, 1974	Department of the Army (MTWTS), Washington, D.C.	Recommends that "cyclotetramethylene-tetranitramine" be added to List of Hazardous Materials, sec. 172.5(a) as high explosive, class A, type 4.	HM-121; notice 74-12; Oct. 4, 1974.
P-	Aug. 2, 1974		Mallinckrodt, Inc., St. Louis, Mo.	Recommends amendment of sec. 173.299(a)(2) to increase capacity of specification 37M with 2S or 2S1 to 55 gal (special permit 5337).	HM-121; notice 74-12; Oct. 4, 1974.
P-	Aug. 20, 1974	Aug. 29, 1974	Truck Trailer Manufacturer Association, Washington, D.C.	Recommends that sec. 178.343-5(b)(1) be amended to provide for alternative protection of valve equivalent and allow use of valves unavailable with shear sections.	HM-124; notice 75-2; Mar. 17, 1975.
P-	Nov. 25, 1974	Nov. 26, 1974	Compressed Gas Association, Inc., New York, N.Y.	Recommends that sec. 171.7(d)(1) be amended to update ASME Code to include summer addenda.	HM-22; notice 74-13; Dec. 10, 1974.
P-	Nov. 22, 1974	do.	Association of American Railroads, Washington, D.C.	Requesting that an advance notice of proposed rulemaking be published regarding desirability of extending retrofit requirements to all DOT specification tank cars.	Petition denied Mar. 25, 1975.
P-427	do.	do.	do.	Requesting that sec. 179.14 be amended to require a 3-phased installation of top and bottom shelf couplers on certain types of tank cars.	Petition denied, Jan. 3, 1975.
P-435	Mar. 3, 1975	Mar. 7, 1975	Truck Trailer Manufacturer Association, Washington, D.C.	Recommends that gauge glasses be prohibited, sec. 178.342-6(a).	Denied Apr. 16, 1975.
P-447	Mar. 21, 1975	Mar. 28, 1975	Fire Equipment Manufacturers' Association, Arlington Heights, Ill.	Recommends adoption of a specification for metal containers for stored pressure fire extinguishers.	Denied Jan. 21, 1976.
P-460	May 13, 1975		Compressed Gas Association, Inc., New York, N.Y.	Recommends amending sec. 171.7(d)(X) to update ASME addenda through Dec. 31, 1974.	HM-22; notice 75-6; Mar. 21, 1975.
P-	July 23, 1975	do.	do.	Recommends amending sec. 171.7(d)(X) to update ASME Code.	HM-22; notice 75-8; Aug. 25, 1975.
P-	Dec. 4, 1975		National Tank Truck Carriers, Inc., Washington, D.C.	Additional information regarding P-485—asphalt products.	HM-132; amendment 173-82; Dec. 22, 1975.
P-	Feb. 18, 1976		Compressed Gas Association, Inc., New York, N.Y.	Recommends updating the reference to addenda to the ASME Code to Dec. 31, 1975.	HM-22; notice 76-3; Mar. 18, 1976.

Question 7. Please provide a list of each proceeding initiated in the last ten years to establish or modify a hazardous materials regulation and include the dates of each advanced notice of proposed rulemaking, each notice of proposed rulemaking, and each final notice when the regulation is finally promulgated. Answer. See attached list of proceedings.

Case No.	Agency	Advanced Notice of Proposed Rulemaking (ANPR)	Notice of Proposed Rulemaking (NPRM)	Final Rulemaking	Effective Date
118 H	U.S. EPA	11/19/80	1/11/81	1/11/81	1/11/81
119 H	U.S. EPA	1/11/81	1/11/81	1/11/81	1/11/81
120 H	U.S. EPA	1/11/81	1/11/81	1/11/81	1/11/81
121 H	U.S. EPA	1/11/81	1/11/81	1/11/81	1/11/81
122 H	U.S. EPA	1/11/81	1/11/81	1/11/81	1/11/81
123 H	U.S. EPA	1/11/81	1/11/81	1/11/81	1/11/81
124 H	U.S. EPA	1/11/81	1/11/81	1/11/81	1/11/81
125 H	U.S. EPA	1/11/81	1/11/81	1/11/81	1/11/81
126 H	U.S. EPA	1/11/81	1/11/81	1/11/81	1/11/81
127 H	U.S. EPA	1/11/81	1/11/81	1/11/81	1/11/81
128 H	U.S. EPA	1/11/81	1/11/81	1/11/81	1/11/81
129 H	U.S. EPA	1/11/81	1/11/81	1/11/81	1/11/81
130 H	U.S. EPA	1/11/81	1/11/81	1/11/81	1/11/81
131 H	U.S. EPA	1/11/81	1/11/81	1/11/81	1/11/81
132 H	U.S. EPA	1/11/81	1/11/81	1/11/81	1/11/81
133 H	U.S. EPA	1/11/81	1/11/81	1/11/81	1/11/81
134 H	U.S. EPA	1/11/81	1/11/81	1/11/81	1/11/81
135 H	U.S. EPA	1/11/81	1/11/81	1/11/81	1/11/81
136 H	U.S. EPA	1/11/81	1/11/81	1/11/81	1/11/81
137 H	U.S. EPA	1/11/81	1/11/81	1/11/81	1/11/81
138 H	U.S. EPA	1/11/81	1/11/81	1/11/81	1/11/81
139 H	U.S. EPA	1/11/81	1/11/81	1/11/81	1/11/81
140 H	U.S. EPA	1/11/81	1/11/81	1/11/81	1/11/81
141 H	U.S. EPA	1/11/81	1/11/81	1/11/81	1/11/81
142 H	U.S. EPA	1/11/81	1/11/81	1/11/81	1/11/81
143 H	U.S. EPA	1/11/81	1/11/81	1/11/81	1/11/81
144 H	U.S. EPA	1/11/81	1/11/81	1/11/81	1/11/81
145 H	U.S. EPA	1/11/81	1/11/81	1/11/81	1/11/81
146 H	U.S. EPA	1/11/81	1/11/81	1/11/81	1/11/81
147 H	U.S. EPA	1/11/81	1/11/81	1/11/81	1/11/81
148 H	U.S. EPA	1/11/81	1/11/81	1/11/81	1/11/81
149 H	U.S. EPA	1/11/81	1/11/81	1/11/81	1/11/81
150 H	U.S. EPA	1/11/81	1/11/81	1/11/81	1/11/81

	Notice	Amendment	Issued	Federal Register	Filing date	Effective date
HM-1:						
Rules of procedure	67-1		Nov. 13, 1967	Nov. 30, 1967	Jan. 30, 1968	
Rules of procedure—hearing	68-3		Feb. 23, 1968	Feb. 28, 1968		
Amendment		170	May 22, 1968	June 4, 1968		July 1, 1968.
Rulemaking procedures of the BWRB		170-1	Aug. 19, 1971	Aug. 25, 1971		Upon publication in the Federal Register.
HM-2:						
Radioactive materials	68-1		Jan. 11, 1968	Jan. 20, 1968	Apr. 15, 1968	
Amendment		171-1, 172-1, 173-3, 174-1, 175-1, 177-3, 178-1	Sept. 26, 1968	Oct. 4, 1968		Dec. 31, 1968.
Corrections to amendments						Do.
Radioactive materials	69-14		Dec. 23, 1968	Dec. 27, 1968		
Amendment		173-14	May 20, 1969	May 28, 1969	July 22, 1969	Nov. 5, 1969.
Miscellaneous	68-2		Feb. 16, 1968	Feb. 27, 1968	May 1, 1968	
Miscellaneous (flammable liquids and cyrogenics)	68-2A		Aug. 2, 1968	Aug. 6, 1968	Sept. 5, 1968	
Amendment		171-3, 172-2, 173-6, 174-3, 177-5, 178-3, 179-2	Apr. 25, 1969	May 1, 1969		Sept. 3, 1969.
Corrections to amendment		174-3, 177-5, 178-3	July 18, 1969	July 25, 1969		Upon publication in the Federal Register.
HM-4:						
Poison B restrictions	69-12		Dec. 21, 1967	Dec. 29, 1967	June 10, 1969	Jan. 10, 1968.
Do		67-1	May 5, 1969	May 8, 1969		
Amendment		174-5, 175-3, 177-9	Nov. 17, 1969	Nov. 21, 1969		Dec. 30, 1969.
Request for public advice on transportation of pesticides			May 5, 1969	May 9, 1969	July 21, 1969	
HM-5:						
Stress corrosior	68-5		Jan. 26, 1968	Jan. 31, 1968		Jan. 31, 1968.
Do		173-1, 177-1	May 13, 1968	May 21, 1968		July 1, 1968.
Amendment		173-2, 177-2	Aug. 16, 1968	Aug. 21, 1968	Oct. 15, 1968	
HM-7:						
Request for public advice on labels and classification	70-13		Oct. 9, 1968	Oct. 16, 1968	Dec. 1, 1968	
Classification and labeling of hazardous materials	71-13		July 13, 1970	July 22, 1970	Oct. 15, 1970	
Do	71-13		May 14, 1971	May 25, 1971	Aug. 31, 1971	
Extension of time for filing	71-13		July 21, 1971	July 24, 1971	Nov. 1, 1971	
Amendment		172-19, 173-70, 174-17, 175-10, 176-5, 177-24	Feb. 12, 1973	July 27, 1973		Jan. 1, 1974.
HM-9:						
Miscellaneous	68-7		Nov. 13, 1978	Nov. 20, 1968	Feb. 18, 1969	
Amendment		172-4, 173-11, 177-6, 178-5	July 23, 1969	Aug. 1, 1969		Dec. 30, 1969.
Do		174-4, 177-7	Oct. 24, 1969	Oct. 30, 1969		Do.
Do		173-20, 176-10	Mar. 7, 1970	Apr. 3, 1970		July 1, 1970.
Amendment (specifications 2E bottle: marking size requirements)		178-11	July 15, 1970	July 17, 1970		Oct. 30, 1970.

