

**PREVENTING AN ECONOMIC SHOCK WAVE:  
SECURING THE PORT OF HOUSTON FROM  
A TERRORIST ATTACK**

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**FIELD HEARING**  
BEFORE THE  
SUBCOMMITTEE ON OVERSIGHT,  
INVESTIGATIONS, AND MANAGEMENT  
OF THE  
COMMITTEE ON HOMELAND SECURITY  
HOUSE OF REPRESENTATIVES  
ONE HUNDRED TWELFTH CONGRESS

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## **PREVENTING AN ECONOMIC SHOCK WAVE: SECURING THE PORT OF HOUSTON FROM A TERRORIST ATTACK**

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**Wednesday, August 24, 2011**

U.S. HOUSE OF REPRESENTATIVES,  
SUBCOMMITTEE ON OVERSIGHT, INVESTIGATIONS, AND  
MANAGEMENT,  
COMMITTEE ON HOMELAND SECURITY,  
*Houston, TX.*

The subcommittee met, pursuant to call, at 10:06 a.m., at Port of Houston Authority, 111 East Loop North, Houston, Texas, Hon. Michael T. McCaul [Chairman of the subcommittee] presiding.

Present: Representatives McCaul and Keating.

Also Present: Representatives Jackson Lee and Green.

Mr. MCCAUL. The committee will come to order. Let me first thank the Houston Port Authority and all the people here who have made this happen. I want to thank the witnesses for being here today, and I also want to thank the Ranking Member for a yeoman's effort coming all the way down from beautiful Cape Cod and Nantucket, Massachusetts, where the weather is about 80 degrees and beautiful to 110 degrees Houston, and so thank you very much for being here today.

I want to thank my colleague Gene Green for being here as well and I know he will have a statement as well.

With that, this is an official Congressional hearing. It is not a town hall meeting. We have to abide by the House rules, the House of Representatives, and I just want to, again, thank everybody again for being here today. I now recognize myself for an opening statement.

Osama bin Laden's "war of a thousand cuts" on the U.S. economy has always been a key facet of his strategy. His personal files found in his lair at Abbottabad, Pakistan, revealed a brazen idea to blow up oil tankers. By doing so, he hoped to damage not only the United States, but the world's economy. The picture of an oil tanker ablaze, like this one off the coast of Yemen, would indeed add fuel to our financial crisis.

Al-Qaeda and its affiliates have a history of attacking ships. In January 2000, there was an attack on the *USS Sullivan*. In October of 2000, a small boat with explosives blew a hole in the side of the *USS Cole*, killing 17 of our sailors. In October 2002, a French oil tanker was set ablaze, killing and injuring several crew members in the Straits of Hormuz. In 2005, there was an attack

against the *USS Ashland*. In July of 2010, there was a terrorist attack on a Japanese oil tanker.

The Government Accountability Office, or GAO, in its report on terrorist attacks targeting energy tankers states the supply chain faces three types of threats: Suicide attacks with explosive-laden boats similar to the one used against the *USS Cole* in the Gulf of Aden; standoff attacks with weapons launched from a distance, such as rocket-propelled grenades and; third, an armed assault used by pirates off the coast of Africa.

Not only would a successful attack result in the loss of life and have a detrimental effect on the economy, it would also be a psychological blow and would have environmental consequences.

The Port of Houston is the energy capital of the United States, and it is a target-rich environment. The port stretches from Galveston Bay, past Texas City, across the Gulf Intercoastal Waterway, past Bayport and the San Jacinto Monument, and deep into the City of Houston. The port includes a ship channel, a 52-mile highway for shipping. It has a wide range of businesses and is not just one of the physically largest ports in America, but also a leader in the movement of cargo.

Houston brings in more imports than any other U.S. harbor. Houston has the second-highest level of exports and the second-highest level of maritime tonnage. More than 7,800 vessels arrive and 150,000 large movements are registered annually.

Most importantly, roughly 25 percent of the oil imports for America flow through the Port of Houston. Each day, 25 to 30 oil and chemical tankers move along the Houston Ship Channel, and 31 percent of America's crude oil refining capacity takes place right here in this harbor. If catastrophe struck the port, there is little spare capacity to import and refine crude oil elsewhere in the country. In short, an attack on the Houston port could cripple this.

A 2007 study by the Houston Port Authority estimated that the port directly leads to \$285 billion in National economic activity, 1.5 million jobs, and \$16.2 million in Nation-wide tax revenues. The U.S. Coast Guard estimates that if the Houston Ship Channel were closed, it would have a direct negative impact on the economy of approximately \$406 million per day.

Americans are now paying nearly \$4 for a gallon of gas. Even an attack causing little damage could raise prices at the pump by a dollar or more. The Port of Houston is integral to America's economy. We must ensure there are no gaps in our security at this port and ensure that terrorists do not wound our economy or harm our citizens by successfully carrying out an attack in Houston.

The U.S. Coast Guard, Texas State and county officials, and industry stakeholders associated with the Port of Houston, have done a great deal to protect this port and its shipping from a terrorist attack. The U.S. Coast Guard, who is present here today, and local police, as the Sheriff is here today, have access to a real-time satellite tracking system that pinpoints the exact size and location of every ship in and around Houston. The Coast Guard has heavily armed vessels patrolling the channel along with the Harris County Sheriff boats. Equally important, Texas established the Houston Ship Channel Security District, a unique industry-Government

partnership, to assist protecting the facilities surrounding the ship channel.

The GAO has made several recommendations to mitigate terrorist attacks at ports. It recommends that all participants should plan for meeting the growing security workload as liquefied natural gas shipments increase; that ports should plan for dealing with the economic consequences of an attack; that terrorism and oil spill response plans at the National and local level should be integrated; and that performance metrics should be developed for an emergency response. All agencies agree with these recommendations.

I do want to point out another issue, and that is that once the Panama Canal, which I recently visited, its project is complete in 2004 to deepen the Canal, they will be able to accommodate vessels with drafts up to 50 feet. Unfortunately, the Houston Ship Channel cannot accommodate such large ships because it only is dredged to 45 feet. Larger ships will not be able to enter the Houston Ship Channel. Additionally, it is notable that if a ship were sunk in the middle of the Channel, it would effectively cut off commercial traffic in the port until the ship could be refloated and moved. The cost of a shutdown would damage this economy extremely.

So, today, we examine whether the GAO recommendations have been instituted, what needs to be done to enlarge the Houston Ship Channel, and whether we need to do more to prevent—what we need to do more to prevent al-Qaeda and its affiliates from, again, wounding our economy as they did on September 11.

Again, I want to thank the witnesses for being here and especially my great thanks to the Ranking Member for making a long journey from a very nice place in America down to beautiful Houston, Texas, and with that, I recognize him.

[The statement of Chairman McCaul follows:]

PREPARED STATEMENT OF CHAIRMAN MICHAEL T. MCCAUL

AUGUST 24, 2011

Osama bin Laden's "war of a thousand cuts" on the U.S. economy has always been a key facet of his strategy. His personal files, found in his lair at Abbottabad, Pakistan, revealed a brazen idea to blow up oil tankers. By doing so he hoped to damage, not only the United States, but the world's economy. The picture of an oil tanker ablaze would indeed add fuel to our financial crisis. Al-Qaeda and its affiliates have a history of attacking ships:

- In January 2000 there was an attack on the *USS Sullivan*;
- In October 2000, a small boat with explosives blew a hole in the side of the *USS Cole*, killing 17 of our sailors;
- In October 2002 a French oil tanker was set ablaze, killing and injuring several crewmembers;
- In 2005 there was an attack against the *USS Ashland* and *Kearsarge*; and
- In July 2010 there was a terrorist attack on a Japanese oil tanker.

The Government Accountability Office (GAO) in its report on terrorist attacks targeting energy tankers states the supply chain faces three types of threats:

- Suicide attacks with explosive-laden boats, similar to the one used against the *USS Cole* in the Gulf of Aden;
- Standoff attacks with weapons launched from a distance, such as rocket-propelled grenades; and
- An armed assault, as used by pirates off the coast of Africa.

Not only would a successful attack result in loss of lives and have a detrimental effect on the economy, it would also be a psychological blow and may have environmental consequences.

The Port of Houston is the energy capitol of the United States, and a target-rich environment. The port stretches from Galveston Bay, past Texas City, across the Gulf Intercoastal Waterway, past Bayport and the San Jacinto Monument, and deep

into the City of Houston. The port includes the Houston Ship Channel; a 52-mile highway for shipping.

It has a wide range of businesses and is not just one of the physically largest ports in America, but also a leader in the movement of cargo.

- Houston brings in more imports than any other U.S. harbor (88.2 million tons valued at \$60.1 billion in 2010).
- Houston has the second-highest level of exports (73.2 million tons valued at \$70.8 billion in 2010), and the second-highest level of total maritime tonnage (220 million tons in 2010) in the United States.
- More than 7,800 vessels arrive and 150,000 barge movements are registered annually.
- Most importantly roughly 25% of the oil imports for America flow through the Port of Houston. Each day 25–30 oil and chemical tankers move along the Houston ship channel. And 31% of America's crude oil refining capacity is in this harbor. If catastrophe struck the port, there is little spare capacity to import and refine crude oil elsewhere in the country.

A 2007 study by the Houston Port Authority estimated that the port directly leads to \$285 billion in National economic activity, 1.5 million jobs and \$16.2 million in Nation-wide tax revenues. The U.S. Coast Guard estimates that if the Houston Ship Channel was closed, it would have a direct negative impact on the economy of approximately \$406 million per day.

Americans are now paying nearly \$4.00 for a gallon of gas. Even an attack causing little damage could raise prices at the pump by a dollar or more. The Port of Houston is integral to America's economy. We must ensure there are no gaps in our security at this port, and ensure that terrorists do not wound our economy or harm our citizens by successfully carrying out an attack in Houston.

The U.S. Coast Guard, Texas State and County officials, and industry stakeholders associated with the Port of Houston have done a great deal to protect the port and its shipping from a terrorist attack. The U.S. Coast Guard and local police have access to a real-time satellite tracking system that pinpoints the exact size and location of every ship in and around Houston. The Coast Guard has heavily armed vessels patrolling the channel, and along with Harris County Sheriff boats, stand ready to respond. Equally important, Texas established the Houston Ship Channel Security District, a unique industry-government partnership to assist protecting the facilities surrounding the ship channel.

The GAO has made several recommendations to mitigate terrorist attacks at ports. It recommends:

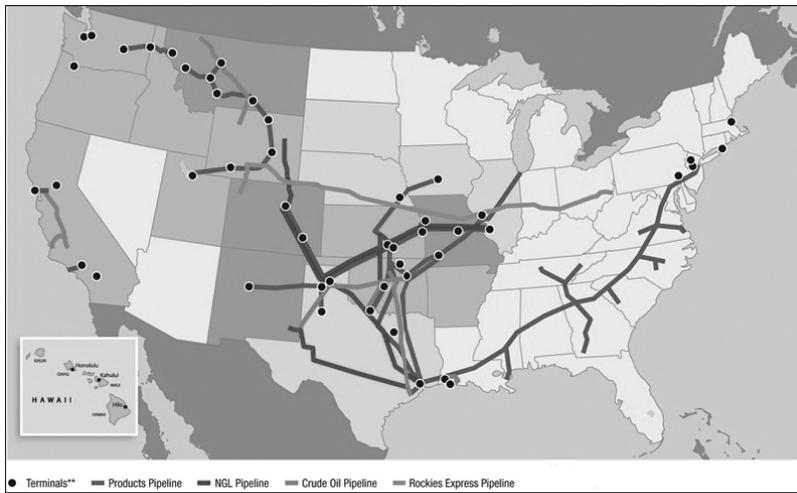
- All participants should plan for meeting the growing security workload as liquefied natural gas shipments increase;
- Ports should plan for dealing with the economic consequences of an attack;
- Terrorism and oil spill response plans at the National and local level should be integrated; and
- Performance metrics should be developed for an emergency response.

All agencies generally agreed with the GAO recommendations.

I would be remiss if we did not consider one other major point. Once the Panama Canal's deepening project is complete in 2014, the Canal will be able to accommodate vessels with drafts up to 50 feet. Houston cannot accommodate such large ships because it is only dredged to 45 feet. Larger ships will not be able to enter the Houston Channel. Additionally, it is notable that if a ship were sunk in the middle of the channel, it would effectively cut off commercial traffic in the port until the ship could be refloated and moved. The cost of a shutdown would damage the U.S. economy.

- Today we examine whether the GAO recommendations have been instituted, what needs to be done to enlarge the Houston Ship Channel and whether we need to do more to prevent al-Qaeda and its affiliates from again wounding our economy as they did on 9/11.

I thank the witnesses for being here and I especially want to thank the Ranking Member of the subcommittee, the gentleman from Massachusetts, Mr. Keating, for being with us today and recognize him for 5 minutes for the purpose of making an opening statement.





Mr. KEATING. Well, thank you, Mr. Chairman, and thank you for having what I think is an extremely important hearing.

Where my house is, I can view the Cape Cod Canal because it is right there on the water, and so I see the Cape Cod Canal, and I will tell you, having the view of this canal just dwarfs that so much, and this is an extraordinary site and very important in terms of our economic input. So I would like to thank you for having the hearing.

I would like to also acknowledge my colleagues that are here, Representative Gene Green. It is great to allow, you know, an outsider to come into your area like that. I appreciate it.

We will be joined at some point by Representative Sheila Jackson Lee, who is also on the committee.

I will tell you, both Chairman McCaul and I realize that you cannot conduct proper oversight in a vacuum, which means that you must go into the field and see first-hand the security measures mandated by Congress and do our best to make sure that things are running smoothly and determine what else may have to be done to provide help, and we are here in Houston just to do that.

It gives me a great pleasure to be here in Texas, and I look forward to hosting Chairman McCaul in Boston when we conduct a field hearing there to examine the aviation security procedures at Logan Airport which is also a port as well.

Today, however, we are going to examine the Port of Houston which links the city of Houston with over 1,053 ports in 203 countries and is, therefore, an excellent location to determine exactly what the best practices are in maritime security.

The Port of Houston, as the Chairman mentioned, is one of the largest ports in the world, and it is home to the world's largest concentration, as Representative Green knows, of petroleum facilities and \$15 billion in petrochemical complex, which is ranked second in the entire world.

Although much attention is given to aviation security since 9/11, and rightly so, we cannot ignore the very real potential of threats

that exist in the maritime sector and the steps that must be taken to protect our ports and waterways from the threat of terrorist activity.

In my district, it sits right on the water and includes parts of the South Shore and, as the Chairman mentioned, Cape Cod and the islands, but my district is also near the Port of Boston, which is the oldest running port in the Western hemisphere. So I am no stranger to the maritime environment, and I look forward to examining the similarities and differences between security measures here in Houston and those in the Port of Boston which supplies 90 percent of the Massachusetts heating and fossil fuels.

Both the Port of Houston and Boston house tankers carrying liquefied natural gas, liquefied petroleum gas, and oil. If a terrorist attack occurred at a port like that and resulted in the explosion of any of these volatile materials, the result would truly be catastrophic.

Unfortunately, terrorists overseas have demonstrated that, indeed, they have the ability to carry out these type of attacks, and the fact that they haven't occurred here in our country should mean nothing to us. We should be vigilant and ready.

We could have said the same thing about aviation security before 9/11 and Logan Airport, where that terrible day initiated, which we will be looking at the anniversary quite soon of 10 years.

The Chairman mentioned the very real possibility in terms of the suicide boat attacks of the tanker Limburg off the coast of Yemen that killed one person, injured 17, and spilled 90,000 barrels of oil. In 2010, the Coast Guard approved shipments of liquefied natural gas from Yemen to our home area within 50 feet of residential neighborhoods, despite concerns that the cargo was coming from a country that has been identified as a terrorist safe haven and has previously experienced terrorist attack of their own.

The economic impact of the Limburg attack included a short-term collapse in international shipping in the Gulf of Aden and, ultimately, cost Yemen \$3.8 million a month. If that type of attack ever occurred here and caused a massive oil spill, even larger than the one that occurred in Yemen, we may, once again, experience the type of economic damage that occurred in the aftermath of *Deepwater Horizon* and its oil spill.

According to Dun and Bradstreet, *Deepwater Horizon's* oil spill negatively impacted 7.3 million active businesses in 5 Gulf States, 85 percent of which were small businesses with less than 10 employees. So this just isn't a big corporation or big business concern, economically it affects even our small businesspeople. It also affected 34 million jobs, \$5.2 trillion in sales, and as we all remember what happened, the price of oil went up.

So even though I am here sharing a concern about maritime security, each and every American should be concerned about the security of this Houston port. Any major stoppage in that, any interruption will affect them drastically in all their economic endeavors and cripple our country.

Given the upcoming anniversary of September 11 and its attacks, coupled with our current economic climate, we need to make sure that any additional damage to the job market is protected, and the cost in terms of jobs of such an attack would be incredible.

So I look forward to the hearing. I look forward to hearing from our witnesses, and I thank the Chairman, again, in bringing to the attention at this important time this National security necessity.

Mr. MCCAUL. I thank the Ranking Member.

The Chairman asks unanimous consent that the gentleman, Mr. Green, be allowed to participate in this hearing and provide an opening statement, and without objection, so ordered.

Mr. GREEN. Thank you, Mr. Chairman. I will be very brief.

First, I want to welcome you to the Port of Houston, both Chairman McCaul and also my colleague from Massachusetts, and I actually had the opportunity a few years ago to watch that LNG tanker go through the Boston Harbor to the facility there and the security protections that are provided for it.

But I represent most of the Port of Houston. I also share the Port of Houston with Congressman Ted Poe and Pete Olson to the east, but where you are standing or sitting today is in our district. As you know, it is the No. 1 foreign tonnage port in the country. It is the lifeblood of the economy in southeast Texas, but I think in the whole country, because of what we produce in refined products and other products in our community.

Best example I know is that when we first started using the transport worker identification card, the TWIC card, it was estimated we would have 50- or 60,000 people who work on the port who would need those cards. The last time I checked—and our port chair may tell us—we had over 250,000 of those cards issued at the Port of Houston. So 250,000 people, a quarter of a million people, come to the port to work and have to use that TWIC card to get on the site unless they are escorted.

So it is such an economic generator. We have five refineries and more chemical plants than I can count. Without the port, they wouldn't be here. In fact, we are working on an historic designation, if we can ever get it through the House. Buffalo Bayou, which is the Port of Houston's historical name, to be a National heritage area, not just based on the San Jacinto battleground and some of the historic things we have, but how did the biggest petrochemical complex in the country, second-largest in the world, develop here on the port, and how did this port 50 miles inland become developed? So we are working on that with the support of the Port of Houston and all of our local communities.

But I want to welcome you. There has been some great successes here, and I know we will hear about them from our panel today. I welcome our panel, particularly our sheriff, who is a constituent and also a long-time friend, and our port is safer today than it was after 9/11 but we can still do improvements. I think if you compare our port security to every other port that I know of in the country, we have done so much more because, again, of the volatility of the products we produce.

But again, thank you, Mr. Chairman, for being here and thank you, Bill.

[The statement of Hon. Green follows:]

## PREPARED STATEMENT OF HONORABLE GENE GREEN

AUGUST 24, 2011

Thank you Chairman McCaul for holding this important hearing and inviting me to participate. Ensuring the security of our Nation's ports is a top priority in Congress and we have all worked together to secure these key assets that are critical to our economy. Here in Houston and East Harris County, we rely on the safety and security of our port and the facility operators directly surrounding the port live this every single day.

The Port of Houston is the largest foreign tonnage port and the largest petrochemical port in the country. In fact, it moves the second-largest amount of cargo in the country, as 8.5% of our Nation's cargo moves through the Port of Houston. The commerce that occurs at our port is critical to our Nation's energy and chemical sectors and to our country's ability to trade and move goods throughout our country. It is a port of National significance. We must ensure the security and safety of the people who work at and near the port, the community surrounding the port and the facilities here.

Whether the threat is from nature or it is manmade, preparedness is the key to maintaining our security and safety. The Federal Government has partnered with the Port of Houston Authority, facilities at the port and along the ship channel, as well as State and local government agencies. This partnership, the Houston Ship Channel Security District, is critical to maintaining a high level of security.

Forming the Houston Ship Channel Security District was a major accomplishment that increases the area's emergency preparedness and disaster response capabilities. This important partnership takes advantage of the long tradition of cooperation among companies and governmental entities working in the ship channel area.

