

**OIL SPILLS FROM NON-TANK VESSELS:
THREATS, RISKS, AND VULNERABILITIES**

HEARING

BEFORE THE

SUBCOMMITTEE ON OCEANS, ATMOSPHERE,
FISHERIES, AND COAST GUARD

OF THE

COMMITTEE ON COMMERCE,
SCIENCE, AND TRANSPORTATION
UNITED STATES SENATE

ONE HUNDRED TENTH CONGRESS

FIRST SESSION

DECEMBER 18, 2007

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ONE HUNDRED TENTH CONGRESS

FIRST SESSION

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OIL SPILLS FROM NON-TANK VESSELS: THREATS, RISKS, AND VULNERABILITIES

TUESDAY, DECEMBER 18, 2007

U.S. SENATE,
SUBCOMMITTEE ON OCEANS, ATMOSPHERE, FISHERIES,
AND COAST GUARD,
COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION,
Washington, DC.

The Subcommittee met, pursuant to notice, at 2:30 p.m., in room SR-253, Russell Senate Office Building, Hon. Frank R. Lautenberg, Chairman of the Subcommittee, presiding.

OPENING STATEMENT OF HON. FRANK R. LAUTENBERG, U.S. SENATOR FROM NEW JERSEY

Senator LAUTENBERG. We're going to open the hearing, and we are to be addressing this question: we've seen too much of the damage that's created when we have spills and we're today going to be examining a fuller extent of what takes place, including the damage, the costs to repair. We want to prevent it where we can. And when EXXON VALDEZ has spoken, most Americans have an immediate reaction. We remember seeing birds, fish, and other wildlife covered in black, messy oil; 11 million gallons pouring into the sea. I was up there within 3 days of the grounding of the EXXON VALDEZ, and disaster was obvious. And, of course, there were incredible financial costs involved, as well as the damage to the birds and marine life, that existed there.

The EXXON VALDEZ spill cost nearly \$4 billion to clean up. And believe it or not, Exxon Mobil, which took in \$40 million in profits in the year 2006, is still fighting the punitive damage that was awarded in that case. After the spill, we passed the Oil Pollution Act of 1990, which was a landmark rule on spill prevention and response. As a Senator from a coastal state, and a state whose waterways carry lots of oil shipments, I was proud to play a significant role in crafting that bill.

Unfortunately, more spills followed. In 2004, a single hulled oil tanker, the ATHOS I, spilled more than 260,000 gallons of heavy crude into the Delaware River, which flows along our New Jersey boundary. And so last year, with this Committee's leadership, we updated our shipping laws. The legislation that I authored nearly tripled the amounts that polluters must pay for spills caused by single-hull tankers, and nearly doubled the liability for nontankers.

It also required the creation of Federal Advisory Commission on Spill Prevention for the Delaware River Region, and it required a study by the Government Accountability Office—which has been re-

cently completed—on the actual cost of spills. And yet, oil spills are still a tremendous risk to our environment and our economy. Just last month, we witnessed the accident that occurred with the COSCO BUSAN, where they spilled 58,000 gallons of oil in the San Francisco Bay.

After that incident, and important findings by the GAO, it is clear that our government's attitude toward oil spill prevention or response has been one of complacency, and there is more work that has to be done. But first, we need to reinforce that polluters should pay for the disasters they create. Over the past 16 years, the Oil Spill Liability Trust Fund has subsidized polluters to a tune of \$39 million. And these payouts happen because the Coast Guard failed to update Federal liability limits on a regular basis to keep up with inflation.

Now, making sure that polluters pay isn't the only challenge we face. For example, the Delaware River Oil Spill Advisory Commission has never had a meeting. There is too little funding in the Oil Spill Liability Trust Fund to support the cleanup of a catastrophic spill. And the oil spill prevention research seems to have fallen by the wayside. So I want to work with my subcommittee leaders—the Chairman of the Subcommittee has arrived, Ms. Senator Cantwell—on legislation to correct these problems. And I also plan in my subcommittee, the surface and marine maritime subcommittee, to focus on better ship designs and operations to prevent oil spills in the first place. And we've got to get beyond this complacency when it comes to the health of our shores and our economy.

Madam Chairman? Do you want to go from there?

Senator CANTWELL [presiding]. Thank you, Senator Lautenberg. Thank you for opening up this hearing this afternoon. I would like to call on Senator Stevens, if he would like to make an opening statement.

**STATEMENT OF HON. TED STEVENS,
U.S. SENATOR FROM ALASKA**

Senator STEVENS. I did. I think my colleague, the Chairman. Can I comment also, because we're going to have to go get involved in the—spill very quickly. I think, Admiral, one of the most vivid memories I have is flying with your predecessor Admiral the day after spill, as we went over the Prince William Sound and saw oil spreading over that vast, beautiful place. We were both sickened at the time. Many people forget that tanker was aground, and only one-fourth of its tanks had spilled. It was subsequent action that lead up to all of the oil coming out before it was through, in that Sound. I think that's probably the most devastating impact we've ever had from oil spills.

The other one that was in 2004, the SELENDANG AYU went down in Alaska with 300,000 gallons of bunker fuel. The San Francisco Bay had 50,000 gallons this last year. I think Senator Lautenberg mentioned another one here on the East Coast. I'm really concerned about the adequacy of the prevention and response. I think the Coast Guard has done a great job for the Nation in reducing the impact of oil spills, but they're stretched very thin now with the responsibilities you have on the homeland security. I think we need to make sure the Coast Guard has the resources it needs to con-

duct the training and drills that remain so necessary to prevent and take care of oil spills.

I did go down to Valdez this past summer, there at Mile 800, and witnessed their deployment of the equipment that's there. I don't think many people believe we have it, but we have four different sets of recovery material in the Prince Williams Sound now. The initiatives you have, a Vessel Tracking System that is used in the convoying of tankers, double-bottom tankers now, since that Oil Pollution Act of 1990, go in and out of the Prince William Sound, I hope to God they will prevent another spill in our areas. I do think we have to improve our tracking systems, not only of the tankers, but of all cargo ships that carry substantial amounts of fuel. I hope we can get the Committee working together with your agencies all through it to make sure the laws we have are adequate to give you the authority you need, but I'm worried about the funding.

Since we're in the era of earmarks, I bow to no one in terms of the earmarks we make, because they're necessary to assure you have the resources you need to continue the activities that are so important to prevent these catastrophes in the future. Thank you very much, Madam Chairman.

Senator CANTWELL. Thank you. Senator Inouye?

**STATEMENT OF HON. DANIEL K. INOUE,
U.S. SENATOR FROM HAWAII**

The CHAIRMAN. Thank you very much, Madam Chairman. During the past decade, significant progress has been made toward reducing the number of oil spills from tank vessels. Much of that success is the direct result of passage and implementation of the Oil Pollution Act of 1990. However, as we all know, in recent years, vessel traffic has rapidly increased, with our country's growing dependency on imports of fuel. With that increase in vessel traffic, it is evident that nontank vessel spills are an emerging concern today. Non-tank vessels can carry millions of gallons of oil as fuel, and the standards for nontank vessels need to be strengthened.

I am aware that the Coast Guard is in the process of finalizing long-awaited rulemakings in this area, and I wish to encourage them to take the steps necessary to hasten the completion of these regulations. I look forward to hearing the testimony to better address these issues from a policy perspective. Thank you very much.

Senator CANTWELL. Senator Kerry?

**STATEMENT OF HON. JOHN F. KERRY,
U.S. SENATOR FROM MASSACHUSETTS**

Senator KERRY. Thank you, Madam Chairman. As Senator Lautenberg has mentioned, a lot of us on this Committee, and as Senator Stevens has mentioned in his own comments, we know from firsthand experience what happens when we have an oil spill, the dramatic environmental and economic impact. I know Senator Boxer knows, and obviously Senator Stevens, as was mentioned.

While the number of oil spills has thankfully been decreasing over the past few decades, they still do occur with a frightening regularity. And while improvement obviously needs to be made—and we've discussed this in this Committee over the many years,

in fact, leading up to the double hull sort of effort—is really how do you prevent them from happening in the first place, and the concept of the double hull is a way to do that.

We have certainly learned that when the cameras go away and the attention shifts, the local communities are left dealing with the impacts for a long, long period of time. On Sunday, the 27th of 2003, the tank barge, BOUCHARD No. 120, ran aground and spilled an estimated 98,000 gallons of No. 6 fuel in Buzzards Bay. Buzzards Bay, you know, Admiral, but for those who don't, is a small area surrounded by the coastline of Massachusetts and the islands before you break out into Nantucket and Vineyard Sound.

This was the eighth reported grounding in Buzzards Bay in the past 4 years, and the fourth since the EXXON VALDEZ. And the community is still dealing with the aftereffects of this spill. The total cost to clean up estimated to be around \$40 to \$45 million.

Buzzards Bay has been the site of several catastrophic oil spills, and near-miss groundings, because it is the access and entrance to the Cape Cod Canal. The largest spill occurred in 1969, when approximately 189,000 gallons of No. 2 fuel oil spilled when the barge FLORIDA ran aground off West Falmouth. And then, in 1990, two groundings occurred within 8 days of each other—the grounding of a passenger ship, BERMUDA STAR, off Cleveland Ledge, and the grounding of another BOUCHARD oil barge, No. 145. Two years later, the QUEEN ELIZABETH II grounded off Sow and Pigs Reef, way out near Cuttyhunk, near the entrance coming in as you head in toward the Canal.

So these are just a few examples. Now, I think a lot of us have adopted the notion on this Committee that the states really do have a pretty good sense, if not the best knowledge, of what safety measures are needed to try to protect their waters. And so, in response to what happened in Buzzards Bay, Massachusetts enacted the Oil Spill Prevention Act of 2004. And the law required an escort tug for large vessels, and required a state pilot for many of the waters, to help steer the barge. And these are pretty commonsense moves.

The tugs can help with an equipment failure or with human error, and they can prevent a spill from occurring. The cost of an escort tug and a local pilot, as required by the Massachusetts Oil Spill Prevention Act, is approximately \$6,000 per tug transit through the Bay and Cape Cod Canal—miniscule compared to the profits carried in those vessels, and nothing compared to the costs inflicted on the community in the event of an oil spill. Nevertheless, Admiral, the Coast Guard challenged this law in court, and is still fighting against the requirement for a double-hulled vessel to meet these requirements.

The double-hulled ships are relatively new. We've already seen massive oil spills from double-hulled vessels. In 2005, a double-hulled vessel operated by K-Sea. Transportation hit a submerged oil platform, and through a 36-foot gash spilled 3 million gallons of oil into the Gulf of Mexico. And since double-hulled vessels sit deeply in the water, creating a greater risk of rupture in shallow areas such as Buzzards Bay, we are concerned.

1.6 billion gallons of fuel travel through Buzzards Bay each year. And local entities, we believe, have the specialized knowledge to

prevent those spills. So the Coast Guard has accepted other states' assertion that local waterways require specialized knowledge, and hence require the type of actions Massachusetts has taken. And we believe, obviously, that Buzzards Bay is proof the area needs a preventative action. So it is my hope, Admiral, I certainly want to explore with you why the Coast Guard opposes this, and would like to see if we can't move forward. Thank you, Madam Chairman.

[The prepared statement of Senator Kerry follows:]

PREPARED STATEMENT OF HON. JOHN F. KERRY,
U.S. SENATOR FROM MASSACHUSETTS

Too many of us on this Committee know first hand from our own states the tragic and dramatic environmental and economic impact of oil spills right off of our shores. Senator Boxer knows, Senator Stevens knows—and after our experience in Buzzards Bay, I know what it means to a local community that can find itself still reeling from an oil spill almost 5 years later.

Yes, the number of oil spills has thankfully been decreasing over the past two decades, they still occur with frightening regularity.

While improvement should be made in preparedness and response, the best way to deal with oil spills is to prevent them from happening in the first place.

One lesson we've all learned is that after the cameras go away and the attention shifts, it is the local communities that have to deal with the long term consequences of an oil spill. But what we don't seem to have understood fully is that it is also the local community that is in the best position to prevent an oil spill.

On Sunday April 27, 2003 the tank barge BOUCHARD No. 120 ran aground and spilled an estimated 98,000 of gallons of Number 6 fuel oil in Buzzards Bay. This was the eighth recorded grounding in Buzzards Bay in the past forty years and fourth since EXXON VALDEZ, and the community is still dealing with the after effects of this latest spill. The total cost of the cleanup is estimated at \$40–45 million.

Buzzards Bay has been the site of several catastrophic oil spills and many, many more near-miss groundings. The largest spill occurred on 1969 when approximately 189,000 gallons of #2 fuel oil spilled when the barge FLORIDA ran aground off West Falmouth. In 1990, two groundings occurred within 8 days of each other—the grounding of the passenger ship BERMUDA STAR off Cleveland Ledge and the grounding of another BOUCHARD oil barge #145. Two years later, the QUEEN ELIZABETH II grounded off Sow and Pigs Reef near Cuttyhunk. These are just a few examples.

The states know their waterways best and the local governments know what safety measures are needed. That is why, in response to what happened in Buzzards Bay, Massachusetts enacted the Oil Spill Prevention Act of 2004. This law required an escort tug for large vessels and required a state pilot that knows the waterway to help steer a barge—common sense measures.

These tugs can help with an equipment failure or human error and prevent a spill from occurring. The cost of an escort tug and a local pilot as required by the Massachusetts Oil Spill Prevention Act of 2004 is approximately \$6,000 per tug transit through the Bay and Cape Cod Canal—nothing compared to the profits that are carried in that ship, and nothing compared to the costs inflicted on a community in the event of an oil spill. However, the Coast Guard challenged this law in court and is still fighting against the requirement for double hulled vessels meet these requirements.

Though double hulled ships are relatively new, we have already seen massive oil spills from double hulled vessels. In 2005, a double hulled vessel operated by K-Sea Transportation hit a submerged oil platform and through a 36-foot gash spilled 3 million gallons of oil into the Gulf of Mexico. Double hulled vessels sit deeper in the water, creating a greater risk for a rupture in a shallow area such as Buzzards Bay.

1.6 billion gallons of fuel travel through Buzzards Bay each year, and local entities have the specialized knowledge to help prevent future oil spills. While the Coast Guard has been helpful in dealing with the response to the oil spill, preempting the State law which will help prevent future oil spills is perplexing to me. The Coast Guard has accepted other State's assertion that local waterways require specialized knowledge and hence require the type of actions Massachusetts has taken. The number and severity of oil spills in Buzzards Bay serve as proof that this area needs the preventative actions the State Law includes, and it is my hope that today we

will at last get some answers about why these basic steps still face so much resistance.

Senator CANTWELL. Thank you, Senator. Senator Snowe?

**STATEMENT OF HON. OLYMPIA J. SNOWE,
U.S. SENATOR FROM MAINE**

Senator SNOWE. Thank you, Madam Chair, for holding this hearing today on an issue that's vital to the future of our ocean and coastal resources. Just over a month ago, many of us met here in the immediate aftermath of the disastrous COSCO BUSAN oil spill looking for answers of how and why it occurred. As those investigations continue, in our discussions today, we'll look beyond that single incident and broaden the inquiry to determine what more can be done to reduce the likelihood of future spills and improve our ability to respond, contain, and mitigate the impact in incidents that do occur.

Also, I would like to thank Senator Boxer. She chaired that hearing last month, along with Senator Feinstein, a meeting that was very important to provide a clearer picture of the response in the environmental disaster that occurred on November 7th in the San Francisco Bay. I understand that approximately one-third of the oil spilled in that accident has been recovered; a percentage well above the average for oil recovery. But questions remain about the causes of the incident, as well as the adequacy of the response plan, including the flow of communications with state and local officials and the management of non-Federal assets in the immediate aftermath.

I am troubled by the reports, as many have indicated, not only that it was about eight hours before the Coast Guard learned of the magnitude of this spill, and then another 4 hours that lagged between the time the Coast Guard notified local officials about the magnitude of this spill, including the Mayor of San Francisco. I was pleased to hear you say, Admiral, that an independent investigation of the Coast Guard's effort is underway. I look forward to the results to help determine appropriate changes to a better response strategy and the lessons learned.

I represent a state recognized for more than 5,000 miles of majestic coastline, the longest on the Eastern Seaboard. And many rely on the beauty and the bounty of our oceans from tourism, to fisheries, to maritime transportation—for our livelihoods. The Port of Portland plays a very significant role hosting ferries and commercial fishing boats, cruise ships, oil tankers, and tank barges. Portland is the second-highest volume oil importer on the Eastern Seaboard, and we have seen firsthand the devastation of oil spills and what it can do to our environment, to our shores, and also to the livelihood for the many people who depend on the ocean.

In 1996, the tanker JULIE ANNE discharged nearly 180,000 gallons of fuel into the Portland Harbor, incurring upwards of \$43 million in damages.

We have also seen high volumes of nontanker cargo ships. Portland is visited at least by one container ship per week, and numbers are expected to grow in the coming years. And we are currently experiencing a boom in the cruise ship traffic. Large cruise ships, like other massive vessels, such as the container and cargo

ships, carry hundreds of thousands of gallons of fuel oil. Last summer, cruise ships made a record number of visits to Maine, including 90 port calls at Mount Desert Island, home to the scenic areas of Bar Harbor and Acadia National Park. The natural beauty of this region, of course, is the main attraction for cruise ships. It is also enhanced by its remoteness, something that also increases the degree of difficulty for responders should a spill occur.

During our discussion here following the COSCO BUSAN incident, it became clear that large oil spills from cargo ships are relatively rare. Furthermore, the recent decline in large spills is attributable in no small measure to the passage of the Oil Pollution Act back in 1990. In fact, according to your agency's statistics, Admiral Allen, in the 10 years prior to the passage of that Act, there were over 180 oil spills greater than 50,000 gallons, or an average of 18 large spills per year. From 1990 through 2004, that number has declined by nearly 75 percent. A lot of the Nation's efforts to reduce the incidence and impact of oil spills has focused on tanker vessels, resulting in improvements such as double hulls and Vessel Response Plans. It is time to shift some of that attention to non-tanker vessels.

Fully one-fifth of the oil that has spilled into our waters since 1990 has come from nontanker vessels, and today's cargo ships are capable of holding up to 4 million gallons of oil. It is critical that this Committee exercises oversight authority to minimize the risk of future calamities like the COSCO BUSAN. I look forward to speaking to the witnesses here today, in particular Admiral Allen. We have spoken on numerous occasions about the Coast Guard's many missions, and I know this is one of your multi missions. We have to ensure that you have, obviously, the strategy, the policy, and the resources necessary to carry out these future endeavors.

What we need is to adjust the current Federal policy to make sure that we are prepared to address any of these oil spills and catastrophes in the future. Thank you.

Senator CANTWELL. Thank you. Senator Boxer?

**STATEMENT OF HON. BARBARA BOXER,
U.S. SENATOR FROM CALIFORNIA**

Senator BOXER. Madam Chair, Senator Snowe, thank you so much for your extraordinary leadership on this. And as I look at everyone here, we all come from states that know the value of the ocean, the value of the bay, the environmental value, the economic value, and frankly, the culture that we have around the ocean. And I just want to say on behalf of Californians, who have over 840 miles of coastline, that when the COSCO BUSAN struck on the Bay Bridge on November 7th, and it ripped the visible 100-foot-long gash in the ship's side, and it spewed 58,000 gallons of bunker fuel in the San Francisco Bay. When that happened, everyone mobilized. But because of a lot of confusion, a lot of facts not getting out to the people, we saw this.

And I'd like to just show you two photographs here of the—some of the wildlife—2,200 birds and marine mammals were injured or killed. And now, we think that 20,000 birds may have perished in the oil spill. Show them the other one. And these are some of the people who were just giving aid to these helpless creatures, and,

you know, if we had known immediately—immediately—I think things would've been different. There's more that we need to do, and I just hope that we stay on this. And that's why, Senator Cantwell and Senator Snowe, I was so grateful to you for following up on the briefing that Senator Feinstein and I did.

But I also want to point out that, in addition to the harm done to the wildlife, others are suffering. And I think Senator Stevens might be interested in this point, and I'll wait for him, because I do—Senator Stevens, I want to tell you something that I thought would interest you in particular, that there is are so many ramifications from something like this. The Dungeness crab season was suspended for several weeks, because of health concerns over the potential for tainted seafood, and our whole fishery has been impacted by this. So, you know, it's one moment, one incident, one mistake, one problem, and it has all these effects for so long.

I'm going to ask to put my whole statement in the record, and my remaining 3 minutes I'm going to highlight that, if I might.

[The prepared statement of Senator Boxer follows:]

PREPARED STATEMENT OF HON. BARBARA BOXER, U.S. SENATOR FROM CALIFORNIA

I want to thank the Commerce Committee and Senators Cantwell and Snowe for holding this hearing today to call attention to the threats posed by the large amounts of oil carried by cargo ships.

I also want to thank Senator Cantwell and the Committee for including provisions in the Coast Guard Reauthorization bill to address oil spill pollution prevention.

Unfortunately, Californians know all too well the damage and destruction that can occur to our waters, wildlife and communities due to toxic bunker fuel used by most shipping companies worldwide.

The cargo ship the COSCO BUSAN struck the protective bumper of the Bay Bridge on November 7, ripping a visible 100 foot long gash in the ship's side, spewing 58,000 gallons of bunker fuel into San Francisco Bay.

This disaster has wreaked havoc on our environmentally sensitive Bay, killing or injuring at least 2,200 birds and marine mammals. Wildlife biologist experts now estimate that more than 20,000 birds may have perished due to the spill.

The negative impacts of the disaster are not just limited to extensive environmental damage, Californians all along the coast are feeling the effects of this spill on their pocketbooks. The Dungeness crab season was suspended for several weeks because of health concerns over the potential for tainted seafood.

At the Members briefing I held shortly after the disaster, I raised many questions about the Coast Guard's and NOAA's response to the spill. While I appreciate each agency's efforts, there are many more questions that still need answers.

I think we need to re-evaluate how Federal agencies respond to these types of environmental disasters and the resources that are allocated for oil spills prevention programs and response.

That is why I recently introduced two bills along with Senator Feinstein to help address some of the main issues raised in the wake of the spill—the role of and funding for the Coast Guard's Vessel Traffic Service (VTS), liability limits for cargo ships, and laptop computers for pilots.

The Maritime Emergency Prevention Act of 2007, which was referred to this Committee, gives the local Coast Guard Vessel Traffic Service the authority to command a ship to modify its speed and direction in the event of an emergency or in hazardous conditions, it mandates pilots use laptop computers where appropriate and authorizes increased funding for the VTS.

We need to give the VTS the resources and authority to do its job to intervene when circumstances warrant so when we have another incident similar to the COSCO BUSAN, the Coast Guard can alert the ship in a manner that may prevent an accident.

Another issue raised recently by this spill is the increasing size of cargo ships and the ability of these ships to carry a tremendous amount of oil. The largest cargo ships today can carry 4.5 million gallons of fuel, and despite those totals, cargo ships are not required to have double hulls.

Mr. Chairman, I think the potential for a major disaster here is terrifying. Our communities are no longer in a position of wondering *if* they will have to respond to a major disaster but *when*.

That is why I have also introduced legislation, which was referred to my EPW Committee, to equalize the liability limits under OPA for oil tankers and cargo ships, raising cargo ships from \$950 per gross ton to \$1,900 for double hulled and \$3,000 for single hulled ships.

The GAO report released today points out that the Coast Guard has not acted to raise the liability limits for vessels since OPA was enacted in 1990, and instead relied on the Oil Spill Liability Trust Fund to shoulder the remaining financial burden.

In fact, the GAO found that of the 51 major spills between 1990 and 2006, the failure of the Coast Guard to raise the liability limits resulted in a \$39 million shift in costs from the responsible parties to the Oil Spill Liability Trust Fund.

As we have seen first hand with the disaster in San Francisco Bay, the liability limits often cap the liability for the responsible party far below what the actual total cost of clean up and recovery for a spill.

I also am working on legislation mandating the development and implementation of national guidance for volunteer management during oil spills.

With the San Francisco Bay oil spill we witnessed a tremendous and impressive volunteer response. However, we also witnessed confusion and inefficiencies with how to properly manage this valuable resource.

We need national guidance and further local planning and training to address the complexities with engaging volunteers and to define how to best provide for their worthwhile and safe use.

Mr. Chairman, as I stated before, many questions still remain about whether our Federal agencies have the resources necessary and are up to the task of responding to and cleaning up major oil spills.

I have concerns about whether Coast Guard has the resources to adequately monitor the Vessel Response Plans for non-tanker ships and whether Coast Guard's current training schedule is sufficient to respond to a major spill.

Why is Coast Guard continuing to drag its feet on rulemaking? Is Coast Guard too focused on the security aspects of the Agency and not enough on marine environmental protection?

Finally, should we in the United States step up at the international level, like private companies such as Intertanko have, and work to ban toxic bunker fuel? We know the benefits of a lower-sulfur fuel provides for respiratory health, and now we also need to think about the potential affects of toxic fuel on our waters and marine life.

As international trade continues to grow, the threat of a catastrophic oil spill occurring off the coast of the United States continues to grow exponentially.

I want to thank the Committee for holding this important hearing and look forward to working with the agencies and groups present to protect our waters and communities.

Senator BOXER. I think we need to reevaluate how Federal agencies respond to these disasters, and I don't certainly have all the answers, but Senator Feinstein and I, after our many briefings, and Admiral Allen was helpful to us in telling us, in his opinion, not that we necessary agreed with everything he said, but we came up with a couple of approaches. One bill has been referred to this Committee, Mr. Chairman, and I want to thank you for your interest.

The Marine—the Maritime Emergency Prevention Act of 2007 would take away the ambiguity as to who is in charge when we have conditions that are so hazardous that you can't see one inch in front of your nose. It would say that the Coast Guard declares a hazardous circumstances—declares an emergency circumstance, and then it would be responsible to pilot that ship in. And right now, what we have is this one's pointing here, it was his fault, it was his fault, it was his fault. I think, in case of emergency, I have so much faith in the Coast Guard. I say to you, Admiral, I think they need to declare that there is an emergency, and they take

charge, and I think we will—I believe, remove some of the problems that we face right now. We need to give the VTS, the Vessel Traffic Service, the resources they need to do the job, and I think we should be ready to do that. The second bill that we introduce—yes, I will.

Senator STEVENS. Will you give them the authority to not to have to file Environmental Impact Statements and not have to clear it with all these other people in order to do that? If you will, I'll go with you.

Senator BOXER. Well, Senator, that question I don't think is appropriate at this time. I think we need to sit down and look at what has to happen at the moment that they declare that there is an immediate emergency and they bring the ship in. I don't think it would have anything to do with environmental reports. There's no reporting here. It's the when—who leads the ship in. So I don't think that's an issue that would come up. But if this is something you think we need to deal with, fine. I don't get it. I don't think it has anything to do with it.

The second bill that we introduced, which has been referred to my Committee on Environment and Public Works, would do the following: it would raise the liability limit for the cargo ships to the level of the tankers, and it would lower the limit if you had a double hull. Because I think Senator Kerry is right; the double hull would help a lot. So if we give financial incentives, in terms of a liability cap if you have a double hull, I think that would help. We're also working on legislation that will deal with getting the volunteers into the cleanup sooner, because at this point, there was confusion and we had volunteers testify who were just beside themselves because they couldn't really help.

So Madam Chair, those are the two pieces of legislation that I'd like to talk more with colleagues about. I also think it's important that the Coast Guard look at some of the rulemaking they're supposed to be doing. I don't know how up to date they are on it, but I hear it's going a little slower than we would like. So I want to—Oh, only one more point, very quickly. The kind of fuel that's spilled is the worst type of fuel, this bunker fuel. And there ought to be an international treaty to ban this fuel, and our people in the Bush Administration say they agree, but they are dragging and dragging and dragging.

So we have a bill, Senator Feinstein and I, that would simply say "Bunker fuel is banned." When you're ready to come into an area in any of our ports, you've got to change to a cleaner fuel, and we have tremendous support from that, from all these port communities. So these are some approaches. Thank you for your interest and concern.

**STATEMENT OF HON. MARIA CANTWELL,
U.S. SENATOR FROM WASHINGTON**

Senator CANTWELL. Thank you, Senator Boxer. And I want to thank Senators—Chairman Inouye and Vice Chairman Stevens for their long and hard work, and attention to this issue, and to many of my colleagues who were here when the EXXON VALDEZ situation happened in the passage of the 1990 Act. I really think it was

groundbreaking legislation that has done a lot to protect our environment and to reduce the risk of maritime oil pollution.

The volume, though, of oil spilled nationwide is still far too large, and spills are still too frequent. We are here today because these events recently in California, I think, demand that we reexamine America's oil pollution prevention and response. We know that a container ship, the COSCO BUSAN, collided with the San Francisco Bay Bridge as it was exiting the bay. That collision created a 100-foot gash in the side of the vessel, and fuel that was spilled was 58,000 gallons, as my colleague from California just said, of bunker fuel into the bay, and resulted in one of the largest oil spills in San Francisco Bay in the last decade.

The fact that this ship was not an oil tanker transporting oil, like the EXXON VALDEZ, is an important one because the cargo ship was built to carry nearly 2 million gallons of oil as fuel. And the true scale of that fuel tank that was ruptured was 1 million gallons. The incident has brought to light how vulnerable our oceans are to the oil spills from nontank vessels that carry massive amounts of oil—not as cargo, but as fuel. I believe this event highlights a need to reexamine the protections of the Oil Pollution Act and whether they are sufficient given today's reality.

Is the current regulation of such nontank vessels sufficient in the light of the risks that they pose? When nontank vessels are growing, both in size and in number, and often carrying volumes of fuel oil in the millions of gallons, is it really responsible for us to slow-walk the rules that would regulate these vessels? In a world where the cost of cleanup for a single catastrophic spill would cost several billion dollars, should we really be toying with the solvency of the Oil Spill Liability Trust Fund, the very source of cleanup dollars in an emergency?

And when we have better communication and navigation technology, safer ship designs, and more innovative ways to save ships when things go wrong, isn't prevention a better investment than paying for the cleanup in the next catastrophe? As recent incidents in San Francisco, the Puget Sound, and along the Pacific coastline can attest, much more remains to be done to safeguard our waterways and our shorelines. Like many of my colleagues here, Washington State knows these issues and confronts them every day. Approximately 600 tankers and 3,000 barges move nearly 15 billion gallons of oil through Puget Sound's very fragile ecosystem each year.

But over 6,000 larger nontank vessels, such as cargo ships and freighters transit through the same waters each year, as well. And since 1964, vessels have spilled approximately 4.8 million gallons of oil in Washington waters. Of this, 184,000 gallons were spilled after the Oil Pollution Act of 1990. I, too, will submit the rest of my testimony for the record, because I do want to hear the testimony of those witnesses, but I think it's safe to say that now we are 17 years after the Oil Pollution Act of 1990, and we're nearly 30 years since my predecessor Warren Magnuson, Senator Magnuson, banned supertankers in Puget Sound. I hope we can continue to make progress on this vital issue, and that's why we're here today, to hear from these panelists who will join us to bring in-

sight, to examine the risks and threats and the vulnerabilities that we still face, particularly from nontank vessels.

So I want to thank the panelists on the first panel. Admiral Allen of the U.S. Coast Guard; Ms. Mary Glackin, Deputy Under Secretary of the National Oceanic and Atmospheric Administration; and Ms. Susan Fleming, Director of Physical Infrastructure for the GAO. Welcome, and thank you for being here, and for your patience in this hearing this afternoon. And Admiral Allen, if you could start with your testimony, we're asking each of the witnesses to make a 5-minute statement.

**STATEMENT OF ADMIRAL THAD W. ALLEN, COMMANDANT,
U.S. COAST GUARD, DEPARTMENT OF HOMELAND SECURITY**

Admiral ALLEN. Good afternoon, Madam Chair, Senator Snowe, and distinguished members of the Committee. Thank you for the opportunity to appear before the Committee today on this very important topic. I would ask that my full testimony be submitted for the record, and I have a brief opening statement.

The risks presented by the fuel carried on nontank vessels have been recognized for some time, and the recent spill in San Francisco has underscored the need to understand the causes and to prevent spills from these vessels. I think we have all been very clear in our statements here today; there is no better approach to this problem than prevention. Once the oil has been discharged into the environment, there are no winners. And the best any response can do is to mitigate the impact.

I'd like to provide the Committee with some data today that frames the size of the fleet and the threat that we are discussing here today. Based on data through December of 2007, the Coast Guard has received and reviewed response plans from more than 13,000 nontank vessels that call on U.S. ports. Of that number, over 8,000 are classified as ocean-buoyant freight vessels, such as the COSCO BUSAN. The majority of these vessels have fuel capacity between 10,000 and 20,000 barrels. Each barrel contains 42 gallons, so the range is 420,000 to 840,000 gallons, on average.

However, there are 360 vessels that carry more than 50,000 barrels, and there are 100 that carry more than 70,000 barrels. The highest capacity freight ship listed in our records is 173,000 barrels, or about 7.3 million gallons. And we all know the discharge from the EXXON VALDEZ was close to 10 million. The COSCO BUSAN had a capacity of 52,000 barrels, or 2.2 million gallons, as was stated previously.

To address the threat posed by nontank vessels, there have been several international and domestic steps taken, and more are planned and more are needed, as you have stated. Under the provisions of MARPOL Annex I, single-hulled fuel tanks are being phased out. Double hulls for fuel tanks are required for ship contracts awarded after the 1st of August 2007, and for ships delivered after 1 August 2010. There are also provisions that require a ship-board oil emergency plan. Domestically, we've gone further than the international standards. Based on recent legislation by the Congress in 2004 and 2006, we have established a response plan requirement for nontank vessels greater than 400 gross tons.

The legislation created an August 2005 deadline for the implementation of these plans. The Coast Guard issued interim guidance in February of 2005 that provided interim authorization for nontank vessels to operate under Coast Guard-reviewed response plans, pending the development of new Committee regulations. I noted earlier plans for over 13,000 vessels have been received and reviewed by the Coast Guard. By comparison, we have reviewed response plans for 7,800 tank vessels in that same period of time. Clearly, the number and increasing fuel capacity of large freight ships justify a review of all aspects of spill prevention and response.

Another significant area of interest is the limit of liability for a responsible party under the provisions of OPA 90. For a number of years, the limits of liability remained as established at the time of OPA 90. However, as you know, they were significantly increased after the Coast Guard and Maritime Transportation Act of 2006 was passed. We believe increasing liability limits per incident for single-hulled tankers, barges, and nontank vessels greater than 300 gross tons would result in a more balanced cost-share between responsible parties and the Oil Spill Liability Trust Fund. However, that legislation did not increase in a like manner the requirement for a Certificate of Financial Responsibility, and we are pursuing a rule to adjust that level, and expect to issue it in 2008.

Madam Chair, I would like to close with the comment regarding Coast Guard rulemaking, as mentioned earlier. My comments here today reflect a previous conversation that you and I had with your staff, as well as other Members of Congress. The current backlog of rules to be developed by the Coast Guard exceeds 90. On 9/11/2001, it was approximately 50. Despite tremendous effort by our Coast Guard personnel, we are not gaining ground, and many important rules have been queued awaiting required resources. The situation is unsatisfactory to me, I know it's unsatisfactory to you, and it erodes confidence in our commitment to important work. I've tasked the Coast Guard and Marine Safety and Security Council to assess the current situation, and to provide any options to reduce this backlog.

Given the multiple interests involved, I intend to convene a National Stakeholders Meeting to seek input and advice on this effort. I would ask for the involvement of the Committee staff in this effort, as well. Within this context, the Coast Guard will continue to aggressively partner with our stakeholders to prevent incidents and improve response to incidents as they occur. We provided interim guidance to our field commanders, based on feedback from the COSCO BUSAN response, and I have initiated an Incident Specific Review of the responses, which includes third parties.

The results of that review will be made available before the spring hearings, and I will provide the Congress the results and make those results available to the public. Thank you for the opportunity to be here today. I will be glad to answer any questions.

[The prepared statement of Admiral Allen follows:]

PREPARED STATEMENT OF ADMIRAL THAD W. ALLEN, COMMANDANT,
U.S. COAST GUARD, DEPARTMENT OF HOMELAND SECURITY

Good afternoon Madam Chairman and distinguished members of the Committee. It is a pleasure to appear before you today to discuss the Coast Guard's efforts to reduce and mitigate oil spills from nontank vessels. Today I will discuss requirements and implementation of nontank vessel response plans and the status of rule-making pertaining to nontank vessels. The Coast Guard is absolutely committed to protection of the environment as a valuable public good.

The Coast Guard plans and prepares for significant oil spill incidents, including worst case discharge scenarios, through Area Committees and Regional Response Teams. These entities represent a partnership of Federal, state, and local agencies and tribal, non-governmental and private organizations. Through committee process, Area Contingency Plans are reviewed, tested, and updated to best manage oil spill response operations. These plans identify environmentally sensitive areas within the local area of responsibility, establish appropriate protection strategies, and list all potential locations for staging response equipment. The plans describe command and control structures, the role of volunteers, establish conditions for using special response procedures such as the use of dispersants, and identify the National Response System and local assets that can be brought to bear in the event of an oil spill incident.

The Area Committees and Regional Response Teams oversee other preparedness activities such as regular government and industry exercises, training evolutions, and risk assessments. Their activities are overseen by the National Response Team, and operate under the aegis of the National Contingency Plan and the National Response Framework.

The creation of Coast Guard Sectors unified port and coastal operational commands, placing increased resources in the hands of Federal On-Scene Coordinator. The Coast Guard conducts regular, rigorous, oil spill exercises, inspects vessels and facilities for safety and environmental compliance, and participates in a host of prevention, planning and preparedness activities related to environmental protection and response. Incident Command System training is required for all Coast Guard personnel ensuring the skills necessary to manage all hazards incidents, including oil spill response operations. In addition, Coast Guard Strike Teams offer unique capabilities and expertise to assist local response operations and the National Strike Force Coordination Center conducts regular assessments of the capabilities and readiness of privately owned Oil Spill Removal Organizations.

Nontank Vessel Response Plans

The Coast Guard and Maritime Transportation Act of 2004 amended the Federal Water Pollution Control Act to require the preparation and submission of oil spill response plans for nontank vessels. The Act defined a "nontank vessel" as a self-propelled vessel of 400 gross tons or greater, other than a tank vessel, that carries oil of any kind as fuel for main propulsion and that is a vessel of the United States or operates in the navigable waters of the United States. Under the Act, response plans for nontank vessels were required to be submitted to the Coast Guard by August 8, 2005. The Coast Guard and Maritime Transportation Act of 2006 was signed by the President on July 11, 2006 and further amended the Federal Water Pollution Control Act. Section 608 of the CGMTA 2006 contained provisions to further amend the FWPCA with regard to applicability standards for nontank vessels. All nontank vessels that are not assessed under the convention tonnage measurement system will use the regulatory tonnage admeasurements system for their applicability tonnage. Additionally, U.S. vessels that are not operating on the navigable waters of the United States are not required to comply with this law.

The Act provided 1 year for the development and submission of nontank vessel response plans. The Coast Guard did not have adequate time to provide for public comments and then develop and publish regulations within the one-year timeframe. Under the authority provided by 33 U.S.C. 1321(j)(5)(G), until regulations are in effect, the Coast Guard has authorized nontank vessels to operate without an approved plan for up to 2 years if the owner or operator certifies availability of personnel and equipment necessary to respond to a worst case discharge. On February 4, 2005, the Coast Guard published Navigation and Vessel Inspection Circular 01-05 (NVIC 01-05) entitled, "Interim Guidance for the Development and Review of Response Plans for Nontank Vessels." This document provides guidance to help vessel owners and operators develop plans and receive interim operating authorization from the Coast Guard. The publishing of NVIC 01-05 was announced to the public and industry by *Federal Register* Notice.

On June 24, 2005, the Coast Guard published another *Federal Register* Notice and Request for Comments, concerning Nontank Vessel Response Plans (70 FR 36649) which informed the public of issues related to this legislation, posed questions on the size of the population of vessels affected, discussed Coast Guard efforts to engage the regulated community, and informed the owners and operators of nontank vessels of the Coast Guard's enforcement policy. The Coast Guard is currently reviewing, researching, and answering the comments received in response to the *Federal Register* Notice and Request for Comments and is drafting a regulatory work plan.

As of December 1, 2007, the Coast Guard has received and reviewed approximately 2,359 nontank vessel response plans covering 13,306 nontank vessels. As vessel owners submit their nontank plans, these plans are reviewed and 2 year interim operating authorization letters are issued. As these interim operating authorization letters expire, the Coast Guard reissues new interim operating authorizations based upon the vessel owner's certification that the necessary private resources needed to respond to a worst case discharge are ensured by contract or other approved means, per 33 U.S.C. 1321(j)(5)(D).

Oil Spill Threat

Nontank vessels pose a threat to the marine environment due to the fuel oil capacities of these vessels. Ship fuel, also referred to as "bunker", generally presents a response challenge due to its density and inability to break down in the marine environment as fast as lighter oils. This is problematic when bunker comes in contact with shorelines, marine mammals, birds and environmentally sensitive areas. Of the 13,000 nontank vessels in vessel response plan files, 8,364 of these vessels are oceangoing freight vessels such as container, breakbulk, roll-on/roll-off or bulk cargo ships. The majority of these freight vessels have a fuel capacity between 10,000 and 20,000 barrels. There are, however, over 360 freight ships with a fuel capacity of 50,000 barrels or more, and about 100 freight ships with a fuel capacity over 70,000 barrels. The highest fuel capacity we have listed for a freight ship is over 173,000 barrels. The M/V COSCO BUSAN, with a fuel capacity of approximately 52,000 barrels is on the larger side. Significant oil spills from nontank vessels over the years have clearly identified nontank vessels as an ongoing threat to the marine environment. Spills such as the Japanese freighter KUROSHIMA in Summer Bay, Alaska in 1997, NEW CARISSA off Coos Bay, Oregon in 1999, the SALENDANG AYU off Unalaska Island, Alaska in 2004 and the COSCO BUSAN in San Francisco Harbor in 2007 demonstrate the hazard posed by this type of vessel.

New Requirements for Oceangoing Freight Ships

Nontank vessels are vulnerable to spills caused by groundings, collisions and allisions due to the location and capacity of onboard fuel tanks. Fuel is generally carried in tanks located in the bottom or side of the vessels without double hull protection. International oil spill prevention and response requirements applicable to oceangoing freight ships are based on build date and fuel capacity. These requirements address issues such as double hull requirements, accidental outflow requirements, and emergency response plans.

Oceangoing freight vessels are subject to the International Convention for the Prevention of Pollution from Ships otherwise referred to as MARPOL 73/78. New MARPOL Annex I regulation 12A—Oil Fuel Tank Protection has entered into force and applies to all ships (a "ship" means a vessel of any type whatsoever operating in the marine environment and includes hydrofoil boats, air-cushion vehicles, submersibles, floating craft and fixed or floating platforms) with an aggregate oil fuel capacity of 600 cubic meters (this equates to approximately 158,500 gallons or 3,775 barrels) and above with a building contract on or after 1 August 2007, or which are delivered on or after 1 August 2010. The 600 cubic meters applicability threshold was established because it generally equates to the MARPOL 600 ton deadweight applicability threshold for oil tanker double hull requirements in regulation 19. The regulation provides two options for the protection of fuel tanks: (1) a prescriptive double hull requirement; or (2) a probabilistic accidental oil outflow performance requirement. There is an exclusion for small fuel tanks of 30 cubic meters or less. OPA 90 requires all new build tank vessels (tank ships and barges) that carry oil in bulk to be double hulled. There is no bottom limit of how much cargo oils are carried and OPA 90 standards are enforced on all tank vessels that operate in the U.S. waters.

Regulation 37 of Annex I of MARPOL 73/78 requires that each ship maintain a Shipboard Oil Pollution Emergency Plan (SOPEP) that addresses and mitigates oil spills. There are significant differences between SOPEP and Federal Water Pollu-

tion Control Act requirements. SOPEPs require information in the following areas: spill reporting provisions, casualty/spill mitigation procedures, and vital vessel information (vessel name, VIN, principal characteristics). FWPCA plans require the same information as a SOPEP, but also include more stringent requirements including: follow-up report; procedures for equipment failure, discharge equipment deployment, internal transfers; emergency towing; geographical specific appendices including information on Oil Spill Removal Organizations (OSROs); shore-based response activities, including use of an ICS or equivalent system; identification of spill management team; Salvage and Marine Firefighting; lightering provider; Qualified Individual; training; exercises; and vessel-specific appendix, including maximum most probable and worst case discharge amounts, oil groups carried, tank capacities, and specific vessel diagrams.

Adequacy and Enforcement of Vessel Response Plans

The Coast Guard currently maintains 837 tank vessel response plans covering 7,841 vessels and 2,359 nontank vessel response plans covering 13,306 vessels, both U.S. and foreign flagged. The Coast Guard also reviewed and approved 2,594 individual Shipboard Oil Pollution Emergency Plans (SOPEPs) for U.S. flag vessels. Additionally, the Coast Guard reviewed and approved 570 Shipboard Marine Pollution Emergency Plans (SMPEPs) for U.S. flag vessels that carry some form of hazardous substance aboard to be in compliance with Regulation 17 of Annex II of MARPOL 73/78.