HM-10:	tank car specifications.....	68-8	-----	Nov. 13, 1968	Nov. 21, 1968	Feb. 18, 1969
	Withdrawal of notice.....	68-8	-----	Apr. 27, 1971	May 4, 1971	-----
HM-11:	Change of reference.....	-----	-----	Nov. 27, 1968	Dec. 3, 1968	-----
			171-2, 173-4, 174-2, 175-2, 176-1, 177-4, 178-2, 179-1, 180-1,			
H3-12:	Is public notice on a petition for special permit.....	68-9	-----	Jan. 13, 1969	Jan. 24, 1969	Feb. 18, 1969
	Amendment.....	-----	-----	Apr. 9, 1969	Apr. 12, 1969	-----
HM-13:	Center circumferential weld.....	69-1	-----	Feb. 11, 1969	Feb. 15, 1969	Mar. 20, 1969
	Amendment.....	-----	-----	May 19, 1969	May 24, 1969	-----
HM-14:	To authorize 106A, 110A tanks for antimony pentachloride (sec. 177.840(c)).	69-2	-----	Feb. 11, 1969	Feb. 15, 1969	Mar. 20, 1969
	Revision of original notice.....	69-17	-----	July 8, 1969	July 16, 1969	Sept. 10, 1969
	Amendment.....	-----	-----	Jan. 23, 1970	Jan. 28, 1970	-----
HM-15:	Aerosol flash point restriction.....	69-3	-----	Mar. 7, 1960	Mar. 12, 1969	Apr. 15, 1969
	Amendment.....	-----	-----	June 19, 1969	June 26, 1969	-----
HM-16:	Shipment of certain corrosive liquids in tank motor vehicles and tank cars.	69-4	-----	Mar. 6, 1969	Mar. 12, 1969	Apr. 15, 1969
	Amendment.....	-----	-----	June 19, 1969	June 26, 1969	-----
HM-17:	Shipment of residual motor fuel antiknock compound.....	69-5	-----	Mar. 6, 1969	Mar. 12, 1969	Apr. 15, 1969
	Amendment.....	-----	-----	June 19, 1969	June 26, 1969	-----
HM-18:	To authorize benzoyl peroxide, wet in 12B fiberboard boxes.....	69-6	-----	Mar. 6, 1969	Mar. 12, 1969	Apr. 15, 1969
	Amendment.....	-----	-----	Nov. 17, 1969	Nov. 21, 1969	-----
HM-19:	Methyl chloride in specification 110A500W tank car tanks.....	69-7	-----	Apr. 1, 1969	Apr. 9, 1969	May 6, 1969
	Amendment.....	-----	-----	June 20, 1969	June 26, 1969	-----
HM-20:	37M steel overpacks with inside polyethylene 2S and 2SL for hydrofluoric acid.	69-8	-----	Apr. 9, 1969	Apr. 12, 1969	May 20, 1969
	Amendment.....	-----	-----	Aug. 25, 1969	Aug. 29, 1969	-----
HM-21:	Shipping electric storage batteries § 173.260(c).	69-9	-----	Apr. 9, 1969	Apr. 12, 1969	May 20, 1969
	Amendment.....	-----	-----	Aug. 25, 1969	Aug. 29, 1969	-----

Union publication in the Federal Register.

Do.

Do.

Dec. 30, 1969.

Sept. 3, 1969.

Dec. 30, 1969.

Do.

HM-22:	Notice	Amendment	Issued	Federal Register	Filing date	Effective date
Matter incorporated by reference.	69-10	171-4, 173-16, 177-8, 178-7	Apr. 17, 1969	Apr. 23, 1969	May 29, 1969	
Amendment.		171-9	Nov. 7, 1968	Nov. 14, 1968		Do.
Do			Nov. 27, 1970	Dec. 3, 1970		Upon publication in the Federal Register.
Matter incorporated by reference.	17-11	171-10	Apr. 4, 1971	Apr. 14, 1971	May 25, 1971	Aug. 31, 1971.
Amendment.			July 8, 1971	July 14, 1971		
Matter incorporated by reference.	71-21	171-12	June 23, 1971	June 29, 1971	Aug. 3, 1971	
Amendment.			Aug. 30, 1971	Sept. 3, 1971		Oct. 15, 1971.
Matter incorporated by reference.	72-6	171-15	June 9, 1972	June 10, 1972	July 11, 1972	
Amendment.			Aug. 9, 1972	Aug. 15, 1972		Dec. 30, 1972.
Matter incorporated by reference.	72-13	171-16, 174-15, 175-8	Nov. 14, 1972	Nov. 18, 1972	Dec. 19, 1972	
Amendment.			Feb. 7, 1973	Feb. 13, 1973		Mar. 31, 1973.
Matter incorporated by reference.	73-3	171-19	Apr. 17, 1973	Apr. 23, 1973	June 12, 1973	
Amendment.			July 12, 1973	July 18, 1973		Sept. 30, 1973.
Matter incorporated by reference.	73-8	171-23, 174-20, 175-11, 177-30, 178-31	Nov. 21, 1973	Nov. 28, 1973	Jan. 29, 1974	
Amendment.			Mar. 19, 1974	Mar. 22, 1974		June 30, 1974.
Matter incorporated by reference.	74-4	173-85, 178-34	Mar. 26, 1974	Apr. 2, 1974	June 28, 1974	
Amendment.			Sept. 24, 1974	Sept. 30, 1974		Dec. 31, 1974.
Amendment (Correction).		173-85, 178-34	Nov. 25, 1974	Dec. 2, 1974		Jan. 1, 1975.
Matter incorporated by reference.	74-6	171-25	Apr. 18, 1974	Apr. 23, 1974	July 2, 1974	
Amendment.			Aug. 13, 1974	Aug. 21, 1974		Sept. 30, 1974.
Matter incorporated by reference.	74-13	171-29	Dec. 10, 1974	Dec. 17, 1974	Mar. 4, 1975	
Amendment.			Apr. 23, 1975	Apr. 30, 1975		May 30, 1975.
Matter incorporated by reference.	75-6	171-30	May 21, 1975	May 27, 1975	July 1, 1975	
Amendment.			Aug. 20, 1975	Aug. 26, 1975		Sept. 30, 1975.
Matter incorporated by reference.	75-8	171-31	Aug. 25, 1975	Sept. 2, 1975	Sept. 30, 1975	
Amendment.			Nov. 3, 1975	Nov. 7, 1975		Dec. 30, 1975.
Matter incorporated by reference.	76-2		Mar. 8, 1976	Mar. 12, 1976	Apr. 12, 1976	
HM-23:						
New specifications 83W cylinder for acetylene	69-11		Apr. 16, 1969	Apr. 23, 1969	May 29, 1969	
Extends date for filing comments	69-16		May 26, 1969	May 29, 1969	June 30, 1969	
Withdrawal of notice.	69-11		Aug. 15, 1969	Aug. 19, 1969		
HM-24:						
Explosives on vehicles in combination.	69-13	177-6	May 5, 1969	May 8, 1969	June 10, 1969	
Amendment.			Aug. 25, 1969	Aug. 29, 1969		Dec. 30, 1969.
HM-25:						
To specify certain packagings for acid electrolyte.	69-15	178-8	May 21, 1969	May 28, 1969	July 22, 1969	
Amendment.			Nov. 17, 1969	Nov. 21, 1969		Nov. 30, 1969.
Special composite package for electrolyte (acid) or alkaline corrosive battery fluid.	70-15	178-16	Aug. 18, 1970	Aug. 22, 1970	Oct. 20, 1970	
Amendment.			Jan. 27, 1971	Feb. 2, 1971		June 10, 1971.

