

NATIONAL OIL SPILL COMMISSION MEETING
 CONDUCTED ON THURSDAY, DECEMBER 2, 2010

<p style="text-align: right;">1</p> <p>1 NATIONAL COMMISSION ON THE 2 BP DEEPWATER HORIZON OIL SPILL 3 AND OFFSHORE DRILLING 4 ----- x 5 SIXTH MEETING, DAY ONE) 6 Transcript of Proceedings) 7 ----- x 8 9 Thursday, December 2, 2010 10 Council on Foreign Relations 11 1777 F Street, NW 12 Washington, DC 13 9:00 a.m. 14 15 16 17 18 19 20 Job No.: 6682 21 Pages: 1 - 344 22 Reported by: Janet A. Hamilton, RDR</p>	<p style="text-align: right;">3</p> <p style="text-align: center;">C O N T E N T S</p> <p>1 Call to Order 4 2 3 Opening Remarks by Co-Chair Graham 6 4 Opening Remarks by Co-Chair Reilly 9 5 Staff Presentation: Safety Culture in the 17 6 Offshore Drilling Industry - Nancy Kete 7 and Richard Sears 8 Staff Presentation: Regulatory Oversight 102 9 Shirley Neff and Louise Milkman 148 10 Staff Presentation: Environmental Review 182 11 Staff Presentation: Drilling in the Arctic 233 12 Jessica O'Neill and Kate Clark 13 Staff Presentation: Oil Spill Response 282 14 Priya Aiyar and David Weiss 15 Public Comments 16 John Amos - SkyTruth 327 17 Sebastian O'Kelly - Alaska SeaLife Center 329 18 Nancy Sopko - Oceana 332 19 Paul Harrison - EDF 335 20 Jenny Kordick - Sierra Club 339 21 22</p>
<p style="text-align: right;">2</p> <p>1 National Oil Spill Commission meeting held 2 before: 3 4 5 SENATOR BOB GRAHAM, CO-CHAIR 6 WILLIAM K. REILLY, CO-CHAIR 7 FRANCES G. BEINECKE, MEMBER 8 DONALD BOESCH, MEMBER 9 TERRY D. GARCIA, MEMBER 10 CHERRY A. MURRAY, MEMBER 11 FRANCES ULMER, MEMBER 12 and 13 CHRIS SMITH, Designated Federal 14 Official 15 16 17 18 19 Pursuant to Notice, before Janet A. Hamilton, 20 Registered Diplomat Reporter and Notary Public in and 21 for the District of Columbia. 22</p>	<p style="text-align: right;">4</p> <p style="text-align: center;">P R O C E E D I N G S</p> <p>1 ----- 2 3 MR. SMITH: Good morning, commissioners, and 4 good morning to everybody who is participating by live 5 video feed. Welcome to this, the sixth meeting of the 6 National Commission on the BP Deepwater Horizon Oil 7 Spill and Offshore Drilling, and I hereby call this 8 meeting to order. 9 My name is Chris Smith, and I'm the 10 designated federal official for the Commission. I also 11 serve as the Deputy Assistant Secretary for Oil and 12 Natural Gas at the US Department of Energy. 13 The President established this bipartisan 14 Commission to examine the root causes of the BP 15 Deepwater Horizon oil disaster and provide 16 recommendations on how we can prevent future accidents 17 offshore and mitigate their impact should they occur. 18 The Commission is led by the former Senator 19 Bob Graham of the State of Florida and by the Honorable 20 William Reilly who led the Environmental Protection 21 Agency under President George H. W. Bush. The 22 Commission is rounded out with five other distinguished</p>

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<p style="text-align: right;">5</p> <p>1 Americans who were selected because of their extensive 2 scientific legal, engineering and environmental 3 expertise and their knowledge of issues pertaining to 4 offshore operations. They include Frances Beinecke, 5 the president of the Natural Resources Defense Council; 6 Dr. Donald Boesch, president of the University of 7 Maryland Center for Environmental Science; Terry 8 Garcia, executive vice president at the National 9 Geographic Society; Dr. Cherry Murray, Dean of the 10 Harvard School of Engineering and Applied Sciences and 11 Fran Ulmer, chancellor of the University of Alaska at 12 Anchorage.</p> <p>13 This Commission is conducting its work in 14 compliance with the Federal Advisory Committee Act 15 which sets a high standard for openness and 16 transparency, and as such, today's hearing is being 17 held in this public forum and being broadcast live via 18 video feed. Today's meeting is a deliberative session 19 in which we'll hear presentations from the Commission 20 staff and deliberations from the commissioners.</p> <p>21 In the morning we'll be covering safety 22 culture in the offshore drilling industry and</p>	<p style="text-align: right;">7</p> <p>1 facts that I believe we have uncovered.</p> <p>2 One, our investigation has determined that 3 there are fundamental weaknesses in the US government's 4 regulatory approach. Most Americans would be surprised 5 and disappointed as I was to learn that America lags 6 behind other countries in how we regulate and oversee 7 oil and gas exploration and production. This fact 8 points towards the need for alternative strategies such 9 as a commitment to safety procedures as a condition of 10 drilling on seabeds which belong to the people of 11 America.