regulations by the addition of the phrase "and may include signals to identify the broadcast material of its source as follows:

§ 73.682 Transmission standards and changes.

* * * * *

(a) * * *

(21) The interval beginning with line 17 and continuing through line 20 of the vertical blanking interval of each field may be used for the transmission of test signals and cue and control signals, subject to the condition and restrictions set forth below. Test signals may include signals used to supply reference modulation levels so that variations in light intensity of the scene viewed by the camera will be faithfully transmitted, and signals designed to check the performance of the overall transmission system or its individual components. Cue and control signals shall be related to the operation of the television broadcast station and may include signals to identify the broadcast material or its source. Figures 6 and 7 of § 73.699 identify the numbered lines referred to in this subparagraph.

* * * * *

[FR Doc. 78-29748 Filed 10-20-78; 8:45 am]

[4910-60-M]

DEPARTMENT OF TRANSPORTATION

Materials Transportation Bureau

[49 CFR Part 192]

[Docket No. PS-54; Notice No. 1]

TRANSPORTATION OF NATURAL AND OTHER GAS BY PIPELINE

Joining of Plastic Pipe

AGENCY: Materials Transportation Bureau, DOT.

ACTION: Notice of proposed rulemaking.

SUMMARY: The Materials Transportation Bureau (MTB) proposes to amend its regulations, relating to qualifying procedures and personnel to make all types of joints used with plastic pipe, including heat fusion, solvent cement, adhesive, or mechanical joints. Accident reports filed with the MTB in recent years indicate that many pipeline operators have not established effective procedures for properly joining plastic pipe, have not trained construction personnel, or performed effective inspection of construction to insure that plastic pipe is properly installed and joined. The regulations are intended to reduce the potential for accidents as a result of poor workmanship in making joints.

DATE: Interested persons are invited to submit written comments on this proposal before December 15, 1978. Late filed comments will be considered to the extent practicable.

ADDRESS: Communications should refer to the docket and notice, and should be sent to: Docket Branch, Materials Transportation Bureau, Department of Transportation, Trans Point Building, 2100 Second Street SW., Washington, D.C. 20590.

FOR FURTHER INFORMATION CONTACT:

Paul J. Cory, 202-426-2392.

SUPPLEMENTARY INFORMATION: Individual accident reports, Form DOT F 7100.1 (Leak Report—Distribution System), submitted to the Materials Transportation Bureau (MTB) by gas pipeline operators over the past several years, as well as the National Transportation Safety Board (NTSB) reports of accidents that occured at Fort Worth, Tex., October 4, 1971, and Fremont, Nebr., January 10, 1976, have indicated that many pipeline operators have not established effective procedures for properly joining plastic pipe, have not trained construction personnel, or performed effective inspection of construction to insure that plastic pipe is properly installed and joined.

In an NTSB report NTSB-Par-72-5 titled "Pipeline Accident Report, Lone Star Gas Co., Fort Worth, Tex., October 4, 1971," NTSB found that improper joint fusion due either to overheating or joint disturbance before setting was partially to blame for the failure. The Fort Worth failure occurred in a plastic service line where the service line was connected by heat fusion to a service saddle that had previously been fused to the gas main. The conclusions to this report stressed, in part, the following:

(1) The plastic gas distribution system which suffered failures in this area was installed improperly and was not inspected during construction.

(2) The plastic service connection was weakened additionally by improper fusion and by an incorrect reinforcing sleeve. The connection failed under the stress applied to it by the rainsoaked, heaving soil.

The investigation of this accident revealed that in the area near the failed joint responsible for the explosion and fire, there were four other leaks that resulted from similar failures on other service connections in the joint between the plastic service saddle and the plastic pipe.

In NTSB Report No. NTSB-Par-76-6, titled "Pipeline Accident Report, Nebraska Natural Gas Co., Pathfinder Hotel Explosion and Fire, Fremont, Nebr., January 10, 1976," NTSB indicated that the plastic pipe installation was made with an insufficient allowance for the expansion and contraction of plastic material due to temperature changes, and that a compression coupling was improperly installed.

The Fremont failure resulted from the forces of thermal contraction in a 348-foot length of 2-inch plastic pipe that had been inserted through a leaking 4-inch steel gas main during warm weather without proper allowance being made for the contraction that takes place in cold weather.

Conclusions to this report stressed, in part, the following:

(1) The pipeline was not designed and installed so that the tie-in compression coupling would sustain the longitudinal pull or the thrust forces which were caused by the pipe's contraction within its 4-inch steel casing.