HM-26:	To cancel specification orders following secs. 178.68-20, 69-18.								
HM-27:	Amendment								
	Re-use of containers	173-15, 178-6	July 8, 1969	July 16, 1969	Sept. 10, 1969				Dec. 31, 1969.
	Amendment		Oct. 24, 1969	Oct. 30, 1969					
	Do.								
HM-28:	Removal of label exemption	173-31	July 15, 1969	July 23, 1969	Sept. 23, 1969				Dec. 31, 1970.
	Amendment	173-31A	July 27, 1970	July 31, 1970					Do
	Amendment (partial)	173-41, 177-15	July 15, 1969	July 23, 1969	Sept. 23, 1969				
	Amendment (extension of effective date)	173-41A, 177-15A	Dec. 6, 1970	Jan. 30, 1971					June 10, 1971.
HM-29:	Carbon monoxide in manifolded cylinders, and increased filling limitation.	173-41A, 177-15A	May 14, 1971	May 19, 1971					Do.
	Amendment		Sept. 30, 1971	Oct. 5, 1971					Dec. 31, 1971.
HM-30:	Spec. 1K carboy for certain chlorides	172-8, 173-44	July 22, 1969	July 25, 1969	Sept. 30, 1969				
	Amendment		Mar. 17, 1971	Mar. 23, 1971					June 10, 1971.
HM-31:	Extension of specifications, 3HT cylinder service life	173-22	Aug. 12, 1969	Aug. 20, 1969	Oct. 28, 1969				
	Amendment		May 1, 1970	May 6, 1970					Sept. 1, 1970.
HM-32:	Shipping name and removal of authorization to ship dimethylhexane dihydroperoxide, dry.	173-19, 178-9	Aug. 15, 1969	Aug. 20, 1969	Oct. 28, 1969				
	Amendment		Mar. 29, 1970	Mar. 31, 1970					July 1, 1970.
HM-33:	Cyanides or cyanides mixtures	172-5, 173-27	Aug. 12, 1969	Aug. 20, 1969	Oct. 28, 1969				
	Amendment		June 29, 1970	July 3, 1970					Oct. 30, 1970.
HM-34:	LPG in cargo tanks constructed of quenched and tempered steel	173-23	Aug. 12, 1969	Aug. 20, 1969	Oct. 28, 1969				
	Amendment		May 1, 1970	May 6, 1970					Sept. 1, 1970.
HM-35:	Flammable liquids in MC 330 and MC 331 cargo tanks, emergency discharge controls for cargo tanks.	173-21, 177-11	Aug. 12, 1969	Aug. 20, 1969	Oct. 28, 1969				
	Amendment		Apr. 22, 1970	Apr. 29, 1970					Oct. 30, 1970.
HM-36:	Reports of hazardous materials incidents	173-26	Sept. 25, 1969	Oct. 9, 1969	Dec. 9, 1969				
	Amendment		May 13, 1970	May 19, 1970					Sept. 1, 1970.
HM-37:	Reports on incidents involving radioactive materials	171-7, 173-39, 174-7, 175-5, 176-3, 177-14, 171-13, 174-11, 175-6, 177-18	Oct. 23, 1969	Oct. 29, 1969	Jan. 12, 1970				
	Amendment		Oct. 27, 1970	Oct. 31, 1970					Dec. 31, 1970.
HM-38:	Aniline oil	173-24	July 2, 1971	July 9, 1971	Aug. 31, 1971				
	Amendment		Oct. 29, 1971	Nov. 4, 1971					Dec. 31, 1971.
	Amendment		Dec. 5, 1969	Dec. 10, 1969	Feb. 3, 1970				
	Amendment		May 1, 1970	May 6, 1970					Sept. 1, 1970.

	Notice	Amendment	Issued	Federal Register	Filing date	Effective date
HM-38:	Interlocking couplers and restriction of capacity of tank cars.					
	69-31		Dec. 8, 1969	Dec. 11, 1969	Feb. 10, 1970	
	69-31		Feb. 4, 1970	Feb. 10, 1970	Apr. 13, 1970	
	Extension of time for filing comments.	179-4	Sept. 2, 1970	Sept. 9, 1970		Nov. 13, 1970.
	Do.	179-5	Nov. 12, 1970	Nov. 13, 1970		Upon publication in the Federal Register.
	Denial of petitions.	179-4	Nov. 18, 1970	Nov. 24, 1970		Do.
	Amendment.	179-11	Feb. 7, 1972	Feb. 11, 1972		
HM-39:	Extension of retest interval of nonpressure tank cars.					
	69-32	173-25	Dec. 11, 1969	Dec. 16, 1969	Feb. 12, 1970	
	Amendment.		May 1, 1970	May 6, 1970		Sept. 1, 1970.
HM-40:	MC-330 and MC-331 cargo tanks in chlorine service.					
	70-1	173-32, 178-13	Jan. 23, 1970	Jan. 30, 1970	Apr. 7, 1970	
	Amendment.		Aug. 3, 1970	Aug. 7, 1970		Oct. 30, 1970.
HM-41:	Specifications for fiberboard boxes; stitching staples.					
	70-2	178-12	Jan. 23, 1970	Jan. 30, 1970	Apr. 7, 1970	
	Amendment.		July 16, 1970	July 22, 1970		Do.
HM-42:	Combustible liquids.					
	70-3		Feb. 12, 1970	Feb. 21, 1970	May 5, 1970	
	70-3		Aug. 26, 1970	Aug. 29, 1970		
HM-43:	Notice of public hearings (See HM-102; notice No. 72-7).					
	70-4		Mar. 3, 1970	Mar. 7, 1970	May 12, 1970	
	Amendment.	173-29	July 23, 1970	July 30, 1970		Do.
HM-44:	Parathion and methyl parathion in tank cars.					
	70-5	173-28	Apr. 3, 1970	Apr. 9, 1970	May 19, 1970	
	Amendment.		July 17, 1970	July 23, 1970		Do.
HM-45:	Cargo tanks in trailer-on-flat-car service.					
	70-6	174-8	Apr. 10, 1970	Apr. 15, 1970	June 16, 1970	
	Amendment.		Nov. 17, 1970	Nov. 21, 1970		Jan. 20, 1971.
HM-46:	Reclassification of fuses.					
	70-7	172-12, 173-56, 174-12, 177-19, 178-21.	Apr. 16, 1970	Apr. 22, 1970	June 10, 1970	
	Amendment.		Oct. 29, 1971	Nov. 4, 1971		Dec. 31, 1971.
HM-47:	Ethylene imine, inhibited in tank cars.					
	70-8	173-30	May 1, 1970	May 6, 1970	June 9, 1970	
	Amendment.		July 23, 1970	July 30, 1970		Oct. 30, 1970.
HM-48:	Matter incorporated by reference.					
	70-9	171-5	May 26, 1970	May 29, 1970	June 30, 1970	
	Amendment.		Aug. 3, 1970	Aug. 7, 1970		Do.
HM-49:	Dimethyl ether in cargo tanks.					
	70-10	172-6, 173-33	May 26, 1970	June 2, 1970	July 30, 1970	
	Amendment.		Aug. 26, 1970	Sept. 1, 1970		Dec. 31, 1970.
HM-50:	Extension of retest period for certain safety relief valves.					
	70-11	173-35	May 26, 1970	May 29, 1970	July 30, 1970	
	Amendment.		Sept. 9, 1970	Sept. 12, 1970		Do.

HM-51:	Request for public advice on classification of certain hazardous materials on the basis of their health hazards.				June 6, 1970	Sept. 4, 1970
HM-52:	2d request for advice				Feb. 5, 1971	Feb. 12, 1971
	Nitric acid in type 105A-ALW tank cars	70-12			June 4, 1970	June 10, 1970
	Amendment		173-36		Oct. 21, 1970	July 30, 1970
HM-53:	Application of pss. 171-189 to private carriers by motor vehicle		177-12		June 9, 1970	June 13, 1970
HM-54:	Extended use of class 111AW3 tank cars	70-14			July 14, 1970	July 17, 1970
HM-55:	Amendment		173-37		Oct. 21, 1970	Oct. 27, 1970
	Polyethylene liners	70-16			Aug. 18, 1970	Aug. 22, 1970
	Amendment		173-15		Dec. 1, 1970	Dec. 5, 1970
HM-56:	Miscellaneous amendments (editorial)		171-6, 172-7, 173-34, 174-6, 175-4, 176-2, 177-13, 178-14, 179-3, 171-13, 172-11, 173-54, 174-10, 175-1, 176-2, 179-3, 170-5, 171-22, 172-7, 178-28, 172-27, 173-84, 174-23		Aug. 26, 1970	Sept. 1, 1970
Do					Sept. 9, 1971	Sept. 15, 1971
Do					Aug. 27, 1973	Sept. 4, 1973
Do					Sept. 13, 1974	Sept. 18, 1974
HM-57:	Request for public advice on classification of corrosive hazards				Aug. 31, 1970	Sept. 4, 1970
	Classification of corrosive hazards	71-17			June 7, 1971	June 11, 1971
	Classification of corrosive hazards supplemental notice	71-17			Aug. 13, 1971	Aug. 18, 1971
	Amendment				Mar. 17, 1972	Mar. 23, 1972
	Notice of board action to authorize immediate compliance		171-14, 172-14, 173-61, 174-14, 175-1, 177-21		Apr. 21, 1972	Apr. 26, 1972
	Postponement of mandatory effective date		171-14, 172-14, 173-61, 174-14, 175-1, 177-21		Sept. 12, 1972	Sept. 16, 1972
Do					May 11, 1973	May 16, 1973
	Postponement of mandatory effective date (aluminum) (correction)		171-14, 172-14, 173-61, 174-14, 175-1, 177-21		Oct. 3, 1973	Oct. 12, 1973
	Postponement of mandatory effective date (aluminum)		171-14, 172-14, 172-20, 173-61, 173-74, 174-14, 175-1, 177-21, 178-26		Sept. 5, 1974	Sept. 10, 1974
Do					Sept. 2, 1975	Sept. 8, 1975
	Classification and packaging of corrosive materials	73-1			Feb. 6, 1973	Feb. 13, 1973
	Amendment		172-20, 173-74, 178-26		July 27, 1973	Aug. 3, 1973
	Classification and packaging of corrosive materials	73-6			Aug. 31, 1973	Sept. 11, 1973
	Amendment		172-22, 173-77, 178-30		Dec. 20, 1973	Dec. 28, 1973
	Correction to the amendment		172-22, 173-77		Jan. 8, 1974	Jan. 15, 1974
	Amendment (sulfuric anhydride)		172-28, 173-86		May 22, 1974	May 28, 1974
	Amendment (fluoboric acid) (signed by FAA, FHWA)		172-28, 173-86		Sept. 2, 1974	Sept. 30, 1974
	Amendment (fluoboric acid) (same amendment signed by FRA)		172-28, 173-86		Oct. 10, 1974	Oct. 17, 1974

See footnotes at end of table.