Since fiscal year 2002, the port has received nearly \$19 million from the Federal Port Security Grant Program, which is part of over \$30 million in Federal homeland security funds that are providing the latest in technology, detection, and oversight for security purposes. These funds are crucial to keeping our country safe and protecting the communities and workers at our Nation's ports.

I look forward to working with my friend Chairman McCaul and our colleagues to identify the needs of the Port of Houston and ports across the country and to address them as we move forward to strengthen our country and our economy.

**Mr. MCCAUL.** Let me thank you for being here as well and participating in this important hearing.

[The statement of Hon. Sheila Jackson Lee follows:]

## PREPARED STATEMENT OF HON. SHEILA JACKSON LEE

Thank you Chairman McCaul and Ranking Member Keating for convening this very important field hearing to examine the programs, policies, procedures, and implementation of maritime security efforts at the Port of Houston with an emphasis on protecting the port and the supply chain from a terrorist attack. I would like to welcome our witnesses today: Mr. Stephen L. Caldwell, Director of Maritime and Coast Guard Issues, Homeland Security and Justice Issues, Government Accountability Office; Captain James Whitehead, Sector Commander, Sector Houston-Galveston, U.S. Coast Guard, U.S. Department of Homeland Security; my friend, Sheriff Adrian Garcia, Harris County Sheriffs Office, Texas; Mr. James T. Edmonds, Chairman, The Port of Houston Authority; and Captain William Diehl (USCG Ret.), President, Greater Houston Port Bureau, Inc. Thank you for participating in this very important field hearing.

The Port of Houston is home of the second-largest petrochemical complex.

The country's largest refinery is located on the Houston Ship Channel, where refined energy products are transported by way of an infrastructure made up of pipelines, rails, and our roadways.

The infrastructure utilized through these transportation resources includes the Colonial Pipeline system, which is the largest petroleum product pipeline system in the Nation and is vital to the demands of energy throughout the Southern part of our Nation and the East Coast. The Nation's economy and security are heavily dependent on oil, natural gas, and other energy commodities. Bolstering port security in Houston and throughout the country is of paramount concern. The Port of Houston is a 25-mile-long complex of public and private facilities located just a few hours' sailing time from the Gulf of Mexico. The port is ranked first in the United States in foreign waterborne commerce, second in total tonnage, and sixth in the world.

More than 220 million tons of cargo moved through the Port of Houston in 2009. More than 7,700 vessel calls were recorded at the Port of Houston during the year 2009.

Economic studies reveal that ship channel-related businesses support more than 287,000 direct and indirect jobs throughout Texas while generating nearly \$11 billion in economic impact. Additionally, more than \$649 million in State and local tax revenues are generated by business activities related to the port. Approximately 87,000 jobs are connected with the Port of Houston itself, and over 80% of those people live in the Houston Metropolitan area.

Centrally located on the Gulf Coast, Houston is a strategic gateway for cargo originating in or destined for the U.S. West and Midwest. Houston lies within close reach of one of the Nation's largest concentrations of consumers. More than 17 million people live within 300 miles of the city, and approximately 60 million live within 700 miles.

Safe and secure seaports are an essential element in building efficient and technologically advanced supply chains that move cargo quickly to distribution centers, stores, and factories around the world.

Although we have made progress since the 9/11 attacks in enhancing the security of the Nation's ports, we cannot afford to be complacent.

The danger is very real that we may be escorting a weapon of mass destruction to its target. For every mile along the Houston Ship Channel that dangerous cargo passes, an additional 2,000 people are at risk. Clearly, once the cargo reaches the city, the risk is at its greatest.

I will continue to support strong efforts that make the movement of cargo through the global supply chain as secure as possible, and I am committed to doing everything feasible to ensure the security of the Nation's ports.

I am interested to hear from our witnesses on all aspects of securing the offshore energy infrastructure, including security inspections in place and other measures to better secure Outer Continental Shelf facilities and deepwater ports. How the United States Coast Guard assesses the offshore infrastructure as we look to our ports is critical.

The findings from the National Commission on the BP *Deepwater Horizon* Oil Spill incident illustrated how examining the role that the industry and Government sectors played in assessing vulnerabilities and the impact the incident had on the economic, social, and environmental systems. The quality of information shared from this unfortunate event could improve the quality of information that informs Congress on the most appropriate programs and budget decisions to best ensure security for our ports and how to utilize scarce resources in a constrained fiscal environment.

From reviewing your testimonies, please know that I share your concerns about achieving a balance between securing our ports and maintaining our viable business options. As such, I would like to assure all of you that in my capacity as Ranking Member of the Homeland Security Subcommittee on Transportation Security, it has been my priority to see a vibrant and secure America, where people and trade are safe and secure to move throughout this great Nation.

I am aware of the increased demands of security and the allocation of Federal funds, as a result, I am committed to doing everything in my power to ensure that transportation and port security grants are allocated in a timely and targeted manner.

Today's hearing is most important at the Port of Houston for Houston is home to hundreds of energy companies and many of these companies are involved in exploring for and producing oil and natural gas in the Gulf of Mexico and transporting it from sea to shore. Furthermore, energy tankers sail through Houston Ship Channel, and major facilities for refining oil are located along or the Ship Channel.

As a Member of Homeland Security, I am glad that Chairman McCaul and Ranking Member Keating have called this issue to the forefront. I would like to welcome everyone to the 18th Congressional District of Houston, Texas, and thank you for your strong initiative in making our seas and ports more secure.

**Mr. MCCAUL.** With that, I will introduce the witnesses. We have, first, Mr. Steve Caldwell, director in GAO's Homeland Security and Justice Team. His recent GAO reports and testimony have covered issues related to protecting critical infrastructure, particularly in the ports, including the implementation of the Maritime Transportation Security Act, or SAFE Port Act.

He has an extensive international experience having spent almost a third of his career overseas visiting 27 countries as part of his work on homeland security and other issues. Thank you for being here.

Next, we have Captain James Whitehead, who currently serves as commander of the U.S. Coast Guard Sector Houston-Galveston, after serving for 2 years as deputy commander. He serves as the Officer in Charge of Marine Inspections, or OCMI, Captain of the Port, Federal Maritime Security Coordinator, Search and Rescue Mission Coordinator, and Federal On-Scene Coordinator for an area spanning from Matagorda Bay, Texas, to Lake Charles, Louisiana. Captain Whitehead is a graduate of the Coast Guard Officer Candidate School and the U.S. Naval War College. Captain, thank you for being here today.

Next, we have your constituent and my friend as well, Sheriff Adrian Garcia who heads the largest sheriff's office in Texas and the third-largest in the United States. Sheriff Garcia is a native Houstonian. He became an officer with the Houston Police Department in 1980. In 1999, Mayor Lee Brown promoted him to director of the mayor's Anti-Gang Office, where he served until 2003. Sheriff Garcia was elected to the Houston City Council in 2003, and he chaired the council's Public Safety and Homeland Security Committee before being elected to sheriff. Sheriff, thank you so much for being here today.

Next, another friend, Mr. Jim Edmonds, was appointed chairman of the Board of Commissioners of the Port of Houston Authority in June 2000. He was first appointed to the Port Commission in October 1996, representing Harris County, and under Chairman Edmonds' leadership, the Port of Houston Authority has been able to expand its business opportunities. In addition to his responsibilities with the Port of Houston, Chairman Edmonds serves as a member of the Board of Pilots Commissioners and on the board of Memorial Hermann Healthcare System, the I-69 TxDOT Advisory Committee, and the Gulf Coast Rail District. Thank you, Jim, for being here today as well.

Finally, we have Captain Bill Diehl, the U.S. Coast Guard. He is president of the Greater Houston Port Bureau, a maritime trade organization of 125 companies. Captain Diehl became president of the Port Bureau after retiring from the Coast Guard in 2009 where he served in a variety of challenging jobs, including being the senior U.S. diplomat at the Panama Canal. Captain Diehl is a graduate of the Coast Guard Academy. Mr. Diehl, thank you also for being here as well.

With that, we will begin our opening statements and the Chairman now recognizes Mr. Caldwell for his testimony.

**STATEMENT OF STEPHEN L. CALDWELL, DIRECTOR, MARITIME AND COAST GUARD ISSUES, HOMELAND SECURITY AND JUSTICE TEAM, GOVERNMENT ACCOUNTABILITY OFFICE**

Mr. CALDWELL. Thank you very much, Chairman McCaul and Mr. Keating and Mr. Green. I also want to thank the other witnesses for what they do every day to protect this port and the other ports in our country.

While my written statement today doesn't focus that much on tankers, I do want to point out the report we did in 2007, which was a comprehensive report with a lot of detail on the threats to tankers, the tankers that arrive every day to supply our refineries and to power our economy. Mr. McCaul and Mr. Keating have already talked a little bit about the different kinds of attacks that can occur on a tanker and the consequences of those attacks. So I will skip on to some of the other things here.

One of the areas that we have been particularly concerned about is the attacks on tankers at maritime choke points, and these could be international straits, major transit canals, or channels within a port such as the Houston Ship Channel we have here, and our concerns do appear validated by the recent revelations about al-Qaeda's intentions, as well as the attack on the *MV Star* in the Straits of Hormuz.

While our previous report on tankers only touched briefly on the issue of piracy, that has actually become a bigger threat than terrorist threats to tankers. Specifically, there were 48 attacks on tankers in 2006, 149 in 2010, and it is trending even higher in 2011. Those are pirate attacks, and then from the pirate perspective, they have a very successful business model with ransoms for tankers going from about \$3 million in 2009 up to \$12 million in 2011.

To date, these terrorist attacks and these pirate attacks have occurred far from Houston, thankfully, where United States has limited control over the security situation. But now, I will turn my attention to U.S. ports and the waters where there is a lot we can do to prevent and respond to these type of attacks.

Our previous report, as has been mentioned, had five recommendations specific to planning for, and responding to, a terrorist attack on a tanker within a U.S. port. Two of our recommendations do remain unaddressed. One related to the integration of operational plans, and the other related to performance measures.

Moving beyond Houston and touching on some of the areas that Mr. Keating talked about, let's go offshore. There are over 4,000 offshore platforms and related infrastructure within the Gulf of Mexico, and the *Deepwater Horizon* oil spill showed just what the consequences of an explosion on such a platform can be. I suspect that those that wish us harm could not help but notice the difficulties the Nation faced in capping an oil spill deep on the seabed. We all remember the media count day after day for the 84 days it took to cap that well and for the 4 million barrels of oil that were spilled into the Gulf.

Now, we can imagine another explosion or even multiple explosions done on purpose. In addition to the response to protect the environment that we already saw, we would have to add to the complexity of that by putting on a law enforcement and a security response as well.

Now, with this testimony, another thing that we are doing, based on work we are doing for the subcommittee, is reporting on Coast Guard security assessments of such offshore infrastructure. We found that the Coast Guard was not addressing about one-quarter of the assessments it should have been doing. We also found that

the Coast Guard was—I am sorry—the Coast Guard was not doing these assessments. Based on that, we are making recommendations to the Coast Guard which they have accepted which will improve their internal controls so that they can identify all of those facilities that do require such assessments.

One of the Coast Guard's other big challenges in doing these kinds of offshore assessments harkens back to the *Deepwater Horizon* in that such facilities are actually vessels called MODU's, mobile offshore drilling units, do not fall under the Coast Guard's current regulations for security; thus, the Coast Guard is not conducting the same kinds of security assessments on MODU's that it is in doing in terms of an oil platform or production facility.

In closing, we will continue with our other work for the committee, continuing to look at Coast Guard work at offshore facilities, both oil production platforms and deepwater ports such as LOOP and some others that are in Massachusetts Bay.

I will be happy to respond to any questions. Thank you.

[The statement of Mr. Caldwell follows:]

PREPARED STATEMENT OF STEPHEN L. CALDWELL

AUGUST 24, 2011

*GAO Highlights*

Highlights of GAO-11-883T, a testimony before the Subcommittee on Oversight, Investigations, and Management; Committee on Homeland Security; House of Representatives.

*Why GAO Did This Study*

The Nation's economy and security are heavily dependent on oil, natural gas, and other energy commodities. Al-Qaeda and other groups with malevolent intent have targeted energy tankers and offshore energy infrastructure because of their importance to the Nation's economy and National security. The U.S. Coast Guard—a component of the Department of Homeland Security (DHS)—is the lead Federal agency for maritime security, including the security of energy tankers and offshore energy infrastructure. The Federal Bureau of Investigation (FBI) also has responsibilities for preventing and responding to terrorist incidents. This testimony discusses the extent to which: (1) The Coast Guard and the FBI have taken actions to address GAO's prior recommendations to prevent and respond to a terrorist incident involving energy tankers, and (2) the Coast Guard has taken actions to assess the security risks to offshore energy infrastructure and related challenges. This testimony is based on products issued from December 2007 through March 2011 and recently completed work on the Coast Guard's actions to assess security risks. GAO reviewed documents from the Coast Guard's risk model and relevant laws, regulations, policies, and procedures; and interviewed Coast Guard officials.

*What GAO Recommends*

GAO is recommending that the Coast Guard revise policies and procedures to ensure its analysts receive the annual updated list of regulated offshore energy facilities to ensure risk assessments are conducted on those facilities. The Coast Guard concurred with this recommendation.

MARITIME SECURITY.—PROGRESS MADE, BUT FURTHER ACTIONS NEEDED TO SECURE THE MARITIME ENERGY SUPPLY

*What GAO Found*

The Coast Guard and the FBI have made progress implementing prior recommendations GAO made to enhance energy tanker security. In 2007, GAO made five recommendations to address challenges in ensuring the effectiveness of Federal agencies' actions to protect energy tankers and implement response plans. The Coast Guard and the FBI have implemented two recommendations, specifically: (1) The Coast Guard, in coordination with U.S. Customs and Border Protection, developed protocols for facilitating the recovery and resumption of trade following a disruption to the maritime transportation system, and (2) the Coast Guard and the

FBI participated in local port exercises that executed multiple response plans simultaneously. The Coast Guard has made progress on a third recommendation through work on a National strategy for the security of certain dangerous cargoes. It also plans to develop a resource allocation plan, starting in April 2012, which may help address the need to balance security responsibilities. However, the Coast Guard and the FBI have not yet taken action on a fourth recommendation to develop an operational plan to integrate the National spill and terrorism response plans. According to DHS, it plans to revise the National Response Framework, but no decision has been made regarding whether the separate response plans will be integrated. Also, DHS has not yet taken action on the final recommendation to develop explicit performance measures for emergency response capabilities and use them in risk-based analyses to set priorities for acquiring needed response resources. According to DHS, it is revising its emergency response grant programs, but does not have specific plans to develop performance measures as part of this effort.

The Coast Guard has taken actions to assess the security risks to offshore energy infrastructure, which includes Outer Continental Shelf (OCS) facilities (facilities that are involved in producing oil or natural gas) and deepwater ports (facilities used to transfer oil and natural gas from tankers to shore), but improvements are needed. The Coast Guard has used its Maritime Security Risk Analysis Model (MSRAM) to examine the security risks to OCS facilities and deepwater ports. To do so, the Coast Guard has coordinated with the intelligence community and stakeholders, such as the Department of the Interior's Bureau of Ocean Energy Management, Regulation, and Enforcement. However, the Coast Guard faces complex and technical challenges in assessing risks. For example, the Coast Guard does not have data on the ability of an OCS facility to withstand an attack. The Coast Guard generally recognizes these challenges and has actions underway to study or address them. Further, GAO determined that as of May 2011, the Coast Guard had not assessed security risks for 12 of the 50 security-regulated OCS facilities that are to be subjected to such assessments. Coast Guard officials later determined that they needed to add these OCS facilities to MSRAM for assessment and have completed the required assessments. However, while the list of security-regulated facilities may change each year based on factors such as production volume, the Coast Guard's current policies and procedures do not call for Coast Guard officials to provide an annual updated list of regulated OCS facilities to MSRAM analysts. Given the continuing threat to such offshore facilities, revising its procedures could help ensure that the Coast Guard carries out its risk assessment requirements for security-regulated OCS facilities.

Chairman McCaul, Ranking Member Keating, and Members of the subcommittee: I am pleased to be here today to discuss Federal efforts to ensure the security of energy tankers and the offshore energy infrastructure that produces, transports, or receives oil and natural gas. The Nation's economy and security are heavily dependent on oil, natural gas, and other energy commodities. Further, it is fitting that today's hearing is in Houston because the city and the surrounding area play a central role in the maritime energy sector. Houston is home to hundreds of energy companies and many of these companies are involved in exploring for and producing oil and natural gas in the Gulf of Mexico and transporting it from sea to shore. In addition, energy tankers sail through the Houston Ship Channel, and major facilities for refining oil are located along or near the channel.

Al-Qaeda and other groups with malevolent intent continue to target energy tankers and offshore energy infrastructure because of their importance to the Nation's economy and National security. In May 2011, the Department of Homeland Security (DHS) issued a press statement that intelligence information showed that throughout 2010 there was continuing interest by members of al-Qaeda in targeting oil tankers and commercial oil infrastructure at sea. While a terrorist attack on energy tankers or offshore energy infrastructure has not occurred in the United States, other countries have experienced such attacks.

Additionally, while it was not the result of an attack, the Deepwater Horizon explosion in April 2010 showed that the consequences of an incident on offshore energy infrastructure could be significant. The explosion resulted in 11 deaths, serious injuries, and the largest oil spill in the history of the United States. The response to the incident encountered numerous challenges, and by the time the well was sealed nearly 3 months later, over 4 million barrels of oil had spilled into the Gulf. The spill created significant environmental damage and had an adverse impact on workers and businesses, with an estimated cost to compensate for these damages totaling billions of dollars.

The U.S. Coast Guard—a component of DHS—is the lead Federal agency for maritime security, including security of energy tankers and offshore energy infrastructure. The FBI—an agency in the Department of Justice (DOJ)—shares responsibility

with the Coast Guard for preventing and responding to terrorist incidents in the maritime environment, including incidents involving energy tankers. In December 2007, we issued a report that examined Coast Guard and FBI efforts to prevent and respond to an incident involving energy tankers and we made several recommendations to the Coast Guard and the FBI to improve efforts in these areas.<sup>1</sup>

My testimony today will address two main objectives:

- the extent to which the Coast Guard and the FBI have taken actions to address our prior recommendations to prevent and respond to terrorist incidents involving energy tankers; and,
- the extent to which the Coast Guard has taken actions to assess the security risks to offshore energy infrastructure and the challenges, if any, in conducting such assessments.

My statement is based on our past work on energy tankers issued in December 2007 and recently completed work on actions the Coast Guard has taken to assess security risks in the maritime environment.<sup>2</sup> To obtain information on the first objective, we reviewed our prior reports on energy tankers, and asked the Coast Guard and the FBI to provide us an update, along with supporting documentation, on any actions that they have taken to address our recommendations from the December 2007 report. To provide additional information on threats to energy tankers, we also reviewed our recent work on piracy.<sup>3</sup> More detailed information on the scope and methodology used for our past reviews appears in those reports.

To address the second objective, we interviewed officials in Coast Guard headquarters and field offices in New Orleans, Louisiana and Boston, Massachusetts because these officials were knowledgeable about how the Coast Guard uses the Maritime Security Risk Analysis Model (MSRAM)—a tool that the Coast Guard uses to assess the security risks to vessels and offshore energy infrastructure.<sup>4</sup> Moreover, the New Orleans and Boston field offices are the only offices presently conducting assessments of offshore energy infrastructure. We also reviewed Coast Guard documents on MSRAM, such as Coast Guard guidance to its field units and the MSRAM training manual. In addition, we reviewed relevant laws and regulations, policies and procedures, and other documents related to security risk assessments. For example, we reviewed the DHS Quadrennial Review,<sup>5</sup> the National Infrastructure Protection Plan,<sup>6</sup> and a National Research Council report on risk assessments at DHS.<sup>7</sup> We also reviewed our prior report on risk assessment efforts carried out by the Coast Guard.<sup>8</sup> In addition, we compared the Coast Guard's policies and procedures

<sup>1</sup> GAO, *Maritime Security: Federal Efforts Needed to Address Challenges in Preventing and Responding to Terrorist Attacks on Energy Commodity Tankers*, GAO-08-141 (Washington, DC: Dec. 10, 2007).

<sup>2</sup> GAO-08-141.