</p> <p>12 Two, the oil and gas industry at large has 13 an obligation to respond. It is not enough in my view 14 to lay the blame solely on a few rogue companies. The 15 companies involved in this disaster are major players 16 in the Gulf, and the contractors are used throughout 17 the world. At last month's hearing I was very 18 impressed with the CEO of Exxon Mobil and Shell and 19 their demonstrated commitment to industry-wide safety. 20 They must continue as strong advocates for new and more 21 effective industry-wide regimes which compliment 22 effective federal government regulation and execution</p>
<p style="text-align: right;">6</p> <p>1 regulatory oversight. We'll break for lunch at 12:30, 2 and at 1:30 we'll reconvene with discussions on 3 environmental review, drilling in the Arctic and oil 4 spill response. We'll conclude with public comments 5 from 4:30 to 5:00. Any member of the public who wishes 6 to submit a written comment to the Commission may do so 7 via the web site which is www.oilspillcommission.gov. 8 Again, that's www.oilspillcommission.gov, and at this 9 point I'd like to hand it forward to our two 10 co-chairmen, Senator Bob Graham and the Honorable 11 William Reilly.</p> <p>12 CO-CHAIR GRAHAM: Thank you, Chris, and thank 13 you to you and your colleagues for the excellent 14 support that you have given to this Commission. We are 15 very appreciative.</p> <p>16 The oil and gas off our shores is an 17 American asset. The American government is not just 18 the regulator of offshore oil. It is also the steward 19 for the American people of this asset. In a real sense 20 we are the landlord and have an obligation to respond 21 when the public trust has been abused. President John 22 Adams said, "Facts are a hard thing." There are some</p>	<p style="text-align: right;">8</p> <p>1 of lease conditions.</p> <p>2 Three, America's current energy nonpolicy is 3 unsustainable. With minimal awareness and virtually no 4 considered debate we have positioned ourselves as the 5 user of 22 percent of the world's petroleum while we 6 control only three percent of known reserves under 7 America's lands and waters. This Commission has an 8 opportunity to speak to this radical imbalance which 9 threatens our national security.</p> <p>10 Last month the head of our investigative 11 team, Mr. Fred Bartlit, put it well when he said a 12 hundred years from now we want the world to say they 13 changed the safety regime in offshore drilling. This 14 is a worthy aspiration with one significant exception. 15 The world should say this in 2011, not in 2110. As a 16 nation we have the opportunity to make this change. We 17 have a chance to learn the lessons from this disaster 18 in a way that our oil and gas industry is stronger, our 19 workers safer, our environment healthier and our 20 national security more secure.</p> <p>21 Finally, I would like to note that I am very 22 impressed with what we have been able to accomplish</p>

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<p style="text-align: right;">9</p> <p>1 without subpoena power. I remain mystified as to why a 2 few Senators decided to deny this Commission this power 3 when subpoena power has been granted as almost an 4 absolute for congressional commissions which have 5 analogous responsibilities to ours. The lack of 6 subpoena power has made our Commission's work more 7 difficult. Our success is a testament both to the 8 determination and skill of our team and to the plain 9 fact that the problems of and inefficiencies with the 10 current safety regime are so egregious.</p> <p>11 Over the next two years we will discuss our 12 findings and how we propose to translate them into 13 reforms that are worthy of our great nation. Thank 14 you.</p> <p>15 CO-CHAIR REILLY: Good morning. Today marks 16 the conclusionary phase, the last time that this 17 Commission together will deliberate in public on our 18 responsibilities, and we will consider in the course of 19 the day the recommendations that the staff's work has 20 presented to us and will advocate to us. I want to say 21 that this is as good a staff as I have ever worked 22 with. I think it's a tremendous tribute to the</p>	<p style="text-align: right;">11</p> <p>1 Three major companies, as Senator Graham 2 just observed, were heavily involved in the decisions 3 that are most questionable that were made on the 4 Macondo rig, and this perception in some quarters of 5 the oil and gas industry that Macondo was the 6 consequence of one company's bad decisions simply 7 doesn't stand.