

**Testimony of
Jim Hall, Chairman
National Transportation Safety Board
before the
Committee on Transportation and Infrastructure
Subcommittee on Economic Development, Public Buildings, Hazardous Materials, and Pipeline
Transportation
House of Representatives
Regarding
Pipeline Safety
July 27, 1999**

as presented | for the record
supporting graphics

as presented:

Mr. Chairman, I want to thank you and the Committee for inviting the National Transportation Safety Board to comment on pipeline safety issues and the performance of the Research and Special Programs Administration's Office of Pipeline Safety.

RSPA should play a crucial role in pipeline safety as the federal regulators in this area. It is their mission to protect the American people and the environment. They have failed in that mission - primarily because they have failed to respond aggressively to Safety Board pipeline recommendations. At 68.9 percent, RSPA has the lowest acceptance rate of any modal administration in the Department of Transportation. That statistic represents RSPA's failure to take measures which I believe would prevent future accidents, save lives, and fulfill their stated mission.

There are too many examples of this regulatory inaction. I believe that the accidents that I'll discuss today could have been prevented or their consequences reduced - if our recommendations had been accepted. The most recent example is the pipeline rupture in Bellingham, Washington, on June 10, 1999, that released approximately 250,000 gallons of gasoline. The gasoline flowed into Whatcom Creek which runs through a Whatcom Falls Park, a recreational area. The gas then ignited, resulting in three deaths, and substantial property and environmental damage.

Although our investigation is in its early stages, the long-standing safety issues which I'll also discuss today appear to be relevant to the Bellingham accident, based on our early investigation, and have been previously addressed in other NTSB accident investigations.

The first issue I want to address is pipeline integrity. In 1987, as a result of investigations into three pipeline accidents, the Safety Board recommended that RSPA require pipeline operators to periodically determine the adequacy of their pipelines to operate by performing inspections or tests capable of identifying, corrosion, mechanical damage, or other time-dependent defects that could be detrimental to the safe operation of pipelines.

Nine years later, in 1996, nearly a million gallons of fuel oil were released into the Reedy River near Fork Shoals, South Carolina when a corroded section of pipe ruptured. That same year, almost 500,000 gallons of gasoline were released into marshland and the Blind River near Gramercy, Louisiana when a damaged section of pipeline ruptured.

In the Bellingham accident, our investigators found indications of previous external damage that may have weakened the pipeline near the rupture. Yet, 12 years after our initial recommendation, no regulations require pipeline operators to perform periodic inspections or tests to locate and assess whether the type of damage that was found in the accidents I just mentioned, exists on other pipelines.

The second area I want to focus on is the lack of training for pipeline personnel. In 1987, after several accidents in which inadequate training of pipeline personnel was an issue, the Safety Board recommended that RSPA require operators to develop training procedures for their employees. Because of RSPA's inaction over the intervening years, inadequate training continues to be a factor in pipeline accidents. Three 1996 accidents provide ample evidence of the problem.

- In the Fork Shoals, South Carolina accident I mentioned earlier, the controller mistakenly shut down a pump station, failed to recognize his mistake, and continued to operate the pipeline and pump fuel oil through the ruptured section of pipe.
- In the Gramercy, Louisiana accident, the Safety Board found that the pipeline company's control center displayed alarms consistent with a pipeline failure; however, the controller did not associate the alarms with a possible pipeline leak until about an hour after the rupture. During this time, he continued to pump gasoline through the ruptured section of pipeline.
- In San Juan, Puerto Rico, a pipeline accident resulted in 33 fatalities and 69 injuries. Our investigation determined that the gas company's employees were not properly trained to survey, pinpoint, or test for pipeline leaks, and failed to locate a reported leak before the explosion occurred. Earlier that year, OPS awarded the Puerto Rico Public Service Commission safety program a rating of 97 - the highest possible rating for its compliance program.

Following the San Juan accident, in January 1998, the Safety Board recommended that RSPA complete a final rule on employee qualification, training, and testing within one year. That October, RSPA published a Notice of Proposed Rulemaking (NPRM) to require pipeline operators to develop a written qualification program for individuals operating pipelines. However, the NPRM fails to establish any training requirements; rather, it allows companies to evaluate performance using methods such as oral examinations and on-the-job observation. We are currently awaiting RSPA's final rule.

In the Bellingham accident, preliminary indications are that the pipeline controllers continued to operate the pipeline after it ruptured. We are in the process of determining what the circumstances were and how the controllers were trained to recognize and handle emergency conditions. However, we do know that there are still no mandatory training requirements. This is unacceptable. No segment of the transportation system should have untrained personnel operating safety-sensitive equipment - placing themselves and others at risk.

The third issue I want to address is one that the NTSB first identified some 29 years ago - the need for rapid shutdown of failed pipelines in order to limit the release of product following a pipeline rupture. The increased use of automatic and remotely controlled valves to reduce the consequences of pipeline failures was discussed in our 1970 study, *Effects of Delay in Shutting Down Failed Pipeline Systems and Methods of Providing Rapid Shutdown*. Since then, there have been a number of other accidents which highlight the need to reduce the release of hazardous gases or liquids.

