AUTHENTICATED
U.S. GOVERNMENT
INFORMATION
GPO

LOW PRESSURE LIQUID PIPELINES: IN THE NORTH SLOPE, GREATER PRUDHOE BAY, ALASKA

(109–95)

HEARING

BEFORE THE

COMMITTEE ON TRANSPORTATION AND INFRASTRUCTURE HOUSE OF REPRESENTATIVES

ONE HUNDRED NINTH CONGRESS

SECOND SESSION

SEPTEMBER 13, 2006

Printed for the use of the
Committee on Transportation and Infrastructure

U.S. GOVERNMENT PRINTING OFFICE

30–665 PDF WASHINGTON : 2007

For sale by the Superintendent of Documents, U.S. Government Printing Office
Internet: bookstore.gpo.gov Phone: toll free (866) 512–1800; DC area (202) 512–1800
Fax: (202) 512–2250 Mail: Stop SSOP, Washington, DC 20402–0001

COMMITTEE ON TRANSPORTATION AND INFRASTRUCTURE

DON YOUNG, Alaska, *Chairman*

THOMAS E. PETRI, Wisconsin, *Vice-Chair*
SHERWOOD L. BOEHLERT, New York
HOWARD COBLE, North Carolina
JOHN J. DUNCAN, JR., Tennessee
WAYNE T. GILCHREST, Maryland
JOHN L. MICA, Florida
PETER HOEKSTRA, Michigan
VERNON J. EHLERS, Michigan
SPENCER BACHUS, Alabama
STEVEN C. LATOURETTE, Ohio
SUE W. KELLY, New York
RICHARD H. BAKER, Louisiana
ROBERT W. NEY, Ohio
FRANK A. LOBIONDO, New Jersey
JERRY MORAN, Kansas
GARY G. MILLER, California
ROBIN HAYES, North Carolina
ROB SIMMONS, Connecticut
HENRY E. BROWN, JR., South Carolina
TIMOTHY V. JOHNSON, Illinois
TODD RUSSELL PLATTS, Pennsylvania
SAM GRAVES, Missouri
MARK R. KENNEDY, Minnesota
BILL SHUSTER, Pennsylvania
JOHN BOOZMAN, Arkansas
JIM GERLACH, Pennsylvania
MARIO DIAZ-BALART, Florida
JON C. PORTER, Nevada
TOM OSBORNE, Nebraska
KENNY MARCHANT, Texas
MICHAEL E. SODREL, Indiana
CHARLES W. DENT, Pennsylvania
TED POE, Texas
DAVID G. REICHERT, Washington
CONNIE MACK, Florida
JOHN R. 'RANDY' KUHL, JR., New York
LUIS G. FORTUÑO, Puerto Rico
LYNN A. WESTMORELAND, Georgia
CHARLES W. BOUSTANY, JR., Louisiana
JEAN SCHMIDT, Ohio

JAMES L. OBERSTAR, Minnesota
NICK J. RAHALL, II, West Virginia
PETER A. DEFAZIO, Oregon
JERRY F. COSTELLO, Illinois
ELEANOR HOLMES NORTON, District of Columbia
JERROLD NADLER, New York
CORRINE BROWN, Florida
BOB FILNER, California
EDDIE BERNICE JOHNSON, Texas
GENE TAYLOR, Mississippi
JUANITA MILLENDER-MCDONALD, California
ELIJAH E. CUMMINGS, Maryland
EARL BLUMENAUER, Oregon
ELLEN O. TAUSCHER, California
BILL PASCRELL, JR., New Jersey
LEONARD L. BOSWELL, Iowa
TIM HOLDEN, Pennsylvania
BRIAN BAIRD, Washington
SHELLEY BERKLEY, Nevada
JIM MATHESON, Utah
MICHAEL M. HONDA, California
RICK LARSEN, Washington
MICHAEL E. CAPUANO, Massachusetts
ANTHONY D. WEINER, New York
JULIA CARSON, Indiana
TIMOTHY H. BISHOP, New York
MICHAEL H. MICHAUD, Maine
LINCOLN DAVIS, Tennessee
BEN CHANDLER, Kentucky
BRIAN HIGGINS, New York
RUSS CARNAHAN, Missouri
ALLYSON Y. SCHWARTZ, Pennsylvania
JOHN T. SALAZAR, Colorado
JOHN BARROW, Georgia

CONTENTS

TESTIMONY

	Page
Barrett, Vice Admiral Thomas, Administrator, Pipeline and Hazaedous Materials Safety Administration, U.S. Department of Transportation	12
Epstein, Lois, Senior Engineer, on behalf of Cook Inlet Keeper and the Pipeline Safety Trust	32
Marshall, Steve, President, BP Exploration Alaska, Inc.	32

PREPARED STATEMENTS SUBMITTED BY MEMBERS OF CONGRESS

Carnahan, Hon. Russ, of Missouri	73
Cummings, Hon. Elijah, of Maryland	74
Honda, Hon. Michael M., of California	88
Poe, Hon. Ted, of Texas	136
Rahall, Hon. Nick J., II, of West Virginia	137
Tauscher, Hon. Ellen, of California	139

PREPARED STATEMENTS SUBMITTED BY WITNESSES

Barrett, Vice Admiral Thomas	46
Epstein, Lois	79
Marshall, Steve	90

LOW PRESSURE LIQUID PIPELINES: IN THE NORTH SLOPE, GREATER PRUDHOE BAY, ALASKA

Wednesday, September 13, 2006,

HOUSE OF REPRESENTATIVES, COMMITTEE ON TRANSPORTATION AND INFRASTRUCTURE, WASHINGTON, D.C.

The committee met, pursuant to call, at 11:00 a.m., in Room 2167, Rayburn House Office Building, the Honorable Don Young [Chairman of the committee] presiding.

Mr. YOUNG. The Committee will come to order.

Today the Committee is conducting an oversight hearing on the operation of low stress pipelines on the north slope of Alaska.

As the Congressman that represents all of Alaska, I am deeply concerned about what occurred. My caring for the environment in the State, and especially its workers, has been well known.

In March of this year there was a release of approximately 5,000 barrels in the eastern operating area of the North Slope, a BP Production area.

The Pipeline and Hazardous Materials Safety Administration immediately sent teams to the North Slope. PHMSA issued corrective action orders to BP following that release which required BP to immediately begin to inspect all its other low stress pipelines on the North Slope. The process began in the spring and continued all summer.

On July 19th, this Committee reported out by voice vote the Pipeline Safety Improvement Act of 2006. In that bill, we required PHMSA to regulate low stress pipelines nationwide. We defined low stress pipelines in the bill to include the pipeline on the North Slope that was involved in the release of oil in March. The bill required PHMSA to complete the low stress pipeline rules within one year.

In August 2006, in conjunction with inspections which PHMSA ordered to be conducted, BP detected a release of approximately 25 barrels of oil on another low stress pipeline, this time in the Western Operating Area. As was done with regard to the release that occurred in March, the leak was immediately cleaned up and PHMSA ordered repairs to be done immediately.

Last week, PHMSA announced a proposed new rule to regulate low stress pipelines. This is the same rule making mandated by this Committee in the bill we reported in July. The vote of the Committee occurred before the August release of 25 barrels, but after the March release of 20,000 barrels. This time line is important to put things in context.

The context is that PHMSA did its job and continues to do its job. BP is, and will continue to be, held accountable for future North Slope operations by PHMSA and other Federal agencies with enforcement authority. That is how law is supposed to work.

PHMSA must do their job in keeping these pipelines safe, and I strongly support the efforts and the regulations they put forth. BP has a job to do on the North Slope, and I will insist that they do it correctly.

The recent release of oil on the North Slope concerns me because the oil that we produce in Alaska provides energy for the entire Nation. I want our oil delivered to its destination safely, without delay and without harm to the environment.

I will ask what steps are being taken to make sure that BP does the job and this tragedy doesn't happen again.

I am not here today to beat a dead horse or old oil. I just want to make sure it does not happen again.

Investigations are being conducted and all committees are having hearings and everything is going on, especially for the media, but my interest is getting Alaskan oil delivered safely, safely within Alaska, and to the lower 48 without delay, without harm to the environment.

May I suggest respectfully again, I am deeply disappointed in the actions not of individuals, necessarily, or with BP at this time, but over the 27 years and not taking the time to understand the pumping of oil that we are pumping now was not the same oil we pumped at first. There is a problem of more water. There is a problem of more—they call them bugs or whatever it is that caused the corrosion, and no one paid attention to—microbes, yes—attention to the corrosive factor in those pipelines, the collection lines.

The other factor—and this may not be known—is the fact that we are producing less oil. And as you produce less oil, the oil does not move as rapidly as it would at first with the 2 million barrels a day. Consequently, there is a more stagnant period of time, a slower period of time when those microbes and other, I call, corrosive actions can take place.

Having said that, I have high hopes that BP and other oil companies within Alaska that do drill and do deliver oil to Alyeska, that they understand that this is a more serious problem than they may have thought in the past. It is a 29-year-old pipeline. Now, people, keep in mind 29 years old is old for any facility.

The Trans-Alaska Pipeline itself, Alyeska, I may compliment them. We concentrated on them. We had hearings on the Alyeska Pipeline. We had complaints. But they have done an outstanding job. They have used the smart pigs, they have used the way to detect the corrosion. They have addressed it immediately. They have gone through earthquakes. All these things occurred and we have been very fortunate.

Now, I will say nothing is fail-safe in any industry. Anybody who thinks it is is dead wrong. But they have done an outstanding job. I do think there was a slackness upon certain individuals that the lines that we collect the oil from were not properly inspected nor repaired. Now, I have got information that this is all going to be replaced, if I can from my colleagues, with brand new steel. That is good. It probably should have been done sooner.

I asked the question the other day of some individuals with the engineering companies have we looked at other forms of pipe. Just because this was built by steel in 1975, 1976, do we have to go back to steel, or do we go back to some more modern—by the way, which comes from petroleum products, such things as Quest. There is a pipe that is plastic. It doesn't freeze. That is the first thing, does it freeze. It doesn't freeze. It expands and contracts, and it doesn't corrode.

So those are the things I hope these hearings will bring forth.

With that, I will yield to my good friend from Minnesota, Mr. Oberstar, for any opening comment he may make.

Mr. OBERSTAR. Thank you, Mr. Chairman.

First of all, I want to express my appreciation for responding so quickly as you did, and thoughtfully, to a request for hearings on this issue. And I concur with you, the issue is not to find fault or blame, but to make sure that failures of the past are not repeated in the future.

I held the first hearings on pipeline safety of this Committee back in the early 1980s, mid-1980s, actually. I actually planned the hearings well in advance. The Committee staff and I had done a great deal of work in preparing for a hearing pipeline safety and then there was an explosion in Mounds View, Minnesota, just outside of my congressional district. It was a gasoline pipeline that had been put in this area when it was rural.

Over time, suburban sprawl overtook the pipeline. And, as we learned in the investigation afterward, cathodic protection on that line had failed, corrosion set in, there was a leak, gasoline was slowly seeping into a suburban street over a period of a couple of weeks. And the fumes, which are very heavy, settled down close to the ground. At 2:00 a.m. one weekday morning, a car driving along with a loose tailpipe struck the pavement, caused a spark, ignited the street. The pavement buckled and melted. The mailboxes on the street melted. A mother and six-year-old child rushed outside their front door to see what was going on, and they incinerated.

We withheld the hearing until the NTSB investigation was nearing its conclusion and we had factual data, and that is when we learned the information about failure of cathodic protection. There were no shutoff valves in that suburban area; there was no action taken by the pipeline company to limit the damage; there was no pigging of the line over a period of many years, many, many years.

And it was that series of hearings that we found that the Office of Pipeline Safety was understaffed, the State inspection offices were grossly understaffed, the agency was underfunded, and the result of our hearings was to make recommendations for increase in staffing and funding of the Federal and the State pipeline safety offices and increase the frequency of pigging, as well as the automatic shutoff valves, particularly in settled areas, regardless of whether they are high pressure or low pressure lines or type of commodity moving through the line.

Norm Mineta was then the Chair of the Surface Subcommittee. He and I went to the floor with an amendment to increase by $10 million the budget for Office of Pipeline Safety and succeeded in getting that funding.

Over time, the staffing has slipped. Over time, the funding for the States inspection offices, in partnership with the Federal Government, have slipped.

But what was really important that came out in that hearing, and a matter that I brought to Pipeline Safety from the hearings and inquiries we made on aviation safety, was the corporate culture of safety. The Federal Government doesn't run the pipelines. The Federal Government doesn't do the maintenance on airplanes. The Federal Government doesn't do the maintenance on railroads or trucking lines.

But it oversees them to make sure that they are meeting a minimum standard of safety, and that standard is set by the Federal Government and the role is to see that the pipeline companies conform. And they won't conform if there isn't a corporate culture of safety. It starts in the boardroom, not on the pipeline. And what is missing in this scenario with the number of failures of BP is a corporate culture of safety.

The Office of Pipeline Safety, which we reconstituted to the Pipeline Safety Administration, has gone through a number of changes in personnel, in mode of operation, but I think its current director, administrator, Admiral Barrett, is the best we have seen in that office in probably 20 years. He brings from the Coast Guard a culture of safety. He brings a no-nonsense attitude to inspections and to dealing with pipeline operators.

We also have to set the policy. We have legislation moving along that we need to strengthen and to improve the oversight of safety and the conduct of safety by both the Office of Pipeline Safety and the companies themselves.

In March, in August, crude oil spills substantial amounts, low stress pipeline, and then subsequently to the Alaska there was a failure in Toledo, Ohio; 8400 gallons of unleaded gasoline got into a creek that found its way into Lake Erie. We don't need a repeat of the Cuyahoga River experience in 1968, when the river caught on fire because so much pollution was being dumped, including crude oil and gasoline. And that had the effect of spurring the Congress on to increasing funding for sewage treatment plant construction and cleanup and the stronger Clean Water Act of 1972.

I am not going to go through all of that, and I will put this into the record, the Western Operating Area policy that was supposed to have smart pigs run through the lines every year, the Eastern Operating Area BP didn't plan any regular maintenance, or the markup in which one of our colleagues proposed to eliminate the requirement in current law to reinspect gas pipelines once every seven years. The industry standard is 20 years between gas transmission inspections. That is not sufficient. That is intolerable.

Let me just close with the framework within which safety must be conducted. In the preamble, the opening paragraph of the PHMSA law establishing this new agency: "In carrying out its duties, the Administration shall consider the assignment and maintenance of safety as the highest priority, recognizing the clear intent, encouragement, and declaration of Congress to the furtherance of the highest degree of safety in pipeline transportation."

We have to hold the agency to that highest accountability level. We have to hold the industry to that highest accountability level.

We have the public interest in our hands, it is our responsibility, and we have to insist that it is carried out in the spirit of the direction of the law, the directive, I mean, of the law. And that is not something new, this is the opening preamble of the 1958 FAA Act, that safety in aviation shall be maintained at the highest possible level.

I hope that the outcome of these hearings will be to illuminate practices of the industry, the enforcement of the agency, and the direction we need to go to strengthen both.

Mr. YOUNG. I thank the gentleman.

Mr. Petri?

Mr. PETRI. Mr. Chairman, thank you for holding this hearing.

The Highways Transit and Pipeline Subcommittee, which I chair, has jurisdiction over pipeline safety, and over the past several months we have been working to reauthorize the pipeline safety programs.

The Pipeline Safety Improvement Act of 2002, which this Committee passed four years ago, expires on September 30th of this year. H.R. 5782, the Pipeline Safety Improvement Act of 2006, was reported out of this Committee in July. We hope to pass the bill off the House floor before the end of the month.

I am happy to see Admiral Barrett, the Administrator of the Pipeline and Hazardous Materials Safety Administration, here today. His agency has been very active over the past six months in its efforts to deal with the two pipeline leaks on the North Slope.

In response to the March 2nd leak, his agency issued a Corrective Action Order that required British Petroleum to conduct a rigorous inspection regime on all of its low pressure pipelines on the North Slope. As a result of this federally mandated inspection regime, British Petroleum discovered several flaws in its low pressure pipelines on the North Slope and are in the process of replacing approximately 22 miles of pipeline.

In addition, last week, his agency published a Notice of Proposed Rulemaking that proposes new and more rigorous safety requirements for rural low pressure oil pipelines in unusually sensitive areas like Prudhoe Bay, Alaska.

I look forward to hearing from today's witness from British Petroleum as well, Mr. Steve Marshall. While I am happy to hear that his organization will be replacing its entire low pressure pipeline network on Alaska's North Slope, I am concerned about their inspection regime for these pipelines prior to the March 2nd leak. This whole situation basically proves the wisdom of the old saying an ounce of prevention is worth a pound of cure, and they are now going to be spending $1 billion. They could have probably done a lot better for their stockholders and for the industry and for public confidence in the pipelines of our Nation by being more proactive.

We realize that some of these pipelines were acquired from a previous owner, but I am still concerned that, given their age and the unique problems that are caused by the extreme climate on the North Slope, the pipelines have not been thoroughly inspected for several years. These are unique pipelines, they are low pressure large pipelines, and they pose some unique problems. Any solution we come up with for this should be tailored to the nature of the problem. We would otherwise face the danger of mandating a lot

of expense on the industry that would not be appropriate to the problem that we are dealing with, which is basically created by the conditions of a large low pressure pipeline and the dynamics of how that works, is my understanding of it.

In any event, thank you very much, Mr. Chairman. I look forward to the testimony of our witnesses today.

Mr. YOUNG. I thank the gentleman.

Are there any other opening statements? Mr. DeFazio, you had your cup of coffee. Are you ready?

Mr. DEFAZIO. Yes, Mr. Chairman, I did.

[Laughter.]

Mr. DEFAZIO. Just starting to kick in. I will get better as we go along. Thank you, Mr. Chairman.

I have got to say that I am, you know, at best, bemused by BP in this instance. I can't understand how a publicly held company could acquire assets from another publicly held company and not conduct due diligence, that is, what are we buying, conduct a basic inspection.

You know, that is sort of the beginning of the problem. I mean, you can reach back and try and blame ARCO and perhaps they didn't do enough cleaning and maintenance previously, but when you actually get to the point of acquisition, you'd think at that point it would have happened; clean the lines, inspect them. It didn't.

And since then they have basically been run to failure, which is fairly extraordinary to me for a corporation that, by my calculation, made $55,000 a minute in the last quarter. That is a lot of money coming out of the pockets of American consumers, and you would think that a company that could afford to buy back $33.5 billion in stock could afford to invest a few million, or tens of millions, or maybe even hundreds of millions, in its basic infrastructure in Alaska and elsewhere, and none of that happened.

So then you have got to ask why did it happen, and I think then we have to turn to the regulatory scheme. And I believe that we need to have regulations that are sensible, sensitive, sensitive to the public interest, and, you know, not overly burdensome to the point of not making sense, or just regulating for the sake of regulation. I don't think we have gotten there with the proposal we have before us. I will be interested in hearing the witnesses, particularly from the Administration, justify why we are going to have three different sets of regulations for low stress pipelines.

Now, I don't know how that is going to be understandable, easily executed, and administered. We are going to have the populated areas with the highest standards, essentially equivalent to the high stress pipelines. That sounds pretty good to me. But then we are going to have a slightly lesser level, which is the new regulations for low stress pipelines in sensitive environmental areas within a quarter mile.

Well, you know, I come from the West; it is a big area. A quarter mile isn't very far for a sensitive environmental area. It would depend upon whether sensitive is downhill from there, uphill from there, whether there is an intervening ridge. But a quarter mile is not very far.

And I don't understand why we would have, you know, one regime for the populated areas, another one for the sensitive areas, and then a third one for many people who live in the West and much of the Western United States, which is the other areas, the rural areas. Why are they the third class citizens here?

Why don't we just have an understandable comprehensive regime that is the same for all low stress pipelines that assures the public safety, assures environmental protection, is not overly burdensome, but requires regular cleaning and inspection? And given the profits attributable to this industry, I don't think anybody can claim it would somehow drive up the cost to consumers. It might mean some CEO gets less than a $10 million bonus this year. Maybe it means that they can only buy back $20 billion of stock next year. Maybe it means that they don't set record profits every quarter. But I think most of the American people would think that that was okay with them and not overly burdensome on the industry.

So I will be fascinated to hear why we are going to have this bizarre regime of three different levels of protection, and the least going to the most pipelines covering a large portion of this Country.

Thank you, Mr. Chairman.

Mr. YOUNG. I thank the gentleman.

Mr. Gilchrest?

Mr. GILCHREST. Thank you, Mr. Chairman.

I have another hearing and I might have to leave before the end of the testimony, so I might not be able to ask some questions, but I wanted to put a few questions on the record to the witnesses.

Do you have any idea what kind of microorganism caused this corrosion? And have you seen this kind of microorganism before?

Rust is essentially, chemically speaking, like a slow burning fire. So could this have been anticipated, this type of microorganism? And has this type of corrosion been treated before by other oil companies?

And how often is a pipeline checked and how is it checked to preclude these types of corrosion leaks?

The interest I have, which is interwoven in all of these questions, is the actual microorganism. Do we know what it is? Have we seen it before? Do microorganisms evolve and change the way they affect the rust or the corrosive effect they have on these pipelines? And can this kind of thing be anticipated and eliminated?

So I want to thank the Chairman for this hearing and look forward to the witnesses. Thank you, Mr. Chairman.

Mr. YOUNG. I thank the gentleman.

Any other opening statements? Mr. Cummings, I believe.

Mr. CUMMINGS. Thank you very much, Mr. Chairman. And I thank you for holding this hearing to enable us to examine both the specific circumstances surrounding the oil spill that occurred in Prudhoe Bay in Alaska, as well as the adequacy of the current oversight regime for low pressure liquid pipelines.

As my colleagues have discussed, approximately 270,000 gallons of oil leaked into the Alaskan tundra through a quarter inch hole in a BP pipeline in March of this year. Subsequently, this summer, additional corrosion was found in the pipeline that required it to be partially shut down. This action took nearly half of the 400,000

gallons normally transported through this BP network out of our national supply chain.

It has been reported that the owner of the pipeline, BP, had not done a thorough inspection of the inside of the pipeline in almost a decade. I hope that BP will explain today why they allowed their pipelines to be so neglected for so long.

BP is a firm that advertises itself as placing a high priority on operating in a manner that is safe for the environment.

Further, BP is a firm that, according to the New York Times, made $7.27 billion in profits during the second quarter of this year, which was more than 30 percent higher than the profit it made during the same period last year, and equated to a profit earning of roughly $55,000 a minute. Such figures are essentially incomprehensible, particularly to people who are paying or were paying $3.00 for a gallon of gas on a fixed income, while confronting their rising expenses.

BP certainly could not credibly say that they did not have the money necessary to afford to properly maintain their pipelines. Therefore, one can only conclude that BP simply didn't have the will to do so.

Further evidence of this appears in reports of several newspapers that suggest independent investigators found evidence that BP tried to intimidate employees who reported problems with the pipelines.

Equally incomprehensible to me is the timid and shortsighted action being taken by the Pipeline Hazards Material Safety Administration, PHMSA, and PHMSA is now considering a rule to require inspections every five years of pipelines that run through environmentally sensitive areas, which, unlike pipelines in urban areas, have generally been unregulated by PHMSA. There have been varying estimates that from 10,000 to 12,000 miles of pipelines would be left unregulated even if these proposed regulations were adopted.

So often our Government only reacts after an incident has occurred. It appears that in this case that the events in Alaska clearly show that companies operating low pressure pipelines are unwilling to adequately maintain them even at the risk of losing production capacity and, thus, profit.

Despite this, the Administration is unwilling to act to close the risks posed by unregulated low pressure pipelines and negligent companies.

Mr. Chairman, the safety of pipelines across our Nation is of critical importance and the incidents in Alaska reveal serious shortcomings in our safety oversight regime that demand immediate attention.

I look forward to the testimony of today's witnesses and, with that, I yield back.

Mr. YOUNG. I thank the gentleman.

Mrs. Kelly?

Mrs. KELLY. Thank you, Mr. Chairman.

According to the Alaska Department of Environmental Conservation, 500 oil spills occur in the Prudhoe Bay oilfields along the 800 mile pipeline each year. While most of these leaks are minor, quickly detected and remedied, we know from what occurred there

in March, and more recently in August, that the threat of another environmental disaster is very real.

Shortly after the leak detection in August, one BP official referred to the current corrosion detection and control program in the Trans-Alaska Pipeline as world-class. Yet, the last time the company performed an inline inspection to check that line was in 1992. We know that most oil pipelines in Alaska have exceeded their 25 year design life; yet, they let 14 years lapse. They yet 14 years lapse without proper surveillance of this critical stretch of the pipeline. As a result of the recent investigations, now we have learned that the walls of many of these pipelines have lost as much as 80 percent of their thickness because of corrosion.

The delicate environment in the Northern Slope is at considerable and preventable risk. And those that fail to remedy the problem should be held accountable. BP is currently under investigation by both the Justice Department and the EPA to determine whether BP violated the Federal Clean Water Act by failing to prevent corrosion in the ruptured line.

I am happy to see this Committee is holding this hearing today to help find out what corrective actions are being taken, and I look forward to working with our Chairman Young, who represents Alaska's Northern Slope, and I look forward to helping him protect this magnificent, this beautiful and pristine part of our Country.

I yield back the balance of my time.

Mr. YOUNG. Is there anyone wishing to make a statement? Ms. Carson, Julia?

Ms. CARSON. Thank you very much, Mr. Chairman.

I would like to thank the witnesses, too, for appearing today before this Committee to discuss this important topic.

Over the past few years, BP has devoted a great deal of time and money toward promoting its image as an environmentally responsible company. In my neighborhood alone, we had three such operations. I have seen the TV advertisements in which BP brags that it is the biggest and best in new U.S. energy development. Yet, for years BP has failed to adequately invest in its own pipelines and has been grossly negligent. It has not lived up to the image it has spent so much money creating.

Alyeska Pipeline service, which operates the Trans-Alaska Pipeline, runs a smart pig every three years and maintenance pigs every 14 days through its pipeline. In contrast, BP has not run a smart pig through its western line since 1998, and did not pig the eastern section since 1992, even though smart pigging is a very effective way to spot pipeline damage.

DOT ordered BP to pig its lines on March 15th. I am baffled as to why it took until July for BP to finally comply with the order. BP's sluggish response is a further testament to its arrogant management and wanton disregard for responsible corporate stewardship. As a result of BP's chronic neglect, over 200,000 gallons of oil have been spilled, and BP must now replace 16 of the 22 miles of corroded low stress pipelines in Prudhoe Bay.

I find it incomprehensible that a company that posted approximately $25 billion in profits last year and spent millions in advertising to promote its image, did not allocate adequate funding to do basic maintenance on its pipelines. How can a company that claims

to be environmentally responsible have two oil spills in Alaska in six months, all along resisting cooperating with regulators?

Yet, BP does not bear all of the blame for the shutdown in Prudhoe Bay. The public expects Federal and State government to conduct adequate oversight of companies that fail to do rudimentary pipe maintenance. Ultimately, the average American is bearing the brunt of BP's failures and the Government's failures. Gas prices are at near record highs, while our biggest oil field is only producing approximately half of its normal output.

I hope today's hearing does more than simply assign blame. I hope that today we determine what steps we need to take to prevent this gross negligence from occurring again. The DOT has proposed a rule which regulates low stress pipelines in unusually sensitive rural areas. In light of this spill, I hope that today we consider expanding the scope of this rule to include all low stress pipelines. Let us not be too lax in our response and open the door to the possibility of another spill occurring under our watch. Our top priority must be prevention.

I hope today's hearing will shed light on the strengths and weaknesses of this proposed rule and help guide our future policymaking on this vital issue.

Thank you very much, Mr. Chairman and Ranking Member for holding this hearing, and I thank the witnesses for being here. I am looking forward to your testimony. And I yield back, Mr, Chairman.

Mr. YOUNG. I thank the good lady.

How many other people would like to speak at this time?

Just hang on. I want to know how many. One, two. Two, is that good?

Admiral, with all due respect to a gentleman in your position, if you would like to go outside and take a short break, you are welcome to do it until we get done talking, because you are going to be sitting here a while, after your testimony, answering questions. So that is up to you. I will give you leave of absence.

Admiral BARRETT. I thank you, Mr. Chairman, but I am happy to hear the comments.

Mr. YOUNG. I appreciate that. You are not as quite as mature as I am right now.

[Laughter.]

Mr. YOUNG. Mr. Honda?

Mr. HONDA. Well, in that spirit, I wanted to just ask if I could enter my comments into the record with your consent.

Mr. YOUNG. You are a great American, a fine individual.

Mr. HONDA. Following your lead, Mr. Chairman.

Mr. YOUNG. Thank you.

Who else? Mr. LaTourette.

Mr. LATOURETTE. Mr. Chairman, I strive to be a great American too, but I will try and just do a couple minutes.

I have been on this Committee for 12 years and have sat through a number of hearings and markups on pipeline safety, and Mr. Oberstar's institutional knowledge will be greater than mine, but I can remember on high pressure pipelines there was a big discussion.

I think Mr. Oberstar had an amendment to reduce the amount of years between smart pigging of those gas pipelines I think following the explosion to which he referred to in his opening statement. And I don't remember whether he wanted to take it from seven to five or five to three, but I listened to his arguments, I listened to the industry's arguments, and I wound up on that occasion not voting with Mr. Oberstar in that markup.

I was in Cleveland recently and there was a radio trivia program in the morning about this spill, and they said, well, how long has it been since BP ran the smart pig through the pipelines in Alaska, and they said it was 1992, and I said that can't be right based upon that discussion, it had to have been since then. And being from Cleveland, the former headquarters of BP, the heir apparent to Standard Oil of Ohio, I found that disconcerting and then looked into some of the previous testimony by BP most principally at the Energy and Commerce Committee.

And I hope that the witness today from BP, just sort of as a head's up, can talk a little bit about the company audit that found that BP was without a senior corrosion engineer for more than a year when the March spill occurred, and also left vacant the top job in its pipeline corrosion oversight division in Alaska for more than six months in 2005.

Also, I am interested in a statement that Mr. Marshall made at that hearing that said that there was a fellow by the name of Richard Willum, apparently, who was the head of the corrosion inspection chemicals group, and it was opined that he had an abrasive nature which may have intimidated workers from raising questions about pipeline safety and integrity. And my question would be do we think that the American public shouldn't expect the safety issues shouldn't be raised at nuclear power plants, air traffic control towers, oil refineries, or pipelines because a boss has an abrasive nature.

I would, just on this Committee, suggest that if working with someone from Alaska with an abrasive nature was an impediment to getting our job done, we would never get anything done on this Committee.

[Laughter.]

Mr. LATOURETTE. I look forward to the hearing and I thank you, and I yield back my time.

Mr. YOUNG. I am glad you yield back the rest of your time.

[Laughter.]

Mr. YOUNG. If there is no other opening statement, I would deeply welcome and deeply appreciate a gentleman that I have known when he served in the Coast Guard, and, as you know, I am very supportive of the Coast Guard, and he has taken on a very awesome responsibility, and I congratulate him for that.

And, unfortunately, right after he took over the job we have had a couple spills. So, Admiral, you are welcome. I look forward to your testimony and, of course, the questions that will be asked. Admiral.

TESTIMONY OF VICE ADMIRAL THOMAS BARRETT, ADMINISTRATOR, PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION, U.S. DEPARTMENT OF TRANSPORTATION

Admiral BARRETT. Good morning, Mr. Chairman. Thank you. Ranking Member Oberstar and distinguished members of the Committee, thanks for the opportunity to discuss actions of the Pipeline and Hazardous Materials Safety Administration to oversee BP operations at Prudhoe Bay and the steps we have taken to prevent future corrosion problems on similar low stress pipelines.