</p> <p>8 Our investigative team concluded that three 9 major companies were fully implicated in the 10 catastrophe, and our staff further reported that other 11 companies had no effective containment preparations and 12 laughable response plans that promised to look out for 13 any polar bears or walrus that happened on to the 14 scene.</p> <p>15 The poor state of containment and response 16 plans and capability in the Gulf of Mexico is 17 indisputable evidence of a widespread lack of serious 18 preparation, of planning, of management. That culture 19 must change. It must change for so many reasons for 20 the good of all of us. It must change, among other 21 reasons, for the good of the oil and gas industry. 22 Reflect for a moment on this. A recent</p>
<p style="text-align: right;">10</p> <p>1 executive director Richard Lazarus and to the other 2 members of this extraordinary team that they have 3 displayed the energy, the creativity, the 4 resourcefulness and the investigative congeniality 5 which marks their best work.</p> <p>6 The fact that we are as prepared as we are 7 after just four or so months of work by the Commission 8 is a great tribute more than to anyone else I think to 9 the staff itself.</p> <p>10 Today we'll have staff presentations and 11 then deliberate on the safety culture, on regulatory 12 oversight, on environmental review, on drilling in the 13 Arctic and on oil spill response. I am struck myself 14 by the evolution in my own thinking in the course of 15 the time that I have spent serving on this Commission. 16 I came into it persuaded, as I think most people in the 17 oil and gas industry may still be persuaded, that this 18 was a case of a company with at least a five-year 19 history of severe safety challenges and misbehavior and 20 that we were dealing with essentially a rogue company. 21 I think it has been conclusively and indisputably 22 established that we have a bigger problem than that.</p>	<p style="text-align: right;">12</p> <p>1 Commission paper noted there was a point in the 2 management of this crisis when industry experts feared 3 the entire 120 million barrel reservoir might seep 4 through the ocean floor and wreak total havoc. I would 5 ask you to take a moment to reflect on this. What 6 would we be talking about today if the well couldn't be 7 capped? If it was still pumping 60,000 barrels a day 8 into the Gulf, if the shores of Gulf Resorts in 9 Mississippi, Alabama and Florida had been smothered 10 with oil and if the videos were still being shown 24/7 11 on every cable network and news website around the 12 world, I can assure you we wouldn't be here debating 13 how long it will take to jump start the permitting 14 process in the Gulf or the Arctic. We'd be having an 15 existential conversation about whether offshore 16 drilling should ever be permitted in US coastal waters 17 again.</p> <p>18 Even the companies with fine safety and 19 environmental management systems, and we have heard 20 from them and we have studied and come to admire those 21 systems, these companies that were not implicated in 22 the Macondo explosion themselves nevertheless found</p>

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<p style="text-align: right;">13</p> <p>1 themselves shut down in the Gulf because of other 2 companies' mismanagement because of decisions over 3 which they had no control. The failure of three 4 companies on one rig ended up shutting down 33, and 5 that was a risk that even the best risk management 6 systems did not anticipate and did not control.</p> <p>7 So let me say as emphatically as I can the 8 oil and gas industry needs to embrace a new safety 9 culture. The series of decisions that doomed Macondo 10 evidenced a failure of management, and good management 11 could have avoided the catastrophe.</p> <p>12 A new safety culture is important. It is 13 not enough. Drilling for oil in deep water is risky, 14 but so is flying or operating submarines and nuclear 15 reactors. The systems and the industry safety -- the 16 systems represented in an industry safety institute 17 particularly of the sort that the nuclear industry has 18 developed, the Institute For Nuclear Power Operations, 19 particularly offer useful lessons on how to ensure 20 management that is judged and incentive to implement 21 best practices and called out when it doesn't.</p> <p>22 Commission staff have identified a whole</p>	<p style="text-align: right;">15</p> <p>1 and it took in a lot of money, billions annually. The 2 money from oil and gas leases should be more than 3 sufficient to finance the agency reformation that is 4 needed. Secretary Salazar has recognized the need to 5 separate leasing and revenue generation from 6 environmental and safety regulation.