<sup>3</sup> GAO, *Maritime Security: Actions Needed to Assess and Update Plan and Enhance Collaboration Among Partners Involved in Countering Piracy off the Horn of Africa*, GAO-10-856 (Washington, DC: Sept. 24, 2010); and *Maritime Security: Updating U.S. Counterpiracy Action Plan Gains Urgency as Piracy Escalates off the Horn of Africa*, GAO-11-449T (Washington, DC: Mar. 15, 2011).

<sup>4</sup> In looking at the Coast Guard's assessments of risks, we focused on security risks—risks emanating from terrorists or others that would purposely attack or sabotage offshore energy infrastructure. We did not focus on accidental risks to such infrastructure. However, we have ongoing work to assess industry plans for developing new methods or technologies to control and contain blowouts occurring in subsea environments. We are conducting this work at the request of the Ranking Member of the House Committee on Energy and Commerce. We expect to issue this related report in the winter of 2012. We are also conducting broader work examining the Coast Guard's use of MSRAM for the Chairman of the Senate Committee on Commerce, Science, and Transportation; the Ranking Member of the Senate Committee on Homeland Security and Governmental Affairs; and the Chairwoman of the House Homeland Security Committee, Subcommittee on Border and Maritime Security. We expect to issue this report later in 2011.

<sup>5</sup> The DHS Quadrennial Review outlines a strategic framework for stakeholders, including Federal, State, local, Tribal, territorial, nongovernmental, and private-sector entities, in responding to security threats. For more information about the DHS Quadrennial Review, see GAO, *Quadrennial Homeland Security Review: 2010 Reports Addressed Many Required Elements, but Budget Planning Not Yet Completed*, GAO-11-153R (Washington, DC: Dec. 16, 2010).

<sup>6</sup> The National Infrastructure Protection Plan represents a strategy for protecting critical infrastructure and key resources, and it offers a framework for assessing risk. For more information about the National Infrastructure Protection Plan, see GAO, *Critical Infrastructure Protection: Update to National Infrastructure Protection Plan Includes Increased Emphasis on Risk Management and Resilience*, GAO-10-296 (Washington, DC: Mar. 5, 2010).

<sup>7</sup> National Research Council: *Review of the Department of Homeland Security's Approach to Risk Analysis* (Washington, DC: 2010).

<sup>8</sup> GAO, *Risk Management: Further Refinements Needed to Assess Risks and Prioritize Protective Measures at Ports and Other Critical Infrastructure*, GAO-06-91 (Washington, DC: Dec. 15,

regarding security actions with criteria in *Standards for Internal Control in the Federal Government*.<sup>9</sup> Further, we interviewed representatives from two companies that together operate 18 of the 50 Outer Continental Shelf facilities, a type of offshore energy infrastructure, regulated for security in 2011. While the information obtained from these interviews is not generalizable to the offshore energy industry as a whole, it provided insights into owners' and operators' concerns regarding security and actions they have taken to address such concerns. This testimony concludes our work on Coast Guard efforts to assess security risks for offshore energy infrastructure.<sup>10</sup>

We conducted this performance audit from October 2010 through August 2011 in accordance with generally accepted Government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

#### BACKGROUND

The Nation's economy and security are heavily dependent on oil, natural gas, and other energy commodities. Nearly half of the Nation's oil is transported from overseas by tankers. For example, about 49 percent of the Nation's crude oil supply—one of the main sources of gasoline, jet fuel, heating oil, and many other petroleum products—was transported by tanker into the United States in 2009.<sup>11</sup> The remaining oil and natural gas used in the United States comes from Canada by pipeline or is produced from domestic sources in areas such as offshore facilities in the Gulf of Mexico. With regard to these domestic sources, the area of Federal jurisdiction—called the Outer Continental Shelf (OCS)<sup>12</sup>—contains an estimated 85 million barrels of oil, more than all onshore resources and those in shallower State waters combined.<sup>13</sup> In addition, the Louisiana Offshore Oil Port (LOOP), a deepwater port, is responsible for transporting about 10 percent of imported oil into the United States.

#### *Federal Agency Roles*

As the lead Federal agency for maritime security, the Coast Guard seeks to mitigate many kinds of security challenges in the maritime environment. Doing so is a key part of its overall security mission and a starting point for identifying security gaps and taking actions to address them. Carrying out these responsibilities is a difficult and challenging task because energy tankers often depart from foreign ports and are registered in countries other than the United States, which means the United States has limited authority to oversee the security of such vessels until they enter U.S. waters. Offshore energy infrastructure also presents its own set of security challenges because some of this infrastructure is located many miles from shore. The FBI shares responsibility with the Coast Guard for preventing and responding to terrorist incidents in the maritime environment, including incidents involving energy tankers.

#### *Risks to Energy Tankers*

Energy tankers face risks from various types of attack. We identified three primary types of attack methods against energy tankers in our 2007 report, including suicide attacks, armed assaults by terrorists or armed bands, and launching a "standoff" missile attack using a rocket or some other weapon fired from a distance. In recent years, we have issued reports that discussed risks energy tankers face from terrorist attacks and attacks from other criminals, such as pirates. Terrorists have attempted—and in some cases carried out—attacks on energy tankers since September 11, 2001. To date, these attacks have included attempts to damage tankers or their related infrastructure at overseas ports. For example, in 2002, terrorists conducted a suicide boat attack against the French supertanker *Limburg* off the

2005) and *Maritime Security: DHS Progress and Challenges in Key Areas of Port Security*, GAO-10-940T (Washington, DC: July 21, 2010).

<sup>9</sup>GAO, *Standards for Internal Control in the Federal Government*, GAO/AIMD-00-21.3.1 (Washington, DC: November 1999).

<sup>10</sup>We will continue our broader work looking at the security of offshore energy infrastructure, including Coast Guard security inspections and other challenges.

<sup>11</sup>This figure is based on the most recently available data for a full year from the U.S. Energy Information Administration.

<sup>12</sup>The OCS is a designation for all submerged lands of which the subsoil and seabed are outside the territorial jurisdiction of a U.S. State, but within U.S. jurisdiction and control.

<sup>13</sup>Based on an estimate from the National Commission on the BP *Deepwater Horizon* Oil Spill and Offshore Drilling, *Deep Water: The Gulf Oil Disaster and the Future of Offshore Drilling* (Washington, DC: January 2011).

coast of Yemen, and in 2010, an incident involving another supertanker, the *M/V M. Star*, in the Strait of Hormuz is suspected to have been a terrorist attack. Our work on energy tankers identified three main places in which tankers may be at risk of an attack: (1) At foreign ports; (2) in transit, especially at narrow channels, or chokepoints; and (3) at U.S. ports. For example, foreign ports, where commodities are loaded onto tankers, may vary in their levels of security, and the Coast Guard is limited in the degree to which it can bring about improvements abroad when security is substandard, in part because its activities are limited by conditions set by host nations. In addition, while tankers are in transit, they face risks because they travel on direct routes that are known in advance and, for part of their journey, they may have to travel through waters that do not allow them to maneuver away from possible attacks. According to the Energy Information Administration, chokepoints along a route make tankers susceptible to attacks. Further, tankers remain at risk upon arrival in the United States because of the inherent risks to port facilities. For example, port facilities are generally accessible by land and sea and are sprawling installations often close to population centers.

Beyond the relatively rare threat of terrorist attacks against tankers, the threat of piracy has become relatively common.<sup>14</sup> In particular, piracy threatens tankers transiting one of the world's busiest shipping lanes near key energy corridors and the route through the Suez Canal. The vast areas at risk for piracy off the Horn of Africa, combined with the small number of military ships available for patrolling them, make protecting energy tankers difficult. According to the International Maritime Bureau, 30 percent (490 of 1,650) of vessels reporting pirate attacks worldwide from 2006 through 2010 were identified as tankers.<sup>15</sup> See table 1 for a summary of tankers attacked by pirates during 2006 through 2010.

TABLE 1.—NUMBER OF TANKERS ATTACKED BY PIRATES, 2006–2010

Type of Commodity Transported	2006	2007	2008	2009	2010
Bitumen* .....	0	1	0	2	2
Chemical/Product** .....	35	52	55	69	96
Crude Oil .....	9	25	30	41	43
Liquefied Natural Gas ....	0	1	0	1	1
Liquefied Petroleum Gas .....	4	5	6	5	7
Totals .....	48	84	91	118	149

Source: International Maritime Bureau, *Piracy and Armed Robbery Against Ships Annual Report* (United Kingdom, 2010).

\* Bitumen is a heavy black viscous oil often used in paving materials and sealants.

\*\* This category includes tankers that transport chemicals or oil products other than crude oil.

As shown in the table, pirate attacks against tankers have tripled in the last 5 years, and the incidence of piracy against tankers continues to rise. From January through June 2011, 100 tankers were attacked, an increase of 37 percent compared to tankers attacked from January through June 2010. Figure 1 shows one of the recent suspected pirate attacks. In addition, tankers are fetching increasing ransom demands from Somali pirates. Media reports indicate a steady increase in ransoms for tankers, from \$3 million in January 2009 for the Saudi tanker *Sirius Star*, to \$9.5 million in November 2010 for the South Korean tanker *Samho Dream*, to \$12 million in June 2011 for the Kuwaiti tanker *MV Zirku*. The U.S. Maritime Administration and the Coast Guard have issued guidance for commercial vessels to stay 200 miles away from the Somali coast. However, pirates have adapted and increased their capability to attack and hijack vessels to more than 1,000 miles from Somalia using mother ships, from which they launch smaller boats to conduct the attacks.<sup>16</sup> To address the growing concern over piracy, the Coast Guard has issued a directive with guidelines for U.S. vessels operating in high-risk waters. This directive pro-

<sup>14</sup>The motivation behind an attack may distinguish piracy from terrorism. For example, the motivation for piracy is often monetary, whereas terrorism is politically motivated.

<sup>15</sup>The International Chamber of Commerce's International Maritime Bureau operates a Piracy Reporting Center that collects data on pirate attacks worldwide.

<sup>16</sup>For more information on U.S. Government efforts to combat piracy, see GAO-10-856, which discusses the Coast Guard's and other agencies' progress in implementing efforts to prevent piracy attacks. This report contains recommendations to improve U.S. Government efforts to combat piracy.

vides vessel owners and operators with direction for responding to emerging security risks.

**Figure 1: Sailors from the U.S. Navy's *USS Philippine Sea* Rescue Crew of the Tanker *VLCC Brillante Virtuoso* in Response to a Suspected Attack by Pirates, June 2011**



Source: U.S. Navy.

#### *Risks to Offshore Energy Infrastructure*

Offshore energy infrastructure also faces risks from various types of attacks. For example, in 2004, a terrorist attacked an offshore oil terminal in Iraq using speedboats packed with explosives, killing two U.S. Navy sailors and a U.S. Coast Guardsman. Potential attack methods against offshore energy infrastructure identified by the Coast Guard or owners and operators include crashing an aircraft into it; using a submarine vessel, diver, or other means of attacking it underwater; ramming it with a vessel; and sabotage by an employee. Offshore energy infrastructure may face security risks because this infrastructure is located in open waters and generally many miles away from Coast Guard assets and personnel.

In addition to our work on energy tankers, we have recently completed work involving Coast Guard efforts to assess security risks and ensure the security of offshore energy infrastructure. Specifically, our work focused on two main types of offshore energy infrastructure that the Coast Guard oversees for security. The first type are facilities that operate on the OCS and are generally described as facilities temporarily or permanently attached to the subsoil or seabed of the OCS that engage in exploration, development, or production of oil, natural gas, or mineral resources.<sup>17</sup> As of September 2010, there were about 3,900 such facilities, and if a facility of this type meets or exceeds any one of three thresholds for production or personnel, it is subject to 33 C.F.R. part 106 security requirements.<sup>18</sup> In this testimony,

<sup>17</sup> See 33 C.F.R. § 106.105.

<sup>18</sup> Facilities meeting any of the threshold criteria are often referred to as Maritime Transportation and Security Act (MTSA)-regulated facilities. The production or personnel thresholds for determining whether an OCS facility will be subject to security requirements in accordance with 33 C.F.R. part 106 are: (1) Producing greater than 100,000 barrels of oil a day, (2) producing more than 200 million cubic feet of natural gas per day, or (3) hosting more than 150 persons for 12 hours or more in each 24-hour period continuously for 30 days or more. According to 33 C.F.R. § 140.10, production means those activities which take place after the successful completion of any means for the removal of minerals, including, but not limited to, such removal, field

we focus on the 50 facilities that, in 2011, are regulated for security because they meet or exceed the threshold criteria. We refer to these security-regulated facilities as OCS facilities. The second type of offshore energy infrastructure are deepwater ports, which are fixed or floating manmade structures used or intended for use as a port or terminal for the transportation, storage, or handling of oil or natural gas to any State and includes the transportation of oil or natural gas from the United States' OCS.<sup>19</sup> There are currently four licensed deepwater ports—two in the Gulf of Mexico and two in Massachusetts Bay.<sup>20</sup> Unlike OCS facilities, which are involved in the production of oil or natural gas, deepwater ports enable tankers to off-load oil or liquefied natural gas for transport to land by underwater pipelines.

PROGRESS MADE ADDRESSING OUR RECOMMENDATIONS, BUT ADDITIONAL ACTIONS  
COULD HELP IMPROVE TANKER SECURITY

In 2007, we assessed Coast Guard and FBI efforts to ensure the security of energy tankers and respond to terrorist incidents involving energy tankers.<sup>21</sup> We found that actions were being taken, internationally and domestically, to protect tankers and port facilities at which tankers would be present. For example, the Coast Guard visits foreign exporting ports to assess the effectiveness of the anti-terrorism measures in place. Additionally, port stakeholders in the United States have taken steps to address vulnerabilities at domestic ports. For example, the Houston Ship Channel Security District is a public-private partnership that was established to increase preparedness and response capabilities with the goal of improving security and safety for facilities, employees, and communities surrounding the Houston Ship Channel. The security district has installed technology, such as night vision and motion-activated detection equipment, and conducts patrols on land and in the water. However, we also reported on challenges that remained in: (1) Making Federal agencies' protective actions more effective, and (2) implementing plans for a response to an attack, if a terrorist attack were to succeed despite the protective measures in place.

We made five recommendations in our 2007 report, three of which were directed to the Secretary of Homeland Security and two of which were directed jointly to the Secretary of Homeland Security and the Attorney General. The departments concurred or partially concurred with all of the recommendations. The Coast Guard and the FBI have made progress in implementing these recommendations—two have been implemented, and the Coast Guard is in the process of implementing a third—but actions have not yet been taken to address the remaining two recommendations. See table 2 for a summary of our findings, recommendations, and the current status of agency efforts to implement our recommendations.

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operations, transfer of minerals to shore, operation monitoring, maintenance, and workover. According to the Coast Guard, the statement; "transfer of minerals to shore" encompasses fixed facilities that operate as "Transmission Facilities." Production quantities shall be calculated as the sum of all sources of production from wells on the primary and any attending platform(s), including the throughput of other pipelines transferring product across the same platform(s).

<sup>19</sup> See 33 C.F.R. § 148.5. Although deepwater ports are generally not regulated for security in accordance with MTSA, owners and operators generally carry out similar measures to those carried out for OCS facilities by, among other things, developing security plans comparable to those implemented by OCS facilities pursuant to part 106. See 33 C.F.R. § 150.15(x).

<sup>20</sup> According to the Coast Guard, one of the Gulf of Mexico deepwater ports is expected to be decommissioned in the near future.

<sup>21</sup> GAO-08-141.

TABLE 2.—STATUS OF GAO RECOMMENDATIONS ON TANKER SECURITY FROM GAO-08-141

Findings	Recommendation and Status
<p><i>Resource allocation.</i>—Based on Coast Guard records, we found that Coast Guard field units in several energy-related ports had been unable to accomplish many of the port security responsibilities called for in Coast Guard guidance. According to the data we obtained and our discussions with field unit officials, we determined that resource shortfalls were the primary reasons for not meeting these responsibilities. Furthermore, the Coast Guard had not yet developed a plan for addressing new liquefied natural gas (LNG) security resource demands.</p>	<p><i>Recommendation.</i>—We recommended that the Coast Guard develop a National resource allocation plan that would balance the need to meet new LNG security responsibilities with existing security responsibilities and other Coast Guard missions.</p> <p><i>Status.</i>—<i>In progress.</i> The Coast Guard has begun work on a National strategy for reducing the maritime security risks present in the bulk transportation and transfer of certain dangerous cargoes, including LNG. Coast Guard officials expect to finalize the strategy in April 2012 at which point they expect to develop a resource allocation plan to implement the strategy. In the interim, the Coast Guard has published guidance to clarify the timing and scope of the process that is necessary to ensure full consideration is given to safety and security of the port, the facility, and the vessels transporting LNG.</p>
<p><i>Guidance for helping to mitigate economic consequences.</i>—We reported that the economic consequences of a terrorist attack on a tanker could be significant, particularly if one or more ports are closed. We identified some ports that, on their own initiative, were incorporating economic recovery considerations into their port-level plans, but at the time of our review in 2007, there was no National-level guidance for use by local ports.</p>	<p><i>Recommendation.</i>—We recommended that the Coast Guard develop guidance that ports could use to plan for helping to mitigate economic consequences, particularly in the case of port closures.</p> <p><i>Status.</i>—<i>Implemented.</i> The Coast Guard and U.S. Customs and Border Protection (CBP) have developed Joint Protocols for the Expeditious Recovery of Trade. These protocols establish a communications process and describe how the Coast Guard and CBP will coordinate with other Federal agencies and the maritime industry to facilitate recovery and resumption of trade following an event that causes a major disruption to the maritime transportation system.</p>
<p><i>Integration of spill and terrorism response at the National level.</i>—We found that while National- and port-level plans exist to address spill response or terrorism response, Federal agencies and ports could face challenges in using them effectively. We reported that the separate spill and terrorism response plans should be integrated for responding to an attack on an energy commodities tanker.</p>	<p><i>Recommendation.</i>—We recommended that the Coast Guard and the FBI coordinate at the National level to help ensure that a detailed operational plan be developed that integrates the different spill and terrorism sections of the National Response Plan.</p> <p><i>Status.</i>—<i>Not implemented.</i> The different spill and terrorism response sections of the National Response Plan remain separate annexes in the renamed National Response Framework. According to the Coast Guard, the National Response Framework is currently under revision, but no decision has been made regarding the spill and terrorism response annexes. Pending that decision, the FBI has not taken any action to implement this recommendation.</p>

TABLE 2.—STATUS OF GAO RECOMMENDATIONS ON TANKER SECURITY  
FROM GAO-08-141—Continued

Findings	Recommendation and Status
<p><i>Integration of spill and terrorism response at the local level.</i>—In addition to the need for operational plans as noted above, we reported that agencies should conduct joint exercises that simulate an attack and the agencies' responses. Without such exercises, it would be questionable whether joint Coast Guard and FBI activities would proceed as planned.</p>	<p><i>Recommendation.</i>—We recommended that the Coast Guard and FBI coordinate at the local level to help ensure that spill and terrorism response activities are integrated for the best possible response by maximizing the integration of spill and terrorism response planning and exercises at ports that receive energy commodities where attacks on tankers pose a significant threat.</p> <p><i>Status.—Implemented.</i> In April 2008, the Coast Guard updated guidance which states that the ability to simultaneously execute multiple plans, including Federal, State, and local response and recovery plans, should be part of an overall exercise and preparedness program. In accordance with this guidance, the Coast Guard, along with the FBI and other stakeholders, has conducted exercises that address an integrated spill and terrorism response.</p>
<p><i>Performance measures for emergency response.</i>—We found that some ports had reported difficulty in securing response resources to carry out planned actions and decisions about the need for more response capabilities were hindered by a lack of performance measures tying resource needs to effectiveness in response.</p>	<p><i>Recommendation.</i>—We recommended that the Secretary of Homeland Security work with Federal, State, and local stakeholders to develop explicit performance measures for emergency response capabilities and use them in risk-based analyses to set priorities for acquiring needed response resources.</p> <p><i>Status.—Not implemented.</i>—DHS has not yet developed explicit performance measures for emergency response capabilities. According to DHS, it is revising its grant programs, but performance measures have not yet been developed as part of this effort.</p>

Source: GAO.