Challenges

One area of vessel response plan enforcement that has been challenging is required transit coverage for vessels operating within our Exclusive Economic Zone, but beyond our territorial sea and navigable waters jurisdiction. As our maritime domain awareness improves with advances in technology, so does our cognizance that there are vessels transiting U.S. waters without the required coverage per vessel response plan regulations. We are currently examining this issue for possible changes in our enforcement practices to address areas in the Nation where vessel traffic poses environmental risks and ensure the necessary response resources are in place.

Tank vessel response plans required by the Oil Pollution Act of 1990, required tank ship owners to ensure the availability of private personnel and response resources necessary to respond to a worst case discharge including fire and explosion. In the vast majority of U.S. ports, oil spill removal organizations, or "OSROs" are contracted by vessel owners to provide the required resource capacity and spill management expertise to respond to worst case discharge scenarios. However, in some ports there is far more freight ship traffic than tank ship transits. The introduction of nontank vessel response plan statutory and regulatory requirements provides for an opportunity to increase oil spill response equipment in support of the national response plan, especially in remote locations.

Many states, including Alaska, Washington, Oregon, California and Texas passed legislation requiring nontank vessels to have vessel response plans. The state requirements are founded upon OPA 90 tank vessel response plan requirements, however, there are inconsistencies from state to state in applicability and scope and no two states have adopted precisely the same requirements. Thus vessels seeking to trade between states have to satisfy increasingly disparate requirements including maintaining multiple response plans.

Vessel Response Plan Related Rulemaking Projects

The response plan regime for vessels will change in the future. New domestic and international requirements will build on the existing response plan foundation to provide an enhanced pollution response regime. The Coast Guard has several vessel response plan improvement rulemaking projects in various stages of development pertaining to the use of dispersants, oil spill tracking, salvage and marine firefighting response equipment, implementation and incorporation of International Maritime Organization standards into our domestic regulations and the development of hazardous substance response plans for vessels and facilities. The following is a list of related rulemaking projects:

Title: Vessel and Facility Response Plans for Oil: 2003 Removal Equipment Requirements and Alternative Technology Revisions.

Docket Number: USCG-2001-8661.

Summary: The Coast Guard proposes changes to its requirements for oil-spill removal equipment under vessel response plans and marine transportation-related facility response plans. These changes increase the minimum available spill removal equipment required for tank vessels and facilities, add require-

ments for new response technologies, and clarify methods and procedures for responding to oil spills in coastal waters.

Status: A Notice of Proposed Rulemaking (NPRM) was published on October 11, 2002 (67 FR 63331). A Final Rule is expected in the near future.

Title: Salvage and Marine Firefighting Requirements; Vessel Response Plans for Oil.

Docket Number: USCG–1998–3417.

Summary: The Coast Guard proposes to revise the vessel response plan salvage and marine firefighting requirements for tank vessels carrying oil. These revisions clarify the salvage and marine firefighting services that must be identified in vessel response plans. The proposed changes will assure the appropriate salvage and marine firefighting resources are identified and available for responding to incidents up to and including the worst-case scenario. The proposed rulemaking will also set new response time requirements for each of the required salvage and marine firefighting services.

Status: An NPRM was published on May 10, 2002 (67 FR 31868).

Title: Nontank Vessel Response Plans.

Summary: The Coast Guard will implement a statutory requirement that an owner or operator of a self-propelled, nontank vessel of 400 gross tons or greater, which operates on the navigable waters of the United States, must prepare and submit an oil spill response plan to the Coast Guard. The rulemaking will specify the content of a response plan, including the requirement to plan for responding to a worst-case discharge and a substantial threat of such a discharge. The rulemaking will also specify the procedures for submitting a plan to the Coast Guard.

Status: To provide guidance to industry, a Navigation and Vessel Inspection Circular (NVIC) was published on February 4, 2005. NVIC 01–05 is titled “Interim Guidance for the Development and Review of Response Plans for Nontank Vessels.” Change One to NVIC 01–05 was published on January 13, 2006. The work plan for this rulemaking is being finalized.

Title: Tank Vessel Response Plans for Hazardous Substances.

Docket Number: USCG–1998–4354.

Summary: The Coast Guard proposes regulations requiring response plans for certain tank vessels operating on the navigable waters of the United States that could reasonably be expected to cause substantial or significant and substantial harm to the environment by discharging a hazardous substance. These regulations are mandated by the Oil Pollution Act of 1990 (OPA 90), which requires the President to issue regulations requiring the preparation of hazardous substance response plans. The primary purpose of requiring response plans is to minimize the impact of a discharge of hazardous substances into the navigable waters of the United States.

Status: An NPRM was published on March 22, 1999 (64 FR 13734).

Adequacy of Nontank Vessel OPA Liability Limits

While OPA liability limits for vessels were increased significantly under the Coast Guard and Maritime Transportation Act of 2006, further increases should be considered including increases for nontank vessels.

The Secretary addressed the adequacy of nontank vessel OPA liability limits in a January 5, 2007, report to Congress on vessel liability limits in general pursuant to section 603(c) of the CG&MT Act of 2006. The first annual update of the report was provided to Congress on October 10, 2007.

As updated, the limited data available indicates that increasing liability limits per incident for single hull tank ships, tank barges and nontank vessels greater than 300 gross tons in particular would result in a more balanced cost share between responsible parties and the Oil Spill Liability Trust Fund while positively impacting the Fund balance.

OPA 90 provides for exceptions from limits when, for example, the incident is caused by gross negligence, willful misconduct or a violation of a Federal safety, operating or construction regulation by a responsible party, its agents, employees or contractors.

Oil Spill Prevention, Preparedness, and Research and Development in a Post-9/11 World

Oil spill prevention and response is a very important function of the Coast Guard. The model set forth by Area Committees and the Area Contingency Plan process provided a valuable framework for the creation of Area Maritime Security Committees and Area Maritime Security Plans. Coast Guard oil spill response continues to

serve as a model for all hazards response in the maritime domain. We strive to leverage our partnerships with the maritime industry, Federal, state, and local agencies, and Congress to ensure our nations ports waterways operate safely, securely, and in a manner that protects our environment. The shared goal in preventing or responding to major maritime incidents, regardless of the cause, is the same, to save lives, preserve property, protect the environment and minimize disruption to the marine transportation system.

The Coast Guard continues to conduct regular, rigorous, oil spill exercises, inspect ships and facilities for safety and environmental compliance, and participate in a host of prevention, planning and preparedness activities related to environmental protection and response. We are absolutely committed to the environmental protection mission and recognize its importance to the public good. The environmental protection mission is part of the well-balance portfolio the Coast Guard maintains to ensure our nations ports and waterways remain safe, secure, and clean.

Thank you for the opportunity to testify before you today. I will be happy to answer any questions you may have.

Senator CANTWELL. Thank you, Admiral Allen. Thank you for your testimony. We will put the whole thing in the record. And let's to turn Ms. Glackin. Thank you for being here.

**STATEMENT OF MARY M. GLACKIN, DEPUTY UNDER
SECRETARY OF COMMERCE FOR OCEANS AND ATMOSPHERE,
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION,
U.S. DEPARTMENT OF COMMERCE**

Ms. GLACKIN. Good afternoon, Chairman Cantwell, Ranking Member Snowe, and members of the Committee. I appreciate—

Senator CANTWELL. If you could just pull that microphone a little closer to you. Thank you.

Ms. GLACKIN. OK, great. Is that better? OK. I appreciate the opportunity to join you this afternoon. As the Chairman said earlier, I'm Mary Glackin, the Deputy Under Secretary of Commerce for Oceans and Atmosphere at NOAA. And I wanted to take this opportunity to highlight some of the aspects of my written testimony about NOAA's many roles in preventing and responding to oil spills, as well as the importance of research and development to both of those activities.

Each year, our nation's ports handle approximately 44 percent of the U.S. international merchandise trade by value. On any given day, a variety of vessels, including tankers and container ships, carry oil and other goods to their destinations. Whenever these vessels travel, they pose a threat of oil spills. And it's been pointed out here today, prevention is key to this, and one of the key parts of prevention is promoting safe marine transportation. Once a spill does occur, we must act quickly and effectively to mitigate any harmful effects and restore injured resources. To do this, we must continue to be prepared for spills and have adequate response capabilities.

I'll speak first of NOAA's role in prevention. The most effective way to protect the marine environment is to prevent a maritime accident from ever occurring. One role that NOAA plays that is key in spill prevention is to provide accurate and timely information to mariners through nautical charts. These charts are the roadmaps that provide the mariners with the lay of the land and delineate important information required for vessel safety. Toward that end, NOAA is building a suite of Electronic Navigational Charts, and these charts, along with global positioning and real-time water lev-

els, current and weather data, provide a safe and profitable waterway system.

To further improve tools for prevention, NOAA is also updating the hydrographic data on its charts, using surveys and the latest technologies. These updates can prevent accidents by exposing previously undetected hazards. The data collected also supports spill response trajectory models and coastal management efforts.

And finally, under prevention, NOAA's Physical Oceanographic Real Time System or PORTS® Program provides real-time oceanographic and meteorological data at key locations. This information provides mariners and port authorities with an awareness of the current water levels and weather, which is important to prevent groundings. It allows mariners the time they need to anticipate the need for difficult maneuvers.

Shifting to NOAA's role in response, when an oil spill occurs, Federal, state, and local agencies across the country call on NOAA to help in a response. NOAA's suite of scientific products and services, and the expertise of our personnel, are critical in mitigating harm. They are also critical in providing response information, restoring natural resources, and making science-based decisions. During an oil spill, NOAA's Office of Response and Restoration provides scientific support services, such as overflight observations, identification of sensitive environmental areas, and we also provide shoreline surveys, toxicity assessments, and the evaluation of cleanup alternatives.

NOAA is also responsible for providing real-time ocean and coastal observations to determine the location and the trajectory of an oil spill. NOAA's Integrated Ocean Observing System program is working to increase the availability and the compatibility of this data among all oil spill response partners.

Response training and exercises are also essential to maintain capabilities. NOAA has aided in the response to the COSCO BUSAN spill by a major field exercise called NOAA Safe Seas that we conducted in the San Francisco Bay area in 2006. Safe Seas has allowed us to train hundreds of regional staff and Beach Watch volunteers in various aspects of response, and to test response protocols. Although there is a high level of interest in supporting a similar training exercise in the Northwest, we have been unable to support such an effort at current funding levels.

After an initial response to an oil spill, NOAA develops a restoration plan through the Natural Resource Damage Assessment Process. Within this process, NOAA experts determine how to best restore injured resources. We'll also ascertain the most appropriate restoration products that will compensate the public for lost services.

As I mentioned earlier, research is critical to improving oil spill preparedness, response, and restoration. One focus of our oil spill research is our partnership with the Coastal Response and Research Center at the University of New Hampshire. This partnership stimulates innovation in spill preparedness response and damage assessment. In the past several years, oil spill research has focused on improving spill models and studying the effects of released oil on affected species. We're also focusing on human dimensions.

So in conclusion, I'll just mention that I think you'll agree that NOAA's expertise is a critical component in preventing further incidents, restoring the adverse effects on natural resources, and aid in planning and responding. I'd be happy to respond to any questions the Committee has.

[The prepared statement of Ms. Glackin follows:]

PREPARED STATEMENT OF MARY M. GLACKIN, DEPUTY UNDER SECRETARY OF COMMERCE FOR OCEANS AND ATMOSPHERE, NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION, U.S. DEPARTMENT OF COMMERCE

Good afternoon, Chairman Cantwell, Ranking Member Snowe, and Members of the Committee. Thank you for the opportunity to join you today. I am Mary Glackin, Deputy Under Secretary of Commerce for Oceans and Atmosphere, within the National Oceanic and Atmospheric Administration (NOAA). I will be discussing NOAA's role in preventing oil spills, our role in spill response, and the importance of research and development for both. I will also highlight three examples of non-tanker vessel spills where NOAA assisted in the response efforts.

Overview

Our marine transportation system is an intrinsic part of the U.S. economy. According to a recent report from the Bureau of Transportation Statistics, our marine transportation system conveys as much as 78 percent of U.S. international merchandise trade by weight and 44 percent by value through our Nation's ports each year, far more than the other transportation modes. On any given day, as part of this system, vessels that contain large quantities of fuel oil travel through our waterways to their destinations. These vessels include not only oil tankers but also container ships, fishing vessels, ferries, and other public and private vessels. Wherever these vessels travel, their daily transits pose a threat of oil spills. Over the past fifty years, ships have doubled in length, width, and draft, and seagoing commerce has tripled. The Department of Transportation projects that by 2020 the volume of marine trade will more than double, particularly in international container traffic.

Despite this increase in vessel traffic and size, the number of oil spills in U.S. coastal waters has declined in the two decades since the EXXON VALDEZ oil spill. However, the SELENDANG AYU, KUROSHIMA, and SS CAPE MOHICAN vessel spills, along with the recent COSCO BUSAN incident, serve as reminders that oil spills still happen.

When oil spills into our coastal waters, it can harm people and the environment and cause widespread economic effects. The best remedy is to prevent oil spills by promoting safe marine transportation. Once a spill occurs, we must act quickly and effectively to mitigate any harmful effects and restore injured resources. To ensure a quick and effective response, we must continue to be prepared for spills by having adequate response capacity and capabilities on hand.

Response training and exercises are essential to maintaining capabilities. Together with the U.S. Coast Guard, the State of California, and the Department of the Interior, NOAA conducted a major field exercise called NOAA Safe Seas 2006 in the San Francisco Bay area in the summer of 2006. Safe Seas allowed us to train hundreds of regional staff and Beach Watch volunteers in various aspects of oil spill response, and to test the response protocols that would be used for a real spill. This exercise reinforces the value of our efforts to develop improved capabilities, maintain our capacity, and continue response-related research and development efforts for a timely and effective response. Due to this exercise, NOAA was able to integrate high frequency radar and other data from the Central and Northern California Integrated Ocean Observing System into pollution trajectory models. Local NOAA personnel and other responders received specific capability training that allowed them to function more efficiently within the Command Post and in the field during the response to the recent COSCO BUSAN oil spill.

NOAA's Role in Prevention

It is critical to both the Nation's economy and the coastal environment that the marine transportation system continues to function safely and efficiently as its use grows. The most effective way to protect the marine environment is to prevent the maritime accident from ever occurring. NOAA plays a vital role in spill prevention by providing accurate and timely information to mariners.

Nautical charts, the mariner's most basic tool, are the 'road maps' that provide the mariner with the overall 'lay of the land' and delineate the fundamental information required for the vessel to safely navigate the coastline. NOAA is building

and maintaining a suite of Electronic Navigational Charts (ENCs) to fuel electronic navigation systems that can also integrate a variety of environmental data. Funding to complete this suite, for full coverage of U.S. waters, is included in the FY 2008 President's Budget Request. NOAA is also updating the hydrographic data on its nautical charts by surveying with the latest full bottom coverage technologies. Much of the 3.4 million square nautical miles (nmi²) depicted on these charts were collected prior to 1940 with obsolete methods. NOAA has prioritized 500,000 nmi² of this area as navigationally significant, and is able to survey approximately 3,000 nmi² a year using state-of-the-art technology. Not only do these updates show changes in coastal bathymetry, but more importantly, they can prevent maritime accidents by exposing previously undetected hazards to navigation. The data collected also support scientific uses, spill response trajectory models, and other coastal and emergency management efforts.

Even the most accurate nautical chart cannot help the mariner if the vessel's location is not known with certainty. Determining a vessel's precise position has been a challenge to mariners for centuries. With the advent of the Global Positioning System (GPS), it has become possible for mariners to determine their position to within meters. NOAA's development and implementation of the Continuous Operating Reference System program enables even more precise applications of GPS.

Mariners have traditionally relied on astronomically predicted water level and current information to prevent groundings and anticipate where difficult maneuvers might be required. However, weather and other factors can cause actual conditions to deviate significantly from predictions, misleading the mariner, and increasing the risk of an accident. NOAA's Physical Oceanographic Real Time System (PORTS[®]) program provides real time oceanographic and meteorological data at key locations that provides mariners with a situational awareness of their operating environment that can help avoid accidents. The 14th PORTS[®] was just established in Mobile, Alabama and we are working with the USCG to integrate PORTS[®] data into its Automated Identification System. Two different NOAA-funded reports studying the economic impacts of PORTS[®] in Florida and Texas have documented that ports with established PORTS[®] have an over 50 percent reduction in groundings (both reports available at <http://tidesandcurrents.noaa.gov/pub.html>).

In addition to PORTS[®], NOAA's National Marine Sanctuary Program has taken steps to address a number of vessel traffic measures with the International Maritime Organization, including offshore routing measures, reporting measures, Areas to be Avoided (ATBA's), Particularly Sensitive Sea Areas and No-Anchoring Areas. These areas, including the voluntary ATBA off the Olympic Coast of Washington State and the mandatory ATBA off the Florida Keys, have provided additional protection for the National Marine Sanctuaries. Off the Olympic Coast, NOAA is working with both the U.S. and Canadian Coast Guard to address vessels that have been identified as non-compliant; current compliance rates are greater than 97 percent over the last 2 years.

NOAA's Role in Response

Federal, state, and local agencies across the country call on NOAA's scientific support when an oil spill occurs. NOAA's suite of scientific products and services and the expertise of our personnel are critical in mitigating harm, providing critical information for allocation of response assets, restoring adversely affected natural resources, and making smarter response decisions through the application of science. Under the Oil Pollution Act of 1990 (OPA), the National Contingency Plan, and the National Marine Sanctuaries Act, when an oil spill happens, NOAA is responsible for:

- Providing scientific support to the Federal On-Scene Coordinator, whether the FOSC is EPA or USCG;
- Representing the Department of Commerce on the National and Regional Response Teams;
- Working with our Federal and state co-trustees to assess and restore injured natural resources and the services they provide;
- Fulfilling responsibilities to protect resources when a National Marine Sanctuary is affected; and
- Participating on the Interagency Coordinating Committee on Oil Pollution Research, which coordinates research and development efforts among industry, universities, and others.

During an oil spill, NOAA's Office of Response and Restoration provides scientific support services such as trajectory predictions, overflight observations, identification of sensitive environmental areas, shoreline surveys, toxicity assessment, and evalua-

tion of cleanup alternatives. The Emergency Response Division is charged with developing all of NOAA's response models and tools, conducting planning in U.S. coastal areas and the Great Lakes, maintaining a 24/7 notification system, and responding to more than 100 hazardous material release notifications each year.

The NOAA Scientific Support Coordinator (SSC) is the key player in the NOAA effort to provide scientific support to an oil spill response. Nine SSCs are located around the country, in USCG Districts, to respond around the clock to any emergencies involving the release of oil or hazardous materials into the oceans or atmosphere. The SSC is supported by a diverse group of scientists in Seattle, WA, who are experienced in dealing with spill response. The SSC also coordinates access to all of NOAA's capabilities including: spot weather forecasts, emergency coastal survey and charting capabilities, aerial and satellite imagery, and real-time coastal ocean observation data to assist response efforts.

During the COSCO BUSAN oil spill, NOAA's Office of Response and Restoration deployed seven people to the spill site to carry out overflights, coordinate beach surveys, develop cleanup standards and protocols, evaluate risks and effects to natural resources, and otherwise support the Federal On-Scene Coordinator. In addition, NOAA provided four technical experts in trajectory modeling, toxicity assessment, and other specialties to support the response 7 days a week from Seattle, WA. NOAA also provided over 30 personnel from the National Marine Sanctuary Program and coordinated 90 volunteers (Beach Watch) that were trained in the Safe Seas 2006 exercise. The Safe Seas exercise improved the capability of NOAA staff and volunteers to provide expertise to the Command Post in Liaison, the Environmental Unit, Wildlife Operations and the Joint Information Center as well as Natural Resource Damage Assessment Activities, in response to the recent COSCO BUSAN spill.

During a coastal oil spill event, NOAA is also responsible for providing real-time ocean and coastal observations to our Hazardous Materials (HAZMAT) teams and to the USCG to determine the location and trajectory of an oil spill. Currently, there is no easy or centralized access to the thousands of high frequency radar surface current measurements, which are critical for pollution tracking and response planning. NOAA HAZMAT staff must contact individual radar operators for data. In addition, the data are not compatible from site to site and may have gaps in space and time. NOAA's Integrated Ocean Observing System program is working to increase availability and compatibility of these data, in partnership with regional data providers, through the development of common data standards and access points.

Effective spill response also depends on effective planning and preparation. NOAA promotes preparedness by working closely with regional response teams and local area committees to develop policies on dispersant use, best cleanup practices, communications, and ensuring access to science-related resources, data and expertise. In addition, NOAA enhances the state of readiness by conducting training for the response community to develop better response tools including trajectory models, fate models, and integrating improved weather and ocean observing systems data into spill trajectory forecasts.

NOAA's Role in Damage Assessment and Restoration

Oil spills may also diminish the services that natural resources provide us, such as fishing, boating, beach going, and wildlife viewing, as well as ecological services, such as providing habitat, nutrient cycling, and energy transfer through food webs.

As an agency with Federal trustee responsibilities for many marine resources, NOAA seeks, pursuant to OPA, restoration of ocean and coastal resources that are harmed by an oil spill. NOAA's trust resources include: commercial and recreational fisheries, anadromous fish, selected endangered and threatened marine species, selected marine mammals, wetlands, mangroves, seagrass beds, coral reefs, and other coastal habitats, all resources associated with National Marine Sanctuaries and National Estuarine Research Reserves. Restoration is accomplished through the Natural Resource Damage Assessment (NRDA) process—by assessing injuries, developing a restoration plan that is subject to public review, and presenting a claim for restoration costs to the responsible party. If the responsible party does not pay the claim, the trustees may litigate or file a claim for restoration costs with the Oil Spill Liability Trust Fund.

For incidents occurring in, or creating a significant threat to, a National Marine Sanctuary, the National Marine Sanctuaries Act (NMSA) provides jurisdictional authority. The NMSA prohibits destroying, causing the loss of, or injuring any sanctuary resource managed under the statute or regulations for that sanctuary. Thus, during an oil spill or any other emergency response incident, NOAA's National Marine Sanctuary Program has responsibility under the NMSA and the National Con-

tingency Plan for addressing threats and injuries to Sanctuary resources. Possible response roles for the Program include participating:

- As a jurisdictional authority providing resources in direct support of response operations;
- As a trustee agency assisting in response decisions in order to reduce the environmental consequences of the spill and response actions; and
- As a trustee participating in NRDA activities.

Natural resource trustees typically work together as a coordinated group, often with representatives of the responsible party in a cooperative process. NOAA scientists and economists work with other Federal and state trustees and responsible parties to ensure that coastal and marine resources injured by oil spills are restored.

NOAA and other natural resource trustees are responsible for two types of restoration: primary and compensatory. To fulfill these responsibilities, they pursue restoration projects that satisfy the OPA goal of restoring natural resources and services to pre-incident conditions (primary restoration) and compensating the public for interim losses resulting from the injury (compensatory restoration).

NOAA scientists and economists provide the technical foundation for natural resource damage assessments and work with other trustees and responsible parties to restore resources injured by oil spills. To accomplish this effort NOAA experts collect data, conduct studies, and perform analyses needed to determine whether and to what degree coastal resources have sustained injury from oil spills. NOAA experts determine how best to restore injured resources and to ascertain the most appropriate restoration projects to compensate the public for associated lost services.

NOAA has long been interested in looking at alternative ways to expedite restoration and cut process costs for natural resource damage assessment. One alternative is a cooperative assessment in which the responsible party plays a major role with the natural resource trustees. Based on NOAA's successful experiences in cooperative assessments, NOAA is promoting this approach through national and regional dialogues. The intent is to expedite restoration, encourage innovative approaches, strengthen partnerships, and provide meaningful public involvement. Cooperative assessments offer industry the opportunity for a greater role and more control over the timing of restoration actions without undermining the natural resource trustee responsibilities. This approach also reduces damage assessment costs and the risk and costs associated with litigation.

NOAA's Oil Spill Research Role

Even though the number of large spills from vessels has decreased over the last decade, when a spill occurs, we still want to mount the best response that science and technology can provide. Oil spill research and development is critical to improving the effectiveness of oil spill preparedness, response, and restoration.

NOAA's oil spill research is conducted through NOAA's partnership with the Coastal Response Research Center (CRRC) at the University of New Hampshire, which was created in 2004. This partnership combines the strength of NOAA's spill response staff and the University of New Hampshire's research abilities and academic affiliations, and stimulates innovation in spill preparedness, response and damage assessment. In 2005, NOAA and CRRC supported a report published by the National Academy of Sciences entitled *Oil Spill Dispersants: Efficacy and Effects*. Since then NOAA, through CRRC, has funded studies to improve decision-making capabilities for dispersant use, and has galvanized the national and international spill communities to collaborate on dispersant research to minimize duplication of efforts and maximize resources. NOAA and CRRC are working to improve predictive and response capabilities for oil spills in cold-water environments through national and international collaborations. Additionally, NOAA and CRRC continue to sponsor workshops to address pressing issues in oil spill response, including the use of dispersants, submerged oil, human dimensions of spills, habitat equivalency analysis metrics, and integrated modeling. NOAA and CRRC work with partner agencies and industry to examine the benefits/costs with *in situ* burning in coastal marshes, and communicate how to use the technology to minimize further injury to resources. NOAA also works with the U.S. Coast Guard and other members of the Regional Response Teams during Ecological Risk Assessments, where multiple stakeholders analyze environmental tradeoffs with the range of response options for spill events within a region. This information is then included into contingency plans, and informs research and technology agendas.

In the past several years NOAA's oil spill research has focused on improvements to spill modeling that are essential to predicting where oil will go in the environment; exposure and effects of the released oil on sensitive and economically-important species; methods to improve environmental recovery and restoration; and the

human dimensions of spills (*e.g.*, social issues, community effects, risk communication methods, valuation of natural resources, etc.) that affect decision-making.

Examples of Response, Restoration, and Research at Work

M/V SELENDANG AYU

On December 7–8, 2004, the cargo vessel M/V SELENDANG AYU lost power, ran aground and broke in half on the shore of Unalaska Island, Alaska, losing her 60,000 ton cargo of soybeans and spilling approximately 335,000 gallons of fuel oil. During the initial response, NOAA participated in aerial observations and mapping of floating and beached oil, as well as provided on-scene weather information, including the establishment of an emergency remote weather station and the provision of a dedicated on-scene meteorologist. To give an example of the difficult nature of the work involved, a heavy-lift helicopter was used to remove 140,000 gallons of fuel remaining on the wreck by transporting seventy, 2,000-gallon fuel canisters, one at a time, through the mountains, 25 miles to Dutch Harbor. Without accurate, up to date, spot-specific forecasts, it would not have been possible to safely conduct this complicated operation in such an extreme climate.

The SSC provided input on environmental issues to the Unified Command, including technical matters related to potential dispersant use. The SSC and Scientific Support Team reviewed satellite data and remote sensing information and assisted the USCG in prioritizing search areas for the flight recorder from a downed helicopter. NOAA participated in shoreline and aerial surveys and helped prepare a comprehensive map of shoreline contamination. NOAA also worked with the USCG, the Department of the Interior, and the State of Alaska to monitor cleanup operations and determine the potential trade-offs in using one cleanup technique versus another.

The Port of Dutch Harbor on Unalaska Island is the largest fishing port in the United States and the largest Alaskan Native subsistence community in the Aleutians. NOAA, U.S. Fish and Wildlife Service, and the State of Alaska worked with the local community to address subsistence and seafood safety concerns. Any real or perceived contamination of fisheries products with oil had the potential to disrupt both the local community and worldwide markets. With a combination of trajectory analysis and experience from other large spills, NOAA was able to provide valuable assistance to the Seafood Safety Task Force.

NOAA continues to work with the other natural resource trustees (U.S. Fish and Wildlife Service and the State of Alaska) and the responsible party to conduct a natural resource damage assessment. The parties are assessing injury to natural resources and beginning to evaluate restoration alternatives. Public meetings already have been held to solicit local input on potential restoration alternatives, and NOAA is committed to providing the public with up to date information and meaningful opportunities for review and comment during the damage assessment and restoration planning process.

M/V KUROSHIMA

On November 26, 1997, the M/V KUROSHIMA, a 370-foot refrigerated cargo vessel owned by Kuroshima Shipping, S.A., broke away from its anchorage in Summer Bay on Unalaska Island, near Dutch Harbor, Alaska. While the vessel was attempting to move to a safer anchorage, winds reported to be in excess of 100 knots blew the freighter into Second Priest Rock, damaging several of the vessel's fuel tanks. The vessel subsequently ran aground on the shore of Summer Bay. Two crewmen were killed in the incident and approximately 39,000 gallons of heavy fuel oil were spilled.

The SSC provided input to the Unified Command as well as technical support in identifying the extent of the oiled areas. NOAA also provided shoreline mapping, trajectory and overflight information. NOAA led a multi-agency shoreline cleanup assessment team to survey the impacted areas and prepare detailed cleanup instructions. Although the response was curtailed several times due to poor weather conditions, the cleanup was officially completed in July 1998.

SS CAPE MOHICAN

On October 28, 1996, the military reserve vessel SS CAPE MOHICAN spilled an estimated 96,000 gallons of intermediate fuel oil (IFO 180) into a dry dock structure. Approximately 40,000 gallons of fuel escaped into the San Francisco Bay at Pier 70. The spill occurred during routine maintenance when an opened valve discharged stored fuel while oil was being transferred from a stabilization tank. The oil affected many sensitive and highly valued natural resources including the Gulf of the Farallones and Monterey Bay National Marine Sanctuaries, as well as historical parks and sites, beaches, and wetlands, and migratory birds under Department of

the Interior trusteeship. The spill resulted in physical fouling of artificial structures (*e.g.*, pier pilings, rip rap, and seawalls), sand and gravel beaches, rocky intertidal habitat, kelp beds, mudflats, and wetlands. The spill also caused closures of recreation areas and oiling of marinas and vessels, including historic ships.

The SSC and NOAA Scientific Support Team provided technical support including trajectory and mapping information, resources at risk assessments, overflight observations and shoreline assessments. NOAA worked with the Department of the Interior and the State of California to develop a restoration plan addressing five resource categories impacted by the spill: birds, fisheries and water quality, wetland habitat, sandy shoreline and rocky intertidal habitats, and lost and diminished human use.

Conclusion

Thank you for the opportunity to discuss with you NOAA's important role in oil spill preparedness, response, and restoration. NOAA's expertise is critical to prevent further harm, restore adverse effects on natural resources, and aid planning and response decision-making associated with oil spills. I am happy to answer any questions that you may have.

Senator CANTWELL. Thank you, Ms. Glackin. Ms. Fleming? Thank you for being here.

STATEMENT OF SUSAN A. FLEMING, DIRECTOR, PHYSICAL INFRASTRUCTURE ISSUES, U.S. GOVERNMENT ACCOUNTABILITY OFFICE

Ms. FLEMING. Thank you. Madam Chair, Ranking Member Snowe, and members of the Subcommittee, thank you for the opportunity to discuss the cost of major oil spills. As the recent accident in the San Francisco Bay illustrates, the potential for oil spills exists daily across coastal and inland waters of the United States. This accident also shows that the potential extends well beyond vessels involved in the petroleum industry. Cargo, fishing, and other types of vessels also carry substantial fuel reserves. Accidents can release this fuel and create significant damage. Spills can be expensive, with considerable costs to the Federal Government and the private sector.

My testimony today has two parts: The number of major oil spills since 1990 and the costs; and second, the factors that affect major oil spill costs. First, we estimate that since 1990, there have been 51 oil spills that have had removal costs and damage claims totaling at least a million dollars. Responsible parties and the Federal Oil Spill Liability Trust Fund have spent between \$860 million and \$1.1 billion to clean up these spills and compensate affected parties. Responsible parties paid about 75 percent of these costs; the fund has paid the remainder. Since removal costs and damage claims may stretch out over many years, the cost of these spills could rise.

I'll now go into a little more detail on the 51 spills. These spills, which constitute about 2 percent of all vessel spills since 1990, vary greatly from year to year and number in costs, and show no discernable trends in frequency, size, or type of vessel. They also occurred in a variety of locations, on the Atlantic, Gulf, and Pacific coasts, and in open coastal waters, and more confined waterways.

Moving on to my second point, there are three main factors that affect the cost of a spill, according to industry experts, agency officials, and the studies we reviewed.

The first factor is the spill's location. Spills that occur in remote areas, for example, can increase costs involved in mobilizing re-

sponders and equipment. Similarly, a spill that occurs close to shore, rather than further out at sea, can become more expensive because it may involve the use of manual labor to remove oil from sensitive shoreline habitats.

The second factor affecting cost is the time of year the spill occurs. A spill at one time of year might be more costly than a spill in the same place, but at a different time of year. For example, a spill occurring during tourist or fishing season might produce substantial compensation claims, while the same spill at another time of year might not.

The third factor affecting costs is the type of oil spilled. Fuels, like gasoline, may dissipate quickly, but if they do not, they are extremely toxic to fish and plants. Crude oil is less toxic, but it doesn't dissipate quickly, and harms wildlife if it coats their bodies or if they ingest it, and it's much harder to clean up. No single factor clearly predicts a spill's cost. The 51 major spills we identified occurred in many different types of locations, across all seasons, and with all major types of oil. In each case, the three factors came together in unique ways to affect the spill's overall cost. Although the costs of the San Francisco spill are not fully known at this point, location and oil type will again likely have an impact.

In conclusion, major oil spills are rare, but the risk of such spills exists daily. Further, spills are expensive, with significant cost to the Federal Government, the private sector, the environment, the economy, and the public at large. It is therefore critical that we do not become complacent in our preparedness efforts. Madam Chair, this concludes my statement. I will be pleased to answer any questions you, or members of the Subcommittee might have.

[The prepared statement of Ms. Fleming follows:]

PREPARED STATEMENT OF SUSAN A. FLEMING, DIRECTOR, PHYSICAL INFRASTRUCTURE
ISSUES, U.S. GOVERNMENT ACCOUNTABILITY OFFICE

Madam Chair and Members of the Subcommittee:

We appreciate the opportunity to be here today to discuss the costs of major oil spills. As the recent accident in San Francisco Bay illustrates, the potential for an oil spill exists daily across coastal and inland waters of the United States. Specifically, on November 7, 2007, a cargo ship leaving the Port of Oakland struck the San Francisco-Oakland Bay Bridge, tearing the hull of the ship. As a result, over 50,000 gallons of heavy oil spilled into the bay.¹ The total cost of cleaning up the spill, as well as the damage to marine wildlife and fisheries is still undetermined. As this spill also illustrates, the potential for costly spills is present for vessels other than tankers and tank barges involved in the petroleum industry. Cargo, fishing, and other types of vessels also carry substantial fuel reserves and accidents can release this fuel and create substantial damage. Spills can be expensive, with considerable costs to the Federal Government and the private sector.

The framework for addressing and paying for maritime oil spills is identified in the Oil Pollution Act of 1990 (OPA), which was enacted after the EXXON VALDEZ spill. OPA created a "polluter pays" system that places the primary burden of liability and the costs of oil spills on the vessel owner or operator who was responsible for the spill—that is, the responsible party. However, there are financial limitations on that liability. Under this system, the responsible party assumes, up to a specified limit, the burden of paying for spill costs—which can include both *removal costs* (cleaning up the spill) and *damage claims* (restoring the environment and payment of compensation to parties that were economically harmed by the spill). Above the specified limit, the responsible party is no longer financially liable.² To pay costs

¹ As of December 4, 2007, about 20,000 gallons of oil had been recovered.

² Responsible parties are liable without limit, however, if the oil discharge is the result of gross negligence, or a violation of Federal operation, safety, and construction regulations.

above the limit of liability, as well as to pay costs when a responsible party does not pay or cannot be identified, OPA authorized the Oil Spill Liability Trust Fund (Fund), which is financed primarily from a per-barrel tax on petroleum products either produced in the United States or imported from other countries. The Fund is administered by the National Pollution Funds Center (NPFC) within the U.S. Coast Guard. The balance in the Fund—about \$600 million at the end of Fiscal Year 2006—is well below its peak of \$1.2 billion in 2000. The decline in the Fund's balance primarily reflects an expiration of the barrel tax on petroleum in 1994. The tax was not reinstated until 2005.

While this system is well understood, the costs involved in responding to oil spills are less clear. Costs paid from the Fund are well documented, but the party responsible for the spill is not required to report the costs it incurs. As a result, private-sector and total costs for cleaning up spills and paying damages are largely unknown to the public. The lack of information about the cost of spills, the declining Fund balance, and significant claims made on the Fund—for spills in which the removal costs and damage claims have exceeded established OPA liability limits—have all raised concerns about the Fund's long-term viability.

Although we have not assessed the November 2007 San Francisco oil spill in depth, we have done considerable work looking at the cost of major spills in recent years and the factors that contribute to making spills particularly expensive to clean up and mitigate. My remarks today are intended to provide a context for looking at the Nation's approach to paying the costs of such spills. Specifically, my testimony today focuses on (1) the number of major oil spills—*i.e.*, spills for which the total costs and claims paid was at least \$1 million—from 1990 to 2006 and the total costs of these spills, (2) the factors that affect major oil spill costs, and (3) the implications of major oil spill costs for the Oil Spill Liability Trust Fund.³ My comments are based primarily on our September 2007 report on oil spill costs, which was issued to the Senate Committee on Commerce, Science, and Transportation and the House Committee on Transportation and Infrastructure.⁴ In preparing our September report, we analyzed oil spill removal cost and claims data from NPFC, the National Oceanic and Atmospheric Administration's (NOAA) Damage Assessment, Remediation, and Restoration Program, and the Department of the Interior's (DOI) Natural Resource Damage Assessment and Restoration Program and the U.S. Fish and Wildlife Service (FWS). We also analyzed cost data obtained from vessel insurers and through contract with Environmental Research Consulting.⁵ We interviewed NPFC, NOAA, and state officials responsible for oil spill response, as well as industry experts and representatives from key industry associations and a vessel owner. In addition, we selected five oil spills on the basis of the spill's location, oil type, and spill volume for an in-depth review. During this review, we interviewed NPFC officials involved in spill response for all five spills, as well as representatives of private sector companies involved in the spill and spill response; and we conducted a file review of NPFC records of the Federal oil spill removal activities and costs associated with spill cleanup. We also reviewed documentation from the NPFC regarding the Fund balance and vessels' limits of liability. Because private-sector and total costs for cleaning up spills and paying damages are not centrally tracked and maintained, we obtained the best available cost data from a variety of sources, as previously described. We then combined the information that we collected from these various sources to develop cost estimates for the oil spills. However, because the cost data are somewhat imprecise and the data we collected vary somewhat by source, we present the cost estimates in ranges. The lower and higher bounds of the range represent the low and high end of cost information we obtained. Based on reviews of data documentation, interviews with relevant officials, and tests for reasonable-

³The National Oil and Hazardous Substances Pollution Contingency Plan states that any oil discharge that poses a substantial threat to public health or welfare of the United States or the environment or results in significant public concern shall be classified as a major spill. For the purposes of our work, however, we defined major spills as spills with total removal costs and damage claims that exceed \$1 million.

⁴GAO, *Maritime Transportation: Major Oil Spills Occur Infrequently, but Risks to the Federal Oil Spill Fund Remain*, GAO-07-1085 (Washington, D.C.: Sept. 7, 2007). The Coast Guard and Maritime Transportation Act of 2006 directed us to conduct an assessment of the cost of response activities and claims related to oil spills from vessels that have occurred since January 1, 1990, for which the total costs and claims paid was at least \$1 million per spill. The mandate required that the report summarize the costs and claims for oil spills that have occurred since January 1, 1990, that total at least \$1 million per spill, and the source, if known, of each spill for each year.

⁵Environmental Research Consulting is a private consulting firm that specializes in data analysis, environmental risk assessment, cost analyses, expert witness research and testimony, and development of comprehensive databases on oil and chemical spills in service to regulatory agencies, nongovernmental organizations, and industry.

ness, we determined that the data were sufficiently reliable for the purposes of our report. We also conducted additional research and interviewed NPFC officials to update our September 2007 report's findings and to gather information on the recent oil spill in San Francisco Bay. We conducted this work in December 2007 in accordance with generally accepted government auditing standards.

Summary

We estimate that from 1990 to 2006, 51 oil spills have involved removal costs and damage claims totaling at least \$1 million. Collectively, from public and nonpublic sources, we estimate that responsible parties and the Fund have paid between approximately \$860 million and \$1.1 billion to clean up these spills and compensate affected parties. Responsible parties paid between about 72 to 78 percent of these costs; the Fund has paid the remainder, or \$240 million. The overall cost for the 51 spills we identified could also increase over time because the claims adjudication processes can take many years to resolve. The 51 spills we identified, which constitute about 2 percent of all vessel spills from 1990 to 2006, varied greatly from year to year in number and cost and showed no discernible trends in frequency or size. All vessel types were involved with the 51 major spills we identified—with cargo/freight vessels and tank barges involved with 30 of the 51 spills.

Three main factors affect the costs of a spill, according to industry experts and agency officials and the studies we reviewed: the spill's location, the time of year it occurs, and the type of oil spilled.⁶ A remote location, for example, can increase the cost of a spill because of the additional expense involved in mounting a remote response. Similarly, a spill that occurs close to shore rather than further out at sea can become more expensive because it may involve the use of manual labor to remove oil from sensitive shoreline habitat. Time also has situation-specific effects, in that a spill that occurs at a particular time of year might involve a much greater cost than a spill occurring in the same place but at a different time of year. For example, a spill occurring during fishing or tourist season might carry additional economic damage, or a spill occurring during a typically stormy season might prove more expensive because it is more difficult to clean up than one occurring during a season with generally calmer weather. The specific type of oil affects costs because the type of oil can affect the amount of cleanup needed and the amount of natural resource damage incurred. Lighter oils such as gasoline or diesel fuels dissipate and evaporate quickly—requiring minimal cleanup—but are highly toxic and create severe environmental impacts. Heavier oils such as crude oil do not evaporate, and therefore may require intensive structural and shoreline cleanup; and while they are less toxic than light oils, heavy oils can harm waterfowl and fur-bearing mammals through coating and ingestion. Each spill's cost reflects the particular mix of these factors, and no factor is clearly predictive of the outcome. The 51 major spills we identified, for example, occurred on all U.S. coasts, across all seasons, and with all major types of oil; but each spill's particular location, time, or product contributed to making it expensive. Although the total costs of the San Francisco spill are unknown, some of the same key factors such as location and oil type will likely have an impact on the costs of the spill.

To date, the Fund has been able to cover costs that responsible parties have not paid, but risks remain. In particular, the Fund is at risk from claims resulting from spills that significantly exceed responsible parties' liability limits. The effect of such spills can be seen among the 51 major oil spills we identified: 10 of them exceeded the limit of liability, resulting in claims of about \$252 million on the Fund. In the Coast Guard and Maritime Transportation Act of 2006, the Congress increased these liability limits, but for two main reasons, additional attention to the limits appears warranted. First, the liability limits for certain vessel types may be disproportionately low compared with their historic spill cost. For example, of the 51 major spills since 1990, 15 resulted from tank barges. The average cost for these 15 tank barge spills was about \$23 million—more than double the average new liability limit (\$10.3 million) for these vessels. The Coast Guard is responsible for adjusting limits of liability at least every 3 years for significant increases in inflation and for making recommendations to Congress on whether adjustments to limits are necessary to help protect the Fund.⁷ In its January 2007 report examining oil spills that exceeded the limits of liability, the Coast Guard had similar findings on the adequacy of

⁶ Another potential factor is the size of the spill. Although a larger spill will require an extensive and expensive cleanup effort, officials reported that compared with the factors presented here, spill volume is less important to the costs of oil spill response.

⁷ OPA has required since 1990 that the President—and through several delegations to the Secretaries of Transportation and Homeland Security and a redelegation to the Coast Guard in 2005—adjust liability limits at least every 3 years to account for significant increases in inflation. However, the Executive Branch has never made such adjustments.

some of the new limits. However, the Coast Guard did not make explicit recommendations to Congress on how the limits should be adjusted. Second, although OPA has required since 1990 that liability limits be adjusted every 3 years to account for significant increases in inflation, such adjustments have never been made. If such adjustments had been made between 1990 and 2006, claims against the fund for the 51 major spills would have been reduced by 16 percent, which could have saved the Fund \$39 million. The Coast Guard, which has been delegated the authority to adjust limits for significant increases in inflation, has not indicated whether it will exercise its authority to adjust liability limits in the future. Aside from issues related to limits of liability, the Fund faces other potential drains on its resources, including ongoing claims from existing spills, claims related to already-sunken vessels that may begin to leak oil, and the threat of a catastrophic spill such as occurred with the EXXON VALDEZ in 1989.

In our September 2007 report, we recommended that the Commandant of the Coast Guard (1) determine whether and how liability limits should be changed, by vessel type, and make recommendations about these changes to the Congress and (2) adjust the limits of liability for vessels every 3 years to reflect changes in inflation, as appropriate. The Department of Homeland Security (DHS), including the Coast Guard, generally agreed with the report's contents and agreed with the recommendations. To date, the Commandant of the Coast Guard has not implemented these recommendations.