Our mission is achieving and maintaining safe, environmentally sound, and reliable operation of the Nation's pipeline transportation infrastructure. In practice, this requires understanding the condition of pipelines and ensuring operators take actions to prevent and address unsafe conditions. As you know, the first responsibility for safety rests with the operator.

Following BP's March 2nd crude oil spill, PHMSA used its statutory authority to assert jurisdiction over all BP low stress transit lines at Prudhoe Bay. We have issued a series of orders to the operator to perform long overdue inspections and maintenance, and implement continuing measures for safe restoration of operations.

Since March, senior personnel from PHMSA have been on the job directing these actions. I visited Anchorage and Prudhoe Bay in July and again in late August to meet with our field inspectors, BP and Alyeska executives, State officials in the Joint Pipeline Office to assess issues firsthand. Acting Transportation Secretary Maria Cino also visited in August to assess progress in compliance with our orders.

We do not understand why BP did not more aggressively address the corrosion problems that led to these leaks. We have found most pipeline operators demonstrate a higher standard of care than we saw here.

The recent BP Alaska incidents are not indicative of the health of the rest of the U.S. energy pipeline infrastructure. The number of serious incidents in which people or the environment is harmed is steadily declining. As a result of our integrity management programs, operators have found and fixed at early stages over 57,000 defects systemwide, which otherwise could have grown to failure. The system risk management approach the agency uses is getting positive results.

On August 31st, the Administration proposed new safety requirements for rural low stress pipelines that could impact unusually sensitive areas. This brings forward the integrity management approach that has proven successful on other lines, and we already regulate low stress lines in populated areas and near navigable waterways. The proposed rules have been under development for several years, well in advance of this spill, and will prevent the type of failure BP allowed to develop at Prudhoe Bay.

We started work on this proposal in 2003 in discussions with our technical advisory committees and at public meetings in Anchorage, Austin, and Washington. As we always do, we began by reviewing available data, analyzed our rulemaking record from the 1990s, plus new data on several hundred spills voluntarily reported.

Two-thirds of these spills traveled less than 100 feet. No spill traveled a distance as large as a quarter mile. And unlike the BP configuration that we are talking about, operators report their rural low stress lines are primarily short in length, small in diameter, an easily surveyable. The primary causes of failure are corrosion and construction-related external damage.

Given the small size of the operations and predictable failure modes, we proposed a known set of effective protections. Our proposal applies the same level of integrity assessment we would require for high stress lines, including pigging. Moreover, we have expanded corrosion requirements beyond what our high pressure standards require, to include regular cleaning and continuous monitoring for any risk factors that might develop over time.

I emphasize this is a proposal, one that uses a solid risk-based program approach based on available information. We seek public input. If better information becomes available through public comment, we will use it to improve our proposed rule.

We will also rigorously inspect these lines once regulated and bring the added value of PHMSA inspections. In our experience, it is our inspectors, as well as the regulation, that brings the successful outcomes, because they challenge operators to think and improve their practices. Outside audits of our inspections have validated this approach.

The recent BP failures are serious, but we have other important work to do, and we need your help, Mr. Chairman. The Secretary of Transportation recently submitted to Congress the Administration's proposal to reauthorize and build on success of the 2002 Pipeline Safety Improvement Act. Once again, a risk-based data driven organization, we focused on a problem that is growing. Accidents are tending up on construction-related damage on gas distributions that transit our neighborhoods, where people live and work and where our children go to school. The Administration's proposal strengthens State programs to prevent this damage, a serious threat to life safety.

The proposal also provides for a risk-based approach for retesting natural gas pipelines, rather than a fixed seven year interval. A recent GAO report endorsed this risk-based approach.

Mr. Chairman, I am also, frankly, humbled by a couple of the comments I heard here this morning, and I will do everything I can to earn this Committee's trust and to sustain it. But I also want to say, in my 35 years in the Coast Guard, I got to look not only at Coast Guard programs, but the programs of many other agencies, and the system risk-based approach that is being implemented by PHMSA that I have seen in the past several months since I have been on the job is rock solid. It is a sound, prudent approach to get at the most serious problems we face.

Mr. Chairman, I assure you and Committee members that the Administration, the Acting Secretary, myself, and the men and women of PHMSA share your strong commitment to improving the safety, reliability, and confidence in our pipeline transportation system. We appreciate your interest in our work, and we intend to keep improving our record and do the best possible job for the American people and our Nation.

Thank you very much. With your permission, I will submit my written statement for the record, and I will be pleased to answer any questions you may have.

Mr. YOUNG. Thank you, Admiral. I have a series of questions, and then I will turn it over to Mr. Petri to issue time. I am going to take a little break for a moment.

Have you or are you, in your department, are you acting as a policeman or as an advisor? And if you are acting as an advisor, has BP responded in a positive fashion about addressing this problem?

Admiral BARRETT. We provide oversight, Mr. Chairman, as you know. We direct actions we think are necessary. The first responsibility for safety rests with the operator. My assessment is, prior to the March spill, BP was not doing the type of job that needed to be done up there in understanding the conditions of their lines and reacting appropriately to that.

I went up there in July to assess progress in complying with our orders, and at that time it was not moving along as quickly as I liked. Subsequently and currently, I would say that BP is doing the types of things we would have liked to see them do sooner, but, nonetheless, they are doing the types of things we think need to be done to restore safe operations at Prudhoe Bay.

Mr. YOUNG. Do you have personnel on ground watching or overseeing what they are doing now so he or she can report directly back to you?

Admiral BARRETT. Yes, sir, we do. We have had inspectors on site almost continuously since the initial spills. We have had senior personnel visit there regularly. We brought in additional technical resources from Oak Ridge National Laboratories to help assess conditions and corrosion issues, and we maintain active inspection. I would point out we actually validate the data we are getting from BP. We are receiving a lot of data from them on a daily basis, and we are assessing it daily on both the western and eastern operating lines.

But a typical approach for us is BP goes out and shoots a segment of line to look for corrosion. We will spot-check some of those inspections and we will take down the data, our inspectors will take down the data. And when their data runs come into our office in Anchorage or Denver, we are able to benchmark to make sure that the data we are getting is reliable. So we have been active on that and we will continue to be that way.

Mr. YOUNG. You issued some new regulations, I believe it was last week. If they had been in place on low stress lines, would that have prevented what happened in August?

Admiral BARRETT. Yes, sir, it would have. The proposed regulations would require a comprehensive corrosion management program to be in place, and the approach taken by BP prior to the March spill would not pass muster under that proposal.

Mr. YOUNG. Of course, we heard a lot—it is so funny to listen to this, but we heard a lot about what this is going to do to the price of oil and gasoline at the pump station, et cetera, et cetera Does PHMSA, when they have these inspections, does this come in play or do you still have strict regulations to make sure that the pipeline is safe?

Admiral BARRETT. Well, Mr. Chairman, thank you. Our primary focus is, of course, safety and environmental protection. We are concerned, obviously, with the impacts of safety failures on the national transportation pipeline infrastructure and, in applying our rules, we obviously factor that in.

The Administration also, in its reauthorization proposal, submitted to the Committee and the Congress a proposal for a study that we would conduct with the Department of Energy to get a better understanding of the redundancy and the reliability of the national pipeline infrastructure that would give us a better basis, perhaps, to look at this issue in the future.

Mr. YOUNG. Well, you know, we hear a lot about these lines, and I have read testimony of some future witnesses about they refer to the BP lines like other lines. But these lines that were affected, are these a common form of line that had the spills and are they used by other operators around the Country? And, if so, have those operators had the same problem? I mean, this is not the collective field in the world.

You know, I like to say we are the largest producers, but there are fields in Pennsylvania, there are fields in North Dakota, there are fields in Montana, there are fields in Texas and Oklahoma and Arkansas, et cetera, and I have never heard anyone talk about the collective lines. Are these lines similar or are they different?

Admiral BARRETT. Mr. Chairman, what distinguishes them most is their size. These are 30 inch and 34 inch lines. The eastern and western areas each carry 200,000 barrels, roughly, a day of crude. Most other lines of this type that you are talking about, the low stress or the gathering, are much, much smaller; they are typically shorter segments, maybe a mile or two to three or four miles, their sizes are generally well less than half the size of the BP lines, and, consequently, the risks they pose are substantially less.

Mr. YOUNG. Well, my time is about up, but you heard my opening statement about the speed in which the oil would flow. Would it be more advisable, or is this beyond your scope, of having a different line put in place because the field is diminishing in size now in productivity so that there would be less chance for corrosion? Or do other lines in the lower 48 have the corrosion problems that we are having in Prudhoe Bay? Is there a different form of corrosive oil?

Admiral BARRETT. I think, if I could, two answers. One is corrosion is a constant threat to any line, and those mechanisms are well known. The risk of the type of microbiological corrosion that we believe is involved here—and that is still being looked at—is a known risk on the North Slope, and there are, you know the other operations up there, including regulated lines, we oversee about 400 miles of regulated lines up there, factor that in to their corrosion management programs.

And so a well maintained, properly operated pipeline can operate indefinitely, and we typically have not seen, as I said, the same type—you know, what went on here was basically BP was not cleaning the line on a regular basis and not understanding the internal conditions in that line. Typically, operators have a much more aggressive program to get a handle on those issues. They certainly do on the North Slope. Taps, which you mentioned, and we

look at regularly, runs cleaning pigs about every 14 days and smart pigs every several years, and we didn't see that type of program here, sir.

Mr. YOUNG. I thank you, Admiral.

I would just like to remind people, because the TV cameras are on and I have a chance to be on the soapbox, just remind everybody that we are dealing with the most northern part of the United States of America and the most hostile climate, and we are pumping oil. And I would just like to remind everybody or ask the question where did the oil come from. I say this for Al Gore specifically. This was a jungle at one time. This was a forest at one time. This was a fern-laden area with mammals at one time. And that is the reason we are pumping the oil. So before everybody jumps off the edge of the cliff about the hothouse effect, just remember we were there before.

I am out of time.

Mr. Oberstar?

Mr. OBERSTAR. The Chairman is never out of time.

Thank you very much, Mr. Chairman. Footnote to your comment about oil being created at that spot, but that was millions of years ago, and the place was uninhabitable by humans at the time. But what was created in a period of several millions of years we have been remarkably resourceful at consuming at a little under 100 years of the industrial revolution. And we will keep digging and keep looking.

Mr. YOUNG. And we will build more dams and have hydrogen gas, too.

Mr. OBERSTAR. That is right.

And your reference, Mr. Chairman, to the hostile environment, I would call the Committee's attention—I think it would be useful for members and for the Committee to get the History Channel's review of the construction of and operation of the Alaska Pipeline. It depicts in very factual, straightforward manner and very compelling recitation of the hostile environment in which the line was built, continues to operate, the protections to the permafrost that were necessary in construction of the pipeline. And you and I both served on the Merchant Marine Fisheries Committee at the time that that was made possible, so you are quite right about the conditions under which BP is operating.

Now, let's look at the record of this company, Admiral.

In March of 2005 there was a Texas refinery explosion of BP. Fifteen people died, 100 or so injured.

March of 2006, 270,000 gallons spilled, the worst spill, up to that point, on the North Slope, BP. The Eastern Operating Area, they did a smart pig of an eight mile segment, identifying 187 anomalies of pipeline wall loss, 16 in which the loss was 70 to 80 percent, according to the documents your agency has provided us.

Didn't an alarm bell go off somewhere in BP? Apparently not.

August 6th BP began shutting down the Eastern Operating Area when the network lost 200,000 barrels. April of 2006, 12,000 cubic foot natural gas loss also in Alaska. In March of 2006, Toledo, Ohio, 8400 gallons of gasoline. Just fortunate that that didn't explode like Mounds View in Minnesota. In 1998 BP pigged the line,

found six areas of internal corrosion, but never did anything further.

In Little Falls, Minnesota this year, just a few months ago, Koch Industries—that is K-O-C-H Industries—Pipeline broke, sent a geyser of oil 75 feet in the air. Passing motorists, realizing that Morrison County is not in the oil belt, it realized that that was unusual, called 911, which called the Koch Pipeline headquarters in Wichita, Kansas, and they had already been alerted by their own sensors that there was a break and began the process of shutting it down. There were 135,000 gallons of oil that contaminated the land. Fortunately, it was far enough from the Mississippi River that it didn't get into the Mississippi to contaminate that extraordinary body of water.

I will say that Koch responded very promptly, very vigorously, but there too they had pigged the line. They noticed that there were anomalies several years ago. They decided it was not within the ambit of seriousness to do anything about it, so they let it go, and that is where the corrosion occurred, that is where the break occurred, and that is where the damage was done to the land.

Now, when there is an isolated incident you can say, well, somebody missed something or they didn't take it seriously enough. But here is a pattern of conduct, and that is what we look for in safety, in systems of safety. And here is a pattern of conduct that deviates from safety, from that standard that I cited that is in the law: maintenance of safety is the highest priority, highest degree of safety in pipeline transmission.

This is not a pattern of conduct of highest level of safety. This is a corporate culture of neglect of safety. And when the corporate boardroom fails, a Federal agency must be there to make sure that they correct their failures.

Now, what do you think we need to do from here forward? We have a five year inspection in high pressure liquid lines, we have a fire year requirement for low pressure liquid lines that are in populated areas of 50,000 SMSA or greater. But all others—gas transmission lines are seven years and all others unregulated. How can we justify, how can the department, the agency justify that distinction? There are only 600 miles of line in low density population areas that are environmentally sensitive. The rest of them don't count? Admiral?

Admiral BARRETT. Thank you, Mr. Oberstar. Two things. One, the proposal we have on the low stress lines would bring forward the type of regular inspection you are talking about on the high stress lines, that is, a pig or equivalency with every five years or so. It actually goes beyond that and would require regular cleaning of the lines, continuous monitoring and remediation.

So I think we are, with the lines that we are talking about here, the BP lines, we are taking essentially the same approach and, in some senses, enhancing it, certainly with respect to cleaning. It requires operator qualifications, it requires leak detection systems, and it requires better record keeping so we get a better handle on what is going on.

But in terms of your broader question, I think the answer is that over the last, certainly, six, eight years the agency has brought forth a very aggressive, what we term and you know—and I think

you had some fingerprints on some of this—an integrity management program. And our inspection approach, our regulations are quite comprehensive. They include a broad range of how operators look at their lines, identify the most serious risk, and then have to react to that. And we have, through that process, corrected over 57,000 defects on lines through that process.

But I don't know if people understand how comprehensive that is. We typically, on the IM inspections, we will put a team out there for as long as two weeks. We frequently partner up with State inspectors if they are part of our program in a particular State, and we will take a rigorous look at what the company is doing at all levels to ensure that they have a safe system of risk management and continuous adjustment on their programs.

We, in fact, to respond specifically with respect to BP on the North Slope, we also oversee their regulated lines on the North Slope, and for the past several years we have been engaged with them in getting them to bring up the integrity management programs on those lines. And we have talked to them about their lines in the lower 48 and inspected them, again, from the same approach. Ms. Girard called in—this was before I got here—the CEO of BP North America, to discuss exactly that, how you are bringing forward an effective integrity management approach in areas where we were identifying problems. And we do look at operators' records of performance and we do identify where we think they are sleeping.

So I appreciate the comment. I understand it. I think the agency is moving against it. That is not to say we can't always do things better. Certainly on the low stress proposal we are soliciting comments, and if there is data or information out there that people feel suggests we should do something more or less rigorous or with some different approach, we are certainly open to it. But I appreciate the comment and I understand the concern, sir.

Mr. OBERSTAR. Well, I have a number of other questions, but this place clears out pretty fast after opening statements, Mr. Chairman, and in deference to those who remain, I will withhold. But I will come back to a number of issues in your comment.

Mr. PETRI. [Presiding] Thank you.

Mr. Gilchrest.

Mr. GILCHREST. Thank you very much, Mr. Chairman.

Admiral, thank you for coming and giving us your testimony. Can you identify the specific microorganism that caused this corrosion to occur? And is it a new microorganism, has it evolved in any way, or is it a known entity?

Admiral BARRETT. Mr. Gilchrest, thank you. We do believe that the spills up there were likely caused by microbiological activity. We are looking into that. We haven't completed our look. We don't know specifically what organism may have been involved or may not. We will continue to look at that to pin down what is going on.

What I did want to offer to you, though, is the risks of this type of corrosion are well known up on the North Slope. Typically, they inject sea water or water into the wells. The risk of organisms getting through the production separation process, where the water and gas is taken out, and into some of the product and moving

down the transfer lines is a known risk, and there are methods, including cleaning, corrosion inhibitors.

Mr. GILCHREST. So this is not anything that caught anybody off guard? There are known mitigation measures to these kinds of corrosion and it is known that those mitigation measures, even in this circumstance, done on a regular basis, would have been effective?

Admiral BARRETT. Yes, sir, and the other operators do that. And without understanding exactly what the mechanism, as you said, I would qualify on that basis, but generally regular cleaning of lines like this and effective corrosion management programs would preclude this type of problem.

Mr. GILCHREST. So years of experience in this kind of environment, pumping out this quantity of oil, using sea water probably on a fairly regular basis over the decades, this kind of problem with corrosion is known to be mitigated with regular treatment so it wouldn't happen.

Admiral BARRETT. Sir, I would say the risk is generally well known up there, and operators have to have a comprehensive corrosion management program in place to address it, and most do.

Mr. GILCHREST. So as a result of past experience and known mitigation measures, who do you think is at fault for these leaks, BP, Pipeline Safety Administration, a combination of the two, or what other factor?

Admiral BARRETT. I would say the primary responsibility for safety always rests with the operator. Prior to the March spill, these lines were not regulated by us, and we have proposed, as has been indicated this morning, bringing them under Federal oversight.

Mr. GILCHREST. Who regulated the mitigation measures to corrosion?

Admiral BARRETT. Well, typically, on most of the lines up on the North Slope, we have oversight programs in place and, again, the operator would have primary responsibility, but we would oversee the way in which they manage it.

Mr. GILCHREST. Now, you would oversee the way they manage the mitigation measures to prevent corrosion. That is in statute right now?

Admiral BARRETT. Yes, sir. In our regulations, Part 195 of Title 49 describe the approaches we would take and what requirements we have in place to do that.

Mr. GILCHREST. So those approaches weren't taken or you missed some of the scheduling clean-outs?

Admiral BARRETT. Well, these requirements did not apply to these lines prior to the March spills.

Mr. GILCHREST. Oh, I see.

Admiral BARRETT. We have imposed a lot of requirements subsequent to that spill by order and we have proposed regulations to address it on a broader scale.

Mr. GILCHREST. I see. Thank you very much.

Admiral BARRETT. Thank you, sir.

Mr. GILCHREST. Thank you, Mr. Chairman.

Mr. PETRI. Mr. DeFazio.

Mr. DEFAZIO. Thank you, Mr. Chairman.

Admiral, in response to one of Mr. Gilchrest's questions you said the companies have to have comprehensive corrosion management in place and most do. I am concerned about the most do part. Can you tell me who those that don't?

Admiral BARRETT. I was thinking specifically, sir, of the discussion about BP and what transpired recently up there, and specifically with respect to the North Slope. The other lines that we see have the type of cleaning and corrosion controls in place that the regs require and that we would expect, quite frankly.

Mr. DEFAZIO. Okay, so you are talking about the comparison between the regular maintenance cleaning, inspection that Alyeska does versus BP, that sort of thing.

Admiral BARRETT. Yes, sir.

Mr. DEFAZIO. It wasn't something more generally broadcast around the Country—

Admiral BARRETT. No, sir.

Mr. DEFAZIO.—where we might have other problems we don't know about?

Admiral BARRETT. No, sir.

Mr. DEFAZIO. Okay.

Admiral BARRETT. In fact, to the contrary.

Mr. DEFAZIO. I am just curious—and I will be asking BP about this, but what does it cost to clean or smart pig a line? I mean, I assume, if Alyeska does it every two weeks with cleaning and then regularly—I mean, it can't be prohibitively expensive.

Admiral BARRETT. No. It would vary, obviously, with the size and nature of the line, but typically a cleaning pig is much less expensive, maybe $1,000 a mile, you know, for a line the size of Alyeska. It is still substantial. But the ILI, the inline inspection device, is much more expensive—of course, you not only have to run the device, you have to analyze the results—but you might be looking at about, I would guess, $6,000 to $8,000 a mile for that type of approach.

Mr. DEFAZIO. Okay. So here is sort of—I mean, you are talking about risk-based management, and that is sometimes the best way to go versus a hard rule, but I am concerned here that BP was apparently following industry standards for 20 years, and they supposedly were following a risk-based management approach proposed by industry. I am concerned about something that isn't more prescriptive, particularly in all these other thousands of miles of line we are talking about and whether or not a risk-based approach, given that prevailing mentality, is adequate.

And I guess it kind of reminds me of a fight I engaged in from when I first came to Congress that, unfortunately, never came to fruition until after a horrible tragedy, but for years I argued that the FAA was conflicted because it had to regulate both the public health and safety, but it also was mandated under historic statutes to promote the industry, and balance those two things. It was only after the Value Jet crash that I was able to get an amendment to strip them of that charge and move them much more toward pure public safety regulation. And I am concerned here.

Yes, we don't want to impose unnecessary costs, but we don't want to lean toward avoiding costs to the industry that might prevent depredation of public resources. I mean, again, on your low

pressure, as I understand it, it doesn't—you know, a creek isn't necessarily a sensitive area, it just might happen to be your creek. It isn't defined under Federal law as particularly sensitive. And then the quarter mile, as I pointed out earlier, yes, you said many spills don't go more than 100 yards, but, you know, there are many places where pipelines have been built in essentially following rights of way and cuts that are above valleys with water, you know, below sometimes critical resources more than a quarter mile away. Again, where did we come up with a quarter of a mile?

So I guess I have a couple of questions. Why wouldn't we regulate all pipelines and move away from the risk-based approach for the majority? Where did we get the quarter mile standard? Why don't we apply the standard in any and all watersheds with at least the minimum quarter mile standard? Those would be three questions.

Admiral BARRETT. Thank you, sir. Let me approach it on a couple levels. First, for clarity, I have said repeatedly, and I would emphasize, with respect to the specifics of the BP spill, I don't think BP was following the type of standards we typically see in the industry, whether the lines are regulated or not, by not having a regular cleaning program and understanding the conditions of their lines. So I don't want to leave the impression that they were following the practices we typically see.

On a broad sense, the risk management issue I think is important, and in the rule making we propose, for example, and we apply elsewhere, you know, you have to continuously monitor and assess conditions on your lines, understand them, and then react to your most serious risk. But what gets lost sometimes is one of the reasons that approach is so important, and I also think one of the reasons it has been so effective in other areas that PHMSA has regulated, is the risk changeover time. In other words, it can change from external circumstances, such as development coming up around a line, maybe we are building more houses or more schools; maybe the data we have is showing a new problem, Mr. Gilchrest mentioned maybe it is a different kind of microbiological activity you need to adjust to.

But the risks change. And I believe firmly you have to have a program in place that requires the operator to look at their risk profile, catch changes in that, and react to it in a way that cuts those risks off early. And I think that is the fundamental value of those types of approaches, and the more prescriptive approaches typically cannot get to that.

I heard the comment earlier about the five year. We generally require, and would in this rule, pigging of these lines about every five years. But there are some lines that you can't pig; they are either telescoping in nature, they may have bends or valves in the lines that would prevent that. So you have to have some other way to provide equivalent levels of safety, and, again, manage that risk in some prudent way.

And with respect to the quarter mile, again, we are a data driven organization, and I think that is our charter—

Mr. DEFAZIO. If I could, before you answer that. But as I understand it, you do not mandate that data be submitted on all the unregulated lines So since there is no mandate that you receive the

data, unless you read about it in the newspaper or it somehow is brought to your attention, you won't necessarily know about it. So how can you be data driven on those thousands of miles of line if people don't have to report?

Admiral BARRETT. We have looked at the lines that are out there, the nature of the lines. Many of these, as I said, are small. A couple States have good records on them, Texas in particular. And we have looked at the nature of those lines, the amount of product that they hold, and generally where they are being operated and how, and, simply, our assessment is that they don't pose the same level of risk as the larger lines, particularly the big lines you are talking about with BP.

But I want to be clear. We are a data driven organization, and the record is open. This is a proposal. And if there is information or data out there that suggests the scope of what we are approaching should be expanded or contracted, or the requirements should be different, if that information is brought forward on the record, we are certainly receptive to it. And I want to be clear on that. This is a proposal and we are open to information that suggests the answer could be adjusted.

Mr. DEFAZIO. Okay, thank you.

Thank you, Mr. Chairman.

Thank you, Admiral.

Admiral BARRETT. Thanks.

Mr. PETRI. Let's see, Mr. LaTourette.

Mr. LATOURETTE. Thank you, Mr. Chairman.

And, Admiral, thank you for the work that you do and the quick response. I just have one question, and I will try and make it short, but it is a follow-up on what the Chairman was discussing with you. I don't think that my district is unique from other members', and probably the number one phone call we received until recently was about the price of gasoline.

Now, thankfully, normalcy has almost come back in that gas is about $2.29, and we have a lot of discussions and debates around here about everybody wants gas to be about a buck a gallon again, the good old days; we fight about whether we should explore for more oil; we ask questions about why we haven't built any new refineries since 1981. I can remember a couple years ago Marathon Oil wanted to build a pipeline across Ohio and everybody wanted cheap gas, everybody wanted more pipelines, but nobody wanted it in their backyard in Ohio.

So if it is not only a supply and demand question, it is also an infrastructure question. When the shockwaves on gas prices first were felt in my part of the world maybe three years ago, when there was a disruption in the Wolverine Pipeline in Michigan and then also one on a pipeline whose name I don't recall, but between Oklahoma and Texas, and gas went up to $2.25 and people were screaming then. And we have seen now, when it has crested $3.00, people really don't know what to do.

The Chairman's question, and I think my question to you is I heard you answer him that when you look at the things that you need to look at relative to regulation, safety trumps everything else. And I think that that is exactly as it should be. But I think

what he was getting as is do you have the authority today to consider economic impact.

And by that I mean not all pipelines are created equal, and in this day—I think we are in an energy crisis, and in this day of energy crises, do you feel that, at PHMSA, you currently have the authority to take into consideration the economic impact that would result in the disruption of a certain pipeline as you move forward? And, if you don't, is there something that you think we need to do to give you more tools?

Admiral BARRETT. Thank you, sir. No, I believe we have the authority that we need. And what I would say is we certainly can look at the, just from a transportation agency, the impact on transportation, as I said, our safety oversight and environmental oversight does provide benefits to the reliability and integrity of those lines.

I think the real issue is the appropriate way to factor that in to our oversight programs, and obviously we are going to look a bit harder at that and pay more attention to it. But I think the real issue is we have the authority, it is how we can bring that forward in an effective manner.

Mr. LATOURETTE. I thank you.

Chairman, I yield back.

Mr. PETRI. Thank you.

Mr. Pascrell?

Mr. PASCRELL. Thank you, Mr. Chairman.

Vice Admiral, I looked through your testimony very carefully, and I want to bring your attention to a couple of places. You know, my conclusion was, when I read your testimony, here we go again.

Page 3 of your testimony, the second paragraph: "We have proposed new federal regulations for low stress pipelines, including the BP lines that recently failed. The rules have been under development for several years and would prevent the type of corrosion failure BP allowed to develop at the Bay." This, to me—and I can only give you my perception of this—is nothing more than bureaucratic drivel, because you also say, on page 4, in the second paragraph: "Based on the information developed in connection with our rulemaking proposal, we believe that most other unregulated low stress pipelines are operated to a higher standard of care." You see where I am talking about?

Admiral BARRETT. Yes, sir.

Mr. PASCRELL. And on page 8 you say, first paragraph: "Based on information received in connection with developing our proposed rule making for low stress pipelines, we believe most operators demonstrate a higher standard of care in their operations whether or not they are federally regulated."

I want you to tell this panel what leads you to that conclusion? What evidence can you put before us that the process of self-regulation in these low stress lines actually has credibility? And I can go on to cite to other places, but start off with that.

Admiral BARRETT. Well, first—

Mr. PASCRELL. Admiral, the reason why I am asking this question, sir, with all due respect, is BP is only a small part of this problem. We passed legislation on this very panel not too long ago. It didn't even include liquid pipelines. It didn't even include it.

That was six weeks after the disaster in the Bay. So I come with a perception here, and I want you to correct my perception.

Admiral BARRETT. In two senses I would. First, the agency has been working on these regulations for several years, well in advance of these bills, and it is one of the last pieces of the puzzle, if you will, that we brought forward in response to the 2002 Pipeline Safety Act, and the highest priority of the agency has been on lines that threaten life safety and our communities. The type of situation Mr. Oberstar mentioned at Moundsville is acutely on my mine—

Mr. PASCRELL. Vice Admiral, you know, back in 2002 it was not because of your agency which brought us to that point, it was because this bipartisan Committee kept on insisting that we come to some compromise and some change. The Administration did not run point on that, has not run point three months ago, and has not run point on it now. So what happened in 2002 is not because of the agency, it is because of a bipartisan cooperation on this Committee.

Admiral BARRETT. With respect, sir, I would suggest that the record—and it is in my statement—of performance that the agency has brought forward in this industry over these years has shown a steadily decreasing trend in the serious incidents on pipelines.

But I want to answer your second question also, and that is where did we get this information. In the several years we were working on this, we had a number of public hearings. We had multiple meetings of our technical advisory committee. We solicited input from the public and from the industry on these low stress lines, in terms of where they were, what size they were, how much product they carried, what areas they threatened, and how they were being overseen and managed by the industry.

And that is where that information came from, that extensive, several year process of gathering data, and that is what our proposal, frankly, is based on. And the contrast that I was drawing there was what we were seeing with respect to the very large low stress lines that BP had on the North Slope and the vast majority of these lines in the United States, which are far smaller, much shorter segments, and pose, in many respects, a different problem; and the proposal goes at the most serious risks that those lines pose.

Mr. PASCRELL. The specific issue that we are addressing today, and I was trying to put it into context, we are talking about 22 miles. It costs 8,000 miles to clean, you have heard this, to pig. That is $176,000. There is something wrong here, because this is a corporation which had a $226 billion profit last year. And the cost of cleaning this up is $100 million. There is something wrong. And you are not here defending—are you? I don't think you are.

Admiral BARRETT. No. To the contrary—

Mr. PASCRELL. I know you are not defending any particular corporation, but are you defending the possibility that we can do this, these thousands of miles of pipeline, we can do this part self-service and then the Government inspect some of it? Or are you saying there needs to be regulation for all of the lines? What are you saying?

Admiral BARRETT. Well, two things. First, the type of inspection you refer to with respect to BP, we have in fact ordered, subject to the March bills, the eastern line that turned out to have the problems in August was being assessed by a smart pig because we ordered it. And so understanding the conditions of the lines is something we expect in all of our programs and in any area we oversee.

But in terms of the regulation we are bringing forward, it is tailored to address the most serious issues we believe these lines pose, and not be unduly burdensome to many smaller operators with smaller lines, where we believe the risk is not as great. But we are, as I indicated, open to data if the public or anyone else believes that the proposal should be more or less stringent. You know, that is a normal process for us and it is a normal process for Federal regulatory agencies, to put what we think the best thinking out is there and solicit public input on that, and that is what we are doing.

