General Vessel Pollution Issues and Cruise Ship Pollution

MR. EHRMANN: All right. Let's go to general vessel pollution issues.

DR. SANDIFER: With your indulgence, I would like to run through both general vessel pollution and cruise ship pollution before we start the discussion.

MR. EHRMANN: Yes.

(A PowerPoint slide presentation in progress.)

DR. SANDIFER: The working group divided these things not because they are so terribly different, but because we have heard so much testimony concern raised about cruise ships as a special case of, so we wanted to deal with it that way, recognizing that it is a relatively small problem in the whole sweep of things.
Nonetheless, it is something that we had to deal with.

Let me run through first the general issues, then the specifics related to the cruise ships, and then we will come back and discuss these.

In general, the vessel pollution involves a number of things. One of the biggest issues has to do with marine sanitation devices. Here we go with sewage treatment again. Marine sanitation devices may be relatively small vessels to very, very large vessels; it may be in vessels that transit only coastal waters or waters within the state jurisdiction or out the international waters.

One of the primary problems with the marine sanitation devices is that the standards, the discharge standards, have not been updated in more than 20 years, despite the fact that technology has changed substantially.

We are recommending that these discharge
standards be looked at very carefully and updated to take into consideration new information specifically on the effectiveness of new systems and the new information on the impacts of discharges both on the environment and
on human health.

Second, to develop a system such as a performance warranty system to ensure that the marine sanitation devices continue to meet discharge standards. This is the sort of thing that the number of vessels having MSDs is so large that the idea of compliance by having enforcement officers go aboard to check simply does not make sense and is flat out impossible. There have to be other mechanisms of maintaining or determining that they are working in a warranty system or something else.

MRS. BORRONE: (Microphone off.) What is a "performance warranty system"?

DR. SANDIFER: I'm sorry? I can't hear.

MRS. BORRONE: What is a "performance warranty system"?

DR. SANDIFER: A "performance warranty system" would be something where, for example, a manufacturer
has an underwriter laboratory certify something, "This
device if properly installed will operate like this for
20 years and meet these standards," or for 10 years or
whatever. That is what a performance warranty standard
1 is as opposed to simply saying, "Here is a non-flushable
toilet, good luck."

3 (General laughter.)

4 DR. SANDIFER: Unfortunately, there are a fair

5 number of MSDs out there that more or less meet that

6 last standard and not necessarily the first standard.

7 There is also a considerable need for research

8 to determine the cumulative impact of vessel sewage

9 discharges particularly in areas of high vessel

10 concentration and biologically sensitive areas and areas

11 with low exchange rates.

12 Biologically sensitive areas, for example,

13 could include protected areas, coral reefs, anything

14 close to beaches, anything of that nature; however, the

15 low-exchange rates could also include a number of our

16 estuarine and coastal areas where either tidal amplitude

17 is very low or you have various limited inflow and

18 outflow areas.
Lillian, some of the areas of North Carolina Coast came to mind as those kinds of areas where one might be very concerned about the exchange rates. Finally, to conduct research also to determine
the adequacy and effectiveness of no-discharge zones and pump-out facilities. Do those really work, or are they simply ignored in most cases? Discharge standards should be reviewed based on the additional research. We know we are 20 years behind knowledge now. Let us fix them first and bring it up to current knowledge, then continue research, and then periodically update those standards as the research indicates. If we could, go to the next slide, please. (A Power Point slide presentation in progress.)

DR. SANDIFER: Air emissions, particularly from large vessels, are a big deal. We suggest that the Commission support the development of a much more extensive air sampling program to monitor and characterize ship air emissions, particularly in ports located in problem air basins. This is not a problem everywhere, but it is a considerable problem in some areas.
The Commission should support and provide incentives for industry to reduce air emissions, new technologies such as different kinds of engines, gas turbine engines, the use of low-sulfur fuels at least
conversion or utilization of those low-sulfur fuels when they are in the areas of particular concern. Where possible we should encourage the use of in-port power grids, shore power grids, wherever that infrastructure exists or could be made readily available.

The third one on general vessel pollution issues has to do with the oily bilge water. Again, this is supporting industry initiatives to utilize improved technology such as gas turbine engines to reduce the oil in the bilge water and also to include oily water treatment system inspection as part of unannounced enforcement inspections.

