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U. S. DEPARTMENT OF TRANSPORTATION  
Washington, D. C. 20590

Statement of Alan S. Boyd, Secretary of Transportation  
Before the Senate Committee on Commerce on  
S. 1166, April 19, 1967

Mr. Chairman, Members of the Committee:

I am Alan S. Boyd, Secretary of Transportation. I am here in support of S. 1166, a vitally needed bill which would authorize the Secretary of Transportation to prescribe safety regulations for the transportation of natural, manufactured, and other flammable gas by pipeline. The bill applies to gathering, transmission and distribution facilities.

One of the most important functions of Government, if not the most important, is protecting the life and property of its citizens. The Congress recognized this vital responsibility as far back as 1893 with adoption of the first Federal railroad safety appliance act when one out of every 88 railroad employees was being killed on the job. We have come a long way in three-quarters of a century. The Federal Government now exercises extensive authority with respect to railroad, truck, bus, automobile, aviation, highway, and marine safety. It regulates the safe transportation of explosives and other dangerous articles, moving in all modes of transportation, including all pipelines except natural gas and water. Congress saw the need in 1965 to give the Interstate Commerce Commission safety jurisdiction over pipelines transporting dangerous

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articles, except natural gas and water, by enactment of a bill which became Public Law 89-95. The need for safety jurisdiction over natural gas pipelines is even greater because these pipelines travel into towns, cities, and other areas of concentrated population where the potential danger of catastrophe is greatest.

The Federal Power Commission is authorized only to investigate transmission pipeline accidents, to gather and analyze statistics on the causes of transmission pipeline accidents, to report its findings to Congress and the public, and to impose safety conditions in certificates of public convenience and necessity issued for new pipeline construction.

The Federal concern for transportation safety is not new, Mr. Chairman. An overall Federal role for DOT has already received the encouragement of the Congress. During the hearings last year on the bill to establish a Department of Transportation, it was recognized "that transferring safety functions in all modes of transportation to the new Department will yield more future dividends in accident prevention and safety progress than leaving these functions distributed among the regulatory commissions." H.R. Rep. No. 1701, 89th Congress, 2d Session 9 (1966). As the report states, "safety is a key organizational feature of the new Department." Chairman White of the Federal Power Commission recognized in his testimony on a similar bill in the 89th Congress, S. 1553, that "should the new Department ultimately be established, it may be that it would make

sense to consider consolidating this authority (as to natural gas pipelines) at that time."

The new Department will give safety the prime importance and attention it deserves. The toll of human life and the economic consequences of accidents are so great that the Government must fully utilize its authority in an effort aimed at eliminating this human tragedy and economic waste. The Department will benefit from experience gained in dealing with the many common elements involved in promoting safety. It will improve investigative techniques and procedures by applying the lessons learned in one mode to problems in another. Today's environment calls for patient exploration, deep technical expertise, and painstaking inquiry free from distracting, partisan influences.

The Department will endeavor to meet these goals in safety regulations of other modes, and I am convinced we should have an opportunity to do so in gas pipelines.

As Senator Monroney pointed out on August 29, 1966, in the hearings on S. 1553, "legislation of this nature has a long history in the Congress." It is apparent that there is a continuing interest in the matter. Unlike other modes of transportation, the pipeline is rarely seen, if, indeed, its existence is even known to those on the surface of the ground until farm or road building equipment ruptures a line resulting in possibly a fire or explosion.

Gas pipelines traverse land subject to multiple uses, occupy common rights-of-way with other utilities, and approach and underlie areas of expanding population density. The use of land changes. What today is a peaceful farm is tomorrow a bustling community with people not realizing that the high pressure gas transmission pipeline practically under their feet was built when the land was used for farming. Usually, there is no reduction of pressure after the land becomes populated and there is no overall safety check of the pipeline to see if it is safe for an operation in a populated area. This is true in many parts of the country and it is becoming increasingly so. In many places, pipeline design, construction, operation, and maintenance is subject to no public scrutiny.

Natural and related forms of gas are transported through an 800,000 mile network of pipelines in diameter, up to 42 inches, at pressures up to 1,300 pounds per square in. or 90 times atmospheric pressure. Over 500,000 miles are in the distribution system. Any failure of a pipe may cause large amounts of gas to be released to the atmosphere in a relatively short period of time. Gas thus escaping which is mixed with air may ignite and burn, or explode. The area affected can be very large depending on such variables as the gas pressure, size of the pipe, and the size of the break. When it burns, the gas can reach temperatures of 2500<sup>o</sup> F. According to the 1966 survey by the Federal Power Commission, which this Committee caused to be printed, the casualty rate for accidents involving 30-inch pipe is more than 6 times as great as 20-inch pipe.

In addition to such factors as the diameter and pressure of the pipe, population density has an important bearing on the potential dangers associated with pipeline failure. As the built-up areas of our cities and towns expand, the problem of population density near transmission lines and especially near distribution lines, accelerates since much of this pipe was laid years ago to specifications designed for unpopulated areas. The danger of injury or death is obviously greater where the population density is great.