Mr. PASCRELL. Mr. Chairman, I just have one further point. BP just had an accident on what we would consider is a small low stress unregulated line in Long Beach last week. The point I am trying to make, in conclusion, Mr. Chairman, is that all of these lines we need to sit down—as we did with the gas lines—we came to a compromise, we came to an understanding, after many years of gridlock. This is not a question of regulation versus deregulation. This is not the question. We missed the point. We should have regulation that we could all agree with, and I hope that that is the direction you are going in.

Admiral BARRETT. Sir, and in fact, the Long Beach line you mention is regulated by one of our State partners, California, and we are working with them now and will look at what may or may not have transpired there.

Mr. PASCRELL. Thank you, Vice Admiral.

Thank you, sir.

Mr. YOUNG. [Presiding.] Mr. Boozman?

Mr. BOOZMAN. Thank you, Mr. Chairman.

Admiral, can you help me a little bit with the extent of the problem? After Katrina and the episodes there, when we got into really looking at our dams and dikes and things like that, we really found a tremendous problem that is going to cost a great deal to rectify. You know, with this additional 600 miles or whatever, what is your gut feeling as to the extent of the problem that is out there? I mean, are they in good shape or are they not going to be in good shape?

Admiral BARRETT. They will be in much better shape once we apply the requirements that we have got in this package. And we are directing that at the lines we believe have the most risk.

But, in fairness, what is coloring the picture right now is the low stress line that BP had on the North Slope, which is more than twice the size of most of these lines. Most of these lines are far smaller, they are in rural areas, they do not threaten population or navigable waters. Certainly, there are risks there and, certainly, we are being attentive to that, but, candidly, we do not believe that they pose the same level of risk that a line like the BP lines at Prudhoe Bay pose.

Mr. BOOZMAN. And yet, like I say, there are dikes that have more level of risk as far as population and stuff like that, but a bad dike is a bad dike. As we get into this, are a lot of the 600 miles, are we going to find problems that is going to take a lot of money to correct?

Admiral BARRETT. No, sir, I don't believe it will. In many cases these lines are, as I indicated, from the public record we have got, being indicated with a generally reasonable standard of care. And, obviously, we are looking to make that a bit more rigorous, but I think our estimate in the rule making was about a $17 million target. I would have to go back and look at the cost benefit, but we are bringing the regs forward in a way we think will be effective and where the cost benefit analysis sustains the action we are proposing.

Mr. BOOZMAN. Good.

Thank you, Mr. Chairman.

Mr. YOUNG. I thank the gentleman.

Mr. Honda?

Mr. HONDA. Thank you, Mr. Chairman.

Vice Admiral, thank you for being here. I guess I am trying to understand. PHMSA is an organization that is to regulate pipelines, is that correct?

Admiral BARRETT. It is one of our charters. We also do hazardous materials.

Mr. HONDA. And you are about to put together regulations that would cover low stress pipelines?

Admiral BARRETT. Yes, sir.

Mr. HONDA. And it hasn't been done before because it was considered that, if it is in the rural areas, that they are not of great concern?

Admiral BARRETT. No, sir, not that they weren't of concern. We have been working on the rule making for several years. But they did not have the same priority as high stress high pressure lines, oil and gas, that run through populated areas. I mean, we put our first priority on life safety.

Mr. HONDA. Okay, so the low stress pipelines in rural areas were of low priority, so, therefore, they were exempt from inspection?

Admiral BARRETT. No, sir. We were moving to bring them under regulation. I am just trying to understand your question, though. We moved first. That is, the agency moved, since 2002, first against higher risk.

Mr. HONDA. Okay. And then since they were exempt and they were going to be done later, the industry was—they were required to do the inspection?

Admiral BARRETT. The operator is always responsible for, you know, the safety of the operation of the line.

Mr. HONDA. They were required to do the inspection?

Admiral BARRETT. They would have to maintain their lines as any responsible operator.

Mr. HONDA. Is it required for them to create the—do we, by statute, require them to maintain their own—I mean, you know, when we go on the road and drive, we are required to have certain kinds of levels of proficiency. Are we requiring—did we require them to have a certain level of maintenance or oversight?

Admiral BARRETT. Well, again, I think the level of care that the operator—

Mr. HONDA. That is yes or no. By statute, did we or did we not?

Admiral BARRETT. Well, no. We are proposing to bring them under regulation, which is what we propose—

Mr. HONDA. Okay, so they were not regulated. They were supposed to be responsible.

Admiral BARRETT. Yes, sir.

Mr. HONDA. Okay, and they were not.

Admiral BARRETT. And we were bringing forward regulations to oversee them.

Mr. HONDA. Now, the evidence of corrosion was detected by the smart pig that you required them to use, and found about 187 anomalies in the walls of the 22 miles or 8 mile section up in the Eastern Slope of wherever it was?

Admiral BARRETT. Prudhoe Bay.

Mr. HONDA. There was some discussion about sea water and organisms. I am not sure that is—you know, I don't know how pertinent that is if the inspection is supposed to look at anomalies in walls, right? So are we looking at ways to conduct these kinds of inspections in the future?

Admiral BARRETT. The proposal we have put out would require a much more extensive corrosion management program, but fundamentally—I think I understand your question. Fundamentally, an operator has to understand the condition of his lines. He has to be able to understand what—

Mr. HONDA. Not to interrupt—

Mr. YOUNG. Would the gentleman yield? Let him answer the question, please, Mr. Honda. Don't interrupt him as he is answering.

Mr. HONDA. Okay, I just have a certain amount of time. I am trying to get to certain points.

Mr. YOUNG. I will yield time.

Mr. HONDA. Go ahead, Admiral. Thank you.

Admiral BARRETT. I think, so, fundamentally, any operator has to do that. And our requirements, in many cases, require them to do that, and that is exactly what our proposal would require these low stress lines to do.

Mr. HONDA. Does the proposal require an audit of how many low stress pipes we have out there?

Admiral BARRETT. It would require that—obviously, one of the things that we will do is, once the rule is in place, we will go out and inspect these lines, and we will assess if all the lines that are within the scope of the regulation are being covered. And that inspection program is a very critical portion of what we do. And, typically, when we go out and look at, on the ground with our inspectors, we will typically pick up some lines that perhaps we weren't aware of, and we will bring them into the program.

Mr. HONDA. Do we have an inventory of low stress pipelines?

Admiral BARRETT. On the national level they are not mapped in all States, so the answer is—

Mr. HONDA. No.

Admiral BARRETT.—we are basing our estimates on what we were able to get from States that have these lines mapped.

Mr. HONDA. So we don't have an inventory as of yet. Are we going to require that in our guidelines?

Admiral BARRETT. We will go out and look at, you know, the lines that are within our scope, and we will put inspectors out and see what is in those fields.

Mr. HONDA. Are we going to require, under the guidelines, to have an inventory of low stress pipelines?

Admiral BARRETT. On a national level we will require mapping of the lines that are within our program, and we will look to ensure that all lines that are covered by the regulation are mapped.

Mr. HONDA. Within the programs, your program, who is not included?

Admiral BARRETT. I mean, we do not require mapping of lines that are not regulated by us or by the States. We have substantial partnerships with the States, and they oversee a lot of this.

Mr. HONDA. So—

Admiral BARRETT. But on a Federal level we only map the areas we are responsible for.

Mr. HONDA. Then help me understand the delineation between State responsibility and Federal responsibility over the inventory of low stress lines.

Admiral BARRETT. Well, again, if we bring them in the scope of our regulations, we will inventory them and map them.

Mr. HONDA. What are the criteria in order to bring them into the inventory?

Admiral BARRETT. Well, again, what we know from States, our partners, our primary partners, and, secondly, what we find when we go out and look at these lines and assess the fields that they are in. We get information from the operators. We ask and we get a lot of data.

Mr. HONDA. Who are the primary authors of the guidelines that PHMSA is putting together?

Admiral BARRETT. Well, of course, we are.

Mr. HONDA. You in partnership with the States and with the industry, or what?

Admiral BARRETT. Well, the national pipeline infrastructure, if you will, is overseen not only by Federal agencies, but by States; they play a significant role. In fact, one of the proposals, Mr. Chairman, in the reauthorization package would be to strengthen State oversight of the area we feel that is currently the most treacherous, which is the natural gas distribution systems. But that is a State program that we are looking to bolster.

Mr. HONDA. Okay, then I guess the sense I am getting is that no matter how much work we do on oversight and bringing low stress pipe into the system, there is going to be still some low stress pipes out there that are not going to be inspected nor have any oversight, whether at the State level or the Federal level. Is that correct?

Admiral BARRETT. Well, we are proposing to oversee the areas where we believe the risks exist, and we are certainly open to data that suggests that that proposal should be more or less stringent or have different requirements. But, you know, we are a data driven, risk-based organization, and so we tailor our proposals to where we believe the risk is.

And in this particular case, with low stress line, we believe the risk exists where there are threatened environmental areas. We already do the populated areas and the navigable waters, but where there are threatened or endangered species, where it could threaten community water supplies, and where the history of spills suggest that a failure on one of those lines could threaten those activities, the quarter mile buffer that we have talked about.

Mr. HONDA. Last question, Mr. Chairman.

It seems to me, if you are data driven, it sounds like the data is acquired reactively.

Admiral BARRETT. Not necessarily. We have gone out over several years extensively with public hearings, public announcements, public meetings to draw in as much data as we can get. Is it perfect? No. Typically, unregulated line—I mean, we are gathering as much data in as we can, and we are receptive to any data that is available.

Mr. HONDA. Okay. And—

Mr. YOUNG. The gentleman's time has run out.

Mr. Boustany?

Mr. BOUSTANY. Thank you, Mr. Chairman.

Admiral, has the quality of your inspections changed within the last six months?

Admiral BARRETT. Well, I think not only in the last six months, but probably over the last several years the quality of our inspections has become much more rigorous through the integrity management program. As I indicted, a typical inspection for that program is not a one shot by one inspector looking at a thing, but it is basically a two week program oversight of what an operator is doing; it is checking their data, checking their programs, going out and validating it in the field and making sure that they are paying attention to the most serious issues; and, as a follow-up to those inspections, ordering, if necessary, any corrective action. And, typically, our inspections lead, about 80 percent of them, lead to us obtaining or directing some type of follow-up enforcement or compliance action by operators.

Mr. BOUSTANY. Thank you. What kind of review has PHMSA's oversight activities received from the Inspector General of DOT or the GAO?

Admiral BARRETT. Those reviews have been multiple over the years and generally highly favorable. Most recently, GAO came out with two reports the end of August which are, for the most part, highly complimentary, the approaches used. And what I would also say is, frankly, we have been very aggressive in clearing recommendations from the National Transportation Safety Board in our lanes.

I think probably over the last four to six years over 40 NTSB recommendations—and I believe we only have about three that are still open, and they are open with acceptable actions. So I would say the endorsement has been strong. And, quite frankly, as I indicated, based on my experience, I think the program approaches being used are rock solid.

Mr. BOUSTANY. And one final question. In talking about your risk-based approach in answering Mr. LaTourette's question about looking at economic impact, and you said, yes, you do have the au-

thority to do that, do you also consider our Nation's energy security and distribution as part of that equation? And do you communicate with the Department of Energy on these issues or are you really stovepiped in this approach?

Admiral BARRETT. No, I would say one of the strengths we have is outreach with other agencies, and we are working on that all the time. As I indicated, we have submitted—the Administration has submitted a proposal to help us get a better handle on that with a study that we would do jointly with Energy to understand the issue a little more clearly. I believe we have the authority, but I think, frankly, we would like a little better understanding of where these issues might be so we can tailor our approaches appropriately.

Mr. BOUSTANY. Do you have a time line on that study?

Admiral BARRETT. I believe it is one year. I would have to go back and check, but—

Mr. BOUSTANY. We would be interested.

Admiral BARRETT. It would be—it is in the Administration's proposal. And I appreciate—I believe the Committee has endorsed that, and we would look forward to that.

Mr. BOUSTANY. Thank you very much.

Mr. Chairman, I yield back.

Mr. YOUNG. I thank you.

If there are no other—oh, excuse me, Mr. Oberstar.

Mr. OBERSTAR. Thank you, Mr. Chairman. I have just a couple of points that I desisted earlier so that other members could have their full opportunity.

Admiral, I want to come back to your statement that the internal inspection requirements of the proposed rule are the same as the inspection requirements in current law. But the proposed rule provides that the operator may use inline inspection tools. That is not the same as current law that says must.

Admiral BARRETT. If there is any lack of clarity there, sir, we would be glad to clear that up, but basically—

Mr. OBERSTAR. You would be willing to substitute must for may?

Admiral BARRETT. Sure. Because, in reality, as you well know and the Chairman knows, you can't pig lines all the time. So we have to permit some alternative equivalencies. I think the language that may or must are certainly getting at the same intent, to make them pig the lines or have another acceptable program to do that.

Mr. OBERSTAR. I think we have to have that clarity. You also made a very thoughtful comment that the operator has to understand the condition of the line.

Admiral BARRETT. Yes, sir.

Mr. OBERSTAR. There is a duty to know and a duty to protect on the part of the company. Surely, they knew they were running into a lower grade of oil. Surely, they knew that there was sand coming up with that oil. Surely, they knew that there was natural gas, and the aromatic hydrocarbons that accompany it, along with water that then create the conditions for corrosion.

Admiral BARRETT. Those risks are well known on the North Slope, sir.

Mr. OBERSTAR. And the Chairman has—and I attribute directly to him a very—who understands this; it is in his State, in his back-

yard—that the Alyeska line—Mr. Chairman, if I understand you correctly—has a filter at the beginning of the line to filter out unwanted materials. Is there no filter on this line at the beginning?

Admiral BARRETT. Well, I think the sediments and solids you are talking—one of the risks we looked at when we went up on BP was to make sure they didn't create any problems for the Trans-Alaska Pipelines. And, frankly, the—because they didn't understand the condition of the lines, the BP lines, how much sediment or solids actually existed in those lines and what could be pushed forward into taps was a concern of ours and a concern of taps. BP is now building bypasses with assistance from Alyeska, actually, to manage those solids in a way that doesn't produce a risk to the line.

But what I was getting at is Alyeska Pipeline and other operators on the North Slopes clean these lines much more regularly, on a basis of every several weeks to several months. They run the pigs on a regular basis. And we just did not see that here.

Mr. OBERSTAR. Yes. And you also pointed out in the discussion that we had in my office that there is at least one segment where the pipeline dips—

Admiral BARRETT. Yes, sir.

Mr. OBERSTAR.—for the caribou crossing. And because the pressure is less, the flow has slowed down, there is an aggregation of sediment that creates the conditions for corrosion, rather than a condition where the line is flowing more freely.

Admiral BARRETT. Yes, sir, you are right. Where you have elevation changes on a line, again, your standard risk assessment would suggest you have an increased risk of corrosion—of water collecting, basically, and creating a corrosion risk in those locations. That is fairly well known.

Mr. OBERSTAR. I appreciate that. And that suggests we need to strengthen the law, require more frequent inspections, and actions to be taken to clean those lines as a matter of responsibility of the company and as a responsibility of your agency to oversee them.

Admiral BARRETT. Sir, and we are proposing that. I understand.

Mr. OBERSTAR. Thank you.

Admiral BARRETT. Thank you.

Mr. PASCRELL. Mr. Chairman, make one more quick point, please?

Mr. YOUNG. One quick one.

Mr. PASCRELL. Thank you, sir.

I just wanted to put into the record, as I understand the testimony and the questions and answers that have been provided today, that for low stress lines there is no accident reporting, there is no data reporting required, and there is no mapping required. I want to put that into the record.

Admiral BARRETT. Sir, that is not entirely accurate.

Mr. PASCRELL. Well, then make it accurate.

Admiral BARRETT. There is still reporting required under the Clean Water Act, depending on the nature of a spill that might occur from those lines and where it would occur. We had extensive voluntary reporting of spills on those lines and we took that into account in developing our rule making. So there has been a fair amount of data that we collected in shaping our proposal. Now, not all of it was required by us—

Mr. PASCRELL. Excuse me. I used the word required. I will stick by the statement. Thank you.

Mr. YOUNG. Without any other questions, Admiral, thank you for your testimony, and God bless you and the work you have to do, and let's make sure we can produce this oil fairly for the Nation as well as the State of Alaska.

Admiral BARRETT. Mr. Chairman, thank you, and I appreciate the Committee's support in all these areas.

Mr. YOUNG. Thank you.

At this time we will call up—and I will tell you ahead of time—the second panel—at 1:00 I do have to leave—Ms. Lois Epstein and Steve Marshall. Ms. Lois Epstein is the Senior Engineer on behalf of Cook Inletkeeper and Pipeline Safety trust and Mr. Marshall is President of BP Exploration Alaska, Incorporated.

Ms. Epstein, you are first.

TESTIMONY OF LOIS EPSTEIN, SENIOR ENGINEER, ON BEHALF OF COOK INLET KEEPER AND THE PIPELINE SAFETY TRUST; STEVE MARSHALL, PRESIDENT, BP EXPLORATION ALASKA, INC.

Ms. EPSTEIN. Thank you, Mr. Chairman, Mr. Oberstar, and Members of the Committee. I appreciate your inviting me to testify today.

My name is Lois Epstein, and I am an Alaska and Maryland licensed engineer and an oil and gas industry specialist with Cook Inletkeeper in Anchorage, Alaska. Cook Inletkeeper is a nonprofit membership organization dedicated to protecting the 47,000 square mile Cook Inlet Watershed and a member of the Waterkeeper Alliance of 150+ organizations headed by Bobby Kennedy, Jr. Additionally, I am a part-time consultant for the Pipeline Safety Trust, and my testimony today reflects both organizations' views.

The Pipeline Safety Trust came into being after the 1999 Olympic Pipeline tragedy in Bellingham, Washington which left three young people dead, wiped out every living thing in a beautiful salmon stream, and caused millions of dollars of economic disruption.

As is well known because of BP's recent pipeline problems on the North Slope, releases from low pressure, also known as low stress, liquid pipelines can have serious, adverse environmental and economic consequences. The two photos included in my testimony—and one is up right now—show the extent of the damage and the cleanup. Investing in pipeline safety pays off in nationwide environmental and economic benefits.

The U.S. Department of Transportation's Pipeline and Hazardous Materials Safety Administration, or PHMSA, has jurisdiction over BP's pipelines. However, BP's so-called "transit" pipelines currently are exempt from Federal regulation, which means that other pipelines like BP's have no Federal corrosion prevention requirements, no smart pigging or equivalent requirements, and no Federal inspectors checking on operations.

Based on the BP situation and industry's own data showing a disproportionately high release rate on these types of pipelines—and I would refer PHMSA and the Committee to the August 1st

letter that was sent to PHMSA—there are strong technical and economic reasons to regulate low pressure transmission pipelines.

Among the economic costs, the State of Alaska lost $6.4 million in royalties and taxes for each day the entire oil field was shut down. Additionally, there was a noticeable spike in the price of crude oil for several days following BP's initial announcement, raising oil costs for both industry and the public. And PHMSA's resources have been stretched thin as a result of this situation, which is another cost.

The BP situation also demonstrates, one, the value of smart pigging pipelines regularly and as frequently as possible to identify wall thinning and, two, the need for Federal oversight of pipelines. Importantly, when USDOT surveyed pipeline operators in 1992, it found that 84 percent of the unregulated low pressure pipeline mileage nationwide was not operated in compliance with the requirements of Part 195. My written testimony provides extensive detail on these conclusions.

Additionally, my written testimony shows that 18 years after State pipeline safety regulators asked DOT to remove the exemption, PHMSA, just last week, proposed only to regulate an incremental sliver of the unregulated low pressure transmission pipeline universe. And I would like to point out to the Committee, having participated in the public meetings and on the advisory committee, that much of the discussion there was on gathering lines, not on the low stress transmission lines.

This means that many miles of low pressure transmission pipelines remain unregulated and susceptible to the problems BP experienced. And PHMSA will never even know about most such problems because the unregulated pipelines need not report their releases to USDOT. Out of sight and out of mind.

In developing its proposed rule, PHMSA ignored technical and other information provided it by public interest organizations and the proven efficacy of smart pigging and, instead, moved forward with industry's proposal to address these lines substantially intact. The proposed requirements are not equivalent, and we heard some questioning on that today, and contrary to PHMSA's testimony, six pages of rules were reduced to one paragraph that is not as enforceable. And as a member of the advisory committee, we spent a long time making those regulations as enforceable as possible. The "must" is incredibly important.

Additionally, the Committee's marked up version of the pipeline safety law reauthorization, H.R. 5782, is not something that we support as public interest public safety groups, as far as it addresses the low stress pipelines. Cook Inletkeeper and the Pipeline Safety Trust will submit detailed comments to PHMSA on the 2006 proposed rule; however, Congress needs to know right now that PHMSA's proposed rule is just a patchwork of requirements taken from Part 195, with no substantial evidence that such requirements will decrease releases significantly.

In addition to improving pipeline safety regulation, Cook Inletkeeper and the Pipeline Safety Trust recommend that Congress consider adopting the following measures: authorize, perform, and implement the recommendations of an independent audit on the maintenance and operation practices of all North Slope oil and

gas facilities; create a citizens oversight group modeled after the Prince William Sound Regional Citizens Advisory Council created after the Exxon Valdez oil spill; harness clean, renewable, and homegrown energy sources like properly cited wind, solar, tidal, and farm-based bio-fuels, and promote the use of plug-in hybrid vehicles; reduce our Nation's dependence on oil through increased efficiency and conservation; and, last, consider the difficulty of preventing oil and gas-related releases before making sensitive onshore, for example, the Arctic National Wildlife Refuge, or sensitive offshore environments available for oil and gas drilling.

In conclusion, PHMSA's current proposal deserves aggressive congressional questioning and it will receive strong negative public comments. Cook Inletkeeper and the Pipeline Safety Trust believe there are sound safety, environmental, and economic rationales for PHMSA to issue a rule requiring all low pressure transmission pipelines to meet existing transmission pipeline standards, just as the non-rural low pressure alliance must meet.

We commend BP for admitting fault for its technical and related financial misjudgments with respect to its North Slope transit pipelines. Let's learn from this situation and make certain it does not happen again by ensuring that no low pressure pipelines remain unregulated.

Thank you very much for your attention to these concerns.

Mr. YOUNG. Thank you.

Mr. Marshall?

Mr. MARSHALL. Mr. Chairman, members of the Committee, thank you for the opportunity to speak today. I am Steve Marshall, President of BP Exploration, Alaska.

In the past six months we have had two leaks from the oil transit lines at Prudhoe Bay. These occurred on my watch and, as President, I am in overall charge of the business in Alaska. The buck stops with me. And my team and I will do everything we can to rectify this situation going forwards, to get production back as quickly and as safely as we can, and apply the lessons learned going forwards.

We have fallen well short of what you and the American people expect of BP, and have fallen far short of the standards we expect of ourselves. We know, going forwards, that we will be measured by not what we say, but what we do, and we are in action to fix the problems and, in doing so, regaining your trust and that of the American people.

Both spills have been cleaned up. We have received positive comments from the State agencies about the quality of our responses, and we believe there will be no lasting damage to the environment. We won't know the exact cause of the leaks until we complete the failure analysis of the pipes. That work is underway in cooperation with both State and Federal regulators.

We believed we had a very comprehensive corrosion management system, one that covers over 1500 miles of oil pipelines, flow lines, gathering lines, oil separation facilities, and, indeed, transit lines. The inspections that we did told us time and again that these pipelines were in good condition. In retrospect, since these leaks, we have identified gaps in that program, and we are going to take the lessons and apply them going forwards.

Currently, our primary focus is on the safe resumption of oil production from the east side of Prudhoe Bay. Let me speak first to the western side of the field.

Currently, the west is producing over 200,000 barrels per day. We continue to gather additional inspection data, and so far 25 percent of the transit line on the west has been surveyed and, so far, appears to be in good condition for service. Our confidence in that line increases every day.

On the east side of the field we are pursuing two options for the safe resumption of production. We are vigorously inspecting the transit line, and, to date, we have completed nearly 6,000 inspections, again, about 25 percent of the line, and so far this data set also indicates fitness for service; and we are currently working with the DOT to submit an application for restate of the east to allow maintenance and smart pigging of that line.

We are also aggressively pursuing bypasses to connect the production facilities in the east to existing lines which are known to be of good condition. We expect those bypasses to be complete by the end of October. And, beyond that, pipeline replacement will start during the latter part of this year at a project expected to cost in the order of $150 million.

Looking ahead to the longer term, I would like to make five points:

First, we will implement a program of routine maintenance and smart pigging going forwards on all our transit lines on the North Slope;

Second, we will determine the precise corrosion cause and modify our corrosion management system accordingly;

Third, we will voluntarily include all of BP's operated transit lines, all 122 miles, in the DOT's internal management program;

Fourth, we will replace 16 miles of transit lines; and

Fifth, we have already made organizational changes, adding a technical directorate, to review and modify operating standards and, importantly, to verify that those standards are indeed being met.

Since 2000, we completed many internal and external reviews of our corrosion management system, covering the work environment, the technical integrity of the program and the integrity of the data we use. I rely daily on experts, teams of experts in Alaska to manage the corrosion management, as I do on all aspects of our business, indeed, as I rely on many teams to manage the entirety of our business in the State.

But it doesn't stop there. I welcome challenge, scrutiny, whether it comes from government, from partners, our commercial joint venture partners, whether it comes from external consultants and, indeed, from our workforce. Having worked on the Slope for five years early in my career, I know the importance of getting worker input, and I take very seriously any way we can to shine a spotlight on our systems and continue to make improvements to all of those.

We have had State reviews, multiple internal audits, including two reviews by our chief engineer of our corrosion management system. As we have gone back over those reviews, no one pointed

to these transit lines as a particular problem. If they had, we would have acted on it.

In closing, we are committed to accomplishing all of this with full transparency with all of our stakeholders, and with the full involvement and enrollment of regulators, partners, and employees; and I am personally committed to investing the time, effort, and resources to regain the trust of you and the American public. Thank you.

Mr. PETRI. [Presiding.] Thank you. Now we will turn to questions and begin with Mr. Oberstar.

Mr. OBERSTAR. Ms. Epstein, when the Committee acted earlier this year to move the pipeline safety bill, you had some comments on the bill at the time. Do you recall what those were?

Ms. EPSTEIN. I was invited to testify in March, and I was not as involved in the actual markup, although we were very interested in participating in that. But our position has been consistently that the low stress pipelines need to be regulated, all of them need to be regulated. If they are not, we have no assurance that the corrosion prevention measures, the cleaning measures, and all the other Part 195 measures that are required are actually being carried out.

And it is of concern to me that by not requiring all those measures to be done that the excellent record of declining releases that PHMSA is touting would not apply to these types of pipelines, even for the small segment of lines that they are going to be regulating as part of their proposed rule, should that rule be made final in its current form. There is just overwhelming technical evidence that they need to be regulating all these lines.

Mr. OBERSTAR. Do you support change in the proposed rule, which I discussed with Admiral Barrett earlier, that current law says operators must inspect the integrity of the pipeline using internal inspection measures and the proposed rule says the operator may use inline inspection? He seemed willing to return to the current law of a requirement, a must inspect. Would you support that?

Ms. EPSTEIN. If you look at the proposal, some of the existing requirements are referred to in whole. In the case of the integrity management, six pages, as I mentioned in my testimony, of very specific requirements were reduced to a one paragraph section of the proposed where it does say "may." And with due respect to Vice Admiral Barrett, the situation where some pipelines are not piggable is true for higher stress and higher pressure transmission lines as well, and there is an equivalent approach that can be taken there. It is also true for the lower stress non-rural lines.

Mr. OBERSTAR. Thank you.

Mr. Marshall, thank you for being here. It is somewhat courageous on your part to come and defend a record that is rather unsavory, frankly.

I want to understand your response to every five-year, in-line inspection of high-pressure liquid lines, low-pressure liquid lines in only populated areas, or so-called environmentally sensitive areas, and gas transmission in-line inspection every seven years. What would be your reaction, or what is your opposition to, as apparently has been the case for BP, to five-year inspection of all of those low-pressure pipelines carrying liquid material wherever they are?

Mr. MARSHALL. Mr. Oberstar, thank you for the question.

On the North Slope, BP has a very active pigging program. Each year, we run over 350 maintenance pigs across the entire of our system. Again, we operate about 1,500 miles of pipelines. These transit lines represent about 1/100th of those lines.

In addition, we inject over two million gallons of corrosion inhibitors with biocite added to try and eliminate the propensity of microbes to occur. We focus our maintenance pigging activities in the areas where we believe the probability of corrosion to be the highest. We start at the wellhead. Unlike many pipeline management systems, we have the opportunity to go further upstream to try and protect the entirety of the system, which hopefully protects the system going through to these transit lines.

We do employ and have employed smart pigs, maintenance pigs and smart pigs on the transit lines on the western side of the field in 1990 and 1998, and in the interim we have used a combination of techniques, ultrasonic testing and corrosion weight-loss coupons to verify the condition of the lines in the interim years.

On the west, it was only in late 2005 that we started to see the indications of higher corrosion rates that caused us to put a smart pig in the plan for 2006. Unfortunately, that was too late to prevent the March spill.

Mr. OBERSTAR. That was a good apologia pro vita sua, but it didnFEt answer my question. What objection do you have to a five-year inspection requirement of liquid pipelines, regardless of whether they are in populated areas or in so-called environmentally sensitive areas? With what you have just recited, I should think you would have no objection, it not in favor of.

Mr. MARSHALL. Mr. Oberstar, thank you again. I apologize for not addressing the question the first time.

I can only really speak for the Alaska operation. That is my scope of responsibility. Certainly, going forward, for these transit lines and for the replacement transit lines, we are committed to maintenance pig as regularly as we need to, to smart pig as least as often as the regulations require, and five years is not a problem on these transit lines.

Mr. OBERSTAR. And just one final point. I raised with Admiral Barrett a matter that Chairman Young had discussed on various occasions, that the Alyeska pipeline has a filter at the beginning of its line to filter out sand, water, corrosives. Why don't you do that?

Mr. MARSHALL. We actually do have, I wouldn't call them filters. If you can see the chart, the second of the two charts, there are on the North Slope in Prudhoe Bay, six producing facilities which are separation plants, which take the raw crude streams of oil, gas and water and actually do the separation, the straining of the solids, water, and take the gas off, to produce sales-quality crude that goes into these lines. So that is the highest quality crude oil that we can provide. So we actually have some very sophisticated facilities to do just that.

Mr. OBERSTAR. Well, according to data provided to us by the pipeline inspection agency, in 1998 there was an inspection of six areas that showed six areas of internal corrosion. It was no repigged and nothing was done to address those areas of corrosion. The agency also reports that BP covered or inspected only a portion

of the eastern section in July. I think there is a much broader area of responsibility here for the company to address. I will have to leave it at that.

Mr. PETRI. Thank you.

Mr. LaTourette?

Mr. LATOURETTE. Thank you very much, Mr. Chairman.

Thank you both for coming. Mr. Marshall, I think when you were in the room and I was talking to the Admiral, obviously anytime there is a leak or a disruption in the Nation's pipeline system, it has potential environmental and safety difficulties. I want to focus on the economics for the moment.

There are a number of people in my district, I would describe some as conspiracy theorists. They believe that you and other oil companies are manipulating artificially the price of gasoline on the world market. When they hear that there has been no smart-pigging of these lines since 1992 and you throw in executive compensation and you throw in record profits, it sort of fuels that.