We actually have a little bit longer suite of recommendations here that includes the recordkeeping, the computer recordkeeping, of the oily water treatment systems and the need for the Coast Guard to move away from announced inspections to unannounced inspections, and that this be a specific item included in those
unannounced inspections.

CRUISE SHIP POLLUTION

DR. SANDIFER: Move to cruise ships. Again,

let me reiterate to you that according to the cruise
ship statistics, the cruise ships themselves make up a very small portion of total commercial vessels. However, in certain areas, Florida and Alaska as cases in point, they are a big deal, and some other communities that are looking to attract cruise vessels. They do bring huge numbers of people together in a very, very compact environment on the water. We are making a number of recommendations for your consideration, first of all, to build upon the voluntary industry initiatives to adopt industrywide waste treatment practices, and to introduce new technologies for treatment and reduction of waste: provide incentives to encourage innovative approaches; complement those voluntary programs with comprehensive regulatory regimes which provide clear, uniform national requirements for cruise ship waste management.

I will get to a specific in that regard in just a moment. Also, provide for national enforcement
regime characterized by clear and consistent interpretation of regulatory requirements; that is, we are not looking for a state-to-state regulatory requirement framework, but a true national framework
that says what they can and cannot do.

This is the general side. If you look at blackwater and greywater -- "blackwater," meaning sewage effluent itself, "greywater," meaning wash water and a variety of other kinds of waste waters -- look at the federal and state statutory regimes currently in place in Alaska.

In Alaska, you not only have a state regime, there is a federal law that appears to apply only to Alaska with regard to discharge of cruise ship blackwater and greywater, to use that as the basis for developing the federal statutory regime that I mentioned on the previous slide, and then put that in place with an enforcement mechanism. Dealing with hazardous waste, this is a variety of kinds of things including photographic development, developing chemicals; dry-cleaning chemicals; and all sorts of stuff of that
There should be a resolution of existing ambiguities in the application of U.S. law to the management and disposal of hazardous waste. We find that there are some really interesting things. You can
put batteries ashore in one place, and you can't put
them ashore in another place. You have got to handle
them one way here, there and yonder. That needs to be
resolved where there is a straightforward regime that
really deals with the issue as opposed to having 14
different hoops that don't accomplish the job.

There should be a uniform application of
standards, permitting and enforcement that takes into
account the operation of cruise ships in multiple
jurisdictions. If you go to, I believe it is the last
one of these, provide incentives for the ongoing
development of new technologies to treat and dispose of
solid waste and assist the adequacy of shore reception
facilities and work to enhance capacity where necessary.

This is a particular concern for vessels that
are operating in areas with sensitive environments. For
example, islands, where there is little good capacity
for waste disposal, those waste disposal capacities have
to be developed appropriately. I think that covers virtually everything that we have gone into without belaboring the details. I will be pleased to try to answer questions or it to somebody who really knows what
he is talking about.

MR. EHRMANN: Commissioner Borrone?

MRS. BORRONE: Thank you.

Well, first of all, thinking back on my past life and my career as a port director, I think you have done a very good job in looking at the spectrum of issues that have to be dealt with. I am hopeful that in the background paper, which I haven't had the chance to look at yet in any detail, that you are more explicit about who you are referring to when you talk about certain actions to be taken.

In other words, are we talking about the Coast Guard for the federal bureaucracy to undertake the responsibility to develop these new standards or these new mechanisms, or are you in some instances as you talk about some of these topics really focusing on the local port or the state authority who might have waste receiving responsibility or the responsibility for air
quality sampling or monitoring or some of the other things that are talked about here?

I think we need to be very specific about who we are talking about. I also think as you talk about
encouraging or requiring certain things, for instance,

"Encourage the in-port use of shore power grids," that

has been a topic of a lot of debate around ports in this
country between the Coast Guard and port community and
state and port community interests.

We need to be clear about what we are thinking
about, who we mean, and how we intend to encourage, if
we have ideas about that; if we don't, then we should
talk about what kind of time line we think is available
for the entity we want to take on this responsibility to
do what we are seeking them to do.

I am also very concerned that some of the
things you are talking about are IRS-related, just as
they were in the enforcement area like the opportunity
to make a recommendation about the use of the capital
fund.