In 1986, in Mounds View, Minnesota, gasoline spewed from a pipeline and flowed down a city street before igniting and seriously burning three people, two of whom later died. The Safety Board found that the pipeline operator could not promptly stop the release of gasoline, which greatly contributed to the magnitude of the loss suffered by the community. In 1994, in Edison, New Jersey, a high-pressure natural gas pipeline exploded; a massive fire ensued which then ignited several building roofs in an apartment complex. The Safety Board again found that the inability of the pipeline operator to promptly stop the flow

of natural gas contributed to the devastation. The following year, the Safety Board recommended that RSPA expedite requirements for rapid shutdown of failed pipeline segments on high-pressure pipelines in urban and environmentally sensitive areas. RSPA continues to study potential technological applications to rapidly shut down pipelines; however, it still does not require these systems. Despite RSPA's inaction, several of the more progressive pipeline companies have voluntarily installed shut-off valves.

Following the Bellingham accident, RSPA ordered the pipeline company to install an automatic check valve just downstream of the rupture location so that the volume of product released would be limited in the event of a future pipeline rupture in that area. A case of too little - too late.

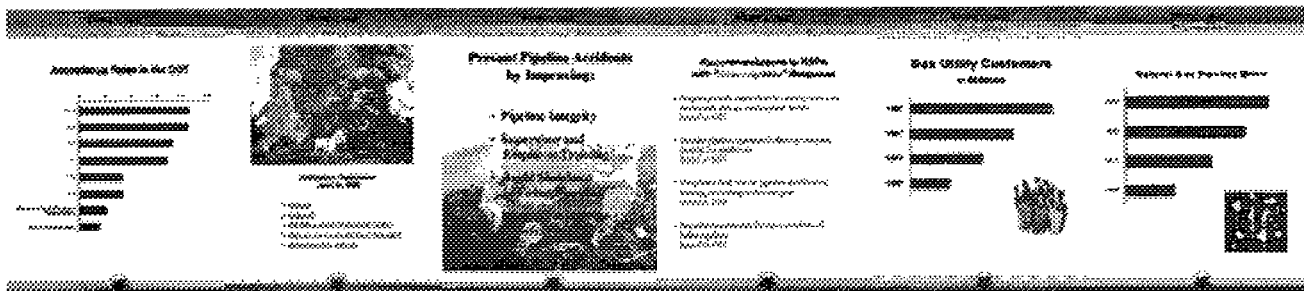
Finally, there is one area in which RSPA has responded to Congressional action - excavation damage prevention. As you may know, Mr. Chairman, excavation damage is the leading cause of pipeline accidents. And, excavation damage prevention is on the Safety Board's Most Wanted list. Just last month, at the request of Congress, RSPA held a joint symposium on excavation damage with the Safety Board and sent a report to Congress on best practices for preventing damage to underground facilities.

However, RSPA still has more work to do in order to reduce the number of excavation damage accidents. At Bellingham, our investigators found several indicators of external damage in the vicinity of the rupture. That segment of the pipeline is now in our laboratory and we are closely examining it to determine what part excavation damage may have played in the rupture.

Mr. Chairman, let me close by saying that the RSPA Administrator has promised to be more proactive and to improve the Office of Pipeline Safety's responsiveness to our safety recommendations. However, as I've outlined, RSPA still has much to do. They must take more aggressive action to protect public safety and our environment.

Mr. Chairman, this concludes my testimony. I would be happy to answer the Committee's questions.

graphics presented:



for the record:

Good morning Mr. Chairman and Members of the Committee. I am pleased to represent the National Transportation Safety Board before you today to discuss pipeline safety issues. Because of Board activity over the past ten days, I have not had an opportunity to share this statement with the Board's other members and, therefore, the comments below do not have Board concurrence.

Before I begin, I would like to update the Committee on the status of the Safety Board's investigation of the pipeline rupture that occurred June 10, 1999, in Bellingham, Washington, that resulted in the release of approximately 250 thousand gallons of gasoline. The released gasoline flowed down a creek and ignited, resulting in three deaths as well as property and environmental damage. Safety Board investigators were

on-site for over a month because of several difficulties. Exposing and conducting an initial examination of the failed segment of pipe was complicated, because gasoline continued to seep from the failed pipeline and fueled lingering fires at the rupture site. In addition, the failed segment of pipe was within a water treatment plant yard.

The gasoline pipeline crossed directly underneath major water pipelines that supplied water to portions of the city and its surrounding areas. Because of the need by pipeline company and city officials to construct a temporary pumping station to bypass the damaged pumping station and allow the water pipelines to be excavated, excavation of the ruptured pipeline was delayed. Further, the ability to gather information from key pipeline company personnel was complicated because they declined to be interviewed by Board investigators. We have, however, collected a large amount of information, including the electronic data from the pipeline company's operating system, that will help us assess the conditions leading up to the accident.

The investigation is still in its early stages; however, we will closely examine the failed segment of the pipeline, the design and operation of the pipeline, the adequacy of pipeline company and federal inspection procedures, as well as the actions and training of the pipeline controllers.