So I want to read about page and a half, and then I have two questions, if you would just be patient. It is my understanding that the United States Government has initiated investigations both civil and criminal of BP, alleging among other things that BP manipulated U.S. crude oil and unleaded gasoline markets. It is my understanding the company has acknowledged the investigation and said that they are cooperating. The Commodities Futures Trading Commission has issued subpoenas, which has focused on the possible manipulation of the global over the counter market in 2003 and 2004.

The separate gasoline inquiry, it is my understanding, focuses on a single day's trading on the New York Mercantile Exchange in 2002. In the broader civil investigation into crude oil trading, investigators are examining whether BP used information about its own pipelines and storage tanks at a key delivery point in Cushing, Oklahoma to influence the crude oil price benchmarks.

When the leak occurred in March, the Office of Pipeline Safety issued a corrective action on March 15. It is my understanding that on July 20, they had to come back in and evaluate what the company was doing or not doing, and issued an amendment on July 20. I was struck that we should judge the company not by what you say, but by what you do.

So my first of two questions would be, it is my understanding in the amended corrective order that BP was instructed to conduct additional gamma ray scans at Prudhoe Bay west and east in the Lisbon lines, extract and analyze samples from the failed Prudhoe Bay west pipeline wall, install facilities to handle solids from cleaning pig operations, develop contingency plans to send solids directly into the transatlantic pipeline tanks, and by August 1 develop a plan to remove the standing crude oil in the Prudhoe Bay west pipeline by August 22. It was my understanding that was about 17,000 barrels of oil, and report within 30 days on actions and plans for replacing, abandoning and restoring the operation of the Prudhoe Bay west pipeline.

Can you tell us, please, what the status is of the company's compliance with the amended corrective action order?

Mr. MARSHALL. Thank you for the question, Mr. LaTourette.

To the best of my knowledge, we are in full compliance with the amended order. We are working very closely with the Department of Transportation on all aspects of that line, of all aspects of the amended order. With specific reference to the western line, that indeed has been drained. You are absolutely correct on the volume. We are proceeding to put in place the necessary bypasses, working with Alyeska to put a bypass into tank 110 at pump station one to allow the solids to avoid plugging up the filters, if there is that potential.

Mr. LATOURETTE. I thank you for that.

My second question is going to be really a simple "why." It is my understanding that the findings that the Office of Pipeline Safety made, among other things, was that your predecessor, ARCO, had suspended the cleaning of the Prudhoe Bay east pipeline in 1992, when solid deposits clogged the strainers that have been discussed here, in the tap system. Again, I mean, I have heard a lot of we didn't do it, or some people don't do it because it wasn't required. The Government doesn't require me to change the oil in my car every 3,000 miles, but I do because I would like my car to continue to run.

So my question, I think on behalf of the folks that I represent, and by the way, the biggest building in downtown Cleveland is the BP Tower. We are very proud of your presence when you were there. Why, why since 1992 didn't somebody at your company, or the company you subsumed, decide that this was a good idea?

Mr. MARSHALL. I can't speak for the intervening years between 1992 and 2000, but when BP took over the lines in 2000, we instituted a program of inspection, ultrasonic testing of the line. We compared the results of that testing with the results of the smart-pigging that have been done on the west side only two years previously. Prudhoe Bay consists of two halves broadly similar, eight miles with three facilities on each side. We found the results of our ultrasonic testing to confirm the line was in very similar good condition to that in the west. So we continued that through until the present time.

Mr. LATOURETTE. The only thing I would say is that I knew that you did that, and to me that is a little bit akin to my doctor putting a stethoscope on my chest and making a determination that I didn't have heart disease. I think sometimes more is needed, and I think it saddens me that more wasn't done in this situation, and you have acknowledged that.

Ms. Epstein, you look like you wanted to say something. Do you want to say something?

Ms. EPSTEIN. No.

Mr. LATOURETTE. Okay, very good.

Thank you, Mr. Chairman. I yield back.

Mr. PETRI. Thank you.

Just housekeeping, I am reliably informed that there will be some votes on the floor starting in five to ten minutes. This hearing room will need to be cleared about 1:30 or so for another hearing at 2:00 o'clock. With that in mind, we obviously can accommodate members.

Mr. DEFAZIO. Mr. Chairman, thank you. I appreciate it.

To Mr. Marshall, do you handle a significantly different substance than Alyeska? I mean, is there a tremendous difference in the oil that you are moving and they are moving?

Mr. MARSHALL. To the best of my knowledge, we handle oils from a variety of fields. Indeed, the quality does vary considerably.

Mr. DEFAZIO. Right. I mean, they have a mix; you have a mix. You would think that maybe some of the same contaminants in theirs are in yours and yours are in theirs.

Mr. Marshall. They do take an aggregation of all the fields, including those that we operate and those that ConocoPhillips operates.

Mr. DEFAZIO. So then you are saying your fields may be particularly problematic?

Mr. MARSHALL. No, I wouldn't say they are particularly problematic. We have a variety of crude oils of different qualities.

Mr. DEFAZIO. Right. Well, I guess the question I am getting to is you have such a long history in Alaska and as I understand it you have been top dog for the last five years up there. If Alyeska thinks that they have to smart-pig every three years and they do cleaning pigs every seven to fourteen days, I guess the question would be, why was there a management decision made to wait between eight and fourteen years on your lines? I mean, wouldn't you think if they are cleaning them every seven to fourteen days, you should maybe clean a little more frequently than once every 14 years?

Mr. MARSHALL. When we pigged the western side of the field in 1998, there was very nominal solids came back, less than two cubic yards of solids, which did not indicate a solids problem.

Mr. DEFAZIO. That was the cleaning, and then you followed it with a smart pig?

Mr. MARSHALL. A smart pig, yes.

Mr. DEFAZIO. Yes. And then you found some anomalies when you did that?

Mr. MARSHALL. We found some anomalies, but we believed that the management of those was under control through the subsequent testing. But we do run cleaning pigs and smart pigs on a number of our lines. Northstar runs a pig every 14 days. We run that for preventing paraffin buildup. There are a number of reasons why pigs are run. One is for cleaning lines. The other is to avoid the potential for wax buildup. An 800-mile pipeline is quite a different proposition than an eight-mile pipeline, with cooling effects and the need to inject reducing agents.

We believe that the systems we had in place using ultrasonic testing and corrosion coupons were sufficient. As I have said before, clearly in hindsight, they fell short.

Mr. DEFAZIO. They were not.

Mr. MARSHALL. And we will rectify that going forward.

Mr. DEFAZIO. Yes, and as I understand it, I mean the cost, do you agree with the costs we heard earlier, a 22-mile line, approximately, we had here $175,000, or somewhat? I think we got a little lower number out of the Admiral.

Mr. MARSHALL. I think that is in the ballpark, yes.

Mr. DEFAZIO. Yes. So you said you have 1,500 miles of line in Alaska. Was that it, when you said 1,500 miles?

Mr. MARSHALL. That includes oil well lines, gathering lines, flow lines and transit lines, yes.

Mr. DEFAZIO. Okay. So for those which are well lines, you mean horizontal? Or you are talking—

Mr. MARSHALL. All on the surface lines. These are all typically above-ground.

Mr. DEFAZIO. Okay. So what kind of regime are you going to impose on the 1,500 miles now that you have this problem in terms of cleaning and smart-pigging?

Mr. MARSHALL. We have had, even prior to the spills, a very comprehensive program of maintenance-pigging and smart-pigging across the slope.

Mr. DEFAZIO. On some of the lines.

Mr. MARSHALL. On some of the lines, yes.

Mr. DEFAZIO. Yes. Well, how about all of them in the future? I guess the question would be, will you commit in the future that all your lines are going to be cleaned and smart-pigged on some sort of regular interval? When I look at the costs involved, they are infinitesimally insignificant in terms of the revenues of your corporation. I realize you are managing one particular part of it and there is probably a lot of pressure on you to maximize profits up there. But when you look at the downside, the interruptions, the costs, the pollution, the cleanup, it seems that your higher-ups would need to recognize that that is a cost that would be well-spent.

Mr. MARSHALL. We are certainly committed to doing everything we can to make sure the inspections of those lines, whether it is involving maintenance-pigging, smart-pigging, the injection of corrosion inhibitors, looking at reformulation of corrosion inhibitors, which we do many times a year to make sure we have the best chemicals that we can possibly use, and are indeed effective.

We are certainly committed to doing a baseline reassessment of all our lines going forward to make sure we truly understand the condition of the lines and implement whatever practices we need to.

Mr. DEFAZIO. Ms. Epstein, are you reassured by this commitment here? Do you think a little more needs to be done?

Ms. EPSTEIN. I do. I understand that BP historically has paid an extensive amount of attention to its flow-lines up there, the vast majority of the mileage with respect to preventing corrosion. That is a good thing. The problem is that these were judged to be low-risk lines. Clearly, that was a technical mistake. It is something that highlights that even what the Federal Government considers low-risk can be inaccurate as well.

But what I think we really need to focus on today is just making sure that all of the low-stress lines get the regulation they deserve.

Mr. DEFAZIO. So could we say a low-risk line is a line that hasn't yet had a problem?

Ms. EPSTEIN. You could if you don't have the data. Absolutely.

Mr. DEFAZIO. Yes. Thank you.

Thank you, Mr. Chairman.

Mr. PETRI. Thank you.

Mrs. Kelly?

Mrs. KELLY. Thank you.

Mr. Marshall, I grew up in Lima, Ohio, where there is a BP catalytic cracking factory. In the late 1970s and early 1980s, three percent of all the air pollution in the United States of America was thrown up into the air by that factory. So my feeling about BP is somewhat tainted by all the acid rain that came over, because I then lived in New York, from a lot of that kind of thing.

I am concerned that there is a pattern in BP of not maintaining what they have. You state in your testimony you took over BPXA during a critical juncture for the company as it emerged from a period of low prices, and that you wanted to re-instill pride trough improving both the physical facilities in the oilfield and our operating practices.

So what has stopped you from reinvesting your companyFEs record profits into a new pipeline inspection regime, to restore those aging and deteriorated pipelines, and rededicate that environmental damage that has already been brought to us by these pipeline failures? I would like to know if you can do all this repair without passing the costs of the repair, maintaining your pipelines, onto the consumer?

So I am asking you two questions.

Mr. MARSHALL. Mrs. Kelly, thank you for the question.

Since I arrived in Alaska in 2001, I am proud to say we have actually increased significantly the amount of money we spend, not only capital investment, but also the amount we spend to operate the field. Our corrosion management program has increased 80 percent over the five years. We have increased our major repair spend, a four-fold increase in that since 2004 to 2007. We continue to invest. The infrastructure that we have up there is of vital importance not only to us, but to the Nation.

These two spills have very painfully reminded us of the obligation we have to provide safe fuel to the Nation. We are going to leave no stone unturned making sure that the pipeline repairs, the replacements that we do every year, are indeed brought forward. We accelerate our renewal programs that had in place. We are going to bring those forward. We are bringing extra people in to make sure that we can actually more aggressively address those programs and make the necessary investments.

We have been doing that. I am proud to say that the business is in far better shape, notwithstanding these two spills, but I am not satisfied we have gone far enough. I won't be satisfied until we have actually reestablished the trust of both the American Nation and all our stakeholders.

Mrs. KELLY. I appreciate that. Would you now address the second question I asked you? How can you do this without passing the costs on in the form of higher gasoline to the consumer?

Mr. MARSHALL. Quite frankly, that is not an issue I have been focused on. We need to understand what our plans are, our investment. Every year we invest something in the range of $600 million to $700 million per year capital investment on the North Slope. We see that investment going forward increasing dramatically with the prospect of a gas pipeline. We need to make sure that we have facilities that are fit for service. As a number of the members have talked about this morning, the flow-rates have dropped. We need to make sure that the infrastructure there is replaced with infra-

structure not because it is in bad shape, but is more appropriate to the condition of service that it is in.

One of the lessons that I have learned from this is, from these last two incidents, is the importance of understanding changing conditions. If I could go back and do a better job of something, it would be to truly understanding the changing nature of the oilfield and make sure we are doing everything we could to address that.

Mrs. KELLY. Perhaps, Mr. Marshall, you might send somebody by my office to try to help me understand how you are going to do this without increasing the cost of gasoline. We are struggling right now. You know that.

Mr. MARSHALL. Okay. I would be happy to do that.

Mrs. KELLY. Thank you.

Ms. Epstein, do you have something?

Ms. EPSTEIN. Yes, Representative Kelly. I have one small point to add. I had stated in my testimony that pipeline safety is a good investment for the public and small business, for just the reasons that you are raising. When we don't do pipeline safety right and we have serious disruptions, of course it is the public and the small business community that ends up paying, and we will never get that money back because no matter what happens, no matter who is at fault.

So that is why we feel so very strongly that we need a regulation that covers all low-stress pipelines, so we donFEt wait until there is yet another accident and then go back and have this same sort of hearing again, and say there is another type of low-stress pipeline that we need to cover. The State safety regulators recommended in 1988 that all these pipelines be covered by PHMSA and we are still waiting.

Thank you.

Mrs. KELLY. Thank you. I yield back.

Mr. PETRI. Thank you.

Mr. Pascrell?

Mr. PASCRELL. Thank you, Mr. Chairman.

Thank you, Mr. Marshall. You have been pretty straightforward in your answers. I want to ask you a couple of questions.

To your knowledge, where did DOT get the data it used for the proposed rule? In your experience, working for over 10 years on behalf of the environmental and safety community, has DOT ever called you to obtain data or other information on the number of low-stress pipeline miles, on the seriousness of low-stress pipeline releases, or on the number of spills themselves, in order to develop specific rulemakings? That is my first question.

Mr. MARSHALL. Mr. Pascrell, I have to confess that I donFEt have that information in front of me. I will be happy to take that away and provide a written response back to you as soon as we can gather that.

Mr. PASCRELL. Do you know the answer to that question, Ms. Epstein?

Ms. EPSTEIN. No, I don't know the specifics with BP. I do know general surveys that have been done by PHMSA and I do know some of the problems with the data they have collected and the inconsistencies, and some of the recent data that I cited that was submitted just before the Prudhoe Bay shutdown from industries

showing that 21 percent of the larger spills from 1999 to 2004 were from these low-stress pipelines, and they represent far less percentage of the overall Nation's mileage than that.

Mr. PASCRELL. We got a rude awakening when we investigated the natural gasline situation in the United States of America, that the Federal Government was not doing its job, and the Federal Government is standing there. I am wondering what they are doing in this kind of work. So there is responsibility here on all accounts for everybody.

I want to ask you another question, Mr. Marshall. You state in your testimony on page seven that corrosion rates are not static, and they can increase or decrease depending on fluid properties or changes in conditions that affect the efficacy of corrosion inhibitors. For that reason, locations that are prone to corrosion damage, or where damage has been identified, are inspected as often as every three to six months. You said that.

In 1998, corrosion was detected in the western side of the line. This is where the March leak was located. How often was that section of pipe inspected between 1998 and 2006?

Mr. MARSHALL. Mr. Pascrell, to the best of my knowledge, the pipe was inspected on a regular basis with ultrasonic testing. What we try and do with that ultrasonic testing is determine the actual corrosion rate, and with coupons try and understand what the corrosion rates in terms of potential wall loss per year might be.

Mr. PASCRELL. But what you have heard today, Mr. Marshall, is that there is some question about the sufficiency of ultrasonic, and other proposals have been suggested here. I would like, if you could possibly give me a written answer to both my first question and my second question, which I just asked you. I would like that, and I would hope that you could submit that within a week through the committee to me. Is that a problem?

Mr. MARSHALL. I would be happy to do that, yes.

Mr. PASCRELL. Thank you, sir.

Thank you, Mr. Chairman.

Mr. PETRI. Thank you.

I would like to thank you both for your testimony. We are about to conclude. I can't help but ask a question or two myself. I hesitate. I was trained in law school and I was told never to ask questions you don't know the answer to, but I guess I will violate that.

Do you have any idea how much the cleanup is going to cost BP, in dollars?

Mr. MARSHALL. That should be a question it would seem I would know the answer to. That is again something we have not focused on. I will be happy to get the answer. We don't look at costs at all when it comes to cleanup. We do what it takes. We have brought whatever equipment, people and resources we need to do that. As I said earlier, the feedback on our response has been first-class. I will be happy to give you an estimate of what the spill in March and the leak in August have actually cost us.

Mr. PETRI. It occurs to me that under the leadership of Lord Brown and others, BP has spent hundreds of millions of dollars changing its whole corporate image to this green and gold, and a huge public relations effort. And that investment is probably going to have a reduced payoff because of episodes like this. So there are

not only the direct costs of the consequences of cleanup, but the enormous long-term costs in terms of trying to create a favorable environment in which to service your customers and do business.

Mr. MARSHALL. Mr. Chairman, I am very conscious of the impact on reputation, public trust, confidence in BP. I know that track record takes a long time to build, and it is very easy to lose it. We are determined. I am determined to earn that trust back. As I said at the start, it is about action, sustained action, not just in a few short months, but over a sustained period, many years. I have the backing of the company to do just that, to put whatever investment, both capital and operating, into our business to make sure we get back to where Alaska has enjoyed, with the highest standards, setting those standards, and actually meeting those standards.

Mr. PETRI. We would appreciate any informed, thoughtful suggestions you might have as to how we in this Congress or different Federal agencies could help you with that process in terms of not just beating you about the head and shoulders, which may be deserved in this case to some considerable extent, but also in terms of helping figure out the most useful ways we can to reduce the chances.

Nothing is perfect, and you are going to have errors in life, and you can always fight the last war, but we would like to encourage you to help, as a leader in the industry, in developing not just industry policies, but legal frameworks that we are in the business of helping to create, and regulatory frameworks that are conducive to the most environmentally helpful and safe and efficient operation of these pipelines.

It is one thing to say we are doing a good job. It is another thing to do it in an intelligent way that actually really lowers costs over time for everyone and makes a cleaner world. Costs and good environmentalism are not enemies. They often work hand-in-glove, as you know.

Mr. MARSHALL. Mr. Chairman, you have my pledge that not only do we want to meet regulations, we want to be proactive in setting the standards, working with Congress, working with the DOT, to apply whatever lessons we learn from these incidents into the future, not only for us, but for the industry.

Mr. PETRI. We look forward to hearing from you with any suggestions as to how we can help make sure. Sometimes there are competitive disadvantages, if you want to do the right thing and the competitors donFEt. It makes sense to have a standard that is set across the board. In my part of the world, in the paper industry, they were very much in favor of trying to put in some environmentally good rules, but they wanted Federal regulations or laws because they did not want to be put at a competitive disadvantage if they did do that.

So there is a proper place for us to help good corporate citizens be in real terms good corporate citizens. And also to help people live up to the standards they set for themselves, and we would like to do that in this case.

Mr. MARSHALL. Okay. I would be happy to do that.

Mr. PETRI. This hearing is adjourned.

[Whereupon, at 1:38 p.m. the committee was adjourned.]

UNITED STATES DEPARTMENT OF TRANSPORTATION
PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION

Oversight Hearing on

Low Pressure Liquid Pipelines:
In the North Slope, Greater Prudhoe Bay, Alaska

Before the
Committee on Transportation and Infrastructure
United States House of Representatives

Written Statement of VADM Thomas J. Barrett, USCG (ret.)
Administrator
Pipeline & Hazardous Materials Safety Administration
U.S. Department Of Transportation

Expected Delivery 11 a.m.
September 13, 2006

WRITTEN STATEMENT OF VADM THOMAS J. BARRETT, USCG (RET.)
ADMINISTRATOR
PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION
U.S. DEPARTMENT OF TRANSPORTATION
BEFORE THE
COMMITTEE ON TRANSPORTATION AND INFRASTRUCTURE
UNITED STATES HOUSE OF REPRESENTATIVES

September 13, 2006

I. INTRODUCTION

Chairman Young, Ranking Member Oberstar, members of the Committee, thank you for the invitation to appear today. I am pleased to discuss the actions of the Department of Transportation's Pipeline and Hazardous Materials Safety Administration (PHMSA) to oversee safe operations of BP Exploration pipelines on the North Slope of Alaska and prevent future pipeline corrosion problems on low stress pipelines.

The responsibility for safety rests first with the operator. Our mission is achieving and maintaining the safe, environmentally sound and reliable operation of the nation's pipeline transportation system. In practice, this requires understanding the condition of pipelines in the U.S. and assuring that operators take action to address any unsafe condition. We make full use of the authority given us in the Pipeline Safety Improvement Act of 2002.

Our progress with pipeline integrity management programs positioned us to take effective action when the BP low stress transit line failed in Prudhoe Bay. Quick DOT/PHMSA action has been crucial to improving the performance of BP since the first spill. As a result of additional

controls we imposed, limited operation of these key pipelines has continued. We are also working hard to allow restoration of lost production capability as soon as it can be safely achieved.

We have proposed new federal regulations for low stress pipelines including the BP lines that recently failed. The rules have been under development for several years and would prevent the type of corrosion failure BP allowed to develop at Prudhoe Bay.

Over the past six years, PHMSA designed and executed a risk-based systems approach to oversight of the national pipeline infrastructure. We undertook rulemaking projects on a risk prioritized basis, acting first on those parts of the infrastructure that posed the greatest risk to people and then the environment. To begin the program, we defined high consequence areas and mapped the locations, including areas unusually sensitive to environmental damage, in the National Pipeline Mapping System. Building on this framework, we developed and implemented integrity management requirements for large and small high pressure hazardous liquid pipelines and high pressure gas transmission pipelines.

Because they operated at less than 20 percent of their rated strength, the BP transit pipelines that failed in Prudhoe Bay had not been regulated by DOT. However, on August 31 we proposed rules to bring these lines under Federal oversight. Our proposal provides robust integrity protections, including corrosion control with cleaning and continuous monitoring, integrity assessment, leak detection and other safety measures for low stress pipelines. The proposal is designed to protect

unusually sensitive environmental areas in rural locations and would mandate a level of care well in excess of what BP had in place on the lines that failed.

The recent BP pipeline failures in Alaska are not indicative of the safety of the national pipeline infrastructure, which has a steadily improving safety record. Furthermore, BP's practices on its low stress lines in Alaska are not characteristic of other low stress pipelines in the U.S. lower 48 states. Based on information developed in connection with our rulemaking proposal, we believe that most other unregulated low stress pipelines are operated to a higher standard of care.

Since March 2 we have been working steadily to ensure BP adequately addresses the safety, integrity and reliability of all of the company's pipelines. While PHMSA was not previously regulating BP's three low pressure transit lines in Prudhoe Bay, following the spill we exercised our statutory authority to protect life and the environment. These pipelines will remain under DOT orders as long as we believe they pose a threat to life and the environment.

II. WHAT DOT HAS DONE TO RESPOND TO THE BP FAILURES

PHMSA immediately took acting following the March 2nd spill. When the failure was discovered on a segment of 34" diameter above ground pipeline in the Western Operating Area referred to as OT21, we offered our assistance on cleanup to the Unified Command conducting the response operation, under leadership of the Environmental Protection

Agency (EPA). Shortly thereafter, PHMSA notified EPA, the Department of the Interior, and state agencies, as well as the Joint Pipeline Office (JPO), of our intent to exercise statutory jurisdiction over these three transit lines by issuing a Corrective Action Order (CAO), essentially taking the Federal oversight role in the remediation and repair of the failed line. Our order covered the Western Operating Area line, which failed in March, as well as the Eastern Operating Area and the Lisburne lines, a total of 22 miles of low stress lines. Our mission is and remains ascertaining the condition of these lines, understanding the failure mechanisms, and assuring that the operator takes all needed action to keep them operating safely in the future.

Our Corrective Action Order required BP Exploration Alaska, Inc. (BPXA) to determine the condition of its pipelines and to repair defects. First, we ordered BPXA to run what are known as cleaning or maintenance pigs in order to remove solids in the line and to perform in-line inspections, known as smart pigging, in order to understand the pipe condition from the inside out. Second, we directed more frequent testing, and an enhanced corrosion management plan, including changing the level of corrosion inhibitors to improve corrosion prevention. We required running cleaning pigs on a routine basis to remove water and other constituents that could contribute to internal corrosion. Third, we set standards for assuring integrity of each of BPXA's low stress pipelines in service. Fourth, we dispatched the first of many inspection teams to inspect the pipe that failed, assess the cause of failure, review operations and maintenance records, monitor operations, including testing, inspect repairs, and verify compliance with our requirements.

Our inspection indicated the probable cause of the failure was internal corrosion. According to records provided by BPXA to the agency, the line that failed had been operating at a very low pressure, well below the 20 percent of designed yield strength that would have been the threshold for DOT regulation. BPXA's records indicate that this pipeline was designed to operate at approximately 825 psi and BPXA was operating it at about 80 psi. Most of the line is above ground on vertical and horizontal supports. The pipeline is bare steel pipe, covered with thermal insulation, surrounded with a steel jacket. The pipeline had been hydrostatically tested in 1977, and was internally inspected with a smart pig in 1990 and 1998. We found no history of previous failure. A leak detection system was installed and working but did not sound during the leak.

Until recently, BPXA has not moved as swiftly as we would have expected to comply with key requirements of our order – namely, the requirements to clean and smart pig its low stress lines. Soon after we issued the order, BPXA advised PHMSA that it would not be able to comply with the requirements to "smart pig" the lines within the specified time period, a critical step in meeting our objective of having the best possible understanding of the condition of the pipelines.

On May 23, PHMSA dispatched a more comprehensive field investigative team to evaluate all potential integrity threats to the transit lines along with BPXA programs to mitigate those threats. The team reviewed BPXA's overall program to manage the transit lines, assessed findings emerging from the monitoring plan, reviewed inspection

records, observed testing procedures used on the transit lines, toured all facilities, interviewed technicians, reviewed qualifications of personnel, inspected test records, and reviewed the leak detection system. The team suggested improvements for BPXA's Interim Monitoring Strategy such as increased corrosion monitoring points to reduce the risk that vulnerable locations could be overlooked. PHMSA directed BPXA to increase the inspection frequency to provide an early warning of any unanticipated corrosion acceleration. We directed that more stringent repair thresholds be incorporated in the program and asked that communications be improved between analysts and field teams. We also required improved patrolling of the lines. Since the May field inspection, we have maintained a field oversight presence at all times to ensure the operator was taking the actions necessary to maintain safety.

Based on our analysis to date, we believe that internal corrosion, induced by microbial activity, caused the pipe to deteriorate at the point where it failed – a low section in a caribou crossing. Typically, operators control this type of corrosion through a combination of cleaning pigs and corrosion inhibitors. The cleaning pig is usually necessary to deliver the corrosion inhibitor to the pipe wall and to disperse active bacteria colonies.

We do not understand why BPXA did not address these problems more aggressively much earlier. BPXA could have used cleaning pigs to clean out liquids accumulating in low spots within its low stress pipelines. Further, there is a high likelihood that cleaning pigs would have improved the effectiveness of the corrosion inhibitor by getting the

chemicals to the wall of the pipeline without the interference of solids and other deposits. Given the many risk factors in the North Slope environment, including use of water in the production process, the chemistry of the crude oil product itself, and the varied geologic factors in the production field, it is a mystery why BP chose not to run cleaning pigs on these lines on a regular basis. Based on information received in connection with developing our proposed rulemaking for low stress pipelines, we believe most operators demonstrate a higher standard of care in their operations, whether or not they are federally regulated.

In June BPXA sought extension of our deadlines for the pigging, contending that factors beyond its control made it impossible to complete the required pigging until the latter half of 2007. BPXA proposed alternatives it claimed would provide safety equal to what could be accomplished with a smart pig until the three transit lines could be smart pigged. We denied the requested extension but issued an order making it clear that we were not ordering BPXA to shut down its operations on the basis of its failure to meet the pigging deadlines. We had preliminarily reviewed the alternative test procedures and the testing data furnished by BPXA, and did not believe that an immediate shutdown was required for safety. Our order expressly reserved enforcement options with respect to BP's failure to comply with the deadlines.

PHMSA engineers were very concerned about the primary reason BPXA gave for its alleged inability to complete pigging -- build up of solids, including impurities in the product stream such as waxes and other materials. Alyeska, the operator of the Trans-Alaska Pipeline (TAPS),

had notified PHMSA about its concerns with adverse impact on its pipeline if these solids should be allowed to pass through from BPXA to TAPS. The Joint Pipeline Office (JPO), which coordinates TAPS issues, had concerns as well, and ensuring the continued safe operation of TAPS is a primary concern of PHMSA.

PHMSA needed to better understand the amount, composition and density of this "sludge" material and how it would be handled before we could allow BPXA to proceed with pigging to be sure that BPXA operations could pose no risk to the safety and reliability of the Trans-Alaska Pipeline System. Alyeska needed to be certain about its ability to handle the waste. BPXA put forward preliminary estimates of as much as 12 inches of sludge, with varying amounts in different segments of its 22 miles of transit lines. After several weeks, BPXA revised its estimate of the amounts of sludge in the lines downward. Based on evidence that there was limited sludge in the Lisburne line, BPXA pigged that line in June. PHMSA still does not have a confident estimate of the amount of sludge in the line segments that have not yet been pigged. BPXA also took months to develop plans to handle the removal of sludge.

Because of the delay in resolving this and other issues, in early July, I, along with my Chief Safety Officer, Ms. Stacey Gerard, and my Western Regional Director, Mr. Chris Hoidal, traveled to Prudhoe Bay and Anchorage to meet with BPXA and Alyeska executives, JPO officials and State of Alaska representatives and to see first hand what BPXA was doing to comply with our order. I was concerned about the pace of progress and the level and quality of BP's efforts to overcome

engineering or other issues that would complicate or delay required maintenance and smart pigging. Four months had elapsed since the first spill, and BPXA should have been pursuing all available options for handling the sludge and preparing for pigging, investing in multiple plans to minimize further delay. What we observed instead was a disappointment. BPXA's rate of progress was slowed by ineffective problem solving, poor communications, delay in ordering needed parts and equipment, and failure to complete actions needed to fully understand the condition of the pipelines and address the conditions uncovered.

For example, BPXA had told us in May of the need to order valves and stopples to isolate a certain section of the failed pipeline and the need to move the pig launcher around the failed site. Two months later, during our July visit, we learned that some parts were still not ordered. It is still not clear to us that it was impossible to make plans to remove the solids and begin pigging operations by the June 12 deadline in our order.

Subsequent to this visit, on July 20, we issued an amendment (Amendment Number One) to our original order intended to address these deficiencies by mandating that BPXA develop specific plans and timetables or parallel tactics to expedite pigging operations on lines that had not yet been cleaned. We required development of a preliminary engineering design and implementation plan to install a permanent facility for handling solids resulting from cleaning pig operations plus a concurrent contingency plan for a bypass around TAPS Pump Station (PS)-1 facilities so solids could be delivered into storage. This action

would assure that sediment in the product stream picked up in pigging would be safely managed in tanks to avoid contamination and maintain the safety of TAPS. We required a comprehensive engineering plan for the draining or "de-oiling" of approximately 17,000 barrels of oil contained in the idled OT21 line segment that failed in March. We also ordered the taking of wall samples and gamma ray photography post pigging to gain the best possible understanding of the real time levels of remaining solids.

By the end of July, BPXA was finally making progress to address our safety concerns and to restore reliable energy transportation. I am pleased to report that as a result of these orders extracting product from the OT 21 segment of line was completed in late August. The PS-1 bypass – aimed at delivering solids from the WOA line through the use of a bypass line into TAPS storage tanks – was successfully hydrotested in early September, and an alternate bypass, "the Fizzy Bypass," should be completed at the end of September.