</p> <p>7 We will consider today whether to recommend 8 that he go further and construct an impenetrable wall 9 with environmental and safety regulators insulated from 10 those who auction and lease and manage the money those 11 activities generate. That is what other countries have 12 done, UK and Norway most recently after their own 13 disasters.</p> <p>14 A word about the proposals we are 15 considering. We meet at a time of national 16 preoccupation with reducing federal expenditures. We 17 are sensitive to the realities of the country's fiscal 18 precariousness. Neither a safety case nor a safety 19 institute need entail federal appropriations or even 20 congressional action, and the improvements in the 21 Interior Department's regulatory capability are we 22 believe relatively modest, and failure to upgrade the</p>
<p style="text-align: right;">14</p> <p>1 range of issues to which we must respond. I think that 2 the self-interest of the oil and gas industry that 3 considers it does have superior systems of safety and 4 management lies in the reassurance that they could 5 obtain with a safety institute the reassurance that the 6 laggards in accident-prone companies can be brought up 7 to a higher standard by their peers. That is the 8 history of other industries which have confronted 9 serious catastrophes.</p> <p>10 Well, the essential foundation of good risk 11 management is high quality, no-nonsense regulation. 12 Staff presentations and staff investigations have made 13 clear, as have other investigations, that federal 14 regulators and inspectors have failed utterly to keep 15 abreast of the profoundly sophisticated technologies 16 involved in deep water exploration and development.</p> <p>17 To protect the public interest the Interior 18 Department will require more funds, more inspectors, 19 more engineers, more professionals who know the oil and 20 gas industry and are the equal of the industry 21 personnel they regulate. It is widely acknowledged 22 that the generation of revenue has driven the old MMS,</p>	<p style="text-align: right;">16</p> <p>1 quality of federal regulation would be a national 2 scandal.</p> <p>3 As both the CEOs of Exxon Mobil and of Shell 4 have observed, industry requires a competent regulator. 5 I call on the industry to support in congress the 6 increase in resources BOEMRE so badly needs to become 7 competent.</p> <p>8 Oil is a strategic resource and is important 9 to the security and the economy of the United States. 10 My own experience with the industry leaves no doubt 11 about the industry's technological savvy and its 12 ability to manage risks and to fuel the economy. We 13 are not dealing here with a sick or failing or 14 unsuccessful industry but with a complacent one. The 15 industry created Marine Well Containment Corporation as 16 an important industry commitment that addresses 17 shortfalls in containment. We need more such 18 initiatives.</p> <p>19 So we will now hear presentations about the 20 shape that some of these initiatives might take and the 21 recommendations that the Commission will consider. And 22 we will begin with Nancy Kete. Welcome.</p>

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<p style="text-align: right;">17</p> <p>1 MS. KETE: Thank you. Good morning, 2 co-chairs, commissioners and colleagues. Over the next 3 two days you will receive many staff recommendations 4 for improvements the government can make in its 5 oversight of safety and environmental protection of the 6 resources affected by oil and gas activities, but in 7 this first panel we're going to focus on the front 8 line: On industry itself, the companies who invest and 9 explore, use energy resources to meet the demands of 10 American consumers.</p> <p>11 These activities take place on public lands 12 and in public waters and, frankly, as we've been 13 talking about, industry needs to do a better job 14 protecting lives and livelihoods when they undertake 15 these activities. To look ahead to the end of this 16 session, we're going to end with recommendations that 17 you, the commissioners, challenge the oil and gas 18 industry to up its game, to help each other and to hold 19 each other accountable for accident prevention and 20 preparedness to respond to and contain accidents that 21 do happen, because as Macondo demonstrated and as we'll 22 show in the course of the presentation it wasn't just</p>	<p style="text-align: right;">19</p> <p>1 important because it's how these organizations 2 functioned at Macondo, how they carried out their work, 3 how they undertook operations that ultimately mattered, 4 and it's where when I finish with this short story of 5 kind of getting under the skin of that and looking at 6 it and developing it a little bit, Nancy is going to 7 talk about how the industry might do this differently 8 and might do it better in the future.