I would now like to discuss general pipeline safety issues. As the Federal regulatory oversight agency for pipeline safety, the Research and Special Programs Administration (RSPA) plays a crucial role. It is the Board's view, however, that RSPA has not responded as aggressively as we and the American people would expect. RSPA's implementation rate of pipeline safety recommendations is 68.9 percent, the lowest acceptance rate of any modal administration in the Department of Transportation. We do not think this low percentage is a result of ill-conceived recommendations. In fact, the acceptance rate of our pipeline safety recommendations issued to the pipeline community as a whole is 86.9 percent.

RSPA's acceptance rate of Safety Board recommendations also reflects the tenuous relationship between our two agencies over the years. In an April 14, 1998, letter to Secretary Rodney E. Slater I stated: "... I am ... troubled by OPS' lack of concern and responsiveness to open pipeline safety recommendations issued by the Safety Board. OPS had not provided any written update on actions taken on some of these recommendations since 1992. In October 1997, the NTSB requested such an update on 28 recommendations in preparation for upcoming investigations reports. As of this date, we have received updates on only 7 of these recommendations."

We believe that RSPA's lack of action continues to place the American people at risk. Ms. Kelley Coyner, the new RSPA Administrator, has met individually with our Board members and has made a commitment to improve RSPA's response rate to Safety Board safety recommendations. As a result, we have seen improvement in some areas. However, we are still concerned about the lack of timely action on some much needed safety improvements, and we feel the areas listed below need improvement:

- pipeline integrity;
- training;
- corrosion protection;
- valve automation; and
- excavation damage prevention.

Pipeline Integrity

The continued operation of pipelines with integrity problems is a recurring issue in accidents investigated by the Safety Board. There are over 1.7 million miles of natural gas pipelines, and over 165,000 miles of liquid pipelines crisscrossing this country. A mechanism needs to be in place to find problems with these

pipelines before defects can grow to a critical size and result in catastrophic failure.

In 1987, as a result of investigations into three pipeline accidents (in Beaumont, Kentucky; Lancaster, Kentucky; and Mounds View, Minnesota), the Safety Board recommended that RSPA require that pipeline operators periodically determine the capability of their pipelines to safely operate by performing inspections or tests capable of identifying corrosion, mechanical damage, or other time-dependent defects that could be detrimental to the safe operation of pipelines. Since the Safety Board recommended this action, RSPA has been studying the issue, but has yet to reach any conclusions. Due to the length of time that has passed without final RSPA action, the Safety Board in June of this year classified its recommendation as "Open-Unacceptable Response."

In 1996, nearly a million gallons of fuel oil were released into the Reedy River near Fork Shoals, South Carolina, when a corroded section of pipe ruptured. Also in 1996, almost 500 thousand gallons of gasoline were released into marsh land and the Blind River near Gramercy, Louisiana, when a damaged section of pipeline ruptured. Both of these failures occurred at time-dependent damage locations.

In addition, the Safety Board is currently investigating two other pipeline accidents with potential pipeline integrity problems that occurred this year. One is the Bellingham, Washington, pipeline accident where we found indications of previous external mechanical damage in the vicinity of the rupture. The other occurred in February in Knoxville, Tennessee. Approximately 45,000 gallons of diesel fuel were released into the Tennessee River. In the Knoxville accident, we are also studying the effects of corrosion and metal fatigue on older pipe.

Training Of Pipeline Personnel

The Safety Board has long been concerned about the need to adequately train personnel in all transportation modes, including pipeline. In 1987, after several pipeline accidents in which inadequate training was an issue, the Safety Board recommended that RSPA require operators to develop training programs for pipeline personnel. After 11 years had passed since the recommendation was issued without final action, the Safety Board classified the recommendation as "Closed-Unacceptable Action."

However, inadequate training continues to be a factor in pipeline accidents. In the 1996 Fork Shoals, South Carolina, pipeline accident, the Safety Board found that pipeline controllers had been inadequately trained to recognize and handle emergency conditions. In that accident, the controller mistakenly shut down a pump station, failed to recognize his mistake, and continued to operate the pipeline after it ruptured. As mentioned earlier, this action resulted in the release of nearly one million gallons of fuel oil into the Reedy River.

On November 21, 1996, a pipeline accident in San Juan, Puerto Rico, resulted in 33 fatalities and 69 injuries. Our investigation determined that the gas company's employees were not properly trained to survey, pinpoint, or test for pipeline leaks, and failed to locate a reported leak before the explosion occurred. In January 1998, the Safety Board recommended that RSPA complete a final rule on employee qualification, training, and testing within one year.

In October 1998, RSPA published a Notice of Proposed Rulemaking (NPRM) to require pipeline operators to develop a written qualification program for individuals operating pipelines. Although the Safety Board was told that the rule would meet the intent of our recommendation, it does not. The NPRM does not establish training requirements for personnel. Rather, it allows a company to evaluate an individual's ability to perform tasks using such methods such as oral examinations, or observations of on-the-job performance.

As you are aware, Mr. Chairman, observation of on-the-job performance is a routine supervisory function.