Regarding our recommendation that the Coast Guard and the FBI coordinate to help ensure that a detailed operational plan be developed that integrates the different spill and terrorism sections of the *National Response Framework*, DHS is in the process of revising this document and did not have further information regarding whether or how the spill and terrorism response annexes may be revised. Further, the FBI has not taken independent action to implement this recommendation, in part because it did not concur with the need to develop a separate operational plan. In the event of a successful attack on an energy tanker, ports would need to provide an effective, integrated response to: (1) Protect public safety and the environment, (2) conduct an investigation, and (3) restore shipping operations in a timely manner. Consequently, clearly defined and understood roles and responsibilities for all essential stakeholders are needed to ensure an effective response, and operational plans for the response should be explicitly linked. Regarding our recommendation that DHS develop performance measures for emergency response capabilities, DHS has begun to revise its grant programs, but it is too early in that process to determine whether and how performance measures will be incorporated into those revisions. Performance measures would allow DHS to set priorities for funding on the basis of reducing overall risk, thereby helping ports obtain resources necessary to respond. We continue to believe that the recommendations not yet addressed have merit and should be fully implemented.

#### COAST GUARD HAD NOT ASSESSED RISKS TO ALL OCS FACILITIES

In accordance with Federal statutes and Presidential directives, the Coast Guard assesses security risks as part of its responsibilities for ensuring the security of OCS facilities and deepwater ports. In doing so, the Coast Guard, among other things, uses a tool called the Maritime Security Risk Analysis Model (MSRAM). Coast Guard units throughout the country use this tool to assess security risks to about 28,000 key infrastructure in and around the Nation's ports and waterways. For ex-

ample, MSRAM examines security risks to National monuments, bridges, and oil and gas terminals.

The Coast Guard's efforts to assess security risks to OCS facilities and deepwater ports are part of a broader effort by DHS to protect critical infrastructure and key resources.<sup>22</sup> To further guide this effort, in 2009 DHS issued an updated version of the 2006 National Infrastructure Protection Plan which describes the Department's strategic approach to infrastructure protection.<sup>23</sup> The plan placed an increased emphasis on risk management and it centered attention on going beyond assessments of individual assets by extending the scope of risk assessments to systems or networks.<sup>24</sup> For example, while the 2006 plan focused on assessing the vulnerability of facilities, the 2009 plan discussed efforts to conduct systemwide vulnerability assessments.

#### *Progress Made Assessing Offshore Security Risks*

The Coast Guard has taken a number of actions in assessing security risks to OCS facilities and deepwater ports. The Coast Guard has used MSRAM to, among other things, examine security risks to OCS facilities and deepwater ports by assessing three main factors—threats, vulnerabilities, and consequences.<sup>25</sup> First, Coast Guard analysts use MSRAM to assess security risks against such energy infrastructure by examining potential scenarios terrorists may use to attack OCS facilities or deepwater ports. For example, MSRAM assesses attack scenarios, such as an attack by a hijacked vessel, a small boat attack, sabotage, or an attack by a swimmer or diver. Second, the analysts use MSRAM to evaluate vulnerabilities of OCS facilities and deepwater ports by examining the probability of a successful attack by assessing factors such as the ability of key stakeholders, including the owner, operator, or law enforcement, to interdict an attack and the ability of a target to withstand an attack. Third, the analysts use MSRAM to evaluate potential consequences of an attack, such as deaths or injuries and economic and environmental impacts.<sup>26</sup> MSRAM's output produces a risk index number for each maritime target—such as an OCS facility or deepwater port—that allows Coast Guard officials at the local, regional, and National levels to compare and rank critical infrastructure for the purpose of informing security decisions. According to Coast Guard officials, based on MSRAM's output, which is a relative risk ranking, OCS facilities are not considered to be high-risk targets.

<sup>22</sup>The Homeland Security Act of 2002, enacted the same day as MTSA (November 25, 2002), established DHS and gave the Department wide-ranging responsibilities for, among other things, leading and coordinating the overall National critical infrastructure protection effort. Title II of the Homeland Security Act, as amended, primarily addresses the Department's responsibilities for critical infrastructure protection. According to DHS, there are thousands of facilities in the United States that if degraded or destroyed by a manmade or natural disaster could cause some combination of significant casualties, major economic losses, or widespread and long-term disruptions to National well-being and governance capacity.

<sup>23</sup>DHS, *National Infrastructure Protection Plan, Partnering to Enhance Protection and Resilience* (Washington, DC: January 2009). This plan represents a strategy for protecting critical infrastructure and key resources and it offers a framework for assessing risk. DHS issued the original plan in June 2006.

<sup>24</sup>Network effects involve the ripple effect of an incident or simultaneous incidents on key sectors of the economy. For example, production facilities, pipelines, transfer stations, and refineries are part of the oil and natural gas network in and around the Gulf of New Mexico. Assessing network effects could involve determining whether a terrorist attack on a few key assets would have a disproportionate effect on the performance of this network. Such an assessment could examine the degree to which such an incident could disrupt the flow of oil or natural gas to industries that use these types of energy as inputs to their production functions.

<sup>25</sup>DHS defines threat as a natural or manmade occurrence, individual, entity, or action that has or indicates the potential to harm life, information, operations, the environment, and/or property. For the purpose of calculating risk, the threat of an intentional hazard is generally estimated as the likelihood of an attack being attempted by an adversary; for other hazards, threat is generally estimated as the likelihood that a hazard will manifest itself. In the case of terrorist attacks, the threat likelihood is estimated based on the intent and capability of the adversary. DHS defines vulnerability as a physical feature or operational attribute that renders an entity open to exploitation or susceptible to a given hazard. In calculating the risk of an intentional hazard, a measure of vulnerability is the likelihood that an attack is successful, given that it is attempted. DHS defines consequence as the effect of an event, incident, or occurrence; reflects the level, duration, and nature of the loss resulting from the incident. For the purposes of the National Infrastructure Protection Plan, consequences are divided into four main categories: Public health and safety (i.e., loss of life and illness); economic (direct and indirect); psychological; and governance/mission impacts.

<sup>26</sup>MSRAM assesses consequences of six factors: (1) Deaths and injuries, (2) primary economic impact, (3) environmental impact, (4) National security impacts, (5) symbolic impacts, and (6) secondary economic impacts.

To inform analysts' inputs into MSRAM, the Coast Guard has coordinated efforts with the intelligence community and key stakeholders. For example, the Coast Guard's Intelligence Coordination Center inputs threat assessment data into MSRAM. Coast Guard analysts also use information from other stakeholders, such as reports produced by the Department of the Interior's Bureau of Ocean Energy Management, Regulation, and Enforcement (BOEMRE), which contain oil and gas production data, to inform their evaluations of vulnerabilities and consequences. Based on the assessments of threats, vulnerabilities, and consequences, MSRAM produces a risk index number for each OCS facility and deepwater port. The Coast Guard has also taken actions to supplement MSRAM by, among other things: (1) Including new data fields on the frequency with which tankers visit a port and (2) adding additional threat scenarios, such as a threat involving a cyber attack, to its data set.

While MSRAM has been applied to deepwater ports, Coast Guard officials have also used an independent risk assessment to assess security risks as part of the application process for recently constructed deepwater ports. For example, in December 2006, as part of the application process for a proposed deepwater port in the Massachusetts Bay, the Coast Guard, the owner and operator, and other stakeholders collectively identified and assessed threat scenarios as well as the potential consequences and vulnerabilities of each scenario. Based on this assessment, stakeholders identified and agreed to carry out security measures to mitigate the risks, such as installing camera systems and increasing radar coverage.

#### *Challenges in Data and Scope Hinder Risk Assessments*

The Coast Guard faces complex and technical challenges in assessing security risks. The Coast Guard recognizes these challenges and generally has actions underway to study or address them. Coast Guard officials noted that some of these challenges are not unique to the Coast Guard's risk assessment model and that these challenges are faced by others in the homeland security community involved in conducting risk assessments. Specific challenges are detailed below.

#### *Challenges in Data*

- *Vulnerability-related data.*—The Coast Guard does not have data on the ability of an OCS facility to withstand an attack, which is defined in MSRAM as target hardness. The Coast Guard recognizes that target hardness is an important consideration in assessing the vulnerability of OCS facilities. However, MSRAM analysts described challenges in assessing target hardness because empirical data are not available or research has not been conducted to do so. For example, research on whether a hijacked boat or an underwater attack could sink an offshore oil or natural gas platform would give the Coast Guard and owners and operators a clearer sense of whether this attack scenario could result in major consequences. Coast Guard officials and corporate security officers with whom we spoke indicated that such research would advance knowledge about the vulnerabilities of OCS facilities and deepwater ports. Gaining a better understanding of target hardness of these and other threat scenarios could improve the quality of the output from MSRAM. According to Coast Guard's MSRAM Program Manager, the Coast Guard may recommend conducting more research on the vulnerability to and consequences of attack scenarios as a result of a study it is currently conducting on OCS facilities in the Gulf of Mexico. The Coast Guard initiated this study in the fall of 2010 after the *Deepwater Horizon* incident. The study initially reviewed the "lessons learned" from *Deepwater Horizon* and how those lessons could be used to improve MSRAM. During the course of our review, Coast Guard officials stated that the scope of the study has been expanded to include OCS facilities and that the Coast Guard expects to issue its report in the fall of 2011.
- *Consequences-related data.*—The input for secondary economic impacts<sup>27</sup> can have a substantial effect on how MSRAM's output ranks a facility relative to other potential targets. Undervaluing secondary economic impacts could result in a lower relative risk ranking that underestimates the security risk to a facility, or inversely, overvaluing secondary economic impacts could result in overestimating the security risk to a facility. However, the Coast Guard has limited data for assessing secondary economic impacts from an attack on OCS facilities or deepwater ports. Coast Guard analysts stated that gathering these data is a challenge because there are few models or guidance available for doing so. During the course of our review, the Coast Guard started using a tool, called

<sup>27</sup> According to the Coast Guard, secondary economic impacts are a factor representing a description of follow-on economic effects of a successful attack.

“IMPLAN,” that helps inform judgments of secondary economic impacts by showing what the impact could be for different terrorist scenarios.<sup>28</sup> The tool, however, has limits in that it should not be used where the consequences of a terrorist attack are mainly interruption to land or water transportation. Enhancing DHS’s and the Coast Guard’s ability to assess secondary economic impacts could improve a MSRAM analyst’s accuracy in assessing the relative risk of a particular target. Coast Guard officials added that they are working with DHS’s Office of Risk Management and Analysis in studying ways to improve how it assesses secondary economic impacts.

*Challenges in Scope*

- *Challenges in assessing security risks to OCS facilities.*—We determined that the Coast Guard did not conduct MSRAM assessments for all 50 of the OCS facilities that are subject to Federal security requirements in 2011. Coast Guard guidance calls for MSRAM analysts to identify and assess all significant targets that fall within a unit’s area of responsibility, which includes all security-regulated OCS facilities. Specifically, as of May 2011, we found that MSRAM did not include 12 of the 50 OCS facilities operating at that time. Coast Guard officials generally agreed with our finding and they have since incorporated these 12 facilities into MSRAM and completed the required risk assessments. While the Coast Guard plans to update its policies and procedures for inspecting and ensuring the security of OCS facilities in the future, the current set of policies and procedures do not call for an updated list of OCS facilities to be provided to MSRAM analysts to assess the security risks to such facilities annually. Coast Guard officials acknowledged that their policies and procedures did not include this requirement. Revising policies and procedures to include such a requirement is important in that the number of OCS facilities could change each year. For example, some facilities may drop below the production or personnel thresholds described earlier in this statement, thereby falling outside the scope of 33 C.F.R. part 106, or other facilities could meet or exceed such thresholds, thereby rendering them subject to part 106. Standards for Internal Control in the Federal Government state that policies and procedures enforce management directives and help ensure that actions are taken to address risks.<sup>29</sup> In addition, internal control standards state that such control activities are an integral part of an entity’s planning, implementing, reviewing, and accountability for stewardship of Government resources and for achieving effective results. Developing such procedures could help ensure that the Coast Guard carries out its risk assessment requirements for such security-regulated OCS facilities.
- *Challenges in assessing security risks to offshore energy infrastructure that is not subject to security requirements.*—With respect to OCS facilities, analysts only use MSRAM to assess security risks associated with those OCS facilities that are regulated for security under 33 C.F.R. part 106. For example, the *Deepwater Horizon* did not meet the threshold criteria subjecting it to regulation under part 106, and therefore, MSRAM was not used to assess its security risks (see figure 2 for a photo of the *Deepwater Horizon* explosion). According to Coast Guard officials, mobile offshore drilling units (MODUs), such as the *Deepwater Horizon*, do not generally pose a risk of a terrorist attack since there is little chance of an oil spill when these units are drilling and have not struck oil.<sup>30</sup> However, the officials noted that there is a brief period of time when a drilling unit strikes a well, but the well has yet to be sealed prior to connecting it to a production facility. The *Deepwater Horizon* was in this stage when it resulted in such a large oil spill. During that period of time, MODUs could be at risk of a terrorist attack that could have significant consequences despite a facility not meeting the production or personnel thresholds. For example, such risks could involve the reliability of blowout preventer valves—specialized valves that prevent a well from spewing oil in the case of a blowout. Gaining a fuller understanding of the security risks associated with MODUs, such as the *Deepwater Horizon*, could improve the quality of program decisions made by Coast Guard managers on whether actions may be needed to ensure the security of this type of facility. According to Coast Guard officials, they are studying the “lessons learned” from the *Deepwater Horizon* incident and part of the study involves examining whether analysts should use MSRAM to assess MODUs in the future.

<sup>28</sup> IMPLAN stands for IMPact Analysis for PLANning. It is a tool that assesses economic relationships between primary economic impacts and secondary economic impacts.

<sup>29</sup> GAO/AIMD-00-21.3.1.

<sup>30</sup> MODUs engage in drilling rather than production.

**Figure 2: Explosion of the *Deepwater Horizon* Drilling Unit in the Gulf of Mexico, April 2010**



Source: U.S. Coast Guard.

- *Challenges in assessing systemic or network risks.*—MSRAM does not assess systemic or network risks because, according to Coast Guard officials, these types of assessments are beyond the intended use of MSRAM. The 2009 National Infrastructure Protection Plan, 2010 DHS Quadrennial Review,<sup>31</sup> and a National Research Council evaluation of DHS risk assessment efforts<sup>32</sup> have determined that gaining a better understanding of network risks would help to understand multiplying consequences of a terrorist attack or simultaneous attacks on key facilities. Understanding “network” risks involves gaining a greater understanding of how a network is vulnerable to a diverse range of threats. Examining how such vulnerabilities create strategic opportunities for intelligent adversaries with malevolent intent is central to this understanding. For example, knowing what damage a malicious adversary could achieve by exploiting weaknesses in an oil-distribution network offers opportunities for improving the resiliency of the network within a given budget.<sup>33</sup>

How the Coast Guard assesses offshore infrastructure within the broader set of networks is important. The findings of the National Commission on the BP *Deepwater Horizon* Oil Spill incident illustrate how examining networks or systems from a safety or engineering perspective can bring greater knowledge of how single facilities intersect with broader systems.<sup>34</sup> The report noted that “complex systems almost always fail in complex ways” and cautioned that attempting to identify a sin-

<sup>31</sup> U.S. Department of Homeland Security: *Quadrennial Homeland Security Review Report: A Strategic Framework for a Secure Homeland* (Washington, DC: February 2010).

<sup>32</sup> National Research Council: *Review of the Department of Homeland Security’s Approach to Risk Analysis* (Washington, DC: 2010).

<sup>33</sup> See Gerald G. Brown, W. Matthew Carlyle, Javier Salmerón, and Kevin Wood, Operations Research Department, Naval Postgraduate School: *Analyzing the Vulnerability of Critical Infrastructure to Attack and Planning Defenses* (Monterrey, California: 2005). According to DHS, resiliency is the ability to resist, absorb, recover from, or successfully adapt to adversity or a change in conditions.

<sup>34</sup> National Commission on the BP *Deepwater Horizon* Oil Spill and Offshore Drilling, *Deep Water: The Gulf Oil Disaster and the Future of Offshore Drilling* (Washington, DC: January 2011).

gle cause for the *Deepwater Horizon* incident would provide a dangerously incomplete picture of what happened. As a result, the report examined the *Deepwater Horizon* incident with an expansive view toward the role that industry and Government sectors played in assessing vulnerabilities and the impact the incident had on economic, social, and environmental systems. Enhancing knowledge about the vulnerabilities of networks or systems with which OCS facilities and deepwater ports intersect could improve the quality of information that informs program and budget decisions on how to best ensure security and use scarce resources in a constrained fiscal environment. Doing so would also be consistent with DHS's Quadrennial Review and other DHS guidance and would provide information to decision makers that could minimize the likelihood of being unprepared for a potential attack. Coast Guard officials agreed that assessing "network effects" is a challenge and they are examining ways to meet this challenge. However, the Coast Guard's work in this area is in its infancy and there is uncertainty regarding the way in which the Coast Guard will move forward in measuring "network effects."

#### CONCLUSIONS

The threat of terrorism against energy tankers and offshore energy infrastructure highlights the importance of the Coast Guard having policies and procedures in place to better ensure the security of energy tankers, OCS facilities, and deepwater ports. The Coast Guard has taken steps to implement prior GAO recommendations to enhance energy tanker security, and it continues to work towards implementing the three outstanding recommendations. Improvements in security could help to prevent a terrorist attack against this infrastructure, which could have significant consequences, such as those resulting from the *Deepwater Horizon* incident. While the Coast Guard does not consider OCS facilities that it has assessed in MSRAM to be high-risk, it is important to assess all OCS facilities as required by Coast Guard guidance. Since May 2011, when we determined that some OCS facilities were not assessed, the Coast Guard has completed its assessments for the previously omitted facilities. However, given that the list of security-regulated facilities may change each year based on factors such as production volume, it is important to ensure that any facilities added to the list in the future will be assessed for security risks in MSRAM. By revising policies and procedures to help ensure that an updated list of OCS facilities is provided to MSRAM analysts on an annual basis, the Coast Guard would be better positioned to ensure that all risk assessments for facilities requiring such assessments be conducted in a manner consistent with the law and Presidential directive.

#### RECOMMENDATIONS FOR EXECUTIVE ACTION

To strengthen the Coast Guard's efforts to assess security risks and ensure the security of OCS facilities, we recommend that the Commandant of the Coast Guard revise policies and procedures to ensure that MSRAM analysts receive the annual updated list of security-regulated OCS facilities to ensure that risk assessments have been conducted on all such OCS facilities.

#### AGENCY COMMENTS AND OUR EVALUATION

We provided a draft of this testimony to DHS and DOJ for comment. The Coast Guard concurred with our recommendation to revise policies and procedures to ensure that MSRAM analysts receive the annual updated list of security-regulated OCS facilities. DHS and DOJ provided oral and technical comments, which we incorporated as appropriate.

Chairman McCaul, Ranking Member Keating, and Members of the subcommittee, this concludes my prepared statement. This testimony concludes our work on Coast Guard efforts to assess security risks for offshore energy infrastructure. However, we will continue our broader work looking at the security of offshore energy infrastructure, including Coast Guard security inspections and other challenges. Our evaluation will focus on Coast Guard security inspections and other measures to better secure OCS facilities and deepwater ports.<sup>35</sup> We will continue to work with

<sup>35</sup>We are conducting this work for the Chairman of the Senate Committee on Commerce, Science, and Transportation; the Ranking Member of the Senate Committee of Homeland Security and Governmental Affairs; the House Committee on Energy and Commerce; the Chairman of the House Committee on Transportation and Infrastructure; the Ranking Member of the House Committee on Homeland Security; and the Ranking Member of the House Committee on Natural Resources; and the Chairman of the House Homeland Security Committee's Subcommittee on Oversight, Investigations, and Management.

the Coast Guard to develop solutions to ensure that inspections of OCS facilities are completed as required.

I would be happy to respond to any questions you may have.

Mr. McCAUL. Thank you, Mr. Caldwell.

The Chairman now recognizes Captain Whitehead for his testimony.

**STATEMENT OF CAPTAIN JAMES H. WHITEHEAD III, SECTOR  
COMMANDER, SECTOR HOUSTON-GALVESTON, U.S. COAST  
GUARD**

Captain WHITEHEAD. Good morning, Mr. Chairman, Congressman Green, Congressman Keating. Thank you for the opportunity to appear before you and discuss port security in the Houston-Galveston area.

Mr. Chairman, you mentioned many of the titles so I will skip all those that I hold. But I would like you to know that the Sector focuses on three fundamental roles, and it is maritime safety, security, and stewardship. As the Commandant, Admiral Robert Papp, has stated, "We protect those on the sea; we protect America from threats delivered by sea; and we protect the sea itself."