(2) The pipe was not installed in accordance with several important manufacturer's recommendations and the quality of workmanship at the tie-ins was marginal.

NTSB has made the following specific recommendations as a result of these two incidents:

BSTS-P-72-63: Undertake a study in the field of heat fusion of plastics and, as a result of that study, issue regulations for the heat-fusion welding of plastic piping systems in 49 CFR Part 192, Fusion Welding, in as much detail as is contained in the existing welding specifications for steel piping systems.

BSTS-P-76-43: Study the plastic-to-steel transition problems and take appropriate regulatory action to correct any unsafe practices.

An MTB sponsored contract study, DOT/OPS-75/07, "Pipeline Industry's Practices Using Plastic Pipe in Gas Pipeline Facilities and the Resulting Safety Factors," conducted by Toups Corp., of Santa Ana, Calif., repeatedly stresses that poor workmanship in making joints is one of the major causes of plastic pipeline failures. Toups review of MTB accident records and the response to a questionnaire sent be Toups to pipeline operators support this position. This study further indicates that four basic factors contribute to the problem of poor workmanship in joining plastic pipe: Absence of effective procedures, not following procedures even in those cases when procedures were in existence, inadequate training of construction crews regarding joining procedures, and inadequate field inspection of joints. The amendment proposed by the notice addresses each of these factors.

Effective procedures. Procedures and tools for joining plastic pipe have continually been improved since plastic pipe was first used over 40 years ago. Currently available procedures and tools will produce satisfactory plastic pipe joints by utilizing the various types of joining techniques developed

by the plastic pipe manufacturers and fitting manufacturers if the procedures are appropriately applied and carefully followed. To produce consistently sound joints, procedures must cover details such as, joint preparation, alinement, equipment condition, time limits, temperature, and force applied. Because of the importance of covering such details, it is imperative that a proper testing method be used to qualify each joining procedure to be used in producing plastic pipe joints.

The current standards in Part 192 relating to the effectiveness of joining procedures are written in performance terms in § 192.273 (a) and (b) and § 192.281(a). Under § 192.281(a), each plastic pipe joint must be made in accordance with written procedures that have been proven by destructive burst test to produce joints at least as strong as the pipe being joined. Sections 192.273 (a) and (b) require that joints must sustain longitudinal pull out and thrust forces and be gas tight. Part 192 does not describe, however, either the characteristics of the test to be used or how test results are to be evaluated in determining whether a joining procedure is effective in meeting the performance objectives. Thus, the current standards leave to the operator's judgment the testing and proof needed to qualify procedures to produce joints as strong as the pipe or sustain pull out or thrust forces. As a consequence, the use of different test methods can produce different test results. Because of this variation, MTB believes that a standard test method and standard for evaluating test results are needed in Part 192 to qualify procedures for each type of plastic pipe joint.

In this regard, MTB believes that Part 192 should be amended to require that joining procedures be qualified for use by both burst tests and tensile pull tests. The present performance requirement regarding a burst test in § 192.281(a) would be revised to require burst testing in a manner similar to that provided by ASTM D1599-74, "Standard Method of Test for Short-Time Rupture Strength of Plastic Pipe, Tubing, and Fittings." This testing consists of applying a steadily increasing internal hydraulic pressure to the piping being tested at a controlled rate of pressure increase such that failure occurs between 60 and 70 seconds from beginning the application of the pressure. The ASTM test method includes such details as temperature control and conditioning, pressure control, timing devices, pipe specimen dimensions, and preparations.

Consistent with the existing performance language in § 192.281(a), MTB also proposes that the following criteria be used to evaluate the test results: If rupture occurs in the pipe and not in the joint, the joint is qualified; if the failure involves the joint in any way, the joint is unacceptable.

At present, the ASTM D1599 is used by industry to establish quality control during manufacture of pipe or for procurement specifications. However, if this ASTM test is adopted as a standard burst test under Part 192, it would be used to determine whether joining procedures will produce joints that resist hoop stress as well as the pipe being joined. Because both the purpose and criteria for evaluating the results of the ASTM burst test would be different under Part 192 than in current usage, the test is modified in the proposal by eliminating the determination of the stress at which failure occurs.

The accident at Fremont, Nebr., resulted in part from improper installation of a compression coupling. This failure focused MTB's attention on the fact that a standard test was not available to determine the capability of a joining procedure to produce a plastic pipe joint that would satisfactorily resist a longitudinal stress as required by § 192.273(a).