	Notice	Amendment	Issued	Federal Register	Filing date	Effective date
HM-58:						
Retest of damaged tank car tanks	70-17		Sept. 9, 1970	Sept. 16, 1970	Nov. 17, 1970	Mar. 10, 1971.
Amendment		173-40	Dec. 29, 1970	Jan. 3, 1971		
HM-59:						
Class A poisons in cylinders	70-18		Oct. 5, 1970	Oct. 10, 1970	Nov. 24, 1970	
Amendment		173-42	Jan. 3, 1971	Jan. 30, 1971		June 10, 1971.
HM-60:						
Request for public advice on speed restriction on tank cars			Oct. 9, 1970	Oct. 13, 1970	Dec. 16, 1970	
HM-61:						
Acrolein, inhibited	70-19		Oct. 21, 1970	Oct. 27, 1970	Dec. 1, 1970	June 10, 1971
Amendment		173-43	Jan. 6, 1971	Jan. 30, 1971		Upon publication in the Fed. Register.
HM-62:						
Refrigerant gases in 20 packagings		173-38	Oct. 22, 1970	Oct. 28, 1970		
HM-63:						
Tank car specifications	70-20		Oct. 23, 1970	Oct. 29, 1970	Jan. 12, 1971	
Tank car specifications (revised)	70-20		Nov. 13, 1970	Nov. 19, 1970		
Tank car specifications (withdrawal of notice)	70-20		Feb. 19, 1971	Feb. 23, 1971		Do.
HM-64:						
Special permits, standard requirements and conditions		171-8	Nov. 24, 1970	Dec. 1, 1970		
HM-65:						
Bonding and grounding flammable liquid cargo tanks	70-21		Nov. 25, 1970	Dec. 2, 1970	Feb. 9, 1971	Aug. 31, 1971.
Amendment		177-16	May 27, 1971	June 3, 1971		
HM-66:						
Holders on tank cars	70-22		Nov. 25, 1970	Dec. 2, 1970	Feb. 9, 1971	
Amendment		174-9	Mar. 22, 1971	Mar. 26, 1971		June 10, 1971.
HM-67:						
Flash points of flammable liquids (see HM-102; notice No. 72-7)	70-23		Dec. 1, 1970	Dec. 5, 1970	Mar. 2, 1971	
HM-68:						
Portable tank specification	70-24		Dec. 2, 1970	Dec. 12, 1970	Feb. 23, 1971	
Extension of time to file comments	70-24		Feb. 18, 1971	Feb. 24, 1973	Mar. 23, 1971	
Amendment		173-60, 174-13, 177-20, 178-24	Feb. 2, 1972	Feb. 9, 1972		Mar. 31, 1972
HM-69:						
New cylinder specification DOT-39, and cancellation of specifications 70-25, 9, 40, and 41	70-25		Dec. 4, 1970	Dec. 11, 1970	Mar. 9, 1971	
Amendment		171-11, 173-53, 178-29	Aug. 17, 1971	Aug. 24, 1971		Dec. 31, 1971.
HM-70:						
Hydrogen sulfide gas—notice of proposed board action			Dec. 8, 1970	Dec. 12, 1970	Feb. 10, 1971	
Notice of board action			July 20, 1971	July 24, 1971		
HM-71:						
Specification 3HT cylinders—Tensile strength limitation	70-26		Dec. 11, 1970	Dec. 16, 1970	Mar. 23, 1971	
Amendment		178-19	May 27, 1971	June 3, 1971		Aug. 31, 1971.
HM-72:						
Phosphorus or chloride in cargo tanks	70-27		Dec. 14, 1970	Dec. 17, 1970	Feb. 2, 1971	June 10, 1971.
Amendment		173-45	Mar. 17, 1971	Mar. 23, 1971		

HM-73:	Design approvals for radioactive materials packages.	71-1	Jan. 4, 1971	Jan. 8, 1971	Mar. 10, 1971
Do.		71-30	Nov. 17, 1971	Feb. 29, 1972	
Amendment.			Feb. 2, 1973	Feb. 14, 1973	June 30, 1973.
	171-17, 173-69, 174-16, 175-9, 177-23.				
HM-74:	Notice of Public Hearing.		Jan. 5, 1971	Jan. 15, 1971	Mar. 9, 1971
Republished in notice section of Federal Register.			Jan. 19, 1971	Jan. 19, 1971	Hearing, Feb. 23, 1971.
Notice of Continuation of hearing.			Feb. 23, 1971	Feb. 27, 1971	Hearing, Mar. 16, 1971.
Cylinders manufactured outside the United States.		71-16	June 7, 1971	June 10, 1971	Mar. 30, 1971
Extension of time for filing comments.		71-16	July 21, 1971	Sept. 14, 1971	Nov. 1, 1971
Reopening of notice for additional comments.		71-16	Jan. 31, 1972	Feb. 3, 1972	June 1, 1972
Extension of time for filing comments.		71-16	June 21, 1972	June 27, 1972	Oct. 3, 1972
Cylinders manufactured outside the United States.		76-1	Jan. 8, 1976	Mar. 13, 1976	Mar. 15, 1976
HM-74: Extension of time for filing.		76-1	Mar. 11, 1976	Mar. 17, 1976	Apr. 15, 1976
HM-74A: Separation of proposals.		76-1A			Hearing, Apr. 7, 1976.
HM-75:	Quenching of steel cylinders.	71-2	Jan. 18, 1971	Jan. 22, 1971	Apr. 6, 1971
Amendment.			May 20, 1971	May 26, 1971	Aug. 31, 1971.
HM-76:	Compressed gases in cylinders—miscellaneous.	71-3	Jan. 19, 1971	Jan. 23, 1971	Apr. 6, 1971
Amendment.			Oct. 19, 1971	Oct. 27, 1971	Dec. 31, 1971.
HM-77:	Methylacetylenepropadiene, stabilized.	71-4	Jan. 27, 1971	Feb. 4, 1971	Mar. 16, 1971
Amendment.			May 25, 1971	June 2, 1971	Aug. 31, 1971.
	172-9, 173-47, 176-4, 178-18, 179-6.				
HM-78:	Hypochlorite solutions in specification 37M steel overpack with 2S or 2S1 inner container.	71-5	Feb. 11, 1971	Feb. 18, 1971	Apr. 6, 1971
Amendment.			June 11, 1971	June 18, 1971	Do.
HM-79:	Transportation on inhibited vinyl fluoride in cargo tanks.	71-6	Feb. 12, 1971	Feb. 18, 1971	Apr. 6, 1971
Amendment.			May 20, 1971	May 26, 1971	Do.
HM-80:	Phosphorus pentasulfide.	71-7	Mar. 4, 1971	Mar. 10, 1971	May 11, 1971
Do.		72-8	July 13, 1972	July 18, 1972	Aug. 22, 1972
Amendment.			Jan. 8, 1973	Jan. 15, 1973	June 30, 1973.
Do.			June 21, 1973	June 27, 1973	Change in date note 1.
	172-18, 173-68, 173-68.				
HM-81:	Sulfuric acid.	71-8	Mar. 12, 1971	Mar. 19, 1971	May 11, 1971
Amendment.			Aug. 6, 1971	Aug. 12, 1971	Oct. 15, 1971.
HM-82:	Difluoromonochloroethane in tank trucks and tank cars.	71-9	Mar. 19, 1971	Mar. 27, 1971	May 11, 1971
Amendment.			July 7, 1971	July 14, 1971	Aug. 31, 1971.
HM-83:	Hydrogen chloride in manifolded cylinders.	71-10	Mar. 30, 1971	Apr. 3, 1971	May 18, 1971
Amendment.			July 7, 1971	July 14, 1971	Do.
	172-10, 173-50, 173-49.				

See footnotes at end of table.