These primary roles are accomplished in cooperation with our maritime partners through three committees in this area: Houston-Galveston Navigation Safety Advisory Committee, Area Maritime Security Committee, and the Central Texas Coastal Area Committee. These committees represent robust, active collaborations of a wide range of Federal, State, local stakeholders from law enforcement, industry, port authorities, shippers, agents, and educational institutions, and others. Members from all three meet, train, exercise together regularly to develop and refine plans, address issues of concern, disseminate information, and share ideas and best practices in pursuit of continuous improvement in all three fundamental roles. The largest of the three is the Area Maritime Security Committee chartered in 2004, now comprising over 400 members at-large.

In Houston, we routinely conduct integrated operations with our city, county, State, and Federal law enforcement partners. The joint agency, Houston Area Maritime Operations Center, is a prime example of the type of coordination directed in the Maritime Operations Coordination Plan recently signed by the U.S. Coast Guard, U.S. Customs and Border Protection, and U.S. Immigration and Customs Enforcement. These operations typically involve the Harris County's Sheriff Office and local police department marine divisions as well as CBP, ICE, FBI, Bureau of Alcohol, Tobacco, Firearms, and Explosives and other partners.

We also rely heavily on our port partners to be our "eyes on the water." With an average of 350 tow and 700 deep draft ship movements daily in the Houston Ship Channel in over 100 waterfront facilities with a vigilant security presence, we have a valuable resource of maritime industry stakeholders who are best positioned to recognize when things are out of the ordinary and who diligently report on breaches of security and suspicious activity.

We also receive reports on fraudulent use of the Transportation Worker Identification Card and work closely with our local law en-

forcement and legal agencies, such as the Harris County District Attorney, to ensure these cases are prosecuted.

The Ship Channel Security District, as has been mentioned, represents a unique private-public partnership formed to improve security and safety for facilities, employees, and communities surrounding the Houston Ship Channel. The Coast Guard played an important role in the formation of the district and continues to work closely with them to ensure alignment of our priorities and unity of effort. As Sector commander, I am a member of the Security District Advisory Council and regularly sit on that.

The Sector also makes excellent use of our robust vessel traffic service. The VTS' primary role is facilitating the safe transit of vessels in the waterways and ports along the Houston Ship Channel. The VTS' cameras, automatic identification system feeds, remote radar observation capability, and radio communications also provide an additional layer of security. In addition to the VTS resources in the Houston Ship Channel Sector, Houston-Galveston has access to feeds from three AIS receivers mounted on offshore oil platforms which provide heightened awareness of activities in the maritime domain.

Mr. Chairman, threats and vulnerabilities will always exist, but through the active involvement of hundreds of partners who are directly involved with or impacted by the maritime industry in the Houston-Galveston area, this Sector is committed to deterring incidents before they happen, well-prepared to respond to them should they occur, and has a resiliency to rebound quickly in the aftermath.

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

Mr. MCCAUL. Thank you, Captain.

[The statement of Captain Whitehead follows:]

PREPARED STATEMENT OF CAPTAIN JAMES H. WHITEHEAD III

AUGUST 24, 2011

Good afternoon, Mr. Chairman and distinguished guests, I want to thank you for the opportunity to appear before you today to discuss port security in the Houston-Galveston area.

As the Sector Commander and Captain of the Port in Houston-Galveston, I serve as the region's Federal Maritime Security Coordinator, the Federal On-Scene Coordinator, and the Officer-in-Charge Marine Inspection. The Sector focuses on two major operational processes—PREVENTION and RESPONSE—in support of three fundamental roles: Maritime Safety; Maritime Security; and Maritime Stewardship. As the Commandant, ADM Robert Papp, has stated, "We protect those on the sea; we protect America from threats delivered by sea; and we protect the sea itself."

We accomplish these fundamental roles by cooperating with our maritime partners through three committees: The Houston-Galveston Navigation Safety Advisory Committee; the Area Maritime Security Committee; and the Central Texas Coastal Area Committee.

These committees represent robust, active collaboration between a wide range of Federal, State, and local stakeholders from law enforcement, industry, port authorities, shippers, agents, and educational institutions, among others. Members from all three committees meet, train, and exercise together regularly to develop and refine plans, address issues of concern, disseminate information, and share ideas and best practices. The largest of the three committees is the Area Maritime Security Committee which was chartered in 2004 and now includes over 400 members-at-large. The committee has active working groups in the areas of facility security, intelligence, law enforcement, grants, public affairs/outreach, and joint training and ex-

ercises. The work is continuous, and progress in the various areas is reported to the membership during quarterly meetings.

In Houston, we routinely conduct integrated operations with our city, county, State, and Federal Law Enforcement partners. The joint agency Houston Area Maritime Operations Center is a prime example of the type of coordination directed in the Maritime Operations Coordination Plan recently signed by the U.S. Coast Guard, U.S. Customs and Border Protection (CBP) and U.S. Immigration and Customs Enforcement (ICE). These operations typically involve the Harris County Sheriff's Office and local city Police Department marine divisions as well as CBP, ICE, Federal Bureau of Investigation, Bureau of Alcohol, Tobacco, Firearms, and Explosives and other Federal partners.

This concept will continue to grow and expand across the entire Sector in the coming months, as our implementation plan takes effect. Efforts are also underway with our neighboring Sectors to align and streamline our operations across all jurisdictional boundaries.

We also rely heavily on our port partners to be the "eyes on the water." With an average of 350 daily tow movements in the Houston Ship Channel and more than 100 waterfront facilities with a vigilant security presence, marine industry stakeholders are well-positioned to recognize when things are out of the ordinary and serve as a valuable resource by diligently reporting breaches of security and suspicious activity. We also receive reports on fraudulent use of the Transportation Worker Identification Card, and work closely with our local enforcement and legal agencies such as the Harris County District Attorney to ensure these cases are prosecuted.

In terms of maritime traffic and cargo, the Port of Houston ranks first in the United States for number of ship arrivals and second in total cargo tonnage. Houston handles over 50 percent of all containerized cargo arriving at Gulf of Mexico ports. Additionally, more than 50 percent of the gasoline used in the United States is refined in this area. With more than 100 petrochemical waterfront facilities, Houston is the second-largest such complex in the world. Major corporations such as Exxon-Mobil, Shell, Saudi ARAMCO, Stolt Nielson, Odfjell USA Inc., Sea River and Kirby Marine have National or international headquarters in Houston.

In recognition of the significance of Houston's shipping activity, the State of Texas formally established the Houston Ship Channel Security District (HSCSD) in 2010. The HSCSD represents a unique public-private partnership formed to improve security and safety for facilities, employees, and communities surrounding the Houston Ship Channel. The Coast Guard played an instrumental role in the formation of the HSCSD, and continues to work closely with the HSCSD to ensure alignment of priorities and unity of effort. As Sector Commander, I am a member of the HSCSD Advisory Council and Sector Port Security specialists attend HSCSD board meetings. The district provides oversight of comprehensive and cost-effective security solutions, leveraging more than \$30 million in Federal Port Security grants along with \$4 million in annual member assessments to install technology and security infrastructure and provide funds for specific security projects, maintenance, and operational services.

The Port of Houston accommodates a large number of tankers carrying crude oil, refined products and chemical cargoes. With approximately 9,600 deep draft ship arrivals each year, the Coast Guard maintains a very extensive Port State Control program in the Houston-Galveston area. The Port State Control program ensures the safe carriage of hazardous materials in bulk. Because over 90 percent of cargo bound for the United States is carried by foreign-flagged ships, this National program prevents operation of substandard foreign ships in U.S. waters.

The Sector also makes excellent use of its robust Vessel Traffic Service (VTS). The VTS's primary role is facilitating safe vessel transits in the waterways and ports along the Houston Ship Channel. The VTS cameras, Automatic Identification System (AIS) feeds, remote radar observation capability, and radio communications, also provide an additional layer of security. In addition to the VTS resources in the Houston Ship Channel, Sector Houston-Galveston has access to feeds from three AIS receivers mounted on off-shore oil platforms, which provide heightened awareness of activities in the maritime domain.

Mr. Chairman, threats and vulnerabilities will always exist. But through the active involvement of hundreds of partners who are directly involved with or impacted by the maritime industry in the Houston-Galveston area of responsibility, this Sector is committed to deterring incidents before they happen and is well-prepared to respond to them should they occur.

In 1787, Alexander Hamilton, in Federalist Paper Number 12 laid the foundation for the modern Coast Guard when he noted that "[a] few armed vessels, judiciously stationed at the entrances of our ports, might at a small expense, be made useful

sentinels of our laws." We're proud of that legacy and our role in continued national strategy to keep our homeland secure. Thank you for the opportunity to testify before you today. I will be happy to answer any questions you may have.

Mr. McCAUL. The Chairman now recognizes Sheriff Garcia for his testimony.

**STATEMENT OF SHERIFF ADRIAN GARCIA, HARRIS COUNTY,  
TEXAS**

Sheriff GARCIA. Thank you, distinguished Members of the subcommittee, and thank you, my friend Congressman McCaul. Thank you all for bringing much-needed attention to our good work here at the Port of Houston and the Houston Ship Channel. I would like to think that we are demonstrating to Washington how we can work in a bipartisan, nonpartisan way to make sure that all stays well and healthy for our communities.

You have heard from others today already about how this port and this ship channel is growing and how it is serving this incredible community and how it is one of America's most important lifelines to the world. You have at your fingertips all the facts and figures about the essential raw materials and products that move along the Houston Ship Channel, enabling us to live our everyday lives in the modern world.

As you have mentioned, Congressman McCaul, we have learned about Osama bin Laden, how he had some of the same information showing how important the ship channel is and the Port of Houston is. No doubt would-be terrorists in the United States and foreign countries know this, too. Next time they scheme to kill Americans and disrupt the energy supply of Planet Earth, they may think about targeting the very ground that we are on today.

I am here as the person in charge of local law enforcement that has been chosen to coordinate the protection of the ship channel and all of its crucial assets. There is no mission more important to me than preventing a terrorist attack on Harris County. I assure you that our partners and I, Coast Guard, CBP, and others, are actively working to pursue this mission every day. We patrol the waterway in boats and in air with our fixed-wing aircraft, and I have been working to add an airborne drone to our surveillance arsenal so we can exploit the latest advances in such technologies.

We keep our electronic eyes trained on the ship channel 24/7 with camera sensors, radar, and other technology. Data from these high technology devices is fed into a monitoring center that we operate on the other side of town 24/7. We help the Coast Guard escort high-value asset vessels. We join the Coast Guard and CBP in boarding ships and scanning ship hulls, and although several operations are highly sensitive, I can tell you that our patrols on land and water have responded to calls for service such as suspicious persons in vehicles, security zone breaches by personal water craft, sunken boats, downed power lines, industrial accidents, security card violations at plant gates, and others.

In addition, we have helped industry sites evaluate their own security efforts and equipment to point out any vulnerabilities because prevention is job No. 1. We also have to prepare for disaster, man-made or not. We work hand-in-hand with Federal, State, and local authorities not only to share intelligence, but also to conduct

emergency response exercises. I would like to recognize Major Michael Wong and Captain Cordova, Deputy Hidorga as some of the key folks in these efforts that handle these matters on a day-to-day basis.

We are also in touch with pipeline companies, railroads, and emergency planners.

In a very different kind of pioneering outreach, I have established what we call the Incidence Response Forum. We use it to engage the widespread Middle Eastern and South Asian communities in the Houston area. This is a two-way communication pathway for law enforcement to share information with key civic and religious leaders. The spirit in which we started this program several months ago was expressed very well in a Homeland Security memo issued by the Federal Government within the last 3 weeks. It is titled, "Empowering Local Partners To Prevent Violent Extremism In The U.S." Here is a brief excerpt that refers to the attempts by terrorist groups to recruit American residents: "Countering radicalization to violence is frequently best achieved by engaging and empowering individuals and groups at the local level to build resilience against violent extremism. Law enforcement plays an essential role in keeping us safe, but so too does engagement and partnership with communities."

But our Incident Response Forum has other uses. By sharing information with these constituents, we help protect them against misguided attacks that may stem from terrorist acts anywhere in the world. These leaders can also report hate crimes, help calm tensions that may arise in ethnic communities and provide feedback about the effectiveness of law enforcement by the Harris County Sheriff's Office. We are conducting crisis response exercises with this group.

Overall, in Harris County, there is no deficit of will, dedication, cooperation, coordination, or maximization of resources when it comes to protecting the Houston Ship Channel, but we do need additional funding, as I have stated in my previous testimony in Washington, to hire the necessary personnel to fulfill all the responsibilities that we want. We would also like to encourage funding for the type of community engagements as I just mentioned regarding the Incident Response Forum.

I just will close by saying this: Congressman, you mentioned that international polls indicate that folks in other parts of the world may not see America as strong. The Harris County Sheriff's Office is ready to work alongside our partners and you to prove to domestic and international terrorists that they are mistaken about America's strength and determination.

Thank you.

[The statement of Sheriff Garcia follows:]

PREPARED STATEMENT OF ADRIAN GARCIA

AUGUST 24, 2011

Thank you, distinguished Members of the subcommittee, and thank you to my friend, the gentleman from Texas, Congressman McCaul, for inviting me to provide testimony about Harris County. I'm glad you represent part of our county. I'm glad you and I have been able to work together on several pressing issues involving the well-being and safety of our constituents. I'd like to think we're showing Washington how to work in harmony on a bi-partisan and non-partisan basis.

You have heard from others today about how this growing, bustling, sprawling community is one of America's most important lifelines to the world. You have at your fingertips all the facts and figures about the essential raw materials and products that move along the Houston Ship Channel, enabling us to live our everyday lives in a modern world.

We have learned that Osama bin Laden had some of the same information showing how important this lifeline is. No doubt, would-be terrorists in the United States and foreign countries know this, too. Next time they scheme to kill Americans and disrupt the energy supply of planet Earth, they may think about targeting the ground we are on today. Obviously, oil tankers, refineries, and petrochemical plants are potential targets because they have huge physical profiles, and most of them contain highly flammable substances.

I'm here as the person in charge of the law enforcement agency that has been chosen to coordinate the protection of the Ship Channel and all of its crucial assets. This may surprise some of our local audience, because the Sheriff's Office is known more for running the Nation's third-largest jail and patrolling an unincorporated area with the same number of residents as the city of Philadelphia. But there is no mission more important to me than preventing a terrorist attack on Harris County.

I assure you, we actively pursue this mission every day. We patrol the waterway in boats. Sometimes we patrol from the air with our fixed-wing craft, and I have been looking into adding an airborne drone to our surveillance arsenal so we can exploit the latest advances in such technology. We keep our electronic eyes trained on the Ship Channel area 24/7 with cameras, sensors, radar, and other technology. Data from these high-technology devices is fed into a monitoring center that we operate on the other side of town, safe from any damage that would be caused in this zone.

We help the Coast Guard escort "High Value Asset" vessels. We join the Coast Guard and Customs in boarding ships and scanning ship hulls. We've even acquired technology from at least one other security-minded nation to help keep our eyes on the situation underwater.

Although much of our operations are highly sensitive, I can tell you that our patrols on land and on the water have responded to calls for service such as these:

- Suspicious persons and vehicles
- Security zone breaches by personal watercraft
- Sunken boats and downed power lines
- Industrial accidents
- Security card violations at plant gates.

Fortunately, none of these incidents stemmed from a plot to bring us massive harm.

In addition, we have helped industrial sites evaluate their own security efforts and equipment to point out any vulnerabilities. Prevention is Job One, after all.

But we also have to prepare for a disaster, man-made or not. We work hand-in-hand with Federal, State, and local authorities not only to share intelligence, but also to conduct emergency response exercises. We're in touch with pipeline companies, railroads, and emergency planners.

In a very different kind of pioneering outreach, I have established what we call the Incidence Response Forum. We use it to engage the widespread Middle Eastern and South Asian communities in the Houston area. This is a two-way communications pathway for law enforcement to share information with key civic and religious leaders.

The spirit in which we started this program several months ago was expressed very well in a homeland security memo issued by the Federal Government within the last 3 weeks. It's titled "Empowering Local Partners To Prevent Violent Extremism in the United States." Here is a brief excerpt that refers to attempts by terrorist groups to recruit American residents:

"Countering radicalization to violence is frequently best achieved by engaging and empowering individuals and groups at the local level to build resilience against violent extremism. Law enforcement plays an essential role in keeping us safe, but so too does engagement and partnership with communities."

But our Incidence Response Forum has other uses. By sharing information with these constituents, we help protect them against misguided attacks that may stem from terrorist acts anywhere in the world. These leaders can also help report hate crimes, help calm tensions that may arise in ethnic communities, and provide feedback about the effectiveness of law enforcement by the Harris County Sheriff's Office. We are conducting crisis response exercises with this group.

Overall: In Harris County, there is no deficit of will, dedication, cooperation, coordination, and maximization of resources when it comes to protecting the Houston Ship Channel. But we do need additional funding so we can stay ahead of domestic and international terrorism threats.

A few weeks ago in Washington, I testified to one of your sister subcommittees about the bottom line in Harris County: We are not yet able to deploy personnel to the extent that this type of responsibility demands.

We received \$30 million in Homeland Security grants from the Federal Government for new security hardware. But the grants do not allow for investment into the most critical of resources; and that is the full-time deputies and the necessary training they need to be effective in policing a unique environment like the Ship Channel. We'd also like to see Federal funding for the kind of community engagement programs I described moments ago. We appreciate the Federal Government's direction on this; we'd also appreciate more resources that address the Federal Government's root mission of protecting the homeland.

Another financial challenge is local. The Ship Channel Security District collects assessment fees from its 100 or so private industry members and pays the money to county government in return for security services and enhancements. But the National economy has harmed property values in the Houston area, and these values are the foundation of the tax base the county uses to fund all of its operations, including my agency. The county cut its overall spending by forcing a hiring freeze. I have lost several hundred employees as a result since October 2009, with more than 125 just from our Patrol Bureau. All of my crime-fighting programs are strained; I have had to pay an exorbitant amount of overtime just to staff my jail at required State standards.

And yet, we have not been awarded any COPS grants from the Justice Department, apparently because law enforcement agencies that have had to lay off employees got first priority. I hope Congress and the administration will recognize that a forced hiring freeze—not even replacing attrition—is in fact a layoff—especially when it prevents us from deploying more crime-fighters to the National security asset known as the Houston Ship Channel. We'd welcome any kind of assistance from Washington, whether it comes from COPS grants or elsewhere.

If you will invest in us, one of the things we can give you in return is a National model for cooperation among Government agencies and the business community. Eight cities border the Ship Channel Security District. Other partners in the security district include the Texas Department of Transportation, the Metropolitan Transit Authority, the county's Office of Emergency Management and its other agencies, and the University of Houston. The security district has an 11-member board, eight of whose members come from private industry.

The Coast Guard, Merchant Marine, and Customs and Border Patrol play major roles here. We also fall under the Area Maritime Security Council, which takes a regional approach to maritime and border security in Houston and nearby Galveston, Freeport, and Texas City, Texas. Of course our port authority is another major partner. In your National research, you will probably find it difficult to find another locale where the job of combining private industry interests with the operations of efficient Government has been carried out so successfully.

We all want to meet the highest expectations of our community, of the Nation, and of the world. And we need your help.

Mr. McCAUL. Thank you, Sheriff, and let me—appreciate the good work that you do and we certainly support our local sheriff as well.

So, with that, Mr. Edmonds, you are recognized for testimony.

#### **STATEMENT OF JAMES T. EDMONDS, CHAIRMAN, PORT OF HOUSTON AUTHORITY**

Mr. EDMONDS. Thank you, Mr. Chairman and Members. I appreciate very much the opportunity to speak to you today about how security and emergency preparedness is handled at the Port of Houston.

I believe that we have a good story to tell. As you know and as has been pointed out, the Port of Houston is one of the busiest ports in the country. As has been pointed out, it is the second-largest petrochemical complex in the world. There are more than 150

distinct maritime entities along the upper Houston Ship Channel, which includes, of course, the Port Authority, and each of us has a different business model, and we all have different security risks.

But I am proud to say that when it comes to security and emergency preparedness, the industrial community at the Port of Houston has a strong tradition of effective collaboration and communication, but before I talk about security, and at the risk of being redundant, let me provide you with a brief overview of the port. Specifically, how the port is organized and its various pieces will help you understand how security is handled here.