Background

With more than 100,000 commercial vessels navigating U.S. waters and 12.2 million barrels of oil being imported into the United States each day, some oil spills in domestic waters are inevitable. Fortunately, however, spills are relatively infrequent and are decreasing. While oil transport and maritime traffic have continued to increase, the total number of reported spills has generally declined each year since 1990.

OPA places the primary burden of liability and the costs of oil spills on the vessel owner and operator who were responsible for the spill.⁸ This “polluter pays” system provides a deterrent for vessel owners and operators who spill oil by requiring that they assume the burden of spill response, natural resource restoration, and compensation to those damaged by the spill, up to a specified limit of liability—which is the amount above which responsible parties are no longer financially liable under certain conditions. (See Fig. 1 for the limits of liability by vessel type.) For example, if a vessel's limit of liability is \$10 million and a spill resulted in \$12 million in costs, the responsible party only has to pay up to \$10 million—the Fund will pay for the remaining \$2 million.⁹ The Coast Guard is responsible for adjusting limits for significant increases in inflation and for making recommendations to Congress on whether other adjustments are necessary to help protect the Fund.¹⁰ OPA also requires that vessel owners and operators must demonstrate their ability to pay for oil spill response up to their limit of liability. Specifically, by regulation, with few exceptions, owners and operators of vessels over 300 gross tons and any vessels that transship or transfer oil in the Exclusive Economic Zone are required to have a certificate of financial responsibility that demonstrates their ability to pay for oil spill response up to their limit of liability.¹¹

⁸ OPA applies to oil discharged from vessels or facilities into navigable waters of the United States and adjoining shorelines. OPA also covers substantial threats of discharge, even if an actual discharge does not occur.

⁹ When responsible parties' costs exceed their limit of liability and the limit is upheld—because there was no gross negligence or violations of Federal regulations by the vessel owner or operator—the responsible party is entitled to file a claim on the Fund to be reimbursed for costs in excess of the limit. NPFC reviews the claim to determine which costs are OPA-compensable and the responsible party is reimbursed from the Fund.

¹⁰ Title VI of the Coast Guard and Maritime Transportation Act of 2006. Public Law 109–241, § 603(c)(3).

¹¹ 33 C.F.R. § 138. The U.S. Exclusive Economic Zone extends 200 nautical miles offshore.

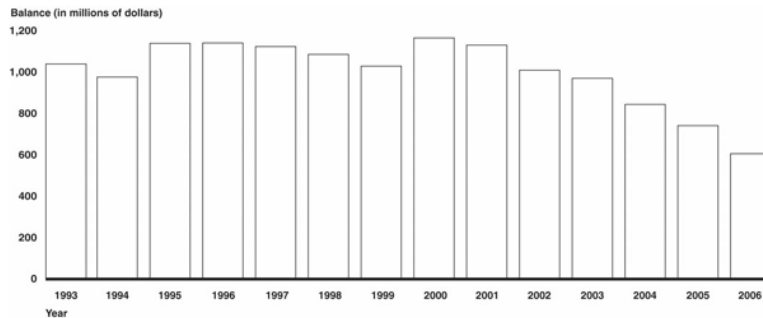
Figure 1: Description of Vessel Types and Current Limits of Liability

Vessel type	Description	Limit of liability
Oil tanker	An oil tanker is a ship designed to carry oil in large tanks.	Single hull: <ul style="list-style-type: none"> Vessels greater than 3,000 gross tons the greater of \$3,000 per gross ton or \$22 million. Vessels less than or equal to 3,000 gross tons the greater of \$3,000 per gross ton or \$6 million. Double hull: <ul style="list-style-type: none"> Vessels greater than 3,000 gross tons the greater of \$1,900 per gross ton or \$16 million. Vessels less than or equal to 3,000 gross tons the greater of \$1,900 per gross ton or \$4 million.
Tank barge	A tank barge is a non-self propelled vessel that carries liquid, solid, or gaseous cargos in bulk in tanks primarily through rivers and inland waterways.	
Cargo/freight	A cargo ship or freighter is a vessel that transports non-oil goods and materials.	The greater of \$950 per gross ton or \$800,000.
Fishing vessel	A fishing vessel is a ship that is used to catch fish for commercial use.	

Source: GAO.

OPA consolidated the liability and compensation provisions of four prior Federal oil pollution initiatives and their respective trust funds into the Oil Spill Liability Trust Fund and authorized the collection of revenue and the use of the money, with certain limitations, with regard to expenditures.¹² The Fund's balance has generally declined from 1995 through 2006, and since Fiscal Year 2003, its balance has been less than the authorized limit on Federal expenditures for the response to a single spill, which is currently set at \$1 billion (see Fig. 2). The balance has declined, in part, because the Fund's main source of revenue—a \$0.05 per barrel tax on U.S. produced and imported oil—was not collected for most of the time between 1993 and 2006.¹³ As a result, the Fund balance was \$604.4 million at the end of Fiscal Year 2006.¹⁴ The Energy Policy Act of 2005 reinstated the barrel tax beginning in April 2006.¹⁵ With the barrel tax once again in place, NPFC anticipates that the Fund will be able to cover potential noncatastrophic liabilities.

Figure 2: Oil Spill Liability Trust Fund Balance, Fiscal Years 1993-2006



Source: GAO analysis of NPFC data.

Note: The Fund balance increase in 2000 was largely due to a transfer of \$181.8 million from the Trans-Alaska Pipeline Liability Fund.

¹²The prior Federal laws regarding oil pollution included the Federal Water Pollution Control Act, the Deepwater Port Act, the Trans-Alaska Pipeline System Authorization Act, and the Outer Continental Shelf Lands Act Amendments of 1978. Congress created the Fund in 1986 but did not authorize collection of revenue or use of the money until it passed OPA in 1990.

¹³The tax expired in December 1994. Besides the barrel tax, the Fund also receives revenue in the form of interest on the Fund's principal and fines and penalties.

¹⁴Recent related GAO products include GAO, *U.S. Coast Guard National Pollution Funds Center: Improvements Are Needed in Internal Control Over Disbursements*, GAO-04-340R (Washington, D.C.: Jan. 13, 2004) and GAO, *U.S. Coast Guard National Pollution Funds Center: Claims Payment Process Was Functioning Effectively, but Additional Controls Are Needed to Reduce the Risk of Improper Payments*, GAO-04-114R (Washington, D.C.: Oct. 3, 2003).

¹⁵The Energy Policy Act of 2005. Public Law 109-58 § 1361. The barrel tax is scheduled to be in place until 2014.

OPA also defines the costs for which responsible parties are liable and for which the Fund is made available for compensation in the event that the responsible party does not pay or is not identified. These costs, or “OPA compensable” costs, are of two main types:

- *Removal costs:* Removal costs are incurred by the Federal Government or any other entity taking approved action to respond to, contain, and clean up the spill. For example, removal costs include the equipment used in the response—skimmers to pull oil from the water, booms to contain the oil, planes for aerial observation—as well as salaries and travel and lodging costs for responders.
- *Damages caused by the oil spill:* OPA-compensable damages cover a wide range of both actual and potential adverse impacts from an oil spill, for which a claim may be made to either the responsible party or the Fund. Claims include natural resource damage claims filed by trustees, claims for uncompensated removal costs and third-party damage claims for lost or damaged property and lost profits, among other things.¹⁶

The Fund also covers costs when responsible parties cannot be located or do not pay their liabilities. NPFC encounters cases where the source of the spill, and therefore the responsible party is unknown, or where the responsible party does not have the ability to pay. In other cases, since the cost recovery can take a period of years, the responsible party may become bankrupt or dissolved. Based on our analysis of NPFC records, responsible parties have reimbursed the majority—about 65 percent—of the Fund’s costs for the 51 spills.¹⁷

Response to large oil spills is typically a cooperative effort between the public and private sector, and there are numerous players who participate in responding to and paying for oil spills. To manage the response effort, the responsible party, the Coast Guard, EPA, and the pertinent state and local agencies form the unified command, which implements and manages the spill response.¹⁸ Appendix I contains additional information on the parties involved in spill response.

Oil Spills Costing At Least \$1 Million Occurred Infrequently Between 1990 and 2006, but Estimated Costs Total \$860 Million to \$1.1 Billion

On the basis of information we were able to assemble about responsible parties’ expenditures and payments from the Fund, we estimate that 51 oil spills involving removal costs and damage claims totaling at least \$1 million have occurred from 1990 to 2006. During this period, 3,389 oil spills occurred in which one or more parties sought reimbursement from the Fund. The 51 major spills represent less than 2 percent of this total.¹⁹ As Figure 3 shows, there are no discernable trends in the number of major oil spills that occur each year. The highest number of spills was seven in 1996; the lowest number was zero in 2006.

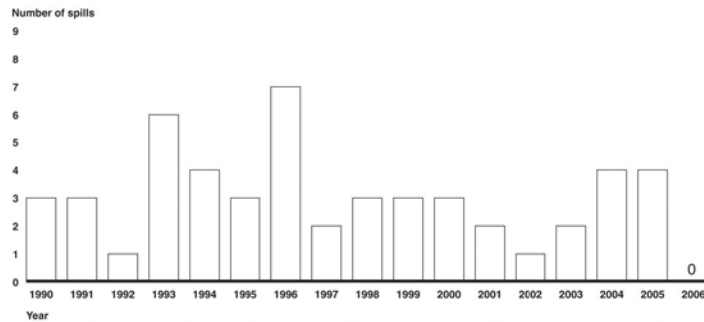
¹⁶OPA authorizes the United States, states, and Indian Tribes to act on behalf of the public as natural resource trustees for natural resources under their respective trusteeship. Trustees often have information and technical expertise about the biological effects of pollution, as well as the location of sensitive species and habitats that can assist the Federal On-Scene Coordinator in characterizing the nature and extent of site-related contamination and impacts. Federal Trustees include Commerce, DOI, the Departments of Agriculture, Defense, Energy, and other agencies authorized to manage or protect natural resources.

¹⁷Our analysis excluded the spills with limit of liability claims.

¹⁸The Incident Command System (ICS) is a standardized response management system that is part of the National Interagency Incident Management System. The ICS is organizationally flexible so that it can expand and contract to accommodate spill responses of various sizes. The ICS typically consists of four sections: operations, planning, logistics, and finance/administration.

¹⁹We established the universe of major oil spills from 1990 to 2006, based on available public and private sector data in consultation with NPFC, Environmental Research Consulting, and other industry experts. Additionally, we gathered removal costs and damage claims data from Federal agencies involved in spill response, claims payments, and conducting natural resource damage assessments (Coast Guard, NOAA, DOI, and FWS); and to the best of our ability, we gathered private-sector cost data from vessels insurers, and in contract with Environmental Research Consulting.

Figure 3: Number of Major Oil Spills, by Year, 1990-2006







Source: GAO analysis of NPFC data.

Note: Because spill costs accrue over time, there may have been vessel spills in 2006 for which costs will exceed \$1 million in the future.

These 51 spills occurred in a variety of locations and involved a range of vessel types. The spills occurred on the Atlantic, Gulf, and Pacific coasts and include spills both in open coastal waters and inland waterways. In addition, as Figure 4 shows, 30 of the 51 spills involved cargo/freight vessels and tank barges, 12 involved fishing and other types of vessels, and 9 involved tanker vessels.

Figure 4: Major Oil Spills From 1990 to 2006, By Vessel Type

Vessel type	Number of spills
Oil tanker 	9
Tank barge 	15
Cargo/freight 	15
Fishing and other vessels 	12

Source: GAO.

The total cost of the 51 spills cannot be precisely determined because private-sector expenditures are not tracked,²⁰ the various parties involved in covering these

²⁰ Under regulation S-K, 17 C.F.R. 229, companies that are publicly traded must disclose any outstanding liabilities, including liabilities such as oil spill removal costs or claims made against

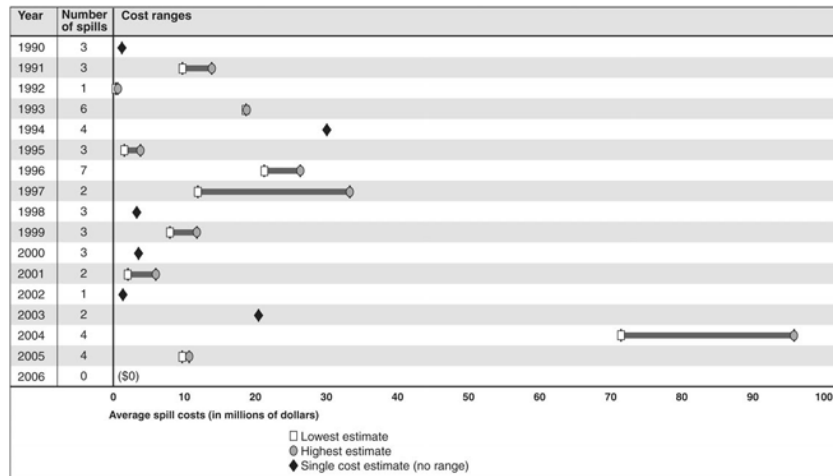
costs do not categorize them uniformly, and spills costs are somewhat fluid and accrue over time. Because spill cost data are somewhat imprecise and the data we collected vary somewhat by source, the results described below will be reported in ranges, in which various data sources are combined together. The lower and higher bounds of the range represent the low and high end of cost information we obtained.

Our analysis of these 51 spills shows their total cost was approximately \$1 billion—ranging from \$860 million to \$1.1 billion. This amount breaks down by source as follows:

- *Amount paid out of the Trust Fund:* Because the NPFC tracks and reports all Fund expenditures, the amount paid from the Fund can be reported as an actual amount, not an estimate. For these 51 spills, the Fund paid a total of \$239.5 million.
- *Amount paid by responsible parties:* Because of the lack of precise information about amounts paid by responsible parties and the differences in how they categorize their costs, this portion of the expenditures must be presented as an estimate. Based on the data we were able to obtain and analyze, responsible parties spent between \$620 million and \$840 million. Even at the low end of the range, this amount is nearly triple the expenditure from the Fund.

Costs of these 51 spills varied widely by spill, and therefore, by year (see Fig. 5). For example, 1994 and 2004 both had four spills during the year, but the average cost per spill in 1994 was about \$30 million, while the average cost per spill in 2004 was between \$71 million and \$96 million. Just as there was no discernible trend in the frequency of these major spills, there is no discernible trend in their cost. Although the substantial increase in 2004 may look like an upward trend, 2004 may be an anomaly that reflects the unique character of two of the four spills that occurred that year. These two spills accounted for 98 percent of the year's costs.

Figure 5: Average per Spill Costs of Major Oil Spills, by Year, 1990-2006



Source: GAO.

Note: Because we are reporting costs from multiple sources of data, the data were combined and grouped into cost ranges. In some cases, however, there was only one cost estimate. In those cases, we present the amount as a single cost estimate.

Key Factors Affect Oil Spill Costs in Unique Ways

Location, time of year, and type of oil are key factors affecting oil spill costs, according to industry experts, agency officials, and our analysis of spills.²¹ Officials

the company for natural resource or third-party damages incurred. However, many vessel owners or operators are not publicly traded companies.

²¹Another potential factor is the size of the spill. Although a larger spill will require an extensive and expensive cleanup effort, officials reported that compared with the factors presented here, spill volume is less important to the costs of oil spill response.

also identified two other factors that may influence oil spill costs to a lesser extent—the effectiveness of the spill response and the level of public interest in a spill. In ways that are unique to each spill, these factors can affect the breadth and difficulty of the response effort or the extent of damage that requires mitigation.

Location Impacts Costs in Different Ways

The location of a spill can have a large bearing on spill costs because it will determine the extent of response needed, as well as the degree of damage to the environment and local economies. According to state officials with whom we spoke and industry experts, there are three primary characteristics of location that affect costs:

- *Remoteness*: For spills that occur in remote areas, spill response can be particularly difficult in terms of mobilizing responders and equipment, and they can complicate the logistics of removing oil from the water—all of which can increase the costs of a spill.
- *Proximity to shore*: There are also significant costs associated with spills that occur close to shore. Contamination of shoreline areas has a considerable bearing on the costs of spills as such spills can require manual labor to remove oil from the shoreline and sensitive habitats. The extent of damage is also affected by the specific shoreline location.
- *Proximity to economic centers*: Spills that occur in the proximity of economic centers can also result in increased costs when local services are disrupted. A spill near a port can interrupt the flow of goods, necessitating an expeditious response in order to resume business activities, which could increase removal costs. Additionally, spills that disrupt economic activities can result in expensive third-party damage claims.

Time of Year Has Impact on Local Economies and Response Efforts

The time of year in which a spill occurs can also affect spill costs—in particular, impacting local economies and response efforts. According to several state and private-sector officials with whom we spoke, spills that disrupt seasonal events that are critical for local economies can result in considerable expenses. For example, spills in the spring months in areas of the country that rely on revenue from tourism may incur additional removal costs in order to expedite spill clean-up, or because there are stricter standards for clean up, which increase the costs.

The time of year in which a spill occurs also affects response efforts because of possible inclement weather conditions. For example, spills that occur during the winter months in areas of the country that experience harsh winter conditions can result in higher removal costs because of the increased difficulty in mobilizing equipment and personnel to respond to a spill in inclement weather. According to a state official knowledgeable about a January 1996 spill along the coast of Rhode Island, extremely cold and stormy weather made response efforts very difficult.

Type of Oil Spilled Impacts the Extent of the Response Effort and the Amount of Damage

The type of oil spilled affects the degree to which oil can be cleaned up and removed, as well as the nature of the natural resource damage caused by the spill. The different types of oil can be grouped into four categories, each with its own set of impacts on spill response and the environment (see Table 1).

Table 1: Description of Different Oil Types

In general, oil types differ from each other in three ways: viscosity—oil's resistance to flow, volatility—how quickly the oil evaporates in the air, and toxicity—how poisonous the oil is to people and other organisms.

Oil type	Removal and response	Environmental impact
Very light oils (Jet fuels, gasoline)	Highly volatile (they will evaporate within 1-2 days). It is rarely possible to clean up the oil from such spills.	Highly toxic: Can cause severe impacts to shoreline resources.
Light oils (Diesel, No. 2 fuel oil, light crudes)	Moderately volatile, but will leave a residue after a few days. Cleanup can be very effective for these spills.	Moderately toxic: Has the potential to create long-term contamination of shoreline resources.
Medium oils (Most crude oils)	Some oil (about one-third) will evaporate in 24 hours. Cleanup most effective if conducted quickly.	Less toxic: Oil contamination of shoreline can be severe and long-term, and can have significant impacts to waterfowl and fur-bearing mammals.
Heavy oils (Heavy crude oils, No. 6 fuel oil, bunker C fuel)	Little or no oil will evaporate. Cleanup is difficult.	Less toxic: Heavy contamination of shoreline resources is likely, with severe impacts to waterfowl and fur-bearing mammals through coating and ingestion.

Source: NOAA.

Lighter oils such as jet fuels, gasoline, and diesel fuel dissipate and evaporate quickly, and as such, often require minimal cleanup. However, these oils are highly toxic and can severely affect the environment if conditions for evaporation are unfavorable. For instance, in 1996, a tank barge that was carrying home-heating oil grounded in the middle of a storm near Point Judith, Rhode Island, spilling approximately 828,000 gallons of heating oil (light oil). Although this oil might dissipate quickly under normal circumstances, heavy wave conditions caused an estimated 80 percent of the release to mix with water.²² Natural resource damages alone were estimated at \$18 million, due to the death of approximately 9 million lobsters, 27 million clams and crabs, and over 4 million fish.

Heavier oils, such as crude oils and other heavy petroleum products are less toxic than lighter oils but can also have severe environmental impacts. Medium and heavy oils do not evaporate much, even during favorable weather conditions, and can blanket structures they come in contact with—boats and fishing gear, for example—as well as the shoreline, creating severe environmental impacts to these areas, and harming waterfowl and fur-bearing mammals through coating and ingestion. Additionally, heavy oils can sink, creating prolonged contamination of the sea bed and tar balls that sink to the ocean floor and scatter along beaches. These spills can require intensive shoreline and structural clean up, which is time-consuming and expensive. For example, in 1995, a tanker spilled approximately 38,000 gallons of heavy fuel oil into the Gulf of Mexico when it collided with another tanker as it prepared to lighter its oil to another ship.²³ Less than 1 percent (210 gallons) of the oil was recovered from the sea, and as a result, recovery efforts on the beaches of Matagorda and South Padre Islands were labor intensive, as hundreds of workers had to manually pick up tar balls with shovels. The total removal costs for the spill were estimated at \$7 million.

Other Factors Also Affect Spill Costs

Some industry experts cited two other factors as also affecting costs incurred during a spill.

- *Effectiveness of Spill Response:* Some private-sector officials stated that the effectiveness of spill response can impact the cost of cleanup. The longer it takes to assemble and conduct the spill response, the more likely it is that the oil will move with changing tides and currents and affect a greater area, which can increase costs. Some officials said the level of experience of those involved in the incident command is critical to the effectiveness of spill response. For example, they said poor decisionmaking during a spill response could lead to the deployment of unnecessary response equipment, or worse, not enough equipment to respond to a spill. Several officials expressed concern that Coast Guard officials are increasingly inexperienced in handling spill response, in part because the

²² National Research Council of the National Academies, *Oil in the Sea III: Inputs, Fates, and Effects* (Washington, D.C.: 2003).

²³ Lightering is the process of transferring oil at sea from a very large or ultra-large carrier to smaller tankers that are capable of entering the port.

Coast Guard's mission has been increased to include homeland security initiatives.

- *Public interest:* Several officials with whom we spoke stated that the level of public attention placed on a spill creates pressure on parties to take action and can increase costs. They also noted that the level of public interest can increase the standards of cleanliness expected, which may increase removal costs.

Key Factors Will Likely Influence Cost of San Francisco Spill

The total costs of the San Francisco spill are currently unknown. According to NPFC officials, as of December 4, 2007, the Unified Command estimated that \$48 million had been spent on the response, which includes approximately \$2.2 million from the Fund.²⁴ The total costs will not likely be known for a while, as it can take many months or years to determine the full effect of a spill on natural resources and to determine the costs and extent of the natural resource damage. Our work for this testimony did not include a thorough evaluation of the factors affecting the spill. However, some of the same key factors that have influenced the cost of 51 major oil spills will likely have an effect on the costs in the San Francisco spill. For example, the spill occurred in an area close to shore, which caused the closing of as many as 22 beaches, according to Coast Guard officials. A weather-related factor was that the spill occurred during dense fog, which complicated efforts to determine how much of an area the spill covered. Moreover, the cargo ship spilled a heavy oil—specifically intermediate fuel oil—that requires particularly intensive shoreline and structural clean-up, and harmed scores of birds and marine mammals through coating and ingestion.²⁵ Concerns have also been raised about the effectiveness of the spill response and incident command, another of the factors cited as contributing to increased costs. The National Transportation Safety Board, the Coast Guard, as well as other government agencies, are currently investigating the details of the accident and the subsequent response.

Fund Has Been Able to Cover Costs Not Paid by Responsible Parties, but Risks Remain

The Fund has been able to cover costs from major spills that responsible parties have not paid, but risks remain. Specifically, the current liability limits for certain vessel types, notably tank barges, may be disproportionately low relative to costs associated with such spills. There is also no assurance that vessel owners and operators are able to financially cover these new limits, because the Coast Guard has not yet issued regulations for satisfying financial responsibility requirements. In addition, although OPA calls for periodic increases in liability limits to account for significant increases in inflation, such increases have never been made. Aside from issues related to limits of liability, the Fund faces other potential drains on its resources, including ongoing claims from existing spills.

Further Attention To Limits of Liability Is Needed

The Fund has been able to cover costs from major spills that responsible parties have not paid, but additional focus on limits of liability is warranted. Limits of liability are the amount, under certain circumstances, above which responsible parties are no longer financially liable for spill removal costs and damage claims. If the responsible party's costs exceed the limit of liability, they can make a claim against the Fund for the amount above the limit. Major oil spills that exceed a vessel's limit of liability are infrequent, but their impact on the Fund can be significant. Ten of the 51 major oil spills that occurred since 1990 resulted in limit-of-liability claims on the Fund.²⁶ These limit-of-liability claims totaled more than \$252 million and ranged from less than \$1 million to more than \$100 million. Limit-of-liability claims will continue to have a pronounced effect on the Fund. NPFC estimates that 74 percent of claims under adjudication that were outstanding as of January 2007 were for spills in which the limit of liability had been exceeded. The amount of these claims under adjudication was \$217 million.²⁷

We identified three areas in which further attention to these liability limits appears warranted: the appropriateness of some current liability limits, the need to

²⁴ According to NPFC officials, the OPA limit of liability for this vessel, if the limit applies under the circumstances of the spill, is approximately \$61.8 million.

²⁵ Intermediate fuel oil is a common diesel fuel used to power marine vessels.

²⁶ Additional spills had costs in excess of the vessel's limit of liability, but either the limit was not upheld or no claim was filed by the responsible party.

²⁷ This figure is based on all spills with claims on the Fund, currently under adjudication, not just the 51 major spills. U.S. Coast Guard, *Report on Oil Pollution Act Liability Limits*, Jan. 5, 2007. Like our report, the Coast Guard's report was prepared in response to a provision in the Coast Guard and Maritime Transportation Act.

adjust limits periodically in the future to account for significant increases in inflation, and the need for updated regulations for ensuring vessel owners and operators are able to financially cover their new limits.

Some Recent Adjustments to Liability Limits Do Not Reflect the Cost of Major Spills

The Coast Guard and Maritime Transportation Act of 2006 significantly increased the limits of liability from the limits set by OPA in 1990. Both laws base the liability on a specified amount per gross ton of vessel volume, with different amounts for vessels that transport oil commodities (tankers and tank barges) than for vessels that carry oil as a fuel (such as cargo vessels, fishing vessels, and passenger ships). The 2006 Act raised both the per-ton and the required minimum amounts, differentiating between vessels with a double hull, which helps prevent oil spills resulting from collision or grounding, and vessels without a double hull (see Table 2 for a comparison of amounts by vessel category).²⁸ For example, the liability limit for single-hull vessels larger than 3,000 gross tons was increased from the greater of \$1,200 per gross ton or \$10 million to the greater of \$3,000 per gross ton or \$22 million.

Table 2: Comparison of Limits of Liability as Established in OPA (1990) and the Coast Guard and Maritime Transportation Act (2006)

Vessel types	1990 Limit of liability	2006 Limit of liability
Single-hull tankers and tank barges	Vessels greater than 3,000 gross tons: the greater of \$1,200 per gross ton or \$10 million.	Vessels greater than 3,000 gross tons: the greater of \$3,000 per gross ton or \$22 million.
	Vessels less than or equal to 3,000 gross tons: the greater of \$1,200 per gross ton or \$2 million	Vessels less than or equal to 3,000 gross tons: the greater of \$3,000 per gross ton or \$6 million.
	(Single and double-hull tankers and tank barges.)	
Double-hull tankers and tank barges	Vessels greater than 3,000 gross tons: the greater of \$1,200 per gross ton or \$10 million.	Vessels greater than 3,000 gross tons: the greater of \$1,900 per gross ton or \$16 million.
	Vessels less than or equal to 3,000 gross tons: the greater of \$1,200 per gross ton or \$2 million	Vessels less than or equal to 3,000 gross tons: the greater of \$1,900 per gross ton or \$4 million.
	(Single and double-hull tankers and tank barges.)	
All other vessels: Cargo vessels, fishing vessels, passenger ships	The greater of \$600 per gross ton or \$500,000.	The greater of \$950 per gross ton or \$800,000.

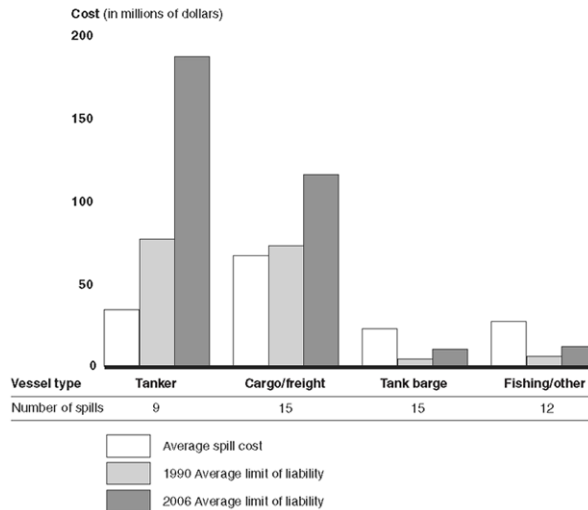
Source: Coast Guard and Maritime Transportation Act of 2006.

Our analysis of the 51 spills showed that the average spill cost for some types of vessels, particularly tank barges, was higher than the limit of liability, including the new limits established in 2006. As Figure 6 shows, the 15 tank barge spills and the 12 fishing/other vessel spills had average costs greater than both the 1990 and 2006 limits of liability. For example, for tank barges, the average cost of \$23 million was higher than the average limit of liability of \$4.1 million under the 1990 limits and \$10.3 million under the new 2006 limits. The nine spills involving tankers, by comparison, had average spill costs of \$34 million, which was considerably lower than the average limit of liability of \$77 million under the 1990 limits and \$187 million under the new 2006 limits.²⁹ Similarly, the 15 major spills involving cargo/freight vessels had an average spill cost of \$67 million, which was lower than both the 1990 and 2006 limits of liability.

²⁸ OPA requires that all tank vessels (greater than 5,000 gross tons) constructed (or that undergo major conversions) under contracts awarded after June 30, 1990, operating in U.S. navigable waters must have double hulls. Of the 51 major oil spills, all 24 major spills from tank vessels (tankers and tank barges) involved single-hull vessels.

²⁹ The average limits of liability for the spills involving tankers are much greater than the average liability for tank barges because the liability is based on the volume of the vessel, and tankers generally have much higher volumes than tank barges.

Figure 6: Average Spill Costs and Limits of Liability for Major Oil Spill Vessels, 1990-2006



Source: GAO.

In a January 2007 report examining spills in which the limits of liability had been exceeded, the Coast Guard had similar findings on the adequacy of some of the new limits.³⁰ Based on an analysis of 40 spills in which costs had exceeded the responsible party's liability limit since 1991, the Coast Guard found that the Fund's responsibility would be greatest for spills involving tank barges, where the Fund would be responsible for paying 69 percent of costs. The Coast Guard concluded that increasing liability limits for tank barges and non tank vessels—cargo, freight, and fishing vessels—over 300 gross tons would positively impact the Fund balance. With regard to making specific adjustments, the Coast Guard said dividing costs equally between the responsible parties and the Fund was a reasonable standard to apply in determining the adequacy of liability limits.³¹ However, the Coast Guard did not recommend explicit changes to achieve either that 50/50 standard or some other division of responsibility.

Liability Limits Have Not Been Adjusted for Inflation

Although OPA requires adjusting liability limits to account for significant increases in inflation, no adjustments to the limits were made between 1990 and 2006, when the Congress raised the limits in the Coast Guard and Maritime Transportation Act. During those years, the Consumer Price Index rose approximately 54 percent.³² OPA requires the President, who has delegated responsibility to the Coast Guard, through the Secretary of Homeland Security, to issue regulations not less often than every 3 years to adjust the limits of liability to reflect significant increases in the Consumer Price Index.³³ We asked Coast Guard officials why no adjustments were made between 1990 and 2006. Coast Guard officials stated that they could not speculate on behalf of other agencies as to why no adjustments had been made prior to 2005 when the delegation to the Coast Guard was made.³⁴

³⁰ U.S. Coast Guard, *Report on Oil Pollution Act Liability Limits*, Jan. 5, 2007.

³¹ We did not assess the reasonableness of adopting such a standard in determining liability limits.

³² The new limits, which increased an average of 125 percent for the 51 vessels involved in major oil spills, were substantially higher than the rise in inflation during the period.

³³ Congress reiterated this requirement in the Coast Guard and Maritime Transportation Act by requiring that regulations be issued 3 years after the enactment of the act (July 11, 2006) and every 3 years afterward to adjust the limits of liability to reflect significant increases in the Consumer Price Index.

³⁴ OPA has required since 1990 that the President—and through several delegations to the Secretaries of Transportation and Homeland Security and a redelegation to the Coast Guard in 2005—adjust liability limits at least every 3 years to account for significant increases in inflation. However, the Executive Branch has never made such adjustments.

The decision to leave limits unchanged had financial implications for the Fund. Raising the liability limits to account for inflation would have the effect of reducing payments from the Fund, because responsible parties would be responsible for paying costs up to the higher liability limit. Not making adjustments during this 16-year period thus had the effect of increasing the Fund's financial liability. Our analysis showed that if the 1990 liability limits had been adjusted for inflation during the 16-year period, claims against the Fund for the 51 major oil spills would have been reduced 16 percent, from \$252 million to \$213 million. This would have meant a savings of \$39 million for the Fund.

Certification of Compliance With the New Liability Limits Is Not in Place

Certificates of Financial Responsibility have not been adjusted to reflect the new liability limits. The Coast Guard requires Certificates of Financial Responsibility, with few exceptions, for vessels over 300 gross tons or any vessels that are lightering or transshipping oil in the Exclusive Economic Zone as a legal certification that vessel owners and operators have the financial resources to fund spill response up to the vessel's limit of liability. Currently, Certificate of Financial Responsibility requirements are consistent with the 1990 limits of liability and, therefore, there is no assurance that responsible parties have the financial resources to cover their increased liability.³⁵ The Coast Guard plans to initiate a rulemaking to issue new Certificate of Financial Responsibility requirements. Coast Guard officials indicated their goal is to publish a Notice of Proposed Rulemaking by the end of 2007, but they said they could not be certain they would meet this goal.

Other Challenges Could Also Affect the Fund's Condition

The Fund also faces several other potential challenges that could affect its financial condition:

- *Additional claims could be made on spills that have already been cleaned up:* Natural resource damage claims can be made on the Fund for years after a spill has been cleaned up. The official natural resource damage assessment conducted by trustees can take years to complete, and once it is completed, claims can be submitted to the NPFC for up to 3 years thereafter.³⁶ For example, NPFC recently received and paid a natural resource damage claim for a spill in U.S. waters in the Caribbean that occurred in 1991.
- *Costs and claims may occur on spills from previously sunken vessels that discharge oil in the future:* Previously sunken vessels that are submerged and in threat of discharging oil represent an ongoing liability to the Fund. There are over 1,000 sunken vessels that pose a threat of oil discharge.³⁷ These potential spills are particularly problematic because in many cases there is no viable responsible party that would be liable for removal costs. Therefore, the full cost burden of oil spilled from these vessels would likely be paid by the Fund.
- *Spills may occur without an identifiable source and therefore, no responsible party:* Mystery spills also have a sustained impact on the Fund, because costs for spills without an identifiable source—and therefore no responsible party—may be paid out of the Fund. Although mystery spills are a concern, the total cost to the Fund from mystery spills was lower than the costs of known vessel spills in 2001 through 2004. Additionally, none of the 51 major oil spills was the result of discharge from an unknown source.
- *A catastrophic spill could strain the Fund's resources:* Since the 1989 EXXON VALDEZ spill, which was the impetus for authorizing the Fund's usage, no oil spill has come close to matching its costs.³⁸ Cleanup costs for the EXXON VALDEZ alone totaled about \$2.2 billion, according to the vessel's owner. By comparison, the 51 major oil spills since 1990 cost, in total, between \$860 mil-

³⁵ According to the NPFC, while liable parties are not required to establish an ability to pay at the higher amended limits until the certificate of financial responsibility rule is published as required by OPA, those parties are liable for the higher amounts.

³⁶ Federal response costs for spills that resulted from Hurricanes Katrina and Rita were paid from the Stafford Act Disaster Relief Funds. However, private parties can seek reimbursement from the Fund for cleanup costs and damages in the future. According to NPFC, it is difficult to estimate future liabilities to the Fund as a result of Hurricanes Katrina and Rita, but as of July 2007, there are no claims pending in connection with these hurricanes.

³⁷ Michel, J., D. Etkin, T. Gilbert, J. Waldron, C. Blocksidge, and R. Urban; 2005. *Potentially Polluting Wrecks in Marine Waters: An Issue Paper Prepared for the 2005 International Oil Spill Conference*.

³⁸ The EXXON VALDEZ only discharged about 20 percent of the oil it was carrying. A catastrophic spill from a vessel could result in costs that exceed those of the EXXON VALDEZ, particularly if the entire contents of a tanker were released in a 'worst-case discharge' scenario.

lion and \$1.1 billion. The Fund is currently authorized to pay out a maximum of \$1 billion on a single spill. Although the Fund has been successful thus far in covering costs that responsible parties did not pay, it may not be sufficient to pay such costs for a spill that has catastrophic consequences.

Concluding Observations

In conclusion, the “polluter pays” system established under OPA has been generally effective in ensuring that responsible parties pay the costs of responding to spills and compensating those affected. However, increases in some liability limits appear warranted to help ensure that the “polluter pays” principle is carried out in practice. For certain vessel types, such as tank barges, current liability limits appear disproportionately low relative to their historic spill costs. The Coast Guard has reached a similar conclusion but so far has stopped short of making explicit recommendations to the Congress about what the limits should be. Absent such recommendations, the Fund may continue to pay tens of millions for spills that exceed the responsible parties’ limits of liability. Further, to date, liability limits have not been regularly adjusted for significant changes in inflation. Consequently, the Fund was exposed to about \$39 million in liability claims for the 51 major spills between 1990 and 2006 that could have been saved if the limits had been adjusted for inflation. Without such actions, oil spills with costs exceeding the responsible parties’ limits of liability will continue to place the Fund at risk. Given these concerns, in our September 2007 report, we recommended that the Commandant of the Coast Guard (1) determine whether and how liability limits should be changed, by vessel type, and make recommendations about these changes to the Congress and (2) adjust the limits of liability for vessels every 3 years to reflect significant changes in inflation, as appropriate. DHS, including the Coast Guard, generally agreed with the report’s contents and agreed with the recommendations. To date, the Commandant of the Coast Guard has not implemented these recommendations.

Madame Chair this concludes my statement. I would be pleased to answer any questions that you or other Members of the Subcommittee may have at this time.

APPENDIX I: INFORMATION ON SPILL RESPONSE

Response to large oil spills is typically a cooperative effort between the public and private sector, and there are numerous players who participate in responding to and paying for oil spills. To manage the response effort, the responsible party, the Coast Guard, EPA, and the pertinent state and local agencies form the Unified Command, which implements and manages the spill response.³⁹ Beyond the response operations, there are other stakeholders, such as accountants who are involved in documenting and accounting for costs, and receiving and processing claims. In addition, insurers and underwriters provide financial backing to the responsible party. The players involved in responding to and/or paying for major spill response are as follows:⁴⁰

- *Government agencies:* The lead Federal authority, or Federal On-Scene Coordinator, in conducting a spill response is usually the nearest Coast Guard Sector and is headed by the Coast Guard Captain of the Port.⁴¹ The Federal On-Scene Coordinator directs response efforts and coordinates all other efforts at the scene of an oil spill. Additionally, the on-scene coordinator issues pollution removal funding authorizations—guarantees that the agency will receive reimbursement for performing response activities—to obtain services and assistance from other government agencies. Other Federal agencies may also be involved. NOAA provides scientific support, monitoring and predicting the movement of oil, and conducting environmental assessments of the impacted area. The Federal, state, and tribal trustees join together to perform a natural resource damage assessment, if necessary. Within the Coast Guard, the NPFC is responsible for disbursing funds to the Federal On-Scene Coordinator for oil spill removal activities and seeking reimbursement from responsible parties for Federal costs.

³⁹The Incident Command System (ICS) is a standardized response management system that is part of the National Interagency Incident Management System. The ICS is organizationally flexible so that it can expand and contract to accommodate spill responses of various sizes. The ICS typically consists of four sections: operations, planning, logistics, and finance/administration.

⁴⁰For a full description of the organizational structure and procedures for preparing for and responding to discharges of oil, see The National Oil and Hazardous Substances Pollution Contingency Plan, 40 C.F.R. §300.

⁴¹Although this report focuses on vessels, and most vessel spills are in the Coast Guard zone of jurisdiction, EPA is the lead on-scene coordinator in the inland zone, and Coast Guard is lead on-scene coordinator in the coastal zone.

Additionally, regional governmental entities that are affected by the spill—both state and local—as well as tribal government officials or representatives may participate in the Unified Command and contribute to the response effort, which is paid for by the responsible party or are reimbursed by the responsible party or the Fund.⁴²

- *Responsible parties:* OPA stipulates that both the vessel owner and operator are ultimately liable for the costs of the spill and the cleanup effort. The Coast Guard has final determination on what actions must be taken in a spill response, and the responsible party may form part of the Unified Command—along with the Federal on-scene coordinator and pertinent state and local agencies—to manage the spill response. The responsible parties rely on other entities to evaluate the spill effects and the resulting compensation. Responsible parties hire environmental and scientific support staff, specialized claims adjusters to adjudicate third-party claims, public relations firms, and legal representation to file and defend limit of liability claims on the Fund, as well as serve as counsel throughout the spill response.
- *Qualified individuals:* Federal regulations require that vessels carrying oil as cargo have an incident response plan and, as part of the plan, they appoint a qualified individual who acts with full authority to obligate funds required to carry out response activities. The qualified individual acts as a liaison with the Federal On-Scene Coordinator and is responsible for activating the incident response plan.
- *Oil spill response organizations:* These organizations are private companies that perform oil spill cleanup, such as skimming and disposal of oil. Many of the companies have contractual agreements with responsible parties and the Coast Guard. The agreements, called basic ordering agreements, provide for pre-arranged pricing, response personnel, and equipment in the event of an oil spill.
- *Insurers:* Responsible parties often have multiple layers of primary and excess insurance coverage, which pays oil spill costs and claims. Pollution liability coverage for large vessels is often underwritten by not-for-profit mutual insurance organizations. The organizations act as a collective of ship owners, who insure themselves, at-cost. The primary insurers of commercial vessels in U.S. waters are the Water Quality Insurance Syndicate, an organization providing pollution liability insurance to over 40,000 vessels, and the International Group of P&I Clubs, 13 protection and indemnity organizations that provide insurance primarily to foreign-flagged large vessels.⁴³

At the Federal level, the National Oil and Hazardous Substances Pollution Contingency Plan provides the framework for responding to oil spills.⁴⁴ At the port level, each port has an Area Contingency Plan, developed by a committee of local stakeholders, that calls for a response that is coordinated with both higher-level Federal plans and lower-level facility and vessel plans. The Federal plans designate the Coast Guard as the primary agency to respond to oil spills on water. The Coast Guard has a National Strike Force to provide assistance to efforts by the local Coast Guard and other agencies.⁴⁵ The Coast Guard also has an exercise program—known as the Spills of National Significance exercise program—to test national level response capabilities. This program is focused on exercising the entire response system at the local, regional and national level using large-scale, high probability oil

⁴² State governments can seek reimbursement directly from responsible parties or from the Fund. State officials in Alaska, California, New York, Rhode Island, Texas, and Washington said that state agencies recover almost all of their costs, either directly from responsible parties or from the NPFC. Officials in Texas said that the reimbursement rate for oil spill costs may be as high as 98 percent.

⁴³ These 13 organizations are American Steamship Owners Mutual Protection and Indemnity Association, Inc.; Assuranceforeningen Gard; Assuranceforeningen Skuld; the Britannia Steam Ship Insurance Association Limited; the Japan Ship Owners' Mutual Protection & Indemnity Association; the London Steam-Ship Owners' Mutual Insurance Association Limited; the North of England Protection and Indemnity Association, Limited; the Shipowners' Mutual Protection and Indemnity Association (Luxembourg); the Standard Steamship Owners' Protection and Indemnity Association (Bermuda), Limited; the Steamship Mutual Underwriting Association (Bermuda), Limited; the Swedish Club; United Kingdom Mutual Steam Ship Assurance Association (Bermuda), Limited; the West of England Ship Owners Mutual Insurance Association (Luxembourg).

⁴⁴ The National Oil and Hazardous Substances Pollution Contingency Plan is a part of a larger plan known as the National Response Plan which covers a wide variety of contingencies that include natural disasters, major disasters, and terrorist attacks.

⁴⁵ The National Strike Force was established in 1973. Originally comprised of three 17-member strike teams, today's National Strike Force totals over 200 active duty, civilian, and reserve Coast Guard personnel for three distinct regions—the Atlantic, Gulf and Pacific.

and hazardous material incidents that result from unintentional causes such as maritime accidents or natural disasters. The most recent program exercise, in June 2007, tested the response and recovery to an oil and hazardous materials release in the wake of a large scale earthquake in the Mississippi and Ohio River valleys.

Senator CANTWELL. Thank you. And thank you all for your testimony and the focus on this important issue. I know many of my colleagues will have questions, but I think what I want to do is to start with 5-minute rounds, and if we want to have a second round on this panel, we can, but we do have another panel afterwards. So I want to get to them as time allows and have interest.

So we'll just have to take a reading after that. But let's start with 5-minute rounds, if we could, and I'd like to start with how the 1990 Act required the preparedness of Vessel Response Plans. And each of you mentioned that in your testimony, and the effectiveness of the response structure. All vessels that carry oil as cargo over 400 gross tons, that carry that fuel, must have a Vessel Response Plan. And these response plans are to address the potential of discharge from the vessel.