The Safety Board believes that strong training and testing requirements are needed to ensure that employees can properly perform their tasks. Tests must be administered in conjunction with training so that an objective assessment can be made of the training's success. In January 1999, the Safety Board provided comments to RSPA on this rulemaking and again urged RSPA to amend its final rule to require that individuals be trained, that they be tested to assess the success of the training, and that they be periodically retrained and retested. In February 1999, the Safety Board classified its recommendation as "Open-Unacceptable Action," because the NPRM does not require adequate training or testing. At this point, we are still awaiting RSPA's final rule.

Corrosion Protection

The third area of concern I would like to discuss is the lack of adequate requirements for corrosion protection on pipelines.

The Safety Board investigated a pipeline accident that occurred in Lively, Texas, on August 24, 1996, that sent a butane vapor cloud into a residential area. The resulting fire killed two residents. The Safety Board concluded that the pipeline was inadequately protected from corrosion. In addition, the Safety Board identified weaknesses in federal regulations concerning corrosion protection, and in November 1998, we recommended that RSPA strengthen these requirements. For example, the Board recommended that RSPA provide performance measures so that one would know when an acceptable level of corrosion protection exists. Based on information provided in meetings by RSPA staff, we are encouraged that RSPA will soon take action on this issue.

Valve Automation

The fourth area I would like to discuss is the need to limit the release of product into the environment following a pipeline rupture. The increased use of valve automation to protect public safety and the environment by reducing the consequences of pipeline failures has been a long-standing concern of the Safety Board. We first addressed this issue 29 years ago in a study entitled *Effects of Delay in Shutting Down Failed Pipeline Systems and Methods of Providing Rapid Shutdown*.

Since then, there have been a number of additional accidents which have highlighted the need to reduce the release of product. On July 8, 1986, in Mounds View, Minnesota, gasoline spewed from a pipeline and flowed down a city street before igniting and seriously burning three people, two of whom later died. The Safety Board found that the pipeline operator could not promptly stop the release of gasoline.

On March 23, 1994, in Edison, New Jersey, a high-pressure natural gas pipeline exploded and a fire ensued. Heat from a fire then ignited several building roofs in an apartment complex. The Safety Board again found that the inability of the pipeline operator to promptly stop the flow of natural gas contributed to the severity of the accident. In February 1995, the Safety Board recommended that RSPA expedite requirements for rapid shutdown of failed pipeline segments on high-pressure pipelines in urban and environmentally sensitive areas. RSPA held a public workshop on this subject later in 1995, and they continue to study this issue. Although RSPA still does not require these systems, we are pleased that several pipeline companies have voluntarily put in valves that allow them to rapidly shut-down failed pipelines.

In an accident that occurred in May 1996 near Gramercy, Louisiana, it took the pipeline company approximately 4½ hours to manually close the valves on either side of a ruptured pipeline. Almost 500 thousand gallons of gasoline were ultimately released into the environment. In September 1998, the Board recommended that the pipeline operator evaluate and install a higher degree of valve automation into its pipeline system. The pipeline operator has advised the Safety Board that it is using risk management

principles to evaluate existing valves to automate. The company also plans to install this technology into a new pipeline that may run from Kenova, West Virginia, to Columbus, Ohio.

Mr. Chairman, this technology is available and is obviously being used. But we should not have to rely on the industry's altruism. RSPA needs to finally act to require the installation of these systems to limit the release of product from major pipeline ruptures before the next accident, the next environmental release, and the next death occurs.

Excavation Damage Prevention

As you may know, excavation damage is the leading cause of pipeline accidents. This issue was added to the Safety Board's "Most Wanted" list of transportation issues in 1997, and in December 1997, we published a study entitled *Protecting Public Safety Through Excavation Damage Prevention*. As a result, the Board issued 26 recommendations aimed at improving excavation damage prevention covering such areas as:

- technology to accurately locate and mark underground facilities;
- training and educating of excavation personnel;
- use of data to evaluate programs; and
- enforcement of damage prevention programs.

RSPA has taken some steps in excavation damage prevention. At Congress' direction, in June RSPA held a joint symposium on excavation damage with the Safety Board. In addition, it has forwarded to Congress a report on best practices for preventing damage to underground facilities. It is our understanding that RSPA will use the best practices to evaluate State damage prevention programs.

Closing

Let me close by saying that we are encouraged by commitments made by the new RSPA Administrator. She has advised she will be more proactive and will improve the Office of Pipeline Safety's responsiveness to our safety recommendations, and we look forward to better communications with RSPA regarding the Board's recommendations.

Mr. Chairman, this concludes my testimony. I would be happy to answer the Committee's questions.

[NTSB Home](#) | [News & Events](#) | [Chairman Hall's Speeches & Testimony](#)

**Remarks of Jim Hall, Chairman
National Transportation Safety Board
before the American Petroleum Institute
Annual Pipeline Conference
Dallas, Texas, March 14, 1997**

When George Persyn of Exxon invited me to address this Conference, I was pleased to accept because this is a good opportunity for me to speak to both liquid and natural gas pipeline operators on improving pipeline safety. Also, I was relieved about the timing of my presentation because my brother, who recently retired his position with a major pipeline; won't be here to heckle me.

Seriously, the timing for this presentation is good because major changes are occurring in the pipeline industry and the manner in which the industry addresses these changes will greatly affect both your and the Safety Board's actions in the future.