On July 22, 2006, 37 days after the deadline established in our March order, BPXA performed the smart pigging ordered by PHMSA on the 30 inch segment of the FS2-FS1 Eastern Operating Area pipeline. BP informed us of the results of the testing on August 4. The report identified 16 locations of wall loss in excess of 70 percent, including two over 80 percent, at 12 separate areas. Moreover, 187 sites showed pipe wall loss exceeding 50%. While the failure on the Western line occurred on a low spot in a caribou crossing, the locations of severe wall loss on the Eastern line were on straight pipe.

On August 6, BPXA discovered a leak while in the process of performing direct examination of the EOA as a follow-up to the pig inspection. On the basis of this leak and the discovery of several other locations that were beginning to leak, BPXA reported to us its decision to shut down both the EOA line and the Western line. BPXA explained that its decision was based on a complete lack of understanding of the corrosion that could cause this type of wall loss. BPXA subsequently decided to keep the Western line operating and to consider restarting the 34" segment of the Eastern line.

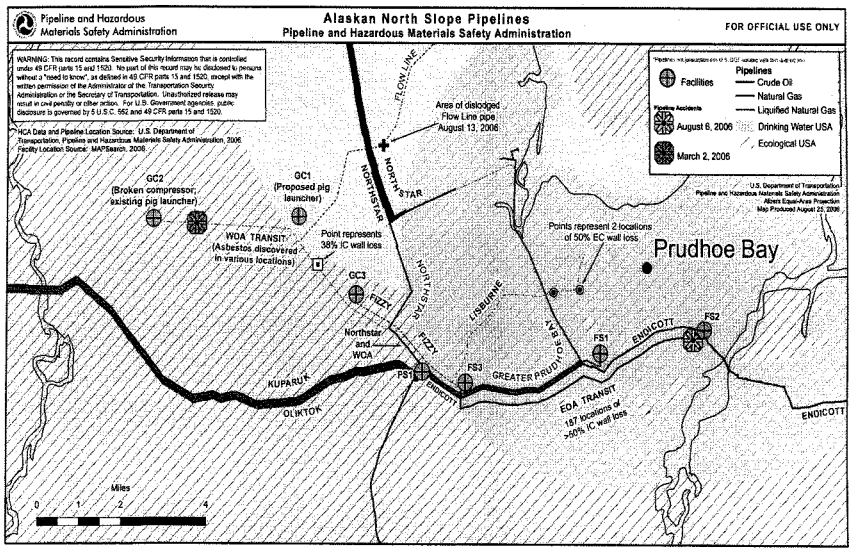
In response to this second spill on the Eastern line, PHMSA issued a second amendment to its order (Amendment Number Two) requiring additional rigorous, automated ultrasonic inspections on a continuous basis of the pipelines that had not yet been pigged and outlining the standards BPXA would need to meet to restart its Eastern pipeline. The order required the conduct of four daily ground patrols using heat-seeking infrared equipment to spot leaks along the entire length of the 22 miles of oil transit lines. The order required continuous automated ultrasonic testing on the outside of the operating portion of the Western line, including the stripping of the insulation to apply the instrument directly to the pipeline. This technology is producing promising results. The order also required the de-oiling of the failed segment of the Eastern line and specified the testing that would be needed on the Eastern line until it could be smart pigged, and as a condition of smart pigging.

In addition to imposing requirements on BPXA, PHMSA further stepped up its presence in Alaska to respond to other potential risks presented by the August 6 BP failure. Our first concern was the impact of the BP transit line shutdown on the Trans-Alaska Pipeline System. Reduced product flow from the BPXA transit lines could cause new safety risks to the TAPS pipeline. The hydraulics of the pipeline is set to operate at a certain threshold of product flow. It was necessary to determine whether the operation could be adjusted to a lower level flow. A reduced level of flow can cause vibrations to occur over certain high elevation passes, causing PHMSA to question whether it would be necessary to monitor strain. Long-term reduced flow rate could also cause an environment more susceptible to internal corrosion. We have determined that Alyeska can adjust the hydraulics to operate at a lower flow rate, that it is monitoring the strain caused by vibrations, and that it has an aggressive cleaning pig program to minimize internal corrosion.

Given the impact of the BPXA line shut down, we were also concerned about any immediate risk that could lead to a shutdown on any of the other feeder lines to TAPS. We therefore deployed a team to update our knowledge of the risks to these other pipelines, including Kuparuk, Alpine, Badami, North Star, Oliktok and Milne Point. We were particularly concerned about a nine-mile section of non-piggable line on Kuparuk. While we have some long-term integrity management issues, no immediate risks were detected.

The Acting Secretary of Transportation, Maria Cino visited Prudhoe Bay in August to assess the situation first hand. My Acting Associate

Administrator for Pipeline Safety, Dr. Ted Willke has been on site several times and I visited again the last week in August to assess compliance with our orders. We are presently working with BPXA on its plan to restart the 34" diameter section of the Eastern line and the conditions BP would need to meet to satisfy our safety concerns. Given that BPXA was not able to sufficiently explain the causes of the corrosion on the Eastern line, and the potential extent of damage to the pipe wall, PHMSA has required that BPXA demonstrate that the Eastern line is in safe condition for pigging operation. The wall condition must be satisfactory to return flow to the line and pass a smart pig through it, without creating the risk of environmental harm. On August 29, PHMSA provided detailed written guidance to BPXA as to how it must demonstrate the Eastern line integrity prior to commencing pigging operations and make appropriate arrangements for spill contingencies. PHMSA will authorize restart for testing only when we have adequate data and corrosion modeling plus analysis that does not place undue reliance on the results of data collected on the in-service segment of the Western line. Given recent progress with the terms of the amendments to our CAO, we are hopeful that smart pigging of the 60 percent of the 22 miles of low stress pipelines that have not yet been tested can be started early this fall.



PHMSA will maintain the high level of oversight needed to enforce compliance.

III. PREVENTING FUTURE CORROSION PROBLEMS ON LOW STRESS PIPELINES

Because they operate at low pressure the BPXA lines that failed on the North Slope had not been previously regulated by PHMSA. On August 31, PHMSA proposed new safety requirements that would bring these lines under federal oversight. Our proposed rule applies to facility operators of hazardous liquid gathering and low stress pipelines in rural areas. We already regulate low stress lines in populated areas, those

impacting navigable waterways, and those transporting highly volatile liquids.

Our regulatory proposal employs a risk-based approach – we intend to protect all lines that, in the event of a failure, pose the threat of significant environmental harm to unusually sensitive areas, or USAs, a term defined in our regulations. The proposal addresses the most significant threats, corrosion and external damage, and applies a full range of protections known to be effective and appropriate against these risks to these lower pressure lines. For low stress lines, we have determined these to be lines within a ¼ mile of a USA and of a diameter of 8 5/8 inches or more. We estimate that the rule will cover an additional 600 miles of low stress lines.

The scope of our rulemaking proposal for rural low stress lines is based on the size and pressure of the lines and the volume of product that could be spilled. We reviewed data provided to us by operators of rural low-stress pipelines, on the history of spills from these types of lines. Two thirds of those spills traveled no more than about 100 feet. The one third that spilled larger amounts traveled less than a quarter of a mile from the pipelines. No spill traveled as far as one quarter mile. We reviewed the operations of many companies and determined that most low stress pipelines are short in length, between one and five miles, and relatively small in diameter, between 8 5/8 inches and 16 inches. By calculating what volume of product these pipelines could spill, and how the product could spread in the event of the spill, we determined that larger pipelines

within one quarter mile of an unusually sensitive area should be regulated.

The proposal provides additional robust integrity protection to areas where oil pipelines in rural areas could affect drinking water resources, endangered species and other ecological resources. In our review of the several hundred spills from pipelines of this type, we determined that the causes of failure were almost always corrosion or excavation related damage. Given the small size of most of these pipelines, we chose not to require formal risk analysis, but instead require operators to focus and protect against these two risks.

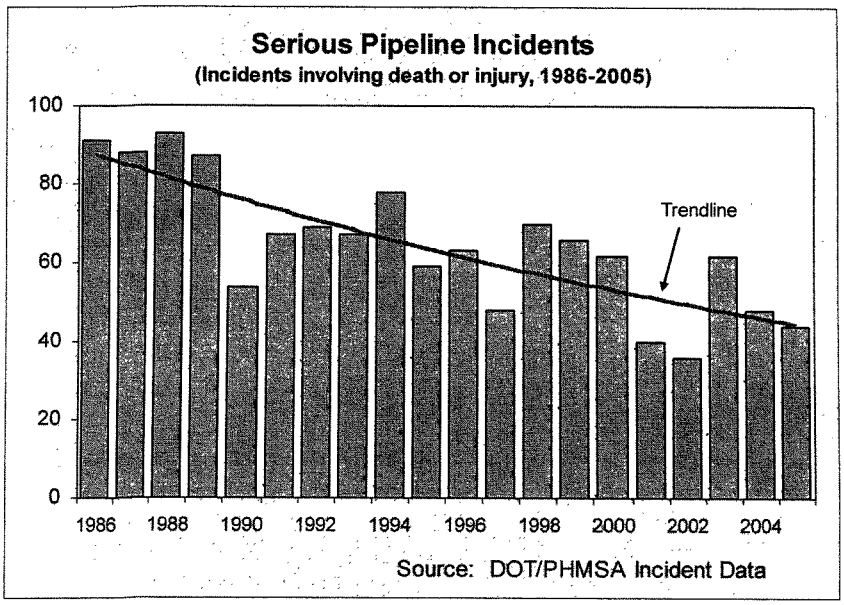
The proposed rule will specifically enhance corrosion protection by requiring: (1) all of the corrosion protection prescribed by the current Part 195 of Title 49 of the Code of Federal Regulations; (2) specific cleaning procedures and continuous monitoring for operational changes that could introduce new risks; and (3) that operators address the risks identified. The proposal requires the same level of integrity assessment as required on high stress transmission lines, including smart pigging, hydrotesting or equivalent alternatives.

The proposed rule notes "the operator may" use one of several forms of assessment to address all threats. This language imposes the same assessment requirements already mandated on high pressure transmission lines. This action is consistent with other current rules and recognizes the fact that some segments of lines will not be piggable and that other alternatives may be appropriate. Similar to the IMP program, we require

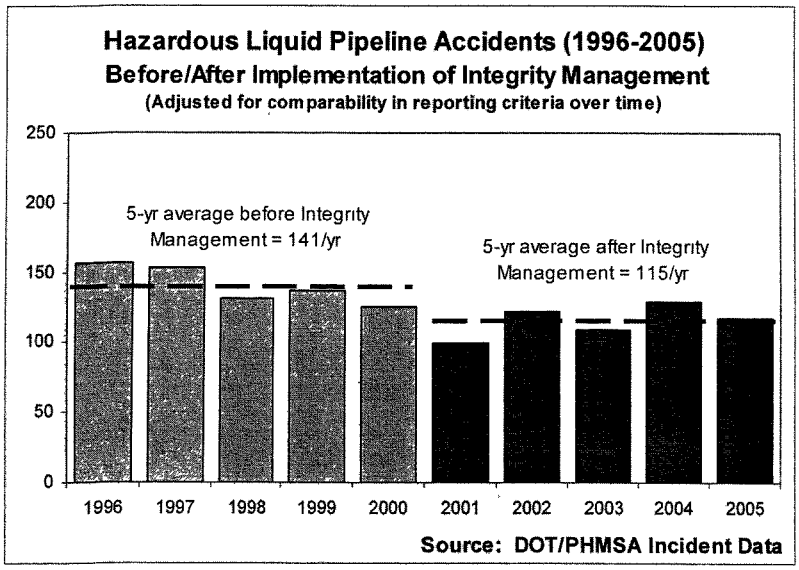
leak detection and require operators of these lines to follow safety rules for design, construction, testing, and maximum operating pressure. In addition, the proposal would require operators to protect the lines from excavation damage, install and maintain line markers, establish operator qualification and damage prevention programs, provide public education, and report accidents and safety-related conditions. Compliance with the new protections will be subject to rigorous inspection by PHMSA pipeline safety inspectors, or state inspectors trained to the same level as federal inspectors. In the event an inspector finds an operator's program inadequate, we would order program or procedural changes. For example, initial inspection of the adequacy of high pressure transmission integrity programs found that 80 percent needed improvement. PHMSA took action with respect to all programs needing improvement. Most low stress lines in the U.S. lower 48 States are much smaller in diameter than the low stress lines that BPXA operates on the North Slope. Many operators of unregulated crude oil low stress lines already have programs in place to regularly clean and test their pipelines. Nonetheless, the regulation we have proposed provides a strong set of requirements to protect rural environmental areas. We also posed questions in the notice of proposed rulemaking to get the best possible information to complete the rule, including whether we should extend protections beyond the ¼ mile area, whether we should require all unregulated lines to report spills, whether implementation time frames are appropriate, and other questions to help scope the final requirements. We will modify the regulatory proposal as needed based on information that becomes available on the docket.

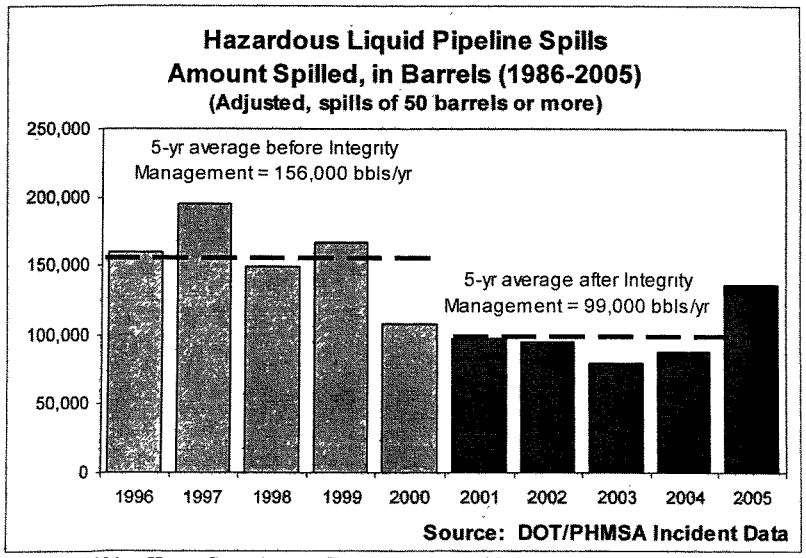
IV. THE U.S. PIPELINE INFRASTRUCTURE IS SOUND

The recent Alaska incidents are not a bellwether for the health of the majority of the U.S. energy pipeline infrastructure. Overall, the pipeline infrastructure is in far better shape than the BP low stress lines at Prudhoe Bay. PHMSA has designed and implements a strong risk-based systems approach to ensure the safety and reliability of our nation's energy pipeline infrastructure and this approach is having very positive results. The number of serious incidents in which people or the environment are harmed is steadily declining, particularly on oil pipelines.



Comparing the five year periods before and after integrity management programs were implemented on hazardous liquid pipelines, spill frequency dropped 18 percent and volumes spilled dropped 35 percent.



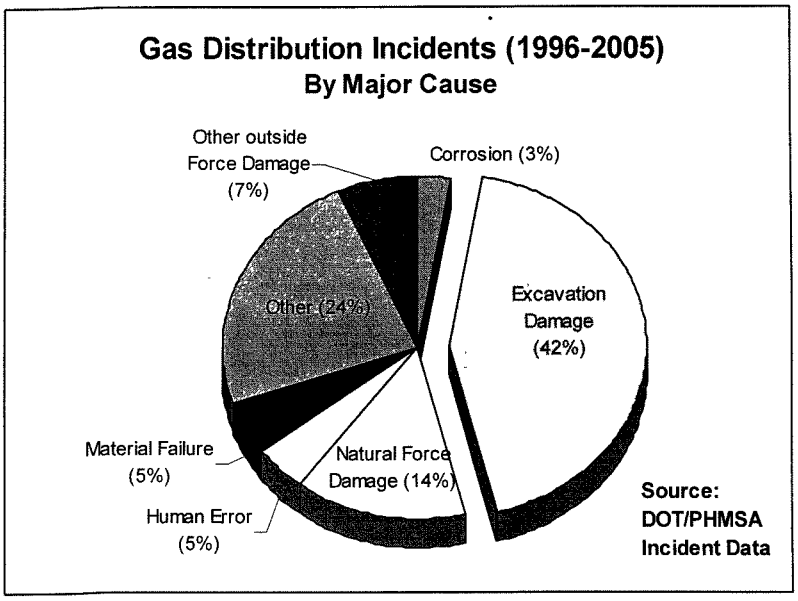


The leading cause of failure on hazardous liquid transmission pipelines are down nearly 50 percent since the integrity management program was put in place in 2000. Operators have a better understanding of the condition of their pipelines and the pipelines are in better condition. Safety programs are improving and will sustain improved performance in the future. PHMSA closely monitors operator-specific performance and flags companies for more intense oversight and inspection if their performance is found to be declining. We had flagged BP as one of those companies, prior to the accident in March. We have several enforcement actions in place against BPXA and its affiliate, BP Pipelines, for shortcomings in its integrity management on regulated lines in Alaska. We have taken actions in recent years against BP North America for compliance issues in the lower 48 States. We intervene with operator executives to address performance issues, usually before accidents happen, and do not just respond after the fact. We make full use of all our enforcement options, including civil penalties at the higher level authorized under the Pipeline Safety Act of 2002. A summary of our progress on completing recent and past mandates and recommendations is attached.

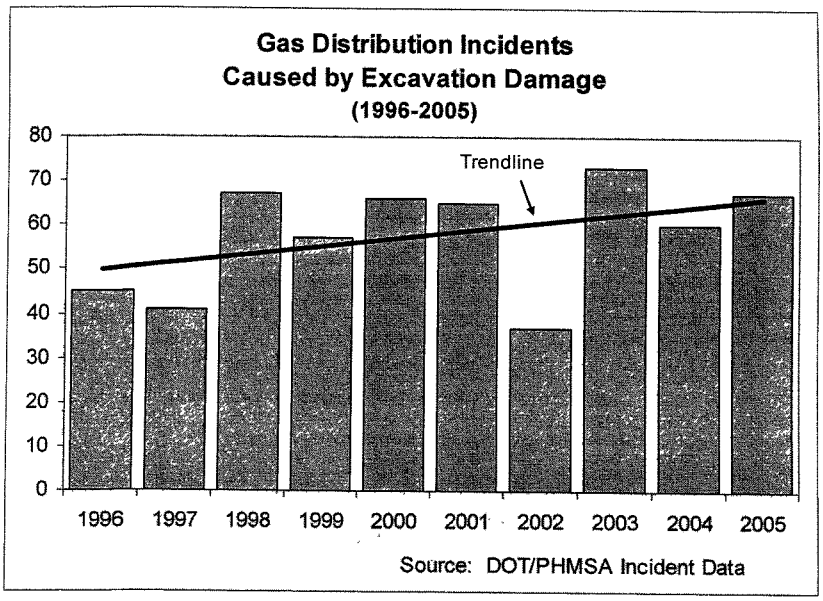
V. LET'S NOT LOSE SIGHT OF THE MOST PRESSING SAFETY PROBLEM

In the past few years, PHMSA has taken a hard look at incidents, their causes, and what can be done to prevent them. One thing is clear – the leading cause of incidents (42 percent of total) in which people are hurt or killed is construction-related damage causing an immediate rupture or

damage that later grows to failure. This occurs most often on the gas distribution systems that run through the neighborhoods where people live and work.



Unfortunately, since 1996, incidents of construction-related damage to distribution systems have increased as much as 49 percent. These incidents are in areas where people are most likely to be hurt.



This part of the pipeline system, the distribution network, is almost entirely under the jurisdiction of States, our foremost partners in pipeline safety. These incidents are almost entirely preventable. We need to help States do more, and we need new authority to make this happen.

The Secretary of Transportation recently submitted to Congress the Administration's legislative proposal to reauthorize and improve pipeline safety and protection for the environment, and enhance infrastructure reliability. The proposal, the "Pipeline Safety and Reliability Improvement Act of 2006," aims to build on our progress in achieving the mandates of the 2002 Act by placing more emphasis on damage prevention and enhancing state programs' oversight of pipelines. It

would also eliminate what we believe to be a counterproductive requirement for mandatory reinspection of gas transmission lines every 7 years. The Government Accountability Office has just issued a report agreeing that a risk-based
reinspection approach would be preferable.

These reauthorization concepts are generally supported across our stakeholder community, including the Federal and State family, and we are pleased to see many of these priorities reflected in the Committee's bill.

VI. CONCLUSION

I assure the members of the Committee that the Administration, Acting Secretary Cino, and the dedicated men and women of PHMSA share your strong commitment to improving safety, reliability, and public confidence in our Nation's pipeline infrastructure.

Like you, we understand the importance of our mission to the safety of our citizens and the energy security and continued economic growth of our great Nation.

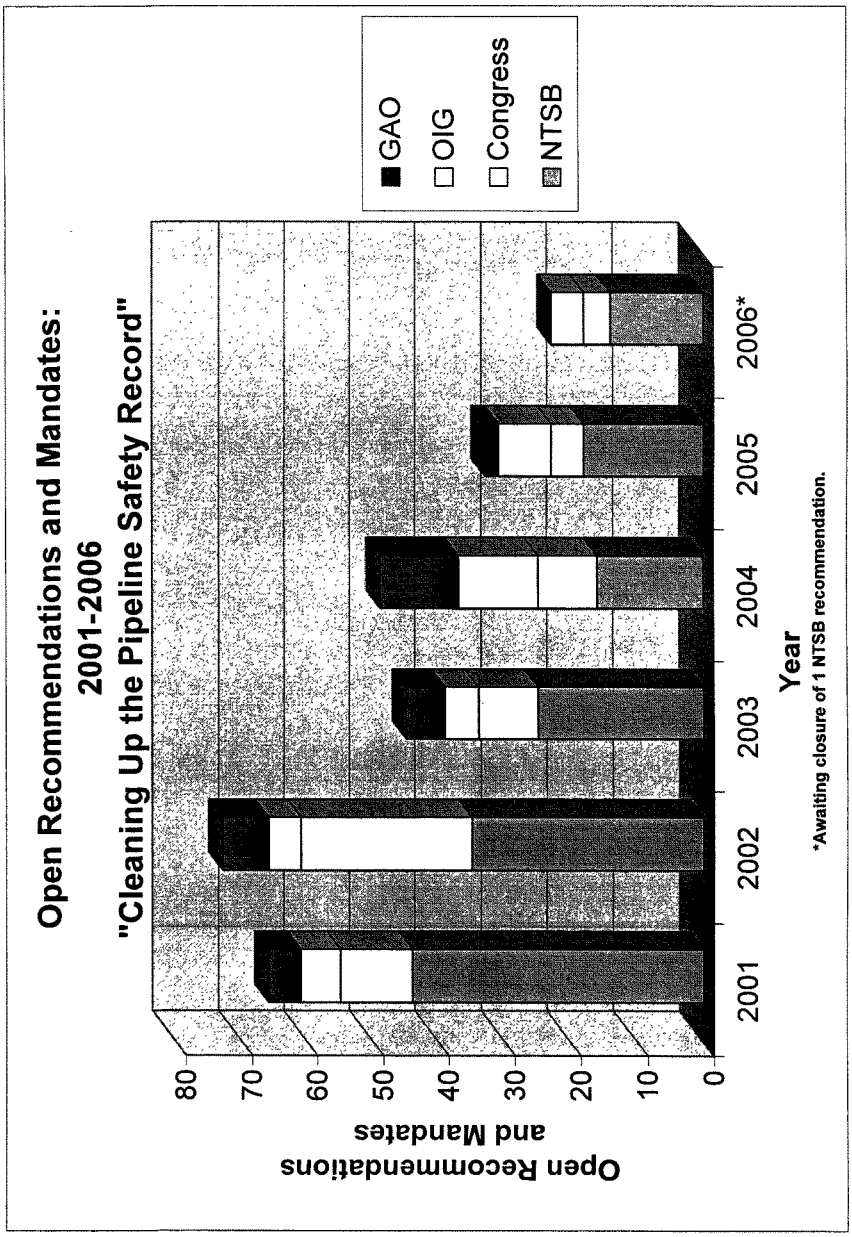
Thank you.
I would be pleased to answer any questions you may have.

###

Attachments:
PHMSA Mandate Progress Chart
PHMSA Mandate Progress Graph

PHMSA STATUTORY MANDATES FOR PIPELINE SAFETY Pipeline Safety Improvement Act of 2002		
Section	**Title**	**Status of PHMSA Actions**
2	One-Call Notification Program • Establish agreements with CGA • Establish ways to promote damage prevention • Establish CATS positions • Establish a new national CATS coordinator	 Completed. Completed. Completed. Completed.
4	Interstate Inspection Program Grants • Define the program criteria • Award grants to participating states • Collect state-generated reports of probably violation	 Completed. Completed. Completed.
5	Public Education Compliance • Develop advisory • Complete self-assessments • Propose incorporation of 1162 into regulation • Publish a Final Rule incorporating 1162 (Feb., 2005) • Establish a clearinghouse	 Completed. Completed. Completed. Completed. Completed.
7	Enforcement Procedure Changes (Clarifications and Dismissals)	Completed.
8	Enforcement Procedure Changes (Penalties)	Completed.
9	Information Technical Assistance to the Community • Request funding	 Completed.
11	Population Encroachment/Right-of-Way • Establish TRB agreement • Complete Study • Report to Congress in S-1	 Completed. Completed. Completed.
12	Five Year R&D Plan with DOE and NIST • Award contract • Secure government-industry investment ($10.3 million for 22 projects) • Complete MOU with DOE and NIST • Complete the 5-year plan	 Completed. Completed. Completed. Completed.

13	Pipeline Operator Qualification Programs • Hold public meetings (4) • Publish protocols • Issue Advisory Bulletin • Prepare Direct Final Rule • Run Pilot Program for Certification of Certain Pipeline Workers • Report on Pilot Program and Effectiveness of Certification Process	 Completed. Completed. Completed. Completed. Ongoing. 12/17/2006
14	Risk Analysis and Integrity Management Programs for Gas Pipelines • Issue NPRM and Final Rule • Develop protocols • Establish ongoing inspections	 Completed. Completed. Completed.
15	National Pipeline Mapping System • Develop and issue Advisory Bulletin • Establish enforcement and on-line interface	 Completed. Completed.
16	Alternative Mitigation Measures	Completed.
16	Coordination of Environmental Reviews (Permit Streamlining) • Develop MOU with participating agencies • Establish Ombudsman position • Complete guidance work for phase II • Develop an ANPRM	 Completed. Completed.
17	Nationwide toll-free number system • Submit a petition to FCC • Have FCC issue an NPRM • Develop methodology to promote 3-digit dialing • Establish 3-digit Nationwide One-call Number	 Completed. Completed. Completed. Completed.
18	Report Progress on CY 2000 IG Recommendations	Completed.
19	Report on NTSB Recommendations	Completed.
22	Emergency Response • Develop curriculum with fire marshals • Complete training video • Develop text training material	 Completed. Completed. Completed.
23	Inspections by Direct Assessment • Issue NPRM • Collect Comments • Hold public meetings • Issue Final Rule (October, 2005)	 Completed. Completed. Completed. Completed.


Open Recommendations and Mandates:
2001-2006
"Cleaning Up the Pipeline Safety Record"
GAO
OIG
Congress
NTSB
Open Recommendations
and Mandates
80
70
60
50
40
30
20
10
0
2001
2002
2003
2004
2005
2006*
Year
*Awaiting closure of 1 NTSB recommendation.

OPENING STATEMENT OF
THE HONORABLE RUSS CARNAHAN (MO-03)
COMMITTEE ON TRANSPORTATION AND INFRASTRUCTURE
U.S. HOUSE OF REPRESENTATIVES

Hearing on
Low Pressure Liquid Pipelines: In the North Slope, Greater Prudhoe Bay, Alaska

Wednesday, September 13, 2006, 10:00 AM
2167 Rayburn House Office Building

Mr. Chairman and Mr. Ranking Member, thank you for hosting this important hearing on the pipeline leak in Prudhoe Bay, Alaska.

The BP oil leak, which occurred in early August of 2006, was detrimental to the surrounding community. It is imperative that we support and encourage the Secretary of the Department of Transportation to review safety standards for these low-pressure pipelines. As members of this committee, it is our duty to prevent this tragedy from repeating itself in the North Slope as well as any other area across the country where pipelines pose a potential environmental threat.

Vice-Admiral Barrett, Ms. Epstein and Mr. Marshall, welcome to our committee and thank you for appearing before us today.

###

COMMITTEE ON TRANSPORTATION & INFRASTRUCTURE

"Oversight Hearing on Low Pressure Liquid Pipelines: In the North Slope, Greater Prudhoe Bay, Alaska"

September 13, 2006
11:00 a.m.
Room 2167 Rayburn

Opening Statement of Congressman Elijah E. Cummings

Mr. Chairman:

I thank you for calling today's hearing to enable us to examine both the specific circumstances surrounding the oil spill that occurred in Prudhoe Bay in Alaska as well as the adequacy of the current oversight regime for low-pressure liquid pipelines.

As my colleagues have discussed, approximately 270,000 gallons of oil leaked into the Alaskan tundra through a quarter-inch hole in a BP pipeline in March of this year. Subsequently, this summer, additional corrosion was found

in a pipeline that required it to be partially shutdown. This action took nearly half of the 400,000 gallons normally transported through this BP network out of our national supply chain.

It has been reported that the owner of the pipeline, BP, had not done a thorough inspection of the inside of the pipeline in almost a decade.

I hope that BP will explain today why they allowed their pipelines to be so neglected for so long. BP is a firm that advertises itself as placing a high priority on operating in a manner that is safe for the environment. Further, BP is a firm that, according to the *New York Times*, made $7.27 billion in profits during the second quarter of this year – which was more than 30% higher than the profit it made

during the same period last year and equated to a profit earning of roughly $55,000 per minute.

Such figures are essentially incomprehensible – particularly to people who are paying $3 for a gallon of gas on a fixed income while confronting other rising expenses.

BP certainly could not credibly say that they did not have the money necessary to afford to properly maintain their pipelines. Therefore, one can only conclude that BP simply didn't have the will to do so. Further evidence of this appears in reports of several newspapers that suggest independent investigators found evidence that BP tried to intimidate employees who reported problems with the pipelines.

Equally incomprehensible to me is the timid and short-sighted action being taken by the Pipeline and Hazardous Materials Safety Administration (PHMSA – pronounced FIM-SA). PHMSA is now considering a rule to require inspections every 5 years of pipelines that run through environmentally sensitive areas and which – unlike pipelines in urban areas – have generally been unregulated by PHMSA. There have been varying estimates that from 10,000 to 12,000 miles of pipelines would be left unregulated even if these proposed regulations were adopted.

So often, our government only reacts after an incident has occurred. It appears that in this case that the events in Alaska clearly show that companies operating low-pressure pipelines are unwilling to adequately maintain them even at

the risk of losing production capacity and thus profit. Despite this, the Administration is unwilling to act to close the risks posed by unregulated low-pressure pipelines and negligent companies.

Mr. Chairman, the safety of pipelines across our nation is of critical importance and the incidents in Alaska reveal serious shortcomings in our safety oversight regime that demand immediate attention. I look forward to the testimony of today's witnesses and I yield back.

COOK INLETKEEPER®

Protecting Alaska's Cook Inlet watershed and the life it sustains

Pipeline Safety TRUST

Credible.
Independent.
In the public interest.

