

or within individual regions doesn't work anymore in the global network. That change has to begin with something, and risk management appears to be a good place to start. What do I mean? Not long ago, I participated in a national contaminated sediment conference focusing on how to deal with the problem. The discussion began around 1980 regarding the issue of contaminated sediments and the need to deepen our harbors. The National Research Council came out with a report on the subject in 1984, another one in 1989, and another one in 1994. They all said the same thing. The sediments are contaminated, and the harbors need to be deeper. What are we going to do about it? Well, while we are struggling in ports on an individual basis about these issues, there is no national risk assessment of the tradeoffs regarding either the sediments or the requirements for dredging. It appears that all these things are too complex; if they were simple, we would hold only one conference and write one report. But, they are not, so I guess we have to be optimistic about it—we also could apply a risk management approach.

We've all been using risk management—some of us in a formal fashion, some of us in an informal fashion. But, to gain the good that can come from this symposium, the opportunities, we must synthesize the essential recommendations from our discussions. The foremost recommendation was that we need to have a more standardized process for the maritime industry. That was a strong theme that came from the first group's comments. We need to get a consistent set of methods, standards, and data definition, and this needs to be done up front and should include the en-

vironment, the stakeholders, and all the other good things we have talked about. So, this is very broad and encompassing, but it needs a methodology that is defined and that we can follow.

When you sift through the various things that were said about data, one thing that reverberated again and again was that we need to go ahead and get this incident reporting system in place, and it needs to have liability protection. I don't know exactly how to do that, but it is very clear that a comprehensive database is the starting point for doing things differently.

The third group said, "We have to look at the real world." The real world is about a lot of these things. For example, many ship crews don't speak English, and they are going to have a tough time filling out questionnaires. But the real world is also about competing demands. The stakeholders must participate and buy in to the process. They need to be educated about the value of the process. To do this, we have to have the ability to present it in a transparent fashion so people can understand what is being done.

The fourth group looked at federal entities. But, recognize that it is really a series of tiers—international, national, regional, and local—that do decision making and therefore need to use risk management as the tool. The synthesis of that group was that we need an entity that is responsible and accountable for gathering all the data and making them available widely to all the decision makers, regardless of their tier. The Coast Guard was mentioned as a possible agent.

AN INTEGRAL PART OF DECISION MAKING

Peter F. Bontadelli

One of the points I want to make is that the three of us come from slightly different points of view, like many of you in the audience. As a result, I think we might have heard some slightly different things out of the summations that came in this morning and in the groups we participated in. One issue stood out for me, and maybe it was an item that was said in our group, and that is that risk management and risk assessment, contrary to what may have come across, are not new. They are done every single day by every active mariner, every pilot, and every player in the field. What we haven't done is to put them down and analyze them and use them as integral parts of decision making. Although we can learn lessons from what has come from other industries, in the maritime

community we also have to rely on that expertise and opinion and find a way to integrate that as part of our data sets and in helping to shape the political framework in which the risk management decisions are made.

Group one emphasized that we need to pull out the information on methods and methodologies, and we need to find, coming out of this, a recommendation on how to accomplish that. That will be part of the follow-up that we will be working on.

The data information group was very clear on two points—not only the near-miss reporting, which is a great first step, but the fact that there are a lot of excellent data out there. However, there are real questions about the data. They probably need to be looked at from the standpoint of how useable they are, how reliable they are, what types of things can be put into the data, so that every time, individually at a port level, industry level, or government level, you start going through one of these, you aren't starting from scratch, as if there were no yesterday. Some of the points that Jerry made are critical to us. The fact

that there are qualitative as well as quantitative data is a critical issue. Jerry, that is one of the key points that I think you were trying to make. Until we start learning to use some of that qualitative understanding of the people who use risk-based decision making in their day-to-day activities and integrate that into our shaping of the framework for risk management decision making, we won't be able to do the job effectively and well.

Group three made clear something that jumped out, and that is that it all has to be done in the real-world context. The decision making, as Tony pointed out to us from his standpoint, is not a problem as long as he can count to three on his five-member board; everything else seems to work. The issue of integrating risk management into the whole decision-making train of thought for every phase is critical and something that comes across all the way through.

Decision making and risk-based use of the decision making are integrated in a multiple series of things: in-

dividual decisions made by shipping companies, individual decisions made on a decision to cite something at a port or not accept it, the larger process of using a vessel traffic information service or other method of adjusting waterways management, and the larger picture of the overall marine transportation system all revolve with a degree of risk and risk tradeoffs that get made every single day. Understanding that and putting it into context, pulling out, building on some of the things that came out of this conference, is a lesson that made sense.

The fourth group talked about the federal agencies' roles—my view was that they are the poor folks who get stuck figuring out how to integrate and use some of this stuff. We hope each of you got something positive from this and that the proceedings that you get later will be useful to you. So, those were the issues that jumped out at me, and I think they build on what Tom gave you.

COMPILING THE EFFORTS

Jeffrey P. High

I want to use my time to tell you the context in which this information will be used for the marine transportation system initiative. First, the marine transportation system effort has been a series of events. We started with regional listening sessions last spring. There was a national conference in November. Since then, a task force has been formed at the direction of Congress. The first meeting of the task force was March 12, 1999, and there will be one more meeting. From that effort, we expect that a national advisory council will be established. Certainly we are going to build on the success of various harbor safety committees and the other local committees that can and do use risk-based decision making.

So, what is going to happen here? Here is the time line: the report to Congress is due from the national marine transportation system task force on July 1, 1999. That is fairly soon. To prepare for that, the final meeting of the task force is the middle of May. Basically, at that time, the task force, which includes about 70 public and private sector (two-thirds are private sector) members,

will get together and look at a draft report, bless it (we hope), and then send it forward. Then we will try to get it through all the various stages of administrative review.

This report is going to deal with dredging. It is going to deal with the future condition of the marine transportation system, the current condition, and the strategic plan. How do you write a report like that in just a few weeks? The answer is that this is not all new work. It is really a compilation of all the effort that has been invested up to this point. What I'm telling you is that what I heard coming out of this conference and what we wrote down as the summary statements here—certainly the things that came out of each of those working groups—I'm going to take back with me. I will bring these ideas back to the working groups that are putting the marine transportation system report together and say, "Here are some good ideas, find a way to fold these in."

NOTE

The report of the task force, *An Assessment of the U.S. Marine Transportation System: A Report to Congress* is available on the Internet at <http://www.dot.gov/mts/report>.