

General Vessel Pollution Issues and Cruise Ship Pollution

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

10 GENERAL VESSEL POLLUTION ISSUES

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

14 MR. EHRMANN: Yes.

15 (A PowerPoint slide presentation in progress.)

16

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

1 Nonetheless, it is something that we had to deal with.

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

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

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

18 We are recommending that these discharge

19 standards be looked at very carefully and updated to
20 take into consideration new information specifically on
21 the effectiveness of new systems and the new information
22 on the impacts of discharges both on the environment and

1 on human health.

2 Second, to develop a system such as a
3 performance warranty system to ensure that the marine
4 sanitation devices continue to meet discharge standards.

5 This is the sort of thing that the number of vessels
6 having MSDs is so large that the idea of compliance by
7 having enforcement officers go aboard to check simply
8 does not make sense and is flat out impossible. There
9 have to be other mechanisms of maintaining or
10 determining that they are working in a warranty system
11 or something else.

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

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

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

17 DR. SANDIFER: A "performance warranty system"
18 would be something where, for example, a manufacturer

19 has an underwriter laboratory certify something, "This
20 device if properly installed will operate like this for
21 20 years and meet these standards," or for 10 years or
22 whatever. That is what a performance warranty standard

1 is as opposed to simply saying, "Here is a non-flushable
2 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.

19 Lillian, some of the areas of North Carolina

20 Coast came to mind as those kinds of areas where one

21 might be very concerned about the exchange rates.

22 Finally, to conduct research also to determine

1 the adequacy and effectiveness of no-discharge zones and
2 pump-out facilities. Do those really work, or are they
3 simply ignored in most cases? Discharge standards
4 should be reviewed based on the additional research.

5 We know we are 20 years behind knowledge now.
6 Let us fix them first and bring it up to current
7 knowledge, then continue research, and then periodically
8 update those standards as the research indicates.

9 If we could, go to the next slide, please.

10 (A Power Point slide presentation in progress.)

11 DR. SANDIFER: Air emissions, particularly
12 from large vessels, are a big deal. We suggest that the
13 Commission support the development of a much more
14 extensive air sampling program to monitor and
15 characterize ship air emissions, particularly in ports
16 located in problem air basins. This is not a problem
17 everywhere, but it is a considerable problem in some
18 areas.

19 The Commission should support and provide
20 incentives for industry to reduce air emissions, new
21 technologies such as different kinds of engines, gas
22 turbine engines, the use of low-sulfur fuels at least

1 conversion or utilization of those low-sulfur fuels when
2 they are in the areas of particular concern. Where
3 possible we should encourage the use of in-port power
4 grids, shore power grids, wherever that infrastructure
5 exists or could be made readily available.

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

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

19 unannounced inspections.

20 CRUISE SHIP POLLUTION

21 DR. SANDIFER: Move to cruise ships. Again,

22 let me reiterate to you that according to the cruise

1 ship statistics, the cruise ships themselves make up a
2 very small portion of total commercial vessels.

3 However, in certain areas, Florida and Alaska as cases
4 in point, they are a big deal, and some other
5 communities that are looking to attract cruise vessels.

6 They do bring huge numbers of people together
7 in a very, very compact environment on the water. We
8 are making a number of recommendations for your
9 consideration, first of all, to build upon the voluntary
10 industry initiatives to adopt industrywide waste
11 treatment practices, and to introduce new technologies
12 for treatment and reduction of waste: provide incentives
13 to encourage innovative approaches; complement those
14 voluntary programs with comprehensive regulatory regimes
15 which provide clear, uniform national requirements for
16 cruise ship waste management.

17 I will get to a specific in that regard in
18 just a moment. Also, provide for national enforcement

19 regime characterized by clear and consistent
20 interpretation of regulatory requirements; that is, we
21 are not looking for a state-to-state regulatory
22 requirement framework, but a true national framework

1 that says what they can and cannot do.

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

8 In Alaska, you not only have a state regime,
9 there is a federal law that appears to apply only to
10 Alaska with regard to discharge of cruise ship
11 blackwater and greywater, to use that as the basis for
12 developing the federal statutory regime that I mentioned
13 on the previous slide, and then put that in place with
14 an enforcement mechanism. Dealing with hazardous waste,
15 this is a variety of kinds of things including
16 photographic development, developing chemicals; dry-
17 cleaning chemicals; and all sorts of stuff of that

18 nature.

19 There should be a resolution of existing
20 ambiguities in the application of U.S. law to the
21 management and disposal of hazardous waste. We find
22 that there are some really interesting things. You can

1 put batteries ashore in one place, and you can't put
2 them ashore in another place. You have got to handle
3 them one way here, there and yonder. That needs to be
4 resolved where there is a straightforward regime that
5 really deals with the issue as opposed to having 14
6 different hoops that don't accomplish the job.

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

15 This is a particular concern for vessels that
16 are operating in areas with sensitive environments. For
17 example, islands, where there is little good capacity
18 for waste disposal, those waste disposal capacities have

19 to be developed appropriately. I think that covers
20 virtually everything that we have gone into without
21 belaboring the details. I will be pleased to try to
22 answer questions or it to somebody who really knows what

1 he is talking about.

2 MR. EHRMANN: Commissioner Borrone?

3 MRS. BORRONE: Thank you.

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

12 In other words, are we talking about the
13 Coast Guard for the federal bureaucracy to undertake the
14 responsibility to develop these new standards or these
15 new mechanisms, or are you in some instances as you talk
16 about some of these topics really focusing on the local
17 port or the state authority who might have waste
18 receiving responsibility or the responsibility for air

19 quality sampling or monitoring or some of the other

20 things that are talked about here?

