

## KEYNOTE PRESENTATION

# Risk Management in the Marine Transportation System

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Vice Admiral James Card, *Vice Commandant, U.S. Coast Guard*

I am pleased to be here today and to have a chance to spend a little time with you talking about the marine transportation system (MTS) and risk management as it relates to that. We have heard several good discussions this morning, and I know there will be more good discussions in this area.

I want to talk about what is going on in the Department of Transportation with the MTS and about what the U.S. Coast Guard and the Department are doing in risk management.

The MTS is vital to our country and to our national interests. There are some impressive numbers that I want to cite that many of you probably already know, but I want to make sure we don't forget them. Over 2 billion metric tons of cargo, worth over \$1.0 trillion, transit our waterways every year. Ten million barrels of oil are imported daily, almost all of it by water. Excluding Mexico and Canada, 95 percent of our foreign trade and 25 percent of our domestic trade depends on marine transportation. Over 90 million passengers embark on ferries, cruise ships, gaming vessels, and tour boats from U.S. ports every year. Over 26,000 documented commercial fishing vessels harvest food from the sea. Probably 100 million Americans use the nation's 20 million recreational boats. The MTS and its infrastructure contribute \$78 billion to the U.S. gross domestic product. I challenge that number because I think it is low. And it generates 16 million jobs. Ninety-five percent of all the weapon supplies and U.S. forces during Desert Storm were transported by ships. So, we clearly depend on the MTS as an element of the overall national transportation system to provide safe, secure, environmentally sound, and effective transportation.

However, the United States is at a critical point with respect to the future of our ports and waterways infrastructure. Many of our ports and waterways have aging infrastructures, which most of you already know, and we are not world class. This probably reduces our competitiveness and increases the safety risk as well as the risk to the marine environment. Our system is under stress. Some of the projected trends, some of which you have already heard, are that world maritime trade will double or triple by the year 2020. There is increased use of passenger vessels, including ferries and commuter ferries; recreational and leisure use of the waterways is growing; and there is increased concern about public safety and the environment—that concern grows all the time. There is a threat or a concern for a threat that we will see in our transportation infrastructure from cargo crime, smuggling, and terrorism. We are fairly vulnerable in that regard to anybody who would like to do us harm.

Meeting these challenges is difficult because we are unlike many other countries. We have lots of ports and our ports and waterways are managed by a host of federal, state, and private sector organizations. Federal agencies, like the ones you've seen here today, as well as St. Lawrence Seaway Development Corporation and a lot of other people are involved in marine transportation. Sometimes we are compared with Rotterdam and Singapore. If 50 percent of your gross domestic product comes from a port, you probably have a national entity to look at what is going on in the port, as does Rotterdam.

So, with all this background and with all these trends, there is a need to look at our transportation system and that is what is being done.

Last spring, as you have heard, the Coast Guard along with the Maritime Administration and many other federal agencies held seven 2-day regional listening sessions around the country to find out what issues concern our MTS. The goal was to start the dialogue, to have input from a variety of people who were involved, and to hear about the issues they considered to be most critical. During the listening sessions, we received hundreds of comments and recommendations, which formed the basis for the national conference on U.S. marine transportation that was hosted by Secretary Slater last November. The two and a half-day conference was attended by 144 senior leaders in government and the private sector, and the importance of this can be told by the fact that, although there were 144 attendees, many others wanted to be there at the conference and we just couldn't work them in. This included people from the federal government, state governments, industry, and a broad range of stakeholder groups.

The conference was structured around several key areas. The goal was to develop a vision for the MTS for this more demanding future I've talked about; to develop a framework for national and local coordination; and to develop goals and recommended actions to address the challenges and achieve the marine transportation vision in safety, security, environment, competitiveness, and infrastructure.

I'm going to focus on a few of those today. The vision is very important. Secretary Slater opened the conference by voicing his support and challenging the group to develop a bold, forward-looking vision, one that ensures that the MTS in the 21st century lives up to its potential as an intermodal engine for economic growth, while preserving safety, security, and the environment.