Safety of distribution lines is a vast unknown. Distribution systems have been in existence for many years and much of the original pipe is still in use even though it is now 30 or 40 years old. There is no readily available information concerning past accidents in distribution systems as there is with transmission pipelines. However, in the first few months of this year, there have been at least five major accidents in distribution systems which I would like to briefly mention. On January 13, there was a fire which destroyed an entire block in Queens, Long Island, in which 7 people were injured. On February 19, there was an explosion in a rehearsal hall in South Milwaukee, Wisconsin, where 250 people had been located just 20 minutes prior to the explosion, 14 people were injured. On February 27, in Hastings, New York, one person was killed and 15 injured and 35 families left homeless. On March 14, a crack in a main located in Logansport, Indiana, caused a blow-up leaving 8 injured. The most recent accident

to our knowledge occurred in Forth Worth, Texas. A gas main failed during a test, resulting in a blow-up in which 12 were injured.

How many major accidents have occurred in past years and how many minor ones this year is pure conjecture, but this emphasizes the need for safety jurisdiction over distribution lines to help prevent accidents of the type I have related.

The age of pipe is definitely a factor in the likelihood of pipeline failure with resulting death and injury. This is not because age in itself causes deterioration of the pipe, but because older pipe was not as protected from the effects of corrosion as modern techniques permit. The FPC survey, referred to previously, indicated a significantly higher rate of failure in pipe laid before 1932 than in pipe laid more recently.

I have mentioned the authority in the Federal Power Commission to investigate pipeline accidents, to gather and analyze statistics on the causes of pipeline accidents, and to report its findings to the Congress and the public. While it can impose safety conditions in the certificates it awards, such authority does not reach the problem at hand. The Commission cannot exercise continuing regulation over all aspects of safe pipeline operation. There is no authority over the design and construction of pipelines and no authority over the continued safety of pipelines once they are in the ground. Of course, there is no authority whatsoever over gathering and distribution lines.

While the Department of Transportation Act has transferred broad transportation safety regulatory powers, including those related to all pipelines other than natural gas and water, it is the natural gas pipeline that is our concern today; it is not covered by the Act.

As population density increases in many areas of the country, and the mileage of gas gathering, transmission, and distribution lines increases to meet growing demands, the absence of effective safety regulations for gas pipelines stands as a glaring exception to the efforts of Congress and the Administration to insure that all modes of transportation will function in a manner which protects the public interest in the area of safety.

The industry has made progress in the safety of natural gas pipelines. The guide and standard for most of the industry's safety effort is the Code of the American Standards Association (now the USA Standards Institute) for Pressure Piping "Gas Transmission and Distribution Piping Systems" USASI B31.8 - 1963. This is a voluntary Code providing a consensus of informed engineering judgment as to minimum construction safety standards. While it has been adopted by more than 40 states, the level of enforcement varies widely. The Code, ~~which~~ ~~is an application to gathering and distribution lines~~ is weak in a number of respects. Our technical staff has made an evaluation of the Code as a basis for safety regulation, and I have included this study as an

appendix to my statement. The main weakness is the fact that the Code has very little application to pipe already in the ground. While we understand an amendment is in process, there are at present no provisions for retesting existing facilities to find out if they are adequate for the pressure at which they are operating and there are no provisions for reducing the pressure on lines as population around these lines increases.

The provisions for cover over buried pipelines are weak with no requirement for extra cover under highways, railroads, or rivers. There is no mention of line markers to designate the exact location of lines even though the FPC safety report found the *greatest single cause* of line failures was ~~caused~~ by equipment rupturing buried lines.

With respect to operating and maintenance practices, it does not attempt to prescribe definite procedures and standards, but merely recommends that companies following the Code establish their own standards for certain operations having a bearing on safety. In this connection, it states, "Because of many variables, it is not possible to prescribe in a national code a set of operating and maintenance procedures that will be adequate from the standpoint of public safety in all cases without being burdensome and impractical in some." In fact, there is considerable variance between the programs pursued by different pipeline companies to reduce the hazards involved.



In addition, the Code has no legally binding effect. It is formulated under a procedure by which any substantial segment of the industry can prevent the adoption of a particular safety standard.

The procedures for revision of the Code are extremely time consuming. The time required for a revision can be two years or more. This time lag is too great where safety to the public is concerned.

The majority of the States which regulate natural gas pipelines use the USASI Code as a basis because of insufficient staff and resources for developing their own standards. A few states, however, have added stricter safety standards and strengthened certain provisions in the industry code. But, this has not served to produce adequate safety standards, particularly as to older pipe.

Thus, in spite of the efforts made by the States, there are still large gaps in the public safety requirements especially where states have no safety regulations at all, or where state safety regulations apply only to intrastate lines. Most State safety regulations do not apply to pipe already in the ground.

The Federal Government shares with the States and the industry the goal of providing the American people the most efficient and reliable use of gas consistent with the safest possible operation of natural gas facilities. Federal safety standards for gas pipelines are one of the important means for attaining these objectives. The public interest requires a Federal involvement in assuring that all reasonable steps have been taken to reduce the danger from unsafe pipelines as well as from the unsafe automobile, truck, ship, airplane, train, or oil pipeline.