Subsequently, the Plastic Pipe Institute (PPI), a research group sponsored by plastic pipe manufacturers, and the ASTM F-17.60 Gas Piping Systems Subcommittee, who are responsible for development of standards for the use of plastic pipe in gas piping systems, combined to develop a test method for use in demonstrating the capability of any type of joint used in plastic natural gas piping to resist longitudinal forces due to thermal contraction and expansion.

Approval was given by ASTM on September 21, 1978, to add the proposed test method on an interim basis to ASTM D2513-75b "Standard Specification for Thermoplastic Gas Pressure Pipe, Tubing, and Fittings." The following is excerpted from this revision;

EM8.14 CATEGORIZATION OF MECHANICAL JOINTS

This method of test provides a uniform procedure by which the gas engineer can qualify or categorize short-term pullout resistance of mechanical joints. The apparatus, conditioning, and report shall be as specified in Method D-638-77a (see ASTM Handbook 35). The speed of the testing shall be 5 (mm ±0.20 inch) per minute + 25 percent (speed B). Five specimens shall be prepared following the manufacturer's fabrication procedures. Length of the specimen shall be such that the distance between the grip of the apparatus and the end of the stiffener is at least five times the nominal o.d. of the pipe size being tested.

Start the machine. Pull until pipe or tubing yields to an elongation of 25 percent or is pulled from fitting. Length of yield is to be ascertained over a 50 mm (2 inch) span. Specimens that fail at the grips should be retested using new pipe or tubing. If pipe or tubing pulls from fitting, the lowest of the five values shall be used in design calculations for stress * * *.

Results obtained from the above method pertain only to the specific outside diameter, wall thickness and resin of the pipe or tubing used in the test.

The Method ASTM D683-77a, "Standard Test Method for Tensile Properties of Plastics," referenced in section EM8.14, provides for determination of the tensile properties of plastics in the form of standard test specimens when tested under defined conditions of pretreatment, temperature, humidity, and testing machine speed. The apparatus referred to in EM8.14 includes the testing machine and tools needed to perform the testing operation. The conditioning referred to is the procedure for control of the termperature and humidity at which testing is to be done.

The ASTM test procedure is being issued in ASTM D2513 as a pull test for use with mechanical fittings. MTB is proposing that this method be used to qualify joining procedures for all types of joints in plastic pipelines transporting gas within the scope of Part 192.

TRAINING AND QUALIFICATION OF PERSONNEL

At present, Part 192 has no requirements for qualifying personnel to make plastic pipe joints. As mentioned previously, leak reports filed with MTB and NTSB accident investigations have pointed out the need for improving the reliability of plastic pipe joining personnel. One of the major points stressed by the study done for MTB on the use of plastic pipe in gas systems was that even when procedures were properly established, they were often not followed by those doing the work. Thus, not only is there a need for qualifying proposed procedures, but there is also a need for qualifying the persons who are actually carrying out those procedures. As a result, MTB is also proposing that Part 192 be amended to require that persons who join plastic pipe be trained and qualified under the same testing procedure used to qualify the joining procedure.

INSPECTION

There are basic differences in the four types of joints and joining procedures used on plastic pipe (i.e., adhesive, fusion, solvent cement, and mechanical joints). Thus, persons making inspections of joints as required by § 192.273(c) need to have a thorough knowledge of each type of joint to be inspected including the procedure by which a joint is made. To make their qualification mandatory, MTB is proposing that a new standard be adopted to require that persons who perform

joint inspections be qualified by training or experience in making the type of joint being inspected. MTB has determined that this document does not contain a major proposal requiring preparation of a regulatory analysis under DOT procedures.

It is proposed that Part 192 of Title 49 of the CFR be amended as follows:

§ 192.281 [Amended]

1. By deleting the first sentence in § 192.281(a).

2. By adding a new § 192.283 to read as follows:

§ 192.283 Qualifying plastic pipe procedures and personnel.

(a) Written procedure required by § 192.273(b) for making plastic pipe joints must be qualified by testing in accordance with paragraph (c) of this section.

(b) An operator may only use a person to make plastic pipe joints who has demonstrated his capability to make sound joints by—

(1) Appropriate training or experience in the joining procedure to be followed;

(2) Making within the preceding 12 months, five consecutively made test joints that have been tested and found acceptable in accordance with each test method required in paragraph (c) of this section for the joining procedure to be followed; and

(3) Having in his possession a certificate signed by an operator stating that the requirement of this paragraph for testing and training or experience has been met.

(c) Testing required by paragraphs (a) and (b) of this section must be performed as follows by a person who is familiar with the testing method and apparatus:

(1) Burst tests must be conducted in accordance with ASTM D1599 except that the burst stress need not be calculated. If as a result of these burst tests, failure occurs only outside of the joint area, the joint tested is acceptable.