The reason it is important to mention Secretary Slater is that there have been several secretaries of transportation. They have all been very worthy and good public servants, but I don't think any has taken on the chore of a MTS as Secretary Slater has. He is absolutely committed to this now and it is an important part of his leadership in this area. We have continually explained to him that as he puts together a national transportation system, he needs to have one from the water side that is not the weak link—it is at least equivalent to the others.

Having said that then, the following vision came from our conference: The U.S. MTS will be the world's most technologically advanced, safe, secure, efficient, effective, accessible, globally competitive, dynamic, and environmentally responsible system for moving goods and people.

That is a tall chore but that is the vision and visions are supposed to be tall chores. The guiding principles are systems integration, federal leadership, shared responsibility, balance among diverse interests, technology development and deployment, and recognition that people are critical to the success of the vision.

Lack of coordination was a topic of great interest at both listening sessions and the national conference. It was identified as a problem not only at the national level where agencies don't always coordinate, even though we are working hard to do that today, but also at the local level, between state, local, and private stakeholders. The conference participants endorsed the idea of a national council to coordinate federal efforts and eliminate barriers between agencies. However, they were careful to note that private sector stakeholders must have an avenue to communicate with this council and be able to participate.

Secretary Slater is seeing the need for national leadership in the MTS, as I mentioned, and he has responded to the challenge. In his closing remarks, he said, "I want to personally assure you that I will do my part, working with all of you in carrying out the leadership role." The call for leadership was not limited to the national level. Participants also clearly saw the need for local coordination and leadership. They endorsed existing local harbor safety committees as models for other ports. Their harbor safety committee concept was also identified as the model for possible expansion beyond safety to security, environmental transportation infrastructure improvements, and economic issues as appropriate.

As you might expect, there was also a consensus that the national council should not be overly restrictive in its guidance and direction to the local coordinating committees. The Coast Guard is intimately involved with most of these local committees and believes that local activity is the key, not just to safe operations but to ensuring environmental responsibility, mobility, and other efficiencies as well as to ultimately achieving that MTS vision. We are looking for ways to foster local coordination and gain a level of consistency among these groups.

The proceedings you have in your packet have been published on the Internet and we asked for comments on them in the *Federal Register*, which was published on March 11th. This is a national dialogue we are trying to have.

Another piece of our rollout in the MTS is the Task Force. Congress mandated formation of a national task force through our 1998 Coast Guard Authorization Act. The task force is an advisory body whose purpose is to assess the adequacy of the nation's MTS to operate in a safe, efficient, secure, and environmentally sound manner. The task force members, representing 23 federal agencies and 44 maritime industry organizations, were appointed by the Secretary of Transportation. The Commandant of the Coast Guard and the head of the Maritime Administration serve as co-chairs. Secretary Slater convened the first meeting of this task force on March 12th. In his remarks, he spoke about the strategic nature of the MTS, which he called the country's first interstate, and its importance to the overall transportation system

in the national economy. He also reiterated his commitment to leading the MTS effort.

The output of the task force will be a report to Congress that examines the critical marine transportation issues and develops strategies, recommendations, and plans of action to advance the national interests, including global economic competitiveness and national security in the marine transportation arena. The report is due July 1, 1999. I know they are working hard to make that deadline.

The task force is tasked by Congress to (a) take into account the capability of the MTS and, specifically, the adequacy of depth of approach channels and harbors and the cost to the federal government to accommodate projected increases in foreign and domestic trade over the next 20 years; (b) consult with senior officials in the public and private sectors, including users of the system such as ports, commercial carriers, shippers, labor, recreational boaters, fishermen, and environmental organizations; (c) sponsor and provide participation in public and private sector activities to further refine and implement, to the extent possible under existing authority, the strategies, recommendations, and plans for action; (d) evaluate the capability to dispose of dredged materials that will be produced to accommodate the projected increases; and (e) evaluate the future of the navigational aids system, including the use of virtual aids to navigation and electronic charts.