So Congress mandated the Coast Guard to come up with the 2004 Maritime Transportation Act with what these actual regulations should be, what is the final rule implemented into law. So just a yes or no answer, if you can just tell me whether you think it's important that we get this done. Just a yes or no.

Senator LAUTENBERG. Yes.

Ms. FLEMING. Yes.

Senator CANTWELL. OK. Admiral Allen? Will we these regulations put in place within the next 12 months?

Admiral ALLEN. We're putting together a regulatory work plan right now. As I stated in my opening statement, we did provide guidance to the industry, and they have submitted plans to us that we have reviewed, and they have been acting under those plans. So we are constructively meeting the intent, but the rule is not out there and it needs to get out there. I'm prepared to put resources out, and I think we've got a good chance to get it done in the next 12 to 18 months, but there are—

Senator CANTWELL. I'm asking you for a yes or no commitment of whether we'll have that done in the next year or not. In the next 12 months. If it takes longer than 12 months—but I think what we're trying to get at is we—

Admiral ALLEN. Oh, you certainly have my commitment. Yes, ma'am. Yes, ma'am.

Senator CANTWELL. I'm asking you more yes or no, do you think it can be done, and are you—

Admiral ALLEN. It can be done in 12 months. As I say, we have a number of rules in the backlogs, so we can do this in 12 months. It will likely displace something else, but yes, it can be done.

Senator CANTWELL. Do you think it should be done in the next 12 months, Admiral?

Admiral ALLEN. I would like to collaborate and talk about that, because I would like to get that sense from the Congress how to compete in priorities on the rules that we'd be required to make.

Senator CANTWELL. I think we're here today because we think it's very important. So happy to have that collaboration, but I think you will hear from us that we expect it to be done soon. Let me

ask you about how many nontank vessels under law haven't submitted a response plan—that haven't done so.

Admiral ALLEN. Well, any nontank vessel that is calling here is required to have one, so if there is not one that's been prepared, it means they're not calling the United States, ma'am.

Senator CANTWELL. So you say there is none.

Admiral ALLEN. None that I'm aware.

[An appended statement from Admiral Allen on this issue follows:]

UNITED STATES COAST GUARD
U.S. DEPARTMENT OF HOMELAND SECURITY
Washington, DC, January 14, 2008

HON. MARIA CANTWELL,
Chair,
Fisheries and Coast Guard Subcommittee,
Committee on Commerce, Science, and Transportation,
U.S. Senate,
Washington, DC.

Dear Madam Chair:

I am writing to advise you of the need to correct my testimony from the December 18, 2007, hearing pertaining to oil spills from non-tank vessels. During the hearing, you questioned me about the number of non-tank vessels which have yet to submit response plans. I indicated that any non-tank vessel calling on a U.S. port is required to have a Non-tank Vessel Response Plan (NTVRP). I further added that vessels without such plans are not permitted to call on U.S. ports; I have since learned that this is incorrect. Specifically, there are instances where both U.S. and foreign-flagged non-tank vessels have entered and operated in the United States without a Coast Guard-reviewed NTVRP.

Absent the effect of a formal rule to implement the NTVRP required by the Coast Guard Maritime Transportation Act of 2004 (MTA), as amended in 2006, the fully enforceable requirement is the international standard required under MARPOL Annex I. Annex I requires that non-tank vessels over 400 gross tons have an approved Shipboard Oil Pollution Emergency Plan (SOPEP).

The Coast Guard ensures vessels possess valid SOPEPs during Port State Control examinations and domestic inspections. However, these standards are not as detailed and rigorous as those required by MTA. In the case of M/V COSCO BUSAN, both the MTA-required NTVRP and international SOPEP requirements were met.

I have initiated a review of the interim guidance provided to our field commanders following the passage of MTA, the effectiveness of that guidance, and a more accurate determination of the compliance rate. I am accountable to ensure the statutory NTVRP requirement is met and will take appropriate action. I am available to provide a more comprehensive brief upon your return from holiday recess.

Thank you for your leadership on this important national issue. The Coast Guard is committed to protecting the environment through prevention and stands ready to answer any questions you may have. You can reach me through my Senate Liaison Office. Identical letters have been sent to Senator Snowe, Senator Stevens and Senator Inouye.

Sincerely,

THAD W. ALLEN,
Admiral,
U.S. Coast Guard, Commandant.

Senator CANTWELL. And is the Coast Guard effectively enforcing the response plans?

Admiral ALLEN. Yes. We've received and reviewed, and I'm going to give them authority to operate as nontank vessels under the Circular that was issued in 2005 to conform to the legislation, ma'am.

Senator CANTWELL. And what kind of uniformity do you think there is in these response plans?

Admiral ALLEN. Well, the guidance that was issued to the industry regarding nontank vessels is very similar to the tank vessel

plans that are already required out there, and we're looking for continuity between two sets of plans. And so they're basically mirrored on the tank vessel plans made.

Senator CANTWELL. And so you'd be surprised if—I mean, I think we're going to hear from my colleague from California, and we already heard a little from Senator Snowe on this issue of the response time in general. And I think what we're seeing in this particular case is perhaps a lack of uniformity and the lack of oversight might have a broad array of what these response plans have been.

But clearly, notifying people hours and hours later I don't think is what we had in mind. But let's say, for example, if this particular ship did not have a response plan, what would have happened? What would have transpired?

Admiral ALLEN. In this ship, it had to have a response plan, as it is a requirement to enter the port, ma'am. And every time it had to have met the requirements of the Circular that was issued in 2005 would have to be reviewed and accepted by the Coast Guard.

Senator CANTWELL. Ms. Glackin and Ms. Fleming, do you have any—

Ms. GLACKIN. No. This role is primarily a Coast Guard role. We would consult on these things as needed.

Senator CANTWELL. How sufficient do you think the response plans are today?

Ms. GLACKIN. I'm not in a position to answer that.

Senator CANTWELL. OK. OK, Senator Snowe, I'm going to turn it over to you.

Senator SNOWE. Thank you, Madam Chair. Admiral Allen, on these interim plans, what percentage of the nontanker fleet does this represent those who have these Vessel Response Plans on file?

Admiral ALLEN. The total population of Non-Tank Vessel Response Plans on file is about 13,000. The subset of our large ocean wave freight vessels, like the COSCO BUSAN, is about 8,000.

Senator SNOWE. 8,000 out of how many total? 15,000?

Admiral ALLEN. Thirteen—Yes, ma'am.

Senator SNOWE. What is the reason due to the backlog on these regulations that you're so far behind?

Admiral ALLEN. The legislation required that the rule be done within a year. We could not get the rule done within a year, so we issued interim guidelines that were constructively the same—

Senator SNOWE. Yes.

Admiral ALLEN.—as the Tank Vessel Response Plans that were required OPA 90. We're in the process of putting together a regulatory plan to write that regulation right now. But in the interim, we issued guidance that was basically the same as the Tank Vessel Response Plans.

Senator SNOWE. Yes. Do you have the resources to carry out these regulations?

Admiral ALLEN. I don't think we've got adequate resources right now. No, ma'am. And we can even talk about that. I've gone to the Administration, and I am getting support for more resources moving forward.

Senator SNOWE. Do you require a budgetary increase?

Admiral ALLEN. It requires a couple of things. We can move internal resources, but you're robbing Peter to pay Paul. We can do that increase in the staffs that make rules. We also need to talk about the priority in which rules are being made. And we're trying to establish a task force to take a look at it.

Senator SNOWE. What's the timeline for reaching a decision in exactly how you're going to proceed?

Admiral ALLEN. Quite frankly—

Senator SNOWE.—at what point?

Admiral ALLEN. I cannot conceive of coming to the hearing this next spring and not having a move forward on the regulatory backlog for the Coast Guard, ma'am. It's unsatisfactory to you, but it's unsatisfactory to me, as well.

Senator SNOWE. Admiral Allen, also on the response personnel, I gather from following the exercise in 2004, the Coast Guard's After Action Report stated that response personnel were not proficient with their equipment, and that there was a shortage of experienced personnel to fill these positions? What have you done to develop a response capability and to work on these deficiencies?

Admiral ALLEN. We have a national—we call it our Prep Program. It's a national exercise program where we issue guidelines every year. Our large major spill exercises for the last year have been met. I've asked for a detailed data collection to make sure that all of the training requirements clear down to the lower levels have been consistent with the guidance that was provided out there. And we'll be looking at that as part of the incident review that we're doing, ma'am. If there is a gap there, I will advise you. But for the major large significant exercises to be conducted both by industry and the government, we have been meeting those criteria.

Senator SNOWE. OK. Are these drills being conducted with adequate frequency?

Admiral ALLEN. Yes. They're according to standard. Yes. The current standard is there should be six to eight major spill exercises a year. We completed seven last year. The industry is supposed to lead 13 to 16, and they've led 16, ma'am.

Senator SNOWE. Yes. And are you going to incorporate anything you've learned from this recent spill with the COSCO BUSAN?

Admiral ALLEN. Yes, ma'am. Most notably, if I could just summarize, and as Senator Boxer already indicated, I think things in our country right now, in terms of information available to the public, for we're not envisioning, with OPA 90 this past—we look at NGOs, how to bring volunteers in, and take advantage of our more modern communications.

Senator SNOWE. Yes. And Ms. Fleming mentioned the NGO report. There are various issues that have an impact on the severity of the spill, and the cost of the cleanup, especially around port facilities, and that's something I mentioned in my opening statement, whether it's at the Port of Portland or up near Bar Harbor and Acadia National Park. We do have dense fog, high winds, and that all adds excessively to the dangerous conditions in which these ships are coming into port. How is the Coast Guard addressing those issues? What authority do you have to regulate that traffic around various ports?

Admiral ALLEN. The Coast Guard has extensive authority to regulate traffic, and I would differentiate the movement of vessels in the port as opposed to Vessel Traffic Services for the purposes of this answer, as far as high winds, hurricane conditions, and so forth. We routinely put restrictions on port entry or port departure, and we have the current authority to be able to do that.

Although, what we need to look at going forward is issues like if there was low visibility in a port, to move beyond the judgment of the pilot to be able to make that vessel movement and whether or not there needs to be a government role in doing that. And that is handled differently around the country, but most notably, the pilot's associations make determinations on whether or not it's safe to move a vessel. But we have statutory authority to intervene as well.

Senator SNOWE. OK. Ms. Fleming, you mentioned several things, one of which, 51 spills, up to a billion dollars, which sounds like a lot of money for 51 oil spills. But you say in your report the Fund has been able to cover costs not paid by responsible parties, but risks remain.

Ms. FLEMING. Yes.

Senator SNOWE. So we're not able to recover the costs from the responsible parties with respect to the cleanup?

Ms. FLEMING. What I've highlighted in my statement is that the Coast Guard reports that as of the end of Fiscal Year 2006, the Fund balance was about \$600 million.

Senator SNOWE. Yes.

Ms. FLEMING. At its peak, there was about \$1.2 billion. There's enough, because of the recent reinstitution of the barrel tax, to cover non-catastrophic spills. However, we've highlighted in our work that there are other factors that could affect the solvency of the Trust Fund. For instance, there are still spills out there for which additional costs may accrue for instance, additional natural resource damage claims.

As you know, in a 1991 spill, the claims were just filed and they were just paid by the fund. So another thing is that previously sunken vessels could discharge oil. That comes into play particularly if there is no viable responsible party, because the fund would pay the full cost for those types of incidents. So while the fund is in good shape to cover non-catastrophic costs there are other factors that could affect the solvency of the fund.

Senator SNOWE. Yes, Admiral Allen?

Admiral ALLEN. I just wanted to add that another issue is whether the response exceeds the limits of liability of the responsible party. Then the fund is vulnerable at that point. That's why it's very, very important to look at limits of liability.

Senator SNOWE. To raise them?

Admiral ALLEN. Yes.

Senator SNOWE. Yes, to raise them? Would you agree, Ms. Fleming?

Ms. FLEMING. Yes. We agreed with that—it was a recommendation that we made in our September report, that for certain vessel types we change the liability limits to be more commensurate with the historic spill costs for certain vessels, such as tank barges.

Senator SNOWE. OK. Well, that's something obviously we should consider then and take action on. Thank you.

Senator CANTWELL. Thank you. Senator Lautenberg?

Senator LAUTENBERG. OK. Admiral Allen, pursuant to the discussion that was just taking place with Senator Snowe and Ms. Fleming, what do you do where there is a billion-dollar cost allowed in the event of a catastrophic spill, what do you do in the case of a major spill that a billion dollars of Federal cleanup assistance is required, and the Trust Fund doesn't have it? What then takes place?

Admiral ALLEN. Well, sir, first of all, it would depend on the vessel and the limits of liability and how much the responsible party had to pay. I'm assuming your question is based on the fact that we went over the limits of liability and over what was available in the fund. We would have to go back and seek additional appropriations or support from Congress to source the fund.

Senator LAUTENBERG. How does that happen in a timeline that requires the additional funding?

Admiral ALLEN. We have not had to do that in the history of the fund. As you know, we have reinstituted the upper-barrel tax and the fund is increasing back up. In fact, I would just like to make a correction, we're up around \$943 million right now, and we're bringing in about \$250 million to \$300 million a year based on that tax, and we think we're going to stabilize at about \$2 billion by 2014. We have not faced a catastrophic incident that challenged the entire amount of the fund yet, sir.

Senator LAUTENBERG. Ms. Fleming, what brought you to revisit the Federal liability limits to better align the polluter responsibilities over damages that they cause in a spill?

Ms. FLEMING. We believe for certain vessel types, most notably tank barges, the liability limits are disproportionately low compared to historic oil spill costs. Even with the recent limits, the 2006 limits, we did an analysis that shows both the 1990 liability limits for certain vessel types, as well as the 2006, stayed disproportionately low compared to what a historic oil spill costs.

Senator LAUTENBERG. Are barges enveloped in the same structure that provide the insurance necessary, the insurance that a regular vessel would have? Are the barges ever put in the separate designations that are not really able to meet the same financial obligations that a seagoing vessel would?

Admiral ALLEN. They're covered and required to meet those obligations. Yes, sir.

Senator LAUTENBERG. Admiral, it's been a year and a half since the Federal liability limits have been set. When will the Coast Guard publish new regulations requiring shippers to prove that they can meet the required financial liabilities now?

Admiral ALLEN. Well, you know limits of liability have already been raised, subsequent to the legislation. What we are now required to do is raise the Certificate of Financial Responsibility; in other words, their assurance that they can pay that up to the same levels. That rule is in process right now. We're expecting to be published in 2008.

Senator LAUTENBERG. And did the COSCO BUSAN possess your required proof of—

Admiral ALLEN. They did. And as a result of the earlier legislation, their limits of liability range from approximately \$31 million to almost \$61 million regarding this particular incident.

Senator LAUTENBERG. Does it look like that's going to be enough to cover the damage that resulted from this?

Admiral ALLEN. Yes, sir.

Senator LAUTENBERG. So it would fall—does it first fall to the fund or does it—

Admiral ALLEN. The responsible party pays, sir.

Senator LAUTENBERG. The responsible party—

Admiral ALLEN. Yes, sir.

Senator LAUTENBERG.—pays to whatever their liability is today.

Admiral ALLEN. Yes, sir. As they move above the limits of liability, obviously, there is a conversation that has to occur. However, there are provisions that you can weigh the limits of liability based on certain circumstances, and those discussions are going on now with the Department of Justice.

Senator LAUTENBERG. Are they required to meet those standards if they've got a vessel afloat? A higher level of—

Admiral ALLEN. Up to their limits of liability, yes, sir.

Senator LAUTENBERG. Up to the limit of the Federal liability standards?

Admiral ALLEN. Yes, sir. And we see many companies that go above their limit of liability, just because it's the responsible thing to do. But they are captive to liability if there are certain exigencies that exist. In this case, there are reasons why you can move above the limits of liability based on the circumstances surrounding the incident itself. And quite frankly, we are discussing them now.

Senator LAUTENBERG. Before Congress updated the Federal Oil Spill Liability Limits last year, the Coast Guard failed for 16 years to raise the limits as required by law to keep up with the CPI. Now, as a result, we ended up subsidizing polluters by some \$39 million. When will the Coast Guard next update these limits to keep up with inflation?

Admiral ALLEN. Sir, there is not any procedure in place right now to add a Consumer Price Index increase to those limits, and that was fixed in the legislation in our committee rules. What we still have to do is move that over to the Certificates of Financial Responsibility, which is the financial assurance that they can pay, and that's already being done right now and will be issued in 2008, sir.

Senator LAUTENBERG. It's been a year and a half since my law passed requiring the Coast Guard to create the Delaware River Oil Spill Advisory Commission. This Commission has still not had its first meeting. And the Coast Guard has not yet appointed members to it. What's taking place, Admiral?

Admiral ALLEN. Sir, the situation is that the nomination period closes out in January, and we need to establish a committee.

Senator LAUTENBERG. The time runs out in January?

Admiral ALLEN. We have asked for nominations, and the nominating period closes in January, at which point we will send the paperwork for the establishment of the Committee, sir.

Senator LAUTENBERG. You're prepared to present candidates?

Admiral ALLEN. Yes, sir.

Senator LAUTENBERG. Thank you very much, Madam Chairman.

Senator CANTWELL. Thank you. Senator Boxer?

Senator BOXER. Thank you so much, Senator, again. It's my understanding if there is gross negligence then the cap doesn't apply. Is that correct?

Admiral ALLEN. There's a provision for that. Yes, ma'am.

Senator BOXER. So that if—So the cap only applies if it was just sort of an act of God. But if it's gross negligence, the cap doesn't apply. Let me just ask our GAO person this question. My understanding is we have several issues here. One is the cap itself, and the second issue is that the cap is different for oil tankers versus cargo ships. It's like half the amount. And it seems to me, as Senator Feinstein and I looked at this, and I'm so happy everyone is interested in this, because this will go over to the EPW. But if we can come up with—obviously, Senator Feinstein and I are certainly not wedded to what we did, but let me tell you what we did.

We took the limits for the nontanker ships, put the cargo ships, such as this ship that crashed into the Bay Bridge, and we moved it up to equal the liability cap of the tankers, because now, as Senator Snowe points out, there is so much more oil being carried by these other type of ships. So we equalized it. And also, I guess, the third question is the issue of the double hulls. Right now, is there a different cap if you have a double hull?

Admiral ALLEN. In establishing limits of liability, there is.

Senator BOXER. Good.

Admiral ALLEN. Double hulls, double size, there is different—

Senator BOXER. Right.

Admiral ALLEN.—gradations, and then it's an amount by gross tonnage, and we can provide—

Senator BOXER. OK.

Admiral ALLEN.—a detailed—

Senator BOXER. Well, my understanding is it's 3,000 per gross ton for a single-hulled vessel and \$1,800 for a double-hulled vessel is what we have per gross ton. But I said in my comments, the issue is equalizing this. And then, the next issue is maybe we want to review the double hulls more as we reform this. So I think this is an area that we really need to deal with. Just in all honesty, I am very disappointed in your response to Senator Cantwell's questions about the Vessel Response Plans. And in her prodding you, saying can you promise to be here, in your answer, well, it would have to displace other rules, so I really can't tell you.

Now, this law passed in 2004. We're going into 2008. That's 4 years. It's unacceptable. So could you tell me what we can do to help you get the resources you need, the people you need? Because it's just not right. That's not an answer we want to hear. We know the Coast Guard has a lot of issues being part of Homeland Security, and one of the things we worried about when the Coast Guard went into Homeland Security is, you know, we were afraid that maybe this would take second tier of your interests.

Now, it can't. You have to tell us what you need to do everything: Homeland Security and protecting our resources. Because I'll tell you, if this starts to take second fiddle, and we have more of these issues, we look at more of these birds, and we can't have a fishing season, we are looking at a very grim future indeed. So can you tell

us, from your bottom of your heart and in all honesty, how can we help you get to the point where you have the resources to do all the rulemakings that you have to do?

Admiral ALLEN. Well, it's more people to do legal analysis, economic analysis, regulatory analysis, and all the requirements of the Administrative Procedures Act and all of the policy guidance. Some of these require environmental impact statements.

Senator BOXER. Yes.

Admiral ALLEN. The hoops you have to jump through for some of these rules are extensive. The average time to make a rule in the Coast Guard right now—not just because of resources, but because of the process, because I think we have to look at the process, too—is 3.5 years. That is unsatisfactory.

Senator BOXER. Yes. Well, could you please, in writing, just—we're asking a question. If you were to have to do—if you decided you want to complete all your rulemakings that you've had to set aside, what would you need? Because it would help us. We want to be there for you. We want this to happen I can tell you. We can't sit back. I mean, we pass these laws, and then colleagues, we think they're going to do the rules, and they don't do the rules because they don't have the resources. It's just wrong. And it's not an answer. It's not going to satisfy my people back home. So thank you for your candor, and I look forward to getting this.

[The requested information follows:]

The Coast Guard has chartered a Rulemaking Review and Reform Project (RRRP) to conduct a top to bottom review of our rulemaking processes and to facilitate increases in capacity. The RRRP will assess the current state of rulemaking, determine root causes of rulemaking delays and identify specific opportunities for improvement. The RRRP will deliver a complete report with recommendations and an implementation plan by April 2008.

Moreover, the Consolidated Appropriations Act, 2008 (Pub. L. 110-161) provided the Coast Guard with 31 additional full time positions to apply toward rulemaking efforts. A working group within the RRRP has begun an expedited process for hiring these new rulemaking personnel. We expect to begin hiring personnel by April 1, 2008 and to be near full complement by September 30, 2008. These additional resources will allow us to make significant, near-term progress in our existing rulemaking backlog.

Senator BOXER. Now, I wanted to ask a question about bunker fuel, and then I'll be done. The Coast Guard has represented the United States at the International Maritime Organization negotiations on bunker fuel, recommending that either lower sulfur be used, or technology used to retrofit existing ships. In light of the recent tragedy in San Francisco Bay, should the United States consider taking a stronger stand by supporting a ban on bunker fuel, just flat-out?

Admiral ALLEN. We could do that, ma'am, but I'm not sure it would have the constructive effect, because we can only regulate what goes on within our economic zone in our territorial sea. Many ships would end up carrying two tankers of fuel, using bunker fuel outside the EEZ, and leaving the larger—

Senator BOXER. Absolutely. And guess what? If that's what happens, that's a huge victory for our people, because my people, who live around ports, and I'm sure it goes to—we have all the ships coming in. We do 40 percent of the exports that come through Los Angeles/Long Beach, and I've got to tell you, the people are suf-

fering. The kids who live around there, they have lower lung development.

And if that happens, we feel that that is a first step. We would love to see an international agreement. But short of that, we have legislation that would ban the bunker fuel. But I have to just say, if you have to change your fuel when you get close to American waters, fine. But if you want the privilege of coming into our waters, then you need to step up to the plate and keep the air clean, because this bunker fuel—that's what spilled in the bay. This is horrific. It's terrible on the lungs, it's terrible on the water. And so, sir, I think if the outcome was, yes, that we have to get them to change the fuel as they're coming into our ports, then that will help us.

Admiral ALLEN. Yes, ma'am. I would say that this has been done under MARPOL Annex VI, which involves air emissions. It would remove some of the bunker fuel, but there will be bunker fuel on the ship that it used to maneuver before it came into the country.

Senator BOXER. I under—

Admiral ALLEN. I just want to be clear.

Senator BOXER. I totally get it. That's why we're amending the Clean Air Act. That's why our bill does that in the EPW Committee. Well, thank you.

Senator CANTWELL. Thank you. Senator Kerry?

Senator KERRY. Thank you, Madam Chairman. So Admiral, I sort of asked a question, in essence, to really summarize your familiarity with the Oil Spill Prevention Act that was passed in Massachusetts. In several other states, the Coast Guard did not challenge similar legislation. We had several oil spills back in the day, so why does the Coast Guard not allow Massachusetts to protect its own environmental interests there?

Admiral ALLEN. Sir, I don't think it's a matter of that. And, in fact, I think on 85 and 90 percent of what's involved here, we actually agree. The real issue is the inclusion—

Senator KERRY. We know what it involves if we go to court. I mean—

Admiral ALLEN. Well, these are the double hulls, sir, as you know.

Senator KERRY. I know, but—well, I understand that. But that's exactly what they want to require, any major ship carrying major amounts of oil, no matter what, double hull or not, because double hull, as it obviously draws more, and has as much risk in a shallow area if it—if somebody mis-navigates. I mean, the last spill took place because they went for the wrong side of the navigation buoy.

Admiral ALLEN. Yes, sir.

Senator KERRY. So why can't a double hull do that?

Admiral ALLEN. Sir, when we do a rulemaking, again, like we were talking about earlier, under the Administrative Procedures Act and the current guidelines, we have to do a regulatory analysis and an economic analysis, and look at the cost benefits of the solution that we're going to provide in the rules. When you do that, the cost of regulating a double-hull tanker in which an investment has already been made has a higher degree of safety, and you work through this process, it drives you to different than what the state arrived at, then we have the issue of trying to provide a standard

set of rules across the country, so that we're not dealing with 50 different sets of guidelines within the Federal Government, sir. We'd be happy to work with you on it, sir.

Senator KERRY. Well, I understand that—I mean, it's not skin off your back if a state has a stricter requirement, as long as the ship that's coming through is going to enforce it. I mean, the requirement is pretty simple. They've got to have a minimum staffing watch requirement. That's fairly standard fare. They've got to have a tug pilot, and then, a mandatory navigational route.

Admiral ALLEN. Yes, sir.

Senator KERRY. I mean, what is complicated about that?

Admiral ALLEN. Sir, there is nothing complicated about it at all, and it would be a higher degree of safety were we to apply this to double hulls. All I was saying is the analysis that a company's rule-making required to do leads you to an answer that says there is not a greater benefit to include double hulls through the regulatory process. And if that's unsatisfactory, we need to look at that process, sir.

Senator KERRY. Well, obviously, the state disagrees with you.

Admiral ALLEN. Yes, sir.

Senator KERRY. So in effect, the Coast Guard is, by virtue of its oppositional roles, trying to overrule the state's desire to regulate its own waters.

Admiral ALLEN. No, sir. I think what we're trying to do is take a Federal position, and there are a lot of higher legal—

Senator KERRY. You've never taken that position in other places.

Admiral ALLEN. Sir, the position we have taken regarding special areas and what the state has done, I think we have been consistent. I can provide you the background on that.

Senator KERRY. Is that the only place where there is a double hulled rule of this type?

Admiral ALLEN. I would have to go back and check, sir. I would be happy to respond for the record.

Senator KERRY. Would you, please?

Admiral ALLEN. Yes, sir.

[The requested information follows:]

In August 2007, The First Coast Guard District published amendments to an existing regulated navigation area that includes Buzzards Bay. The rule accomplished four objectives:

- (1) It requires tug escorts for single-hull tankers transiting Buzzards Bay and carrying 5,000 or more barrels of oil or other hazardous material.
- (2) It requires a federally licensed pilot, in addition to the crew, to be onboard the primary tug during the transit.
- (3) It maintains the recommended route for tankers as "recommended" vice mandatory to allow mariners maximum flexibility in the event of unusual circumstances and;
- (4) It establishes a vessel movement reporting system to better track and monitor tanker movements in the Bay.

It is true that the Massachusetts state rule, currently being challenged by the Department of Justice in Federal court, requires tug escorts and state licensed pilots for double-hulled tankers, as well. During the rulemaking process, the state asked that the Coast Guard adopt the same rule. After careful consideration, the Coast Guard rejected the state's proposal, for the following reasons:

1. As stated in the preamble to the Final Rule, the Coast Guard believes that double hulls provide a sufficient margin of safety for tankers transiting Buzzards Bay. The bottom characteristics of the Bay are primarily rocky—a condi-

tion double hulls are designed to protect against. The State has repeatedly cited a situation in the Gulf of Mexico where a double-hulled tanker was involved in a spill. This situation presented a unique set of facts—a tanker struck a submerged, uncharted oil platform that sank during Hurricane Rita. These facts are unlikely to be repeated in Buzzards Bay.

2. As Admiral Sullivan, the First District Commander, stated when the final rules were published, the Coast Guard is seeking opportunities to create economic incentives for shippers to use double hull tankers; the State's rule, by requiring tug escorts of both single and double hull tank vessels removes that incentive. Prior to the B-120 spill in 2003, approximately 20 percent of tanker transits through Buzzards Bay were in double hull tankers. In 2005, that percentage rose to nearly 58 percent, and has since remained at that level. The Coast Guard seeks to increase that percentage; our regulatory choice is one method of accomplishing that goal. By Federal statute, single hull tankers will be largely phased out in the U.S. by 2015. The Coast Guard has no authority to accelerate that timetable. In contrast, the international phase-out will be largely complete by 2010. Without double hull incentives in certain sensitive areas like Estuaries of National Significance (Buzzards Bay is so designated), use of single hull tankers might conceivably increase.

3. It has long been the Coast Guard's position that consistent, uniform national and international regulation is the most effective method to ensure navigation safety and protection of the marine environment. The majority of maritime accidents are caused by human error, and a confused mariner is an unsafe mariner. Conflicting Federal and state regulations can create such confusion. The Coast Guard wants mariners to concentrate on navigating safely, not on whether a state rule or a Federal rule applies in a certain waterway.

Regulated Navigation Areas, such as the one covering Buzzards Bay, are created under the authority of the Ports and Waterways Safety Act of 1972, as amended. That statute requires the Coast Guard to consult and work closely with affected states before promulgating any new rules regulating vessel traffic. The Coast Guard takes that mandate very seriously, as interaction with our state and local partners is a crucial component of developing sound, sensible rules. In the case of the Buzzards Bay rule, the Coast Guard coordinated closely with state and local government through briefings, public hearings and by giving the state and several cities and towns formal consultative status during the rulemaking process. In the final analysis, our nation, as described in the Federalist Papers, through the founding of the Republic and in numerous, subsequent Congressional and Supreme Court actions, has long recognized the need to ultimately speak with one voice on matters maritime.

The actions of the Coast Guard throughout this rulemaking process have been consistent with those objectives, while always keeping in mind the value and importance of input from all stakeholders. San Francisco Bay, Prince William Sound and Puget Sound are the only other places where there are tug escort rules for tankers. The conditions in those places, as well as the statutory and regulatory history for their creation are sufficiently distinct that they may not be compared to Buzzards Bay to determine what requirements should exist in Buzzards Bay. For example, in San Francisco, there are no Federal tug escort rules with which the state rule might conflict, and no indication that there is a need for any Federal tug escort regulation. In Prince William Sound, the rules are statutorily mandated as part of Oil Pollution Act of 1990. In Puget Sound, the tank vessels requiring escort serve only ports in the State of Washington, whereas in Buzzards Bay, they serve several states (Rhode Island, Connecticut, New York, New Hampshire and Maine), in addition to Massachusetts, and thus an obvious need for Federal uniformity.

Finally, the law established by the Supreme Court in *U.S. v. Locke* in 2000, strengthened and clarified how Federal rules applicable to vessel regulation preempt state rules. This strengthened Federal preemption regime for vessel regulation was not so clear when the Puget Sound rules were adopted in 1994.

Senator KERRY. I think you should. And, you know, it's—well, it's obviously frustrating, particularly when you look at the cost issue. Secretary Glackin, the NOAA Damage Assessment Remediation and Restoration is not yet completed, the damage assessment for Buzzards Bay. And the community has not been compensated for shellfish loss, salt marsh, beach damage, et cetera. What is the sta-

tus of when will the community be compensated to have those environmental issues being addressed?

Ms. GLACKIN. Senator, I'll have to get back to you with the specifics on that, but I can tell you that that activity is ongoing and we're moving forward with that. I'm sorry. I'm just not prepared to give you a date.

Senator KERRY. Would you get us something more specific, please?

Ms. GLACKIN. Absolutely.

Senator KERRY. We are moving forward. It's been several years now. It just goes on and on. These folks are not big conglomerates and corporations; they get hurt, they get hurt.

Ms. GLACKIN. I understand.

Senator KERRY. And the compensation is pretty critical. And we're supposed to do that for them.

Ms. GLACKIN. Yes. I understand.

Senator KERRY. All of us. You, me, et cetera. So I'd like to see if we could address that. Admiral, you know, for the 24 years that I've been on this Committee, almost 24, I've been involved with these issues with the waterways, the Coast Guard. I used to be Chairman of the Subcommittee with the Coast Guard. And I've always been frustrated. I mean, I'm frustrated. I imagine you are, and you can't say it. You and I have had a little bit of this discussion previously.

But the Coast Guard's responsibilities just keep getting bigger and bigger, and go up and up and up. You know, and any fair measurement says that you're not getting what you need in terms of the increases in complement to your personnel and to your assets. And so, it's hard for us to sit here and sort of measure really where we are in terms of Homeland Security requirements, drug interdiction requirements, public safety requirements, enforcement, EPA enforcement, and all those other things you have to do.

And I wonder if you can share with us—I mean, I know it's difficult under the structure we have—but can you at least share with us the priorities that you wish you had to have a better ability to be able to address?

Admiral ALLEN. I can say that I can tell you that these priorities also represent Secretary Chertoff, as well, because I talked with him personally about it. We have to put more people in certain critical functions at least in the perceptions of our stakeholders and overseers, whether or not our performance has diminished, at least, there is a perception that we've been diverting and not been taking care of business. And there is another safety area with inspections, other areas of rulemaking, watch standards for our command centers in our ports, people that play a direct impact on managing the waterways and preventing these events from happening. I've made my requirements clear, and thus far I've gotten support from the Secretary.

Senator KERRY. Well, can I emphasize something that's bothered me for a long, long time? I was recently down in South Africa, and in South Africa, in the port, I saw a lot of Taiwanese and Japanese trawlers and fishing vessels in the South African port. Senator Stevens and I took the issue of the driftnet fishing to the United Nations in the 1990s, and we succeeded in getting it banned. But

there were folks out there doing it, and about 50 percent or more of the catch is “by catch” and it’s discarded.

And all across the globe, but obviously, we care—we have to care about it all, but our primary focus is needless to say on our shorelines. But I talked to our own fishermen. I’ve seen and it’s happening up in New England and elsewhere. We just don’t have adequate capacity to enforce, to monitor anywhere. And I’d like not see that left out of the list of immediate priorities. I mean, we’ve got to have the ability to be able to bring stocks back and enforce fisheries, or else we’re in trouble.

Admiral ALLEN. I can give you a response for the record. I can give you a couple of highlights, if you’d like, sir.

Senator KERRY. I would.

Admiral ALLEN. One of the real issues—and you know this all too well from your service—is maritime patrol aircraft and sensors to be able to understand what’s out there, establish a threat, and be able to interdict a target of interest. We have done a couple of things in the last couple of years that I think are going to provide us a significant improvement on our performance there. This last year, we combined maritime patrol aircraft from Japan and Canada, working with the Coast Guard cutter with a Chinese shiprider on interdicting seven high seas driftnet cases in the middle of the Pacific. Three of them constituted severe enough infractions that we took them back to the Chinese and turned them over for prosecution. We also established an adjoined program office with Customs and Border Protection on UAVs, trying to extend our region and also take care of the new Hawaiian Island Sanctuary, sir. But I can provide you more for the record.

[The requested information follows:]

The attached annual *Report of the Secretary of Commerce to the Congress of the United States Concerning U.S. Actions Taken on Foreign Large Scale High Seas Driftnet Fishing (2006)* incorporates Coast Guard contributions and summarizes overall U.S. Government actions to combat High Seas Driftnet (HSDN) fishing worldwide. Coast Guard HSDN enforcement operations have focused exclusively on the North Pacific Ocean. The success of Coast Guard HSDN enforcement operations in the North Pacific results from dedicated cooperation with, and coordinated planning between, a number of Pacific Rim governments and counterpart enforcement agencies.

Coast Guard HSDN Enforcement Efforts in 2007

U.S.-PRC HSDN Enforcement MOU. The United States and the People’s Republic of China (PRC) conducted joint operations in 2007 pursuant to the terms of a Memorandum of Understanding (MOU) to ensure effective implementation of United Nations General Assembly (UNGA) Resolution 46/215 in the North Pacific Ocean. The MOU (also referred to as the “U.S.2DPRC Shiprider Agreement”) established boarding procedures for law enforcement officials of either country to board and inspect U.S. or Chinese-flagged vessels suspected of driftnet fishing. The MOU allows PRC officials to embark on U.S. Coast Guard vessels or aircraft.

Coast Guard Partnership with the PRC Fisheries Law Enforcement Command (FLEC). The Coast Guard has had a strong working relationship with the PRC Fisheries Law Enforcement Command (FLEC) for well over a decade, and China has provided opportunities for 46 enforcement officials to visit and work with the Coast Guard since 1994. In May 2007, the Coast Guard hosted familiarization visits for PRC FLEC enforcement officers as well as an operational planning meeting for the 2007 enforcement season. Two FLEC officers rotated through the North Pacific Regional Fishery Training Center in Kodiak, Alaska from April through August 2007. In addition, two Chinese FLEC shipriders were deployed on U.S. Coast Guard Cutters (USCGCs) BOUTWELL and MIDGETT during their Illegal, Unregulated, Unreported (IUU) fisheries patrols. The FLEC officials in Kodiak passed real-time operational information to their colleagues onboard the Coast Guard cutters at sea.

These officials were instrumental in facilitating communications between the Coast Guard and the PRC FLEC, effectively expanding the jurisdictional reach of both enforcement agencies and allowing for the largest number of HSDN vessel seizures in the North Pacific since implementation of the MOU. The Coast Guard hopes to host additional PRC officials during the 2008 fishing season.

Aircraft patrols. In recent years, the Coast Guard has patrolled High Threat Areas in the North Pacific in support of the U.S. High Seas Driftnet Enforcement Act and North Pacific Anadromous Fish Commission (NPAFC) initiatives, as well as to monitor compliance with the United Nations (UN) moratorium on large-scale HSDN operations. Operation North Pacific Watch, the Coast Guard's 2007 multi-national HSDN enforcement campaign, began in April with support from Canadian deployments to Shemya Island, Alaska, Coast Guard Air Station Kodiak, Alaska deployed once from Shemya to patrol the HSDN High Threat Area, and additional Coast Guard HC-130s flew in late September 2007 to support joint operations with USCGC BOUTWELL and USCGC MIDGETT.

In early September 2007, a Coast Guard Seventeenth District law enforcement officer participated in a joint surveillance aircraft patrol with the Japan Coast Guard (JCG) (the second of such flights, the first being in 2006). The purpose of this JCG flight was to patrol for IUU fishing activity and perform communications exercises with USCGC BOUTWELL. The patrol identified several radar contacts in the HSDN High Threat Area but weather conditions precluded a specific determination of vessel type and activity. This information did, however, directly facilitate subsequent positioning of USCGC BOUTWELL for follow-on HSDN interdictions.

Surface patrols. USCGC BOUTWELL also participated in a multi-national IUU fisheries enforcement patrol from July 22 to November 7, 2007 that included NPAFC party states and fisheries law enforcement officials from the PRC. USCGC BOUTWELL patrolled the HSDN High Threat Area, made port calls in Japan, Russia, and China, and embarked a PRC Fisheries Law Enforcement Command (FLEC) shiprider. USCGC MIDGETT deployed on short notice from the Bering Sea to the HSDN High Threat Area in late September due to reports of multiple possible HSDN fishing vessel sightings. USCGC MIDGETT expanded the surface patrol coverage through coordinated patrolling with USCGC BOUTWELL. During September and October of 2007, these U.S. Coast Guard Cutters interdicted and subsequently transferred custody of six PRC-flagged HSDN-capable fishing vessels to Chinese authorities for additional investigation and prosecution.

While patrolling on September 14, 2007, USCGC BOUTWELL's embarked helicopter located the Indonesian F/V FONG SENG No. 818 rigged for large-scale driftnet fishing on the high seas. As USCGC BOUTWELL closed position, the crew of FONG SENG No. 818 conducted evasive maneuvers and attempted to conceal nets and gear on deck. USCGC BOUTWELL documented the vessel's configuration and activity, while at the same time performing Right of Approach¹ questioning alongside the vessel to gather registry information, which USCGC BOUTWELL was eventually able to obtain. The Coast Guard joined with the U.S. Department of State to report this activity to the Government of Indonesia and has initiated diplomatic dialogue regarding F/V FONG SENG No. 818's observed activities. It is suspected that FONG SENG No. 818 is a sister ship of, and is associated with, the F/V RONG SHENG No. 828, which Russian authorities seized on the high seas in June 2007 with a reported 90 metric tons of salmon onboard.

In addition to the enforcement efforts associated with seizure of the six PRC-flagged large-scale HSDN vessels, USCGC CHASE conducted a joint IUU fisheries law enforcement patrol, officer exchange, and training engagement with the Russian Federal Security Service patrol vessel VOROVSKY in April 2007. The vessels conducted a joint boarding exercise on the Alaska State Trooper vessel WOLSTAD in preparation for future North Pacific IUU fishing and Central Bering Sea law enforcement operations.

2006 REPORT OF THE SECRETARY OF COMMERCE TO THE CONGRESS OF THE UNITED STATES CONCERNING U.S. ACTIONS TAKEN ON FOREIGN LARGE-SCALE HIGH SEAS DRIFTNET FISHING PURSUANT TO SECTION 206(E) OF THE MAGNUSON-STEVENS FISHERY CONSERVATION AND MANAGEMENT ACT, AS AMENDED BY PUBLIC LAW 104-297, THE SUSTAINABLE FISHERIES ACT OF 1996

I. Introduction

Public Law 101-627: The President signed Public Law 101-627, the Fishery Conservation Amendments of 1990, on 28 November 1990. Title I, Section 107, of the

¹ Annotated Supplement to the Commanders Handbook of the Law of Naval Operations, Naval War College, 1997 (Section 3.4)

law amended Section 206 of the Magnuson-Stevens Fishery Conservation and Management Act (hereafter referred to as the Magnuson-Stevens Act) (16 U.S.C. 1826) to incorporate and expand upon provisions of the Driftnet Impact Monitoring, Assessment, and Control Act of 1987.

Section 206(b) of the Magnuson-Stevens Act sets forth Congressional findings, including *inter alia* that “the continued widespread use of large-scale driftnets beyond the exclusive economic zone (EEZ) of any nation is a destructive fishing practice that poses a threat to living marine resources of the world’s oceans.” It also notes the expansion of large-scale driftnet fishing into other oceans and acknowledges the 30 June 1992 global driftnet moratorium called for by United Nations General Assembly (UNGA) Resolution 44/225. Finally, Section 206(b) recognizes the moratorium on the use of large-scale driftnets agreed through the Convention for the Prohibition of Fishing with Long Driftnets in the South Pacific, also known as the Wellington Convention.

Section 206(c) sets forth Congress’s driftnet policy, specifically that the United States should:

- (1) implement the moratorium called for by UNGA Resolution 44/225;
- (2) support the Tarawa Declaration and the Wellington Convention; and
- (3) secure a permanent ban on the use of destructive fishing practices, and in particular large-scale driftnets, by persons or vessels fishing beyond the exclusive economic zone of any nation.

Section 206(d) directs the Secretary of Commerce, through the Secretary of State and the Secretary of Homeland Security, to seek to secure international agreements to implement immediately the findings, policy, and provisions of Section 206, particularly the international ban on large-scale driftnet fishing.

Section 206(e) directs the Secretary of Commerce, after consultation with the Secretaries of State and Homeland Security, to submit to Congress no later than 1 January an annual report (1) describing the efforts made to carry out Section 206, especially subsection (c); (2) evaluating the progress of those efforts, the impacts on living marine resources, including available observer data, and plans for further action; (3) listing and describing any new high seas driftnet fisheries developed by nations that conduct or authorize their nationals to conduct large-scale high seas driftnet fishing; and (4) listing nations that conduct or authorize their nationals to conduct high seas driftnet fishing in a manner that diminishes the effectiveness of or is inconsistent with any international agreement governing large-scale driftnet fishing to which the United States is a party. (The number of reporting requirements in Section 206(e) of Public Law 101–627 were reduced in 1996 to those above by Public Law 104–297, the Sustainable Fisheries Act.)

Finally, Section 206(f) provides that, if at any time the Secretary of Commerce, in consultation with the Secretaries of State and Homeland Security, identifies any nation that warrants inclusion in the list described in (4) above, the Secretary shall certify that fact to the President. This certification shall be deemed to be a certification for the purposes of Section 8(a) of the Fishermen’s Protective Act of 1967 (22 U.S.C. 1978(a), as amended by Public Law 102–582), commonly referred to as the Pelly Amendment. Such a certification gives the President discretion to embargo products imported into the United States from that nation, so long as such action is consistent with U.S. obligations under the General Agreement on Tariffs and Trade.

Public Law 102–582: On 2 November 1992, the President signed Public Law 102–582, the High Seas Driftnet Fisheries Enforcement Act. Among other things, this Act is intended to enforce implementation of UNGA Resolution 46/215, which called for a worldwide driftnet moratorium beginning 31 December 1992. Once the Secretary of Commerce identifies a country as a nation whose nationals or vessels are conducting large-scale driftnet fishing beyond the EEZ of any nation, pursuant to the Act, a chain of U.S. actions is triggered. The Secretary of the Treasury must deny entry of that country’s large-scale driftnet vessels to U.S. ports and navigable waters. At the same time, the President is required to enter into consultations with the country within 30 days after the identification to obtain an agreement that will effect the immediate termination of high seas large-scale driftnetting by its vessels and nationals. If these consultations are not satisfactorily concluded within 90 days, the President must direct the Secretary of the Treasury to prohibit the importation into the United States of fish, fish products, and sport fishing equipment from the identified country. The Secretary of the Treasury is required to implement such prohibitions within 45 days of the President’s direction.