</p> <p>9 Now, you've seen these seven conclusions. 10 We're not going to go through them again, but they can 11 be summed up very simply, and Commissioner Reilly, you 12 basically said this in your introduction, that this 13 investigative team found that mistakes and oversights 14 led directly to the blowout, and they were the result 15 of management failures by three companies: BP, 16 Halliburton and Transocean at Macondo.</p> <p>17 It's a very clear statement, very important 18 statement, and there's no mincing words about it, but 19 we need to examine it a little more closely to 20 understand really what it means to think about how we 21 move forward, and I'll start here. Offshore deep 22 water, offshore exploration particularly, it's a very</p>
<p style="text-align: right;">18</p> <p>1 Macondo. They're not up to the task. They're not 2 prepared for the task, and this could happen again if 3 they don't change their culture and change their 4 preparedness for another accident.</p> <p>5 But before we get to the recommendations my 6 colleague Rich Sears is going to start us off. Rich, 7 as you know, is the senior science advisor to the 8 Commission, and he's going to start us off with the 9 first part where we recognize that Macondo was an 10 avoidable accident.</p> <p>11 MR. SEARS: Thank you, Nancy. I want to take 12 us through the first part of this agenda and look 13 specifically at the accident, and in doing that I'm 14 going to go back to where we've pretty much left off in 15 November, and it was with this slide where we 16 summarized seven what we call managerial conclusions, 17 conclusions that we come to from the investigation 18 looking at how the work was done at Macondo. Much of 19 what we said in the November hearing in terms of the 20 accident investigation was about the what: What they 21 did, what they didn't do, what they could have done. 22 And then we closed with the how, and the how is very</p>	<p style="text-align: right;">20</p> <p>1 complex business, and it's a very complex business that 2 carries with it risk, inherent risks in operating in 3 deep water far offshore remote locations, and these 4 risks have to be managed. They have to be managed very 5 carefully.</p> <p>6 When you're out on one of these facilities, 7 you really have two things at your disposal to manage 8 these risks. You have the people. You have the people 9 with their experience, their training, their knowledge, 10 their instincts, and you have processes, processes that 11 support those people that allow them to do their job, 12 to function in complex environments and to think beyond 13 the task at hand, and it's the people and the processes 14 together that make the system work and make the system 15 work safely, and what we found in terms of the risk 16 awareness and risk management at Macondo was that BP in 17 particular had, their management systems that were on 18 display as we've looked at the Macondo incident, did 19 not ensure that the team was able to identify and 20 properly evaluate the risks that they were even 21 creating with their own decisions. They were not able 22 to look at the risks holistically and evaluate them in</p>

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<p style="text-align: right;">21</p> <p>1 the context of a complex system, and very specifically 2 and a result of this there were a lot of changes made 3 to the well plan, to the well program and operations 4 that we described in November, changes in the last 5 month of operations prior to the blowout, and these 6 changes themselves created risks that were not and 7 could not be adequately addressed by the Macondo team. 8 So it's a very, very critical conclusion that we came 9 to.