Those are the two big things that are going on right now in the MTS. Now I want to talk about risk management and what we have done, what we are doing, and what we hope to gain.

The process we've embarked upon, conducting all these sessions, gathering leaders from all facets of the maritime transportation community, and evaluating the needs of the system, is linked to risk management, which is the purpose of this meeting.

Risk-based decision making was a recommended action that came from the regional listening session and for both the environment and safety sessions at the MTS conference. Our goal is not only to increase the efficiency of the system but to make it as safe as possible. Risk and risk management have been defined several different ways today. Risk management is not new to us. It is not new to the Coast Guard, nor is it new to the people in the marine transportation industry. But increasing our understanding of risk management and increasing the use of risk management to make it effective are important.

We are trying to apply these principles. We have applied risk-based decision making in the Coast Guard in the past, everything from transportation of liquefied natural gas to looking at fire safety on tankers and passenger vessels. But now we need to be able to take some more positive steps. Most of those were material solutions to the problems. We have all heard that most of the

problems and the solutions are ones that you find in the people and not, for example, in a redesigned steering gear. Every year marine-related accidents cause about \$1.5 billion of damage. I think that is a conservative estimate. If most of these accidents are people related in some way, then by applying the actions we've taken in the past and fixing the systems wherever they may be, the steel and the hardware, and now even the information hardware, are not going to solve the problem. Earlier in my career, when I had Bob North's job, we put together an effort called Prevention through People; one of the many guiding principles was to manage risk.

The human element includes everyone—those in government, marine organizations, port authorities, classification societies, the maritime industry, and the mariners themselves. It is not limited. In fact, there may be things we put out in regulations and processes and procedures from the government that actually hurt instead of help what we want to do. One might suggest that the way we've crafted regulations is not necessarily helpful or customer focused and that is an area that can be improved. But it is important to look at all these things under the umbrella of partnerships. Hence, the Coast Guard has nine formal partnerships with industry associations. The first was with the American Waterways Operators, followed by Innertanco, BIMCO, API, the old Aimes, the Spill Control Association of America, PVL, ICCL, and the American Pilots Association. These partnerships have yielded positive, non-regulatory solutions, although they do not prevent us from coming up with areas where regulations need to be changed. I will give two examples of ones I think have been successful, but many others have also succeeded.

1. Analysis of the causes of spills associated with tank/barge cargo transfers and applying these results to reduce spills during these evolutions and development of a program targeting the human element, reducing personnel casualties aboard tugs and barges—effectively, that means people falling over the side. Every year, more mariners die from falling over the side and drowning than from any other single cause. I suppose you can regulate against that and tell them not to fall over the side, but that doesn't work. So, we had to pay attention to that, and it is working.

2. A risk guide providing U.S. passenger vessel owners and operators with a tool for better assessing and managing risks inherent in their operations and avoiding accidents. We hope these efforts will reduce the risks associated with human error in maritime operations and encourage public stakeholders and all to have a common understanding, to share information, and to work together. All these are foundations of prevention through people. Actually, the concept initially started also with applying quality principles in what we were doing in this regard.

You may remember that in the early 1990s much of what we talked about was that if people were the problem, then they needed more training. Anyone who has studied the situation will recognize that training may be an element, but it is not the answer.

The same principles are at work as we pursue an MTS that is technologically advanced, safe, secure, efficient, effective, accessible, globally competitive, dynamic, and environmentally responsible.

The physical boundaries of our ports and waterways are not going to change much, so maritime traffic congestion is going to increase. You're going to have technological changes. In fact, not only are the boundaries not going to change, there are going to be more claims on those resources. You've heard some today—areas to be avoided—marine sanctuaries, and so forth. Unless you believe that Antarctica is going to melt and there will be more coastline, and look at the population projections and the concerns, you're going to have more and more people using the same body of water and it is going to have to be sorted out in a way that hasn't been done so far. The principles you're talking about are going to be very important in that regard.