In the case of solid waste management, where
we talk about "providing incentives," we may be talking
about IRS issues that we have to really be thoughtful

about. If those are areas where we have the detail and
the backup, that is great; if we don't, I would really
encourage us to be more explicit.
DR. SANDIFER: Lillian, in the interest of getting these things on slides, we have really gotten telepathic, as you know. We have about 10 or 15 pages of backup on these specific topics of vessel and cruise ship pollution, and there is more that goes along with it.

In most cases, the final recommendations would include the detail you are talking about and it will be Coast Guard, it will be EPA, it will be states where that is appropriate or states working under federal guidance.

In some cases, it is even working with IMO on MARPOL and other international agreements where those are the appropriate mechanisms. We have got that in here, and rather than belabor topics on which I am woefully ignorant, if Malcolm or Bob would care to respond to it, I would rather have them go into it in a little more detail because they know it better than I do.
19 by far.

20 MRS. BORRONE: No. I don't need it in more
detail here. I just want to be sure that we have

22 packaged our thinking in a way so that it is clear to
the reader or the recipient audience so that they know
what we meant, and then we can all debate it.

DR. SANDIFER: That kind of thing will be
there for you to review. At this point, it is just
trying to get have we missed something really
significant. Sitting here, for example, I realize that
in this section when we are talking about vessel
pollution we never mention the issue of outboard vessel
emissions, outboard motor emissions, even though we have
mentioned them someplace else.

We are going to have to go back and pick that
up and be sure that we have got it. We just left that
one out. However, it is a clear issue on the inland, on
the coastal side. These really focused mainly on the
bigger vessels and the sewage and water -- air, sewage
and water kinds of emissions. That is all I can respond
to you at this point.

MR. RASMUSON: I might say, Lillian, that
these cruise ships use the onshore power grids in Juneau
because every time a cruise ship came in there, a little
puff of black smoke, all of the greenies said, "Oh,"
like this (indicating). Finally, the cruise ship people
said, "Okay, we will just go to shore-based, another
$3,000 an hour," or whatever it is. You know, that is
how they did it. No rhyme or reason, but they claimed
that it was a narrow area for it.

Rather interesting, when the first trips that
we made as a subgroup was to Chesapeake Bay. There were
a few of us who went there. When we were talking with
the Chesapeake Bay people, I am specifically referring
to this, the discharge standards, I asked all of those
people sitting around there trying to save Chesapeake
Bay, I said, "How many have sailboats? How many of you
have through-hole fitting cells and no dedicated holding
tank?" They all looked around like that (indicating).
I said, "Well, you answered my question."

Now, the problem is going to be that it is all
well and good to force the big boats to have dedicated
holding tanks. I daresay there is hardly a boat --
well, there are a few -- under a foot or 150 feet that
have dedicated holding tanks.

DR. ROSENBERG: I think that if they were
drecked over after nineteen seventy-something or other,
they were required to, but they also have diversion
fittings so they can also pump overboard.

MR. RASMUSON: That is right, called through-hole fittings cells, so they are doing that. My point is that when we write this up we have got to make sure that we try to be as specific as we can. You have got to encourage the local users to have these convenient storage tanks around the marina so they can pump it out, too.

DR. SANDIFER: Ed, you are absolutely right. We talked a little bit, but didn't get into great details on the valves, for example. On larger vessels, you can have an electronic record of whether the valve has been turned to a discharge position or not. On smaller vessels, they need to not have valves, you know, there are some things that need to be done.

We did not talk at length about it, but several years ago there was a federal program operated through the Fish & Wildlife Service through boating
safety funds, voting infrastructure funds, grants that
went specifically for pump-out stations. We might want
to examine that history a little bit and see if there is
a recommendation to continue or improve the shoreside
MR. RASMUSON: That is exactly right.

DR. SANDIFER: That is really the way to deal with the small boat issue and get people's compliance if you make it fairly easy for them to pull up to a marina and at no charge --

MR. RASMUSON: They dump the garbage there now. They didn't have it 20 years ago.

DR. SANDIFER: Staff I think knows the history of what I am talking about and we can reference that and decide what we need to include. That is a good point.