At the same time, the efforts of the States should be encouraged. Federal regulation should not preempt the field but should be based on minimum standards which leave room for the States to establish higher standards when local circumstances require. More stringent regulations in the several States would not create undue hardship on pipeline companies. Moreover, the legislative history

involving the placing of safety for pipelines other than natural gas and water under the Interstate Commerce Commission indicates that the Commission's standards were not meant to preempt the field. We, therefore, see the role of the Department of Transportation as one of imposing minimum adequate standards/<sup>and</sup>of cooperating fully with the States in this area.

On the subject of cooperation, I might mention that we will cooperate fully with the States in other areas of transportation safety. For example, the Department is authorized to enter into cooperative agreements with the States as to highway safety enforcement; there is every reason for similar cooperation with the States and local interests in improving natural gas safety.

We therefore support, Mr. Chairman, the proposed legislation, S. 1166. It would place responsibility for gas pipeline safety in the Secretary of Transportation. Thus, both oil and gas pipeline safety would be in the same agency, permitting savings in manpower and the benefits of an exchange of ideas from two related technologies. Further, in the event that safety considerations between gas pipelines and other transportation modes come into conflict, the Department would be ideally equipped to resolve them.

This bill establishes Federal safety regulatory authority in this area by expanding sections 831-835 of Title 18, United States Code, to include gas pipelines. These sections cover oil pipelines and, by virtue of Section 6(e)(4) of the Department of Transportation Act, the issuance and enforcement of regulations to implement those sections have been entrusted to the Secretary of Transportation. Equal treatment would be accorded both oil and gas pipelines; both would be subject to Title 18.

The existing provisions of Title 18 authorize the issuance of broad regulations; but with respect to this new authority it should specify that Federal standards will extend to design, installation, inspection, testing, construction, operation, extension, replacement and maintenance of pipe. In this way, it will be clear that the standards are to be applied to pipe already in the ground. This does not mean that all existing pipe is to be torn up at great expense. The Department will be concerned with performance of existing pipe. Where it is inspected, operated, tested, and maintained in safe condition, the public interest will be protected and industry responsibility will be met. The bill before you recognizes the need for waivers or amendments where appropriate.

Recognizing the responsible character of the industry, we believe resort to criminal sanctions would be the exception, rather

than the rule. However, as with the other pipelines now subject to Title 18, noncompliance with the Secretary's standards could be punishable by fine and imprisonment.

The testing and inspection burden associated with enforcement of the Federal regulations will involve a substantial effort. However, we do not believe a giant policing force is necessary. Instead, the proposed legislation includes provisions for acceptance of certification of inspections by non-Federal agencies; provided, they are sufficiently independent of the pipeline companies whose facilities they inspect. In this way it should be possible to provide for effective enforcement without maintaining an unduly large staff.

I mentioned previously that the Code used by the industry is deficient concerning existing pipelines both in transmission and distribution systems. The American people must be assured that these lines are safe and that lines constructed today will remain safe throughout their useful life. To do this, if the Department is given the authority by enactment of this legislation, we propose a retesting program for existing lines and a more complete test of new lines after construction.

To insure that gas pipeline safety regulations will be appropriate and effective and that the most recent technological engineering and structural developments will be adequately evaluated, the Secretary should be given the authority to perform necessary research, development and testing. Similarly, he must have the authority to advise the Federal Power Commission of the safety of new materials, operations, devices and processes not described in the regulations. He must also be authorized to promptly qualify for use, after determining their safety characteristics, these new materials, operations, devices and processes.

The Secretary's safety regulatory authority, to the extent compatible with the overriding need for safety, must be exercised in a fashion which will not interfere with the Federal Power Commission's economic regulatory authority, or threaten interruptions in gas service to the consumer. Thus, the proposed legislation should include provisions for consultation with the Commission on proposed regulations relating to gas transmission and where the continuity of service might be affected, to afford the Commission the opportunity to grant authorizations necessary to avoid service interruptions. In addition, it is our firm intention, where appropriate, to fully utilize the USA Standards Institute and other research, development, and testing capabilities. I emphasize this

point to allay any fears that the Department will operate in a vacuum, disregarding what is wise and sound in the way of research and experience. In this regard, I might point out that the Secretary is required under Section 4(a) of the Department of Transportation Act to consult and cooperate with state and local governments, carriers, labor, and other interested parties. The declaration of Congressional purpose in Section 2(b)(1) of the Act is to the same effect. At the same time, the Secretary of Transportation will fully utilize his authority to determine what is best in the public interest in this vitally important area.

Enactment of the proposed legislation will enable the Department of Transportation to direct informed attention to all aspects of the pressing problem of pipeline safety. Moreover, it will centralize in one Agency responsibility for the safety of the Nation's transportation system. It is public interest legislation of pressing importance. I respectfully urge that the Congress enact this proposal promptly.

If we act now -- in the public interest -- we can greatly reduce the possibility of tragedy later.