If the above sanctions are insufficient to persuade the identified country to cease large-scale high seas driftnet fishing within 6 months, or if it retaliates against the

United States during that time period as a result of the sanctions, the Secretary of Commerce is required to certify this fact to the President. Such a certification is deemed to be a certification under Section 8(a) of the Fishermen's Protective Act of 1967 (22 U.S.C. 1978(a), as amended by Public Law 102-582).

Public Law 104-43: Public Law 104-43, the Fisheries Act of 1995, was enacted on 3 November 1995. Title VI of this law, the High Seas Driftnet Fishing Moratorium Protection Act, prohibits the United States, or any agency or official acting on behalf of the United States, from entering into any international agreement with respect to the conservation and management of living marine resources or the use of the high seas by fishing vessels that would prevent full implementation of UNGA Resolution 46/215. Title VI also charges the Secretary of State, on behalf of the United States, to seek to enhance the implementation and effectiveness of the UNGA resolutions and decisions regarding the large-scale high seas driftnet moratorium through appropriate international agreements and organizations. Finally, the Act specifies that the President of the United States shall utilize appropriate assets of the Department of Defense, the U.S. Coast Guard (USCG), and other Federal agencies, to detect, monitor, and prevent violations of the U.N. large-scale high seas driftnet moratorium for all fisheries under the jurisdiction of the United States, and to the fullest extent permitted under international law for fisheries not under U.S. jurisdiction.

The National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Department of Commerce, in consultation with the Department of State and the Department of Homeland Security, submits the following report for 2006 in fulfillment of the Section 206(e) reporting requirement. Information pertaining to U.S. actions in support of the Act prior to 2006 and after 1988 can be found in the 1990-2005 annual driftnet reports to the Congress available from NMFS.

II. Description and Progress of Efforts Made to Carry Out Provisions of Section 206(c) Policy

A. Implementation of the Driftnet Moratorium Called for by UNGA Resolutions 44/225, 45/197, and 46/215

1. Current Status of the Driftnet Moratorium

As of 31 December 2006, the UNGA global moratorium on large-scale high seas driftnet fishing has been in effect for 14 years. International implementation of the moratorium in the world's oceans and enclosed and semi-enclosed seas continues to be generally successful, although problem areas remain. Of the two major problem areas in recent years, the North Pacific Ocean and the Mediterranean Sea, 98 vessels capable of conducting unauthorized large-scale high seas driftnet fishing operations were sighted¹ in the North Pacific Ocean in 2006. At least 12 vessels were reported operating on the high seas of the Mediterranean Sea in 2006 with large-scale driftnets.

a. North Pacific Ocean

No large-scale driftnet fishing vessels were intercepted on the high seas of the North Pacific Ocean by the international community in 2006. However, 98 vessels capable of driftnet fishing were sighted operating in the Northwestern Pacific.

(1) Regional Driftnet Enforcement Coordination

North Pacific Anadromous Fish Commission (NPAFC): The NPAFC serves as a forum for promoting the conservation of anadromous stocks and ecologically-related species, including marine mammals, sea birds, and non-anadromous fish, in the high seas area of the North Pacific Ocean. This area, as defined in the Convention for the Conservation of Anadromous Stocks in the North Pacific Ocean (the Convention that established the NPAFC), is "the waters of the North Pacific Ocean and its adjacent seas, north of 33° North Latitude beyond 200 nautical miles from the base-lines from which the breadth of the territorial sea is measured." The members of the NPAFC are Canada, Japan, the Republic of Korea (Korea), Russia, and the United States.

In addition, the NPAFC serves as the venue for coordinating the collection, exchange, and analysis of scientific data regarding the above species within Convention waters. It also coordinates high seas fishery enforcement activities by member countries. The Convention prohibits directed fishing for salmonids and includes pro-

¹A number of these vessels were unidentified, raising the possibility of multiple sightings of the same vessel or vessels. For purposes of this report, only those vessels that were visually confirmed as driftnet-capable have been considered sightings.

visions to minimize the incidental take of salmonids in other fisheries in the Convention area. Although it does not specifically ban high seas driftnet fishing, fishing for salmonids on the high seas has historically been carried out in this manner. As a result, the NPAFC and its enforcement activities are primarily targeted against high seas driftnet fishing vessels. The members of the NPAFC jointly plan and coordinate their high seas enforcement operations in order to most efficiently utilize enforcement resources.

NPAFC Enforcement Evaluation and Coordination Meeting (EECM): Representatives of the NPAFC Parties met in Juneau, Alaska, on 28 February–1 March 2006, for the annual NPAFC EECM. The meeting included presentations by each Party on enforcement efforts to date in 2006; coordination of enforcement plans and resources for the remainder of 2006; a demonstration on the use of the Parties' Integrated Information System (IIS), a software tool developed by Russia to improve information sharing and coordination; and a discussion on the applicability of the FAO model scheme on port state measures to combat illegal, unreported and unregulated (IUU) fishing in the NPAFC Convention Area. The Parties also discussed the characterization of vessels to be placed on a "Vessels of Interest" list on the IIS; *i.e.*, those vessels believed to be engaged in fishing activity contrary to the Convention.

On 2 March, following the EECM, an enforcement symposium "Patrol tactics, planning and execution of enforcement in the NPAFC Convention Area" was held in Juneau. The purpose of the symposium was to bring together enforcement professionals from each of the NPAFC Parties to share lessons learned and best practices from their respective agencies. Enforcement officers, ship captains, and air crews from Canada's Department of Fisheries and Oceans (DFO) and Department of National Defense (DND), Japan's Fisheries Agency (FAJ) and Coast Guard, Republic of Korea's Ministry of Maritime Affairs and Fisheries, Russia's Federal Security Service, and the United States' NMFS and USCG participated. Each agency made a presentation which was followed by lengthy and spirited discussion. The NPAFC funded the attendance of two representatives from each of the Parties. The symposium fostered a very productive exchange of ideas and presented a valuable opportunity for the actual vessel, aircraft, and enforcement officers to meet each other prior to the beginning of the 2006 fishing season.

NPAFC Annual Meeting: The 14th Annual Meeting of the NPAFC was held in Vancouver, British Columbia, on 23–27 October 2006. Enforcement officials of the Parties met under the auspices of the NPAFC Committee on Enforcement to review enforcement activities in 2006 and begin planning activities for 2007. Representatives of Taiwan observed the proceedings of the meeting.

As a result of the Parties' cooperative enforcement efforts in 2006, no vessels were detected engaged in illegal large-scale driftnet fishing for salmon in the NPAFC Convention Area. However, sightings, boardings, and fishing vessel seizures from 2003–2006 indicate that the high seas driftnet threat in the North Pacific Ocean may be increasing, and shifting fishing effort from salmon to squid and albacore tuna. At least 26 vessels suspected of high seas driftnet fishing were sighted in 2003, 22 vessels in 2004, 24 vessels in 2005, and 98 vessels in 2006. Unfortunately, the Parties were unable to investigate and positively identify many of these vessels because of their remote location. The Parties believe that the majority of the vessels were from the People's Republic of China (China) because of the type of vessel, the characteristic style of the Chinese characters used for vessel names, and because many Chinese-flagged squid jigging vessels were often sighted fishing in close proximity.

Approximately two thirds of the 2006 sightings occurred in the September–November time-frame. In past years, the Parties concentrated most of their enforcement efforts in the summer months. In 2005, Japan patrolled the northwestern part of the Convention Area in September–October and made 17 of the 24 total driftnet vessel sightings for the year. There is some uncertainty as to whether the increased number of sightings represents a real increase in the occurrence of large-scale high seas driftnet fishing in the North Pacific Ocean or whether enforcement efforts have uncovered an existing IUU fishery.

Although the NPAFC has successfully deterred high seas salmon fishing and served as a forum for joint enforcement planning and coordination in the NPAFC Convention Area, it has limited enforcement authority against non-salmon non-Party high seas driftnet fishing threats. Because of the different target species and vessel flags involved, the NPAFC will work multilaterally through enforcement and diplomatic channels to bring pressure on these driftnet fishing vessels and their flag states to end operations in the NPAFC Convention Area. The NPAFC Parties agreed to send a letter from the Commission to the Chinese Government to request it to take preventative measures to ensure that Chinese vessels and nationals are not involved in high seas driftnet fishing operations on anadromous fish stocks in

the NPAFC Convention Area and to express its concern about the increased number of Chinese vessels equipped with driftnet gear. The letter would also invite China to partner with the NPAFC Parties to combat such illegal activity.

In light of the continuing threat of unauthorized high seas salmon fishing in the Convention Area, Parties agreed to maintain 2007 enforcement efforts at levels similar to 2006 as a deterrent to unauthorized fishing activity. To coordinate enforcement efforts, the Parties agreed to hold the annual EECM in Busan, Korea, from 27 February–1 March 2007.

Senator KERRY. Well, I really appreciate that. Yes, I would like that. I'd like to follow up with you sometime and talk about it, and see how we could sort of think this through and plan for some things as we head into next year and beyond, because it's very distressing. And I'm hearing unbelievable stories of depleted stocks on almost everything everywhere, and not to mention the pollution issues and others kinds of issues. One last thing—container ships.

Admiral ALLEN. Yes, sir.

Senator KERRY. Drop some of these containers out on the ocean, and they float, submerged, and they become a serious hazard to other shipping. What, if anything, could be done? I understand there is an enormous number. I've heard it's in the thousands—maybe you can shed some light on this—of containers that in storms or bad lashing and loading and other procedures, they lose them. And because of the weight, they don't really sink completely because of the buoyancy, but they also don't float so we see them. And they're a real hazard to navigation.

Admiral ALLEN. Yes, sir. I'm just prepared to handle the reporting, but if I could, for the record, I will go back and consult with the International Maritime Organization and Secretary General Mitropoulos, and I will give you our best estimate on worldwide figures.

Senator KERRY. I would really appreciate that.

Admiral ALLEN. Yes, sir.

[The requested information follows:]

It is estimated that between 500 and 2,000 containers are lost at sea annually. While the International Maritime Organization does not collect data regarding numbers of containers lost overboard world-wide, National Cargo Bureau records indicate that at least 500 containers are lost each year. Some industry trade publications estimate approximately 2,000 containers are lost annually. It is reasonable to assume that some containers losses are not reported and the number for any given year may be skewed by one or two major incidents. As such, we conclude that between 500 and 2,000 are lost annually.

Senator KERRY. Thank you, Madam Chair.

Senator CANTWELL. Thank you. And I want to thank the panelists for their testimony. I think this will be the first of probably several hearings that we'll end up having on this issue, perhaps even a third hearing. Admiral Allen, I think you will take away that my colleagues are very concerned about this rulemaking, whether it's on salvage or response plans or updating the Oil Spill Liability Trust Fund for inflation.

All of those things we think are things that we're falling behind on, so we would prefer the Coast Guard come to us and lead the charge on the changes that we're now wanting to be proposing as it relates to these nontank vessels, these cargo containers, because I think that many of my colleagues are expressing here today, in addition to Senator Boxer, issues that we think need to be updated

from the 1990 Act. So we look forward to discussing that with you further, and for the timeline to respond to these various rule-making authorities, sir. With that, I thank the other panelists for being here, as well, and for your work, and we look forward to dialoguing with you about this important issue.

I'd like to call up the second panel now—Dr. Dagmar Etkin, who is the President of the Environmental Research Consulting, Mr. Mike Cooper, Chairman of the Washington State Oil Spill Advisory Council, and Mr. Bill Deaver, President and Chief Operating Officer of Totem Ocean Trailer Express. And if those who are exiting could help us by doing so quickly and quietly, we would appreciate it, so that we can get on with the second panel.

And I think that we would like to start with you, Dr. Etkin, for being here with us today and for your testimony. And if the witnesses could keep their comments to 5 minutes or so, thank you.

**STATEMENT OF DAGMAR SCHMIDT ETKIN, Ph.D., PRESIDENT,
ENVIRONMENTAL RESEARCH CONSULTING**

Dr. ETKIN. Thank you. Good afternoon, and thank you for the opportunity to speak today.

Senator CANTWELL. Dr. Etkin, if you could just pull the microphone a little closer to you, thank you.

Dr. ETKIN. Thank you. For 19 years, I've been an independent consultant on oil spill risks, statistics, environmental impacts, costs and response, in the U.S. and internationally. I've been a consultant to the Coast Guard and Corps of Engineers, National Research Council, EPA, NOAA, GAO, and to the States of California and Washington. I've been on three U.N. IMO task teams on environmental risks from shipping. And I have also worked with NGOs and industry. I've seen many sides of this complex issue.

Spill risk is the probability of spillage multiplied by spill consequences—environmental, economic, social, and political. The probability of nontank vessel spillage has decreased over 20 years despite increases in shipping, but we now know that the consequences of the spill may be great. The risk remains.

Most nontank vessel spills are small incidents that occur during bunker transfers and other operations that result in relatively small spills. But there have also been significant spills related to accidental groundings and collisions, notably the recent incident in San Francisco.

Spill consequences are directly related to volume, oil type, location, and timing. Heavy oil that often spills from nontank vessels presents a particular challenge with regard to its persistence and its propensity to coat bird feathers and shorelines. Spill volume is a factor, but even a relatively small spill in a bad location can cause serious damage. Timing is also important. Had the San Francisco spill occurred in January, ten times as many birds may have been oiled.

There are three arenas in which we can make progress: prevention, preparedness, and response—preferably in that order. It is best to prevent spills in the first place, and there are proven ways to accomplish this. Safer ship design, such as double hulls, and increased financial responsibility requirements, with Certificates of Financial Responsibility, have reduced tanker spills in the U.S. wa-

ters more so than outside the U.S. We have a better class of tankers in the U.S. waters due to our more stringent regulations.

This strategy can be extended to nontank vessels. Double-hulled bunker tanks and cargo ships reduce the probability of spillage after impact. Requiring tug escorts in challenging waterways in sensitive areas has proven to be an effective measure in Washington State. Improvements in vessel traffic systems and crew training can also prevent accidents. We should also carefully study nontank vessel liability limits, taking into account the oil volume carried and the actual spillage risk.

Being prepared to respond promptly and effectively are keys to success. Studies I've conducted for Washington State show that increased response equipment deployed at the scene earlier than required can significantly reduce impacts. Pre-booming of vessels and pre-positioning of response equipment during oil transfers can increase the chances of successful damage mitigation. Maintenance inspections and spill exercises are also important. Spills will happen, but we've been fortunate. We've never had a worst-case tanker or large cargo ship discharge in U.S. waters. With the total release, the spill in San Francisco could have involved 20 times as much oil, or a thousand times as much oil had it been a fully loaded tanker. We cannot become complacent. We must increase and then maintain preparedness even as spill rates are going down.

Spill response presents an opportunity for improvement, as well. There are many technological challenges in spill response. Despite decades of research and development, and practical experience, we are still left with relatively inefficient mechanical recovery options and largely manual shoreline cleanup methods. Booms and skimmers do not work well in high currents in San Francisco Bay. The forces of physics simply come into play.

Even when conditions are favorable, it's rare that more than 10 to 25 percent of spilled oil is recovered. Dispersants can be effective, but their use is limited in sensitive near-shore waters and on heavier oils. But there are ways to improve spill response. Simply repositioning of some boom can better protect sensitive areas. Ironically, I was working with California Fish and Game on alternative booming strategies to protect sensitive areas of San Francisco Bay when the recent spill occurred.

I've worked with the U.S. Coast Guard on studies to improve detection of submerged and floating oil with laser technologies to improve response and reduce damages. Special booming techniques for faster water conditions have been developed by the U.S. Coast Guard; these need to be applied. We need to continue to fund research and development efforts and to train responders with the best techniques. We have an excellent spill response testing and training facility at OHMSETT in New Jersey, and many excellent researchers and practitioners to learn from.

Last, I think we have an opportunity and responsibility for public education. The public has unrealistic expectations of what spill responders and officials can do to magically erase spilled oil. Rather than point accusatory fingers at officials or industry, we need to work together to educate the public about realistic expectations when a spill does occur and get their support rather than animosity. There is no time to be looking for good guys and bad guys. We

need public support; funding for spill prevention, preparedness, and response efforts; and we need to make the public understand that rational, scientifically based decisionmaking and planning are required to reduce the likelihood of future spills and to respond effectively when they do occur. We are all in this together. Thank you.
[The prepared statement of Dr. Etkin follows:]

PREPARED STATEMENT OF DAGMAR SCHMIDT ETKIN, PH.D., PRESIDENT,
ENVIRONMENTAL RESEARCH CONSULTING

My name is Dagmar Schmidt Etkin. For the past 19 years, I have been an independent environmental consultant specializing in oil spill risk analysis, spill statistics, costs, environmental impacts, policy analysis, and response issues in the U.S. and internationally. I have been a consultant to the U.S. Coast Guard, Minerals Management Service, Maritime Administration, Army Corps of Engineers, National Research Council Transportation Research and Ocean Studies Boards, EPA, NOAA, GAO, California Department of Fish and Game, and Washington Department of Ecology. I have been on three United Nations task teams on oil pollution and environmental risk assessments from shipping. I have also worked closely with non-governmental organizations and industry on oil spill issues. In my work, I have had the privilege of seeing many sides of this complex issue.

Spill *risk* is a combination of the probability of spills occurring multiplied by the consequences (environmental, economic, social, and political). The *probability* of spillage from a non-tank vessel has decreased in the last two decades despite the fact that there have been increases in worldwide shipping, but the potential consequences of a spill are still great. The risk remains. The data indicate that the greatest proportion of spills from non-tank vessels occurs during bunker transfers and other operations which result in relatively small spills. And there have been a number of significant spills related to accidental groundings, collisions, and allisions that have resulted in larger oil releases, notably the recent COSCO BUSAN spill in San Francisco.

The *consequences* of a spill are directly related to four main factors—volume, oil type, location, and timing. Heavy oil that often spills from non-tank vessels presents a particular challenge with regard to its persistence and its propensity to coat bird feathers and visibly impact shorelines. Spill size is certainly a factor, but even a relatively small spill (note that the recent COSCO BUSAN spill was actually a relatively small spill with regard to an accident-related non-tank vessel spill) in the wrong location can cause serious damage on many fronts. Timing is an important issue. Had the San Francisco spill occurred 2 months later, ten times as many birds may have been oiled!

There are three arenas in which we can make progress in reducing the impacts of spills from non-tank vessels—better efforts at *prevention*, better *preparedness*, and better *response*, preferably in that order.

Prevention—It would be best to prevent spills from non-tank vessels in the first place. There are proven ways that this can be done. We know that the phasing-in of double hulls and better ship design, as well as increasing financial responsibility requirements, have reduced tanker spills in U.S. waters in particular. We have a better class of tankers in U.S. waters due to our more stringent requirements. This tactic can be extended to non-tank vessels. Double-hulled bunker tanks on cargo ships reduce the probability of spillage with a grounding, collision, or allision. Requiring tug escorts in challenging waterways has proven to be an effective prevention measure in Washington State. Improvements in vessel traffic systems and crew training can help prevent accidents in the first place. We should also carefully study the issue of liability limits for non-tank vessels taking into account the amount of oil carried and potential for spillage.

Preparedness—Being prepared to respond promptly and effectively after notification of a spill is the key to success in spill response. Studies I have conducted for Washington Department of Ecology have shown that increasing the amount of spill response equipment and requiring it to be at the scene earlier than is currently required can result in significant reductions in impacts. Pre-booming of vessels and having response equipment on standby during oil transfer and bunkering operations—one of the most common times during which spills occur—can increase the chances of successfully mitigating spill damages. Maintenance of equipment and maintaining readiness with required spill exercises and inspections are important to keep prepared for the next spill. Spills will happen. We have been fortunate that we have never had a worst-case discharge from a tanker or from a large cargo ship

in U.S. waters. The situation in San Francisco Bay could have involved twenty times as much oil from a non-tank vessel and a thousand times as much oil with a fully-loaded tanker. We must maintain preparedness even if spill rates are going down!

Response—Finally, spill response presents an opportunity for improvement. There are many technological challenges in spill response. Despite decades of research and development, as well as experience on many actual spills, we are still left with relatively inefficient on-water mechanical containment and recovery options, occasional opportunities to apply chemical dispersing agents, and tedious, largely manual, shoreline cleanup methods. Booms and skimmers do not work well in high currents, such as those seen in much of San Francisco Bay. The forces of physics come into play. Even when all things are in favor it is rare that more than 10–25 percent of spilled oil is recovered. More—as was recovered in San Francisco—is considered a real success. Oil spill dispersants can be effective, but their use is limited in sensitive nearshore waters and on heavier oils.

But, there are ways to improve spill response in addition to timing. Positioning of boom to protect particularly sensitive sites can dramatically reduce damages. Ironically, I was in the midst of working with California Fish and Game on some new booming strategies to protect sensitive areas of San Francisco Bay when the recent spill occurred. I have worked with the Coast Guard on studies to improve oil detection through the use of laser fluorosensor technologies. Better detection of submerged and floating oil can improve spill response and reduce damages. Booming in fast-water conditions requires special techniques that can be applied by skilled responders. We need to continue to fund research and development efforts of the U.S. Coast Guard and others. We have the best spill response testing facility at OHMSETT in New Jersey and many excellent researchers and practitioners to learn from.

Lastly, I think we have an opportunity and responsibility for *public education*. The public has unrealistic expectations of what spill responders and officials can do to magically erase the oil that has spilled. The oil is on the water. The oil is on the birds. It is unfortunate, but rather than pointing accusatory fingers at officials, we need to work together to *educate* the public about realistic expectations when a spill does occur and get their support rather than animosity. There is no time to be looking for “good guys” and “bad guys”. We need public support in continuing to fund spill prevention, preparedness, and response efforts. We need to make the public understand that rational, scientifically-based decision-making and planning is required to reduce the likelihood of future spills from non-tank vessels or any source and to respond effectively when they do occur. We are all in this together.

Thank you for your time.

Senator CANTWELL. Mr. Cooper, thank you for being here.

**STATEMENT OF HON. MIKE COOPER, CHAIRMAN,
WASHINGTON STATE OIL SPILL ADVISORY COUNCIL**

Mr. COOPER. Thank you. Thank you, Madam Chair and Senator Snowe for conducting this hearing, and for inviting me to come and testify. I am Mike Cooper, Chairman of the Washington State Oil Spill Advisory Council. I am pleased to be here today on behalf of the people of the State of Washington to talk to you about this very important issue. I have submitted written testimony, and I would like it to be included in the record.

The Oil Spill Advisory Council’s goal is to act as a mechanism to foster a long-term partnership and consensus between communities, government, and industry. Governor Gregoire noted earlier this year that, to prevent oil spills, it is important for the public to be engaged and involved. Only if public engagement continues can we battle complacency. I encourage Congress to support the work of citizen advisory councils like those in Washington and Alaska.

It is important to note that the Council’s enabling legislation, signed by the Governor, invited Washington tribes to participate, and they do. However, we do recognize that, as a State-created en-

tity, we cannot stand and speak for the tribes because of the very unique government-to-government relationship they have with the Federal Government and the state government.

Washington's marine resources are unique. Puget Sound, the Strait of Juan de Fuca, the Pacific coastline, and the Columbia River each have very unique economic and environmental value. We must do everything humanly possible to maintain that value, both for our economy and for our environment. Washington's waterways, specifically Puget Sound, are unique in that we have 23 ferry routes crisscrossing the traffic lanes that are used by cargo vessels—23 ferry routes in addition to the 6,000 transits you've already heard about create 167,000 transits a year across the shipping lanes.

Today, I want to talk a little bit about a few of the things that I think that Congress can do, that we could recommend and move forward on, that will really help this issue, specifically for cargo vessels. First, I think it's important that the Congress think about delegating authority to capable states, like Washington, to conduct vessel inspections, investigations, and enforce Federal regulations, and to review and improve vessel and facility contingency plans.

Second, you've already heard about the double hull issue. I think it's important for us to move forward on the issue of putting double-hulled fuel tanks on cargo vessels. Third, I think it's important for Washington State, in particular, for Congress to have the Coast Guard move the high-volume port line from Port Angeles, Washington to the entrance of the Strait of Juan de Fuca.

This would enable the Coast Guard to have additional rules in place to protect the 60 miles of coastline from Port Angeles, Washington out to Cape Flattery. Every other high-volume port line in the country has its line at the entrance to the waterway, not 60 miles inland as is the case in Washington State.

And finally, Congress could extend the restrictions in the Area To Be Avoided around the Pacific Coast Marine Sanctuary to nontank vessels. The Olympic Coast National Marine Sanctuary is one of our nation's most treasured maritime and marine areas. Its mission is to protect the sanctuary and ensure that future generations are able to use it and enjoy it. By extending the Area To Be Avoided to cargo vessels, and not just oil vessels, I think we would go a long way to protecting that sanctuary and to preventing potential spills in the sanctuary.

I would like to close by stressing the importance of all levels of government working together to solve this very important challenge before us. The Federal, state, tribal, and local governments need to work with important stakeholder groups like the oil and cargo industry, as well as the environmental community and our local ports, to solve this issue. Thank you very much. I'd be happy to answer questions.

[The prepared statement of Mr. Cooper follows:]

PREPARED STATEMENT OF HON. MIKE COOPER, CHAIRMAN, WASHINGTON STATE OIL
SPILL ADVISORY COUNCIL

I. Introduction

Good morning, Madam Chair and members of the Committee, I am Mike Cooper, Chairman of the Washington State Oil Spill Advisory Council. Thank you for invit-

ing me to testify. I am pleased to appear before you today on behalf of the Council and the State of Washington. Also, I wish to thank the Chair for her continuing leadership to protect Washington State from the risk of oil spills. Particularly I wish to thank the Senator for her efforts to assure that the Neah Bay tug remains on stand-by protecting our outer coast and the Strait of Juan de Fuca from the perils of drift landings.

The mission of the Council is to maintain Washington's vigilance in preventing oil spills in marine and navigable waters, by ensuring an emphasis on oil spill prevention while also recognizing the importance of improving spill preparedness and response. The Council's goal is to act as a mechanism to foster a long-term partnership and consensus between communities, government, and industry. The Council operates by consensus, even on the difficult issues. To date, it has not been necessary for the Council to avail itself of its statutory authorization allowing nine members to call for a majority vote.

It is important to note: Through the Council's organic legislation and as implemented by Governor Christine Gregoire, Washington State invited Washington tribal governments to participate on the Council. And they do participate. However, we do recognize that the Council, as a State-created entity, can not stand in for the tribes, as they are resource trustees with whom the Federal Government has a direct relationship. Additionally, we recognize that the tribes should be invited as a sovereign to work with the state and Federal governments on these important natural resources issues.

In light of the growing oil spill risks from commercial cargo vessels, I will limit my testimony to the regulation of these vessels. My intention with my testimony is to generally represent the various governmental and citizen interests of Washington. There was not sufficient time for the Council to come to consensus over my remarks. We will have a meeting in January 2008, however. Our agenda will include an action item to discuss my testimony and to provide some follow up from the Council on my testimony.

One thing I know we all agree upon is the value of citizen advisory councils. As Governor Gregoire noted earlier this year, to prevent oil spills it is important for the public to be engaged and involved; only if public engagement continues can we battle complacency. The Council encourages Congress to support the work of citizen advisory councils like those in Alaska and Washington. These bodies play a vital role in ensuring vigilance in oil spill prevention, response, and remediation. Members of Washington's Oil Spill Advisory Council not only live and breathe in and among the fragile Puget Sound, but they also are vested in the success of our local economy. For this reason, citizen bodies are very well suited to spotlight problem areas and to effectuate needed change.

The issue before the Subcommittee is how to better regulate non-tank vessels. In Washington, we understand the urgency of grappling with this issue, particularly in light of the significant spill from a cargo vessel into San Francisco Bay on November 7 of this year. This was a spill caused when a container ship sideswiped the stationary Bay Bridge. The vessel spilled 58,000 gallons of fuel oil, blackening the coastline and wildlife, shutting down the fishing industry, and requiring an expensive mop-up operation.

II. Risk from Cargo Vessels in Puget Sound

A. Washington's Waters Are Unique

Washington's marine resources are unique in their geographic characteristics, their rare beauty, for the bounty they provide—and for their fragility. Puget Sound is a shimmering estuary with oysters, clams, and soul stirring views for the nearly four million people who live near its waters. The Strait of Juan de Fuca is a rushing narrow waterway that carries the tides in and out of Puget Sound and acts as our country's natural border between its western most portion and Canada. Washington's Pacific Coastline boasts rugged and rocky coastlines, a part of which includes the federally protect Olympia Coast Marine Sanctuary.

But Washington's waters also are in peril. For example, State studies show that just beneath the shimmering surface of Puget Sound lies a sick and dying water body. Further, the region's two keystone marine species—the orca whale and the salmon—are listed under the Federal Endangered Species Act. It is said that the region's populations of the orca whale are so fragile that they are only one large oil spill away from extinction.

We must do everything humanly possible to ensure that Washington's coastal and marine environments and navigable waters continue to be a source of beauty, recreation, health, ecological integrity, food production, and economic betterment for Washington citizens. We need Congress to help.

B. Puget Sound Bears Unique Risks Due to Passenger Ferry and Commercial Vessel Interactions

Washington is unique in that a very large number passenger ferries crisscross through the traffic lanes in which large cargo vessels are required to travel. Washington has the largest car passenger fleet in the Nation. As population grows, the number of ferry transits will increase. As cargo vessel grow larger and the number of cargo vessel transits increase, so too will the risk of them negatively interacting with an increasingly active ferry fleet.

Cargo vessels are growing in both size and number in Washington. These vessels encounter passenger ferries zipping around the Sound taking Washington citizens to and fro. This poses a growing risk of oil being spilled in Washington's waters from cargo vessels.

A growing number of cargo vessels are transiting more frequently in Washington's waters. In 2006, there were over 6,000 cargo and passenger vessel that engaged in "entering transits" in Washington. This number jumps to over 12,000 when considering that most cargo vessels entering Puget Sound must leave through the Strait of Juan de Fuca. In Puget Sound alone, there were over 2,000 cargo and passenger vessel transits. Again, when one considers that these vessels must leave Puget Sound, this number jumps to over 4,000 trips. These transits happen in conjunction with 23 public passenger ferry routes that, in 2006, had over 167,000 transits made through them across the commercial vessel traffic lanes.¹ As cargo vessels grow bigger and increase their transit numbers, the risk posed by interactions between cargo vessels and passenger ferries will increase. And, of course, this is complicated by a very high volume of recreational boater traffic, which exists due to Washington's popularity with recreational boaters and fishers.

C. Risk From Cargo Vessels Currently Exist and Will Continue to Grow

Cargo vessels have a history of having dangerous mishaps in Washington's waters. After a review of Washington vessel incident data, the Washington Department of Ecology concluded that:

- Cargo and passenger vessel casualty and near-miss rate trend is downward, but the spill rate trend is flat.
- The overall downward trends should be viewed in light of other indicators that show there are generally longer periods of time between spills to marine waters—especially large spills.
- Ongoing efforts by Ecology, the Coast Guard, maritime industry, tribes, and public advocacy groups appear to be pushing most spill and incident rates downward in Washington State. However, maintaining the downward trend will require focused on-going efforts. Also, Ecology specifically believes non-tank vessels need to be regulated to a much higher standard than exists today.

Projections show that cargo vessels will grow in both size and in number. In 1999, the U.S. Coast Guard reported that over 65 percent of the vessels above 300 gross tons (GT) that transited the Strait of Juan de Fuca were container ships and bulk carriers.² The Coast Guard report also noted that Puget Sound waterborne commerce is becoming increasingly dominated by container traffic—over 75 percent of the tonnage moved through the Port of Seattle is not in containers, with break bulk traffic, including paper and pulp, moved through Tacoma and surrounding ports.³ Movements of dry cargo are predicted by the Coast Guard study to increase by 3.6 percent per year through 2025.⁴ Thus, by 2025, it is expected that bulk carrier and containership transits will increase from 7,513 transits in 2000 to over 12,425 transits in 2025. Additionally, these ships will get much larger. The 1999 Coast Guard report noted that in 1997 27 percent of container ships were less than 2,500 TEU and that 36.7 percent were 2,500 to 4,000 TEUs, with 36.1 percent being greater than 4,000 TEUs. The report noted that the first of the large 6,000 TEU container ships were delivered in 1996, and more than thirty 4,500 plus TEU container ships were delivered through 1999. The study projects that by 2025, that only 30 percent of the container fleet will be comprised of vessels under 4,000 TEU, with 70 percent of the fleet being comprised of vessels over 4,000 TEU.⁵

¹ Washington's Vessel Entries and Transits for Washington Waters, VEAT 2006, WDOE Publication 07-08-005.

² Regulatory Assessment, Use of Tugs to Protect Against Oil Spills in the Puget Sound Area, p. 7, U.S. Coast Guard, Report No. 9522-02, November 15, 1999.

³ Regulatory Assessment, p. 13, November 15, 1999.

⁴ Regulatory Assessment, p. 18.

⁵ Regulatory Assessment, p. 1-20.

Naturally, the bunker fuel carried increases with the size of the ship. Thus, the Coast Guard reported that gallons of oil transported as bunker in cargo vessels (bulk liquid carriers, bulk carriers, container ships, and vehicle carriers) would increase from 78,385,168 gallons in 2000 to over 143,405,063 gallons per year in 2025. This is a transit increase of about 160 percent and an increase of oil transported by cargo vessels of about 180 percent.⁶ While this may not have quite the “wow factor” as what is predicted to be carried by oil tank vessels, this oil transport presents a serious and significant risk.

D. Global Climate Change Will Worsen Existing Risk

As human-induced climate change inevitably worsens, there will be more random and serious weather events. For example, this past December 3, Seattle experienced its second rainiest day on record. First place goes to a rainy day in very recent history—2003. Now that we can predict that the 100-year storm will come much more frequently, weather related vessel incidents may increase accordingly. As an example of this, on December 3, the KAUAI, a 720-foot container ship sailing near Cape Flattery, Washington was suddenly smashed by a large ocean swell. The waves broke out the wheelhouse windows, damaged electronic systems and knocked out the ship’s primary steering system.

Disaster was averted, however. The vessel did not drift onto the rocks and spill oil because the state-funded Neah Bay rescue tug launched to save the stranded cargo vessel. This was the tug’s thirty-fourth save since it was put on stand-by status in 1999. Its thirty-fifth save came days later on December 12 when it saved the NA HOKU, a 105-foot tug towing a fuel barge containing more than two million gallons of diesel fuel and about a half million gallons of gasoline. The tug was headed down Washington’s outer coast when its primary electrical generator engine failed about 12.5 miles west of Cape Flattery. As storm events gain strength and frequency, it is paramount to have a tug that intervenes to prevent groundings when vessels are disabled or have reduced maneuverability or propulsion capability while transporting oil and other cargo along the Pacific coast and through the Strait of Juan de Fuca.

III. Options for Reducing Risk from Cargo Vessels

A. Introduction

Seeing strong Federal regulations put into place at the Federal level is extremely important to the Council and the State of Washington, particularly in areas in which states are limited in their ability to prevent oil spills from underway vessels engaged in commerce.⁷

There are several very real changes Congress could make to enhance prevention of oil spills from non-tank vessels.

First, Congress could work to enhance Federal and state collaboration to prevent oil spills, including changing Coast Guard and state dynamics and authorities. For example, Congress could delegate authority to capable states like Washington to conduct vessel inspections, conduct investigations, and enforce Federal regulations, and to review and approve vessel and facility contingency plans.

Second, Congress could federally apply Washington’s Voluntary Best Achievable Protection Standards to non-tank vessels.

Third, Congress could require that cargo vessels be redesigned so that their bunker fuel tanks are not so vulnerable to injury and leakage.

Fourth, Congress could require that the Coast Guard complete the “Salvage Rule” and also extend it to non-tank vessels.

Fifth, Congress could relocate the high-volume port line to the entrance of the Strait of Juan de Fuca.

Sixth, Congress could extend restrictions in the Area To Be Avoided around the Pacific Coast Marine Sanctuary to non-tank vessels (not just oil cargo vessels) and expand the definition of “carrying cargo” to include tank oil “clingage.”

Last, Congress could implement Federal non-tank vessel contingency planning requirements and recognize state accepted “umbrella” plans.

B. Enhanced Federal and State Collaboration to Prevent Oil Spills; Changes to Coast Guard and State Interactions and Authorities

The State of Washington, through the State Department of Ecology, has a positive and strong partnership with the Coast Guard. This relationship was affirmed and reinforced earlier this year at an oil spill summit between Governor Gregoire and Admiral Houck, Commander of the Thirteenth District of the U.S. Coast Guard.

⁶Regulatory Assessment, p. 19–20.

⁷*United States v. Locke*, 529 U.S. 89, 120 S. Ct. 135 (2000).

But, we acknowledge there is still work to be done. The following are recommendations for continued improvements as they relate to non-tank vessels.

Again, these recommendations have not been vetted through the Council, which will take these issues up at its January meeting. While certain industries may not fully agree with these recommendations, most of the stakeholder groups represented by the Council would agree. Also, the State Department of Ecology agrees.

Delegate Authority to Capable States Like Washington

The Washington Department of Ecology and the Oil Spill Advisory Council maintain that one way to optimize Federal and state resources would be for Congress to direct the Coast Guard to delegate authority to capable states to perform several functions: conduct vessel inspections, conduct investigations and enforce Federal regulations, and to review and approve vessel and facility contingency plans.

Review and Approve Vessel and Facility Contingency Plans

The Washington Department of Ecology has reviewed and approved non-tank, tank vessel, and facility contingency plans for over thirteen years. Washington regulators have a long history of implementing a rigorous plan review and drill program. Ecology's plan review staff members are recognized nationally as leaders. This reputation is based on local knowledge and relationships built with communities, industry, Federal, state and local agencies, and tribal nations.

The Federal Government has only recently begun to require contingency plans from non-tank vessels. All tank and non-tank vessel contingency plan reviews are centralized by the Coast Guard to ensure consistency in applying standards. Copies of the plans are maintained at the Coast Guard's Headquarter offices in Washington, D.C., rather than in local Captain of the Port offices. Yet, any spill that occurs is going to have a local impact and any response will typically be managed by local state and Federal officials, using local Area Contingency Plans.

Delegating authority for qualified and experienced state personnel to conduct these activities would maximize efficiency and effectiveness of both agencies' resources and provide a strong unified approach for responding to spills in Washington waters. Further, it would enhance mutual respect and collaboration between state and Federal safety professionals, and would reduce duplication of efforts where agencies have concurrent jurisdiction or areas of mutual interests.

Vessel Inspections and Delegation to Investigate Violations of and Enforce Coast Guard Regulations

The Washington Department of Ecology has a staff of trained and experienced mariners who board tank vessels through a program called the Voluntary Best Achievable Protection Program (VBAP). This program was put into place after *U.S. v. Locke* as a way for the state to continue to provide oil spill prevention services for underway tank vessels. The program has been enormously successful.

Through the VBAP program, Ecology inspectors board participating tank vessels and conduct inspections to determine whether VBAP standards are being met. Simultaneously, inspectors are able to determine if the vessels are compliant with Coast Guard regulations. In this way, Ecology inspectors can act as the Coast Guard's eyes and ears.

Ecology's experience has been that vessel crews see Ecology staff as mentors who provide education regarding what is expected in Washington waters under applicable law. The experienced Ecology inspectors are seen as equals—as experienced mariners, many of whom have lived and worked in Washington's waters for years, even decades. This augments Coast Guard activities, many of which are performed by staff rotating into a Washington assignment from a different area or from the Coast Guard Academy. Having state inspectors board participating vessels is of enormous benefit. Education conducted by state inspectors has increased crew “situational awareness,” which is often a key to preventing incidents that lead to oil spills.

It makes sense to expand the role of this trusted and capable resource to include inspecting both tank and non-tank vessels and conducting investigations to determine compliance with Coast Guard Rules. It also would seem logical to extend this authority to allowing capable states to assist with enforcement of Federal Coast Guard regulations on both tank and non-tank vessels.

C. Federally Apply Washington's Voluntary Best Achievable Protection (VBAP) Standards to Non-tank Vessels

Many of Washington's thirty-one VBAP standards for tankers already have been incorporated into Federal and international standards. Insofar as these standards have not been extended to non-tank vessels, it is logical to extend them. Washington's VBAP standards include, but are not limited to, navigation watch, bridge-

watch composition, bridge resource management, voyage planning, refresher training, drug and alcohol policies, personnel evaluation system, work hours, language proficiency, record keeping, and preventative maintenance documentation. These standards are geared toward preventing incidents while underway that could lead to oil spills in marine waters.

Cargo vessels are growing appreciably in their size and in the amount of bunker they will hold. Therefore, taking measures to reduce incidents that could result in bunker fuel entering marine waters is a sound risk reduction strategy.

D. Vessel Design; Double Hull Bunker Tanks on Cargo Vessels

Just as Federal law no longer allows tankers to be constructed without a double hull in order to protect oil cargo, neither should vessels be constructed with unprotected bunker tanks. Current regulatory requirements permit fuel tanks to be arranged outside of the cargo block region and to be located adjacent to the shell. This was an issue with the COSCO BUSAN that “scraped” the side of the San Francisco Bay Bridge and instantly lost 58,000 gallons of bunker.

E. Complete and Extend the Coast Guard Salvage and Firefighting Rule for Vessel Contingency Planning

The Federal Water Pollution Control Act, as amended by the Oil Pollution Act of 1990, mandated that the Coast Guard issue regulations to improve response capabilities from tank vessels and minimize the impact of oil spills from these vessels. The Coast Guard promulgated a rule in 1993 that required salvage and marine firefighting resources in vessel oil spill response plans for tank vessels. This rule should be finalized and also extended to cargo vessels.

The Coast Guard’s 1993 rule did not set forth specific requirements because salvage and marine firefighting response resource requirements were viewed as unique to each vessel. The CG intended to rely on plan holders to prudently identify contractor resources to meet their needs. The CG thought that significant benefits of a quick and effective salvage and marine firefighting response would be sufficient incentive for industry to develop salvage and firefighting capabilities similar to the development of oil spill removal organizations. Also, the Coast Guard mandated no specific response times due to concerns over the capacity of these resources that existed in the United States. Yet, under the 1993 rule, response plans submitted for approval after 1998 (by owners or operators of tank vessels carrying groups I through V petroleum oil as a primary cargo) had to identify a salvage company with expertise and equipment and a company with firefighting capability that could be deployed to a port nearest to the vessel’s operating area within 24 hours of notification or discovery of a discharge.

In 1997, the CG became aware that anticipated salvage and marine firefighting capability development was not occurring. Instead, there was disagreement among plan holders, salvage and marine firefighting contractors, marine associations, public agencies, and other stakeholder regarding what constituted adequate salvage and marine firefighting resources. There was also concern over the ability to meet the 24-hour requirement. So, the Coast Guard delayed implementation of the 1998 requirement. In 2001, the Coast Guard suspended the rule again, saying the suspension would be lifted in 2004.

In 2002, the Coast Guard issued a notice of proposed rulemaking to amend the 1993 rule in light of stakeholder meetings that occurred. The proposed rule provided that plan holders of a vessel carrying groups I through V of petroleum oil as primary cargo would need to identify, in their plans, a salvage and marine firefighting resources provider(s) that performs the specific salvage and marine firefighting services identified in a proposed table. The CG said that the proposed table provided the specificity that was previously lacking while still maintaining flexibility for each vessel. Focusing on services, versus specific equipment, was deemed to be more practical for the plan holder, since the amount and type would vary depending on the vessel’s characteristics and the operating environment.

This proposed rule generated many comments of many different perspectives. The rule was never finalized. Instead, just before the 1993 rule’s suspension was to end in 2004, the Coast Guard issued a notice stating it would suspend the rule for another 3 years until 2007. Then in 2004, the Coast Guard issued another 3 year suspension and the new date for the suspension to end is in 2009.

Congress should consider directing the Coast Guard to finish this rule, incorporate the changes suggested by the Pacific States/British Columbia Oil Spill Task Force, and extend the rule to non-tank vessels.

F. Relocate the High-Volume Port Line to the Entrance of the Strait of Juan de Fuca

The Department of Ecology finds that the high-volume port line, currently located at Port Angeles, should be moved to the entrance of the Strait of Juan de Fuca.

The Coast Guard's oil spill response planning requirements apply (or do not apply) to an area based on whether the area is east or west of the high-volume port line that currently is established in an alignment from Port Angeles, Washington to Vancouver Island, Canada. As a result of this, response equipment is not required to be pre-staged close to Washington's outer coast. Staging equipment only in this eastern area increases the time it will take to mount an effective response to a spill event on the outer coast.

Puget Sound is a high-volume port and, therefore, merits more response equipment being available in the event of a spill. The Strait of Juan de Fuca is the only commercial vessel traffic highway through which vessels traveling into Puget Sound proceed. Yet, having the high-volume port line established at Port Angeles, rather than at Strait's entrance, denies much of this high volume vessel highway the same response equipment protections that are available east of Port Angeles.