	Notice	Amendment	Issued	Federal Register	Filing date	Effective date
HM-84:						
Chlorine in tank cars	71-2	173-51, 179-7	Apr. 12, 1971	Apr. 16, 1971	June 15, 1971	Oct. 15, 1971.
Amendment			Aug. 4, 1971	Aug. 10, 1971		
HM-85:						
Miscellaneous (proposals A through K)	71-14	172-13, 173-57, 178-22	May 18, 1971	May 26, 1971	Aug. 17, 1971	
Amendment			Oct. 29, 1971	Nov. 5, 1971		Dec. 31, 1971.
Amendment (boron tribromide)		172-16, 173-65	Aug. 7, 1972	Aug. 15, 1972		Dec. 30, 1972.
HM-86:						
Cargo tank use and testing, compressed gases in portable tanks, and specifications, MC-331.	71-15		May 28, 1971	June 4, 1971	Aug. 10, 1971	
Amendment		173-76, 177-28, 178-29	Sept. 19, 1973	Oct. 5, 1973		Mar. 31, 1974
Do		173-76, 177-28, 178-29	Mar. 25, 1974	Mar. 28, 1974		Sept. 30, 1974 (partial).
HM-87:						
Cargo tank attachments	71-18	178-23	June 8, 1971	June 15, 1971	Aug. 24, 1971	Mar. 31, 1972.
Amendment			Jan. 6, 1972	Jan. 12, 1972		
HM-88:						
Notice of proposed board action (propylene)			July 9, 1971	July 15, 1971	Oct. 12, 1971	June 30, 1972.
Notice of board action (termination of special permits)			Jan. 3, 1972	Jan. 5, 1972		
HM-89:						
Specifications for tank cars	71-23	173-58, 179-9	July 14, 1971	July 21, 1971	Sept. 28, 1971	Dec. 31, 1971.
Amendment			Oct. 29, 1971	Nov. 6, 1971		
HM-90:						
Specifications for tank cars	71-24		Aug. 16, 1971	Aug. 25, 1971	Oct. 5, 1971	
Specifications for tank cars (supplemental)	71-24		Sept. 17, 1971	Sept. 23, 1971	do	
Amendment		173-59, 179-10	Oct. 29, 1971	Nov. 6, 1971		Do.
Bottom outlets on flammable compressed gas tank cars	74-2		Feb. 20, 1974	Feb. 26, 1974	May 28, 1974	
HM-91: Cold compressed gases in tank cars	71-25		Oct. 8, 1971	Oct. 16, 1971	Jan. 18, 1972	
HM-92:						
Retest requirements for tank cars	71-26	173-62	do	do	do	
Amendment			May 2, 1972	May 6, 1972		Sept. 30, 1972.
Retest table I republished.				May 24, 1972		
HM-93:						
Class B propellant explosives in fiber drums	71-28		Nov. 2, 1971	Nov. 6, 1971	Jan. 4, 1972	
Extension of time for filing comments	71-28		Dec. 13, 1971	Dec. 16, 1971	Feb. 22, 1972	
Amendment		173-63	June 16, 1972	June 24, 1972		Do.
HM-94:						
Miscellaneous (proposals A through I)	71-29		Nov. 15, 1971	Nov. 19, 1971	Dec. 21, 1971	(Proposal A),
Amendment (proposal A)		172-15	May 8, 1972	May 13, 1972	Jan. 25, 1972	(B through I),
Amendment (proposals B through I)		173-64, 178-25	July 17, 1972	July 21, 1972		Sept. 30, 1972.
HM-95:						
Transportation of blasting caps with other explosives by motor vehicle	71-31	177-22	Dec. 16, 1971	Dec. 21, 1971	Mar. 28, 1972	June 30, 1973.
Amendment			Oct. 6, 1972	Oct. 12, 1972		

See footnotes at end of table.



	Notice	Amendment	Issued	Federal Register	Filing date	Effective date
HM-106:						
Miscellaneous	73-2		Mar. 15, 1973	Mar. 22, 1973	Apr. 24, 1973	
Extension of time for filing comments	73-2		Apr. 30, 1973	May 3, 1973	July 31, 1973	
Amendment		172-26, 173-81, 174-22, 178-33, 179-13	May 9, 1974	May 15, 1974		Jan. 31, 1975.
Do		173-81	Dec. 20, 1974	Dec. 30, 1974		Jan. 31, 1975.
HM-107: Shipment of Department of Defense material sold to a shipper (notice was not issued in Docket HM-170).		173-71, 177-25	Mar. 16, 1973	Mar. 23, 1973		June 30, 1973.
HM-108: Advance notice of proposed rulemaking—Safety vents			May 18, 1973	May 29, 1973	Aug. 28, 1973	
HM-109: Tank car head shields	73-4		May 18, 1973	May 29, 1973	Sept. 4, 1973	
Amendment		173-83, 179-15	July 23, 1974	July 30, 1974		Aug. 30, 1974.
Do 1		173-83, 179-15	Sept. 6, 1974	Sept. 12, 1974		Denial of petitions for reconsideration. <sup>1</sup>
Tank car tank head shields			Mar. 5, 1975	Mar. 11, 1975	Apr. 15, 1975	
Do	75-1		Apr. 16, 1975	Apr. 23, 1975	May 30, 1975	
Contract	75-3		May 15, 1975	May 22, 1975		
HM-110:						
Contract	75-3		Aug. 21, 1973	Aug. 27, 1973	Oct. 30, 1973	
Handling of hazardous materials on motor vehicles			Nov. 2, 1973	Nov. 9, 1973	Jan. 13, 1974	
Extension of time for filing	73-5		Nov. 25, 1974	Dec. 2, 1974		Apr. 1, 1975.
Amendment		173-87, 177-31	Mar. 11, 1975	Mar. 18, 1975		Oct. 1, 1975.
Do		177-31	Sept. 26, 1975	Sept. 30, 1975		July 1, 1976.
Do			May 9, 1975	May 16, 1975	July 15, 1975	
Use of catalytic heaters in certain motor vehicles, and repairs to vehicles in closed buildings.	75-5		May 26, 1975	Sept. 30, 1975		
Withdrawal of a portion of notice	75-5		Oct. 1, 1975	Oct. 6, 1975		Oct. 1, 1975.
Amendment		177-34				
HM-111:						
Miscellaneous proposals relating to radioactive materials	73-7		Oct. 11, 1973	Oct. 25, 1973	Jan. 15, 1974	
Amendment		171-28, 173-90, 174-25, 175-12, 177-32, 178-35	Dec. 20, 1974	Dec. 31, 1974		Mar. 31, 1975.
Amendment (corrections)		171-28, 173-90, 174-25, 175-12, 177-32, 178-35	Sept. 19, 1975	Sept. 26, 1975		Sept. 26, 1975.
HM-112:						
Consolidation of hazardous materials regulations and miscellaneous proposals	73-9		Dec. 21, 1973	Jan. 24, 1974	May 28, 1974	
Classification and packaging of organic peroxides	74-7		Apr. 18, 1974	Apr. 24, 1974	June 25, 1974	
Extension of time for filing comments	73-9		May 9, 1974	May 9, 1974	Aug. 31, 1974	
Extension of time for filing comments	73-9		Aug. 27, 1974	Aug. 27, 1974	Oct. 3, 1974	
Public hearing—Aboard aircraft	73-9		Jan. 27, 1975	Jan. 29, 1975	Feb. 20, 1975	Hearing Feb. 10, 1975.
Notice of hearing	73-9		Jan. 31, 1975	Feb. 5, 1975	Feb. 28, 1975	Hearing Feb. 10, 1975.
Flammable, combustible, and pyrophoric liquids aboard vessels	73-9A		Sept. 2, 1975	Sept. 8, 1975	Oct. 8, 1975	Hearing Oct. 1, 1975.



HM-128:	Notice	Amendment	Issued	Federal Register	Filing date	Effective date
Carriage of hazardous materials aboard aircraft.....	75-9		Sept. 26, 1975	Oct. 1, 1975	Nov. 6, 1975	Hearing Oct. 23, 1975; Dec. 11, 1975.
Amendment.....		103-27	Dec. 11, 1975	Dec. 16, 1975		
HM-129: Portable tank markings (all background material with USCG).....		USCG, CGD 74-276	Nov. 3, 1975	Nov. 7, 1975		Dec. 31, 1975.
HM-130: Portable tank gross weights (all background material with USCG).....		USCG, CGD 74-282	Nov. 3, 1975	Nov. 7, 1975		Do.
HM-131: Inspection and monitoring requirements for radioactive materials.....	75-10	FAA, signed by AIR.....	Dec. 2, 1975	Dec. 11, 1975	Feb. 17, 1976	
HM-132: Asphalts in cargo tanks.....		173-32	Dec. 22, 1975	Dec. 29, 1975		Jan. 1, 1976.
HM-133: Definitions for flammable and combustible liquid.....		Amendment pt. 146.....	Dec. 24, 1975	Dec. 31, 1975		Mar. 31, 1976.
Definitions for flammable and combustible liquids correction.....		Amendment to pt. 146.....	Feb. 17, 1976	Feb. 23, 1976		Feb. 23, 1976.
HM-134: Hazardous materials regulations.....	76-2		Fe. 27, 1976	Mar. 3, 1976	Apr. 1, 1976	

1 A notice was not issued.

#### UNNUMBERED NOTICES

Subject	Issued	Federal Register	Closing date for filing comments
Request for public advice on revision of international regulations.....		Jan. 22, 1971	Jan. 27, 1971
Request for information hot coke.....		Apr. 28, 1971	Apr. 1, 1971.
High pressure seamless aluminum cylinders, DOT special permit 5091.....		June 19, 1974	May 4, 1971
Notice of public meeting anhydrous ammonia shipments.....		Nov. 16, 1971	June 26, 1974
Request for public participation, exemptions.....		Jan. 3, 1971	Nov. 20, 1971
Extension of time to comment.....		Jan. 21, 1972	Jan. 6, 1972
Request for information certain, compressed gas cylinders.....		June 19, 1972	June 27, 1972
Notice to shippers and carriers.....		July 31, 1975	June 22, 1972
Notice of conference, transportation of hazardous materials in air commerce.....		July 16, 1974	Aug. 6, 1975
Transportation of hazardous materials in air commerce.....		July 16, 1974	June 11, 1974
			July 16, 1974
			Meeting Dec. 14, 1971.
			Feb. 24, 1972
			Sept. 14, 1972.
			Aug. 1, 1974.