Testimony of Lois N. Epstein, P.E.

Senior Engineer and Oil & Gas Industry Specialist
Cook Inletkeeper
Anchorage, Alaska
(907) 929-9371, www.inletkeeper.org

&

Consultant
Pipeline Safety Trust
Bellingham, WA
(360) 543-5686, www.pstrust.org

Before the Committee on Transportation and Infrastructure
U.S. House of Representatives

Hearing on Low Pressure Liquid Pipelines: In the North Slope, Greater Prudhoe Bay, Alaska

September 13, 2006

lois@inletkeeper.org

Good morning and thank you for inviting me to testify today. My name is Lois Epstein and I am an Alaska- and Maryland-licensed engineer and an oil and gas industry specialist with Cook Inletkeeper in Anchorage, Alaska. Cook Inletkeeper is a nonprofit, membership organization dedicated to protecting Alaska's 47,000 square mile Cook Inlet watershed, and a member of the Waterkeeper Alliance of 150+ organizations headed by Bobby Kennedy, Jr. My background in pipeline safety includes membership since 1995 on the U.S. Department of Transportation's Technical Hazardous Liquid Pipeline Safety Standards Committee which oversees the Pipeline and Hazardous Materials Safety Administration's (PHMSA's) oil pipeline activities and rule development, testifying before Congress in 1999, 2002, 2004, and 2006 on pipeline safety, and researching and analyzing the performance of Cook Inlet's 1000+ miles of pipeline infrastructure by pipeline operator and type.[1] I have worked on environmental and safety issues for over 20 years for two private consultants, the U.S. Environmental Protection Agency, Environmental Defense, and Cook Inletkeeper.

Additionally, I am a part-time consultant for the Pipeline Safety Trust, located in Bellingham, Washington, and my testimony today reflects both Cook Inletkeeper and the Pipeline Safety Trust's views. The Pipeline Safety Trust came into being after the 1999 Olympic Pipe Line tragedy in Bellingham, Washington which left three young people dead, wiped out every living thing in a beautiful salmon stream, and caused millions of dollars of economic disruption to the region. After investigating this tragedy, the U.S. Department of Justice (DOJ) recognized the need for an independent organization which would provide informed comment and advice to both pipeline companies and government regulators and the public with an independent clearinghouse of pipeline safety information. The federal trial court agreed with DOJ's recommendation and awarded the Pipeline Safety Trust $4 million that was used as an initial endowment for the long-term continuation of the Trust's mission.

As is well-known now because of BP's recent pipeline problems on the North Slope of Alaska, releases from low-pressure (also known as low-stress[2]) liquid pipelines can have serious, adverse environmental and economic consequences. These consequences can be nearly eliminated with adequate federal pipeline safety requirements and enforcement. Investing in pipeline safety pays off in nationwide environmental and economic benefits.

PHMSA has jurisdiction over BP's pipelines, however BP's so-called "transit" pipelines currently are exempt from federal regulation, which means that other pipelines like BP's have no federal corrosion prevention requirements, no smart-pigging (or equivalent) requirements, and no federal inspectors checking on operations. Based on information PHMSA presented at the September 7 House Energy and Commerce hearing,

---

[1] *Lurking Below: Oil and Gas Pipeline Problems in the Cook Inlet Watershed*, Lois Epstein, Cook Inletkeeper, 2002, 28 pp. plus appendices, and follow-up reports in 2003 and 2005. See www.inletkeeper.org/pipelines.htm.

[2] "*Low-stress pipeline* means a hazardous liquid pipeline that is operated in its entirety at a stress level of 20 percent or less of the specified minimum yield strength of the line pipe." (49 CFR 195.2)

there were a very large number, i.e., over 180, locations of wall thinning from corrosion on BP's Eastern Operating Area "transit" pipeline. If this pipeline were regulated, these locations of wall thinning would have been discovered and repaired before now under 49 CFR 195.452, which would have avoided any supply disruption. Based on the BP Prudhoe Bay situation alone, there are strong technical and economic reasons to regulate low-pressure transmission pipelines.

BP's March spill of 200,000-plus gallons, the largest spill ever on the North Slope of Alaska, contaminated several acres; fortunately, this spill did not significantly contaminate flowing surface waters which could have carried the crude oil a much longer distance. Nevertheless, the environmental damage was extensive and costly to remediate, as shown in the two photos below.

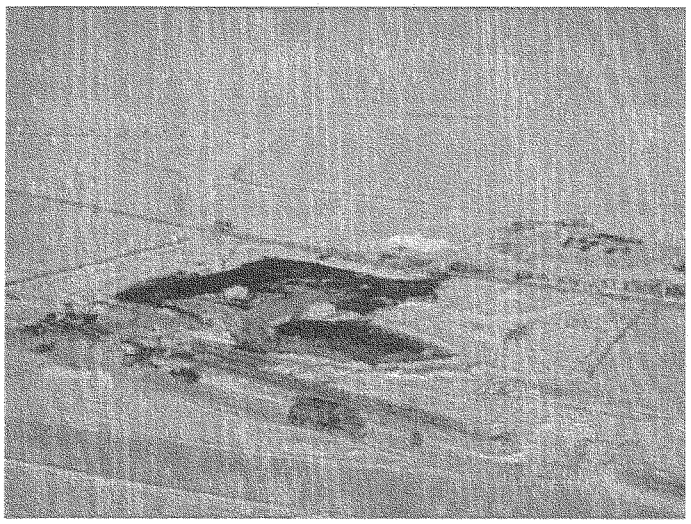


Photo 1: Oil recovery efforts, March 13, 2006, Unified Command photo.

The spill, along with a second BP spill and extensive corrosion discovered following a PHMSA-mandated "smart pig" run to search for wall thinning on a similar pipeline in early August of this year, led to BP's decisions to shut-down all – and later, part – of its Prudhoe Bay production. Among the economic costs, the state of Alaska lost $6.4 million in royalties and taxes for each day the entire oil field was shut-down.[3] Additionally, there was a noticeable spike in the price of crude oil for several days following BP's initial announcement, raising oil costs for both industry and the public.[4]

[3] "Murkowski institutes hiring freeze after shutdown," Matt Volz, *Anchorage Daily News*, August 9, 2006.

[4] "BP shutdown sparks oil rise," Sheila McNulty, *Financial Times*, August 8, 2006.

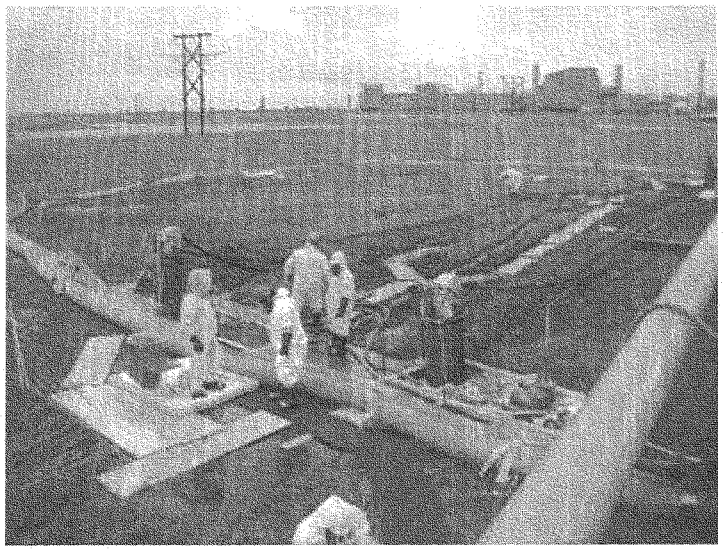


Photo 2: Oil recovery efforts, August 6-8, 2006, Unified Command photo.

Note that this is not the first time that a pipeline release has resulted in significant economic costs to the public. Following the August 19, 2000 rupture of an El Paso Natural Gas Pipeline, natural gas prices rose significantly in California.[5]

The BP North Slope situation this year also demonstrated:

1. The value of smart-pigging pipelines. Even though BP's operators believed its "transit" pipelines were low-risk, smart-pigging demonstrated otherwise. Smart pigging is an excellent check on the effectiveness of pipeline corrosion and damage prevention operations since the pigs examine the entire circumference of pipelines for wall thinning.

2. The need for federal oversight of pipelines. BP clearly treated its non-federally regulated "transit" pipelines differently than those transmission pipelines that were regulated, with troubling results. When U.S. DOT surveyed pipeline operators in 1992, it found that 84% of the unregulated low-pressure pipeline

[5] "With the disruption to flow along one segment of the El Paso system, gas prices in southern California soared at least temporarily, but a combination of market adjustments avoided the occurrence of widespread shortages," *A Look at Western Natural Gas Infrastructure During the Recent El Paso Pipeline Disruption* Energy Information Administration (undated). See http://tonto.eia.doe.gov/FTPROOT/natgas/elpaso.pdf, p. 7.

mileage nationwide was not operated in compliance with the requirements of 49 CFR 195.[6]

History of the Exemption. The following timeline shows actions the federal government has taken and not taken to address the low-pressure pipeline exemption.

- 1969: All low-pressure pipelines exempted from regulation.
- 1988: National Association of Pipeline Safety Representatives (state pipeline regulators) sends the U.S. DOT a resolution asking that the low-pressure exemption be eliminated.[7]
- 1990: U.S. DOT asks for comments on "whether and to what extent" to remove the low-pressure exemption from its regulations.[8]
- 1992: Congress passes the Pipeline Safety Act of 1992 (Pub. L. 102-508) and directs U.S. DOT not to exempt pipelines from its regulations "only because the facility operates at low internal stress."[9]
- 1992: Volpe National Transportation Systems Center issues a report for U.S. DOT [10] estimating that there are 20,000 miles of onshore rural gathering lines and 22,000 miles of unregulated low-pressure transmission pipelines. The Volpe study also estimated that 38% of the 22,000 miles (nearly 7,000 miles) were near a populated area or a navigable waterway (leaving 15,000 miles of low-pressure transmission pipelines unregulated.)[11]

---

[6] *Economic Evaluation of Regulating Certain Hazardous Liquid Pipeline Operating at 20% or Less of Specified Minimum Yield Strength*, Deanna Mirsky of EG&G/Dynatrend and The Hazardous Materials Transportation Special Projects Office, Volpe National Transportation Special Projects Office, July 21, 1992, p. 8.

[7] Resolution 1988-1-P1, 20 Percent SMYS, sent to U.S. DOT on August 4, 1988.

[8] See 55 Federal Register 45822 (October 31, 1990).

[9] See 49 USC 60102(k).

[10] *Economic Evaluation, op. cit.*

[11] In its Notice of Proposed Rulemaking (NOPR) published in the Federal Register on September 6, 2006, however, PHMSA used industry data – *which includes irrelevant offshore gathering line information and gathering lines too small to be regulated* – to estimate that only 5,000 miles of low-pressure transmission pipeline currently are unregulated. In section 6.1.1 of the Regulatory Evaluation for this NOPR (U.S. Department of Transportation Docket Number RSPA-2003-15864-36), PHMSA says it used the Association of Oil Pipe Lines' "Pipeline 101" estimate of 35,000 miles of gathering line mileage which includes onshore and offshore gathering lines and gathering lines as small as 2" in diameter. Section 6.1.2 of the Regulatory Evaluation describes how PHMSA subtracted these 35,000 miles from the approximately 40,000 miles of unregulated pipelines and concluded that there are only 5,000 miles of unregulated, low-pressure transmission pipelines (i.e., disregarding the fact that the 35,000 mile figure contains significant offshore and small diameter gathering line mileage).

- 1993: Notice of Proposed Rulemaking applying pipeline standards to low-pressure transmission pipelines that traverse a populated area or a navigable waterway. U.S. DOT deferred a decision on regulation of low-pressure lines in environmentally sensitive areas awaiting its development of a definition of environmentally sensitive areas.[12]

- 1994: Final rule applying pipeline standards to low-pressure transmission pipelines located in non-rural areas and areas currently used for commercial navigation.[13]

- 2006: American Petroleum Institute and the Association of Oil Pipe Lines submit a proposal in June to PHMSA identifying which low-pressure pipelines should be regulated and to what extent (i.e., not requiring that all of 49 CFR 195 apply).[14]

- 2006: U.S. House of Representatives Committee on Transportation and Infrastructure marks-up H.R. 5782 in July, closely tracking industry's proposal identifying which low-pressure pipelines should be regulated. U.S. House of Representatives Energy and Commerce Committee holds a hearing later in July on a Discussion Draft for the reauthorized pipeline safety law which does not include details on which low-pressure pipelines should be regulated.

- 2006: Notice of Proposed Rulemaking applies *limited* pipeline standards to low-pressure transmission pipelines and gathering lines within ¼ mile of "unusually sensitive areas," which represent only 17% of the unregulated transmission and gathering pipeline universe according to the NOPR and 14% of the unregulated transmission pipeline universe.[15] Using the figure of 15,000 unregulated miles developed by the Volpe Center, however, less than 5% (684 miles of 15,000 miles) of the low-pressure transmission pipeline universe would be regulated under the NOPR.

Today, 18 years after state pipeline regulators asked U.S. DOT to remove the exemption covering low-pressure pipelines entirely, PHMSA last week proposed to regulate an incremental sliver of the unregulated low-pressure transmission pipeline universe. This means that many, many miles of low-pressure transmission pipelines remain unregulated and susceptible to BP-like problems with their corresponding, adverse environmental and economic consequences. And PHMSA will never even know about most such problems because unregulated pipelines need not report their releases to U.S. DOT – out of sight, out of mind.

---

[12] See 58 Federal Register 12213 (March 3, 1993).

[13] See 59 Federal Register 35465 (July 12, 1994).

[14] U.S. Department of Transportation Docket Number RSPA-2003-15864-22.

[15] See 71 Federal Register 52515 (September 6, 2006).

Technical Deficiencies of the 2006 NOPR. In developing its 2006 NOPR, U.S. DOT ignored technical and other information provided it by public interest organizations – and the proven efficacy of smart-pigging – and instead moved forward with industry's proposal substantially intact. This reactive, pro-industry posture must change to one where federal regulation is pro-active and prevents pipeline problems before they happen. Sadly, the NOPR represents how the pipeline office operated prior to 2000 until several tragic pipeline accidents forced it to improve its regulations substantially.

First, Cook Inletkeeper and the Pipeline Safety Trust strongly oppose identifying regulated pipelines using the buffer zone methodology proposed by industry and then by PHMSA. We believe all low-pressure pipelines deserve federal regulation and those that could affect "High Consequence Areas" (as defined in 195.450) should meet federal integrity management requirements (49 CFR 195.452).

Second, in an unprecedented action, PHMSA's proposal requires regulated low-pressure transmission pipelines to meet much weaker standards than other transmission pipelines, including other low-pressure transmission pipelines. As of 1994, U.S. DOT regulates low-pressure, non-rural pipelines and low-pressure pipelines near commercially navigable waterways and these lines must comply with all 49 CFR 195 standards.

Third, while Cook Inletkeeper and the Pipeline Safety Trust will submit more detailed comments to PHMSA on the 2006 NOPR, Congress needs to know now that PHMSA's proposed rule is a patchwork of requirements taken from 49 CFR 195 with no credible evidence that such requirements will decrease releases significantly. For example, the proposed standards reduce six pages in the Code of Federal Regulations on pipeline integrity management (49 CFR 195.452) including required use of smart pigs (or equivalent) to one unenforceable paragraph stating that pipeline operators "may" choose to use smart pigs (or equivalent).[16] Additionally, the proposed standards for regulated gathering lines do not include any type of integrity management whatsoever.

Last, the proposal makes clear that the costs for compliance with a more comprehensive regulatory scheme would not be large, especially given the high costs to society when pipelines fail. PHMSA predicts that its proposal will cost operators only $17 million,[17] a relatively small amount given the *likely higher costs to society* from higher fuel costs, lost taxes, cleanup costs (including governmental oversight), etc. when pipelines like BP's fail.

State of Alaska's Role. Current PHMSA interpretation of the pipeline safety law gives federal authority to pipelines following separation of crude oil, natural gas, and produced water (contaminated water that comes up from underground during oil or gas production). Pipelines prior to separation facilities thus are regulated only by states.

---

[16] See 71 Federal Register 52519 (September 6, 2006), proposed section 195.12(b)(10).

[17] See 71 Federal Register 52515 (September 6, 2006).

BP's faulty pipelines on the North Slope contain only crude oil so they fall under both state and federal jurisdiction.

The Alaska Department of Environmental Conservation (ADEC) regulates BP's faulty pipelines under its "crude oil transmission pipeline" requirements.[18] Current ADEC requirements are not specific enough to prevent the corrosion which occurred, however ADEC's general oil pollution prevention authorities[19] would have allowed inspectors to require pipeline operators to take steps to prevent corrosion-related oil discharges.

Following the BP Prudhoe Bay shut-down in August, Governor Murkowski's Administration proposed reorganizing the state's oversight of pipelines and giving the state Department of Natural Resources (DNR) the lead role. Cook Inletkeeper believes that because DNR primarily is a resource-development agency, this poorly designed reorganization plan will do nothing to increase the state's ability to prevent corrosion and should be dismissed.

Other Recommendations. In addition to improving pipeline safety regulation of low-pressure pipelines as discussed above, Cook Inletkeeper and the Pipeline Safety Trust recommend that Congress consider adopting the following measures to minimize the likelihood of a significant polluting and/or supply disruption event on Alaska's North Slope or the Trans-Alaska Pipeline System (TAPS):

- Authorize, perform, and implement the recommendations of an independent audit of the maintenance and operation practices of all North Slope oil and gas facilities; and,

- Create a Citizens' Oversight Group, modeled after the Prince William Sound Regional Citizens' Advisory Council (created after the *Exxon Valdez* oil spill, which would receive dedicated industry funds to serve as an independent watchdog over North Slope and TAPS operations.

Additionally, Congress should implement strategies that:

- Harness clean, renewable, and homegrown, energy sources like properly-sited wind, solar, tidal, and farm-based bio-fuels; and

- Reduce our nation's dependence on oil through increased efficiency and conservation.

---

[18] 18 AAC 75.055.

[19] For example, 18 AAC 75.005, Responsibility states: The owner or operator of an oil tank vessel, oil barge, pipeline, oil terminal, railroad tank car, exploration facility, or production facility subject to the requirements of AS 46.04.030 or AS 46.04.055 (j) is responsible for meeting the applicable requirements of this chapter and *for preventing the discharge of oil into waters or onto land of the state* (emphasis added).

Last, Congress should consider the difficulty of preventing oil and gas-related releases before making sensitive onshore (e.g., the Arctic National Wildlife Refuge) or offshore environments available for oil and gas drilling.

Conclusion. Oil pipeline releases can have serious, adverse environmental and economic consequences. These consequences can nearly be eliminated – and certainly can be significantly reduced – with adequate federal pipeline safety requirements and enforcement. Investing in pipeline safety pays off environmentally and economically.

Adequate federal pipeline safety requirements and enforcement are the key, however. PHMSA's current proposal deserves aggressive Congressional questioning, and it will receive strong, negative public comments. The proposed standards cover so few pipelines and are so technically deficient and biased toward industry's proposal that U.S. DOT needs to begin anew. Cook Inletkeeper and the Pipeline Safety Trust believe there are strong safety and environmental rationales for PHMSA to issue a final rule requiring all low-pressure transmission pipelines to meet existing transmission pipeline standards.

What's unusual about BP's current situation is that the company – and Cook Inletkeeper and the Pipeline Safety Trust commend it for this – admits fault for its technical and related financial misjudgments with respect to its North Slope "transit" pipelines. Let's learn from this situation and make certain it does not happen again by ensuring that no low-pressure pipelines remain unregulated.

Thank you very much for your attention to these concerns.

HONDA

SPEAKING POINTS

- Thank you Mr. Chairman for holding this critically needed hearing. Thank you also to Mr. Oberstar for pressing for this hearing so diligently.

- I was shocked and outraged by this latest example of corporate disregard for the environment. The Alaskan tundra is some of the most pristine, wild and fragile habitat left in our great nation and deserves the utmost respect and protection from the government, the people, and especially the few corporations we have allowed to drill into it for oil.

- I cannot help but see this event as a failure at every level and a devastating challenge to the notion that corporations can be trusted to regulate themselves.

- This is a failure of the Federal government to issue timely regulations for pipelines over which it has statutory authority; a failure of the state of Alaska to formulate and enforce pipeline safety laws and a failure for industry to set adequate industry standards for the maintenance of low-pressure pipelines.

- MOST ESPECIALLY, this is a grave failure of self-regulation for BP.

- BP has seen profits of $70 BILLION DOLLARS since 2000 but refused to spend an additional, paltry, few hundred thousand dollars on regular maintenance.

- In fact, these spills are not the first incidences of misconduct on the part of BP; at the time these spills occurred, BP was already on probation for dumping waste oil, paint, solvents, and other hazardous material down a well at the Endicott field, East of Prudhoe Bay and had experience other spills and accidents in other parts of its North America operations.

- I concur with Mr. Oberstar in calling for this committee to revisit the recent pipeline safety bill to examine where we can strengthen pipeline regulation in light of these events and I sincerely hope that PHMSA will act as swiftly as possible to issue appropriate, objective regulations to govern ALL low-stress hazardous liquid pipelines.

- These accidents and the knowledge that similarly unregulated, uncounted pipelines exist in other rural and fragile areas only strengthen my opposition to opening up other areas in Alaska to oil drilling operations.

- In a time when the Administration and others are calling for less regulation of industry by invoking the effectiveness of corporate self governance, we must look to this incident as a reminder of what can happen in the pursuit of ever higher profits and stand firm in our responsibility to the American people and our environment.

U.S. House of Representatives
Transportation and Infrastructure Committee

September 13, 2006

Steve Marshall
President, BP Exploration (Alaska) Inc.

Written Testimony

My name is Steve Marshall and I am President of BP Exploration (Alaska) Inc. (BPXA). BPXA is the operator of the largest oil field in North America – Prudhoe Bay on Alaska's North Slope. The Prudhoe Bay field consists of, among other things, over 1100 production wells, approximately 1500 miles of pipelines, multiple processing facilities (including the largest gas processing plant in the world) and living quarters for our employees.

I will discuss BPXA's Prudhoe Bay oil field operations and the actions taken on August 6th to begin the orderly shutdown of Prudhoe Bay - a decision I believe was the best option in order to avoid the risk of an oil spill. I will also present some background material on the corrosion prevention programs in the field.

Prudhoe Bay

The Prudhoe Bay field is located 650 miles north of Anchorage and 400 miles north of Fairbanks. It is 1200 miles from the North Pole and 250 miles north of the Arctic Circle. Pump Station 1, the beginning of the Trans Alaska Pipeline System (TAPS), is located within the perimeter of the Prudhoe Bay

field. For additional detail on Prudhoe Bay operations please refer to Exhibit 1 in the appendix.

Prior to 2000, the Prudhoe Bay field comprised the East Operating Area (EOA), operated by Atlantic Richfield Company (ARCO), and the West Operating Area (WOA), operated by BPXA. Upon acquisition of ARCO by BP, BPXA became the sole operator of the Greater Prudhoe Bay (GPB) field. Although BPXA operates the field, a total of nine companies have a so-called "working interest" in the field leases. The costs and production are shared amongst the working interest owners, according to their ownership.

Alaska's Leadership Challenge

I took over as President of BPXA in September of 2001. I assumed this responsibility at a critical juncture for the Company as it emerged from a period of low oil prices. There were a number of employee issues and management challenges presented by my new duties. Earlier in my career, I spent five (5) years on the Slope. With the knowledge I gained during that time, I came into the top job with some very definite goals in mind.

First and foremost, I wanted to re-instill pride in our operations through improving both the physical facilities in the oil field and our operating practices. I also wanted to reaffirm the spirit of cooperation and teamwork amongst all BPXA employees and contractors – a spirit that promoted excellence when I worked in Alaska during the 1970's and 80's. The

opportunity to pursue this primary goal presented itself shortly after my arrival in Alaska.

During the years immediately preceding my return to Alaska, the BP and contractor workforces raised concerns to the media, Congress and others outside of BP. An internal project team was organized to evaluate the validity of the issues raised through these avenues and also to survey and review the concerns of all BP employees and systems in place on the North Slope. This project is referred to and was documented in the Operations Review Team (ORT) report which was issued in September of 2001. This ORT report confirmed that there were legitimate problems which existed in the field with maintenance items and some operational integrity issues.

I was asked to move to Alaska and provide oversight to the effort to resolve the issues identified in the ORT report, as well as resurrect trust and respect between employees and BP management. The results of the ORT report were shared with Congress and the public - good and bad. The corrective action program was open with employees and members of Congress.

Beyond the ORT report and other efforts to ensure that workforce concerns are heard and acted upon, I have made several key philosophic changes during my tenure - some of which are still a "work in progress":

- A philosophy of complete transparency in our dealings with employees, contractors and stakeholders. This has resulted in a number of

systems that allow for contractors and employees to raise concerns about safety and integrity.

- A philosophy of constant peer challenge that has resulted in several outside reviews of our operations conducted by experts from within and outside the BP Group – and improvements to our operations.

- A philosophy of continuous improvement that caused me to re-think my organization after the March spill – and reorganize so that all corrosion and integrity programs now reside under a Technical Directorate. The key feature of Technical Director is that it is independent of line operational management in order to improve our performance and get a more direct "line of sight" on these key programs. The "before and after" organizations are shown in Exhibit 2.

Recent Problems with OTL Integrity

In March of 2006, BPXA discovered a leak along the Gathering Center (GC) Oil Transit (OT) 21 line in the Western Operating Area (Exhibit 3). This is a 34" line that carries sales quality crude oil from a central gathering center for ultimate delivery into TAPS at pump station 1. The leak was approximately 5,000 barrels, the largest spill ever on the Alaskan North Slope.

Shortly thereafter, the U.S. Department of Transportation (DOT) issued a Corrective Action Order (CAO) to BPXA ordering it to perform In-Line Inspection (ILI) or "smart pig" tests along with other inspection methods along

both the Western and Eastern Oil Transit Lines (OTLs). There were a number of complex technical issues to resolve before the tests could be conducted, including developing a solution for managing the solids generated during the maintenance pigging operations that precede smart pigging operations to insure a clean pipeline.

BPXA began pigging operations along the Lisburne OTL in June. ILI of the Lisburne OTL showed good results and affirmed our confidence that the lines were fit for service. The pigging also revealed that the line contained very little sediment.

BPXA began pigging operations along the Eastern OTL in early July, which also revealed very little sediment (10 bbls) in the line contrary to earlier estimates. Analyses of these "smart pig" inspections were received on Friday, August 4 and indicated sixteen (16) significant anomalies at twelve (12) different locations along the upstream segment of the Eastern OTL. BPXA began immediate physical and ultrasonic testing of these anomalies and verified the presence of additional corrosion. Early on August 6, BPXA's inspections revealed insulation staining along a segment of the Eastern OTL. With the knowledge of these results, BPXA immediately shut down production at Flow Station (FS) 2 as a precautionary measure, and BPXA technicians subsequently discovered a small leak after close visual inspection along the FS-2 to FS-1 pipeline segment.

The smart pig results along the Eastern OTL were unexpected. Because the exact cause of the corrosion mechanism was unknown, BPXA was concerned over the condition of both the Eastern and Western OTLs. Thus, BPXA took the prudent step on the morning of August 6 of announcing our intent to systematically shut-down both sides of the Prudhoe Bay field until existing inspection data could be further assessed and verified with follow up inspections.

Some have questioned whether BPXA made a rash decision to shut down the field over a small leak. To me, as President of BPXA, the decision to shut-down was a reaffirmation of BP's values and was the responsible thing to do. We took this step to prevent a potential release from occurring.

In light of these incidents, many have alleged that BPXA's inspection and maintenance program was inadequate. Given our almost 30 year performance history and our existing programs, we believed we had an effective corrosion management program in place. Clearly, recent events have shown that our program did not detect or prevent the type of pitting corrosion identified here. We are examining and analyzing this data closely to ensure that we apply this learning to improve our program.

BP Corrosion Prevention Program for the North Slope

Corrosion is the natural degradation of a material like steel pipe that results from a reaction with its environment. While corrosion cannot be eliminated, it can be effectively managed through a combination of monitoring and

mitigation treatments. The goal of corrosion mitigation programs is to control corrosion rates to acceptable levels.

Corrosion rates are not static, however, and they can increase or decrease depending on fluid properties or changes in conditions that affect the efficacy of corrosion inhibitors. For that reason, locations that are prone to corrosion damage, or where damage has been identified, are inspected as often as every three to six months.

BPXA uses pigging, ultrasonic testing (UT), visual inspections, corrosion inhibitors and other techniques as appropriate for each individual oil field's characteristics. We employ a risk-based management program whereby resources and activities are concentrated in areas where corrosion is most likely to occur. Exhibits 4 and 5 describe the operations of a gathering center in producing, separating out gas and water, and pumping oil, and they also show a graphical representation of a producing field.

As oil production declined and water production increased, the risk of corrosion has increased. BPXA's program has been modified and enhanced to meet that challenge in recent years. Indeed, the 2006 annual budget for BPXA's corrosion monitoring and mitigation program is $74 million, an increase of 15 percent from 2005, and 80% from 2001. As Exhibit 6 demonstrates, corrosion management "spend" has increased significantly over the last 5 years despite the reduction in Prudhoe Bay oil production volumes.

This corrosion program is designed to continuously mitigate corrosion in the upstream facilities (well lines, flow lines and gathering centers) which has historically had the most corrosion issues. By inhibiting corrosion in the upstream facilities, the downstream facilities (such as the OTLs) are also protected.

The BPXA program is designed for (1) the "carryover" of corrosion chemicals through the gathering centers (or flow stations, as they are called in the EOA) to protect the OTLs; and (2) monitoring and inspection of these lines to track any changes that indicated a problem.

Clearly, in hindsight, this prevention monitoring and inspection program for the OTLs was not sufficient to identify changed corrosion rates that appear to have resulted from changing conditions in the field.

The following section describes the Corrosion Prevention Program for the North Slope in more detail.

Inhibition

A key element of the corrosion prevention program is widespread continuous inhibitor injection. In short, the best way to address corrosion is to prevent it from happening in the first place. Our commitment to effectively managing corrosion on the North Slope is reflected in our corrosion inhibitor injection rates. Exhibit 7 is a diagram of the inhibitor concentrations and the corresponding corrosion rates achieved as measured by corrosion coupons.

We continuously monitor the effectiveness of the inhibition programs with corrosion coupons and electrical resistance (ER) probes. The ER probes take readings every 4 hours of the corrosion potential of the fluids and allow us to make adjustments to corrosion inhibitor injection rates on a weekly basis. Exhibit 8 is a typical configuration of a corrosion coupon and ER probe.

We have not been satisfied with simply maintaining the *status quo*. We conduct an on-going and very active inhibitor research program outlined in Exhibit 9. This inhibitor research program enables us to identify new inhibitor formulations to improve our corrosion management program.

Monitoring and Inspections

BP's North Slope pipeline monitoring and inspection program incorporates combinations of ultrasonic, radiographic, and guided wave inspection techniques. In addition, we utilize coupon monitoring, smart pigging, leak detection systems and surveillance by personnel to provide integrity assurance and maintain safe operations. BPXA's overall annual inspection program consists of conducting inspections at about 100,000 locations in Greater Prudhoe Bay. Of these inspections, approximately 60,000 are for internal corrosion inspection and approximately 40,000 are for external corrosion inspection.