As you know, the National Transportation Safety Board is an independent federal agency that I have been privileged to lead for almost 3 years. We investigate all aviation accidents and all major accidents in the surface modes of transportation, as well as conducting safety studies on issues of national significance. From these, it makes recommendations to prevent recurrence of accidents. We are the eyes and ears of the American people at accident sites.

You are undoubtedly familiar with our ongoing investigations of ValuJet and TWA flight 800. Last November, we launched a team to investigate what has turned out to be the deadliest pipeline accident in the Safety Board's history, the natural gas explosion that killed 33 people in San Juan, Puerto Rico. Such catastrophes are doubly tragic if we do not learn from them and do all we can to make sure they don't happen again. That is the fruit of our recommendation process, and it is in that spirit that I come before you today to discuss pipeline safety.

To return to my opening thought about change, your industry has reacted well to change in the recent past. Once pipeline operators merely transported liquids and gases in the continental United States. Now you are a major factor in producing, as well as transporting, product that meets not only the nation's needs, but the needs of the world, as well. With recent mergers between pipeline operators and competitors like electric power companies, you are diversifying by providing multiple forms of energy.

Improvements in technology are also changing the way pipelines operate. Remote monitoring and control systems and more effective testing equipment have made your operations less dependent on labor and this has resulted in large restructuring of companies and a reduction in personnel. It is difficult to imagine what the next change might be, but you can be assured that this industry will continue to be transformed.

As an essential provider of fuels, chemical feed stocks, and now various energy resources, your industry has been highly regulated both for economic and safety reasons. You have argued for the need for greater flexibility to meet changing circumstances so you can make cost-effective economic and safety decisions that will allow you to use your operating and maintenance monies more wisely.

Last year your industry testified about this need and the Congress responded by enacting in both the liquid and natural gas pipeline safety acts provisions for you to incorporate risk management demonstration programs. Those who enter these programs would not have to comply with the Federal minimum pipeline safety standards, at least for those operations covered by the demonstration program. The ultimate goal of these demonstration programs would mean the end of Federal pipeline safety standards as we know them today. And that prospect has the pipeline industry excited.

First, let me note that I am puzzled about this so-called "new" opportunity. Risk management is not at all new. It has been practiced for many years by the military, the nuclear power industry, and even by some of the pipeline operators represented in this room. Its roots go back more than 30 years - back to the 1960s. The use of a risk based program for managing pipeline systems was first proposed by the Safety Board in 1972. The Board advocated that RSPA and the FRA, the two U.S. Department of Transportation agencies that then regulated pipeline safety, along with private industry develop and incorporate proven risk management principles into their operations. Specifically, the Safety Board asked the API to develop guidance for its members to establish such a program for controlling day-to-day hazards in both their operations and maintenance activities.

Unfortunately, at that time, not many in the industry seemed excited about the prospect of using risk management, not the federal pipeline regulatory agencies, not the pipeline associations, and not many of the pipeline operators. The Safety Board, however, continued to support the program. We believe that once the industry has become proficient in the use of risk management, its leaders will learn from their failures and our investigation of pipeline accidents.

While I am pleased that the industry is now excited about the government allowing you to incorporate risk management principles, understand that you have never been prohibited from using those principles. That is why Shell, Tenneco, and others have for years incorporated risk management into their operations. You did not then nor do you now need federal approval. Considering your present expectations of risk management for enhancing pipeline safety, just imagine how much progress might have been made had these principles been incorporated industry-wide since the 1970s.

Now that your industry has been successful in drawing the support of Congress and the Office of Pipeline Safety for replacing pipeline safety standards with risk management, I believe that you need to be aware of several concerns I have if you are to be successful in securing a place for risk management in the future for the pipeline industry. First, effective risk analysis standards must be developed. RSPA issued on December 9, 1996, its draft guidance document on performance measures for use in the pipeline risk management demonstration program. That document makes it clear that the performance measures included are only a beginning and that adjustments will be made based on program experience. It seems a little premature to be talking about performance measures for programs when there has been no guidance issued about the various types of safety, hazard assessment, or risk analyses, and no analysis conducted on their performance relative to their usefulness in evaluating pipeline systems.

Nor has guidance been developed on the manner and types of documentation that must be kept for review to assess the adequacy of the programs and their results. We need to develop

a method to gauge the success of the pilot programs.

Another concern you should have is the knowledge of your regulators when it comes to risk management principles. It is clear that the industry has the primary risk management experience and knowledge, and that the guidance and requirements now being developed are primarily the product of the pipeline industry. You may view this as a benefit now, but for you to have effective future interaction with your regulators it is to your advantage that they understand risk management. Knowledgeable regulators would prove an asset - providing independent and impartial assessments of your risk management programs. Their broad view of the program will most definitely be beneficial to you as an individual operator. On the other hand, inexperienced regulatory oversight of your risk management practices will be burdensome, consuming unreasonable amounts of review time and raising unnecessary criticism of the program. It is to your advantage to work closely with them and make sure they understand the structure of your program.