*Question 8(a).* Will you have in your program plan an evaluation scheme to determine whether you have accomplished what you set out to do?

How will you determine whether the program is going in the right direction?  
Answer. Yes, sir.

Before we speak of evaluations, may I explain that all of our programs are being reviewed to establish effective responses to the problems of hazardous materials transportation. Program planning is the most necessary ingredient to achievement of necessary programs. Priorities and goals must then be established in the program areas of regulations, exemptions, compliance, and training. By setting these objectives properly in the overall scheme of things, then goals and procedures are implemented to achieve the objectives. Timeliness is a very important ingredient of evaluating the effectiveness of programs. As we arrive at the preset goals, re-evaluation of the objectives must be made to determine whether we are accomplishing what we set out to do.

*Question 8(b).* Will your plan address enforcement and compliance activities, education activities, exemption procedures, etc?

Answer. My plan does address those items of enforcement, compliance, education and exemptions activities.

In the areas of enforcement and compliance activities, rulemaking is being prepared to amend the regulations for the purpose of establishing procedural regulations that implement the preemption provisions of section 112 of the Hazardous Materials Transportation Act (Title I of Public Law 93-633). Further, the rulemaking will prescribe procedures to be followed by the Materials Transportation Bureau (MTB) in carrying out its enforcement and compliance responsibilities under section 109, 110, and 111 of the same Act. I estimate these amendments to be in the Federal Register by July 1, 1976.

Educational activities including regional seminars, OHMO newsletters, bulletins, and guides are all tools utilized in educating the public and thereby maximize safety in the transportation of hazardous materials. Our Emergency Services Guide for Selected Hazardous Materials is being further expanded prior to its fifth printing. Over 180,000 copies have been distributed to date. The revised Emergency Services Guide will be available by June 1, 1976.

HM-127 appeared in the Federal Register, October 15, 1975. This is the rulemaking that established the exemption procedures now in effect, and was responsive to section 107 of the Hazardous Materials Transportation Act (Title I of Public Law 93-633).

*Question 8(c).* How will you determine rulemaking priorities in your plan?

Answer. The criteria for determining rulemaking priorities is undergoing a thorough review. In the past, most of the rulemaking proposals were initiated by industry to have the regulations reflect their practices or proposals. While thorough technical evaluations were made of these proposals through in house review and public comment, the effect has been one of reaction to requests, rather than initiatives generated from within based on the all encompassing public need.

The priorities will be determined by overall public need for transportation safety, rather than piecemeal amendments to accomplish narrow objectives. HM-112 and HM-126 are examples of Department initiated concepts to meet the total public needs.

Another example is the Research and Development programs we have designed to provide classification of new materials and in some cases, reclassification of existing materials. This program has been under way since 1969. As the state of the art permits, it is utilized to determine the need for regulatory change. Depending on the scope or degree of hazard involved, a priority can be established for rulemaking action.

When such a program determines the need for regulatory action, the necessary actions will be initiated in response to this need.

*Question 10.* Would you please provide us with a breakdown of manpower hours devoted on HM-112 and what percentage of your total manpower resources in MTB they constitute?

Answer. It is estimated that the preparation of Docket HM-112, including the notices, the amendment itself, and the evaluation of the comments, required approximately 8¼ man-years.

Since the Materials Transportation Bureau (MTB) was established in July 1975, it is difficult to provide percentages of MTB manpower devoted to this project in the past three fiscal years. The percentages listed represent the fraction of manpower resources available to the Office of Hazardous Materials and the Office of Hazardous Materials Operations during that span.

Fiscal year:	Percent
1974	6
1975	7
1976 to date	9

*Question 11.* At the hearing you said that the United Nations system "will be practically the same [as the United States] kind of system." Given all the troubles you have had with HM-103, how can you be so sure that you will develop a system compatible with that of the UN?

Answer. The United States Delegation to the United Nations Committee of Experts on the Transport of "Dangerous Goods," with appropriate industry and other reliable technical support, consists of representatives of the same Government agencies as those responsible for domestic regulations. We are certain that we can develop a system compatible with the United Nation's system because approximately 85% of the UN system is derived from the United States regulations. Our principle purpose in attending the UN sessions is to make sure that United States policy and practice are reflected in international standards.

In response to question No. 12, the following list of applications for special permits and exemptions were denied during the last year.

#### SPECIAL PERMITS

1. Request by Grestco Dyes & Chemicals, Inc. to transport hypochlorite solutions in a fiberglass reinforced plastic portable.
2. Request by American Steel Container Co. to ship certain flammable liquids in metal drums similar to DOT Specification 17E except for lighter gauge material.
3. Request by Pennwalt Corp. to ship cleaning compounds containing not more than 60% hydrofluoric acid in DOT Specification 34 containers or Special Permit 6584 composite packaging.
4. Request by Rings for Drums, Inc. for the shipment of paint in 30 and 55 gallon metal drums, comparable to DOT Specification 17H but made of lighter gauge steel and equipped with lighter gauge bolted ring closure.
5. Request by Soweco, Inc. to ship chloropicrin, 100%, in inside polyethylene bottles packed in corrugated fiberboard boxes.
6. Request by Austfin Powder Co. to ship a liquid explosive, Class B in DOT Specification MC 307 or 312 tank motor vehicle.
7. Request by Una/Bath Corp. to ship certain corrosive liquids in fiberglass portable tanks.

#### EXEMPTIONS

1. Request by Waste Research and Reclamation Co. to ship contaminated flammable solvents destined for resource recovery or a waste disposal facility without complying with the provisions of 49 CFR 173.28(h).

#### EMERGENCY EXEMPTIONS

1. Request by General Dynamics Co. to transport rocket ammunition, a Class B explosive, via aircraft.
2. Request by Hooker Chemical & Plastics Corp. to allow the transportation of phosphoric anhydride, a flammable solid, in foreign manufactured drums comparable to the DOT Specification 37A drums.
3. Request by FMC Corp. to renew Special Permit 5876 on emergency basis.
4. Request by Fairbanks Air Service, Inc. to transport flammable liquids without overpack in single pilot operation.
5. Request by Department of the Navy to transport Class A explosives overstacked with 1 high level of jeeps.
6. Request by Marine Agency of Tampa, Inc. on behalf of Pioneer Paper Stock to transport 200 tons of wet waste paper in bales.
7. Request by Seaboard World Airlines to transport 80 boxes of Class B ammunition.

*Questions: 13(a).* Has the OHMO tested the various combustion characteristics of polyester resins? If so, what have you found?

(b) What data does the OHMO have with respect to loss of life or property attributable to a fire caused by polyester resin?

Answers 13(a). Flash points were determined on two unsaturated polyester resins and a sample of styrene monomer that were submitted to the Bureau

by Structural Composites Industries, Inc., of Azusa, California. The flash points were determined using a Setaflash closed tester. Cargill PE-8399 had a flash point of 93°F. No other resins have been submitted for testing. Computations were made of the heat of combustion of polyester resins based on the formulations described in the petition for exemption. Heats of combustion range from 5500 to 8300 calories per gram which is comparable to many regulated materials such as methanol (5350 cal/g), ethanol (7120 cal/g), and benzene (9950 cal/g). The formulation as described to the Bureau permits only 1% or less of non-combustible material in the resin.

(b) Data on fires and property loss involving polyester resins is very limited at this time. Requests for information in this area to the American Insurance Association and Factory Mutual did not result in any response. Bulletin No. 7 of the Society of The Plastics Industry, Inc. Committee on Fire Prevention (dated March 1963) reviews several fires that have occurred in plastics fabricating plants; among these are noted:

(1) Polyester-fiberglass reinforced boat manufacturing plant fire. Fire originated in the mixing room during the lunch break. The plant was a complete loss, estimated at \$290,000.

(2) Another boat fabrication plant, a complete loss estimated at \$165,000. The fire report stated that the fire was fed by drums of resins, paint and thinner.

(3) A plastics molding plant, a complete loss estimated at \$290,000. The fire report contains the statement "Exploding drums of polyester resin and insufficient fire hydrants hampered fire fighting."

(4) A boat manufacturer reports a flash fire, apparently resulting from the spontaneous ignition of an open 5-gallon can of polyester resin. The fire was quickly extinguished by employees with minimum damage to the plant.

The following questions concern issues raised at the joint hearings held by the Commerce and Interior Committee on Alaska Natural Gas:

*Question 14(a).* Have any impact studies been made with regard to the damages that a spill could cause in terms of loss of life or property?