21 I think we need to be very specific about who

22 we are talking about. I also think as you talk about

1 encouraging or requiring certain things, for instance,
2 "Encourage the in-port use of shore power grids," that
3 has been a topic of a lot of debate around ports in this
4 country between the Coast Guard and port community and
5 state and port community interests.

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

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

17 In the case of solid waste management, where
18 we talk about "providing incentives," we may be talking

19 about IRS issues that we have to really be thoughtful
20 about. If those are areas where we have the detail and
21 the backup, that is great; if we don't, I would really
22 encourage us to be more explicit.

1 DR. SANDIFER: Lillian, in the interest of
2 getting these things on slides, we have really gotten
3 telepathic, as you know. We have about 10 or 15 pages
4 of backup on these specific topics of vessel and cruise
5 ship pollution, and there is more that goes along with
6 it.

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

12 In some cases, it is even working with IMO on
13 MARPOL and other international agreements where those
14 are the appropriate mechanisms. We have got that in
15 here, and rather than belabor topics on which I am
16 woefully ignorant, if Malcolm or Bob would care to
17 respond to it, I would rather have them go into it in a
18 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

21 detail here. I just want to be sure that we have

22 packaged our thinking in a way so that it is clear to

1 the reader or the recipient audience so that they know
2 what we meant, and then we can all debate it.

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

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

18 MR. RASMUSON: I might say, Lillian, that

19 these cruise ships use the onshore power grids in Juneau
20 because every time a cruise ship came in there, a little
21 puff of black smoke, all of the greenies said, "Oh,"
22 like this (indicating). Finally, the cruise ship people

1 said, "Okay, we will just go to shore-based, another
2 \$3,000 an hour," or whatever it is. You know, that is
3 how they did it. No rhyme or reason, but they claimed
4 that it was a narrow area for it.

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

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

19 have dedicated holding tanks.

20 DR. ROSENBERG: I think that if they were
21 decked over after nineteen seventy-something or other,
22 they were required to, but they also have diversion

1 fittings so they can also pump overboard.

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

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

16 We did not talk at length about it, but
17 several years ago there was a federal program operated
18 through the Fish & Wildlife Service through boating

19 safety funds, voting infrastructure funds, grants that
20 went specifically for pump-out stations. We might want
21 to examine that history a little bit and see if there is
22 a recommendation to continue or improve the shoreside

1 infrastructure for pump-out facilities.

2 MR. RASMUSON: That is exactly right.

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

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

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

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

18 My suggestion is on the greywater/blackwater

19 two things are happening right now. All the new ships
20 have the latest equipment now, and a lot of the other
21 ships are getting that equipment on there. I think it
22 will be easier to try to pass this out into Florida.

1 The other problem is, though, it is
2 complicated. Where they have emissions it is because
3 the crew has not been trained properly or something has
4 happened, something mechanically broke down, and
5 somebody who is a passenger says, "Oh, look at all that
6 stuff out there," and sure enough it is. On a practical
7 basis, you have got to have proper teaching of all of
8 this. I just mention that as what we went through
9 anyway.

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

17 For example, I can point to some in our region
18 as well, in New York and New Jersey, where that has

19 really made a major difference where people went around
20 and did peer reviews, then did training programs to
21 bring people up to speed, and have ongoing monitoring
22 and enhancement.

1

2 MR. EHRMANN: Commissioner Coleman?

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

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

16 A large number of them are going out. They
17 just don't provide any burst anymore with two-stroke
18 engines that come in. You have to carry them to your

19 own home, because you can't even dock them in it. I
20 mean, there are all sorts of incentives like this. I
21 urge your staff to do that.

22 DR. SANDIFER: As I said, Jim, that is an area

1 I realized just sitting here we had overlooked because
2 we were looking at these larger vessel issues and not
3 boat issues, yet the outboard engines are a very, very
4 significant component of total oil and air emission.
5 That is something we have got good information on, and
6 we can pick it up and deal with it.

7 MR. EHRMANN: Dr. Hershman?

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

15 I just wonder whether that was considered by
16 the Committee or whether it is just a false rumor that I
17 heard that is one aspect of the industry that needs more
18 careful attention on pollution issues?

19 DR. SANDIFER: The short answer is I don't

20 know. Let's see if any staff knows.

21 MR. EHRMANN: Malcolm?

22 MR. WILLIAMS: (No microphone.) Just as with

1 the cruise lines, there are some industry initiatives,
2 there are some American waterway operators and others
3 that have standards that they are trying to meet, so
4 there are quite a lot of industry efforts to upgrade as
5 well as similar to what has been happening with the
6 cruise lines.

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

17 DR. HERSHMAN: Okay. Thank you.

18 MR. EHRMANN: Commissioner Kelly, did you have
19 a comment?

20 MR. KELLY: I think that staff can handle
21 this. I think if Captain Ross would like to give us
22 input, too, that is fine, but I don't want us to trip

1 over ourselves in the inspection process because when it
2 comes to vessel inspections we have different types of
3 inspections.

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

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

14 Thank you.

15 MR. EHRMANN: Good.

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

18 (No verbal response.)

19 MR. EHRMANN: A good discussion.

20 Malcolm and staff, any questions, comments,

21 needs?

22 THE STAFF: (Shaking heads)