High-volume port lines for all other ports in the country are located at the entrances to main water bodies, not sixty miles inside as in the case of Washington. Similarly situated areas should be treated similarly.

The State of Washington is concerned that Washington's coastline is not adequately protected on the basis of the current high-volume port line location. The eventual Federal requirement for a marine salvage response capability is also expected to be based on this high-volume port line. The State is very concerned that this may jeopardize a timely rescue/response action off of our pristine coastline. We urge Congress to shift this critical response benchmark to the entrance of the Strait of Juan de Fuca.

G. Extend the Pacific Coast Marine Sanctuary Area to Be Avoided to Include Non-Tank Vessels (Not Just Oil Carrying Tank Vessels) and Expand Definition of "Carrying Cargo" To Include Tank Oil "Clingage"

The Olympic Coast National Marine Sanctuary is one of our Nation's most treasured marine areas. Its mission is to protect the sanctuary and ensure that future generations are able to use and enjoy it. That means that managing the sanctuary to both conserve its resources and encourage uses that are compatible with conservation. To this end, the Area To Be Avoided was created by the International Maritime Organization. The ATBA standard is that "all ships and barges carrying cargoes of oil or hazardous materials" will not enter the ATBA.

Recently, the Oil Spill Advisory Council wrote a letter to the NOAA's Olympic Coast Marine Sanctuary questioning why vessels with hundreds or thousands of gallons of oil "clingage" inside their tanks are not considered to be "carrying cargo," and thus required to stay outside of the ATBA. The Council asked that the Sanctuary revisit its interpretation of "carrying cargo" and make a determination about whether oil carrying ships and barges that are mostly empty should be considered empty and not carrying cargo, or whether they should be considered mostly empty and carrying some cargo.

Unfortunately, the Sanctuary responded that it feels constrained by the ATBA language and that it will continue to consider vessels that have only residual product in their holds as not "carrying cargo," and thus not having to stay out of the Sanctuary's ATBA.

The Council asks that Congress act to change this. The Council has learned from the Washington Department of Ecology (Ecology) that oil-carrying vessels that have been "emptied" actually contain at least several hundred gallons of oil onboard, and are more likely to contain several thousand gallons of oil "residue." We have even learned that one vessel that had its tanks cleaned and certified to be gas-free was still carrying 15,000 gallons of diesel when it landed on the rocks.

The Council has learned that if an incident involving a vessel carrying thousands of gallons of oil, or even hundreds of gallons of oil, resulted in a release of that oil to the environment, serious environmental and economic harm would almost certainly result. There are scenarios where the release of this residue oil could cost the State of Washington millions and millions of dollars.

True, the severity of any oil related incident depends on factors such as the type of oil released, where the oil is spilled, whether weather conditions are conducive to containment and recovery, and the sensitivity of impacted habitats and resources. However, it goes without saying that hundreds or many thousands of gallons of oil released into the environment would not be an insignificant event, especially in an area where the precautionary principle is being implemented as the IMO deemed it to be "exceptionally important to avoid casualties."

Additionally, preventing huge cargo vessels with many thousands of gallons of oil as bunker to transit through the ATBA is not consistent with the goals of the ATBA or the Sanctuary. Therefore, Congress should expand the ATBA to include non-tank

vessels that are simply transiting through the ATBA without any real need to be there (such as fishing vessels who are actively fishing inside the sanctuary).

H. Vessel Response Plans for Non-Tank Vessels

Federal regulations for non-tank vessel contingency plans should be finalized without further delay and aggressively implemented. In addition, Congress should recognize state accepted planning standards that increase response effectiveness.

Many states, including Washington and Oregon, have adopted an “umbrella” approach for non tank vessel planning, approving a single plan that covers large classes of vessels. The state believes the Federal rules should fully recognize state accepted umbrella plans that are locally designed. They are more cost-effective for industry and ensure the local first-response capability is aggressively launched in the event of a spill. This approach is also able to provide a smooth transition to any longer-term response organization without compromising Federal or international standards. This can be accomplished by delegation of authority to authorized states.

I. Impose Additional Speed Limits in Vessel Traffic Lanes; Enforce With Civil and Criminal Penalties

The pilot maneuvering the COSCO BUSAN was speeding. Had he not been, he possibly could have averted the vessel away from the bridge. The pilot apparently had a history of being careless and going too fast. Had there already been in place enforceable speed limits that could form the basis for fining companies and for taking away the license of a pilot or a master, it is quite possible that the COSCO BUSAN pilot would not have been “behind the wheel.”

The larger the vessel, the longer it takes to stop. Cargo ships often take miles to slow down and stop. The difference in being able to avert disaster or not, could be as little as one knot. Therefore, it is important to slow down vessel traffic and to enforce vessel speed limits, just like we do on our Nation’s highways. Indeed, it is even more important given that one “boat wreck” can “wipe out” an entire community, its culture, and its economy. Congress could impose these speed limitations and couple them with strong Coast Guard enforcement.

IV. Conclusion

I would like close by stressing how vitally important it is for all levels of government to work together to solve these issues—for the Federal Government to work with state, tribal, and local governments to assure that while we pursue the interests of commerce, we do not do so at the expense of other things that are so dearly important to our culture, our local communities, and our general well being.

Thank you for inviting me to testify before the Senate Commerce Committee. I would be happy to answer any questions you have.

Senator CANTWELL. Thank you, Mr. Cooper. Mr. Deaver, welcome, and thank you for being here.

STATEMENT OF WILLIAM G. DEAVER, PRESIDENT AND COO, TOTEM OCEAN TRAILER EXPRESS, INC.

Mr. DEAVER. Thank you very much, Madam Chair. Thank you, Madam Chairman and Ranking Member Snowe. I am William Gary Deaver, Bill, President of Totem Ocean Trailer Express. And I want to thank you for the opportunity to express my company’s views on this matter.

Totem Ocean Trailer Express, or TOTE, is a Jones Act carrier transporting cargo between Tacoma, Washington and Anchorage, Alaska. Since 1975, we have been serving the people of Alaska by transporting the things that Alaskans eat, wear, and use. We have 170 shore-based employees and provide direct and indirect jobs for an additional 525 individuals onboard our vessels, as stevedores, truck drivers, warehouse operators, and others. Together, we have served the Alaska trade consistently, efficiently, and without a significant oil spill for 32 years. We currently operate two new vessels that were built at NASSCO’s shipyard in San Diego and were delivered in 2003.

Madam Chairman, TOTE believes that prevention is better than cleanup, and we have designed our ships with our operating systems to prevent oil spills. Our ships were designed to minimize the risk of oil spills, such as the recent tragedy in San Francisco. Specifically, TOTE's ships carry their fuel in tanks that are approximately eight feet inside the sides of the outer hull; in other words, an object has to penetrate the side of the ship by more than eight feet in order to rupture the fuel tank.

Moreover, the tanks themselves have double bottoms, and are elevated more than ten feet above the bottom of the hull, thereby offering similar safety in the event of a grounding. The tanks themselves are vertical, instead of being parallel to the waterline as is traditionally the case. This is a very crucial safety factor. The fuel tanks are approximately 20 feet wide; hence, only about 20-foot-wide band of the ship's 839-foot length is vulnerable. There is no fuel tank behind the other 819 feet of the ship's sides.

The combination of the set-back from the outer hull and the vertical orientation of the fuel tanks means that to breach the fuel tank an object would have to penetrate the hull by more than eight feet, and the penetration would have to occur within a 20-foot band, which is less than one-fortieth of the ship's length. In other words, even a collision that penetrated the hull by more than eight feet would not damage the fuel tanks if the collision occurred on the other thirty-nine fortieths of the ship's length.

In addition, TOTE's vessels incorporate numerous other elements that reduce the risk of oil pollution and other environmental hazards, such as: we have three separate radar systems on each vessel; we have redundant oily water separators on each vessel, ensuring that gray water discharge from the vessel is 98 percent pure; each vessel operates with twin electric screws with four main and two auxiliary diesel generators with diesel electric; twin rudders; airspace stern tube sealing system that prevents lubricant leaks; and a self-containing ballast system to prevent the spread of invasive species through ballast discharge.

These design elements went beyond what was legally required, and they were expensive. We estimate that we spent approximately \$15 million per ship for system redundancies and environmental enhancements that were not legally required. But TOTE's people and our operating practices are at least as important as preventing oil spills as the vessel design.

First, as a Jones Act carrier, our ships are crewed by Americans. Therefore, language and communication problems are minimized when the Master, crew, and pilot speak a common language. Moreover, our crews are highly trained, experienced, and well-qualified to operate our vessels safely and in an environmentally sound manner. All of us take immense pride in TOTE's commitment to environmentally sound vessel design features and our operating safety processes.

The main terminals in both Alaska and Washington State were certified ISO-14001:2004, which is Environmental Management System compliant this past June for all the facilities and all the loading and unloading cargo and equipment to and from the vessels. In addition, each of our ships enters and leaves Puget Sound and Cook Inlet approximately 50 times per year. Our Masters have

all been with TOTE for at least 15 years. They know their crews, they know the waters, they know the pilots. The pilots know the ships, they know the Masters, and of course, they know the waters.

In Alaska, for example, TOTE contracts with pilots who ride the ships fulltime from Tacoma to Anchorage and back, thereby eliminating the risk and uncertainty of having to take on a pilot in stormy Cook Inlet in the darkness of an Alaskan winter. We believe that these measures, which we have taken voluntarily, are the best, most proactive ways to minimize the risk of oil spills and other environmental safety hazards in our industry. Thank you for this opportunity to express our views.

[The prepared statement of Mr. Deaver follows:]

PREPARED STATEMENT OF WILLIAM G. DEAVER, PRESIDENT AND COO,
TOTEM OCEAN TRAILER EXPRESS, INC.

Madam Chairman and members of the Subcommittee, I am William G. Deaver, President of Totem Ocean Trailer Express, Inc. I want to thank you for this opportunity to express my company's views on this matter.

Totem Ocean Trailer Express, or TOTE, is a Jones Act carrier transporting cargo between Tacoma, Washington and Anchorage, Alaska. Since 1975, we have been serving the people of Alaska by transporting the things that Alaskans eat, wear, and use. We have 170 shore based employees and provide direct and indirect jobs for an additional 525 individuals onboard our vessels, as stevedores, truck drivers, warehouse operators and others. Together, we have served the Alaska trade consistently, efficiently, and without a significant oil spill for thirty-two years. We currently operate two new vessels that were built at NASSCO's shipyard in San Diego and were delivered in 2003.

Madam Chairman, TOTE believes that prevention is better than clean-up and we have designed our ships and our operating systems to prevent oil spills.

Our ships were designed to minimize the risk of oil spills such as the recent tragedy in San Francisco Bay. Specifically, TOTE's ships carry their fuel in tanks that are approximately 8 feet from the sides of the ship's outer hull. In other words, an object would have to penetrate the ship's side more than 8 feet in order to rupture the fuel tank. Moreover, the tanks themselves have double bottoms and are elevated more than ten feet above the bottom of the hull, thereby offering similar safety in the event of a grounding.

The tanks themselves are vertical, instead of being parallel to the water line as is traditionally the case. This is a crucial safety factor. The fuel tanks are approximately 20 feet wide. Hence only about a 20-foot wide band of the ship's 839-foot length is vulnerable; there are no fuel tanks behind the other 819 feet of the ship's sides. The combination of the set-back from the outer hull and the vertical orientation of the fuel tanks means that to breach the fuel tank an object would have to penetrate the hull by more than 8 feet *and* the penetration would have to occur within a 20-foot band, which is less than one-fortieth of the ship's length. In other words, even a collision that penetrated the hull by more than 8 feet would not damage the fuel tanks if the collision occurred on the other thirty-nine fortieths of the ship's length.

In addition, TOTE's vessels incorporate numerous other elements that reduce the risk of oil pollution and other environmental hazards, for example:

- Three separate radar systems;
- Redundant oily water separators ensure that our grey water discharge is 98 percent pure;
- Twin electric screws with four main and two auxiliary diesel generators;
- Twin rudders;
- Airspace stern tube sealing system that prevents lubricant leakage; and
- Self-contained ballast system to prevent the spread of invasive species through ballast discharge.

These design elements went beyond what was legally required, and they were expensive. We estimate that we spent approximately \$15 million per ship for system redundancies and environmental enhancements that were not legally required.

But TOTE's people and our operating practices are at least as important in preventing oil spills as the vessel design. First, as a Jones Act carrier, our ships are crewed by Americans. Language and communication problems are minimized when the Master, crew, and pilot speak a common language. Moreover, our crews are highly trained, experienced and well-qualified to operate our vessels safely and in an environmentally sound manner. All of us take immense pride in TOTE's commitment to environmentally sound vessel design features and our operating safety processes. The main facilities in both Alaska and Washington State were certified ISO-14001:2004 (Environmental Management Systems) compliant this past June for all facilities and the loading and unloading of cargo and equipment to and from our vessels.

In addition, each of our ships enters and leaves Puget Sound and Cook Inlet approximately fifty times per year. Our Masters have all been with TOTE for at least 15 years. They know their crews, they know the waters and they know the pilots. The pilots know the ships, they know the Masters, and of course they know the waters. In Alaska, for example, TOTE contracts with pilots who ride the ship full time from Tacoma to Anchorage and back, thereby eliminating the risk and uncertainty of having to take on a pilot in stormy Cook Inlet in the darkness of an Alaskan winter.

We believe these measures, which we have taken voluntarily, are the best, most pro-active ways to minimize the risk of oil spills and other environmental and safety hazards in our industry. Thank you for this opportunity to express our views.

Senator CANTWELL. Thank you, Mr. Deaver. And I want to thank all the panelists who are—the second panel seems to be focused a little more on the prevention issue, not that colleagues here didn't want to know a lot about where we are on this rulemaking and response plans and things of that nature. But if I could follow on this line of prevention, and ask each of you about where you really think we are, in context of—I guess you could just say a grade, if you will, in the context of prevention.

We have prevention, we have preparedness, and we have response plans. And I think we all know how expensive the response plans are. So I'm just trying to get a sense of where you—how much Mr. Deaver there is showing a stellar response, I guess I would say. It sounds like you may be the leader of the industry. But I want to hear from Dr. Etkin and Mr. Cooper, as well, on how much more you think we need or can be doing on preparedness. If you had to give us a grade today, what would you give us, and what else do you think we need to be doing?

Dr. ETKIN. A grade on preparedness?

Senator CANTWELL. Yes.

Dr. ETKIN. I'd probably give us a C. I think that because we've had fewer spills, I think there are fewer people who were well-trained to respond. Many of the old-school response people who are involved in some of the larger spills are retiring now. They tell me that there are many people who are spill responders who have never actually been to a really big spill. And I think that's a concern.

I think we need to increase our preparedness in terms of the amount of equipment that we have available, and we need to train and position that equipment in a way that we can get out there more quickly, because, as I've shown many times in trajectory modeling and other studies, that the more quickly you get out there to respond, the better you are in terms of reducing damages and the spread of the oil. That's certainly an issue that merits attention.

In terms of prevention, I think we're doing better in the U.S. than elsewhere. I've done some work on the international front, and I see that we tend to have a better class of vessels coming into

U.S. waters, particularly with regard to the Certificate of Financial Responsibility. Ship owners are afraid to come into U.S. waters, because they're afraid of the liability limits, they're afraid of natural resource damages assessments, which is something that does not exist outside the United States. So there certainly is that to consider.

But I think we need to carefully examine those liabilities, and then we can see that we really recover all of the costs of the spill.

Senator CANTWELL. Thank you. Mr. Cooper? And really, I'm focusing on—Dr. Etkin, I believe that you said it—about working together and being positive. What we need to understand is how much more is out there in the area of preparedness, and I want to make sure—I'm thrilled that you seem to be doing a lot of work in this particular area. If you help us understand where we are and how much better we can do?

Mr. COOPER. In Washington State, I think, in particular, in the preparedness area, we've come a long way, largely because of some actions that have been taken by the Governor and the State Legislature over the last two or 3 years in requiring plans for—requiring pre-booming and requiring plans for bunkering—for pre-booming during bunkering, and requiring better contingency plans and things like that at the state level.

I think we've got a long ways to go. We could do many more things. There are some people who think that, for example, the tug escort requirements in the Strait of Juan de Fuca could be a little bit stricter. There are some who believe that we need, as I mentioned, that we need to push harder on the double hull issue. One of the things that I see in Puget Sound, in particular, and on the outer coast, is the increased traffic of barges and tugs carrying fuel, something that we haven't spent a lot of time talking about.

So we're probably in very, very good shape in Washington, but we can always do more. The other thing I would note is the Memorandum of Agreement that the state signed with the Coast Guard and how we're going to jointly manage the waterways for prevention and preparedness. So, I'd say nationally we're a C. I'd like to believe that in Washington State we're a B or a B+ in many of those areas. But we're not perfect.

Senator CANTWELL. Thank you. Mr. Deaver?

Mr. DEEVER. I would give us a C-. I think that industry can continue to do more. We have a carrier in Evergreen Maritime, out of the Republic of China, that have come up—there are vessels now that have the vertical fuel tanks, similar to what TOTE has put in, which I think is a very positive step, and those ships are culling on the West Coast. So I think that that is a very positive step, but I think that industry can continue to do more.

Senator CANTWELL. Mr. Deaver, why did TOTE respond so aggressively to the development of vessels that met these prevention techniques that have been so helpful, and having that stellar record for so many years?

Mr. DEEVER. We looked at the vessel assets that we were building, and we said that these vessels will be in operation for up to and exceeding 40 years. And we were looking over the horizon as to what the regulations might be, or how we would really want to treat the waters that we live and work in. So we voluntarily took

the measures, because we said it was simply the right thing to do in the environment that we work.

Senator CANTWELL. So how many other companies have vessels, such as TOTE, with tanks in the center of the ship, well protected from possible eruption from collision and other activities?

Mr. DEEVER. The only ones that I'm really aware of are the new Evergreen ships that have come out, but I'm not totally aware of that. But the industry, I believe, will begin to migrate to that vertical-type tank within these ships?

Senator CANTWELL. They will do so on their own or—is there an economic benefit for doing that?

Mr. DEEVER. I think that there is a benefit environmentally in being able to say that they have taken the steps to mitigate spills. But economically, I don't know that that could be said at this point.

Senator CANTWELL. So your company looked at it over a 40-year period and just decided that this is the right thing to do.

Mr. DEEVER. It is the right thing to do.

Senator CANTWELL. Thank you. Senator Snowe?

Senator SNOWE. Yes. Thank you, Madam Chair. Dr. Etkin, I know it's important to move forward, but what are the lessons learned from what happened with COSCO BUSAN? What were your impressions of the Coast Guard's response, and where we could make improvements? Obviously, there are a number of issues that emerged from that incident, including the lack of timeliness on the part of the Coast Guard and notifying local officials other than the Coast Guard itself being notified about the magnitude and dimensions of the oil spill from 142 to 58,000 gallons.

Obviously there are a number of issues that we are going to have to address, and so will the Coast Guard. In your observations, in fact, I'd like to get any of the impressions from the panel, what are the lessons learned? What would you recommend to us on the basis that you've been able to discern from this incident, and that we should do better?

Dr. ETKIN. Well, I actually have had the opportunity to go to San Francisco recently. I did see the oiled shorelines and I spoke directly to some of the Coast Guard people and other responders who were involved in this spill, because I was involved in working on efforts of prevention and response with California Fish and Game. I don't know enough about the specifics of the incident to comment too specifically on that. I'm concerned about saying anything more.

I do collect case histories of spills, and analyze them after the fact, and this would be one of the spills that I will have to look at in terms of lessons learned. But just offhand, certainly, the delay in response contributed greatly to allowing that oil to spread so far throughout the bay. I know that there are very, very challenging currents in San Francisco Bay. I've done some modeling with those currents, some trajectory models, and you see that it really is a challenge to do on-water oil recovery in this environment.

But that being said, there was a remarkable—I think you had mentioned this earlier—a remarkable oil recovery rate. I was told there was about 36 percent, which is actually a very high rate. It doesn't sound very high, but with regard to on-water oil recovery, mechanical oil recovery, it is relatively high. So somebody was doing something right there, but I think that the delay in notifica-

tion was an issue. And certainly, I had gotten an initial notice that there were 130 gallons that were spilled, and I didn't think much of it.

I received these notifications myself, and I was thinking, "Oh, OK. Well, I'll just chalk that up to one of the smaller ones." Then I heard that it was so much larger, and I did hear that the oil must have spilled very, very quickly from that size of a gash. Obviously, the oil doesn't just slowly release. I don't know what happened, and certainly that should be investigated, because that delay absolutely contributed to the spread of the oil.

Senator SNOWE. Do you think the 36 percent recovery rate is the best we could expect? In other words, it's very difficult to increase that amount of recovery?

Dr. ETKIN. I'm sorry to say that that is probably true. Except in very unusual circumstances, where you're in very calm, sheltered waters, or where you have a pre-boomed vessel that happens to have a spill during oil transfer operations. You can sometimes get oil recovery 75 percent or even higher in those sorts of circumstances. But on-water recovery, when you're trying to boom it, contain it, and skim it, very rarely more than 10 to 25 percent, so it's actually remarkable that it was 36 percent.

Although I suspect that some of that oil that they included in that count was what was recovered from the shoreline, so I would take that with a grain of salt.

Senator SNOWE. Do you think the Coast Guard's Response Program is robust enough to address this with nontanker vessels, since they represent about a third of the—

Dr. ETKIN. Well, I think a spill is a spill, regardless of the source, and certainly there are all kinds of spills from all sorts of sources and facilities we handle. I think that the Coast Guard's Strike Force Team and, in general, the Regional Response Teams, these are very highly trained people who know what they're doing. And I think that there are probably ways which they could work better with some of the oil spill removal organizations and private entities that are hired by the responsible party. There are probably communication issues and jurisdiction issues.

Senator SNOWE. Yes. One of the issues was using volunteers. There were so many available at the time, and they weren't integrated in the process early on, and that's one of the other issues.

Dr. ETKIN. Yes. My sister was one of those people who were there as a volunteer. I know that many people were sorely disappointed that they could not do something. I think there needs to be a way to bring people into the process, because there are a lot of very motivated people who want to help.

Senator SNOWE. Mr. Cooper, do you have any impressions? I know you were suggesting we should create or delegate one of the authorities that is already vested in the Coast Guard to state authorities, whether it's for inspections, regulations, or conducting investigations. Do you think that's possible for states to have adequate resources to assume financial responsibilities? Even if preferable, as well, to have a central authority, one who creates a consistency from one agency, such as the Coast Guard, to oversee all of those responsibilities?

Mr. COOPER. I think if we're going to do that kind of delegation, it's important to know that we have a capable state. And that's why I chose that word in my testimony. A capable state, like I believe Washington State is, where we have people in the Department of Ecology that are well-trained mariners that actually do inspections with the Coast Guard now, and in some cases do some of the inspections, as a part of the Memorandum of Agreement between the State and Federal Government, on oil tank vessels.

And I think that the first thing that would have to happen is the Coast Guard would have to ensure that the state had the policies and the training and the personnel in place to do those inspections for them, under the authority of the Coast Guard. But without that training at the State level, I don't think it's practical to pass it on if the state doesn't have the resources to be able to do it.

Senator SNOWE. Yes. Do you think you could establish a level of consistency with respect to the inspections, for example, in enforcement? If you were to delegate it to, say, certain states that have the capabilities?

Mr. COOPER. The assumption would be that the states would do the inspections consistent with the Coast Guard standards, and that it would be actually acting as an arm of the Coast Guard.

Senator SNOWE. Yes. Do you have any views about the COSCO BUSAN in any way from your vantage point?

Mr. COOPER. I haven't looked at the information yet. The reports are just starting to come out. The Oil Spill Advisory Council is looking forward to more extensive briefings on the lessons learned as the complete report comes out. I will say that the volunteer issue is an issue that came up in Washington, following the very small oil spill on the tip of Vashon Island, in an area called Dalco Passage, and we've been working hard in our advisory capacity at the Department of Ecology to try to figure out how to train volunteers.

And one of the issues that consistently comes up, both in the Coast Guard and from the Department of Ecology, is what level of HAZWOPER training do those people need to have to be able to respond as volunteers? Now, I know there are people, perhaps some in this room, who responded as volunteers to the TENYO MARU spill on the Washington Coast, and perhaps at the EXXON VALDEZ spill in Alaska, as volunteers were used there. So the question is—how do you include organized groups of volunteers? I think it's very, very important to include the community.

We have caches of equipment now at the local government level in Washington. The Legislature made an appropriation, and we actually have local fire departments and local port districts that have small caches of booms so that they can respond instantly and without waiting for the longer response time, and I think the response time is one of the things that's going to come out as a very critical issue after that spill.

In my other life as a firefighter, where you put equipment and how fast you respond had a lot to do with whether or not the house burned down, and I think that type of logic needs to be applied to spill response. We need to shorten response times, and we need to get trained personnel, boom, and equipment more strategically located around areas like, in our state, Puget Sound, or in California,

the San Francisco Bay, so that the equipment can get to the scene a lot faster.

Senator SNOWE. Maybe incorporating drills for volunteers. A lot of our local counties have volunteer fire departments, for example, and emergency personnel. Maybe that's another way of doing that, incorporating the drills so you have that pattern of response, and it happens intuitively, based on the experience in those drills. Since obviously people were standing by and waiting to help, and they were frustrated because they weren't able to as the spill got worse. It's an interesting point. We really have to draw from our experience and discern in what ways we can improve. Thank you.

Mr. Deaver, finally, obviously, your company has a very impressive track record, and you've taken a very proactive, aggressive approach to prevention. It really is, when you think about the amount of money your company has invested to ensure and guard against oil spill risks. Did you have any views about, for example, the Coast Guard's response? Some are suggesting we should increase their authority with respect to monitoring the transit of vessels in and out of port, in terms of their direction or their speed, to have the Coast Guard watches be more involved in vessel monitoring the trafficking of vessels coming into the port.

Mr. DEEVER. With the VTS system in an area like San Francisco Bay, I think that it would be very difficult to have someone in the VTS office giving directions, settings for the best level of speed, on an ongoing basis, let's say as an air traffic controller does with airplanes. That is left normally to the pilot and to the captain. And I have read a lot about the incident in San Francisco, and the questions that I would really have there would also come as to what is the real liability and responsibility of the pilot and the Master in the incident. Because I think that that has to be really clearly identified going forward. So it's more of a question.

Senator SNOWE. Thank you. Thank you, Madam Chair.

Senator CANTWELL. Thank you, Senator Snowe. And to follow up on that, Mr. Deaver, and to our other panelists, because we've really talked about on the prevention side, what were some of the key issues in which we needed to spend more time on. And that is in thinking about our prevention efforts.

And I don't know if you could comment on, in general—I'm not talking about this specific incident in San Francisco Bay—but human error, communications systems, and weather. If you could—Mr. Deaver, you mentioned that you had a three-radar system, and I'm assuming that you use that, and probably pretty aggressively in avoiding weather issues and staying out of particularly challenging times and particularly challenging areas. But of those issues, or any other ones, where do you think we need to be spending more time on prevention?

Mr. DEEVER. I think it's really in the management processes, generally, within the companies. The vessel construction, and putting internal tanks in vessels, will take a long period of time. There has been a tremendous number of new-built container ships in the last, let's say, 5 years, that I believe almost all of the tanks are bottom tanks onboard those vessels. So I think it's really in the management processes, and I think that clearly there has to be good

language skills onboard the vessel at the time that it's transiting U.S. waters.

Senator CANTWELL. Are you saying that's a significant problem today or—

Mr. DEEVER. I would ask that question going forward. I don't know. I mean, TOTE is an American-owned company, American-crewed, English obviously is the language. But I think that that is a question when you get into many of the international arrivals into the United States.

Senator CANTWELL. Mr. Cooper?

Mr. COOPER. As Mr. Deaver stated, I think management practices really need to be focused on as part of the human error question. Oftentimes, and one of the things we're finding, we're doing a root cause analysis right now, and we're discovering that the Coast Guard and the State Department of Ecology's recordkeeping is not the same, or historically has not been the same.

It's better now. But, oftentimes, things get called human error, but when you break down the subsets you find out it's because a company didn't have a policy or didn't have crew training, or had a management practice that needed to be addressed. So I think you need to break it down and talk about where the human error originates. What causes a human being to make a mistake? Were they tired? Were they not trained? Was there a policy that wasn't in place? But I think, in particular, in Washington—

Senator CANTWELL. Do you suggest we follow that up with better rulemaking on that?

Mr. COOPER. If rulemaking is not in place that addresses those issues, it probably should be.

Senator CANTWELL. OK, thank you. I'm sorry—were you going to add something else?

Mr. COOPER. Well, I was just going to very briefly talk about the weather. I think, in particular, in Washington, weather is something you need to be paying attention to in the coastal areas where wind and storms are factors. There's a lot of debate going on right now in the state about whether or not tankers should be transferring their cargo when the weather is too—even in Bellingham and Port Angeles—when the weather is too bad for them to boom that vessel.

There's probably going to be a question about whether or not the state is preempted from making that decision, and so I think weather is probably something that should be looked at, as well, and rulemaking around when you can transfer fuel and when you cannot transfer fuel, and when is it too rough for those vessels to be transiting in and out, especially in narrow waterways.

Senator CANTWELL. Thank you. Dr. Etkin?

Dr. ETKIN. Actually, I was involved in the study on currents and prepositioning of the booms in Washington State, and looked at areas where the currents at all times or most times were going to be too high to actually effectively be able to contain the oil. From this data, the State can then look at that and decide, well, should we say that we can't do any oil transfers in these locations, or do we need to take into account the current and weather conditions at the time? I think that's an important thing.

Certainly, weather is an issue, and fog. I've been to San Francisco enough to know that fog occurs a lot in San Francisco. And this is something that needs to be factored in. We need to look at ways in which one can navigate in fog. And I don't know—I'm not knowledgeable enough to know myself how we're going to do that, but it certainly is an issue that should be looked at. That seems obvious. But human error has been shown to be a factor in a lot of spills, and certainly what always comes to my mind is the JULIE ANNE spill in the Fore River in Portland, Maine, where the pilots ordered a "hard right" and hit the bridge. That was quite a mess up there.

That's an obvious example, but there are certainly a lot of human error factors that come into play, and maybe in very small ways. And it's important that we actually look at this, and there are people who are actually studying this type of thing. I think more attention needs to be paid to that, and then look, what is it that caused the problem? Is it that the crews are tired or not well-trained? And based on what we find are the real root causes, that's where there should be guidelines or regulations put in place.

Senator CANTWELL. Well, I want to thank the panel very much for your testimony today, and your continued work in this area. And I want to thank the Vice Chair, Senator Snowe, for attending this hearing. Our Committee meeting is adjourned.

[Whereupon, at 5:09 p.m., the hearing was adjourned.]

A P P E N D I X

PREPARED STATEMENT OF BEN JOHNSON, JR., CHAIRMAN, MAKAH TRIBAL COUNCIL

Chairman Senator Cantwell and distinguish members of the Subcommittee:

Thank you for the opportunity to provide written testimony to the hearing record from a sovereign tribal government perspective.

I. Summary

While the 58,000 gallon spill caused by the freighter COSCO BUSAN in San Francisco Bay last month provided impetus for this hearing, it is important to also note that since that time over 4.5 million gallons of oil have spilled into the world's oceans from three tanker incidents in the Black Sea, South Korea and North Sea. We are grateful for Senator Cantwell's leadership on this Subcommittee to help minimize the risk of hazardous spills and offer the following comments to that end. Cargo freighters comprise the majority of traffic that transits through our Usual and Accustomed (U and A) treaty reserved ocean area making them the most likely source of a spill. It is also important to understand that oil tankers and oil barges pose the risk of the largest, most damaging spills to the marine environment and our traditional way of life. My tribe has witnessed firsthand the rapid growth in the size of the cargo and passenger vessels that transit our treaty-protected waters. We realize this increase in size makes them more vulnerable to the forces of the wind and potential sources of bigger spills. We understand that that the General Accounting Office (GAO) has found that over the past 16 years oil tankers and barges comprised just under half of the 51 major oil spills in the Nation and that the cost of a spill can be greatly increased in remote, environmentally sensitive areas like ours where the shipping lanes come close to shore. Our treaty-protected resources do not distinguish between the sources of oil that cause damage upon the event of a spill. We call on Congress to help us to develop the capacity to assure state and Federal rulemaking incorporate tribal treaty interests. In particular we ask that the Coast Guard adequately completes the Salvage and Firefighting rule of OPA 90; requires vessel response plans for non tank vessels; and raises the liability cap for all vessels, especially oil barges, to keep up with the consumer price index. Finally we strongly recommend passage of the Coast Guard Authorization Act of 2008 with the Neah Bay tug and tribal consultation provisions in place.

II. Introduction

In 1855, the Makah Indian Tribe signed a treaty with the U.S. Government that reserved land adjoining the Strait of Juan de Fuca and Olympic Coast in Washington State for the tribe's use and occupation. The terms and conditions of the treaty reserve the right of taking fish, whale, and seal at our usual and accustomed grounds and stations. The Makah treaty area extends out approximately 45 miles west into the Pacific Ocean and 70 miles eastward into the Strait of Juan de Fuca from Neah Bay, Washington.

The major center of population on the Makah Indian Reservation is Neah Bay, home to a strategically located port situated on the Strait of Juan de Fuca, facing Vancouver Island, British Columbia, Canada. Neah Bay is the only accessible port on the outer Washington coast north of Grays Harbor, located in the southwestern portion of the state, on a year round basis. The Makah Tribal government, tribal treaty commercial fishing and non-treaty sports and commercial fishing, the timber industry and tourism support the local economy. The isolated location and natural beauty of the Makah Indian Reservation attracts thousands of people each year. Visitor surveys document that a large number of people come to the Makah Reservation exclusively to visit the Makah Cultural and Research Center. Visitors also enjoy hiking the Cape Flattery and Shi Shi Beach trails, also to bird watch, whale watch, kayak, surf, dive and stroll on our pristine beaches.

Makah people are a maritime people who have historically depended upon the wealth of the sea for the majority of our food. Our diet includes sea mammals, and a numerous variety of fish, shellfish, and crustaceans. The Makah Tribe is the only

tribe in the United States whose treaty reserved rights includes whaling; historically whale blubber and oil was a mainstay of our diet.

The ocean still plays an essential role in the economy and diet of Makah people to this day. A unique Makah cultural perspective comes directly from the proximity to the ocean, rivers and lakes and the vast resources our marine environment contains. The Makah people are able to continue to exercise our traditional cultural practices by maintaining a basic and intrinsic relationship to our maritime environment.

Until historic times the Makah Indian Tribe was composed of five principal winter villages. The pre-historic population of the Makah is estimated to have been approximately 4,000 people, about double what it is today. The Makah Tribe has viewed access to the marine environment and our marine resources as an inherent sovereign right from time immemorial.

III. Oil Spill Risk

One hundred and fifty years after we signed our treaty with the U.S. Government, the Strait of Juan de Fuca has become a primary waterway route for oil tankers, cargo and passenger vessels bound to port facilities in Washington and British Columbia. Being the "People of the Cape" and been situated in the northwest most corner of the contiguous United States, we understand our exposure to oil spill risk is high. The Makah have the largest combined ocean fisheries of any federally recognized Indian Tribe in the United States. Our Usual and Accustomed (U&A) marine treaty area is located at the crossroads of the Strait of Juan de Fuca and the Pacific Ocean. This places us at the entrance to a U.S. High-Volume Port Complex, Canada's largest port and the world's third largest Naval complex. The Olympic Coast National Marine Sanctuary, the Olympic National Park, a National Fish Hatchery and a National Wildlife Refuge are adjacent to or part of our treaty area. The Makah Tribal Council (MTC) recognizes the importance of protecting these national treasures and is fully committed to do our part to improve the standards of protection against negative impacts to our shared environment.

These unique circumstances combined with our experience as serving as a "Resource Trustee" in addressing the impacts of the 4 largest persistent oil spills in Washington State history (General Meiggs, 2,300,000 gallons in 1972; ARCO Anchorage, 239,000 gallons in 1985; Nestucca, 231,000 gallons in 1988, TENYO MARU, 400,000 gallons in 1991) totaling approximately 3 million gallons of oil spilled on our natural and cultural resources afford us strong standing in this discussion.

The probability of another major oil spill is high in our area as the volume of trade is expected to triple in the next 15 to 20 years. Yet due to rulemakings that have not adequately considered our treaty reserved rights, the western portion of the Strait of Juan de Fuca and the outer Washington Coast do not receive the same levels of protection from oil spills that the rest of the Washington State waters are afforded. For example the placement of the High-Volume Port Line 70 miles east from the entrance to the Strait of Juan de Fuca means there is less oil spill response equipment and personnel stationed adjacent to the high seas. In addition, the fact that pilots do not board ships until Port Angeles, WA, means captains with varying degrees of familiarity with our waters and the English language transit without assistance. This is particularly concerning as our region increasingly relies on foreign sources for our oil and trade.

According to Washington State Department of Ecology (DOE) data for 2006, 3,559 individual vessels made 18,977 transits through Washington waters bound to and from ports in Washington, Oregon and British Columbia. Cargo and Passenger vessels comprised 65 percent of the transits and 88 percent of the vessels making those calls. Oil tankers and barges comprised 33 percent of the transits and 10 percent of the vessels. Commercial fishing vessels made the balance of the transits.

Ecology's data also indicates that the cargo and passenger vessels likelihood of having an incident, near miss or spill is proportional to their frequency of transit for they comprised 63 percent of the incidents and spills in 2006 and 65 percent of the traffic. However, they pose a greater challenge to the Coast Guard's inspection program because they comprise 88 percent of the individual vessels making transits through Washington waters in 2006. Preliminary results from the most comprehensive vessel traffic risk assessment done to date for the British Petroleum Cherry Point Environmental Impact Statement suggest that tank vessels have a higher rate of incidences than non tank vessels when you control for their frequency of transit, but cargo and passenger vessels occur twice as prevalent along our waterways.

While oil tankers continue to pose the risk of the largest catastrophic spill, freighters clearly are the more likely source of a spill. This point is further clarified by the fact that the State funded Emergency Response Tug, stationed in our port

of Neah Bay during the winter months since 1999, has responded to 21 cargo and passenger vessels (58 percent), 10 tank vessels (28 percent) and 5 fishing vessels (14 percent) to date. When it comes to needing tug assistance it appears to be based on the proportion of the vessel type calling on our waters with freighters being twice as likely to need assistance as compared with tank vessels.

Being the homeport for the Navy's third largest port complex means that commercial vessels are not our only source of risk. On August 4, 2006 the USS NEVADA, a Navy Trident submarine based at Naval Base Kitsap-Bangor severed the towline of the tug PHYLLIS DUNLAP and its barge at the entrance to the Strait of Juan de Fuca. The tug PHYLLIS DUNLAP was transiting with two empty barges when the incident took place. This incident is very similar to one that occurred off of Cape Flattery in October 2003 when the U.S. Navy sub TOPEKA separated an empty oil barge from its tow underscoring our diversity of risks. Despite the fact that the Navy's Supervisor of Salvage has tremendous expertise and equipment to respond to such incidents none of those assets are stockpiled in the Pacific Northwest.

The Makah Tribe is currently contracted by oil spill response organizations as first responders. The newly revised Washington State Oil Spill Contingency Plan Rule (173-182 WAC) identifies the establishment of Neah Bay as a primary response/staging area. This action is supported by the mutual effort between the State of Washington DOE and the MTC to identify the needed infrastructure improvements to the Port of Neah Bay facilities to accommodate the equipment staging requirements as well as expanding the role of tribal members as first responders.

In the Consent Decree of the EXXON VALDEZ Oil Spill it was determined that the lack of strategically located ports around Prince William Sound with appropriate caches of equipment significantly limited the effectiveness of the response.

IV. Addressing the Risk

It is an unfortunate fact that most maritime safety advances are made in response to major accidents. The last most significant event was the EXXON VALDEZ of 1989 after which Congress passed OPA 90. This comprehensive overhaul of our Nation's oil spill policies directed the Coast Guard to implement the Salvage and Firefighting provisions of OPA 90. In support of the OPA 90 mandates the National Academy of Science has repeatedly found the U.S. Salvage posture to be far from adequate.¹ The grounding and break up of the bulk carrier NEW CARISSA along the Oregon Coast magnified our inability to muster an appropriate salvage response.² We believe these examples serve as ample motivation for the Coast Guard to complete the rulemaking called for by Congress in OPA 90. Post-9/11 the Transportation Research Board has found salvage capacities to be even more critical to respond to a terrorist attack.³

The following is an accounting of the Coast Guard's rulemaking actions. On May 10, 2002 the Coast Guard published a Notice of Proposed Rulemaking (NPRM) entitled "*Salvage and Marine Firefighting Requirements; Vessel Response Plans for Oil; Proposed Rule*," which addressed requirements in 33 CFR Part 155 for vessel owners/operators of vessels carrying Groups I through V petroleum oil as a primary cargo to identify and ensure availability of salvage and marine firefighting resources. This rulemaking, previously in the Office of Response (G-MOR), has moved to the Office of Vessel Activities (CG-543). All comments have been addressed and incorporated in the Final Rule for Salvage and Marine Firefighting Requirements; Vessel Response Plans for Oil.

On January 23, 2004, a notice of suspension was published in the *Federal Register*, suspending the 24-hour requirement scheduled to become effective on February 12, 2004, until February 12, 2007 (69 FR 3236). The Coast Guard has extend this suspension period for another 2 years to allow it to complete the rulemaking that will revise the salvage and marine firefighting requirements. This extension is effective as of February 12, 2007. Termination of the suspension will be on February 12, 2009. The Final Rule is currently in its final review at USCG Headquarters. In this final review, due to the age of this rulemaking, it was determined that the Salvage & Marine Firefighting rule is required to undergo an economic and regulatory analysis before final USCG approval. After clearance at USCG Headquarters, the rulemaking will then be submitted to the Department of Homeland Security and then the U.S. Executive Office of Management and Budget (OMB) for approval. It

¹ 1994 NAS Reassessment of the Marine Salvage Posture of the United States.

² "Crisis on the Coast" Federal On Scene Coordinator's Report and Assessment of M/V NEW CARISSA Oil Spill Response CAPT M. Hall, USCG MSO Portland, June 1999.

³ TRB 2003. Marine Salvage Capabilities Responding to Terrorist Attacks in U.S. Ports—Actions to Improve Readiness.

is anticipated that this Final Rule will be published in 2008. LCDR Reed Kohberger is the point person, G-5232 (202-372-1471).

In our February 15, 2006 comment letter to the U.S. Coast Guard Salvage and Marine Firefighting Rule (USCG-1998-3417) we requested a government-to-government consultation with Coast Guard HQ to discuss how our treaty interests were being left out of the rulemaking. An initial meeting with USCG Headquarters staff took in Neah Bay on June 1, 2006 which resulted in an invitation for the MTC to meet with senior staff at Coast Guard headquarters in Washington, D.C. to further discuss the formal inclusion of tribal treaty interests in the proposed rulemaking. During our meeting we agreed with the Coast Guard that there isn't a "Coordination and Consultation" policy currently established in the Department of Homeland Security and therefore the Coast Guard. The lack of a Tribal Consultation Policy makes it problematic to not only formally consult with Indian tribal governments but also to formally represent tribal interests in their rulemaking. We pointed out that we also wanted to work with Coast Guard Headquarters to assure the associated NEPA review process to the rulemaking be completed in a manner that incorporates treaty interests. We further pointed out the inclusion of treaty interests in the NEPA action could serve as a tool to assist the Coast Guard in continuing to develop the formal recognition of their trust responsibility to the Makah Tribal governments in mitigating the risk posed by the transportation of oil and cargo through the Makah Tribe's marine treaty area.

The formal inclusion of tribal cultural and resource values into the cost benefit analysis applied to the OPA 90 Marine Salvage and Firefighting proposed rulemaking would not only provide a thorough representation of resources at risk but would also allow for more effective oil spill prevention and response strategies be implemented by Federal, state and tribal governments. The MTC has maintained as a fundamental treaty right requirement, the need to integrate tribal cultural and resource values into any cost-benefit analyses, regulatory assessment and damage assessment model or any action the USCG is involved with that impacts our treaty rights. In doing so the USCG would begin to lay the foundation work toward satisfying their Trust Responsibility to the Makah Tribal Council.

In regard to the OPA 90 Marine Salvage and Firefighting Proposed Rulemaking, it is clear to the MTC that the cost effectiveness of such evaluations has only considered the cost of compliance with the rule as the cost of not spilling (BNSR: barrels of oil not spilled or spilled and removed from the environment). The cost to the marine environment or those dependent on it for their cultural or economic livelihood is not considered. Similarly, the Coast Guard's establishment of the High-Volume Port Line (and associated spill response equipment) 70 miles east from the open ocean is another example of how our treaty interests not being appropriately considered.