Answer. The Federal Power Commission (FPC) in its draft environmental impact statement on Alaska Natural Gas Transportation Systems included a type of risk analysis concerning the degree of risk to life from a failure of the LNG facilities at Gravina Point, Alaska, and three potential ports in California. Because there are no known residents within 7 miles of Gravina Point, it was concluded that risk was limited to the operating personnel of the facility and the cargo vessel which are estimated to number less than 100 persons.

For Point Conception, Oxnard, and Los Angeles Harbor, a different method was employed and estimated risk was shown proportionally as fatalities per million people per year to be 6.9, 9.4, and 8.5 for the three ports respectively. However, the study did not develop this data to determine total estimated yearly fatalities for the risk corridors at these specific locations.

Also, an extensive risk analysis for this area in California was prepared by Science Applications, Inc., which concluded that risk to life was very low.

None of these analyses addressed the financial aspects of property loss. Cost risk assessment is applicable only to a specified location, and MTB has not conducted studies in this area.

(b) Mr. Curtis said in those hearings that "the entire pipeline would be tested to an internal pressure greater than the maximum operating pressure." Does this include over-pressure conditions?

Answer. The gas pipeline safety regulations require that before operating a new segment of a pipeline or returning to service a segment of a pipeline that has been relocated or replaced, a test be conducted to substantiate the proposed maximum allowable operating pressure (MAOP). The test level depends on the population density in the vicinity of the pipeline and ranges from a minimum of 1.1 times the MAOP in a low populated area to a maximum of 1.5 times the MAOP in a highly populated area. Regardless of the final route chosen for the gas pipeline in Alaska, the remoteness of the pipeline route indicates that a minimum test pressure of 1.1 times the MAOP will be required for most of the length of the pipeline.

The test pressure chosen by the pipeline operator establishes the MAOP for the pipeline. Once the pressure test is conducted and the MAOP established, the gas pipeline operator is not allowed to exceed this pressure during normal operation.

During abnormal pressure surges which occur infrequently, the MTB regulations permit the pressure in a high pressure natural gas pipeline, such as the proposed Alaskan pipeline, to exceed the MAOP by a prescribed amount.

The overpressure protection is activated when the pressure exceeds the MAOP by 10 percent or the pressure that produces a hoop stress of 75 percent of the specified minimum yield strength of the pipe, whichever is lower. Therefore, the MAOP plus any abnormal overpressure condition will not exceed the test pressure.

(c) Does MTB believe that the system of preventing major collision or strandings is foolproof, particularly in port areas where there usually is heavy vessel traffic and where traffic separation schemes may fail? Has MTB made any studies which evaluate the possibility for a major collision or catastrophe?

Answer. The Ports and Waterways Safety Act (33 U.S.C. 1221 et seq.) authorizes the Coast Guard to control the area in which commercial vessels operate—especially those vessels carrying hazardous substances. The enclosed publication (Liquefied Natural Gas, Views and Practices, Policy and Safety, CG-478)<sup>1</sup> provides a comprehensive description of the Coast Guard's approach to assuring safety in water transportation of LNG. The Coast Guard does not believe any safety system can be foolproof (i.e., assure a zero level of risk) but, as is indicated by this publication, much special attention has been and is being given to the containment and transportation of LNG to provide a consistent and reasonable level of safety. Chapter IV (Operational Controls and Facilities) describes the extensive operational controls that are exercised on a selective basis to prevent major collisions and strandings. It can be seen that these controls are specific to LNG vessels and are not dependent on general traffic separation schemes. MTB has made no studies concerning tanker transportation of LNG since we have no expertise in tanker transportation. However, many studies have been sponsored or utilized by the Coast Guard in developing an understanding of the hazards of LNG transportation by water. These are summarized in Chapter II and on pages A1-2 and A1-3. However, as stated on page II-3, a formalized risk analysis procedure is not used at present, although development of a methodology for use with all hazardous materials (including LNG) is under development.

(d). Senator Mondale gave you a report by the National Academy of Sciences which said that South Central Alaska, including Prince William Sound, where these gas facilities will be built, is one of the world's most active seismic regions. Has MTB had a change to assess what impact this might have on our ability to transport this gas safely?

Answer. Senator Mondale requested Mr. Curtis to review the National Academy of Sciences' report during the hearing on February 17, 1976, but did not supply a copy. We contacted Senator Mondale's office to confirm the name of the report and believe that the report to which the Senator was referring was "The Great Alaska Earthquake of 1964, Summary and Recommendations," published by the National Academy of Sciences.

We have reviewed the report and are aware that South Central Alaska is subject to seismic activity and that special designs must be employed so that structures can be constructed to withstand the stresses which occur during earthquakes. The Trans-Alaska crude oil pipeline was designed to withstand these stresses. We evaluated the structural design criteria for the crude oil pipeline, which included seismic design criteria and concluded from the evaluation that the stress criteria and stress design would result in a final design with reasonable and adequate margins of safety against structural failure.

The LNG terminal proposed for Gravina Point can be designed and constructed to minimize damage from a probable earthquake using special design techniques for dynamic seismic loading. Of course, if the epicenter of an earthquake having a magnitude of the 1964 Alaska event, or a lower intensity event at a shallow focal depth (distance from earth surface to the apparent origin of the earthquake) occurred in close proximity to the site, extensive damage could result, including catastrophic failure of the LNG storage tanks. The effects of an LNG spill from a storage tank or tanks (primary containment) can be effectively controlled with properly designed secondary containment by an impounding space which will limit spread of the LNG and vapor gas cloud evolution.

(e). When Senator Mondale asked Mr. Curtis about the relative degree of safety of gas delivery between pipeline or LNG tanker, he answered that both could be as safe as necessary. Given equal safety levels, which system would

<sup>1</sup> The publication is in the Committee files.

be more efficient (i.e., costs of transporting per unit of gas)? Which of the two systems would be more likely to cause an unacceptable disaster?

Answer. Neither MTB nor the Coast Guard has made comparative studies of the safety, economic, or political aspects of gas delivery by pipeline and by LNG tanker.

We believe that transportation of LNG is more susceptible to an accident which would result in multiple deaths and high property damage than pipeline transportation of natural gas. This is because there is a greater number of people at risk around an LNG tanker or the on-shore storage facility than would be found around a pipeline in the remote areas of either Alaska or Canada. Also, the amount of natural gas available for release to the area for possible ignition and fire is much greater around an LNG tanker or on-shore storage facility, since one cubic ft. of LNG contains 600 cubic feet of natural gas. However, the Coast Guard does believe, because of its knowledge of the properties and hazards of LNG and its careful attention to design, construction, and operation of LNG tankers, that LNG can be transported by ship at a level of risk which is reasonable and consistent with other risks to the public. Similarly, the MTB also believes that and LNG facility built in accordance with the Bureau's design, construction, operation and maintenance standards will assure a reasonable level of risk to the public.

*Question 15.* You testified at the hearing to the effect that the "quantity and form" aspect of the new hazardous materials definition and been commonly implemented for years. Other than the recent example of combustible liquid given in the hearings, what other material would have been considered regulated materials *which as shipped*, meet the test criteria for classification, as hazardous materials, but which are not considered regulated at all due to quantity in shipment or form of material as shipped?

Answer. There are many materials which exhibit hazard characteristics only when in a particular physical form. As an example, finely divided metal powder may be pyrophoric or flammable while the same metal as a massive solid does not present such a hazard. Small quantities, equally as well, greatly reduce the hazards posed in transportation. Photographic flash bulbs, for instance, contain flammable material by their very nature but certainly do not represent a hazard. Many other items because of their form and quantity are not considered as hazardous materials, although they may meet the literal definition of hazardous materials. Included in this category are such materials as alcoholic beverages in one gallon or less quantities which may meet the definition of a flammable liquid but are not so regulated. Carbonated beverages, inflated tires (below 100 psig), and nitroglycerin in medicines are other examples of materials which, because of quantity and form, are not subject to the Department's regulations.

*Question 16.* In your answers to our prehearing Questions 21 and 23(e), you stated that a legislative amendment to the definition of "radioactive materials" in § 108 of the Hazardous Materials Transportation Act is desirable to eliminate the need for employing the exemption provisions of § 107 of the Act every two years to allow for the shipment of items having insignificant levels of radioactivity on passenger-carrying aircraft. Would you please provide a draft of the amendment?

Answer. Attached is a copy of § 108(b) of the Act showing how that section can be changed to achieve the desired result. In addition, there are attached copies of a notice of proposed rulemaking (40 FR 5168, February 4, 1975) and the final rule (40 FR 17141, April 17, 1975), with related text circled showing how the exemption authority of § 107 has been employed so as not to exclude from passenger-carrying aircraft items having insignificant levels of radioactivity. Also attached is a copy of 49 CFR 173.391 which contains a detailed description of the small quantities and devices that are currently exempt from the hazardous materials packing, marking, and labeling requirements. In the absence of the change, we recommend it will be necessary for us to conduct exemption proceedings with respect to these items under the authority of § 107 of the Act at intervals not to exceed two years.

Recommended change to § 108(b).