MR. RASMUSON: One other thing on the cruise ship pollution. We had to have a special session of the legislature to finally get this thing through. The only way we were able to do it is we got the cruise ship operators to buy into it. It was a rather tortuous procedure to do it.

My suggestion is on the greywater/blackwater
two things are happening right now. All the new ships
have the latest equipment now, and a lot of the other
ships are getting that equipment on there. I think it
will be easier to try to pass this out into Florida.
The other problem is, though, it is complicated. Where they have emissions it is because the crew has not been trained properly or something has happened, something mechanically broke down, and somebody who is a passenger says, "Oh, look at all that stuff out there," and sure enough it is. On a practical basis, you have got to have proper teaching of all of this. I just mention that as what we went through anyway.

MRS. BORRONE: Well, and if I can just pick up on that point, I think that is a very important point. The human factor, just as in oil spills in the past, is very important in the environmental responsibility practices on vessels. I think if we are going to make some recommendations, we really ought to encourage this self-audit among the industry.

For example, I can point to some in our region as well, in New York and New Jersey, where that has
really made a major difference where people went around
and did peer reviews, then did training programs to
bring people up to speed, and have ongoing monitoring
and enhancement.
MR. EHRMANN: Commissioner Coleman?

DR. COLEMAN: If you would, go to the slide on oily bilge water. I would encourage your staff to go back and look at just the petroleum products, and since this report will go to the states, to put a recommendation in there to the states about two-stroke engines and marinas. You mentioned that earlier.

We found that the single marina and the West Coast, one that we looked at very carefully with good records, discharged more oil than all the larger vessels that come into all of the ports. Since the states will be looking at this, put some recommendation to provide incentives for the marinas not to allow two-stroke engines.

A large number of them are going out. They just don't provide any burst anymore with two-stroke engines that come in. You have to carry them to your
own home, because you can't even dock them in it. I mean, there are all sorts of incentives like this. I urge your staff to do that.

DR. SANDIFER: As I said, Jim, that is an area
I realized just sitting here we had overlooked because we were looking at these larger vessel issues and not boat issues, yet the outboard engines are a very, very significant component of total oil and air emission. That is something we have got good information on, and we can pick it up and deal with it.

MR. EHRMANN: Dr. Hershman?

DR. HERSHMAN: Related to the same thing, gaps in this discussion, I guess I had heard that the tug and barge industry was one which was in need of further attention in terms of safety, marine pollution, training of individuals and all of that. I don't know a lot of the details about this, but I just note what I have heard from people in the Coast Guard.

I just wonder whether that was considered by the Committee or whether it is just a false rumor that I heard that is one aspect of the industry that needs more careful attention on pollution issues?
DR. SANDIFER: The short answer is I don't know. Let's see if any staff knows.

MR. EHRMANN: Malcolm?

MR. WILLIAMS: (No microphone.) Just as with
the cruise lines, there are some industry initiatives, there are some American waterway operators and others that have standards that they are trying to meet, so there are quite a lot of industry efforts to upgrade as well as similar to what has been happening with the cruise lines.

The Coast Guard has had ongoing programs for years with them, and they have worked on the prevention through people and 90 percent of the incidents are caused by human errors not because they don't have dual radar systems or something like that. There is a lot of that going on. We can look into that and encourage good practices, encourage and cite them. If we find areas where there is particular detentions, we can make additional recommendations and we would draft those as well.

DR. HERSHMAN: Okay. Thank you.
MR. EHRMANN: Commissioner Kelly, did you have a comment?

MR. KELLY: I think that staff can handle this. I think if Captain Ross would like to give us input, too, that is fine, but I don't want us to trip
over ourselves in the inspection process because when it
comes to vessel inspections we have different types of
inspections.

We have periodic inspections which occur over
different periods of years, we have unannounced
inspections. In some cases, where segments of the
industry are good performers, the Coast Guard has
delegated periodic inspections to classification
societies.

I just want to make sure that any of these
statements, we don't run afoul of a logical time to do
it. I am sure Malcolm knows the answers to these, but I
just thought I would raise that.

Thank you.

MR. EHRMANN: Good.

Any other comments on either the general
vessel or cruise ship sections?

(No verbal response.)
MR. EHRMANN: A good discussion.

Malcolm and staff, any questions, comments, needs?

THE STAFF: (Shaking heads)