One concept where we are using risk management in navigation safety that you'll see more of has to do with safety analysis of our ports and waterways. We intend to look at each of the ports from a navigational safety perspective and then identify, at the local level, port-specific risk factors and examine current and available navigation safety activities that offset these risks. We intend to identify the best logical mix of risk mitigation measures, including measures such as traditional aids to navigation, traffic separation schemes, vessel traffic services, and pilotage requirements.

There is an old saying that, if the only tool in your toolbox is a hammer, then every problem looks like a nail. We want to make sure that we have a well-stocked toolbox that allows us to choose the right tools for the job at hand. I would say that, after *Exxon Valdez*, that hammer was a Vessel Traffic Service 2000 system. So, everybody had to have one. When it came to paying for that and looking at it, we determined that maybe we couldn't afford it. That has been reracked and now we are going to have a toolbox of things we look at; the ports and waterways safety system will be one of those.

Ultimately, our assessment efforts will concentrate on waterway safety improvements in those areas with the greatest need. These improvements will include a system based on voiceless transponder technology known as the automatic identification system (AIS). AIS consists of transponders and displays carried on board vessels, which provide information such as the name, position, course, and speed to all equipped vessels. AIS will significantly expand the information available to mariners in a more timely manner and it will eliminate some of the distract-

tions associated with excess VHS voice radio traffic, although I don't think that will probably change down in the Gulf of Mexico because they really like to talk on the phone down there.

It is perhaps worth mentioning that the purpose of this is to provide better information to the people onboard ship so they can make better, informed decisions. They are the people who really need to make those choices. No one else can do that from outside.

Let me close with this. We've talked about risk management and we've talked about the principle that all of you know; many of you know more about it than those of us in the Coast Guard. We've sent people to school on this. We have some of your students who are part of the Coast Guard and looking into it. We need to take this capability and these approaches to the step where they become practical, decision-making tools in all our decision makers' pockets. Simply from the captain of the port perspective for the Coast Guard, we have one that Jack Harrell put together for us, which is helping somewhat. But it needs to be reinforced. We in the Coast Guard intend to spend some money sending people to school to learn more about this. We intend to integrate it not only into our external operations but into our internal operations as well.

Karlene Roberts had a good perspective when she talked about looking at a situation and figuring out what is done right and improve upon that instead of focusing on what is being done wrong. My Coast Guard experience tells me you can learn a lot more from something that went right than you can from something that went wrong, because when you do an operation right, there will still be lots of things you can learn from that and the defensiveness barriers as well as the legal barriers are brought down. So that is something that is worthy of your consideration.

The second thing I want to say is that leadership is key. Leadership is crucial. Gus brought that up as well. What do leaders do? They do the right thing. What is that? It is hard to know sometimes, but you have to tackle the tough problems, those intractable problems that no one else seems to be able to solve, and in the marine industry there are lots of those, ones that we don't go there because we can't do that because of whatever it may be. We stay away from that. But leaders can't do that. Leaders have to go where those things are and be willing to stand up to the popular but the wrong answer if that is the case. Leaders need to be committed, which means they have to double their efforts. We recently wrote a book that says, why don't things work, why do things fail? One reason is really lack of communication by a factor of 10—no, by a factor of 100—no, by a factor of 1,000. That level of communication is very important. If you are going to step up the leadership, you have to step up to that requirement for communication.

I said it before and I'll say it again—commitment. You can't let it go. You have to keep after it. If you believe something is the right thing to do, then you have to keep going on with that.

While I agree that our process must be objective and nonpolitical, the world does not always operate that way. The best assurance of a rational process is to ensure that we are wisely addressing the risk and preventing bad things from happening, including all the stakeholders being involved in this solution process. Government and

industry, public and private, including, as the gentleman from EPA said, the environmental concerns, because they are real and they won't go away. Success then depends on the trust of all involved as well as the best analysis and applications. Building that trust, again, while it may not be in the equations you have in risk management, is also very important because without that, the solutions are different. You might have the right answer, but if you can't convince the people it is the right answer, if you don't have trust in the process, then it won't work.