SEC. 108

(a) \* \* \*

(b) DEFINITION.—As used in this section, "radioactive materials" means any materials or combination of materials which spontaneously emit ionizing radi-

ation. This term does not include [materials in which (1) the estimated specific activity is not greater than 0.002 microcuries per gram of material; and (2) the radiation is distributed in an essentially uniform manner] *any material which the Secretary determines is of such a low estimated specific activity that when prepared for and during transportation it does not pose a hazard to health or safety.*

The legislative history of the Act indicates that it was not the intent of Congress to prohibit the carriage of tiny trace elements or small quantities of radioactive material on passenger-carrying aircraft, notwithstanding the literal wording of section 108 of the Act (Congressional Record of December 19, 1974: Volume 120, Number 179, page H12351). Accordingly, this proposal would amend § 103.1(c) and exclude from the applicability of Part 103 human beings and animals with an implanted medical device, such as a heart pacemaker, that contains radioactive material or with radiopharmaceuticals that have been injected or ingested. The FAA believes these devices and materials used for medical purposes do not pose an unreasonable hazard to health and safety aboard passenger-carrying aircraft.

In addition, in light of the legislative history of the Act, it is proposed to amend § 103.1(c) and exempt from the applicability of Part 103 small quantities of radioactive materials that meet those requirements in 49 CFR Parts 172 and 173 in effect on the issuance date of this Notice that exempt them from the packaging, marking and labeling requirements for shipment by rail express. These materials, which have been exempted under the regulations of 49 CFR Parts 172 and 173 for more than 20 years, are currently excluded from the applicability of Part 103 and this proposal would continue to exclude them under the exemption authority of section 107(a) of the Act for a period of two years. The two year period is necessary, since such a limitation is required by the exemption authority of section 107(a) of the Act, but that authority permits exemptions to be renewed.

Included in this category of exempted materials are devices such as luminous clocks and watches, aircraft dials, electron tubes, and exit markers. Also included are calibration sources that are component parts of radiation survey instruments routinely used by personnel of shippers, carriers, and regulatory agencies to monitor shipments for compliance with applicable regulations, as well as schedule quantities of materials not contained in any devices. The maximum allowable radiation level at the surface for any package of such exempted materials is 0.5 millirem per hour and in the event any material were lost from any package it would not pose any hazard to health and safety. Accordingly, the FAA considers the continued exemption of those materials to be safe and consistent with the public interest and the policy of the Hazardous Materials Transportation Act.

#### § 103.1 Applicability.

\* \* \* \* \*

(c) This part does not apply to—\* \* \*

(4) Prior to (2 years after effective date of amendment) radioactive materials that meet those requirements in 49 CFR Parts 172 and 173 in effect on (issuance date of this notice) that exempt them from the packaging, marketing, and labeling requirements for shipment by rail express.

\* \* \* \* \*

(6) Human beings and animals with an implanted medical device, such as a heart pacemaker, that contains radioactive material or with radio pharmaceuticals that have been injected or ingested.

### ENVIRONMENTAL PROTECTION AGENCY

[40 CFR Part 85]

[FRL 329-8]

CONTROL OF AIR POLLUTION FROM NEW MOTOR VEHICLES AND NEW MOTOR VEHICLE ENGINES

EXTENSION OF COMMENT PERIOD FOR PROPOSED SELECTIVE ENFORCEMENT AUDITING PROCEDURES

The Environmental Protection Agency published a notice of proposed rule-making, 39 FR 45360, dated Tuesday, December 31, 1974, for Selective Enforce-

ment Auditing of new motor vehicles. In order to afford interested persons an opportunity to participate in the rulemaking proceeding the notice invited written submissions of data, views, or arguments relative to the proposed regulation. The closing date for comments was set for March 3, 1975. Submissions to the docket by the Motor Vehicle Manufacturers Association and Ford Motor Company indicate that the March 3, 1975, closing date does not allow adequate time for participants to fully respond to the solicitation of data, views, or arguments, and request that the comment period be extended.

The Agency has considered these requests and has concluded that an extension of the comment period is warranted. Accordingly, the closing date is hereby extended to April 17, 1975, and all comments received on or before that date will be considered. Interested persons may participate in this rulemaking proceeding by submitting written comments (ten (10) copies) to Director, Mobile Source Enforcement Division (EG-340), room 3220 WSM, Environmental Protection Agency, 401 M Street, SW., Washington, D.C. 20460. All comments will be available for public inspection during normal working hours at the Freedom of Information Office, room 232 WSM, 410 M Street, SW., Washington, D.C. 20460.

Dated: January 29, 1975.

ALAN G. KIRK II,  
*Assistant Administrator for Enforcement and General Counsel.*

[FR Doc.75-3085 Filed 2-3-75;8:45 am]

PART 103—TRANSPORTATION OF DANGEROUS ARTICLES AND MAGNETIZED MATERIALS

CARRIAGE OF RADIOACTIVE MATERIALS ON PASSENGER-CARRYING AIRCRAFT

Certain other changes of an editorial nature have also been made in the proposal. These include a change in proposed § 103.1(c) (4) which, for purposes of clarification, deletes the reference to "49 CFR Parts 172 and 173" and substitutes for it a reference to "49 CFR 173.391."

§ 103.1 Applicability.

\* \* \* \* \*

(c) This part does not apply to—\* \* \*

(4) *Prior to May 3, 1977*, radioactive materials that meet those requirements in 49 CFR 173.391 in effect on May 3, 1975, that exempt them from the packaging, marking, and labeling requirements for shipment by rail express.

\* \* \* \* \*

(7) Human beings and animals with an implanted medical device, such as a heart pacemaker, that contains radioactive material or with radio pharmaceuticals that have been injected or ingested.

CHAPTER I—MATERIALS TRANSPORTATION BUREAU

§ 173.391 Small quantities of radioactive materials and radioactive devices.

(a) Radioactive materials in normal form not exceeding 0.01 millicurie of Group I radionuclides; 0.1 millicurie of Group II radionuclides; 1 millicurie of Groups III, IV, V, or VI radionuclides; 25 curies of Group VII radionuclides; tritium oxide in aqueous solution with a concentration not exceeding 0.5 millicuries per milliliter and with a total activity per package of not more than 3 curies; or 1 millicurie of radioactive material in special form; and not containing more than 15 grams of uranium-235 are exempt from specification packaging, marking, and labeling, and are exempt from the provisions of § 173.393, if the following conditions are met:

(1) The materials are packaged in strong tight packages such that there will be no leakage of radioactive materials under conditions normally incident to transportation.

(2) The package must be such that the radiation dose rate at any point on the external surface of the package does not exceed 0.5 millirem per hour.

(3) There must be no significant removable radioactive surface contamination on the exterior of the package (see § 173.397).

(4) The outside of the inner container must bear the marking "Radioactive."

(b) Manufactured articles such as instruments, clocks, electronic tubes or apparatus, or other similar devices, having radioactive materials (other than

liquids) in a nondispersible form as a component part, are exempt from specification packaging, marking, and labeling, and are exempt from the provisions of § 173.393, if the following conditions are met:

(1) Radioactive materials are securely contained within the devices, or are securely packaged in strong, tight packages, so that there will be no leakage of radioactive materials under conditions normally incident to transportation.

(2) The radiation dose rate at four inches from any unpackaged device does not exceed 10 millirem per hour.

(3) The radiation dose rate at any point on the external surface of the outside of the package may not exceed 0.5 millirem per hour. However, for exclusive use shipments only, the radiation at the external surface of the package or the item may exceed 0.5 millirem per hour, but must not exceed 2 millirem per hour.

(4) There must be no significant removable radioactive surface contamination on the exterior of the package (see § 173.397).

(5) The total radioactivity content of a package containing radioactive devices must not exceed the quantities shown in the following table:

Transport group	Quantity in curies	
	Per device	Per package
I.....	0.6001	0.001
II.....	.001	.05
III.....	.01	3
IV.....	.05	3
V or VI.....	1	1
VII.....	25	200
Special form.....	.05	20

(6) No package may contain more than 15 grams of fissile material.

NOTE 1.—For radioactive gases, the requirement for the radioactive material to be in a nondispersible form does not apply.

(c) A manufactured article, other than reactor fuel elements, in which the only radioactive material is metallic natural or depleted uranium or natural thorium or alloys thereof, is exempt from specification packaging, marking, and labeling, and is exempt from the provisions of § 173.393, if the following conditions are met:

(1) The radiation dose rate at any point on the external surface of the outside container does not exceed 0.5 millirem per hour;

(2) There must be no significant radioactive surface contamination on the exterior of the package. To determine whether "significant," the standard in § 173.397 must be used.

(3) The total radioactivity content of each article must not exceed 3 curies.

(4) The outer surface of the uranium or thorium is enclosed in a non-radioactive, sealed, metallic sheath.

NOTE: Such articles may be packagings for the transportation of radioactive materials.

(d) Shipments made under this section for transportation by motor carriers are exempt from Part 177, except § 177.817, of this chapter.

(18 U.S.C., secs. 831-835; secs. 6 and 9, Department of Transportation Act (49 U.S.C. 1655 and 1657); title VI and sec. 902(h), Federal Aviation Act of 1958 (49 U.S.C. 1421-1430, 1472(h) and 1655(c))) [Amdt. 173-3, 33 FR 14925, Oct. 4, 1968, as amended by Amdt. 173-90, 39 FR 45241, Dec. 31, 1974].