There is a saying in the port business if you have seen one port you have seen one port. In fact, they are all different, one way or another. The Port of Houston is a 25-mile complex comprised of 150 private companies as well as the public facilities that the Port Authority operates. The Port Authority is the public entity, and we operate eight terminals. As I mentioned to Congressman Keating, we operate some of those for ourselves. We have others that know better than we do, operate those kind of facilities.

While the Port Authority does have the overall responsibility as the local partner with the Federal Government in maintaining the Houston Ship Channel, in practical terms, we really are just one of many players that make up the greater Port of Houston.

As you know, the Federal Government has the primary responsibility at the port regarding security and emergency response. We have obviously a number of Federal partners, but it is primarily the U.S. Coast Guard that will provide direction and coordination in any kind of all-hazard event. The Coast Guard's mission, as you have heard, is also to protect the waterway and to regulate the security of vessels into maritime facilities.

While the Federal Government provides the overall guidance and authority on large incidents, each of us along the Houston Ship Channel has developed emergency response plans that conform to standards in Federal law. I can speak, of course, to the Authority's eight terminals. Our plan is on-going, coordinated by the Port Security Emergency Operations Department to respond to any security or emergency situation. On a regular basis, the Port Authority works closely with the U.S. Coast Guard, Harris County Sheriff, and Houston Police Department, other Federal and local agencies, as well as a broad spectrum of external industry stakeholders to provide a coordinated response to any kind of a security situation that may arise.

The Port Authority has an internal committee that meets regularly to review and revise our emergency operations plans which includes the National Incident Management System procedures. We are also the first port in the United States to be certified as obtaining the International Organization of Standardization, the ISO, 28000.2007 security standard, and I am pleased to say that we were just recertified in March of this year for another 3 years.

Our port security and emergency operations team is led by Captain Marcus Woodring, right behind me. Captain Woodring joined the port team in July after retiring from 28 years of service with the U.S. Coast Guard, the last 5 years here in Houston as both the captain of the port and as deputy commander. He is the certified emergency manager and oversees our port police and our marine

departments, encompassing approximately 150 professional responders. We are very pleased that he has joined us, and I think that he will bring a serious upgrade to our operations and we are excited about that.

As you can see, there are many players involved in security at the port. As I mentioned, there is 150 private industries, as well as all of our partners at the Federal and State and local levels. It is, indeed, a complex mix, and the stakes are high, but altogether the port is, as has been pointed out by you, a significant economic engine.

I will give you another statistic. According to a recent economic impact study, marine cargo activity at the public and private terminals at the Port of Houston along the Houston Ship Channel generates \$118 billion of local economic activity in Texas. This activity produces \$3.7 billion in tax revenue and is responsible for more than 785,000 direct and indirect jobs.

To give you some magnitude of the activity in 2010, there were 7,800 vessel calls at the Port of Houston, and as the Chairman mentioned, there is over 150,000 barge movements annually. So this activity makes the overall port the largest in the Nation in foreign water-borne tonnage and second in total tonnage.

The port is critical to our Nation's energy security. As I mentioned earlier and as has been mentioned, the port is home to the largest petrochemical complex in the United States and second in the world. The Port of Houston is ranked as the largest importer and exporter of petroleum and petroleum products in the United States. The country's largest refinery with a refining capacity of 567,000 barrels of oil a day is located on the channel.

From Houston, refined energy products are delivered over the infrastructure that transports them to every market east of the Rocky Mountains through a network of roads, rails, and pipelines that originate along the Houston Ship Channel, and this includes the 5,519-mile long colonial pipe system, which is the largest petroleum product pipeline system in the Nation and is vital to the energy for the south and the east coast of the United States.

Despite the inherent challenges of this many people and interests, the Port of Houston has demonstrated that we effectively collaborate on security issues. Our assets have been recognized in that we have been called a model for the Nation. A quote from the 2009 report by the U.S. Coast Guard on port Interagency information sharing states that: "Port partnerships are predictably strongest, most collegial and most proactive where major calamities have necessitated life-and-death relationships of trust. This was most evident in the partner interviews in Sectors New York and Houston."

One of our significant efforts that helped us earn this accolade is an initiative that was passed by the Texas legislature. As has been mentioned, the State of Texas provided great leadership and foresight in the creation and usage of the Houston Ship Channel Security District. Captain Diehl will speak more to that in his testimony, but I want to take just a minute to highlight the importance of this recently-appointed entity.

The security district was created to complement the Federal port security programs. The Federal dollars given to ports for security

allow for great improvements through purchasing equipment or supporting training exercises, but they did not include money for operation and maintenance. In our case, that is about \$4 million annually. So Harris County, the Port Authority, and Houston Ship Channel industries worked together with the legislature to create the management district around the port, and the district assesses the industries within a certain boundary, and these funds then are used for the O&M of the district.

I would say to you that I am very pleased to be a small part of that. I think former Secretary Chertoff saw that as a model for this country, in fact, during the legislative process wrote letters of support for us, but he saw immediately the viability of this concept. I believe that I am correct in saying that I think other ports have looked at that model for their own security needs, and so we are very pleased that it is here, and I am very pleased that Captain Diehl and his organization basically administer that entity.

So I, like the other gentlemen, am pleased to answer any questions that you may have when that is appropriate.

[The statement of Mr. Edmonds follows:]

PREPARED STATEMENT OF JAMES T. EDMONDS

AUGUST 24, 2011

Good morning, Mr. Chairman and Members. Thank you for this opportunity to appear before your panel to talk about how security and emergency preparedness is handled at the Port of Houston. I believe that we have a good story to tell. As you may know, the Port of Houston is one of the busiest ports in the country and is home to the second-largest petrochemical complex in the world. There are more than 150 distinct maritime entities along the upper Houston Ship Channel, including the port authority, and each of us has different business models and security risks. But I am proud to say that when it comes to security and emergency preparedness, the industrial community at the Port of Houston has a strong tradition of effective collaboration and communication. I hope that my participation, along with my colleagues here on this panel, that you will have a better understanding of our challenges and successes.

Before talking about security, it is important to provide you with an overview of the Port of Houston. Specifically, how the port is organized and its various pieces will provide the fundamental understanding of how security is handled. There is a saying that if you have seen one port, you have seen one port. The Port of Houston is a 25-mile-long complex comprised of these 150-plus private companies, as well as the public facilities operated by the Port of Houston Authority.

The port authority, which I represent, is the public entity along the ship channel and it owns or operates eight terminals. While the port authority does have the overall responsibility as the local partner with the Federal Government in maintaining the Houston Ship Channel, in practical terms, we are one of many players that make up the greater Port of Houston.

As you may know, the Federal Government has the primary authority at the port regarding security and emergency response. We have several Federal partners, but it is primarily the U.S. Coast Guard that would provide direction and coordination in any all-hazard event. The Coast Guard's mission is also to protect the waterway and regulate the security of vessels and maritime facilities.

While the Federal Government provides the overall guidance and authority on large incidents, each of us along the Houston Ship Channel has developed emergency response plans that conform to standards in Federal law. I can speak, of course, to the port authority's plan for our eight terminals. Our plan is an on-going, coordinated effort by the Port Security and Emergency Operations Department to respond to any security or emergency situation. On a regular basis, the port authority works closely with the U.S. Coast Guard, Harris County Sheriff's Office, Houston Police Department, Federal and local agencies as well as a broad spectrum of external industry stakeholders to provide a coordinated response to security situations.

The port authority has an internal committee that meets regularly to review and revise our Emergency Operations plan, which includes National Incident Manage-

ment System (NIMS) procedures. We also are the first port in the United States to be certified as obtaining the International Organization of Standardization (ISO) 28000:2007 security standard, and were just recertified in March, 2011, for another 3 years.

Our Port Security and Emergency Operations Team is led by Captain Marcus Woodring, who joined the Port Authority team in July after retiring from 28 years of service in the U.S. Coast Guard, the last 5 years here in Houston as both the Captain of the Port and Deputy Commander. He is a Certified Emergency Manager and oversees our Port Police and Marine Departments, encompassing approximately 150 professional responders. He is here with me today, and has the responsibility of directing and monitoring the port authority's security and emergency program while meeting Federal, State, U.S. Coast Guard, and other regulatory requirements.

As you can see, there are many players involved in security at the Port of Houston. There is the port authority, 150 private industries, as well as partners or authorities at the Federal, State, and local levels. It is a complex mix. And the stakes are high. Altogether, the Port of Houston is a significant economic engine. According to a third-party economic impact study, marine cargo activity at the public and private terminals of the Port of Houston and along the Houston Ship Channel generates nearly \$118 billion in economic activity in the State of Texas. This activity produces \$3.7 billion in tax revenue and is responsible for more than 785,000 direct and indirect jobs. In 2010, there were 7,800 vessel calls at the Port of Houston and over 150,000 barge movements. This activity makes our overall port the largest in the Nation in foreign waterborne tonnage and second in total tonnage.

This port is also critical to our Nation's energy security. As I mentioned earlier, the port is also home to the largest petrochemical complex in the United States. The Port of Houston is ranked as largest importer and exporter of petroleum and petroleum products in the United States. The country's largest refinery, with a refining capacity of 567,000 barrels a day, is located on the channel. From Houston, refined energy products are delivered over the infrastructure that transports them to every market east of the Rocky Mountains through the networks of roads, rails, and pipelines originating in Houston. This includes the 5,519-mile Colonial Pipeline system, which is the largest petroleum product pipeline system in the Nation and is a vital energy artery for the South and East Coast.

But, despite the inherent challenges of this many people and interests, the Port of Houston has demonstrated that we effectively collaborate on security issues. Our successes have been recognized in that we have been called a model for the Nation. A quote from a 2009 report by the U.S. Coast Guard on Port Interagency Information Sharing states:

"Port partnerships are predictably strongest, most collegial and most proactive where major calamities have necessitated life-and-death relationships of trust. This was most evident in the partner interviews in Sectors New York and Houston . . .".

One of the significant efforts that helped us earn this accolade is an initiative that was passed by the Texas Legislature. The State of Texas provided great leadership and foresight in the creation of the Houston Ship Channel Security District. Captain Bill Diehl, who is also a part of your panel will speak more about the district and its role in more detail, but I want to spend a few moments and highlight the importance of this recently formed entity. The security district was created to complement the Federal port security programs. The Federal dollars given to ports for security allowed for great improvements through purchasing equipment or supporting training exercises, but it did not include money for operation and maintenance, personnel, or any matching requirement. Harris County, the port authority, and private industry worked together with the legislature to create a management district around the port. The district assesses the industries within its boundaries and these funds will be used in concert with the Federal funds to implement regional and port-wide security solutions.

Thank you for the opportunity to host your committee hearing here today. I'm happy to answer any questions you may have.

Mr. MCCAUL. Thank you, Mr. Edmonds. I agree with you, the security district is a model for the Nation, and I applaud everybody who has participated in it.

With that, I recognize Captain Diehl for his testimony.

**STATEMENT OF CAPTAIN WILLIAM J. DIEHL (UNITED STATES COAST GUARD, RET.), PRESIDENT, GREATER HOUSTON PORT BUREAU, INC.**

Captain DIEHL. Good morning, Mr. Chairman and Members of the committee. Thank you.

I appreciate the opportunity you have provided me today to discuss port security from an industry perspective. I represent businesses that depend on the ship channel, and we have a very vested interest in keeping it safe, secure, efficient, and operational. Currently, the lack of dredging funding is a big issue for us, as discussed in my submitted testimony, but in the interest of time I will focus my verbal comments on the Houston Ship Channel Security District.

After 9/11, a group of industry leaders from East Harris County Manufacturers Association sat down with law enforcement officers from Harris County, the city, Coast Guard, the Port of Houston Authority, and others to discuss ways to help. Because of the inherent nature of security, that is, you need weapons and jurisdiction, industry-backed several large security initiatives sponsored by Harris County. With industry, State, and local authority support, legislation was passed forming the Ship Channel Security District, which gave the district authority to assess its members.

The security district concept of industry assessing themselves and then decide how to allocate the funding works because it is run by industry. Of the 11 members of the Houston Ship Channel Security District board of directors, eight are industry representatives who work as senior plant managers. If Government were to assess significant security tariffs on industry and then allocate the funding without industry prioritization, I doubt that it would be as well supported as it is. When a board member is obligated to interact with their fellow plant managers and justify their decisions, you get better industry participation and support on security initiatives.

As a result of this work, we now have a unique public-private partnership that improves security for facilities, employees, and communities by providing increased preparedness and response capabilities. The district's infrastructure improvements include wireless and fiber optic wire communication systems with integrated analytical and intelligence video software, surveillance and detection cameras, night vision, motion detection technology, and additional technology components such as radar, sonar, and sensor packages. We have already added 112 cameras, 69 handheld radiation detectors, two marine side-scan sonar units, four patrol boats, seven patrol trucks, five radar sites, and an underwater remotely-operated vehicle to our regional security picture.

I do have one suggestion that will help us in utilizing grant fundings more efficiently. We need the grant process to be either faster or more flexible. Because of the lag between grant approval and receipt of funds, we have a situation where agencies that several years ago needed boats and cameras now have different infrastructures or are unable to staff, due to budget cuts, previous rounds' equipment.

Business allocates large sums of money for long-term projects, but as they move forward towards completion they don't put them

on auto pilot. They are continually modifying and completely changing them to give them the best return for investment. That is sort of the industry model, but we lose that with these Federal grants because of the slow, rigid grant funding process.

In summary, the security district is a learn-as-you-go process, no different than what all of us experience as we grow in this 9/11 security world. We know that working together we move more ships in this port than any other port in the United States. Moreover, we know the main reason this industry-led security district works is because, at the end of the day, we are all focused on keeping the ship channel open. Our security district decisions must complement our effective, productive businesses and keep traffic moving. Industry wants to be involved and wants to be part of this solution. We understand security's expensive. We think that by bonding together, by using this model, we get better security at less cost.

I want to close by emphasizing industry is not looking to supplant the responsibility of DHS, but rather, to work with them to gain the maximum security practical for our part.

Mr. Chairman, thank you for allowing me to appear before you today, and I look forward to any questions that you or the committee Members may have.

[The statement of Captain Diehl follows:]

PREPARED STATEMENT OF WILLIAM J. DIEHL

AUGUST 24, 2011

Mr. Chairman and Members of the committee: I appreciate the opportunity you have provided me today to discuss port security in Houston from an industry perspective.

As President of the Greater Houston Port Bureau I work with our 130 member companies to facilitate commerce in the maritime community. These companies include the ports, terminals, longshoremen, line handlers, agents, and others. The Port Bureau also provides administrative services to the Houston Customhouse Brokers and Freight Forwarders Association (roughly 100 companies), and to the Houston Ship Channel Security District (124 companies). This means we work a lot with the companies who depend on the Houston Ship Channel.

Chairman Edmonds discussed the significance of the port and I agree it has huge value to our Nation and economy. I may be biased, but I see maritime transportation as the most important mode of transportation to our country. Think about it, roughly one-third of our GDP is tied to global trade and 95% of that tonnage moves through our Nation's ports, so keeping commerce flowing is critical to us as a Nation. President Obama set a goal of doubling U.S. exports by 2015. The only way we are going to get there is through our ports. To keep our ports vibrant we need trade agreements, reliable intermodal transportation (i.e., roads, rail, & barge infrastructure) and dredging. Of these three, dredging is the most pressing. We are choking our global competitiveness by not maintaining our ship channels. Currently 8 of our 10 largest ports are not at their authorized width or depths. We can talk today about securing our ports, but if we cannot get ships in or out, then that conversation will not mean much. Needless to say, at the Port Bureau, we are dedicated advocates for the immediate passage of the Realize America's Maritime Promise (RAMP) Act (H.R. 104) and the corresponding Senate bill S. 412.

As I transition to my security comments I want to be very clear from the start that industry is not looking to supplant the responsibility of DHS, but rather to work with them to gain the maximum security practical for our port. Houston is the busiest port in the Nation and the centers of the petrochemical and break bulk industries for the United States. Our speed and efficiency are what make us successful. What we like as industry is a stable, predictable business environment. This can sometimes be a challenge along a ship channel: Ship collisions, allisions, and groundings, hurricanes, oil spills and now security incidents can threaten our ability to conduct business. Like any liability to a business, one puts plans and procedures into place to reduce the risk and to mitigate the effects when these incidents do occur.

When I was with the Coast Guard we talked about Safety, Security, and Environmental Stewardship; I can tell you that industry gets it, for without an operating ship channel we go out of business. For safety and environmental response, most companies found co-ops as an effective way to pool resources, and utilize more expertise at less cost than going it on their own. When 9/11 happened they looked to this successful co-op approach. However in this case, forming co-ops turned out to be a bit more challenging because of the inherent law enforcement framework of security. Private security guards have no jurisdiction on the channel. Put simply: When an event occurs, you need someone on scene with a weapon and the authority (badge) to take action and resolve the situation.

To address this post-9/11 security liability a group of industry leaders from the East Harris County Manufacturers Association sat down with the law enforcement officers from Harris County, the City, Coast Guard, the Port of Houston Authority and others to discuss ways to help. Under the Area Maritime Security Committee they furthered communications and prioritization of the port security grant process to maximize the benefits to the entire community. This successful interaction grew and besides elevating their own facility security, these leaders, with the guidance of Pat Bellamy from the University of Houston, pushed the idea of using technology to coordinate a regional security approach to protecting the ship channel. Because a Governmental agency could best deliver security across many facilities, Harris County stepped forward to be the sponsor for the project. When large matching funds were required industry backed the plan by championing the formation of the Houston Ship Channel Security District. With industry, State, and local authority support, legislation was passed, so that the District could assess its members.

The Security District concept of industry assessing themselves and then deciding how to allocate the funding works because it is run by industry. Of the eleven members of the Houston Ship Channel Security District Board of Directors, eight are industry representatives who work as senior plant managers. The other three Board members represent local municipalities, Harris County and the Port of Houston Authority, comprising a governing body in which everyone is vested in stimulating cargo movement and protecting commerce. If Government were to assess a significant security tariff on industry and then allocate that funding without industry prioritization, I doubt that it would be as well supported as it is. When board members are obligated to interact with their fellow plant managers and justify their decisions you get better industry participation and support of the security initiatives.

As a result of this work, we now have a unique public-private partnership that improves security for facilities, employees, and communities by providing increased preparedness and response capability. The first year's assessment raised over \$4.5 million dollars in support of the Harris County Security Project which has had an immediate impact on local law enforcement. The District's infrastructure improvements include wireless and fiber-optic wired communication systems with integrated analytics and intelligent video software, surveillance and detection cameras, night vision, motion detection technology and additional detection components such as radar, sonar, and security sensors. With specially trained law enforcement personnel using marked cars, patrol boats, and enhanced communications systems, the district not only works to deter terrorism, but is able to impact theft and aid with other safety and security issues. We have added 112 cameras, 69 handheld radiation detectors, 2 marine side-scan sonar units, 4 patrol boats, 7 patrol trucks, 5 radar sites, and an underwater remote operated vehicle to our regional security picture. We have another patrol boat, 14 land vehicles, and communications infrastructure under construction.

We've seen two dividends emerge from the Security District: Resiliency and coordination. Bolstering resiliency, this equipment will help mitigate disruption of business during events such as hurricanes, evacuations, or plant upsets, and help district members recover and restore normal operations quicker. For coordination, we know that during a security incident, everyone in the area will be called upon to contribute. What we're doing now is ramping up so that during an incident, our response is brought to bear seamlessly and coherently.

I do have one suggestion that would help us utilize grant funding more efficiently. We need the grant process to either be faster or more flexible. Right now, the grant process only generates money several years after it has been awarded. This time delay is aggravated by the substantial constraints on the way funds are spent. Because of the lag between grant approval and receipt of funds, we have a situation where agencies that, several years ago may have needed boats and cameras, now have different infrastructure or are unable to staff (due to budget cuts) previous rounds' equipment. If we have the ability to address our needs when we receive the grants instead of after years of wading through a bureaucratic process, we can use the money more efficiently by addressing current concerns. Businesses allocate large

sums of money for long-term projects, but as they move towards the completion they don't put them on autopilot. They are continually modifying or completely changing them to give them the best return for the investment. Currently, we lose that with this slow and rigid grant funding process.

I will close by saying that we see the Security District as a learn-as-you-go process, no different than what all of us are experiencing as we grow into this post-9/11 security world. We know that by working together we move more ships in this port than any other port in the United States. Moreover, we know the main reason that this industry-led Security District works is because at the end of the day, we're all focused on keeping the ship channel open. Our Security District decisions must complement our effective, productive businesses and keep traffic moving. Industry wants to be involved and wants to be a part of the solution. We understand security is expensive. We think that by bonding together—by using this model—we are getting better security with less cost.