A third concern you should have, and one that is already evident, is the lack of public acceptance of a federally-approved risk management program option. People fear that such programs will relieve industry of having to adhere to basic safety standards. The demonstration program has not yet begun and already there is some fear that the relationship between the Office of Pipeline Safety and the industry is too close - that the program is a ruse designed to relieve the industry of its public safety obligations. No doubt an improperly run program could be just that, but with constructive industry effort and an effective regulatory body, the Safety Board sees this as an opportunity for enhancing public safety.

A properly operated and documented risk management program will make available for public scrutiny the hazard identification analyses, the risk assessments, the economic assessments, and the bases of decisions made by management to eliminate, reduce, or accept risks identified through quality assessments. It is essential that the analyses and decision processes employed be documented concisely to provide for effective federal compliance reviews.

The Safety Board is encouraged that finally there is movement to incorporate risk management principles into pipeline operations. When properly implemented, we believe it will be much easier for us to gain your acceptance of our safety improvement recommendations -- recommendations such as those dealing with the need for effective employee training programs and with the need to rapidly shut down failed pipelines, especially those that occur in densely populated areas.

Since 1969 the Safety Board has identified the need for improving employee training programs. Our first safety recommendation concerning employee training was for the Indiana Public Service Commission to determine the adequacy of training procedures being used by a gas pipeline operator. In the period from 1975 through 1986, the Safety Board addressed the need for improving employee training in more than 100 additional recommendations made to pipeline operators, industry associations, and to RSPA. Then on February 18, 1987, the Safety Board urged RSPA to require pipeline operators to develop effective training programs for their employees. Specifically, that recommendation called for training programs to provide the knowledge and skills needed for employees to correctly carry out all assigned safety-related tasks and that the effectiveness of the training be assessed through testing and other evaluation means.

RSPA promptly issued on March 23, 1987, an advance notice of proposed rulemaking

proposing to establish minimum training and testing standards for pipeline employees. It has now been 10 years since that proposal was issued and we still do not have minimum standards for training and testing pipeline employees. Instead, on June 25, 1996 the proposed rulemaking was withdrawn and the next day, RSPA announced that it would establish a committee to negotiate a rule. Three weeks ago, RSPA issued a notice of public meeting - it notes that an advisory committee will hold its first meeting on the 23rd and 24th of April, to address minimum training and testing standards. API is a member of this committee, and I urge you to take positive action and get the job done. It is well overdue.

The need for improved employee training continues to be identified as a critical factor in our accident investigations. The latest instance was the November 21, 1996, explosion at San Juan, Puerto Rico that I mentioned earlier, in which 33 people were killed and more than 80 were injured. Just two weeks ago, we issued recommendations calling for the operator to improve its employee training program. We believe that effective employee training programs will become even more important to public safety as newer technologies are introduced into your operations and as you downsize your staffs.

It makes good business sense to make certain that your employees know what is expected of them, that they are provided training adequate for them to fulfill their assignments, and that they understand how to carry out those assignments safely. Many operators understand that effective employee training is beneficial and have implemented training and even certification programs. I believe that through properly implemented risk management programs the industry will see the wisdom of having effective employee training programs even without government intervention.

We are disappointed in the lack of action on another important safety issue. Twenty six years ago the Safety Board recommended that RSPA conduct a study to develop standards on rapidly shutting down failed pipelines. The study was completed and the recommendation was closed, but no requirements were issued to implement the study's findings on improving ability of operators to rapidly shut down failed pipelines. We again addressed the need for improvements on shutting down failed pipelines in a 1987 recommendation, calling on RSPA to require the installation of remote-operated valves on liquid pipelines and to base their spacing on the population at risk.

The Congress also addressed the need for rapid shutdown for all pipelines that year, and on February 11, 1987, RSPA issued an advance notice of proposed rulemaking for the installation of remote and automatic valves. Two years later, it collected information from the pipeline industry on this issue. Ironically, while RSPA was reviewing the information it had collected, two major Safety Board investigations were documenting the consequences of not rapidly shutting down failed pipelines - the accidents on May 25, 1989 at San Bernardino, California and on March 13, 1990, at North Blenheim, New York. Nevertheless, on June 8, 1990, a rulemaking notice was issued stating that there did not appear to be sufficient justification for requiring the installation of remote- or automatic-operated valves.

The Congress disagreed. It required RSPA to conduct a study to determine whether remote- and automatic-operated valves were needed to enhance pipeline safety and to assess the cost and effectiveness of initiating a demonstration project on using emergency flow restricting devices. In March 1991, RSPA issued its study on emergency flow restricting devices and concluded that the only such devices that were technically feasible, effective and cost beneficial were remote-operated valves and check valves installed in offshore liquid pipelines

and in onshore liquid pipelines that were located in environmentally sensitive and populated areas.

However, the Safety Board identified serious flaws in the study. The Board believed that the study incorrectly limited the locations where such valves could be effective and on January 18, 1995, we called on RSPA to expedite requirements for installing automatic- or remote-operated valves on all high-pressure pipelines - both liquid and natural gas -- in urban and environmentally sensitive areas. No action has yet been taken.