(2) Tensile testing of all types of joints must be conducted in accordance with paragraph EM8.14 of ASTM D2513-75b, as amended September 21, 1978, except that a report is not required.

(d) The inspection required by § 192.273(c) for joints made on plastic pipelines must be performed by persons qualified by appropriate training or experience in following the procedure for the type of joint being inspected.

3. In Section II of Appendix A, by redesignating items (19) and (20) as items (20) and (21), respectively, and adding a new item (19) as follows:

APPENDIX A—INCORPORATED BY REFERENCE

* * * * *

(19) ASTM Specification D1599 "Standard Method of Test for Short-Time Rupture Strength of Plastic Pipe, Tubing, and Fittings" (D1599-74)."

* * * * *

4. By amending the Table Sections to include under Subpart F—Joining of Materials Other Than by Welding, the following section:

* * * * *

Section 192.283 Qualifying Plastic Pipe Procedures and Personnel

* * * * *

(49 U.S.C. 1692; 49 U.S.C. 1804; 49 CFR 1.53, App. A of Part 1, and App. A of Part 106.)

Issued in Washington, D.C., on October 18, 1978.

CESAR DELEON,
Associate Director for Pipeline Safety Regulation.

[FR Doc. 78-29870 Filed 10-20-78; 8:45 am]

[4910-59-M]

National Highway Traffic Safety Administration

[49 CFR Part 531]

[Docket No. LVM 77-03; Notice 4]

PASSENGER AUTOMOBILE AVERAGE FUEL ECONOMY STANDARDS

Proposed Decision to Grant Exemption

AGENCY: National Highway Traffic Safety Administration, Department of Transportation.

ACTION: Proposed decision to grant exemption from average fuel economy standards and to establish alternative standards.

SUMMARY: This notice is being issued in response to a petition by Checker Motors Corp. (Checker) requesting that it be exempted from the generally applicable average fuel economy standards of 19 miles per gallon (mpg) and 20 mpg for 1979 and 1980 model year passenger automobiles, respectively, and that lower alternative standards be established for it. This notice proposes that the requested exemptions be granted and that alternative standards of 17.6 mpg and 18.6 mpg be established for Checker for those model years.

DATE: Comment closing date: November 22, 1978.

ADDRESS: Comments on this notice must refer to Docket LVM 77-03 and should be submitted to: Docket Section, National Highway Traffic Safety Administration, Room 5108, 400 Seventh Street SW., Washington, D.C. 20590.

FOR FURTHER INFORMATION CONTACT:

Douglas Pritchard, Office of Automotive Fuel Economy Standards, National Highway Traffic Safety Administration, Washington, D.C. 20590 (202-755-9384).

SUPPLEMENTARY INFORMATION: Section 502(c) of the Motor Vehicle Information and Cost-Savings Act, as amended (the Act), provides that a low volume manufacturer of passenger automobiles may be exempted from the generally applicable average fuel economy standards for passenger automobiles if those standards are more stringent than the maximum feasible average fuel economy for that manufacturer and if the National Highway Traffic Safety Administration (NHTSA) establishes an alternative standard for the manufacturer at its maximum feasible level. Under the Act, a low volume manufacturer is one which manufactures less than 10,000 passenger automobiles worldwide in the model year for which the exemption is sought (the affected model year) and which manufactured less than 10,000 passenger automobiles worldwide in the second model year before the affected model year. In determining maximum feasible average fuel economy, the agency is required by section 502(e) of the Act to consider:

(1) Technological feasibility;
(2) Economic practicability;
(3) The effect of other Federal motor vehicle standards on fuel economy; and
(4) The need of the Nation to conserve energy.

To implement section 502(c), NHTSA issued Part 525, Exemptions from Average Fuel Economy Standards (42 FR 38374: July 28, 1977). Part 525 prescribes the contents of exemption petitions and sets forth the procedures for processing those petitions. After receipt of a complete petition, the agency publishes a notice of receipt which summarizes the petition and invites comments on it. Subsequently, the agency publishes a proposed decision to grant or deny the petition and provides a further opportunity for comment. Finally, the agency publishes a final decision to grant or deny the petition.

Checker originally filed an incomplete petition in September 1977 for exemption from the generally applicable standards for the 1979 and 1980 model year passenger automobiles. After obtaining further information on these automobiles from Checker, NHTSA issued a notice announcing receipt of a complete petition for exemption from the model year 1978-1980