Mr. Chairman, thank you for allowing me to appear before you today, and I look forward to any questions that you or the committee Members may have.

Mr. MCCAUL. Thank you, Captain.

The Chairman now recognizes himself for questions.

As I stated, the recent killing of Osama bin Laden revealed a lot of things in a treasure trove of documents, one relating to a spectacular, potential attack on the 10-year anniversary of 9/11; the other, targeting oil tankers at ports such as the Houston Port Ship Channel. That obviously got my attention as one of the main reasons I am having this hearing today.

When you look at the past, they have done it before. I mean, this is a picture of the oil tanker attacked and targeted by al-Qaeda off the coast of Yemen. So it is nothing new these tactics. This is the kind of scenario we want to prevent, and that is the purpose of the hearing today.

The GAO I think did a very good study and analysis of security concerns and what needs to be done to make sure that something like this never happens at this port in Texas. However, there was a picture taken of the Houston Ship Channel with a very small vessel going into the port, into the ship channel, which did raise some concern.

So my first question is to Mr. Caldwell: How often does this type of scenario occur where a small vessel, kind of like what attacked the *USS Cole*, has come into the ship channel undetected?

Mr. CALDWELL. It is a hard question. I don't want to exaggerate an antidote because, when I took that picture, I had been to the ship channel area several times down here in my maritime security work, but I am not always on the channel that often, but I am on the channel and took that picture. So I think some of the things that have been talked about like cameras and patrols may help reduce that, but it is my understanding this is a prohibited zone. So I was quite concerned actually to see that boat when I took that picture.

Mr. MCCAUL. Is this a frequent occurrence or just a rare occurrence?

Mr. CALDWELL. Well, I have been to—it has happened twice—of the two times, I have been on the channel, it has happened that one time.

Mr. MCCAUL. That is something obviously—and let me just first say, though, that the Coast Guard, Harris County Sheriff's Office, Port Authority have done a fantastic job I think securing this. We can never emphasize hardening our security more, and I think that is one point of this hearing.

My next question is to Mr. Edmonds and Captain Diehl. This is basically an illustration of the energy supply for the Nation, and when you look at this map, it really brings out the fact that the majority of the energy for the Nation comes right out of here. I know the ExxonMobil refinery refines about 31 percent of the Nation's energy. If that was taken out by a small vessel like this one, you can imagine the long-term consequences, economic. It could cripple this Nation from an energy standpoint and an economic standpoint.

Can both of you speak to that issue in terms of how important this port really is?

Mr. EDMONDS. Well, the numbers that I use in my speeches—and these gentlemen can help me if I am wrong—but something in the neighborhood of 49 percent of the refined products used in this country every day come from the Houston Ship Channel industries and an eighth of the gasoline consumed every day. So it would be devastating to the economy of the country.

The tragedy is you don't even have to blow up an Exxon. You can just shut off access to the waterway and you shut down all that refining capability. There is something leaving this port 24 hours a day through a pipeline or railcar or truck. So there is all kinds of arteries of movement, and you damage any one of those and that has a devastating economic impact.

The one thing I would say, Captain Diehl mentioned the East Harris County Manufacturers Association. That is organization of the ship channel—the big producers along the Houston Ship Channel. They are very effective people. They have their own security systems and plans, and I think that I can sit here with a degree of confidence and say to you that an Exxon or Shell or those people, they are sophisticated. They know what they are doing. They are very well-protected in their own right. What we try to do is overlay that protection to help them, support whatever systems that they have in place to make sure that the entire channel is safe. I go to sleep pretty much every night not worrying about that.

But I have to say to you that it could sure happen, and it could quickly and easily. But, that said, I think we are vigilant and I think that the ship channel on the whole cooperates very well. Nine-eleven brought us all together, and since then we have had a lot of port-wide security systems and committees and approaches and sharing of information and cooperation that has made this, for what it is and for the 25 miles of it, about as safe and secure as I think we can make it.

Mr. MCCAUL. Thank you.

Captain Diehl.

Captain DIEHL. Yes. Thank you.

I won't repeat the numbers that the Chairman put in his statement, but I would just summarize it this way for you.

One-third of our economy is associated with global trade, and that trade comes and goes through our ports. Ninety-five percent, 99 percent of it by tonnage probably comes in and out of our ports by ships. So it is not only the Port of Houston, but it is all our major ports are key to our economy. You shut it down; we are going to start heading towards a recession.

What makes us unique as Houston is these refineries. You can shut down a container port and move up the coast to the next container port to deliver those boxes. You can't package up the refinery and move it. You can't take those pipelines and pull them out of the ground and shift them over to New Orleans. That is what is unique.

But I will tell you, though, when we look at it from the industry point of view, we look at security as a liability, the same as we look at safety and environmental response. Those are all liabilities. We want to keep it safe, secure, environmentally sound, and we want to make money. That is the liabilities we look at. So any one of these is sort of key for us, and I think what you see out of it, we form these groups, these partnerships to address those.

We have great safety partnerships. We now have—with the security district, we have a very solid security partnership. We have environmental co-ops and things like that to ensure that we can respond. It has proven to work in a big natural disaster such as when Hurricane Ike came through here that everyone was able to get this thing back up and running in short order.

Mr. MCCAUL. Yeah, let me just take a moment to commend you and Mr. Edmonds and Sheriff Garcia for your great work on the security district and Captain Whitehead with the Coast Guard. I think that it really is a model for the Nation, and it was so successful that it moved us up in terms of the port security grants from No. 3 to No. 2 in the Nation, which I think was fantastic.

One area of funding I am concerned with—and I think, Captain Diehl, you talked about it—is with respect to dredging. The Port of Houston contributes, as you know, about \$120 million into this trust fund for maintenance, and yet we only get back about \$20 million or \$22 million. The administration sent back about \$20 million. The Army Corps of Engineers is recommending somewhere between \$40- to \$80 million for dredging purposes. With the canal the way it is at 50 feet, we won't be able to accept some of those ships coming from the canal into the Houston Ship Channel if we don't have the funding to dredge. Can you speak to that issue?

Mr. EDMONDS. You are right, and the channel maintenance is one of the biggest priorities we have.

From the sea buoy to shale is about 45 feet. We have received three 8,100 TEU ships so far. I did not believe—none of us believed that we would receive a ship that large this soon. We thought we would wait until 2014.

The first priority that we have is to dredge the channel from the main channel into Bayport. It is about \$150 million. To be candid with you, for us to go through the normal Federal Government process, it would be 10 to 12 years before we could even get started, and we would lose our customer base if we do that. So we are going to fund the \$150 million ourselves to make sure that that happens so we don't lose any of that business opportunity.

But I think at the end of the day about an 8,500 TEU ship will be the large ship that will call on Houston. That is a lot of cargo movement, and you get six or seven of those in here every day or 2 days, it is a lot of product that will come.

But the biggest on-going, No. 1 priority in my mind, other than the construction of Bayport and those things to have the appro-

priate dock and moorage capability—is that channel maintenance, and we are losing every year a significant amount of the depth that we were granted in the last widening and deepening project.

Mr. MCCAUL. I hope that, Mr. Green, you and I and the Ranking Member would like to do this as well, to work on this effort to get more of the funding back.

Mr. EDMONDS. Thank you.

Mr. MCCAUL. I am not sure about the Ranking Member. I know Mr. Green and I have co-sponsored the RAMP Act, which essentially says that 100 percent of the money sent to the trust fund come back for harbor maintenance, and I think that is——

Mr. EDMONDS. We don't even need the whole 120. If we could just get 80 or 40 or 50 of it, that would be fine—take care of our own needs.

Mr. MCCAUL. We will work on that one.

Mr. EDMONDS. Thank you.

Mr. MCCAUL. Finally, I know I have taken more than my time, but I want to ask Mr. Caldwell and the Sheriff, in terms of your recommendations on what needs to be done to ensure that the type of tanker explosion I showed earlier does not occur in the Houston Ship Channel, what more can we do in terms of security at the port?

Mr. CALDWELL. Well, one of the things that we have noted is, you know, one of our recommendations is that they do more local exercises and integrate both the law enforcement and the spill response. Coast Guard did provide us some information on those exercises. There was one that met our criteria in Port Arthur, but we had not seen one for Houston. So that would be one that I would want Houston to do, given it is important, as we talked about today. We have closed that recommendation because the Coast Guard is doing those exercises. It is just I would like to see one in Houston.

Mr. MCCAUL. Captain Whitehead, do you have any recommendations?

Captain WHITEHEAD. I can say we have done exercises where we have combined it in Houston. So I am not sure how the information flowed, but it is important. Many of the terrorist exercises will have an aspect of oil spill along with it, so we combine those together, realizing that, you know, the likelihood of those occurring together would be high.

Mr. MCCAUL. Sheriff.

Sheriff GARCIA. Congressman, I think that, as we have been talking, unfortunately, when it comes to effective security of such a critical asset like the Port of Houston, the ship channel, funding and funding to accomplish a variety of these initiatives always seems to be the common thread. We are using technology. We are very grateful for all the work that the security district has accomplished for us and the various technologies that we have, but with that comes the cost of operations and maintenance. All the technology is great if you can have a body to turn it on and to monitor. So personnel and ability to fund those boots on the ground in a tight economy, like what we are currently in, is important to look at.

So a recommendation that I would bring forth is that—I know that there is debate about the COPS—the state of the COPS program from the Department of Justice, but I would urge this body to look at a COPS program for ports. I think that is an area that seriously needs to be considered so that you can accomplish support to local communities, involving Federal and National security assets like the port, but that you help local law enforcement meet those goals and work effectively alongside our partners.

So I would urge a COPS program for ports, as well as, you know, in a significant area like Harris County and maybe a few other places in the country. UASI plays a very critical role, but then we still have the challenges of drug cartels and transnational gangs and organized crime and all those challenges. So I would also urge that maybe a UASI for ports be considered in addition to that.

Mr. McCAUL. I think that is an excellent recommendation. I have consistently supported the COPS program. You and I have discussed it personally, and I sent letters to the Department of Justice to get that funding for your office and for Harris County, and I want to thank you for your testimony.

With that, I recognize the Ranking Member.

Mr. KEATING. Thank you, Mr. Chairman.

Just a quick question because of the concerns I have regionally as well. So, Mr. Edmonds, specifically on LNG and LNG tankers themselves, can you just comment on some of your experience, what you learned, what you are doing, you think is the most vital, you know, type of approach to LNG and LNG tanker security?

Mr. EDMONDS. I am not prepared to answer that question, sir, because the Port Authority is the public side of this. The private side operates itself, and we have no authority or control over it.

Having said that, though, Captain Whitehead can respond as the captain of the port.

Captain WHITEHEAD. Yes, Congressman. In fact, 2 days from now we have a Yemeni—you mentioned earlier a Yemeni LNG tanker. We have one coming into the Port Arthur area. Although we don't have any LNG tankers come into this area, the Houston Ship Channel, but we do have them come into both Freeport, Lake Charles, and Port Arthur. With those, we do take additional measures. We utilize our MSSTs. Our maritime security safety teams assist us in securing the—as well as we work with our port partners when they come in as well to secure the port, make sure that we board the vessel before it even comes in, do security sweep, escort the vessel in. So we take additional security measures with LNG tankers that come into port.

Mr. KEATING. That really prompts another question I had, Captain. There has been an estimate of as many as 15 countries that aren't maintaining effective anti-terrorism measures in their port facilities. So it is not just a question of keeping our own port safe. These are coming in from other countries, and the Coast Guard has the authority to deny them access, if necessary, from doing this, which is a very strong potential tool to get those countries to cooperate. What can we do more from your vantage point? Because you can enforce it. You have that ability. What can we do more to make those countries do a better job on the front end of this with

the anti-terrorism kind of securities that should be in place before they ever leave their port?

Captain WHITEHEAD. I would have to take that one for the record. It is better answered from our Coast Guard headquarter's perspective.

What we can do, in general as a Coast Guard, I can tell you we have—in my time here, we have denied entry to a few vessels based on the countries they were coming from inadequate security measures, as well as delayed the ships from coming in until—because if they don't have adequate security measures, we board the ships, hold them offshore, board the ships, and do those additional security sweeps.

Mr. KEATING. I think that—just from our own vantage point, I think that is a tremendous tool we should use to make sure those countries are doing their part on their end to make our job easier and make everyone safer.

So thank you. I am interested in maybe taking that up with headquarters in that regard.

Sheriff, you mentioned the woeful state of financing—I think if I am paraphrasing for you. You know, some of this is penny-wise and pound-foolish. Because if you look at the economic impact that we have here and one of the largest, right here, in the country and having, you know, the inadequate funding resources to do this is something that really doesn't seem to be very wise on my part. Because the impact of even at choke points, even sinking vessels, even using the vessels as a missile, even doing damage to bridge and infrastructure, what that could do to just shut everything down is a great concern.

So what would you do and where do you see that translating into your not being able to do your job as well as possible and what other things would you do if you had more resources?

Sheriff GARCIA. Thank you for the question, Congressman. I will tell you that there is probably no other responsibility that I have that keeps me up at night and as a part of my daily conversation and part of what I regularly challenge my major, who is over our homeland security emergency preparedness responsibilities, and it is frustrating for us not to have the personnel to be able to be on point at all places and present and visible so that we can provide all the deterrence necessary.

So, first of all, I would say that if we had additional resources it would be to make sure that we have the personnel available to provide all the levels of monitoring, patrol—both on land and water and in air—and resources to provide dedicated air support for the port, dedicated air surveillance for the port, and then also investment in other forms of technology that would help us create a greater zone of protection around the port and in the respective community.

I had the opportunity to visit Haifa—the Port of Haifa as an example. You don't go near that place or move around that place without somebody knowing about it. Doesn't matter whether you are coming off a neighborhood street or major thoroughfare or the entry into the port area, people know about it, and that is the way this area should be, and it should be secured. So finding other forms of technology to accomplish that level of security is critical.

Then, you know, higher levels of training with private industry, higher levels of coordination and information sharing would be areas where I would invest as well.

Mr. KEATING. Thank you.

I think that segues to another question that I had, Captain Diehl and maybe all of you can take a shot at this, but it is the idea that you have got so many resources here and you seem to be ahead of the curve in terms of sharing those resources and dealing with it. But are the sophisticated technological equipment, the monitoring, the videotapes in the private sector, are they at the disposal and shared all the time with local law enforcement, with the Coast Guard?

Captain DIEHL. The idea—the concept of the Ship Channel Security District, as we say, is to create this ring of steel where there will be nodes to the Coast Guard, to the Port Authority, to the Sheriff, to the city, to all the municipalities' law enforcement, Pasadena, Deer Park, and all those people would have access to this information. That is the vision that we have for growing into it. Right now, we are in the—as we come on-line, we are turning it on for different places and letting them look at it.

I just want to sort of go back to what the sheriff said about it, though. We do have some good technology that makes us more efficient. Without the manning, though, it becomes a concern for us. As industry people, you know, we can't just hire security guards and send them down. You have to have jurisdiction. You have got to have the ability to use weapons in this thing. So we really want to back—and that is why the partnership works for the security district is we look to local law enforcement, the Coast Guard, Sheriff, and the city and others that have badges to operate and know what they are doing on the thing.

The bottom line, though, comes—and this is what concerns us a little bit as we go forward—knowing that the deficit, things coming off the Hill and things like that is people say, okay, when are we going to be done with the Ship Channel Security District. It would be the same as going to your local police department and saying, hey, by the end of the year we want crime solved, because next year it is not going to be in the budget. That is sort of what my members tell me. Hey, security is not going away. It is a liability for us that we have got to address, and we know we are in it for the long term, and the long term means that we have got to have bodies, bullets, boats and all that—buildings and things like that to take us to the next level.

Mr. KEATING. So we have the technology. We don't have the manpower to monitor it?

Captain DIEHL. We have technology that we are implementing. We are not quite where we want to be on it. As I said, we put this thing together. We look at it and go, that works, that doesn't work. As we grow into it, it is sort of like the best practices you see that normally go into the area of maritime security. We are actually heavily involved in looking at and saying that doesn't work for the Sheriff to get that information to respond appropriately.

So they give us that feedback, and then we are adjusting. So we are learning as we go. We are not perfect, but we are further along than what we were many years ago.

Mr. KEATING. So you have the feed that can go directly to the Sheriff's office—

Captain DIEHL. Yes.

Mr. KEATING. That is a great partnership you have got going there.

Certainly I think your point is well made. I mean, when you look at—we do have needs as a country, and we are in a deficit situation. However, two of our biggest issues besides—putting today's hearing aside in terms of our own security—are jobs and our economy, and if we are investing in that area, it makes sense to me that that is an area where we are going to get multiple effect back.

I just had one other question to Mr. Caldwell, and then I will yield my time back.

Again, in terms of integration, we have got a sense with the captain in terms of what is done, but I think the two things that—you know, your initiative the GAO recommended for the FBI working with the Coast Guard for spills and for terrorist threats, working together, how is that integration going with the FBI and—what is the state of that?

Mr. CALDWELL. I mean, unfortunately, it has been somewhat of a moving target. I mean, when we made that recommendation, DHS was basically reorganizing what had been called the Federal response plan into the National response framework, and you need kind of that big picture in place to figure out where your detailed operational plans would be. Now, they are under another revision to that. So, unfortunately, some of that big-picture stuff has to be taken care of.

But certainly from a Coast Guard perspective they have been pretty active in exercises; FBI less so.

Mr. KEATING. Sheriff, how is your interaction with the FBI?

Sheriff GARCIA. Excellent. We have a great working relationship with the Bureau; and every time we have had a change in SACs, we have a discussion soon thereafter introducing one another. I have called on them on a number of occasions for a variety of things, including public corruption, and so we have an outstanding working relationship with them.

I did want to go back to one other area of investment on your question, Congressman, if I may, and that is as you see this law enforcement and private and public industry relationship, an important investment, if I had the resources, would be in public engagement. Having the relationship with the community, with the great diverse community that we have in this area is critical. You know, if folks don't have the confidence and trust to come forward with anything they may be aware about, then, you know, our technology isn't going to light up. Because, ultimately, some tip, some information starts with a human being, and we have got to make sure that local law enforcement and our Federal partners have that relationship and the ability to build and strengthen those relationships.

So going back to the Incident Response Forum, that is a critical area that we have to also look at. It is not technology, but it is an important investment to make in terms of building active and human relationships.

Mr. KEATING. Thank you, Sheriff. I yield my time.

Mr. MCCAUL. Thank you, Bill.

Now, the Chairman recognizes Mr. Green for his questions.

Mr. GREEN. Thank you, Mr. Chairman.

Again, thank you for the courtesy of not being on the committee in allowing me to both make a statement and ask questions.

First of all, I don't want to take anything away. Obviously, we need dredging money. Because that 250,000 folks that have those transport worker cards would probably not be here unless we keep that dredging going and, of course, for the growth; and I know a lot of other ports are having the same problem. So that is an issue.

Sheriff and Captain, I was out on a Coast Guard helicopter right after 9/11 when we had joint boardings of Coast Guard personnel and Navy personnel. Obviously, the Navy for the defense and Coast Guard because of the law enforcement capability. I don't think we do that anymore, but it is still available if needed simply because we have a better intelligence network and if there is a ship coming in from an unusual location that we don't feel comfortable with that is still available, whether it is in the Port of Houston or elsewhere I know.

But I also know that since 9/11 and having our Sheriff with us today, I am fortunate to represent a lot of cities along the Houston Ship Channel; and they all have law enforcement. At one time, there wasn't any coordinated effort. But the Sheriff is a designated State law enforcement—and the city of Houston, the city of Deer Park, Pasadena, you name it, all the way out to Baytown and La Porte.

So that is the benefit we have. We have one Sheriff. I have to admit, we did have some problems between Federal and State after 9/11, the coordination effort there, but that was dealt with. Because, like the Sheriff said, our deputy ISAC, about 2 years into 9/11, the FBI told me they had been on every plant along the channel to give them an assessment of their vulnerability.

The Houston area and the port and the businesses in the area that form the port security district by State law that was supposed to come up with some of the maintenance money—and this is industry who is going to tax themselves based on, you know, the grants that the port gets and the area gets for security apparatus. So that is important.