We believe that effective risk management programs will result in industry voluntarily taking action on the installation of remote and automatic shutdown valves where pipelines traverse densely populated areas without a Federal requirement to do so. It will also promote other actions recommended by the Safety Board, such as:

1. The increased use of internal inspection equipment in pipelines that cross environmentally-sensitive and densely populated areas;
2. The use of pipe steels with greater toughness properties, especially in colder environments and in areas where excavation-caused damage potentials are greater; and
3. More effective supervisory control and data acquisition systems, complimented by leak detection systems, to aid controllers in recognizing quickly when product leakage has occurred and to assist in determining the approximate location of the release area.

These things will occur if the industry develops effective risk management programs. On the other hand, if the industry elects to use this opportunity as a ruse for avoiding compliance with present-day safety standards, then another scenario will evolve.

In this scenario there will be a few years in which the industry will save maintenance dollars by not performing the system maintenance and replacements that must be performed to maintain the system safely. The number of technicians and engineers employed by the industry will continue to fall. Employee knowledge will not be kept at the level necessary for safe operations. And then there will be a time of reckoning when a series of pipeline accidents with significant consequences will result in Congressional demands for a return to the days of uniform specifications for all pipeline operators. That's the regulatory posture from which you worked hard to free yourselves.

So I say to you in closing that your future is in your hands. Make it work for you and for improving pipeline safety, and not just you alone, but all Americans will be the beneficiaries.

If we believe you are acting in the best interests of the American people, the National Transportation Safety Board will support you every step of the way.

Thank you for inviting me.

###

[NTSB Home Page](#) | [Speeches and Testimony](#) | [Jim Hall's Speeches](#)

Remarks of Honorable Jim Hall
Chairman, National Transportation Safety Board
before the Association of Oil Pipe Lines
Washington D.C.
December 1, 1999

Thank you for inviting me to be here today. I appreciate the opportunity.

I have been Chairman of the NTSB now for five years - long enough, I hope, to have begun to understand what the government can do, and what the private sector must do, to keep transportation safe. And I think I have seen as well, the necessity of respecting the many singularities that differentiate the modes of transportation.

All transport is infrastructure, but some, like the highways and airways, depend on the government to build or operate critical components. And direct government regulation of speeds, or altitudes, or direction of travel is a central and accepted part of the backdrop. On the other hand, mariners ply lanes of travel made by mother nature, and the code for ships' captains, like the creed of river pilots, reflect not decades, but centuries of development -- of change and resistance to change. I can tell you there are some problems here.

Railroads travel largely over their own rights of way, nearly all in the private domain. NTSB investigators, if not secretly viewed as trespassers, are certainly newcomers to the scene.

It is not too many decades past that the Interstate Commerce Commission did accident investigations by delegating to the railroad itself the responsibility to reflect the circumstances of its mishaps. What appears now to be an inexplicably quaint approach actually reflected the fact that accidents typically occurred on private property and were of nearly invisible public consequence.

Times have changed. Cargo and capacities and the proximity of rails to spreading population have made the potential for a catastrophic hazardous materials collision a nightmarish potential that communities do disaster drills to prepare for.

And I can tell you, there are still some problems here.

But your industry too has folks concerned. Your lines carry energy, liquid and gaseous energy. As the population spreads, and as the demand for your services grows, capacity and proximity become compounding problems for you. And the products in your lines, if they escape, pollute and kill. Bellingham Washington is a tragedy. The next Bellingham could be a huge catastrophe as well. And if it happens, it will be a media event that will define your industry. Like *Exxon Valdez* and TWA flight 800, some names will become household. And rest assured, the manner in which pipelines are regulated will be changed irrevocably.

Recently, I read a letter from your association director, Ben Cooper, to Congressman Bob Franks. The letter was about the Bellingham, Washington rupture. Ben expressed a good deal of concern about the possibility of criminal prosecutions, employees taking the fifth, and the impact that all this has on the ability of the NTSB to do its business. Let us first remember that three young men lost their lives in that tragedy. Furthermore, we all know that harm to the environment is, to some, the defining crime of industrial society. And, we all know that there are in EPA dedicated staffers who will vindicate the public right to a clean environment at the drop of a drop of oil. And we all know that spills can be crimes,

without any argument over intent, without need for gross or willful behavior.

But it would be too facile to look at these circumstances and say that they explain fully why, when a pipeline ruptures, the initiation of a criminal investigation is as likely as not.

There is also the absence of a proactive regulatory environment, let me suggest shelter. A regulatory context that is comprehensive, progressive, proactive, and trusted by those whose interests it is meant to protect. There is nowhere today the sense that the Office of Pipeline Safety (OPS) is in charge.... or that its regulations, its inspections, its assets, its staffing, and its spirit, are adequate to the task. We at the NTSB have been asked too often, by communities, and courts, and citizen groups, to do jobs which are assigned by design to OPS to believe that trust in the Research and Special Programs Administration and OPS is deep and wide. It is otherwise. And you, as much as the government, are responsible for the deficiency.

NTSB is anxious to understand what happened at Bellingham. We are trying to examine the design and construction of the pipeline; we are looking at the equipment used; the operating systems; the inspection, testing and maintenance activities; excavation activities; and, of course, the controllers and their reactions. Progress has been slow. But to be frank, we will not be surprised to find that some of the factors in this accident reflect lessons that went unlearned. OPS does not have a good record of responding to NTSB recommendations, and industry influence has a great deal to do with this.