The MTC believes in order for the USCG to adequately address our treaty interests and their Trust Responsibility to the MTC, both of which were excluded from the OPA 90 Programmatic Regulatory Assessment used to select the preferred alternative in the Salvage and Firefighting Rule, a permanent multi-mission tug should be stationed in Neah Bay. The State of Washington funded rescue tug that has seasonally protected our waters since 1999 has provided assistance to 36 vessels to date, two in just the past month. This more than exemplifies its value to the maritime community and underscores their need to underwrite its expense that is minor as compared to the cost of spilling on treaty protected resources and State of Washington waters. It is also imperative that the Coast Guard assures the liability limits keep up with the consumer price index.

The MTC supports laying the ground work for the oil industry to station a permanent multi-mission tug at Neah Bay, WA as part of this rule and we strongly recommend further that the Coast Guard use its regulatory authority to have the cargo and passenger vessels assume their share of financial responsibility to support the stationing of the tug with the implementation of the non-tank rule. We join Washington State Governor Gregoire in urging the Congress to pass the Coast Guard Authorization bill of 2008 to resolve this matter in a timely fashion.

Vessel Response Plans: Non-Tank Vessels. The Coast Guard Authorization Act signed by the President on August 9, 2004, requires "nontank vessels" to submit response plans by August 9, 2005. "Non-tank vessels" are vessels of 400 gross tons and above which use oil for propulsion. NVIC No. 01-05 was signed and published on February 4, 2005 to provide interim guidance to industry for the development and review of non-tank vessel response plans. On June 24, 2005, the Coast Guard published a Notice and Request for Comment in the *Federal Register*. On February 23, 2006, the USCG published a Notice of Availability to the public indicating that Navigation and Inspection Circular No. 01-05 was updated and reissued as NVIC 01-05 Change 1. This update was in response to questions and comments received

from the maritime industry. This rulemaking, previously in the Office of Response (G-MOR), has moved to the Office of Vessel Activities (CG-543). The President signed the Coast Guard and Maritime Transportation Act of 2006 on July 11, 2006. Section 608 of the CGMTA 2006 contained provisions to further amend the FWPCA with regard to applicability standards for nontank vessels.

The Coast Guard is anticipating a 2008 release of the Notice of Proposed Rule Making with public hearings to be held in various parts of the U.S. The Final Rule is projected to be published in 2010. To date, the Coast Guard has received 2,186 nontank vessel response plans covering 12,075 vessels. LCDR Rob Smith is the project officer CG-5431 (202-3721226).

It is essential that Congress assure that the Coast Guard complete this rulemaking in a more timely basis than proposed by the Coast Guard, so that the public can be assured that tank and non-tank vessels have response plans that are adequate to protect against the maximum sized spill they can create. It is also imperative that the Coast Guard recognizes legitimate umbrella plans that have been rigorously drilled and which may cover many non-tank vessels calling on a particular waterway instead of requiring each vessel to have to submit their own plan. This could significantly streamline the rulemaking process.

V. Conclusion

During the past few years, the Makah Tribal Council has dedicated a great deal of tribal assets toward incorporating treaty cultural and resource protection interests into Federal and state oil spill prevention, preparedness and response regulations. Our efforts thus far have heightened the government-to-government oil pollution policy concerns of the treaty tribes in Washington State, where there is not a single mile of coastline that is not covered within the treaty-defined area of one of the treaty tribes. The fact that the Coast Guard has not developed formal protocols for consultation with tribal governments has hampered our oil pollution efforts in the Northwest.

We strongly believe adequate standards of oil spill protection along the outer Washington coast cannot be fully achieved without the participation of the affected Indian Tribal governments. Without a meaningful and formal government-to-government coordination and consultation process in place to address oil pollution issues neither the Federal Government or the Makah Tribal Council can effectively meet their mutual trust responsibility to protect our natural resources. The Makah Tribal Council views the development of a formal consultation process with the USCG as a fundamental and efficient means to wed the Public Trust Doctrine, which the Federal Government is pledged to uphold, to the Federal Trust Responsibility to protect treaty reserved rights with the Makah Indian Tribe, which the Federal Government is obliged to uphold.

It is our genuine hope that we are able to formalize a vital working relationship with the U.S. Coast Guard to address these essential treaty resource and environmental protection goals. We join Washington State Governor Christine Gregoire in strongly urging your support to maintain the Chairman Senator Cantwell's oil spill provisions in the FY 2008 Coast Guard Authorization Bill.

The MTC would like to thank you for your leadership and continued vigilance regarding marine transportation safety in Washington State and the Nation.

MATSON NAVIGATION COMPANY
Oakland, CA, January 24, 2008

Hon. MARIA CANTWELL,
Subcommittee on Oceans, Atmosphere, Fisheries, and Coast Guard,
Senate Committee on Commerce, Science, and Transportation,
U.S. Senate,
Washington, DC.

Madam Chairman:

On December 18, 2007 your Subcommittee on Oceans, Atmosphere, Fisheries, and Coast Guard held a hearing on "Oil Spills from Non-tank Vessels". Matson Navigation Company is a 125 year-old ocean shipping company that today operates 13 Jones Act vessels engaged in the carriage of container and RO/RO cargo between the U.S. Pacific Coast and Hawaii, Guam, and Asia. Our West Coast terminals are located in Seattle, Oakland, and Long Beach. For many years, Matson has been deeply involved in the development and implementation of ship operational procedures and designs that minimize the discharge of oil into the marine environment. We commend you for holding this hearing and pledge the availability of Matson's knowledgeable ship operations personnel to assist the Subcommittee in developing

useful recommendations for lowering the risk of oil spills in the marine environment.

We wish, however, to correct the record regarding a statement that was introduced at the hearing concerning a Matson vessel. More specifically, after describing heavy weather damage to the Matson container ship SS KAUAI that occurred on December 3, 2007 off the Washington State coastline, the Washington Oil Spill Advisory Council stated that "The vessel did not drift onto the rocks and spill oil because the state-funded Neah Bay rescue tug launched to save the stranded cargo vessel." The facts are that after departing Seattle, the SS KAUAI was struck by a series of extremely high 60 foot waves near Cape Flattery, Washington, that broke out six bridge windows, and damaged several pieces of bridge navigation equipment, including the primary steering system. As a result, the Master made a decision to return to Seattle for repairs and to allow the passing of an intense NW storm. The important point here is that the SS KAUAI made the return to Seattle of over 100 nautical miles under its own power and using a back-up, redundant steering system that is standard equipment on all Matson oceangoing vessels and, indeed, is required for all U.S. registered ships. At no time was the SS Kauai adrift or stranded or mechanically unable to maintain course and speed, although this Intense storm obviously presented severe operational challenges.

It is not our purpose here to question the important role of the Neah Bay rescue tug or the good intentions of the knowledgeable witnesses who took the time and effort to testify at your December 18th hearing. Matson simply wants to set the record straight on a point that reflects directly on our ship operations and, therefore, on the core of our organization. We have operated oceangoing ships in the Pacific longer than any other American shipping company, and take great pride in our ability to do so extremely well.

Thank you for taking these comments into consideration.

Sincerely,

RONALD J. FOREST,
Senior Vice President Operations.

cc: P.M. Grill

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. MARIA CANTWELL TO
ADMIRAL THAD W. ALLEN

Question 1. Is the Coast Guard actively enforcing vessel response plans for non-tank vessels?

Answer. Please see the below text from the Coast Guard letter of January 14, 2008 to Senator Ted Stevens, which addresses this issue. A copy of this letter was also provided to your office and to Senators Snowe and Inouye.

Dear Senator Stevens,

I am writing to advise you of the need to correct my testimony from the December 18, 2007, hearing pertaining to oil spills from non-tank vessels. During the hearing, you questioned me about the number of non-tank vessels which have yet to submit response plans. I indicated that any non-tank vessel calling on a U.S. port is required to have a Non-tank Vessel Response Plan (NTVRP). I further added that vessels without such plans are not permitted to call on U.S. ports; I have since learned that this is incorrect. Specifically, there are instances where both U.S. and foreign-flagged non-tank vessels have entered and operated in the United States without a Coast Guard-reviewed NTVRP.

Absent the effect of a formal rule to implement the NTVRP required by the Coast Guard Maritime Transportation Act of 2004 (MTA), as amended in 2006, the fully enforceable requirement is the international standard required under MARPOL Annex I. Annex I requires that non-tank vessels over 400 gross tons have an approved Shipboard Oil Pollution Emergency Plan (SOPEP).

The Coast Guard ensures vessels possess valid SOPEPs during Port State Control examination and domestic inspections. However, these standards are not as detailed and rigorous as those required by MTA. In the case of M/V COSCO BUSAN, both the MTA-required NTVRP and international SOPEP requirements were met.

I have initiated a review of the interim guidance provided to our field commanders following the passage of MTA, the effectiveness of that guidance, and a more accurate determination of the compliance rate. I am accountable to ensure the statutory NTVRP requirement is met and will take appropriate action. I am available to provide a more comprehensive brief upon your return from holiday recess.

Thank you for your leadership on this important national issue. The Coast Guard is committed to protecting the environment through prevention and stands ready to

answer any questions you may have. You can reach me through my Senate Liaison Office. Identical letters have been sent to Senator Cantwell, Senator Snowe, and Senator Inouye.

Question 2a. What steps has the Coast Guard taken to ensure the solvency of the Oil Spill Liability Trust Fund?

Answer. Oil Spill Liability Trust Fund (OSLTF) solvency concerns were addressed by Congress when it enacted the Energy Policy Act of 2005. That Act included a provision reinstating the tax on oil which had lapsed in 1994. Treasury reports and estimates now show OSLTF annual tax revenue of \$250–\$300 million. The OSLTF has a current balance of \$988M which includes approximately \$79 million available for Federal response. The OSLTF balance is expected to continue to increase to approximately \$2 billion by FY 2014 and then begin to decline again after FY 2014 when the tax sunsets.

Question 2b. Why doesn't the Coast Guard track the amount of money responsible parties expend in cleaning up oil spills?

Answer. The Federal focus is on the adequacy of responsible party clean up activities and not the cost of those activities. For many of the thousands of incidents reported annually, responsible parties are able to clean up their spills with little or no Federal involvement. For incidents where Federal authorities manage the overall response, only summary cost data is captured as it reflects the RP's effort and progress associated with a complete clean up. Responsible parties are, however, required to report detailed response cost documentation when presenting a claim for reimbursement from the OSLTF under the provisions of the Oil Pollution Act of 1990 (OPA).

Question 2c. How do you know if the private sector is paying its "fair share" if the Coast Guard is not tracking private sector costs of an incident?

Answer. Under OPA Title I a responsible party that does not clean up the oil spill solely through its own efforts is strictly liable for the Federal, state and private party clean up costs. If the responsible party does not pay or settle those costs the OSLTF is available to pay claimants and the Coast Guard will seek recourse as appropriate against the responsible party for all Federal removal costs and damages, including any claims paid. The responsible party's "share" will also be affected by other circumstances, including whether the applicable OPA liability limit applies or liability is unlimited; whether one of the OPA narrow defenses to liability applies (*i.e.*, solely caused by acts of god, war or third party); and/or the responsible party's ability to pay its liability.

Question 3a. Many have expressed concern that the response to the San Francisco oil spill was not as effective as it should have been—despite the fact that San Francisco recently had a major "Safe Seas" drill. How would you rate the response to the San Francisco oil spill?

Answer. The response to the M/V COSCO BUSAN oil spill provided important lessons-learned for the Coast Guard. The deployment of equipment exceeded state and Federal requirements for on-water recovery capability and enabled a greater than average oil recovery. Nonetheless, there is opportunity for improvement in preparedness and response coordination activities.

The Coast Guard chartered an Incident Specific Preparedness Review (ISPR) on November 14, 2007 to review the strengths and weaknesses of the San Francisco Bay Area Contingency Plan and to analyze the effectiveness of the Unified Command response to the COSCO BUSAN oil spill. The report includes approximately 100 lessons-learned and 128 recommendations to improve preparedness and response in the San Francisco Bay area. The recommendations fall into several broad categories including exercises and drills, area contingency planning, training, initial actions and unified command. A more detailed review is on-going to determine which findings, recommendations, and other report information should be forwarded to various departments, branches, and field units in the Coast Guard or other agencies for action to produce positive, effective, preparedness improvements that will benefit the San Francisco Bay region and the Nation as a whole.

Question 3b. If the response was lacking despite the recent Safe Seas drill, what does that mean? Are we so woefully under-prepared that even a Safe Seas drill could not guarantee an effective response?

Answer. The Safe Seas and other drills are designed to test and renew working relationships while providing feedback on the effectiveness of response. Safe Seas was a successful drill in that it improved interagency coordination and preparedness for response. The drill also identified lessons-learned for use among the spill response community. With respect to the M/V COSCO BUSAN response, we will review the recommendations of the ISPR as noted above.

Question 4a. How often does the Coast Guard conduct drills on oil spill response?

Answer. The requirement for exercises and drills on oil spill response are established in the National Preparedness for Response Exercise Program (PREP) Guidelines, August 2002. These exercises typically include responsible parties and their contractors. The exercise requirements apply to each of the Area Committees. In some cases, a Coast Guard Sector may have more than one Area Committee. The PREP guidelines call for each Area Committee to conduct annually: four—Notification Exercises per Area Contingency Plan (ACP), one—Area Equipment Deployment Exercise per ACP, one—Area Spill Management Team “Table-top” exercise, and one—Government/Industry Led Full-Scale Exercise (FSE) (triennially). On average, nationwide, the PREP Guidelines call for 4–6 governmental FSEs led by the government per year. Each Federal on Scene Commander (FOSC) and/or Captain of the Port (COTP) can conduct up to four discretionary Government-Initiated Unannounced Exercises per area per year.

Question 4b. Do these drills include responsible parties and their contractors?

Answer. Yes, these drills normally involve responsible parties, contractors, and other parties.

Question 4c. How do these drills and preparations vary geographically? Do they happen regularly in all regions?

Answer. Coast Guard oil spill exercise regulations, the PREP Guidelines, and other Coast Guard-led oil spill preparedness efforts apply nationally. The Coast Guard strives for uniform enforcement and preparedness efforts across all geographic regions.

Question 4d. What geographic regions are strongest in this regard? Which are the weakest?

Answer. As described above, the Coast Guard’s exercise and planning activities are national, and all areas of the country are given equal standing. The primary components of this system include the National Response Framework, the National Contingency Plan, the National Preparedness for Response Exercise Program (PREP) Guidelines, and Coast Guard regulations that apply uniformly to all geographic areas of the country. Through these programs, the Coast Guard strives to establish and maintain a consistently high level of preparedness across the country.

Question 4e. Do you consider the San Francisco area to be among the strongest and most well-prepared regions to respond to oil spills?

Answer. While the Coast Guard leads oil spill preparedness efforts in the coastal area as described above, many other agencies and organizations contribute to the effort. While the Coast Guard does not specifically rank oil spill preparedness between geographic areas, the San Francisco area benefits from the skill of agencies such as CA OSPR, and the enthusiasm of its local citizens and non-government organizations is especially distinguishing.

Question 5. Recently, I’ve been hearing from constituents who are concerned that the Coast Guard is falling behind in its traditional missions. What should I tell my constituents who have concerns that the Coast Guard is no longer providing the level of service on traditional missions as it once did?

Answer. The public should know the Coast Guard is a multi-mission service and on duty 24/7. We continue to meet our many responsibilities by balancing risk and resources against competing mission requirements. We assess risk and assign assets with a view to our highest priority, the safety of citizens. The Coast Guard ensures the safe operation and navigation of some 20,000 U.S. and foreign-flagged vessels. We conduct over 70,000 domestic vessel inspections and 10,000 port state control inspections each year to safeguard maritime commerce, international trade and supply chain security. We also conduct 14,000 casualty, suspension and revocation, and civil penalty cases annually to prevent maritime disasters.

Additionally, many of the resources, competencies and authorities needed to assure security are the same needed to enhance maritime safety and other traditional missions. As we refine our risk protocols and build additional interagency and civil/military partnerships, the Coast Guard is better able to balance resource and mission requirements. Moreover, the Coast Guard is taking significant organizational steps to improve local preparedness and response, and moving aggressively to ensure we have the right mix of assets and authorities to provide in place the level of service the American public expects and requires.

Question 6. What portion of the Coast Guard’s budget is devoted to oil spill prevention and response? Has oil spill prevention and response experienced a decrease in funding and/or staffing in the Coast Guard since 9/11? What are the implications of this? Is it possible that we won’t realize the full impact of this until a major spill happens and it is too late?

Answer. Oil spill prevention and response is accomplished through the Coast Guard's extensive authorities, and layered prevention and response capabilities. Spill prevention and response is a major component of the Coast Guard's Marine Safety, Aids to Navigation, and Marine Environmental Protection missions, which collectively represent 28 percent of the Coast Guard's operating budget.

The Coast Guard's prevention and response model is based on all hazards-all threats. As such, resources allocated to prevention and response may be called upon by field commanders for other response efforts as warranted. We are seeking to grow the Marine Safety Program in FY09. Specifically, the FY 2009 President's budget requests an additional \$20M and 276 FTE exclusively for the Coast Guard's Marine Safety Program.

Moreover, the recent COSCO BUSAN and associated Incident Specific Preparedness Review (ISPR), in addition to annual reviews of Area Contingency plans, provide for case by case and continuous review of the Coast Guard, inter-agency, and stakeholder response capacity. We will institutionalize lessons-learned from the ISPR to improve future efforts.

Question 7. How does the rotation of Coast Guard personnel impact oil spill preparedness and response?

Answer. The rotation of active duty Coast Guard personnel enhances oil spill preparedness and response by promoting the sharing and dissemination of knowledge and experience among Coast Guard Commands. As personnel transfer into new commands they spread skills and experiences they have developed from other units across the service. The continuing exercises and drills on oil spill responses prepare, maintain, and ensure rotating CG personnel have the expertise, knowledge, and leadership for diverse assignments and major responses. This knowledge and experience is shared throughout the Coast Guard. This system, in combination with permanent Coast Guard civilian positions in each region, ensures continuity with an infusion of diverse spill response experience.

Question 8. Could you please explain the powers and limitations that the Coast Guard has in directing vessels, vessel traffic, and vessel movement—particularly in times of emergency. Can the Coast Guard give orders to a vessel in the same way that the FAA can give orders to planes?

Answer. The Coast Guard may exercise authority granted to it by the Ports and Waterways Safety Act (33 U.S.C. 1221 *et. seq.*) to issue orders to vessels it considers necessary in the interest of marine or navigational safety. This authority may be similar to the type of authority that the FAA enjoys for issuing orders to aircraft. In certain ports, many large commercial vessels must participate in a Vessel Traffic Service (VTS) that is monitored and operated by the Coast Guard. Unlike the FAA, a VTS does not regularly issue particular vessel navigation orders because of the nature of the marine environment and the unique factors that must be considered in order to safely navigate a large commercial vessel. These factors are different than those faced by the FAA. For instance, not all commercial vessels carry, or are required to carry, transponders and only vessels of a particular type are required to check-in and use VTS services. Indeed, there are numerous smaller vessels that are not required to be VTS users, may not carry transponders, and consequently the VTS may not have a full operational picture of the activities of those vessels.

Accordingly, when large commercial vessels are navigating within a VTS area, it is incumbent on them to rely on typical safe navigation techniques such as keeping a proper and constant visual look-out, listening for other vessels' sound signals, and monitoring ship surface radar for other marine traffic. As such, when a large commercial vessel maneuvers, it will be able to take into account the variety of factors posed by other marine traffic. More important, it is critical to recognize that each vessel has unique handling characteristics that will react differently based on the ever changing dynamics of the marine environment. Tide, current, wind, time of day and vessel operational capabilities will all be evaluated by the vessel operator in order to determine the exact rudder, engine and other commands that are necessary for proper navigation. Even though the Coast Guard has authority to issue particular vessel orders, the Service exercises significant restraint in doing so in recognition of the fact that the vessel operator may have greater situational awareness because of their familiarity with the ship and positioning on its bridge. In essence, the FAA issues orders within a more regulated, controlled, and predictable operational picture than is available in the marine environment.

Question 9. Would a more FAA-like set of powers for the Coast Guard help to avoid oil spills and vessel collisions in the future? What would be the advantages and disadvantages of such powers? What would the implications be for the maritime industry? For the Coast Guard? Would such a setup even be feasible in the maritime world?

Answer. No, an FAA-like power structure is not optimal for the marine environment. The Coast Guard has extensive authorities, such as the Ports and Waterways Safety Act (33 U.S.C. 1221 *et. seq.*) for controlling vessel traffic and prevention of oil spills. These authorities are similar to those of the FAA for aviation.

It is unknown if any technology exists that would allow the same level of surveillance of waters that air traffic control has of the air and if any risk reduction would be realized. Of particular concern with such a program would be how it could account for the unique hazards and demands of maritime navigation safety which are largely informed by information received on the bridge of the ship, including from visual lookouts, listening for sound signals from other vessels, and monitoring ship surface radar for other marine traffic.

Moreover, the regulations required to mandate participation in the Vessel Traffic Service by every vessel, from the smallest kayak to the largest container ship, are unlikely to be implemented without substantial resistance from every sector of the maritime community. This action would present an enormous shift in the exercise of vessel traffic management authority and a huge investment in an unprecedented program. Therefore, implementation and enforcement of such an FAA-like regulatory structure would be an enormous task and is viewed as an unfeasible option.

Question 10. Most of the time, state and Federal pilots can rely upon the equipment onboard the ship to steer the vessel safely. On rare occasions, however, the equipment is not reliable. Should pilots have laptops that would allow them to link to an independent source of navigation information while piloting ships? Wouldn't this help reduce possible accidents and spills? Isn't it just common sense to have an independent, backup source of information available just in case?

Answer. This is an active topic of discussion among vessel operators, pilots associations, international organizations, and the U.S. Coast Guard. There are perceived advantages and disadvantages of pilot carry-aboard equipment, such as laptop computers. Advantages of pilot carry-aboard equipment include pilot familiarity and configuration particular to a given waterway. However, while laptops do provide these benefits, their use tends to reduce participation in the actual navigation process by the vessel's Bridge Management Team. Reducing the role of the ship's crew in directing the movement of the vessel places the pilot in the position of being a single point of failure and thus has the potential for reducing overall safety.

The International Convention for the Safety of Life at Sea (SOLAS) contains comprehensive requirements for the navigation equipment to be fitted on ships. The Convention is amended periodically as new technology is developed. Coast Guard regulations require that SOLAS vessels have a "Pilot Plug" installed so that those pilots who wish to use a carry aboard system may have access to the ship's Automatic Identification System and its navigation sensors.

For a pilot carry-aboard laptop to be a useful tool, it would have to be designed and certified to standards on par with the standards for navigation equipment already fitted on the ship. Anything less could increase the risk of a casualty. Nevertheless, such pilot carry-aboard equipment could help reduce possible accidents and spills as long as it did not adversely impact coordination among the Bridge Management Team.

Question 11. The navigational equipment on vessels can vary substantially—wouldn't a standardized suite of equipment among all vessels help to prevent accidents in the future?

Answer. Navigation equipment on ships subject to the International Convention for the Safety of Life at Sea (SOLAS) must meet specific international standards. For instance, all radars must meet the International Maritime Organization (IMO) radar performance standards and the International Electrotechnical Commission (IEC) technical and testing standards for radar. The only way the equipment can differ is in added features offered by individual manufacturers. This allows ship owners to choose equipment that is built to a firm standard but also having additional capabilities that are of use in their ships' operating environment. Because of this international performance regime, SOLAS ships do have standardized equipment suites that only vary to the degree manufacturers enhance the basic equipment. However, manufacturers, ship-owners and vessel operators are considering development of a proposal for a standardized mode of operation that all manufacturers could incorporate into their system designs along with their individually added features.

Question 12. Do you believe that vessel operators should function under a single common language? Isn't language sometimes a barrier that can increase the risk of miscommunications and accidents?

Answer. Yes. The U.S. Coast Guard recognizes the importance of safe bridge-to-bridge and bridge-to-shore communications using a single common language. Con-

tained at section 160.113 of title 33 of the *Code of Federal Regulations* is a rule promulgated pursuant to the authority of the Ports and Tanker Safety Act that requires all tank ships underway in U.S. waters to operate with at least one licensed deck officer who is capable of communicating in English.

The International Maritime Organization and its Member States have recognized the importance of communications using a single common language as evident in Chapter V, Regulation 15 of the International Convention for the Safety of Life at Sea (SOLAS), which requires every ship subject to SOLAS to designate a working language that all crew members are able to understand and use to ensure effective crew performance. SOLAS also requires that all ships subject to SOLAS use English as the working language for bridge-to-bridge and bridge-to-shore safety communications and for communications between the pilot and bridge watchkeeping personnel, as well.

The International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, 1978 as amended (STCW Convention), requires all officers in charge of a navigational watch to demonstrate adequate knowledge of English using the Standard Marine Communication Phrases (SMCP) published by the International Maritime Organization. SMCP provides a simplified and easily understood version of maritime English. The STCW Convention also requires all officers in charge of an engineering watch to demonstrate adequate knowledge in English to enable the officer to use engineering publications and to perform engineering duties.

During Coast Guard inspections of commercial vessels, Coast Guard personnel ensure that ships fulfill these requirements.

Question 13. While all federally-licensed pilots receive the same training, many pilots consider the most substantial part of their training to be the state training they receive in addition to the training for their Federal license. Yet, standards and training at the state level can vary substantially. Are some states and regions more vulnerable because of their state piloting license requirements? Is there a need for more stringent requirements for a Federal pilots license?

Answer. The Coast Guard has no information to suggest that any particular state has piloting license requirements that make it “more vulnerable” than any other state. The authority for states to regulate pilots is addressed in 46 U.S.C. Chapter 85. The Coast Guard does not interfere with this authority, and we do not interject into the piloting licensing requirements of the individual states.

The Coast Guard does not have any information to suggest there is a need for “more stringent” requirements for Federal pilots licenses. The requirements for Federal pilots licenses are established in statute (46 U.S.C. 7101(e)) and specified in 46 CFR Part 10, Subpart G. The requirements include, as applicable: service requirements, route familiarization requirements, examination requirements, annual physical examination requirements, tonnage requirements and requirements for maintaining current knowledge of waters to be navigated.

Finally, it is important to note the limitations of when an individual is actually “acting under the authority” of a Federal pilot license. In accordance with 46 U.S.C. 8501 and 46 CFR 15.812, only U.S. flag vessels not sailing on register may require a Federal pilot (or an individual qualified to “serve as” a pilot). U.S. flag vessels sailing on register (e.g., to/from a foreign port), and all foreign flag vessels, do not require Federal pilotage.

Question 14. I understand that after several large non-tank vessel accidents, including the SELENDANG AYU in Alaska, and the NEW CARISSA in Oregon, that the wrecks were not fully removed. How can we allow a shipping company to leave their wreckage on the shoreline?

Answer. In general, once the Federal On-Scene Coordinator determines the threat of pollution has been mitigated and/or the situation no longer poses the threat of pollution, clean-up required by the National Contingency plan will cease and further removal actions are the responsibility of the responsible party. By law the Coast Guard is responsible for pollution response and only under certain conditions would get involved in a vessel’s salvage. Generally, the vessel’s owner is responsible for salvage.

Coast Guard authority to conduct and direct pollution response actions is derived from the Federal Waters Pollution Control Act/Clean Water Act and other legislation. This authority does not extend to the removal of wrecks once the threat of the associated oil spill and/or hazardous material release has been mitigated. At that point, the vessel is the responsibility of the vessel’s owner. In some cases, a Federal On-Scene Coordinator may determine an abandoned vessel represents an ongoing threat because it is likely to become an illegal dump site. In these cases, the Coast Guard may direct or take action to remove the vessel.

The Coast Guard works with the affected state, the U.S. Army Corps of Engineers (USACE), National Oceanic and Atmospheric Administration (NOAA), and other appropriate agencies to assess the threats such vessels may pose. In particular, the Coast Guard works with NOAA to prioritize abandoned vessels through their Abandoned Vessel Program, which prioritizes abandoned vessel removal based on impact to “sensitive areas” and available Federal funds.

Question 15a. Washington State recently completed the response to the wreck of the S.S. CATALA. This vessel ran aground in 1965, but only recently was the wreck cleaned of fuel oil. I understand that over 34,000 gallons of fuel was removed, preventing contamination of the adjacent state park. Are there other wrecks that we should proactively be responding to before oil is spilled?

Answer. There are a number of wrecks in U.S. waters which may contain oil or hazardous materials, but they may not necessarily pose an immediate risk. For instance, the USS ARIZONA is known to have fuel onboard but studies indicate it does not pose an immediate risk to the environment. Identifying all such vessels within the U.S. exclusive economic zones and assessing their potential for additional pollution would require significant interagency effort and resources.

Presently, the Coast Guard supports a National Oceanographic and Atmospheric Administration (NOAA) initiative which identifies and prioritizes wrecks located within marine sanctuaries. When the Coast Guard becomes aware of such vessels, they are assessed and mitigated as possible.

Question 15b. Does the Federal Oil Spill fund cover these kinds of incidents?

Answer. Yes. The OSTLF will generally cover the cost of removing fuel from abandoned vessels if the Federal On-Scene Coordinator (FOSC) determines a wreck poses a substantial threat of pollution to U.S. waters and if a responsible party cannot be identified.

Question 16. Has the government of South Korea requested technical assistance from the U.S. Coast Guard in its response to the recent major oil spill in that country? If so, how are you providing assistance? What is the U.S. Coast Guard’s involvement and how long do we anticipate that involvement to continue?

Answer. On December 10, 2007, the U.S. Coast Guard made an offer of technical assistance to the Korean Coast Guard (KCG) following the oil spill which occurred after a barge collided with the M/V HEBEI SPIRIT on December 8, 2007. On December 12, the KCG accepted the U.S. Coast Guard’s offer. On December 13, the U.S. Technical Assist Team (TAT) arrived in Korea; the TAT consisted of three members of the Pacific Strike Team and one Scientific Support Coordinator from NOAA. The U.S. Coast Guard and NOAA team assisted the KCG with their response priorities, which included protection of natural resources including the fishing industry, the migratory bird population, and tourist beaches. The TAT worked closely with other international teams (*i.e.*, Ministry of Maritime Affairs and Fisheries, the Korean Oceanographic Research and Development Institute, and the KCG to provide an evaluation of the overall effectiveness and management of the oil spill response.) Additionally, the TAT assisted KCG in press conference preparation. The TAT departed Korea on December 22, 2007.

Question 17. What is the most appropriate, safe, and helpful role for volunteers in the wake of a major oil spill like the one that just occurred in San Francisco? What training is required in order for volunteers to participate in post-spill cleanup activities?

In the wake of a major spill, citizens often want desperately to help in any way they can, even when this might be a logistical nightmare. What is the best way to accomplish this when oil cleanup often involves dealing with hazardous materials that require extensive training to handle?

Answer. The best role for volunteers in the wake of an oil spill is through pre-existing non-government organizations such as the International Bird Rescue Research Center and Tri-State Bird Rescue. These and similar organizations provide training on how to rescue and rehabilitate oiled wildlife, and have contributed to the success of many oil spill response efforts.

Use of previously untrained volunteers in an oil spill response operation poses many challenges. Safety requirements, such as Hazardous Waste Operations and Emergency Response (HAZWOPER) certification, generally require a minimum of 8–24 hours of training before an individual can safely work in or near the hazardous environment of an oil spill. Even with this initial safety training completed, volunteer responders must receive additional training and direction to effectively participate in response operation. The Coast Guard National Response Team is developing guidelines on how to best incorporate volunteers into an oil spill operation and enhance citizen preparation throughout the country.

Question 18. The 'Great Circle Route' is a main trade route between the U.S. West Coast and Asia. Vessels leave ports on the West Coast and cut through the Aleutian Islands in Alaska en route to ports in China and Japan. There have been a number of spills in Alaska from vessels on this route. In 2004, the 738-foot SELENDANG AYU broke apart spilling 330,000 gallons of heavy oil and spilling its entire cargo of soybeans. That voyage originated in Seattle. Last year the 654 foot COUGAR ACE nearly capsized and sank. It was loaded with 142,000 gallons of fuel and 4,800 automobiles and was heading to Portland, OR. Only heroic salvage efforts kept the vessel afloat. One salvor died. Has a risk assessment been completed for this area? What is being done to improve vessel traffic safety?

Answer. A Ports and Waterways Safety Assessment (PAWSA) was completed for the Aleutian Islands in 2006. PAWSA is a rudimentary risk assessment process that gathers and evaluates expert opinion on the navigation risk character of a waterway. It resulted in several recommendations to improve vessel traffic safety, including enhanced vessel tracking, improved meteorological information and updated navigational information. The Coast Guard continues to work with stakeholders in the area to evaluate and implement the recommended improvements. The Coast Guard has contracted with the Marine Board of the National Academy of Sciences to design a comprehensive risk assessment process specifically targeted for the Aleutian Chain and ships on a great circle transit. This initial study is expected to be completed by May 2008. The actual assessment will then be completed through a competitive contractual effort.

Additionally, the Coast Guard has an Automatic Identification System (AIS) tracking receiver in the Unimak Pass region to track vessels equipped with AIS. The Coast Guard is also helping to lead international efforts for implementation of Long Range Identification and Tracking, which would allow the monitoring of vessels transiting the great circle route. The PAWSA recommendations and enhanced tracking will help improve vessel traffic safety along this great circle route.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. JOHN F. KERRY TO
ADMIRAL THAD W. ALLEN

Question. The State of Massachusetts passed the Oil Spill Prevention Act of 2004 to help protect its waterways, but the Coast Guard continues to challenge this law in court. In several other States the Coast Guard did not challenge similar legislation. There have been several serious oil spills in Buzzards Bay. Why does the Coast Guard not allow Buzzards Bay to manage its own environmental protection activities?

Answer. As a preliminary matter, the Federal Government's current challenge concerns only two provisions of the Massachusetts law. The other provisions are either unchallenged or the Federal district court judge's opinion holding the provisions unconstitutional was not appealed by the state. The two provisions that remain subject to the litigation are Massachusetts' requirement for a tug escort for double hull tank vessels, and a provision requiring certain manning on tank vessels. The Coast Guard cannot comment on that litigation; all questions with respect to it must be referred to the Department of Justice.

However, in addition to the explanation that is contained in the rulemakings document published in the *Federal Register* at 72 FR 50052, the following information explains the Regulated Navigation Area (RNA) in Buzzards Bay and why the Massachusetts rules are in conflict.

In August 2007, the First Coast Guard District published amendments to an existing RNA that includes Buzzards Bay. The rule accomplishes four objectives:

- (1) It requires tug escorts for single-hull tankers transiting Buzzards Bay and carrying 5,000 or more barrels of oil or other hazardous material.
- (2) It requires a federally licensed pilot, in addition to the crew, to be onboard the primary tug during the transit.
- (3) It maintains the recommended route for tankers as "recommended" vice mandatory to allow mariners maximum flexibility in the event of unusual circumstances; and
- (4) It establishes a vessel movement reporting system to better track and monitor tanker movements in the Bay.

The Commonwealth of Massachusetts' rule, currently being challenged in Federal court, requires tug escorts and state licensed pilots for double-hulled tankers, as well. During the rulemaking process, the State asked that the Coast Guard adopt the same provisions in the State rule as a part of the Federal rule. After careful

consideration, the Coast Guard rejected the State's proposal, for the following reasons:

1. As stated in the preamble to the Final Rule, the Coast Guard believes that double hulls provide a sufficient margin of safety for tankers transiting Buzzards Bay. The bottom characteristics of the Bay are primarily rocky—a condition double hulls are designed to protect against. The State has repeatedly cited a situation in the Gulf of Mexico where a double-hulled tanker was involved in a spill as justification for a tug escort for double hull tank vessels. However, the Gulf of Mexico incident presented a unique set of facts—a tanker struck a submerged, uncharted oil platform that sank during Hurricane Rita. These facts are unlikely to be repeated in Buzzards Bay.
2. As Rear Admiral Sullivan, the Coast Guard First District Commander, stated when the final rules were published, the Coast Guard is seeking opportunities to create economic incentives for shippers to use double hull tankers (or stated conversely, to discourage the use of single hull tank vessels). The State's rule, by requiring tug escorts of both single and double hull tank vessels, removes that incentive. Prior to the B-120 spill in 2003, approximately 20 percent of tanker transits through Buzzards Bay were in double hull tankers. In 2005, that percentage rose to nearly 58 percent, and has remained relatively constant at that level. The Coast Guard seeks to increase that percentage; our regulatory choice (which creates an economic disincentive to use single hull tank barges) is one method of accomplishing that goal. By Federal statute, single hull tankers will be largely phased out in the United States by 2015. The Coast Guard has no authority to accelerate that timetable. In contrast, the international phase-out will be largely complete by 2010. Without double hull incentives in certain sensitive areas like Estuaries of National Significance (Buzzards Bay is so designated), use of single hull tankers might conceivably increase.
3. It has long been the Coast Guard's position that consistent, uniform national and international regulation is the most effective method to ensure navigation safety and protection of the marine environment. The majority of maritime accidents are caused by human error, and a confused mariner is an unsafe mariner. Conflicting Federal and state regulations can create such confusion. The Coast Guard wants mariners to concentrate on navigating safely, not on whether a state rule or a Federal rule applies in a certain waterway.

RNA's, such as the one covering Buzzards Bay, are created under the authority of the Ports and Waterways Safety Act of 1972, as amended. That statute requires the Coast Guard to consult and work closely with affected states before promulgating any new rules regulating vessel traffic. The Coast Guard takes that mandate very seriously, as interaction with our State and local partners is a crucial component of developing sound, sensible rules. In the case of the Buzzards Bay rule, the Coast Guard coordinated closely with State and local governments through briefings, public hearings and by giving the Commonwealth of Massachusetts and several cities and towns formal consultative status during the rulemaking process. In the final analysis, our nation, as evident in the *Federalist Papers* and in numerous subsequent Congressional and Supreme Court actions, has long recognized the need to ultimately speak with one voice on maritime matters. The actions of the Coast Guard throughout this rulemaking process have been consistent with those objectives, while always keeping in mind the value and importance of input from all stakeholders.

As for tug escort rules elsewhere, San Francisco Bay, Prince William Sound and Puget Sound are the only other places where there are tug escort rules for tankers. The conditions in those places, as well as the statutory and regulatory history for their creation, are sufficiently distinct that they should not be compared to Buzzard's Bay to determine what requirements should exist in Buzzard's Bay. For example, in San Francisco, there are no Federal tug escort rules with which the State of California's rule might conflict, and no indication that there is a need for any Federal tug escort regulation. In Prince William Sound, the rules are statutorily mandated as part of Oil Pollution Act of 1990. In Puget Sound, the tank vessels requiring escort serve only ports in the State of Washington, whereas in Buzzards Bay they serve several states (Rhode Island, Connecticut, New York, New Hampshire and Maine) in addition to Massachusetts, and thus further supports the need for Federal uniformity. Additionally, the law established by the Supreme Court in *U.S. v. Locke* in 2000, strengthened and clarified how Federal rules applicable to vessel regulation preempt State rules. This strengthened Federal preemption regime for vessel regulation was not as clear when the Puget Sound rules were adopted in 1994.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. MARIA CANTWELL TO
SUSAN A. FLEMING

Question 1. Right now a single-hulled tanker has a limit of \$3,000 per gross ton, while freighters are only \$950 per gross ton. Do you think that tank and non-tank vessels should have comparable liability limits?

Answer. The liability limits for non-tank vessels and tank barges' liability limits should be more commensurate with their historic spill costs, and as such, in our September 2007 report, we recommended that the limits be adjusted based on our analysis of major oil spills. Specifically, we found that for certain vessel types, such as tank barges, current liability limits appear disproportionately low relative to their historic spill costs—and as a result, the Oil Spill Liability Trust Fund (Fund) may continue to pay tens of millions for spills that exceed the responsible parties' limits of liability. We also found that liability limits have not been routinely adjusted for significant changes in inflation—resulting in the Fund being exposed to about \$39 million in liability claims for the 51 major spills between 1990 and 2006 that could have been saved if the limits had been adjusted for inflation. Based on these findings, we recommended that (1) the Coast Guard determine whether and how liability limits should be changed, by vessel type, and make recommendations about these changes to the Congress and (2) adjust the limits of liability for vessels every 3 years to reflect changes in inflation, as appropriate.

I should note that spills in which the costs exceed the limit of liability are rare (42 since the enactment of Oil Pollution Act of 1990, according to the Coast Guard). However, when they do occur, they can be expensive and very costly to the Federal Government. Thus, we believe adjustments are warranted.

Question 2. How would you describe the current fiscal condition of the Oil Spill Liability Trust Fund?

Answer. We did not evaluate the fiscal condition of the Fund. At the end of Fiscal Year 2006, however, the balance of the Fund was about \$604 million, which is well below its peak of \$1.2 billion in 2000. With the reinstatement of the barrel tax in April 2006, the National Pollution Funds Center anticipates that the Fund will be able to cover its projected noncatastrophic liabilities. However, there are other potential challenges that could affect the Fund's condition and place it at risk, such as additional natural resource damage claims that could be made on spills that have already been cleaned up, potential response costs and damage claims from previously sunken vessels that may discharge oil in the future, and spills that may occur without an identifiable source, and therefore, no responsible party to pay for response costs and damage claims. Furthermore, because the current liability limits appear disproportionately low relative to their historic spill costs for some vessels, the Fund may continue to pay tens of millions for spills that exceed the responsible parties' limits of liability.

Question 3. How much of the Trust Fund is devoted to drills and exercises to prepare for oil spill response?

Answer. Our 2007 report did not examine the amount of Fund expenditures used for drills and exercises to prepare for oil spill response. However, I would note that in our bodies of work, such as on homeland security issues, we have identified drills and exercises as an important component in preparedness efforts. Based on previous GAO work, we also know that the Coast Guard also has an exercise program—known as the Spills of National Significance exercise program—to test national level response capabilities. This program is focused on exercising the entire response system at the local, regional and national level using large-scale, high probability oil and hazardous material incidents that result from unintentional causes such as maritime accidents or natural disasters. A recent program exercise, in June 2007, tested the response and recovery to an oil and hazardous materials release in the wake of a large scale earthquake in the Mississippi and Ohio River valleys. According to Coast Guard officials, there was a multi-agency oil spill response exercise, called Safe Seas, held in the San Francisco area in August 2006.

Question 4. Spills are infrequent, but the public demands a swift and effective response and prompt restoration. Yes or no: are sufficient resources being spent on training and preparedness so that when spills happen the agencies are ready to respond?

Answer. Our 2007 report did not examine the resources spent on the Coast Guard's training and preparedness efforts, so we do not know the extent to which sufficient resources are being spent on training and preparing for spills. However, I would note that in our bodies of work, such as on homeland security issues, we have identified drills and exercises as an important component in preparedness ef-

forts. But, as we heard from agency and private-sector officials, no two oil spills are the same and each presents challenges that are different than any other spill.

Question 5. Despite the fact that oil spills occur on a regular basis throughout the United States, I understand that we do not have a complete understanding of how to most efficiently respond to these events. Is additional research in this field needed? If so, are there any areas of high priority?

Answer. Our 2007 report did not examine the efficiency of spill response. As we heard from industry experts and agency officials, no two oil spills are the same and each presents challenges that are different than any other spill. Some private sector officials we spoke with, however, cited two challenges facing spill response efforts. First, Coast Guard officials are increasingly inexperienced in handling spill response, in part because the Coast Guard's mission has been increased to include homeland security initiatives. This is a concern because poor decision-making during a spill response could lead to the deployment of unnecessary response equipment, or worse, not enough equipment to respond to a spill. Second, some private-sector officials stated that spill response companies, in general, have less experience in dealing with spill response and the local geography of an area affected by the spill. The geography can be critical to determining which spill response techniques are most effective in a given area. They attributed the limited experience to the overall decline in the number of spills in recent years.

Question 6. NOAA has a critical role in preparing for and responding to oil spills. Why does the Department of the Interior and the Environmental Protection Agency receive an annual appropriation from the Oil Spill Liability Trust Fund (OSLTF) and NOAA does not?

Answer. Our 2007 report did not examine the level of annual appropriations from the Oil Spill Liability Trust Fund to individual Federal agencies, nor how those agencies use the appropriations. However, we reported that between 1990 and 2006, approximately 61 percent of the Oil Spill Liability Trust Fund expenditures went to Federal appropriations. The U.S. Coast Guard received the most appropriations from the Fund, followed by the Environmental Protection Agency, Federal research and other programs, and the Department of the Interior.*

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. MARIA CANTWELL TO
DAGMAR SCHMIDT ETKIN, PH.D.

Question 1. The rescue tug at Neah Bay, Washington, has rescued several ships in distress in the past several weeks. These include a 720 foot container ship on December 3rd, and an oil tanker barge on December 11. The engines of the vessel towing the oil barge went out, and the barge was left floating adrift toward shore. With 2 million gallons of diesel and 500,000 gallons of gasoline in the barge, a grounding and spill would have been disastrous.

- What kinds of environmental impacts would have resulted from a spill if the rescue tug had not been there?
- Can you quantify the costs that were potentially averted by the rescue of these two vessels?
- What would be the costs of a major spill of crude oil or bunker fuel?
- In light of the numerous saves the Neah Bay tug has made, isn't it clear that this is a good return on investment for oil spill prevention?