It is important to note that most pipelines on the North Slope are above-ground pipeline, in contrast to other oil fields in other parts of the United States (where pipes are typically buried). This design makes it possible to

use direct measurement techniques to assess the integrity of these pipelines. These types of "direct assessments" are recognized as an effective alternative to ILI methods.

Ultrasonic, radiographic, and guided wave testing are used to assess the condition of the lines and to trigger further action as necessary. Ultrasonic Testing (UT) involves the use of a high frequency sound wave to produce a precise measurement of the thickness of a material. Our UT inspections are not simply one reading at one location on the pipe. Rather, they are an inspection of the full circumference of the pipe over a one foot length. So when we count one UT inspection, it is really hundreds of individual readings at that location. Radiographic testing literally provides an x-ray image of the line, and allows us to "see" both the internal and external condition of the line. Guided wave inspections utilize a new technology that allows us to perform an assessment of buried and / or encased pipe.

We also use corrosion coupons (see Exhibit 8) throughout our operations in order to obtain additional information about any corrosive conditions that might exist in our systems that escaped other inhibition and monitoring programs. The majority of our coupons are read on a three to four month basis.

Important components of pipeline inspections also include regular visual inspections and the use of Forward Looking Infrared (FLIR) devices. FLIR

technology is used to spot heat signatures of crude oil and is especially useful during winter months.

Mitigation of Corrosion

In the design of pipelines, many corrosion mitigation methods are considered. The selection of material from which to manufacture pipe, such as corrosion resistant alloys like stainless or low carbon steel, is one consideration. Another option is the use of various coatings and linings that provide pipelines protection against corrosive agents.

Technology used to protect metal structures from corrosion includes cathodic protection, a technique that is usually used in buried pipelines and takes advantage of electrochemical properties to reduce a metal structure's corrosion potential.

Mitigation also involves the application of corrosion inhibitors and biocides in conjunction with preventative maintenance such as pigging and physical repair of damage.

BPXA runs approximately 370 maintenance pigs per year on the North Slope. (See Exhibit 10 for detail regarding pigging operations). Maintenance pigging is conducted either because of mechanical issues or because corrosion monitoring suggests it. The frequency of maintenance pigging is specific to each pipeline and varies significantly across the North Slope and the industry. For example, the Northstar oil pipeline is pigged every two weeks to prevent

paraffin buildup. The OTLs, on the other hand, do not experience the same build-up of sediments.

External corrosion is mitigated by removal of the source for the water, drying, cleaning and buffing of the damage area and application of new insulation and/or coatings. If external corrosion limits the integrity of the pipeline, then repair techniques are used such as sleeves, clock springs, clamps and or composite wraps.

If the programs are so good, what happened?

Clearly, something went wrong. We will continue to try to understand the physical mechanism behind the OTL leaks. Currently, our understanding is as follows:

The recent leaks were on the oil transit lines, which are the last step in the process before TAPS. General corrosion and pitting in the OTLs were monitored by corrosion coupons on a quarterly basis, and have consistently shown very low corrosive conditions in these lines, always below the BP targeted wall thickness loss of less than .002 inches per year. Exhibit 11 shows coupon results in the OTLs. Every single corrosion coupon for more than a decade, on both the EOA and WOA OTLs, met our acceptance criteria, and none of them indicated the problem that BPXA recently discovered. In spite of their low corrosivity, the OTLs were included in our on-going UT monitoring program. Multiple locations on the OTLs were

monitored on a routine basis, and have consistently revealed corrosion to be managed effectively on these lines.

The first indication of a growth in corrosion came from the corrosion monitoring program in the facilities upstream of the WOA OTLs. An increase in facility corrosion upstream of the WOA OTLs, while not alarming, caused us to perform additional UT inspections of the OTLs. The results of these inspections led us to schedule another ILI of the WOA OTL for mid- 2006. Unfortunately, the March release occurred before that pig run was conducted.

It has been misreported that the OTLs have wide-spread corrosion. In fact, no evidence of general corrosion (i.e. wall loss throughout the pipe) along the OTLs has been found. If there was, it would have been quickly detected by our monitoring programs. Instead, the OTLs have widely spaced, mostly isolated dime-sized pits about 5 to 10 feet apart. It appears that the corrosion is more serious on the upstream segments of these lines, which have the lowest flow velocities.

Why wasn't the pitting corrosion detected by BP's monitoring program? BP had an active inspection program for these lines, but the isolated pits were too widely spaced to be detected by that program. For example, there was an inspection site adjacent to the site where a leak occurred. The inspection did not detect any corrosion – just a few feet away from a pit.

We initially believed that the corrosion along the WOA had developed due to certain operational changes in the WOA, and that the EOA was not similarly

affected. Our initial inspections of the EOA line appeared to confirm this. However, these conclusions were premature and made before the latest inspections were completed. The inspection of the EOA OTL revealed that the pattern of corrosion damage is similar in both the EOA and WOA, although the precise corrosion mechanism remains under study.

Despite years of coupon monitoring, UT inspection and the 1990 and 1998 smart pig runs that indicated no serious corrosion problems with the transit lines, a serious corrosion problem did develop. Regular maintenance pigging might have prevented the current problem from occurring. Our corrosion management system will be adjusted to an even more rigorous program to address these issues.

The Coffman and Baxter Reports

In recent weeks, there has been a lot of discussion and debate about both sets of outside review and critique – the Baxter and Coffman reports. I feel it is important to set the record straight on both reports.

John Baxter is the top-ranking engineering authority within the BP group. John was asked twice to come to Alaska, in 2005 and 2006, to review the BPXA corrosion management program. These requests reflect both BP's philosophy of constant peer challenge and my personal view that even good programs benefit from outside perspectives. John's reports were very fair in their assessment of both the good and bad aspects of the Alaska corrosion

programs. The reports were also used extensively by my team to make improvements in the program.

For instance, one of the 2005 criticisms went to John's concern that despite my desire and directive to increase investment in facilities maintenance and integrity on the Slope, there remained a "culture of conservatism" for making these investments, as a result of low oil price years in the late 1990's. This comment was taken to heart by my leadership team and acted on, and indeed the 2006 Baxter Report noted measurable improvements on this area.

Recent mention has been also been made of the annual reports that have been submitted by an outside engineering firm, Coffman Engineers. Coffman Engineers is retained by the State of Alaska to review BPXA's annual report on corrosion management for the State of Alaska. While praising BPXAs program, Coffman Engineers also has noted deficiencies in BPXA's program. There appears to be some implication that the noted deficiencies played a role in the recent pipeline incidents. However, Coffman did not specifically discuss the oil transit lines in any of its reports.

Previous Coffman reports have noted there were isolated pockets of accelerated corrosion in BPXA's North Slope infrastructure. When discussing internal corrosion on oil lines, the Coffman reports focus attention on the "production system" of well lines and flow lines, the "three-phase" lines that carry a mix of oil, water and gas. These are the lines where corrosion is more of a known threat than in the transit lines that carry "processed oil".

While there were areas in Coffman's reports recommending additional inspection and maintenance activities, on balance they offered support for the efficacy of BPXA's corrosion management program. Excerpts from recent Coffman reports are shown below:

- The 2003 report states: "From a global perspective of oil and gas production, Greater Prudhoe Bay (GPB) and related facilities have an aggressively managed corrosion control program. This suggests an adequate long-term commitment to preserving facilities for future production and sensitivity to environmental consequences."
- The 2004 report credits BP with transparency and candor, and for maintaining a corrosion program in which there is no "acceptable" risk. It said BP's program "is effective and exceeds common industry practice," and that "Corrosion in most of the pipeline system has been reduced to a negligible level."

Path Forward for North Slope Pipeline Infrastructure

BPXA's incident analysis is still underway, but we have already taken steps to characterize the problem and assess the integrity of all the OTL lines. This information has been submitted to the Office of Pipeline Safety (OPS), whose staff is currently reviewing it. We also have outside experts who are reviewing the data and who will provide independent opinions about its adequacy.

We have been working in cooperation with OPS to ensure the safety and integrity of these systems. We pledge to continue working in cooperation with DOT and other interested stakeholders to ensure that these lines, and all our pipeline operations on the North Slope, are operated to a high standard of operational excellence.

Now we must focus our attention on the future – and what we will do to mitigate the risk of future leaks occurring in these oil transit lines. We have committed to undertake seven key actions:

First - Run an in-line inspection tool in each of the Prudhoe Bay Oil Transit Lines that are returned to service.

Second - Confirm through testing the exact corrosion mechanism that caused this problem and modify our corrosion control programs accordingly.

Third - Implement maintenance pigging in all Oil Transit Lines.

Fourth - Include all BP operated Oil Transit Lines on the North Slope into DOT's Pipeline Integrity Management (PIM) Program. This will cover all 122 miles of BP Oil Transit Lines in Alaska – not just those in the Prudhoe Bay field.

Fifth - Replace 16 miles of WOA / EOA oil transit lines with smaller (higher-velocity) lines to help ensure this problem does not recur. The estimated cost of this is in excess of $150 million.

Sixth - The BPXA organizational structure has been changed with the addition of a Technical Director to provide independent assurance of our integrity management efforts.

Seventh - Increase Prudhoe Bay major maintenance spending to $195 million in 2007, a nearly four fold increase from 2004 spending levels. This increase is in addition to the investment in replacement pipe.

In addition to these physical changes, we remain committed to work collaboratively and proactively with the DOT, State regulators, and other stakeholders.

Business Resumption Plan

BPXA is also actively working to restore full production in the Greater Prudhoe Bay field. The following serves as a review of those activities.

Western Operating Area

BPXA has conducted more than 4,876 UT tests of the Western Operating Area OTLs since the August 6th announcement. These subsequent inspection results have not indicated any wall thickness loss greater than 39%. This accelerated rate of inspections – and the resulting data – allowed BPXA to make the decision to continue operating the WOA and cease the orderly shut down originally announced on August 6. We have continued these inspections since that August 11 decision and will not cease the activities until we conduct a smart pig run (scheduled for late October or early November).

In addition, BPXA has begun a surveillance effort that includes daily over-flights using infrared cameras, as well as the use of hand-held infrared cameras on the ground. The cameras can detect small leaks by sensing changes in pipeline surface temperatures. Two vehicles with spill response equipment and carrying observers with infra-red leak detection equipment are patrolling the line 24 hours a day. They are teamed with pipeline walkers who will visually inspect the line ten (10) times a day.

Eastern Operating Area

Since August 6, over 12,000 UT inspections have occurred on this line – nearly 25% of the line. We are averaging 200 to 300 inspections per day. About 160 workers are dedicated to this inspection effort.

We are currently focusing inspections on the 34" segment that runs from FS-1 to Skid 50 (see Exhibit 3). If the inspection results show that the line has integrity, we will request permission from the DOT to re-start that line. We are currently working through a process with DOT to make that request once we can provide assurance that the line can be safely re-started and pigged. We expect to make that request in the near future. Restart will allow us to quickly run both maintenance and smart pig these lines, in line with the DOT CAO.

Regarding the leak along the FS-2 transit line, the estimated 23 barrels of oil spilled has been cleaned up. The line currently holds about 13,000 barrels of crude. Metal sleeves have been installed on those sections of the transit line

with severe corrosion. BPXA has submitted a plan to the U.S. Department of Transportation (DOT) for de-oiling this segment of line.

Concurrent with our inspection activities and in case these activities indicate that the lines are not fit for service, by-pass options are being pursued to restore as much production as possible in an environmentally safe manner. The focus is largely on the EOA and includes new options to divert production from each of the existing Flow Stations to Skid 50 (see Exhibit 3).

- The production from FS-2 is being engineered to route to the Endicott production line through new piping.
- The production from FS-1 is being engineered to route to the Endicott production line through new piping.
- The production from FS-3 is being engineered to route through Drill Site 15 and then to a jumper into the Lisburne OTL.

We expect work on these options to be complete by the end of October.

All of this work is taking place as BPXA prepares for ultimate replacement of the 16 miles of WOA/EOA oil transit lines. Sixteen (16) miles of pipe has been ordered from US mills and is expected on the slope during the fourth quarter. We are hopeful that work can be completed during the winter construction season.

While many of the circumstances surrounding the incidents at Prudhoe Bay are known there is much more that needs to be done to fully understand the corrosion mechanism we experienced. These results will be known in due course and will be shared in a fully transparent way. In the meantime, BPXA is committed to restoring full production to the EOA as soon as we are confident it can be done in a safe and environmentally responsible way.

New Pipeline Safety Regulations

Historically, certain pipelines that operate at low stress were exempt from U.S. DOT oversight. This exemption applied to onshore pipelines such as oil transit lines on the Alaskan North Slope.

However, since the March 2, 2006 spill from BP's Western OTL (a low-stress system); DOT has proposed a rule to revise the low-stress exemption. Upon completion of its rulemaking process, it is likely that any low-stress pipeline that is in an environmental high consequence area will become a regulated pipeline under DOT jurisdiction. These proposed regulatory changes are strongly supported by BP.

Employee Concerns

I'd like to conclude by returning to a priority for BPXA that was discussed at the beginning of my testimony-addressing and acting upon employee concerns. A number of people have raised questions and concerns about our corrosion inspection, monitoring and prevention program. Sometimes these

concerns have been voiced inside the company. Sometimes, they have been taken to regulators or to the media.

I view every employee concern as an opportunity to address a problem. I don't care how or with whom they are raised. I just want to know about them. We need the input of our workers to continuously improve and be the best business we can be.

BP feels the same way. Harassment, intimidation, retaliation and discrimination against workers who raise concerns are not tolerated within BP.

We have a number of channels through which workers can raise concerns. In addition to just the normal line management channels, we have employee-run safety committees, we have a worldwide anonymous program called Open Talk, and in Alaska we have other, confidential methods for employees to communicate workplace concerns. We also track employee satisfaction and concerns via a People Assurance Survey conducted annually. The results from the 2006 survey indicate a 13% improvement year over year for our Slope-based workforce.

BP has a track record of acting on employee concerns. Over the last several years employee safety committees have raised, and we have jointly addressed over 600 safety concerns. They range from the quality of vehicle headlights to challenging whether the injection of fluids into disposal wells was appropriate.

More importantly, BP has investigated and addressed concerns raised about our corrosion inspection, monitoring and inspection program.

During the summer of 2002 a BP employee received two anonymous calls alleging falsification of corrosion inspection reports by a handful of contract workers. BP brought in an outside firm, audited the work performed on the program year-to-date, and determined that a small percentage of inspections had indeed been falsified. The investigation also called into question our inspection contractor's quality assurance program.

Our inspection contractor dismissed the workers responsible for falsifying inspection reports and three months later, when the inspection contract was up for renewal, we brought in a new company to do this work.

As another example, in 2004, after receiving allegations of harassment, intimidation and retaliation by a BP corrosion program manager we brought in an outside law firm, Vinson and Elkins (V&E) to conduct an investigation. Vinson and Elkins found evidence of intimidating behavior that had made some corrosion workers reluctant to raise health and safety concerns.

We acted on the recommendation of V&E and transferred the manager in question outside Alaska into a technical consulting role.

When concerns were raised about whether BPXA had inappropriately influenced edits made in an Alaska state review of the company's corrosion management program, BP again brought in an outside law firm to investigate.

The investigation found no evidence of improper behavior on the part of the company or its employees.

Conclusion

Bob Malone, Chairman and President of BP America recently announced a number of actions to ensure that our businesses are run in a manner that meets our expectations and yours. I would like to highlight the following actions that impact operations in Alaska:

1. BP America has retained three of the foremost experts in the world around corrosion and infrastructure management to evaluate and make recommendations for improving the corrosion management program in Alaska.

2. BP has added an additional $1 billion to the $6 billion already earmarked to upgrade all aspects of safety at its US refineries and for integrity management in Alaska. Over $550 million (net) will be spent on integrity management improvements in Alaska over the next two years.

3. Former U.S. District Court Judge Stanley Sporkin has been appointed as an independent ombudsman reporting directly to Bob Malone and he has been asked to conduct a review of all worker allegations that have been raised on the North Slope since 2000.

4. Mr. Malone has established an Operational Advisory Board composed of fifteen senior business leaders in BP America to advise him on safety,

operational integrity and compliance and is building a team of internal experts on employee safety, process safety, operational integrity, and compliance and ethics to assist him.

5. An external advisory board is being recruited to assist in monitoring BP's US businesses with particular focus on safety, operational integrity, compliance and ethics.

I welcome these actions and see them as a way to improve how we operate our business.

In closing Mr. Chairman, since March, we identified an unexpected gap in our corrosion control program, and we will correct it. In the future, we will have a better system to protect our pipelines and we have already gained important new operating knowledge.

I deeply regret the problems caused by the situation we discovered. But we will emerge stronger and more knowledgeable as a result of this challenge.

EXHIBIT 1

bp

Fact Sheet Prudhoe Bay

Background
The Prudhoe Bay field is the largest field in North America and the 18th largest field ever discovered worldwide. Of the 25 billion barrels of original oil in place, more than 13 billion barrels can be recovered with current technology.

Prudhoe Bay field was discovered on March 12, 1968, by ARCO and Exxon with the drilling of the Prudhoe Bay State #1 well. A confirmation well was drilled by BP Exploration in 1969. The next 8 years saw frenetic activity as ARCO, BP, Exxon, and other companies with lease holdings in the vicinity worked to delineate the reservoir, resolve equity participation, and put together an initial infrastructure. Prudhoe Bay came on stream in June 20, 1977, rapidly increasing production until the field's maximum rate was reached in 1979 at 1.5 million barrels per day. This rate was maintained until early 1989, and is currently declining by 10% per year. Production totaled approximately 475,000 barrels per day on January 1, 2004. More than 10 billion barrels have already been produced.

Prior to 2000 the Prudhoe Bay field was comprised of the East Operating Area, operated by ARCO, and the West Operating Area, operated by BP Exploration. Upon acquisition of ARCO by BP and sale of ARCO Alaska assets to Phillips Petroleum, the two operating areas were consolidated and BP became the sole operator of Greater Prudhoe Bay. Although BP operates the field, a total of nine companies have an interest in the field leases. The profits and costs are shared amongst the owners, according to their ownership.

Ownership
BP Exploration (Operator), 26%
ConocoPhillips Alaska Inc., 36%
ExxonMobil, 36%
Others, 2%

Greater Prudhoe Bay Fast Facts	Discovered	1968	
	Production started	1977	
	Oil production wells	1114	
	Participating field area (including satellites)	213,543 acres	
	Daily production (thousands)	475,000 bbls/day	
	Total cumulative production (1/1/05)	BP Net	Gross
		4395	10,839
Midnight Sun Fast Facts	Production started	1998	
	Oil production wells	2	
	Participating field area (including satellites)	3,112 acres	
	Daily production (thousands)	5,500 bbls/day	
Aurora Fast Facts	Production started	2000	
	Oil production wells	10	
	Participating field area (including satellites)	7,519 acres	
	Daily production (thousands)	9,000 bbls/day	
Orion Fast Facts	Production started	2002	
	Oil production wells	3	
	Participating field area (including satellites)	18,853 acres	
	Daily production (thousands)	11,000 bbls/day	
Polaris Fast Facts	Production started	1999	
	Oil production wells	10	
	Participating field area (including satellites)	11,681acres	
	Daily production (thousands)	4,000 bbls/day	
Borealis Fast Facts	Production started	2001	
	Oil production wells	27	
	Participating field area (including satellites)	7,757 acres	
	Daily production (thousands)	19,000 bbls/day	

Location
The Prudhoe Bay field is located 650 miles north of Anchorage and 400 miles north of Fairbanks. It is 1200 miles from the North Pole and 250 miles north of the Arctic Circle. Pump Station 1, the beginning of the Trans Alaska Pipeline, is located with in the perimeter of the Prudhoe Bay field.

Revised: August 06

Source:
Page: 1

EXHIBIT 1 (page 2)

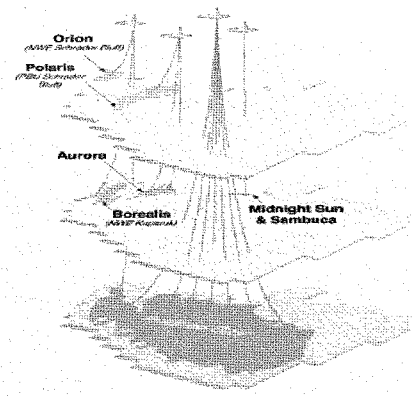
Geologic Features
The Prudhoe Bay field, like many oil fields, consists of layers of porous rock that contain gas, oil, and water. The water, being the heaviest, lies in the lower rock layers of the field. The oil lies above the water, and the gas rests atop the oil. The oil, gas, and water are held in the Prudhoe Bay field by changes in the rock type (stratigraphy) and by the tilt and faulting of the rock layers. Sandstones are porous and allow the fields' fluids to flow through them. Shales, however, act as barriers to fluid flow. Thus, whenever a sandstone layer meets a shale layer, either through faulting or as a factor of how the rock was originally deposited, the shale stops the fluid flow and the fluids are trapped.

The oil at Prudhoe Bay is trapped in the Sadlerochit formation, a sandstone and gravel structure nearly 9,000 feet underground. In some locations the oil-bearing sandstone was 600 feet thick during the field's early life. Today, average thickness of the oil bearing zone is about 60 feet.

Natural gas
The field contains an estimated 46 trillion cubic feet of natural gas (in place) in an overlying gas cap and in solution with the oil. Of that, about 26 trillion cubic feet are classified as recoverable.

Investment
The major owners have invested more than $25 billion to develop the Prudhoe Bay field and the transportation system necessary to move Prudhoe Bay crude oil to market.

Satellite Fields
Since 1998 five satellite fields have been discovered and developed within the unit boundaries of the Prudhoe Bay oil field. These fields are Midnight Sun, Aurora, Orion, Polaris, and Borealis. One of the key objectives of the field's development has been to maximize sharing of existing infrastructure, including production and support facilities. The production wells for these satellite fields are located on one of the Prudhoe production pads. The liquids are processed through Prudhoe Bay facilities.



Source:
Page: 2

Revised: August 06

EXHIBIT 1 (page 3)

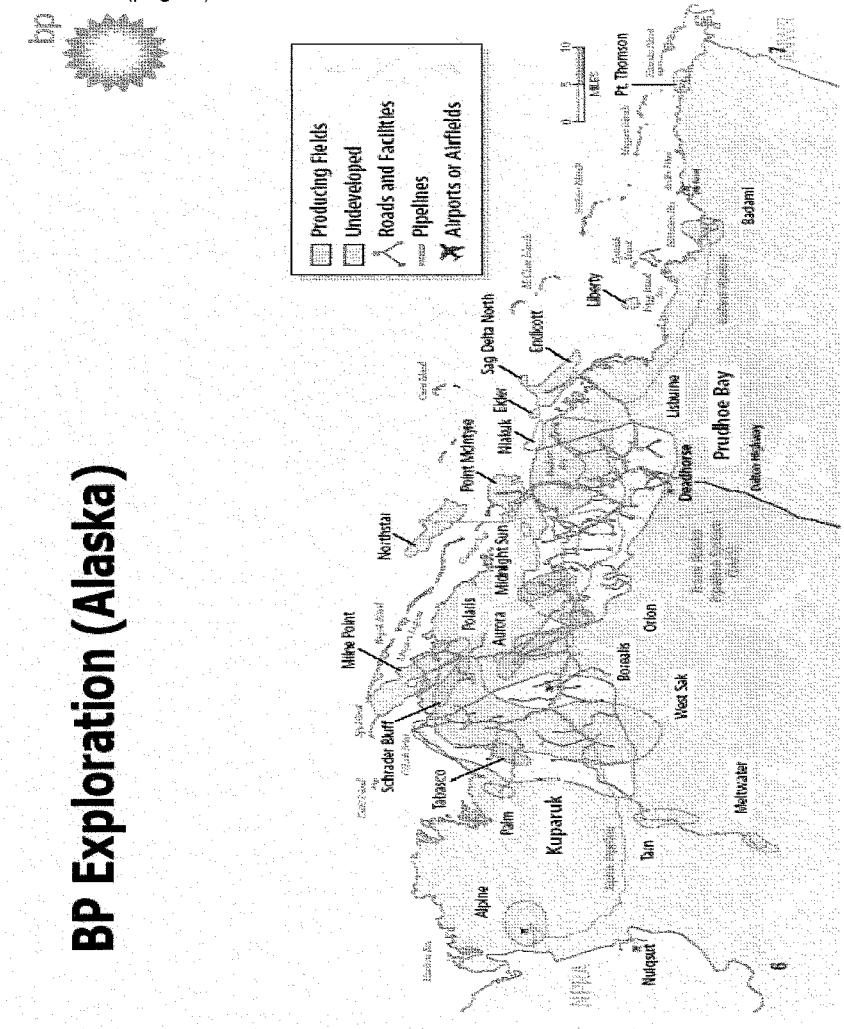
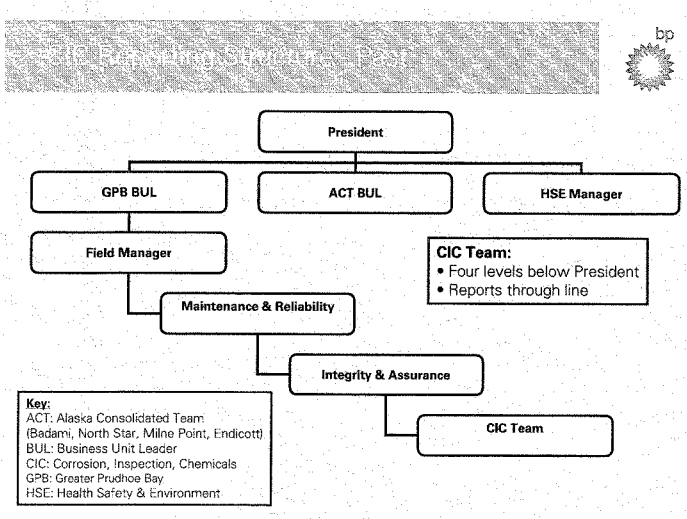


EXHIBIT 2


bp
President
GPB BUL
ACT BUL
HSE Manager
Field Manager
Maintenance & Reliability
Integrity & Assurance
CIC Team
CIC Team:
• Four levels below President
• Reports through line
Key:
ACT: Alaska Consolidated Team
(Badami, North Star, Milne Point, Endicott)
BUL: Business Unit Leader
CIC: Corrosion, Inspection, Chemicals
GPB: Greater Prudhoe Bay
HSE: Health Safety & Environment

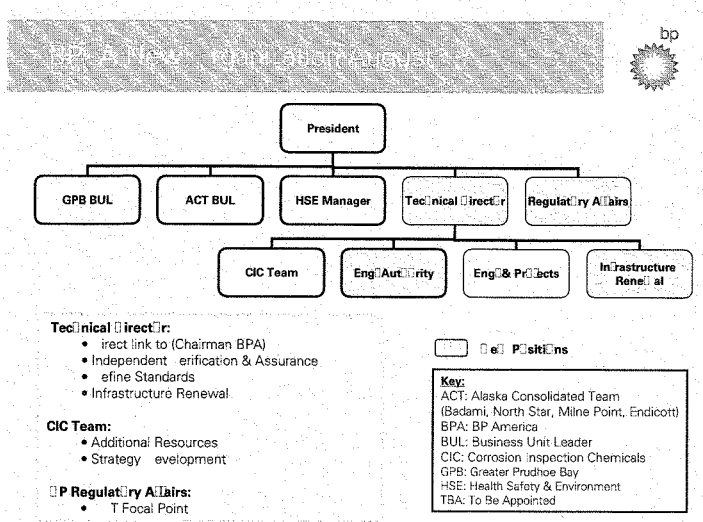

bp
President
GPB BUL
ACT BUL
HSE Manager
Tec□nical □irect□r
Regulat□ry A□airs
CIC Team
Eng□Aut□□rity
Eng□& Pr□ects
In□rastructure
Rene□ al
Tec□nical □irect□r:
• irect link to (Chairman BPA)
• Independent erification & Assurance
• efine Standards
• Infrastructure Renewal
CIC Team:
• Additional Resources
• Strategy evelopment
□P Regulat□ry A□airs:
• T Focal Point
□e□ P□sit□ns
Key:
ACT: Alaska Consolidated Team
(Badami, North Star, Milne Point, Endicott)
BPA: BP America
BUL: Business Unit Leader
CIC: Corrosion Inspection Chemicals
GPB: Greater Prudhoe Bay
HSE: Health Safety & Environment
TBA: To Be Appointed

EXHIBIT 3

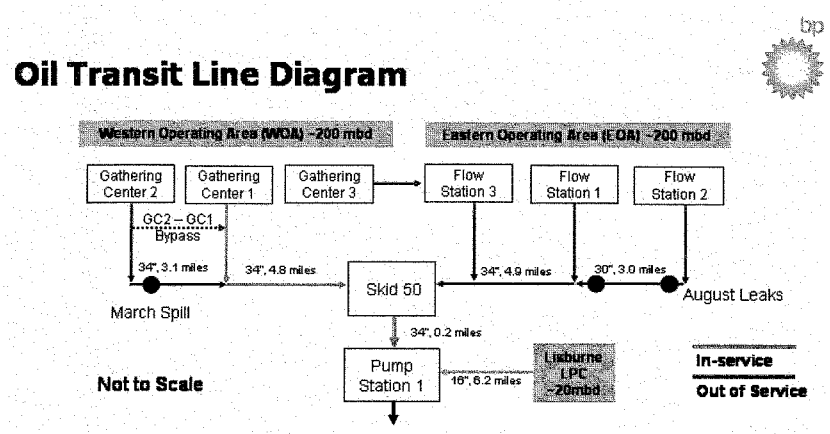

bp
Oil Transit Line Diagram
Western Operating Area (WOA) ~200 mbd
Eastern Operating Area (EOA) ~200 mbd
Gathering Center 2
Gathering Center 1
Gathering Center 3
Flow Station 3
Flow Station 1
Flow Station 2
GC2 – GC1 Bypass
34", 3.1 miles
34", 4.8 miles
Skid 50
34", 4.9 miles
30", 3.0 miles
March Spill
August Leaks
34", 0.2 miles
Pump Station 1
16", 6.2 miles
Lisburne LPC ~20mbd
Not to Scale
In-service
Out of Service

EXHIBIT 4

Fact Sheet Gathering Centers, Flow Stations

Introduction
The purpose of separation facilities (known as "**gathering centers**" on the western side of the field **GC-1, GC-2, GC-3**,and "**flow stations**" on the eastern side **Flow-1, Flow-2, Flow-3**) is to separate raw crude oil, water and gas produced from the wells into the three main components. The crude must meet certain pipeline specifications before being shipped to Pump Station 1 at the start of the Trans Alaska Pipeline System (TAPS). Each separation facility is designed to process about 350,000 barrels of raw crude oil per day. The separation facilities can also handle various amounts of gas and water. The largest gas handling facilities are Flow Station 1 and Gathering Center 1, each capable of processing 2.7 billion cubic feet of gas per day. The largest water handling facility is Flow Station 2 which can process up to 600,000 barrels of water per day.

Oil System
Raw crude produced from individual production wells located at well pads is diverted to flowlines (pipelines). The flowlines transport the raw crude to the separation facilities, where the water and natural gas mixed with the raw crude are removed. The stabilized crude is then sent to Pump Station 1, the beginning of TAPS.