Ben Cooper told Congressman Franks that the operator in Bellingham is anxious to cooperate with the government in finding out what went wrong. But meaningful cooperation with the government goes well beyond helping the NTSB find the cause of an accident.

You must do your part to ensure that enlightened regulation ensures the safest of systems in the first place. For decades the Safety Board has called for achievable solutions to recurrent problems. Some examples include: 1) rapid shutdown of failed pipelines, 2) periodic inspection or testing of old pipelines, and 3) improved training of employees.

Pipeline industry reaction to these recommendations has often been tepid, if not hostile. Your opposition before Congress and the regulator has frequently been quite effective, but I believe very shortsighted. I am tempted to say I wish you as much luck with the judge and jury. Nature abhors a vacuum, even a regulatory vacuum.

But like you, I would prefer to avoid regulation through the courts. I recommend that you ask your lawyers to get you copies of the settlement agreements reached between the U.S. Attorney and the State's Attorney in Rhode Island and the operator who allowed an oil barge to break up on Point Judith. It was precise and expensive. Negotiated rulemakings may be all the rage for reaching acceptable arrangements with your regulators. Negotiated settlements in the face of criminal indictments are another thing altogether.

In 1995, at RSPA's reauthorization hearing, the Chairman of the General Committee on Pipelines of the American Petroleum Institute (API) opposed legislation being considered that would have required periodic inspection of pipelines by instrumented internal inspection devices. He suggested that the inspections would be extremely expensive.

At the same hearing, the Interstate Natural Gas Association and the American Gas Association urged Congress to deny OPS any increase in funding and they also opposed the use of smart pigs, excess flow valves, and certain operator training requirements.

Do you think these arguments are truly wise? If you do, think about them as they appear to a prosecutor, or an attorney structuring a punitive damage case. We do not see the name ValuJet much any more, but we remember it. And it is back in the news because of criminal proceedings, including manslaughter counts. You may not recall, but one of the truly unfortunate problems in the ValuJet crash was that the regulator did not do its job, though, of course, it remains unindicted. It is the private sector that will bear the judicial consequences of lax or absent regulation.

The Safety Board first addressed the need for remote closure valves 29 years ago in a study entitled *Effects of Delay in Shutting Down Failed Pipeline Systems and Methods of Providing Rapid Shutdown*. It only makes sense to have a safety mechanism that allows controllers to remotely isolate a failed section after a pipeline ruptures. I congratulate pipeline operators who have made the decision to install these valves. But their installation should have been mandated and regulated and, if it had been, questions about subsequent liability would be vastly simplified. The same can be said about the effective use of internal inspections. Ultimately, this will be a requirement of law. How much say you have in designing the requirement depends on the circumstances in which the requirement is imposed.

Using remotely controlled valves and reading internal inspections data depends on a competently trained and qualified workforce. But during the past four years, the Board has found, in every hazardous liquid pipeline accident investigated, that controllers failed to quickly identify that a rupture occurred. And, of course, since 1987, the Safety Board has been urging OPS to require strong training programs to ensure that controllers are able to sense and react to emergencies. And industry has been opposed. The recent action by OPS is inadequate, not surprisingly. However, some companies have responded and moved beyond minimal government regulations. After the Reedy River accident in South Carolina, Colonial Pipeline improved its controller training program and incorporated the use of a simulator to evaluate controller responses to abnormal operating conditions.

In addition, Marathon Ashland PipeLine LLC has advised the Board that by next year, they too will use a simulator to more effectively train and evaluate their controllers. Why not make these programs standard and supervised at the federal level? Why not get in advance, an agreement from the entire federal government about what needs to be done, and ensure yourself against second-guessing in a hostile forum?

Abraham Lincoln said "You cannot escape the responsibility of tomorrow by evading it today." I challenge each of you to review your company's corporate culture. What safety message are you sending your employees? How extensive is your pipeline inspection program? What tools have you put in place to control problems when they appear? How effective is your employee training and evaluation programs?

I hope the answer to all of those questions reflects a proactive, safety conscious corporate culture. The communities you operate in and the citizens who reside in them deserve no less. They deserve the assurance that a pipeline operating near them is safe, that it has been inspected and tested, and that the people operating it are fully qualified and trained. The responsibility to operate safe pipelines ultimately rests with its leaders.

Let me close by noting that exactly one month from today we will be ringing in the New Year and a new millenium. I have been assured that the industry has put significant resources into guarding against any Y2K incidents. Some companies are even taking additional precautions.

Colonial, Buckeye, and Explorer pipelines, despite the economic ramifications and although they believe that their systems are Y2K-compliant, have decided to idle their pipelines for several hours before midnight on December 31 and into the year 2000. I congratulate both companies for making safety their

priority.

Again thank you for inviting me to be here today. I know I have offered something of a challenge. I hope you will take in the spirit intended. When we are not moving forward, we are usually moving backward, because events pass us by. As the leaders of the pipeline industry, I urge you not to let that happen to your industry.

Chairman Hall's Speeches & Testimony
[NTSB Home](#) | [News & Events](#)