Answer. The Neah Bay rescue tug has been credited with 37 responses since 1999, including two this past December. In the 11 December 2007 Towing Vessel NA HOKU-T/B NOHO HELE incident,¹ there could have been *significant* impacts from the spillage of 2,016,000 gallons of diesel fuel and 462,000 gallons of gasoline. The spillage of these volumes of oil, or even a *portion* of that oil, could have caused significant environmental and socioeconomic impacts. With the westerly wind and currents in that area, the oil would have impacted the Olympic Coast National Marine Sanctuary and coastal areas. Diesel fuel and gasoline are relatively non-persistent

*Federal research and other programs include appropriations to Department of Transportation, the Denali Commission, and the Oil Spill Recovery Institute. The Department of Treasury and the Army Corps of Engineers have received appropriations, but these account for about 0.10 percent of Fund expenditures.

¹The 105-foot towing vessel NA HOKU, towing the single-hulled barge NOHO HELE, suffered electrical power generator failures thirteen miles off the Washington coast while en route to Portland, Oregon, from Port Angeles, Washington, in the vicinity of the Olympic Coast National Marine Sanctuary. The T/B NOHO HELE was laden with 2,016,000 gallons of diesel fuel and 462,000 gallons of gasoline. Seas were 8–10 feet and winds were westerly at 20–30 knots.

and would not have caused significant visible coastal oiling, but these oils are extremely *toxic*. Due to the location of the spill, the sea conditions, and the nature of the spilled oil, it would have been very difficult to mount a successful spill response to mitigate any damages, though resources would likely have been expended to attempt this. A shoreline response in the form of damage surveys would likely have ensued. Extrapolating from various modeling studies conducted for the Washington Department of Ecology,² the oil would likely have spread over several hundred square miles. While the costs would vary based on the exact impacts of the oils and conditions at the time of the incident, the response costs, natural resource damages, and socioeconomic impacts could easily have topped hundreds of millions of dollars if not \$1 billion. Impacts would have included fish mortality, subsistence fishing impacts,³ commercial fishing losses, mortality in diving birds, and damage to sensitive marine ecosystems in the designated Olympic National Marine Sanctuary and adjoining areas.

The 3 December 2007 rescue of the container ship KAUAI⁴ likely averted the spillage of as much as a million gallons of bunker fuel. A spillage of this much persistent oil would likely have caused significant impacts. Bunker fuel would likely have coated a significant length of shoreline with fresh oil or with tar balls along both the Washington and Oregon coasts. Depending on conditions at the time of the spill, shoreline impacts could have been significant requiring a long-term cleanup effort. The spillage of this much bunker fuel would likely have had significant impacts on birds and marine mammals. Costs for a spill of this type could easily have reached topped hundreds of millions of dollars if not \$1 billion mark.

A major spill of crude oil from a large tanker would most likely result in costs of tens of billions of dollars depending on the circumstances surrounding the spill. Impacts of crude oil spills in Washington waters would include commercial and subsistence fishing losses, significant environmental and natural resource damages, tourism losses, and impacts to private and state property. In addition, there are likely to be significant social impacts. The demoralizing social and psychological impacts of a major spill incident are difficult to measure, but have clearly been demonstrated in studies conducted in the wake of the EXXON VALDEZ spill.

The Neah Bay rescue tug program has clearly demonstrated that it can avert potential environmental disasters and help in the protection of Washington, Oregon, and Canadian waters and shorelines. As such, it represents a good return on investment.

Question 2. I understand that prompt and effective salvage is important for preventing and minimizing spills. Keeping oil on the ship and keeping it from sinking is critical to protecting the environment. Have you studied this issue of the benefits of salvage? Isn't this a clear example of how investing in prevention can far outweigh the costs of disaster?

Answer. Logically, the order of preference with regard to preventing damage from oil spills is: prevention of accidents and actions that can result in vessel damage and spillage, reducing the magnitude of spillage at the source, preventing the spread of the oil with a high level of response preparedness, protecting the most sensitive resources, and, last, doing a thorough job cleaning up the oil. Short of preventing the spill in the first place, effective salvage measures are the best ways to control the magnitude of an oil spill. Stabilizing the vessel, controlling the spillage of oil at its source, and reducing the amount of oil released to the environment are the next best ways to averting significant damages. Trained salvage teams can often

² French-McCay, D., J. Rowe, N. Whittier, S. Sankaranarayanan, D.S. Etkin, and L. Pilkey-Jarvis. 2005. Evaluation of the consequences of various response options using modeling of fate, effects and NRDA costs of oil spills into Washington waters. *Proceedings of 2005 International Oil Spill Conference*: 467–473. Etkin, D.S., D. French-McCay, J. Rowe, N. Whittier, S. Sankaranarayanan, and L. Pilkey-Jarvis. 2005. Modeling impacts of response method and capability on oil spill costs and damages for Washington State spill scenarios. *Proceedings of 2005 International Oil Spill Conference*: 457–462. Etkin, D.S. 2004a. *Response Cost Modeling For Washington State Oil Spill Scenarios*. Prepared by Environmental Research Consulting, Cortlandt Manor, NY, for Washington Department of Ecology, Olympia, WA. Contract No. C040018. 56 pp. 30 June 2004. Etkin, D.S. 2004b. *Socioeconomic Cost Modeling For Washington State Oil Spill Scenarios*. Prepared by Environmental Research Consulting, Cortlandt Manor, NY, for Washington Department of Ecology, Olympia, WA. Contract No. C040018. 83 pp. 21 July 2004.

³ Tribal nations of Washington State are highly dependent on fish and shellfish caught in Washington waters and on Washington shorelines for basic nutritional needs. Young children deprived of protein in their formative years can have life-long impairments.

⁴ On 3 December 2007, the 720-foot container ship KAUAI outbound from Seattle, Washington, to Oakland, California, encountered a storm with 60-foot waves and 64-knot winds 90 miles west of the entrance to the Columbia River. The vessel sustained damage and required escort back to the Strait of Juan de Fuca for repairs.

significantly reduce the impacts of a spill and turn what could have been a significant incident into a relatively minor manageable incident.

To the best of my knowledge there has been no rigorous cost-benefit analysis of salvage as a means to reduce oil spillage that has been conducted, though it would certainly be possible to do this.⁵ The benefits of salvage have been described in a paper presented at the 2003 International Oil Spill Conference⁶ for which I provided spill data and analyses. In this report, data from the International Salvage Union (ISU) indicated that in the year 2000, 310 salvage rescue efforts averted the spillage of enough oil to represent 11 spills the size of the EXXON VALDEZ. This represents roughly \$60–\$100 billion in averted damages in that year alone. Clearly, investing in salvage capabilities is an important part of preventing significant environmental damages. A more detailed analysis would more clearly elucidate the benefits of salvage.

Question 3. Currently liability limits makes a distinction between tank and non-tank vessels, and for tank vessels, whether they have single or double hulls. If the U.S. were to adjust liability limits for vessels, what other factors should be considered? Should non-tank vessels get a break for having protectively located fuel tanks?

Answer. Logically, since the liability limits are related to the *risk* of an oil spill—and risk is the product of the *probability* of having an incident times the *consequences or impact* of the incident—these limits should take into account both sides of the risk equation. In other words, the limits are designed to anticipate potential costs and impacts from spill incident as well as the probability that the incident will happen in the first place.⁷

From the standpoint of potential impacts and consequences of a spill, the liability limits should be based on the *amount of oil* and the *type of oil* that is carried by the vessels, whether they are tank vessels or non-tank vessels. The amount of oil factor can easily be applied by having a liability limit that is tied to the size of the vessel.⁸ The type of oil could also determine the costs that might be incurred. A heavier oil would tend to be more expensive with regard to cleanup and damages than a lighter non-persistent oil.⁹ Rightly, the locations in which the vessels are traveling should also be taken into account in that the consequences of a spill are highly contingent on the location in which the spill occurs. To some extent this location factor is already taken into account with regard to the higher financial responsibility requirements in U.S. waters compared to non-U.S. waters. States are also given the right as per the Oil Pollution Act of 1990 of setting their own liability limits, including unlimited liability.¹⁰

The *probability* of having a spill is dependent on a variety of factors, including the structural integrity of the vessel, the location in which the vessel transits, the skills of the pilot, captain, and vessel crew, and other variable factors, such as weather. Since most of these probability factors change from trip to trip, it is difficult to assign a particular adjustment to the vessel with regard to its liability lim-

⁵I would recommend an approach that would include an analysis of salvage efforts that have been documented and modeling the spillage that might have occurred without salvage efforts and then estimating the costs with and without the benefits of salvage. I conducted a similar study for the U.S. Environmental Protection Agency in which the numbers of spill incidents with and without the various prevention programs were compared and costs that were “averted” with the implementation of prevention measures were estimated to determine the benefits of the prevention measures. See Etkin, D.S. 2004. Modeling oil spill response and damage costs. *Proceedings of 5th Biennial Freshwater Spills Symp.* Etkin, D.S. 2004. Twenty-year trend analysis of oil spills in EPA jurisdiction. *Proceedings of 5th Biennial Freshwater Spills Symposium.* Another study was conducted for the U.S. Coast Guard with regard to the benefits of various spill response technologies. Etkin, D.S. and P. Tebeau, P. 2003. Assessing progress and benefits of oil spill response technology development since EXXON VALDEZ. *Proceedings of 2003 International Oil Spill Conference*: pp. 843–850.

⁶Lentz, S.A., and F. Felleman. 2003. Oil spill prevention: A proactive approach. *Proceedings of the 2003 International Oil Spill Conference*: pp. 3–27.

⁷All of this is analogous to the ways in which automobile insurance rates are determined. While the procedures vary from state to state, there are general principles of setting the insurance rates based on driver characteristics (age, experience, and driving history), automobile type (including safety features), and location of driving.

⁸There needs to be a certain minimum liability amount in that any spill of a commercial vessel of at least 300 GRT will have a certain cost due to the logistics of response.

⁹In fact, on the international front, there is no liability convention for non-persistent oils (including diesel). For a discussion of persistent vs. non-persistent oils see: Davis, B., D.S. Etkin, M. Landry, and K. Watts. 2004. Determination of oil persistence: A historical perspective. *Proceedings of Fifth Biennial Freshwater Spills Symposium.*

¹⁰The following states have unlimited liability for cleanup costs and other damages: Alabama, Alaska, California, Connecticut, Georgia, Hawaii, Maine, Maryland, Massachusetts, Mississippi, New Hampshire, New Jersey, Oregon, Pennsylvania, Rhode Island, South Carolina, Virginia, and Washington.

its. While the structural integrity of the vessel can vary over the lifetime of a vessel and will be dependent on maintenance and passing various inspections, the design of the vessel with regard to the protection of the oil cargo and/or fuel is not variable from one trip to the next. Since it is well established that the protection of oil cargo and fuel tanks with secondary hulls or protective locations¹¹ reduces the probability of spillage and can reduce the amount of spillage when a breach does occur, the presence or absence of the double hulls or double fuel tanks should be taken into account in establishing liability limits.

Question 4. I understand from GAO that large spills from tank barges often exceed the liability limits. Does it make sense to lump barges and tankers together, or should we have separate liability limits for tank barges?

Answer. Tank barges often carry two million gallons of oil, which can be a significant amount in the event of a spill. Significant damages have resulted from spills from tank barges.¹² As mentioned earlier, liability limits should be based on the risk of spillage with regard to the amount of and type of oil carried, as well as the probability that such a spill would occur in the first place. In this respect, there are likely to be differences between tank ships and tank barges.

While I have not yet undertaken such an analysis, it would be fairly straightforward to examine the differences in risk from tank barges *vs.* Tankers (tank ships) with regard to the probability of spillage given an accident (differentiating between single- and double-hulls) and the relative amount of cargo that is spilled in the event of an accidental grounding, collision, or allusion. This analysis, which could be conducted fairly quickly, could determine whether it really makes sense to treat tank barges and tank ships differently with regard to liability limits and financial responsibility requirements.

Question 5. In your testimony you said that there has never been a worst-case discharge from a large vessel in the U.S. I understand that the COSCO BUSAN only spilled about 5 percent of its fuel oil, and the EXXON VALDEZ only spilled about 20 percent of its cargo. Yet both incidents swamped the local capacity to respond. Despite assurances the response was 'all hands on deck,' we still did not manage to prevent oil from reaching shore and wreaking untold environmental damage.

- Are the worst-case plans realistic?
- What kinds of costs might be anticipated from a truly worst case non-tank vessel spill?

Answer. A spill of any magnitude is likely to quickly overwhelm local resources in that everything that is available locally will likely be brought in at the request of the Federal On-Scene Coordinator in conjunction with the responsible party's representatives. A tiered response in which cascades of resources from local equipment/personnel caches, and then from regional and national resources will be brought in. In some cases, international assistance may even come into play. When the EXXON VALDEZ spill occurred in 1989, our response organizations and the general response infrastructure were ill-prepared to deal with the magnitude of the response required. Contingency plans at the time were ill-conceived and inadequate and response resources were not appropriately ready.¹³ Since that time, there have been significant improvements in our response infrastructure and readiness. The U.S. Coast Guard has implemented a systematic certification of oil spill removal organizations (OSROs) with inspections and increased the response requirements with regard to response capability standards and the timing of responses. But, the fact that with even a relatively small spill such as the M/V COSCO BUSAN incident in San Francisco Bay in November 2007 our response capabilities were overwhelmed and disorganized demonstrates that we still have far to go. OSRO owners express that they have difficulties maintaining preparedness with the decrease in the number of incidents¹⁴ and that any increases in requirements for increased preparedness with

¹¹ Michel, K., and T. Winslow. 2000. Cargo ship bunker tanks: Designing to mitigate oil spills. *SNAME Marine Technology*, October 2000.

¹² Two notorious examples include: the 1994 T/B MORRIS J. BERMAN spill of 750,000 gallons of No. 6 (Bunker C) fuel oil in Puerto Rico, which resulted in \$124 million in costs; and the 1996 T/B NORTH CAPE spill of 828,000 gallons of diesel fuel in Rhode Island that resulted in \$190 million in costs.

¹³ Etkin, D.S. 1990. *Oil Spill Contingency Planning*, Cutter Info. Corp., Arlington, MA, 116 pp.

¹⁴ Usher, D. 2003. How response contractors are remaining vigilant and viable despite the downward trend in oil spills. *Proceedings of the 2003 International Oil Spill Conference*: pp. 809–811.

regard to the amount of equipment and personnel or the rapidity of the response will likely tax the existing infrastructure. The U.S. Coast Guard's response requirements are wholly inadequate to respond to anything but a moderate-sized spill.¹⁵ The standards are not even designed to deal with spills of a worst-case discharge.¹⁶

If there were to be a worst-case discharge from a fully-laden tanker,¹⁷ this could amount to a spill of 80 million gallons of crude oil. The response requirements would depend on the location, but if this type of incident were to occur in a coastal area, there would likely be a massive response with all local, regional, and national resources being brought to the scene over the course of several days.

It would be extremely difficult for there to be any kind of effective on-water spill response with mechanical containment and recovery. The best outcome with such methods might be a recovery of 10–20 percent of the spilled oil, though with such a large spill, the results may be even more disappointing as the spread of the oil would quickly make it difficult to contain and remove the oil. Unless the use of chemical dispersants¹⁸ was to be approved, the response will likely be largely shoreline cleanup. The shoreline impacts would likely reach hundreds of miles. The response would take many months or even years to complete.

If there were to be a worst-case discharge from a fully-laden tanker, the costs could be astronomical. Again, the exact costs would depend on oil type, weather conditions, and, most importantly, *location*.¹⁹ Since there never has been a worst-case tanker discharge in U.S. waters and examples from outside the U.S. are not relevant for cost-estimation purposes,²⁰ it is necessary to model hypothetical spills to estimate the costs of a worst-case discharge. While this exercise has not been specifically addressed on a national level, there are some examples of modeling from which one could extrapolate the costs of a worst-case discharge.²¹ Modeling of hypothetical spills of 80 million gallons indicates that cleanup response costs alone could easily reach \$15 billion.²² Socioeconomic and natural resource damages could add several hundred million to billions of dollars on top of this. Clearly, no existing liability limit for tankers covers these levels of costs.

A worst-case discharge from a non-tank vessel would be considerably smaller, perhaps two million gallons of heavy fuel oil. The costs for this type of spill could easily

¹⁵A study I conducted for the Washington Department of Ecology showed that the state's higher response standard would significantly reduce the costs and damages of an oil spill over the Federal (U.S. Coast Guard) standards. Etkin, D.S., D. French-McCay, J. Rowe, N. Whittier, S. Sankaranarayanan, and L. Pilkey-Jarvis. 2005. Modeling impacts of response method and capability on oil spill costs and damages for Washington State spill scenarios. *Proceedings of 2005 International Oil Spill Conference*: 457–462.

¹⁶The highest level of required response capability (after 3 days) is about 500,000 gallons of oil removal per day. This would mean that it would theoretically take 160 days to completely remove the oil from an 80-million gallon spill.

¹⁷Crude oil tankers tend to be larger than product tankers. A fully-laden product tanker (e.g., one with No. 2 diesel oil) would likely hold less than half this amount.

¹⁸Chemical dispersants are akin to detergents that are applied to the spilled oil on the water surface to chemically and physically break the oil down into smaller droplets that can be dispersed and diluted with wave action. This methodology is applied in many non-U.S. spills to dramatically reduce shoreline oiling. It is the first-order of response in many parts of the world, but, because of concerns about the potential toxicity of the dispersed oil and the dispersant chemicals themselves, it is generally not used in U.S. waters. There are certainly limitations in their use in nearshore waters because of the lack of physical mixing in shallower waters. The U.S. Coast Guard has designated certain areas of pre-approval in U.S. waters, principally away from nearshore areas and other sensitive locations.

¹⁹The location of the spill would determine the sensitive resources at risk, as well as the degree of cleanliness (known as the "how clean is clean" factor) required by the local communities and authorities. Generally, the more sensitive resources, such as wetlands, require the most expensive cleanup operations because they are both sensitive to the impacts of the oil and to the impacts of the response operations (e.g., people and equipment trampling through the marsh).

²⁰The costs of non-U.S. spills tend to be considerably lower than those in the U.S. due to the relatively low liability limits set in international conventions (Civil Liability and International Oil Pollution Compensation Fund Conventions) to which the U.S. is not party. The standards of "cleanliness" after a spill are also usually lower than is norm in the U.S. There is currently no compensation for environmental or natural resource damages in non-U.S. spills. In many cases, the more effective and less expensive chemical dispersant strategy is applied. This tends to significantly reduce the amount of shoreline oiling. All of these factors make non-U.S. spills essentially irrelevant for cost estimations of U.S. spills.

²¹A more rigorous modeling analysis of a variety of hypothetical worst-case discharges would be required for a more definitive answer to this question. This has not been done to date.

²²Based on modeling work I conducted for National Academy of Sciences Transportation Research Board (National Research Council Committee for Evaluating Double Hull Tanker Design Alternatives. 2001. *Environmental Performance of Tanker Designs in Collision and Grounding: Method for Comparison*. Special Report 259. National Academy Press, Washington, D.C. 136 pp. plus appendices on CD-ROM.)

reach \$1 billion in spill response costs and more in natural resource and socioeconomic damages.

Overall, in the case of a very large spill or worst-case discharge, there will be a prolonged response, astronomical costs, and environmental, social, and socioeconomic impacts that may be felt for many years or perhaps decades. Because each spill situation is so different, it is extremely difficult to precisely plan an appropriate response or to accurately predict outcomes. It may not really be possible to anticipate every contingency. But, there are many “lessons learned” that can be derived from past spill experiences here in the U.S. as well as from incidents outside the U.S. Post-mortem studies of spill responses often show a lack of coordination amongst key players, strategic errors, and miscommunication. The difference between a well-executed spill response and a poorly-executed effort can mean a considerable difference in impacts and costs. For example, in one spill in Maryland (138,600 gallons of heavy fuel oil), costs (and environmental damages) were shown to be at least 60 percent higher than they would have been had responders followed the directions of the on-scene coordinator.²³

The keys to a successful response and mitigating damages to the greatest extent possible are *rapidity* of the response with well-trained personnel and well-maintained equipment, and *good strategic decision-making based on sound scientific and technical information*. A thorough understanding of the behavior of oil under different conditions, pre-planning and exercising of contingency plans including the Incident Command System, prioritization of sensitive resources at risk (for protection), and informed use of technological equipment and resources to locate oil and predict its movement will increase the likelihood of success and minimize or reduce damages. Funding of key studies and those agencies that are involved in spill response (e.g., U.S. Coast Guard, EPA, and NOAA) will help in this regard. When the “horse is out of the barn” (i.e., the oil has spilled), time is of essence. Each hour that passes allows the oil to spread further on the water surface, decreasing the likelihood of successful removal and increasing the breadth of damages. There are many extremely knowledgeable and talented individuals and organizations involved in spill response. We need to continue to tap this expertise and continue to train a new generation of experts for the future. This will require funding at the Federal and state levels, as well as from industry.

Question 6. A large amount of money is spent on oil spills once they occur, but are we spending enough on prevention activities? For example, after the SELENDANG AYU and COUGAR ACE incidents in Alaska, there were calls for improvements to vessel traffic in the Aleutian Islands, but funding for conducting a navigation risk assessment was hard to come by.

Answer. Oil spill response—when conducted in the thorough manner expected by a public that is concerned about environmental protection and restoration—is very expensive, because of the large amount of trained labor, specialized equipment, logistical arrangements, hazardous material disposal, and monitoring required. In addition, the costs to restore and rehabilitate a damaged environment and to compensate socioeconomic damages can be exceedingly high, depending on the specific circumstances of the spill. Rehabilitation of damaged environmental habitats can take years or decades. Once a spill has occurred, these costs and damages are inevitable. There are few things that can be done to significantly reduce costs and damages. Because of the high costs involved, *prevention* is the best way to mitigate these costs and damages.

Analyses of vessel-sourced spill incidents often indicate that human error and navigational errors in high-vessel traffic areas are at the root of most of the larger spill incidents (i.e., those involving collisions, allusions,²⁴ and groundings). Navigational risk assessment studies, such as those that have been conducted in the Puget Sound,²⁵ can help in developing better vessel traffic control systems, improving navigational information for vessel operators, and determine the best locations for rescue tugs and spill response equipment. These types of studies are complex, when

²³ Etkin, D.S., D. French-McCay, and J. Rowe. 2006. Modeling to evaluate effectiveness of variations in spill response strategy. *Proceedings of 29th Arctic and Marine Oilspill Program Technical Seminar*: 879–892. Etkin, D.S., D. French-McCay, and J. Rowe. 2006. Use of trajectory modeling to analyze variations on the response strategies for inland spills. *Proceedings of 2006 Freshwater Spills Symposium*.

²⁴ An allusion occurs when a moving object strikes a stationary object, as when a ship hits a pier.

²⁵ Herbert Engineering Corp. and Designers & Planners, 1999. *Use of Tugs to Protect Against Oil Spills in the Puget Sound Area*. U.S. Coast Guard Report 9522–001, November 1999. Glosen Associates, Inc., and Environmental Research Consulting. 2004. *Study of Tug Escorts in Puget Sound*. Prepared for Washington Department of Ecology, Olympia, Washington. Contract No. ECY0414. 135 pp.

done well, and require significant funding. But, funding for these types of studies is essential. The implementation of recommended changes in navigational practices and other regulations to improve vessel safety that result from these studies, can significantly reduce the incidence of spills and the devastating costs and impacts that result. A study that I conducted for the Washington Department of Ecology²⁶ showed that the investing in prevention measures to reduce vessel spills can significantly reduce the incidence of spills from tank vessels and non-tank vessels. Clearly, investing in spill prevention and investing in the studies that make for informed decisions in spill prevention makes good sense.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. MARIA CANTWELL TO
HON. MIKE COOPER

Question 1. The rescue tug at Neah Bay, Washington, has rescued several ships in distress in the past several weeks. These include a 720 foot container ship on December 3rd, and an oil tanker barge on December 11. The engines of the vessel towing the oil barge went out, and the barge was left floating adrift toward shore. With 2 million gallons of diesel and 500,000 gallons of gasoline in the barge, a grounding and spill would have been disastrous. From your perspective, what would have been the impact on Washington State if one of these vessels had not been saved by the rescue tug and there had been a catastrophic oil spill? In light of the numerous saves the Neah Bay tug has made, isn't it clear that this is a good return on investment for oil spill prevention? Do you believe a rescue tug at Neah Bay is a necessary preventative investment?

Answer. You ask what would have been the impact on Washington State had one of these vessels not been saved by the rescue tug and there had been a catastrophic oil spill?

While there is no definitive answer to your question, experts calculate, at a minimum, that significant oil spills in Washington waters could result in hundreds of millions, if not billions, of dollars of socioeconomic impacts.

Yet, this estimate does not incorporate a spill's impact on the longer-term quality of life, psychological impacts, and spiritual values.

Neither does it take into consideration the ability of a damaged natural environment to provide us with valuable ecosystem services.

Socioeconomic Costs

An oil spill can have serious socioeconomic impacts. There are several good reports on this topic by Environmental Research Consulting that are incorporated by reference:

- *Regulatory Analyses for Economical and Environmental Impact for U.S. Coast Guard* (U.S. Coast Guard) (2005).
- *Oil Spill Response, Socioeconomic, and Environmental Cost-Benefit Analysis* (WA Dept. Ecology): (2003–ongoing);
- *Socioeconomic Cost Modeling for Washington State Oil Spill Scenarios: Part II* (2005).

The second cited report provides the following view on socioeconomic damages to Washington State in the event of a large spill.

An oil spill can have serious socioeconomic impacts on the affected region, local communities, residents, the state, and the Federal Government. These impacts include damages to real and personal property, loss of use of natural resources (parks and recreation areas), and loss of income and expenses (fishing, tourism, recreation, shipping and other commerce). As a major shipping port and tourist and recreation area, Puget Sound and the Columbia River are particularly vulnerable to socioeconomic impacts from oil spills. Reduction in tourism, commercial fishing, and blocking the shipping port could have widespread impacts. There can also be serious impacts on the Tribal Nations, particularly with respect to subsistence fishing. In the case of an oil spill, the Oil Pollution Act of 1990 allows the Federal Government to collect from responsible parties socioeconomic costs including:

- Loss of natural resources (lost-use);
- Losses for destruction of real/personal property;
- Losses of subsistence use of natural resources;

²⁶ Etkin, D.S., and J. Neel. 2001. Investing in spill prevention—Has it reduced vessel spills and accidents in Washington State? *Proceedings of 2001 International Oil Spill Conference*: 47–56.

- Net loss of taxes/fees/net profit due to injury, destruction/loss of real/personal property or natural resources;
- Loss of profits or earning capacity due to damage to real/personal property or natural resources (*e.g.*, fish); and
- Governmental costs for providing increased or additional public services during or after removal activities.

In addition to the costs that the Federal and state government authorities can collect, there are also possible third-party damage suits that can ensue. Successful damage suits in past oil spill incidents have included payments for:

- Out-of-pocket costs relating to removal of oil or restoration of impacted property;
- Economic losses, including lost revenues and profits due to lost tourism or business opportunities;
- Cost of repair/replacement of physical property damaged by a spill (*e.g.*, fishing nets, docks);
- Loss of revenues from decreased fishing resource;
- Increased cost of fishing due to necessity of fishing in different locations;
- Damages to real property, including potential damage to market values of properties “stigmatized” by an oil spill;
- Possible replacement of natural resources irretrievably oiled by the creation of new natural resources;
- Losses by sport fishermen incurred as result of curtailment of fishing; and
- Subsistence losses to American Natives.

Socioeconomic costs are based on the real and perceived impacts, which are related to the degree of oiling, the oil type and persistence, the degree to which clean-up operations can mitigate the oil impacts, and the time of the impact.

This demonstrates that significant oil spills in Washington waters could result in hundreds of millions, if not billions, of dollars of socioeconomic impacts.

Oil spills in the state could involve significant impacts to commercial fishing, tribal nations, subsistence fishing, ports, tourism, wildlife viewing, hunting, and other resources that are important to the state. But measuring these values is always difficult and often involves a variety of assumptions. Additionally, this measure does not include other spill impacts, such as long-term quality of life, psychological impacts, and spiritual values.

Additionally, standard economic damage calculations do not include the loss to society of ecosystem services. Modern economic thinking, however, is beginning to incorporate this loss into damages calculations. When portions of the commons that belong to all humanity are lost—for example if a large spill caused the extinction of the Orca whale—the ecosystem services provided by those resources are no longer available to humanity.

The Cost of Lost Ecosystem Services

An oil spill would damage the environment’s ability to provide us with valuable ecosystem services.

Generally speaking, ecosystem services include *provisioning*, such as the production of food and water; *regulating*, such as the control of climate and disease; *supporting*, such as nutrient cycles and crop pollination; *cultural*, such as spiritual and recreational benefits; and *preserving*, which includes guarding against uncertainty through the maintenance of diversity. Wikipedia. The services of ecological systems and the natural capital stocks that produce them are critical to the way the Earth’s life-support systems function. These directly and indirectly contribute to human welfare and represent part of the total economic value of the planet. *Economic Reasons for Conserving Wild Nature*, Andrew Balmford, *et al.*, Science Magazine, Vol. 297, August 9, 2002 (attached* and incorporated by reference).

Coastal systems, including estuaries, coastal wetlands, river deltas and coastal shelves, are particularly rich in ecosystem goods and services. They provide widely ranging and highly valued resources that include fisheries, open spaces, wildlife habitat, nutrient cycling, and recreational opportunities. *Integrated Assessment and Valuation of Ecosystem Goods and Services provided by Coastal Systems*, Matthew

*This article is retained in the Committee’s files.

A. Wilson, *et al.* (attached* and incorporated by reference). They also provide climate regulation and soil formation. Balmford, *supra*.

Economists are working to develop better frameworks for assessing and valuing the goods and services provided by coastal systems. See *e.g.*: Wilson, *supra*. Experts have estimated that a large-scale oil spill in Washington would cause socioeconomic damages in the “hundreds of millions, if not billions” of dollars. If we add to this the loss of ecosystem services, the damages exponentially increase.

TENYO MARU Spill—a Reference Point

In 1991, the Japanese fish processing vessel TENYO MARU was involved in a collision 20 miles west of Cape Flattery. It sank at the point of collision in 90 fathoms of water with a reported 475,000 gallons of oil onboard. It initially leaked a large amount of oil and undetermined amounts were reported leaking for more than a month after the collision. Beaches were fouled from Vancouver Island, British Columbia to northern Oregon.

While impacts were scattered along the entire Washington State shoreline and the northern beaches of Oregon, the heaviest oiling occurred along the Makah Indian Reservation and the Olympic National Park shoreline. A large number of birds, including Common Murres, federally-threatened Marbled Murrelets, auklets, Tufted Puffins and Pigeon Guillemots were killed. Kelp beds had substantial amounts of oil in them for weeks.

The U.S. Fish and Wildlife Service (USFWS), the State of Washington, and the Makah Indian Tribe were responsible for the care of impacted wildlife and, along with the National Oceanic and Atmospheric Administration (NOAA) documented the injuries to natural resources. These parties formed a Trustee Committee that was responsible for planning, designing, constructing, and implementing restoration projects to compensate the public for the losses as a result of the oil spill.

The natural resources damages assessment performed by the trustees was done under the Oil Pollution Act of 1990 (OPA) and its accompanying Natural Resource Damage Assessment and Restoration (NRDAR) process. The goal of OPA is to make the environment and the public whole for injuries to natural resources and services resulting from an incident involving a discharge of oil. Through this process, the Trustees work to return the injured natural resources and services to a pre-incident condition and to compensate the public for their losses.

Importantly, the NRDA process excludes any assessment of the loss of ecosystem services. Rather, as the natural resources damages settlement for the TENYO MARU shows, the trustees come up with a list of restoration projects needed in light of the spill. Then the trustees attempt to collect the costs for performing those projects from the spiller.

For example, to settle the trustees’ claims for the TENYO MARU accident, defendants agreed to pay approximately \$5.2 million to restore, rehabilitate, replace, or acquire the equivalent of natural resources injured by the oil discharge. This was in addition to \$500,000 to pay a civil penalty assessed by the U.S. Coast Guard, \$3,000,000 to reimburse oil removal costs, \$340,028 to reimburse damage assessment costs incurred by the Trustees, for a total settlement cost of \$9 million (over and above approximately \$2.4 million in removal costs previously paid).

The \$5.2 million dollar portion paid for the following projects: (1) permanent protection of Marbled Murrelet habitat and reduction of river silt to the marine ecosystem, (2) terrestrial Marbled Murrelet surveys to protect forested habitat through the identification of nesting locations, (3) restoration of Common Murre colonies in Copalis National Wildlife Refuge, (4) emergency towing vessel at entrance to the Strait of Juan de Fuca, and (5) producing publications, signs, and brochures. <http://www.fws.gov/westwafwo/contaminants/Final%20Tenyo%20sum%20.pdf>.

This settlement is significant—\$5.2 million. Yet it does not represent the whole picture on damages from the TENYO MARU spill to Washington State. First, it was the product of a legal settlement. Second, not all types of damages, such as loss of ecosystem services, were considered. Yet, the natural resources damages assessment for the TENYO MARU spill does seem to serve as a good reference in thinking about how badly a large oil spill could damage Washington State.

You ask, in light of the numerous saves the Neah Bay tug has made, isn’t it clear that this is a good return on investment for oil spill prevention? You further ask, do you believe a rescue tug at Neah Bay is a necessary preventative investment?

The Neah Bay tug is, without a doubt, a great investment in Washington State. It’s like spending pennies to get millions of dollars. In the fall of 2006, the Oil Spill Advisory Council estimated that providing enhanced year-round coverage with the Neah Bay tug would cost about \$11 million. This cost, even calculated over one-hun-

*This report is retained in the Committee’s files.

dred years, pales in comparison to the damages that one catastrophic spill would have on Washington State. I most definitely believe the Neah Bay tug is a necessary investment in our state.

Question 2. Do you feel that the Coast Guard devotes adequate time and resources to oil spill prevention and response?

Answer. I very much wish the answer were yes. However, I do not believe that it is. I do not believe the United State's Coast Guard devotes enough time to spill prevention and response. This, of course, is not a function of the men and women who serve our country in the Coast Guard being undedicated, uncommitted, or untalented. I believe the contrary to be true.

However, the Coast Guard is a multi-mission agency. Oil Spill Advisory Council staff have spoken with Coast Guard staff who espouse a commitment to a mission, not only to protect the environment and enhance marine safety, but also to facilitate the free flow of interstate commerce. In addition, Congress recently brought the Coast Guard under the rubric of the Department of Homeland Security. Therefore, the vast majority of the Coast Guard's resources and focus is on preventing terrorism.

It is possible that, if Congress provides the Coast Guard with more resources and refocuses the Coast Guard's attention on natural resource protection, the Coast Guard would begin to devote more time and resources to oil spill prevention and response.

Question 3. One of the goals of the citizen's advisory council is to promote public engagement. What do you think the roles of volunteers should be during spills?

Answer. There is a role for the public to play in cleaning up oil spills. When an oil spill fouls our local community, our local resources, and our local natural environments, local people feel an overwhelming urge to do something. If properly prepared and organized, local people who are desperate to help can become an invaluable cleanup resource.

If it can be done safely, local volunteers familiar with local waters could participate in oil spill assessment and response. Volunteers can prepare beaches to get oiled by picking up debris and standard beach litter that would collect oil and have to be sent to the hazardous landfill. Volunteers also can participate in limited and supervised beach cleanup. They can also participate in the response to oiled wildlife—including hazing, search and collection, processing and care, tracking and release.

We have seen from the COSCO BUSAN spill in San Francisco that we must greatly improve our efforts around volunteer coordination. The Coast Guard recently released a lessons learned report of the San Francisco spill called Incident Specific Preparedness Review (ISPR), M/V COSCO BUSAN Oil Spill in San Francisco Bay, Report On Initial Response Phase, January 11, 2008 (<http://www.uscg-sanfrancisco.com/posted/823/CoscoBusanISPRFinal.190115.pdf>).

Observations

The San Francisco Bay area public is interested in volunteering for oil spill cleanup but there is not an active pre-training program for oil spill response. California OSHA and Environmental Protection Agency regulations require minimum training before responders can enter the oil spill collection areas to avoid exposure to hazards. Both Coast Guard publications and the Area Contingency Plan (ACP) discourage the use of convergent volunteers for cleaning up oil. The ACP states that "Volunteers will not be utilized to work directly in the recovery of oil. Volunteers will not be assigned to work in areas where there is a known or a potential health hazard due to chemical exposure such as oil recovery, etc." However, the ACP does say that trained volunteers may pick up tarballs.

It was reported and confirmed that the issue of convergent volunteers wishing to clean up oil (as opposed to oiled wildlife) had never arisen in the 17 years since OPA 90 was enacted. Accordingly, there was no program in place to conduct required HAZWOPER training of volunteers for this purpose in advance of the spill, other than training with respect to oiled wildlife. The Unified Command (UC) was playing "catch-up" trying to find training protocols and address a difficult situation on the spot. The UC was completely taken by surprise, unprepared, and ill-equipped to deal with the outpouring of convergent volunteers willing to help pick up oil off of beaches, and the local government entities who supported them. With no volunteer training protocols or materials in place, agencies were forced to pull together training materials and protocols during the spill response itself, taking time away from other duties.

A lack of planning for a convergent volunteer program, and a general lack of attention to convergent volunteers, resulted in long and frustrating delays that impacted the response overall. Establishing a training program for volunteers during

an incident is challenging and impacts the ability for the UC to adequately assess available resources and conduct normal operations.

Recommendations

The Coast Guard recommends:

- Government use models such as the California Oil Wildlife Care Network (OWCN) volunteer program to develop an organized volunteer program.
- Planners develop a uniform approach to the use of convergent volunteers for oil spill response, consistent with local needs, to reflect the use of these volunteers in response operations.
- The National Response Team develop generic guidance for ACP committees to develop convergent volunteer sections in local ACPs.
- Planners integrate trained, experienced organizations into the ACP and drills to assist with volunteer coordination and to be an outlet for volunteer interest.
- Update the ACP (and other state and Federal safety policies/regulations accordingly) to provide a process and protocols for convergent volunteers to assist with some beach cleanup (*e.g.*, who's responsible for volunteer coordination, how the volunteers can and cannot be used, liability, training venues, etc.).
- Volunteer management be staffed at UC in accordance with the ACP and address the issue of convergent volunteers.
- Integrate trained, experienced organizations into the ACP planning process and oil spill drills to assist with volunteer coordination and to be an outlet for volunteer interest.

It is noteworthy that the Coast Guard praised California's ability to effectively mobilize volunteers to clean up oiled wildlife. This is noteworthy because California maintains a well-funded, well-organized, and award-winning oiled wildlife care network, which is un-paralleled in any other state. Thus, a spill in another state would predictably have similar problems to the general use of volunteers.

This indicates that we need to make great improvements in developing and maintaining programs to develop and manage a base of trained volunteers and integrate this program into the Unified Command.

We have heard from our own Washington Department of Ecology that efforts to recruit and maintain volunteer base seem unsustainable. People who volunteer to become trained often lose interest and fade away. This indicates to me that we have to work harder at doing outreach and education. We need to dedicate more resources to educating citizens about the sources and causes of spills and about the socioeconomic ramifications of spills, both large and small. We need to build community around participating in a corps of volunteers that will spring into action when a spill occurs.

This effort would not need to be limited to interested individuals. Targeted outreach to professional and volunteer fire departments, Rotary Clubs, and other non-governmental organizations could be very successful.

Too often, however, agencies have budgets and staff and conflicting mandates. These agencies, must make tough choices of the allocation of tight resources. Therefore, these agencies have not placed an emphasis on developing coordinated and robust volunteer coordination and education programs. The result is that both the Coast Guard and Washington State have a great deal of room for making improvements in the way they work together to recruit, train, mobilize, and coordinate volunteers.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. MARIA CANTWELL TO WILLIAM G. DEEVER

Question 1. Mr. Deaver, I understand your ships have a number of design features and safety standards that are well above and beyond the requirements. Your company has clearly made a conscious decision to invest in oil pollution prevention. What are the benefits that your business is seeing as a result of your investments in oil pollution prevention?

Answer. TOTE invested approximately \$15,000,000 per vessel in additional safety features and redundancies that will help prevent vessel incidents and spills in the years ahead. Clearly, our investment is one that will last the 40+ year life of our vessel assets, however, any attempt to quantify the return on invested capital for an event which hopefully will never occur is too difficult to estimate. What we do know is that if it is even a close call, we would rather err on the side of doing too much on prevention, rather than too little. Uncompromising reliability adds enough

value to our customers business that it results in lower future costs to maintain that customer and can create enough value to charge more for our service than a low reliability carrier. The major benefits derived to date are that of a "state of the industry safety record", and customer, public, and industry recognition that our enhancements are a positive step forward in designing and operating environmentally friendly vessels in future years. TOTE owners and employees live and work in the Puget Sound and Cook Inlet regions and our commitment is to keep our environment as pristine and as natural as possible. Bottom line, it was the right investment for us to make in the communities and environment where we live and work.

Question 2. What can be done to encourage other shipping companies to voluntarily do the same?

Answer. Seminars and conferences will clearly communicate the need for change and enhancements. We are much more in favor of "the carrot than the stick", however, when it comes to incentivizing companies to make capital and operating decisions with respect to their vessels. These incentives can take a variety of forms on the investment side, tax credits or some other form of a one time financial incentive that would motivate companies to modify their existing vessels. There are operating cost incentives such as an exemption from "rescue tug" payment fees which could motivate modifications to existing vessels, or new build enhancements. Generally, modifications would be very expensive and it would involve thousands of vessels, not hundreds. The "prevention" dollars are significant, and world-wide ship yards and vessel owners need direction as to what is acceptable to the United States. The United States needs to work very closely with the International Maritime Organization (IMO) for the creation of new rules and regulations that meet our needs.

Question 3. Mr. Deaver, this past January the containership MSC NAPOLI, was damaged in a storm and then intentionally grounded in the English Channel to keep from sinking. The vessel was only slightly smaller than the COSCO BUSAN. Many of the containers were lost at sea and debris was spread for miles. Does TOTE have a contingency for such a scenario?

Answer. TOTE's contingency plans primarily rest with the securement systems we have on our Ro-Ro vessel which are quite different than a conventional container vessel. Each trailer or container on a chassis that is carried on a TOTE Ro-Ro vessel are secured through the use of a patented "RoloX" box that secures the trailers "5th wheel" to the deck of the vessel, and either 2 or 4 chains and binders are used to further secure the trailer depending on the stow of the trailer on the vessel and anticipated weather conditions. We experience severe weather conditions in the Gulf of Alaska resulting in vessel rolls as severe as 45 degrees, thus requiring our "redundancy" securement system. The redundant vessel propulsion and navigation systems provide a significant safety margin should one of the main generators, motors, or rudders fail at a critical time; we have 6 diesel electric generators, two electric propulsion motors, and twin rudders. The loss of all power at any given time is extremely unlikely.

Question 4. Mr. Deaver, I understand that your ships have a number of design features and safety standards that are well above and beyond the requirements. It is refreshing to hear about such stories. How can we bring other ships including foreign flagged vessels up to the standards?

Answer. We need very strict regulations from the International Maritime Organization (IMO) that address the issues that we have discussed, supported by Federal regulations. Voluntary compliance will most likely not achieve our national goals in the near future, thus we need either incredibly high penalties and fines for spills that will force the carriers to comply, or IMO and Federal regulations that dictate the minimum requirements for vessels calling U.S. ports. Requiring carriers to comply should not become a marketplace competitive issue as all carrier would be required to comply, thus all would have an expense issue that they would need to pass through in the marketplace.

Question 5. Is it cost effective to upgrade vessels, or do we need to wait for the next generation of vessels to be built?

Answer. I do not believe there is a simple answer to this question as there are hundreds of classes of vessels, some new, and some old. What might be cost effective for one vessel, might not be cost effective for another vessel of a different type, or age. Thousands of vessels would need to be modified and it would take many years to accomplish the required upgrades. It would be very expensive to modify many of the existing vessels, but It would be a good question to pose to the International Maritime Organization once new standards are established.

Question 6. Mr. Deaver, TOTE Shipping use vessels that carry roll-on/roll-off cargo. How is this different than a typical container ship?

Answer. TOTE's business model requires us to be in port for less than 12 hours based on the sea mile distance between Anchorage, AK, and Tacoma, WA and our need to turn the vessel in 7 days. Our cargo trailers require wheels as they are driven on and off the vessel, whereas a container ship operation leaves the wheels, or chassis in port. The containers are lifted on and off the vessels by large gantry cranes, and are stowed in either cells below deck, or staked on deck. The containers above deck are generally secured through lashing cables and rods, or in stacking frames on some vessels. Our Ro-Ro trailers are secured with our Rolox box, and chains and binders. Our Ro-Ro operation is a very efficient and fast operation, allowing us to minimize our port time.

Question 7. Are oils and hazardous materials carried in Ro-Ro tanks?

Answer. During 2007, TOTE carrier in excess of 57,000 FEU (forty foot equivalents) of cargo to Alaska and we carried 8 20-foot ISO tanks of lube oil, and 26 other tank loads of hazardous materials. These tanks are always secured with 4 chains and binders and we have not had issues with the carriage of tanks through the years.