Gas System
The separated natural gas is compressed, dehydrated, and transported to the Central Gas Facility (CGF) where natural gas liquids are recovered and sent to TAPS and a portion are used to make miscible injectant which is used in enhanced oil recovery. The remaining dry gas goes to the Central Compression Plant (CCP), where the majority is injected into the Sadlerochit formation. A small portion of the compressed and dehydrated produced gas is used within the Prudhoe Bay Unit as fuel gas. At GC-1 and FS-3, another portion is diverted to the "gas lift" compression plant. Gas lift is a process where recovered natural gas is re-injected into the wells to add buoyancy to the oil to help "lift" it to the surface.

Separation Facilities Fast Facts

Separation facilities (also called Gathering centers/ flow stations) separate natural gas and water from crude oil extracted from production wells.
There are 6 separation facilities (3 gathering centers/ 3 flow stations) at Prudhoe Bay. Other North Slope oil fields have their own separation facilities.
Each separation facility at Prudhoe Bay is designed to process about 350,000 barrels (14.7 million gallons) of raw crude in a day.
Each gathering center processes an average of 70,000 barrels of oil, 1400 million cubic feet of natural gas, and 200,000 barrels of produced water each day; quantities vary from facility to facility.

Water System
The "produced" water separated from the raw crude is processed to remove oil and solids. This treatment process yields an oil stream (which is returned to oil processing equipment), a dirty water stream (which is injected into the Cretaceous formation nearly 1 mile below the Earth's surface), and a treated produced water stream (which goes to injection wells at the well pads). The treated produced water injected into the formation supports a field-wide waterflood program designed to maintain reservoir pressure and "sweep" crude oil from injection wells toward oil production wells.

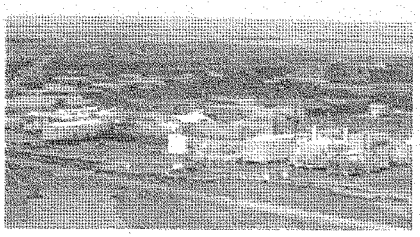


EXHIBIT 5

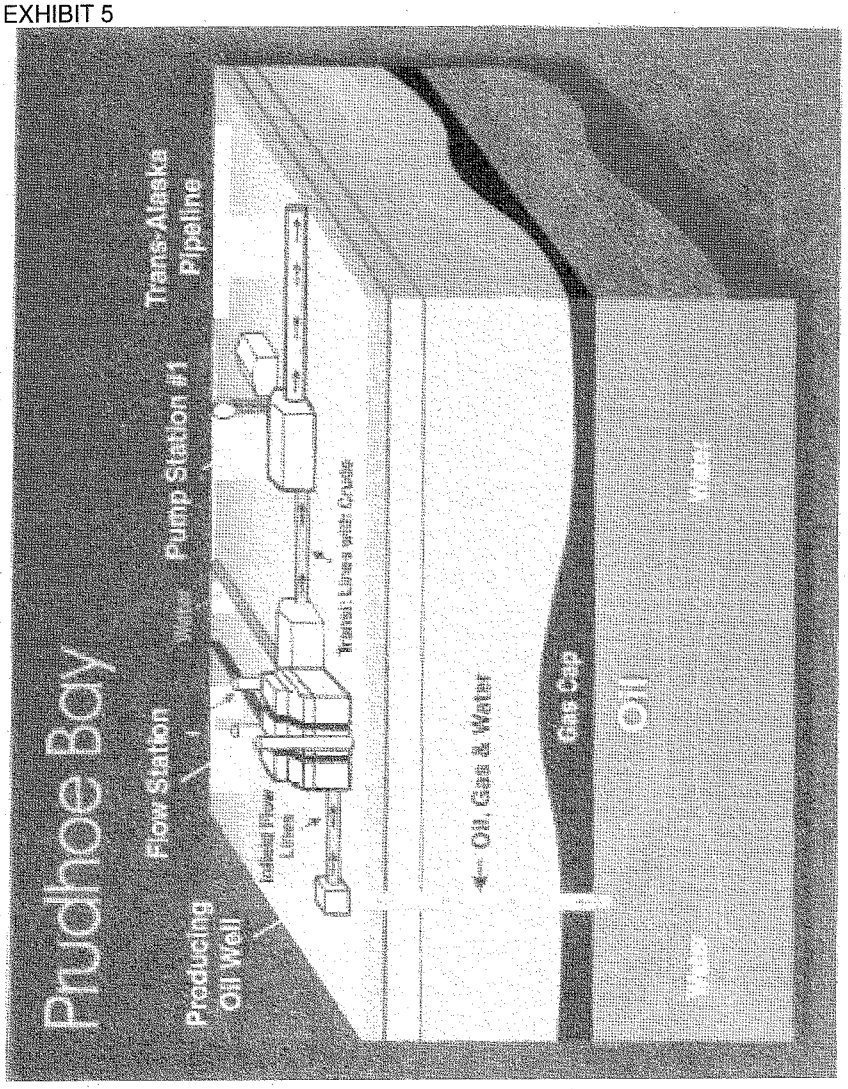

Prudhoe Bay
Producing Oil Well
Flow Station
Trans-Alaska Pipeline
Pump Station #1
Oil, Gas & Water
Cap Cap
Oil
Water
Water

EXHIBIT 6

Prudhoe Bay Corrosion Spend Versus Production

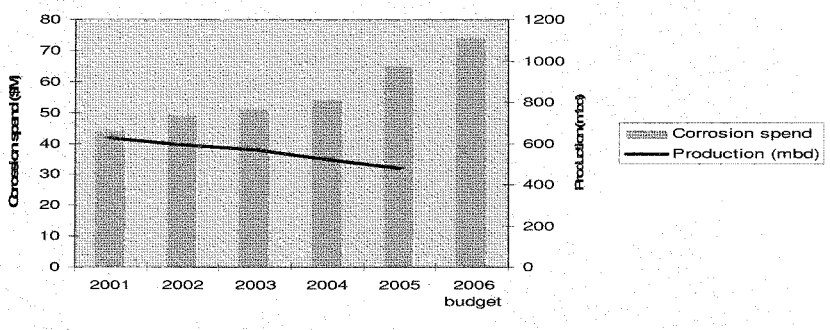


EXHIBIT 7

Diagram of Inhibitor Injection Rates

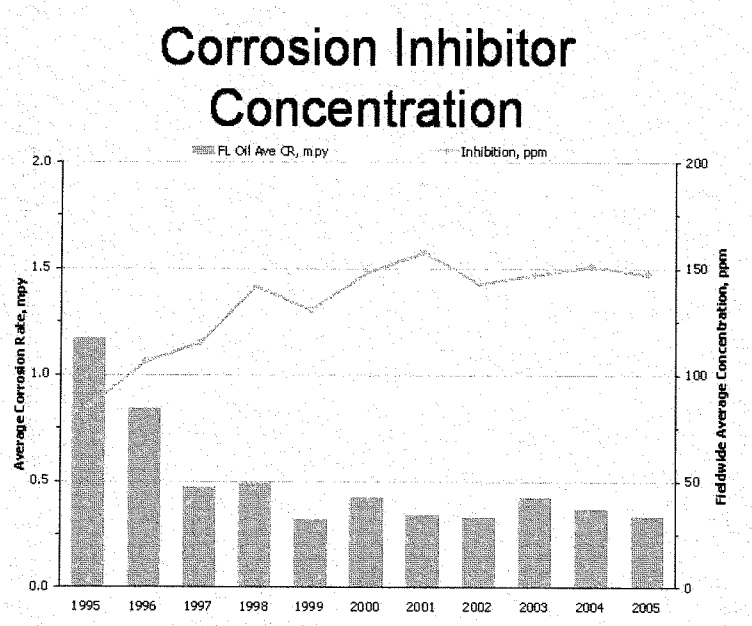
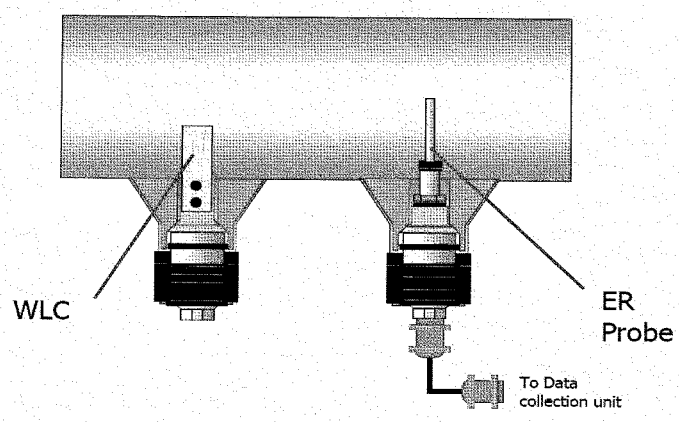


EXHIBIT 8

Corrosion Monitoring Schematic

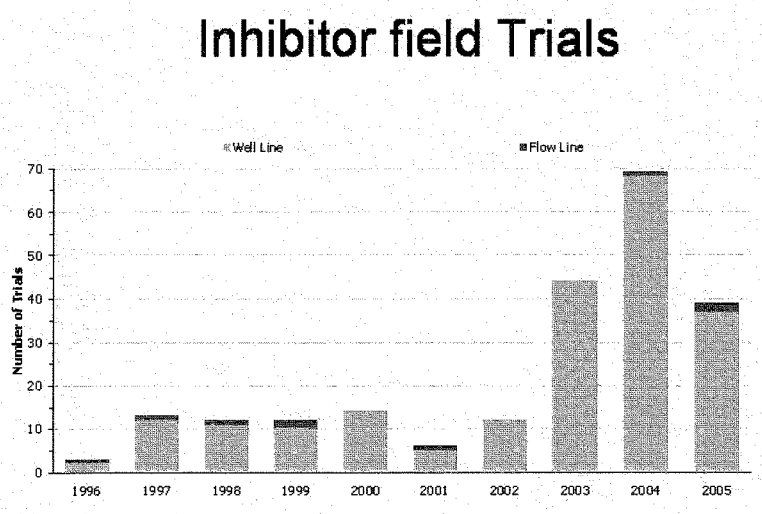


WLC – Weight Loss Coupon ER – Electrical Resistance

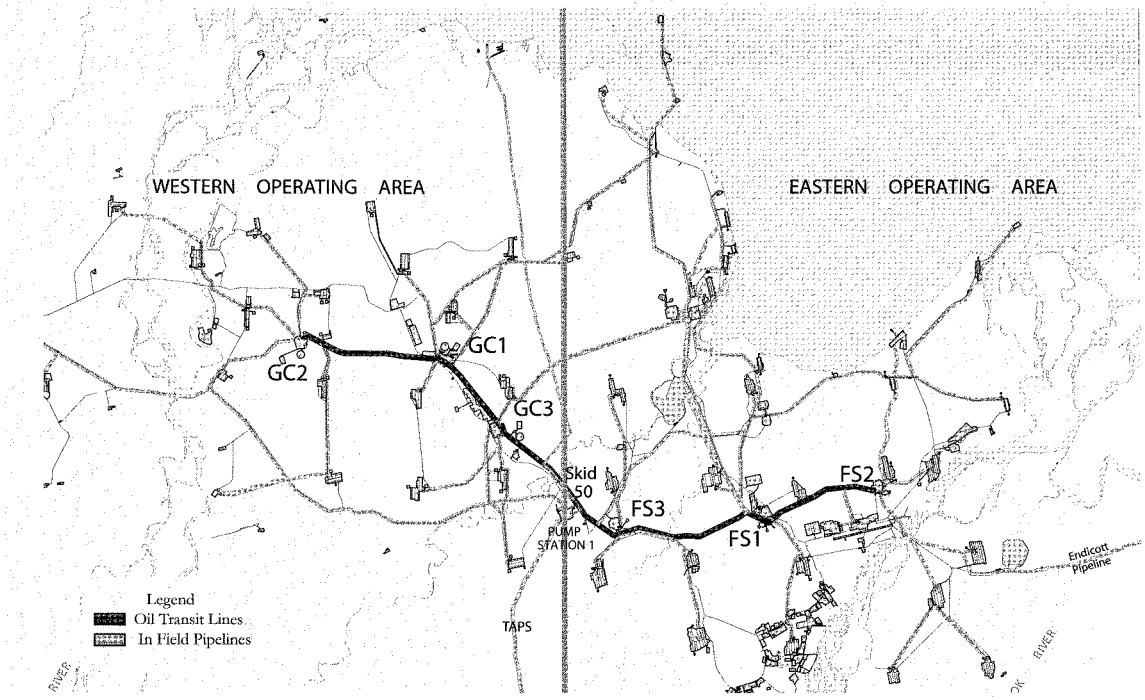
Coupon monitoring is a method that involves exposing a sample of the pipeline material (the coupon) to conditions within the pipe for a given duration, then removing the specimen for analysis. Material loss observed over the exposure period is expressed as corrosion rate.

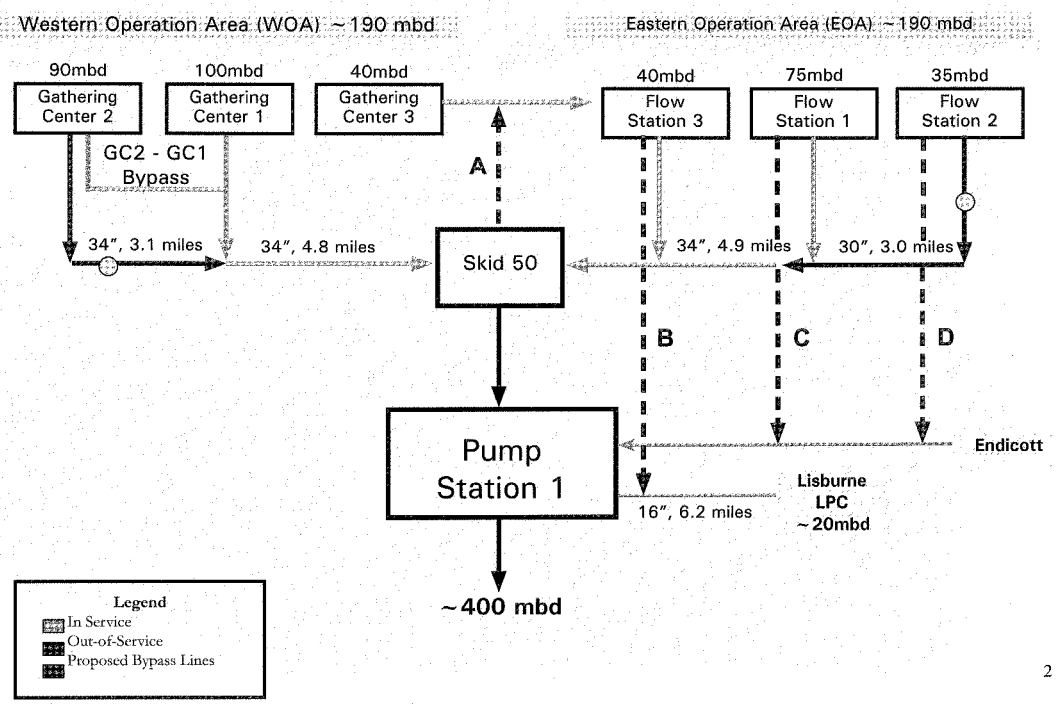
EXHIBIT 9

Inhibitor Research Program

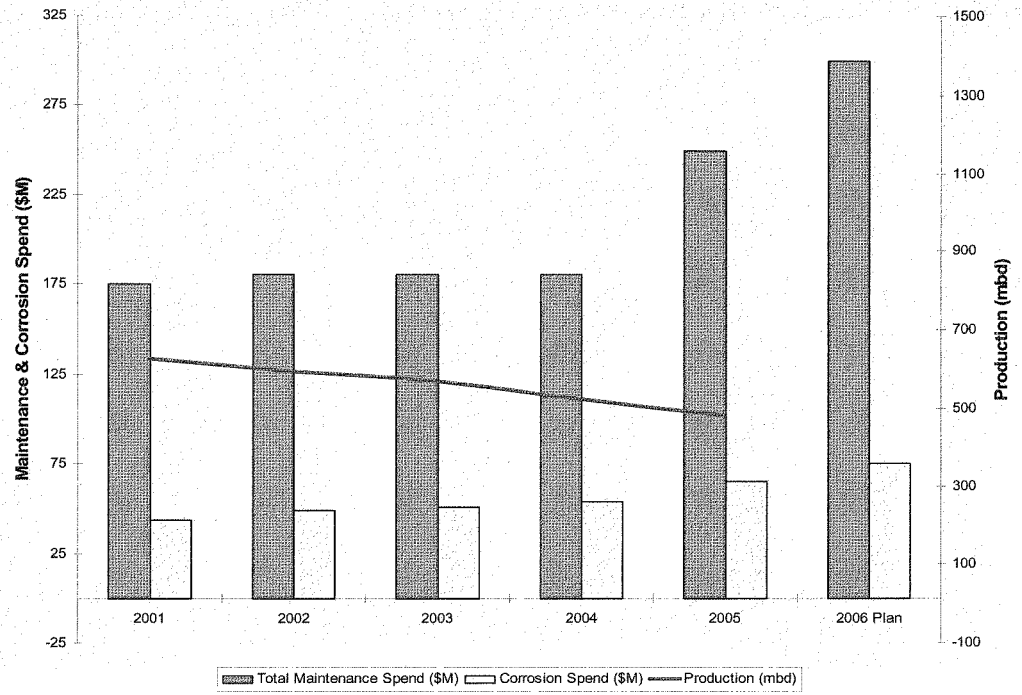


Prudhoe Bay Pipeline System



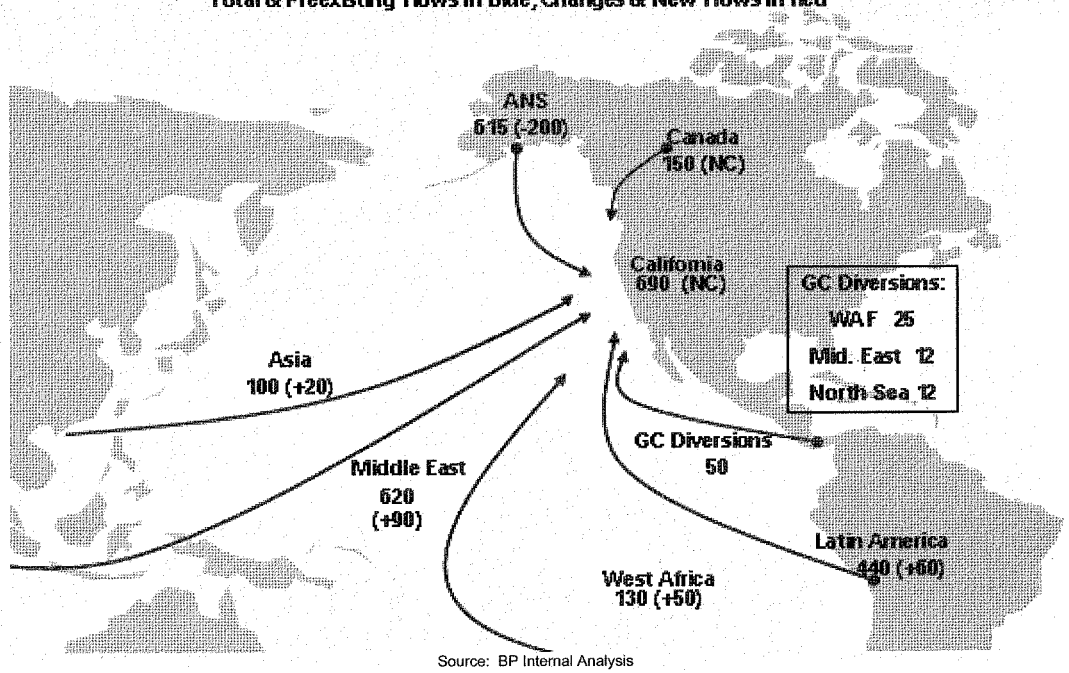

Western Operation Area (WOA) ~190 mbd
Eastern Operation Area (EOA) ~190 mbd
90mbd
Gathering Center 2
100mbd
Gathering Center 1
40mbd
Gathering Center 3
40mbd
Flow Station 3
75mbd
Flow Station 1
35mbd
Flow Station 2
GC2 - GC1 Bypass
A
34", 3.1 miles
34", 4.8 miles
Skid 50
34", 4.9 miles
30", 3.0 miles
B
C
D
Pump Station 1
Endicott
Lisburne LPC ~20mbd
16", 6.2 miles
~400 mbd
Legend
In Service
Out-of-Service
Proposed Bypass Lines

Prudhoe Bay Maintenance + Corrosion Spend



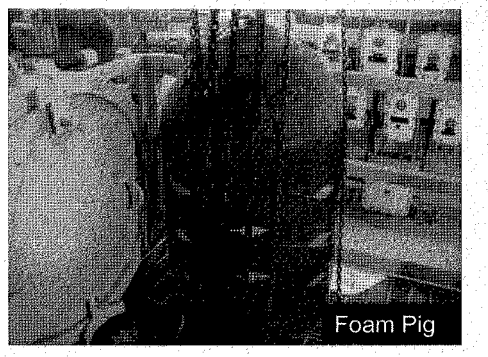
Estimated West Coast Crude Oil Balance (Sept-Oct 2006) in MBPD

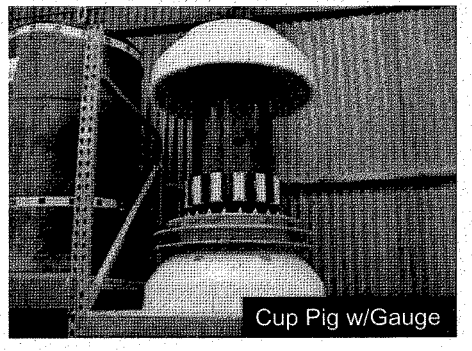
Total & Preexisting Flows in Blue, Changes & New Flows in Red

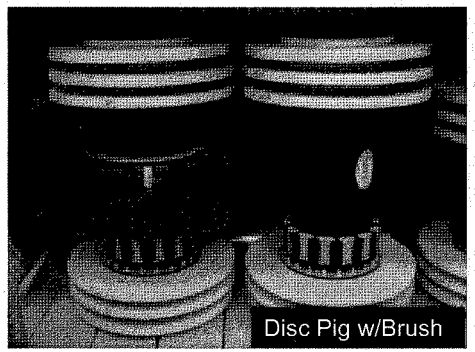


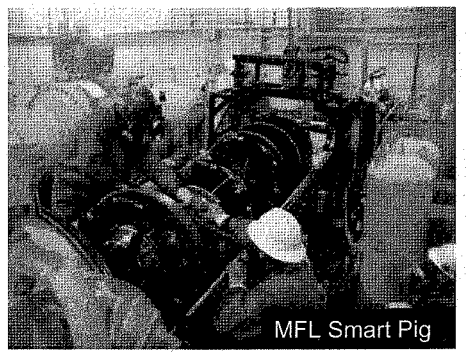
Source: BP Internal Analysis

Pigging Tools


Foam Pig

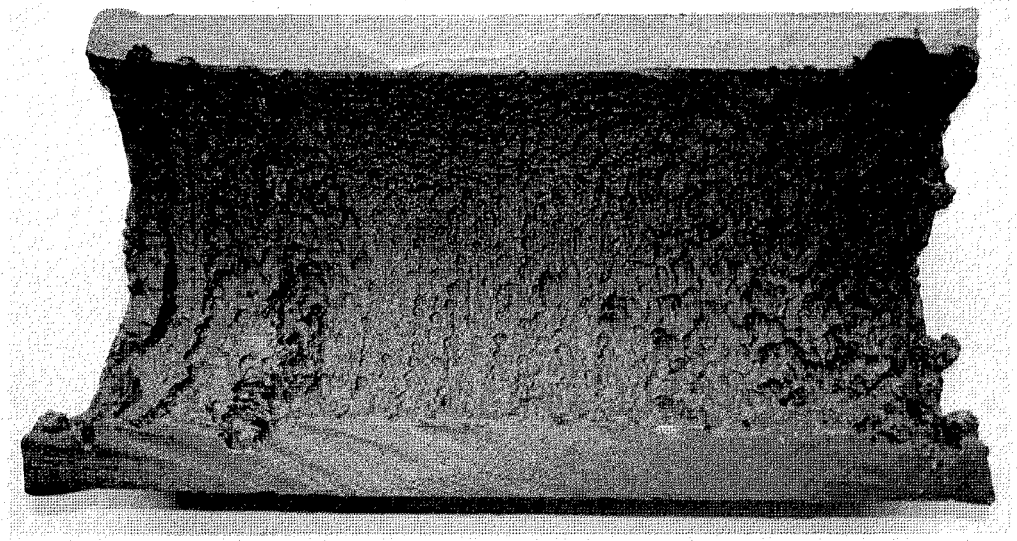

Cup Pig w/Gauge


Disc Pig w/Brush

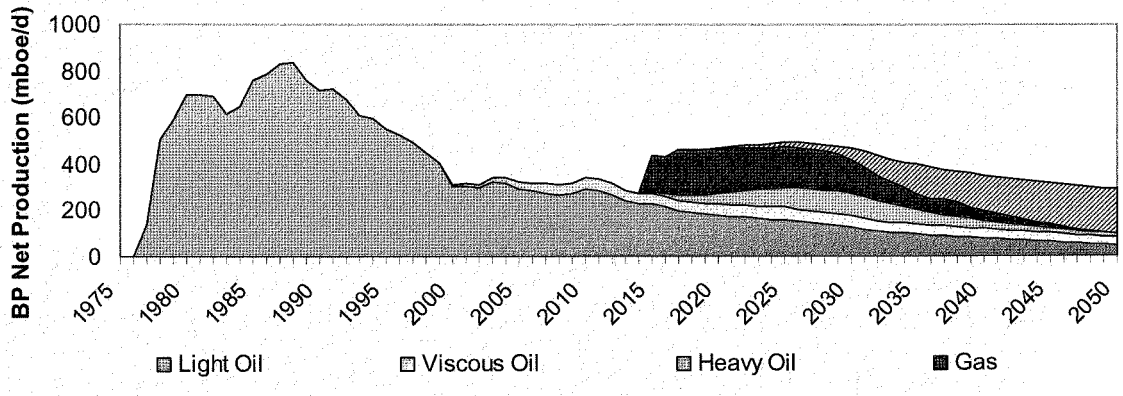

MFL Smart Pig

bp
Isolation of Corrosion Probing
Isolation of Internal Corrosion Probing

Internal Carbon Dioxide Corrosion



A 50 Year Vision



March 2006 Spill

bp
August 2006 Leak
10

Rep. Poe
9/15/06

I wish to thank Chairman Young for holding this important hearing. I am a supporter of energy companies. I think it's important to our national security to explorer and harness our natural resources whether that be in the frozen tundra of Alaska or out in the vast expanses of our oceans. It is possible for us to balance our needs for energy and our needs to protect the environment.

However, it is also important that we maintain our oversight on these companies to ensure that they continue to follow the laws and practice do diligence. I have seen energy companies at their best and at their worst. I've seen them evacuate their offshore rigs before Hurricanes Katrina and Rita. They didn't risk lives and their hurricane damaged rigs did not have oil spills. But I've also seen Texas City and the unnecessary loss of life there.

I look forward to hearing the testimony of BP's representatives and their explanation of events as we look at what new regulations DOT will enact and maybe what Congress should enact as well.

Remarks of U.S. Rep. Nick Rahall
T&I Hearing: BP Oil Spill
2167 Rayburn House Office Building
September 13, 2006

Mr. Chairman—

Thank you for calling this important hearing to address the critically important issue of our Nation's energy transmission system. This hearing is necessary to understand the root causes of the oil spills from BP's low-stress hazardous liquid pipelines in the North Slope of Alaska.

This committee has been, and remains, committed to providing for the safe and efficient transmission of energy, be it oil, natural gas or any other energy product. The incidents that have occurred along BP's pipeline run counter to this committee's mission of safe and efficient transmission of energy and that is why we are here today.

I am hopeful this hearing will shed light on exactly what happened and that our witnesses will be forthcoming with information on why it happened and what is being done to address the multiple problems that have been uncovered – from the specific integrity management of these pipes to the corporate culture that oversaw this failure.

The world's energy companies – and particularly Big Oil – are experiencing a period of record profits. BP itself profited $22 billion in 2005 – and I believe with that comes a significant amount of corporate responsibility to do all that is necessary to prevent incidents such as what occurred on the North Slope.

This responsibility clearly was avoided with respect to BP's pipeline on the North Slope. The incident raises many important questions – questions that demand a clear and thorough examination.

Frankly, I am concerned that there appears to be a stark contrast between the reality of BP's shoddy maintenance at Prudhoe Bay and the rhetoric from proponents that expanded drilling on public lands in Alaska and offshore can occur without environmental impact. Without a doubt, BP's poor record at Prudhoe Bay should be a major

consideration for Congress in the debates regarding drilling in the Arctic National Wildlife Refuge, the National Petroleum Reserve-Alaska and the OCS.

Mr. Chairman, I am hopeful that today's hearing will give us some answers on how and why this happened and what will need to be done – in Congress and in the boardrooms of Big Oil – to prevent future incidents such as this. Thank you again for calling this hearing and I look forward to hearing further from our witnesses.

Statement by Rep. Ellen Tauscher
Wednesday, September 13, 2006
Transportation & Infrastructure Committee Oversight Hearing

Mr. Chairman, thank you for holding today's hearing on the regulation of low stress pipelines. In light of the recent events on the North Slope of Alaska, I appreciate the opportunity to hear from both the industry and regulators on first, why an oil pipeline was allowed to become so corroded over time that over 200,000 gallons of crude oil spilled onto the Alaskan tundra and second, how this Congress should respond to ensure that this type of accident doesn't occur again.

It is remarkable that a corporation the size of BP, with the types of profit margins which the company has shown over the last two quarters, would ever allow one of its heavily used pipelines to become so corroded over time that the basic function of that pipeline would be jeopardized. While BP's lack of self-policing lead to the largest ever spill of crude oil on Alaska's North Slope, it is BP's response to the March spill which is most eye-opening. While the initial spill was discovered in March, BP did not complete a federally mandated full inspection of the entire pipeline until August – a full five months after the initial leak had been discovered.

BP's lack of an internal regulatory pipeline maintenance policy not only caused harm to the surrounding environment but also caused world-wide crude oil prices to spike, to the detriment of the American consumer. Their ambivalence to the demands of the federal regulator, the Pipeline and Hazardous Materials Safety Administration (PHMSA), is astounding and could have lead to an even greater disaster.

I am interested in learning if BP believes that their maintenance of the pipeline conformed to industry standard. If they do, then they are acknowledging a standard which would allow for 14-year gaps in any meaningful inspection to oil pipelines. I would argue to my Colleagues on the Committee that this position is unsustainable and will inevitably lead to additional leaks and spills.

So, how do we ensure that this type of event never happens again? First, while BP is the responsible actor in this instance, the oil and gas industry must hold itself to a gold-standard of operation and maintenance. The consequences of inattentiveness, as we see in the BP case, are too serious to be ignored and will mar the entire industry – not just the liable party.

Second, PHMSA must play a larger role in regulating low stress oil pipelines. It is alarming that at the time of the BP spill, PHMSA had no accurate information on BP's maintenance schedule. At a very minimum, pipeline operators should be required to provide PHMSA with timely and frequent reports on its maintenance regimes. More likely, and more appropriately, though, PHMSA needs to be empowered to require that operators maintain their pipelines to the highest safety and maintenance standards.

The consequences of another spill to our economy and to our environment are too grave to ignore. As we consider reauthorization of the Pipeline Safety Act, I believe we must consider the type of regulatory framework which is necessary to ensure the functioning of this critical infrastructure.

I look forward to today's testimony and thank the Chairman, again, for holding this hearing.

○