I am real familiar with LNG, though. We don't have an LNG facility in the Port of Houston. That is why we don't get the LNG tankers. We have a great pipeline network that comes in. I am familiar with the one that comes into Boston Harbor, and I don't know if Captain Whitehead, Captain Diehl, the agreement on that from Yemen—and I don't know if this is true for every cargo from Yemen—but I know going into Boston Harbor they actually go to the Island of Malta and are inspected. Are either of you familiar with that? That was a Coast Guard arrangement?

Captain WHITEHEAD. I am somewhat familiar with it. I know they have it for the tankers going into Boston. I don't want to speak for Boston, but I know they did do some pre-boardings of it in the Malta area.

Mr. GREEN. I know the company. There is a Houston company that actually has that contract, and that has been the agreement. They would check that Yemen cargo, although previously that were

actually coming in from Algeria, and I understand now they are probably going to come in from—because of the problems in Yemen, they will come in from Trinidad for the LNG for the Boston area.

So there are ways we can deal with that and still have imported LNG or, in our case, we are looking at exporting LNG, which can be the same volatile product if it is on a ship. That is important.

Let me ask the Sheriff, though, briefly, the Homeland Security appropriations bill passed by the House would cut numerous Homeland Security grant programs to State and local entities. The bill would cut local and State grant programs about 55 percent when compared to fiscal year 2011 enacted and 67 percent compared to the President's request. Your local law enforcement depends on these grant dollars to help fund the maritime security missions and prepare needed maritime assets our ports depend on. Can you talk about if you don't have those up-front grants, at least can have the apparatus?

Also I wonder if you could share about the port security district and what it has been doing and on the technology side to make literally a wireless and fiber optic communications between not only law enforcement agencies, the plant, the port plants, and the port to make sure we have that capability.

But also mainly we talk about money, and if you don't have that up-front money, it doesn't do any good to worry about maintaining it, because we just don't have the infrastructure.

Sheriff GARCIA. Well, Congressman, thank you for your very pointed question. The fact is, without the support of the Federal Government in regards to the local mission that we have as it relates to a National security interest, we can't get it done; and so it is imperative that your colleagues hear the value of that support and what it means to the local community and local agencies like myself, and so we have to maintain that funding.

A 50 percent cut in what we are currently getting, which isn't enough, equals to dire circumstances and tremendously reduced capacity and ability to respond effectively to National and international threats to our local communities. So that is scary, and so it is imperative that that be heard.

Second, as Captain Diehl has said, thanks to a variety of resources and collaborations and to the security district, we have a true ring of steel. It is so—we are light years in front of many people. We are a model for other communities in terms of how tying in technology systems has been effective and has gotten us to the point that we are at.

But it all goes back to it is great technology. We are truly a model. We are contemporary. We are very futuristic in many senses. But at the end of the day, we need, you know, blood, sweat, and tears to be able to monitor those systems.

Mr. GREEN. Thank you, Mr. Chairman. That is all my questions, but, again, I appreciate the courtesies of both of you having the hearing here but also allowing me to weigh on the committee.

Mr. MCCAUL. Absolutely. It is great to see you over the August recess as well.

With that, the Chairman now recognizes the gentlelady from Houston, who arrived just in the nick of time before adjournment, Ms. Sheila Jackson Lee.

Ms. JACKSON LEE. Mr. Chairman, thank you so very much. To my colleagues, it is a pleasure to be with Congressman Gene Green. We work very hard and together on great assets of this whole community and one that is in his Congressional district that he shares but has really been a focused leader on the issues necessary in support of the port.

Congressman Keating, please feel welcomed. We knew that you had enough cool breezes in Massachusetts, and we wanted to make sure that you could appreciate the diversity of this great land by coming here to Houston, Texas. We welcome you to our multiple Congressional districts, and we hope that you have benefited from coming to this great asset.

To all of you, and certainly to be at the port is one of my chief, if I might say, joys. Because as I have traveled and represented this area and traveled internationally and been on the Homeland Security Committee, it takes all of the witnesses collectively in their respective responsibilities to really ensure that this economic engine is protected and that it continues to achieve as it has done.

Chairman McCaul, thank you as well. You recognized a very, very important topic, and if I might just say a few opening words that may have already been said, but I think it is important to just note that this port has really been the basis for some 287,000 direct and indirect jobs, generating \$11 billion in economic impact and more than \$649 million in State and local tax revenues and approximately 17,000 jobs that are connected with the Port of Houston.

I was the convener and leader of a conference on international investments, which is why I was delayed with a number of out-of-town guests, and I thank you for your indulgence. But it also allowed me to receive one or two more briefings on the occurrence yesterday in the eastern region that impacted cities coming from Canada into New York and into Washington, DC, and beyond, starting in Mineral, Virginia. I think it is important, as I ask a series of questions, to focus on the importance of preparedness.

We saw a 5.9 on the Richter scale earthquake. People in New York thought it was a terrorist attack. People in Washington, DC, as I was keeping up with staff and getting reports, were not aware of what it might be, and in that city were probably millions or at least hundreds of thousands of tourists, along with our remaining staff, certainly some Members of Congress and others, and, frankly, it was the seat of Government and then many, many other places.

I think this hearing, although it is focusing on the port, it really has to raise the question of preparedness. I don't mind adding to the record, Chairman McCaul, because we might likely have a hearing on this issue when we return, is the level of preparedness, and it is clear that we are not prepared, that information did not segue into the population as it should have. The evacuation might have been incorrect. I need to be corrected, but I am told that earthquakes require one to go into places, as opposed to go out of places, and everybody was evacuated out of the building, and there may be some question.

But I think this hearing points to being prepared in order to confront the aftermath of not being prepared, and I am grateful that it was a 5.9 earthquake that did not see, to our knowledge—reports

may still be coming in—a loss of lives, and of course, we not have yet assessed the damage.

But just imagine that kind of impact, without the preparedness that is necessary, which really includes resources. I want us to get to the point where we feel comfortable with preparedness for a natural disaster and a man-made disaster, which is what we are speaking of today.

So I am going to first pose questions to Mr. Caldwell of the GAO because I think integration of our law enforcement and preparedness agencies—I know that you did a report in 2007 trying to encourage the transfer of information, the integration of information between our local and State, but I assume our other law enforcement agencies—and we now have a multiple number of agencies dealing with terrorism after 9/11. Could you respond more in depth to that question and tell us exactly in 2011 where we are in making progress on that integration?

Mr. CALDWELL. We had five recommendations in our earlier report, and three of those have been either closed or they are in progress of being closed. Two that were not closed, one had to do with exactly the issue you are talking about, the integration of operational plans. So that one is still being done; and, at this point, we don't have a commitment from DHS or FEMA about how low—to what operational level of planning they are going to take that integration.

Ms. JACKSON LEE. Why don't you pause for a moment and just tell us what that would be like? Maybe you want to give an example of an incident or what does that mean when you have the integration of operational plans?

Mr. CALDWELL. So, in our report that we did, we found that there was separate operational response plans for an oil spill or an environmental response and separate plans for a law enforcement response and terrorist attack on a tanker. You would have to integrate those two at the same time. The report has detailed comparison of the plans and how they have to be integrated, and so we were asking for exercises, which have been done, as well as integration of those operational plans so everyone knows their role when something actually happens.

Ms. JACKSON LEE. So you believe that, if we reached that goal, this very question that we are asking about, potential economic impact, if a port like the Port of Houston was actually subjected to a terrorist attack, we would be better prepared and better able to address it? So it really has to do with saving lives and dollars?

Mr. CALDWELL. It has to do with making sure everybody knows what they want to do to maximize protection of lives and the economy, things like that.

Also leads to the other recommendation which is still open which was on performance measures. We have talked a lot about money and resources that are needed, but we still don't really have a clear path of measuring either DHS or FEMA in terms of some of these response assets, which ones work, which ones are going to actually help us be more prepared. So that is still a very open question. It is a very difficult thing to do. How do you measure preparedness of a lot of systems? It is not just of an individual program. It is how these things fit together.

Ms. JACKSON LEE. I think that is key. Because I guess I would interpret it as one hand knowing what the other hand is doing, either to jump immediately into action or to use all the necessary principles that needed to be involved if there was a terrorist act. The question I raise for the earthquake was whether or not we had everyone involved that needed to be involved as we looked at this up and down the East Coast.

Mr. Edmonds, there is another captain at the table, but you are the administrative captain of this very large area. First, I would like you to give me, if you have the acreage of what you supervise in the Houston port for people to get the magnitude of how large it is. Again, focus on the responsible use of resources, the moneys that you could use and have used. We have been very glad to provide you with a number of funding. I have been very glad to be a supporter of that for the port for terrorist prevention, if you will. I don't think that is something that necessarily can be, but tell me how additional resources would be helpful in managing this very huge entity that you have supervision over.

Mr. EDMONDS. First, I don't know the acreage size. Does anyone know the acreage size? We will get that for you.

Ms. JACKSON LEE. Just the magnitude, if somebody knows how many city blocks.

Mr. EDMONDS. It is pretty good size. By Texas standards, it is pretty good size, but we will get that for you in a minute.

Ms. JACKSON LEE. It is big.

Mr. EDMONDS. It is big.

But let me go back to something that I think speaks to the baseline of your question.

Because of our geography and because of weather patterns, as you well know, we are hurricane prone. So for many, many years we have had a very sophisticated hurricane plan. After 9/11, that was our baseline to begin to build off of to try to apply security issues to that plan because they are very much interrelated.

I will say to you that in the most recent situation with Ike, I think the hurricane plan worked very, very well. Not to get into the detail of it, but it is a port-wide committee chaired by captain of the port or NOAA, one of those two agencies. All the stakeholders in the port are involved in it. There is a schedule that, as a storm begins to come, we begin to get ships out of the channel, begin to batten down everything until basically everything is secured, including container of wharf grains. Everything is secured and everything is gone or tied down, and it worked very well for us in Ike.

But, after 9/11, we took that baseline and said, okay, we will try to now apply that to different security issues. We have been the recipient I think of some \$45 million roughly of security grants since 9/11, thanks very much to you, Congressman and all of you, but we have used those for gate and fence and different kind of hardware security improvements to make sure that we can secure our properties.

The security district, the quick history on that was a former county judge was approached by a bunch of ship channel industries to apply for a grant for a port-wide security communications capability. They didn't feel like they qualified under the grant program. So the county judge applied for that and got \$26 million from the

original grant. The problem was the \$4 million of O&M money. So that is how we came together to supply that.

So we have been an active participant. We have been fairly successful, but we have used those moneys for programs and for integration of programs to make sure that we all communicate with each other, that we try to act as one family looking after each other to make sure that everyone is secure and as safe as we can be.

One of the concerns that I have about the security district is—if I am correct in this, Captain Diehl, help me—I don't believe there is replacement dollars. One of the beauties of this country is technology is evolving every day. That is going to become stale technology in short order. So we are going to have to start all over in the grant process to get another grant to upgrade the technology. So that is something that you all might think about as you deliberate the funding programs.

Well, she asked me the acreage—

Ms. JACKSON LEE. It is big.

Mr. EDMONDS. Eleven thousand five hundred acres of developed and undeveloped property.

Ms. JACKSON LEE. It is big. Thank you.

Mr. EDMONDS. That is just the authority. There is 25 miles, as you know—

Ms. JACKSON LEE. Coast line.

Mr. EDMONDS. As the crow flies.

Ms. JACKSON LEE. Mr. Chairman, I just have some follow-up. I am trying to read that clock, but with distance and your generosity—I can feel your generosity as I am sitting here.

Mr. MCCAUL. I didn't know you could feel that.

Mr. EDMONDS. It has been there for a long time, as you know.

Ms. JACKSON LEE. I want to focus on Sheriff Garcia. I happen to believe that personnel are key to terrorist prevention or terrorist acts prevention, in addition to technology with Mr. Edmonds. So I guess I am a fan of people working with technology and keeping up with the latest technology.

There is a possibility—and I don't think I am giving anyone any ideas—that the huge cargo ships represent enormous targets, either by bypassing the scrutiny when the ships were loaded with some sort of uranium—some nuclear capacity that is triggered once entering this port. The port, interestingly enough, is located in a populated area. We should be very clear. We thank the port for its hugeness, but it is—and it has been a good neighbor, but it is in an area of residential communities.

I want you to be pointed in your response about the difficulty of shortchanging trained personnel where you are a partner with Federal funding. Because my belief is that even in this time of debt reduction, we should be prioritizing what we have to spend money for, and I think homeland security is important. I am going to ask my last two questions of Captain Whitehead and retired Captain Diehl as just to say: What would be the most important element that you would want this hearing to know in terms of the prevention or the need for increased security at this port that we take away and back to Washington?

But, Sheriff Garcia, if you can focus on the elements of preventing a cargo ship coming in or a seaman determined to perform

a terroristic act who has managed to get through and be a seaman on one of the many cargo ships that are coming in from international waters.

Sheriff GARCIA. Congresswoman, thank you for your question and your leadership on this issue, because it is imperative that I do get the message out that I need flesh and blood to carry out my mission. Going back to the old adage that cops on patrol do prevent crime, well, the deputies on patrol on water and land, around the port, can prevent acts of terrorism or criminal operations that can lead to terrorism.

So it is imperative, and as I have said it before at a Congressional testimony that you and I were at, you know, I am a fan of the COPS program. I am a fan of, you know, that we are participating in a joint Federal operation here in patrolling of the Port of Houston and the Houston Ship Channel. So, thus, I do believe that justifies the need for the Federal Government to support a local law enforcement agency like myself.

But also let me be very pointed. When the Sheriff's office got into this relationship with the ship channel and the Port of Houston in regards to being the lead agency, we made commitments. We made commitments, and at this point because of current economic situations, we are not living up to those commitments. I want to live up to those commitments. I want to exceed those expectations.

I want to be a good partner to my partners with the Coast Guard and the CBP and other agencies, but I want to make sure that we don't look back to days like today where we are making it clear that we do need support to provide all of the presence of patrol, water, land, monitoring of technologies, community relationship building, all those issues that would work to keep us safe but weren't able to do it because we didn't have the salary dollars to do that.

Ms. JACKSON LEE. So cutting funds would have a negative impact?

Sheriff GARCIA. It would have a catastrophic impact.

Ms. JACKSON LEE. On this port and its surrounding area?

Sheriff GARCIA. Yes, yes.

Ms. JACKSON LEE. Captain Whitehead, something vital we need to focus on.

Captain WHITEHEAD. I would say—I mentioned it earlier—the partnerships are key and that is done through people. Technology certainly enhances that and facilitates that, but the people are key, as you mentioned, Congresswoman, to exercise, train together, work together continuously. So those people and interacting together and having the ability to, you know, day in and day out work together I think are key to preventing terrorist attacks here.

Ms. JACKSON LEE. Thank you, Captain.

Captain.

Captain DIEHL. Good morning.

Ms. JACKSON LEE. Good morning.

Captain DIEHL. If you measured how many law enforcement people are on the ship channel—let's say, the number is 1,000, if you are going across DHS and you are going across the local authorities and things like that. What you have the ability to do is gather in what Congressman Green talked about, 250,000 people with TWIC

cards, and that is the industry that works here, and that speaks back to what you heard earlier is the partnerships are key. As industry here, we realize if this thing isn't safe, secure, and environmentally working, we don't make a profit as industry. We want to keep cargo moving.

Speaking for the Ship Channel Security District, the concerns that we have is we have stepped up and said, you know what, we are going to help, we are going to supplement, we are going to tell you what works without hindering our movement of efficiency of cargo. It is a great dovetail between industry and those that are protecting us, and that works.

What the fear is in preparing for this testimony was, okay, with the budget cuts, they are going to start giving us less. They are going to say, oh, you are a good model down there; you guys can shoulder a little bit more of it. That wasn't really the plan. The plan was to work together more to support them to come to the table and help them.

So if we are going to be penalized with less port security grants because we are actually assessing ourselves, we are going to lose a lot of support among the ship channel security industries that are saying, so we rogered up for, you know, in some cases, to pay \$250,000 a year in assessments to support the security so that DHS can pull back? That is not going to go over very well with the people I represent.

Thank you.

Ms. JACKSON LEE. In conclusion, let me just say that is a very, very important point here, you establish yourself as a model really for other ports to emulate, and in order to keep up at that level of perfection, you need the resources that might be missing because someone highlights and says, boy, they are doing great; let's let them to do great with less.

I just want to put on the record I am constantly looking at ways to improve the TWIC card process, and I know the Coast Guard is working very hard. Captain, I am well aware of it. But one of the things the TWIC card is supposed to do is provide protection, but it also sometimes denies opportunity for work for people who are in no way a terrorist threat. I would like to see the TWIC card process streamlined, move faster, and for the many men and some women who have asked about why their process is 6 months, 1 year, sometimes we know that there is some concerns that we have to engage. We need resources for that to make sure the TWIC card—

My last final point is cargo inspection for the inbound cargo carriers is crucial. We must keep the international connection where cargo is being inspected at a high level so that we can protect America as those ships are coming in, and I am still not comfortable at where we are on all of the inspections of major cargo coming into the United States, and certainly the Houston port is one of those recipients.

So I think this is an important hearing, but I would offer to say that I am looking at legislation around this issue, and I would say to the Chairman that this is an important bipartisan effort, and I look forward to working with this committee as we go forward.

Mr. McCAUL. I thank the gentlelady for recognizing my generosity and being bipartisan. I think that we do have a debt crisis, but we also have an obligation under the Constitution to provide for a common defense as well. This committee will be having an authorization bill I believe coming up in the fall. That will give us an opportunity I think to address some of these funding issues.

Sheriff, you and I have spoken about the COPS grant program that I fully support, and I would hope the whole Harris County delegation would join me in my letter supporting your efforts for that.

The security district, the success of that is you moved from No. 3 to No. 2 on the port security grant program. I think that is certainly good news for Harris County.

Then, finally, I think as my colleague Mr. Green pointed out, on the dredging issue—and I hope the gentlelady from Houston will join me on this one as well—when we send \$120 million to Washington and only get \$20 million back—

Ms. JACKSON LEE. Absolutely.

Mr. McCAUL [continuing]. That is one of the largest ports in the world with one of the biggest risks in the world.

When you have got the Panama Canal having 50 feet and we only have 40 to 45 feet, that is going to be a serious problem in terms of trade and the ships coming down the channel. So I would hope that we have an opportunity I think to work together on that effort as well in a bipartisan effort in the Harris County delegation.

So, with that, I just want to thank all the witnesses.

Ms. JACKSON LEE. Will the gentleman yield for a moment?

I just want to answer “yes” on the record to join you on the dredging issue and on the COPS grant, and I ask for bipartisan support as we come up on the appropriations for 2012 and the zeroing out—

There are those of us, bipartisan, by the way, Chairman McCaul will be submitting an amendment to restore the COPS funds for the upcoming fiscal year. I think if we can secure the bipartisan support that we have secured before, everyone will understand that the re-funding of the COPS grant is what you call a maximizing of your investment with the trained law enforcement officers that will benefit from it. So I would like to call upon your support for the restoring of those funds for 2012.

Mr. McCAUL. Yes, I would also like to point out, let’s not offset it with NASA.

Ms. JACKSON LEE. Not at all.

Mr. McCAUL. We have to find an offset, and we are not going to hurt NASA.

Ms. JACKSON LEE. Not at all.

Mr. McCAUL. I know the gentlelady agrees with that as well.

The Chairman recognizes for a final statement the Ranking Member.

Mr. KEATING. Thank you, Mr. Chairman; and thanks for having this hearing. I learned a lot.

We are just days away from the 10th anniversary of 9/11. This testimony today indicated that we are light years—we have moved light years in our understanding and anticipating and preparing for all kinds of terrorist threats.

What this hearing also underscores, too, is that, you know, even with the ring of steel, even with the model programs, the role of security is a Government role; and so as we come away from this hearing, we understand our obligation, particularly being Members of the Homeland Security Committee, to do this, to protect our citizens, to make sure our commerce is clear and protect our economy and our jobs.

We have an enormous obligation right here in this area, and I have learned a lot from being here, and I want to thank everyone for giving me that opportunity.

Mr. MCCAUL. We certainly appreciate you coming all the way down from the beautiful bay area of Cape Cod and Nantucket to beautiful Houston and the port.

With that, let me thank the witnesses and everybody for being here today. I know we have some Coast Guard vessels out standing, that we are going to take a little ride to the ship channel.

Without objection, the hearing record will remain open for 10 days; and so, with that, this hearing is adjourned.

[Whereupon, at 11:51 a.m., the subcommittee was adjourned.]