</p> <p>10 Even if you have the risks clearly 11 identified, you have to make good decisions about these 12 risks. You have to have them before you in a framework 13 that allows you to consider them properly, and as I 14 said earlier, holistically and in the context of a 15 complex system, and it appears from our investigation 16 that there were many key decisions made by the Macondo 17 team, and when I say the Macondo team, I'm speaking of 18 a very extended team that included people on the rig 19 from many companies, people in offices in many 20 companies, that key decisions were made by the Macondo 21 team without formal risk analysis and sometimes without 22 internal expert review, and at Macondo there were</p>	<p style="text-align: right;">23</p> <p>1 it's a very large industry, a lot of activity, a lot of 2 competent players, and even the companies' best 3 practices: BP, Halliburton, Transocean. In some cases 4 we found that these best practices in regard to some of 5 these tests didn't even exist and weren't well spelled 6 out for the people to act on.</p> <p>7 So this lays the foundation of not just poor 8 risk awareness but of poor decision making around the 9 data they had, and at the heart of poor decision making 10 comes communication, and here, you know, communications 11 is real important. I'm going to say in this world of 12 deep offshore operations there's very little that goes 13 on on these platforms, on these rigs, that is a 14 spectator sport. This is not about sending e-mails and 15 sitting back and waiting for a response. This is about 16 engaged communication, two-way sharing of information, 17 and this is one of the, for me at least, having been in 18 this industry for several decades, it's actually one of 19 the troubling things about our conclusions is what we 20 found is there are ways of communicating around these 21 operations between operator and contractor and between 22 contractors themselves where information is partitioned</p>
<p style="text-align: right;">22</p> <p>1 several key decisions that in one case or another 2 addressed one risk, tried to minimize the risks 3 associated with one aspect of the decision without 4 realizing that in other ways they may have and in some 5 cases did increase the overall risk profile of the 6 operation they were undertaking.</p> <p>7 In other cases they failed to take full 8 advantage of shore-based expertise. There were not 9 necessarily processes in place that encouraged them to 10 call home for help and rely on very experienced people 11 outside of the rush of the business to help them make 12 complex decisions.</p> <p>13 In many cases they showed an over-reliance 14 on individual preferences and experience that we found 15 in the documentary evidence, comments like, Well, I've 16 seen this before and, to explain a very complex set of 17 data around the negative pressure test, or I have 18 always done it this way so, to explain how, again, a 19 complex test is done. And when you fall into that 20 trap, it gets to the last bullet here that you really 21 are putting aside the guidance that's available from 22 established best practices, industry best practices,</p>	<p style="text-align: right;">24</p> <p>1 and shared selectively, sometimes all for good reason, 2 at least thought to be for good reason on the day, it's 3 highly competitive information or it's not deemed to be 4 necessary or it's not their responsibility to make the 5 decision, but when information in this complex 6 environment is partitioned like that, you run the risk 7 that the people that could be involved, that should be 8 involved that could add to the deliberations and the 9 decision making are not involved, and the decision 10 making is consequently not as good as it should be. 11 And what we found, indeed, in many cases is that BP, 12 Transocean, Halliburton failed to communicate 13 adequately internally amongst themselves. Within the 14 individual companies they were not always sharing 15 information, calling in experts, engaging, and they 16 certainly, there are many instances where they did not 17 share information from operator to contractor, and 18 certainly between contractors information was not being 19 shared, and as a result individuals were making very 20 important decisions about the operations, about the 21 safety of what was happening on the rig. They're 22 making these decisions without fully appreciating the</p>

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<p style="text-align: right;">25</p> <p>1 context in which they were being made or even the 2 importance of a particular decision.</p> <p>3 Now, I want to quickly go down a level and 4 look at an example, and cement is actually a good place 5 to look in the business of this deepwater well and 6 particularly cementing the production casing. The 7 reason we chose cementing is because it's a number of 8 operations that extended over a period of time, and in 9 fact they're operations that involve all of the, all 10 of, many of the companies at least out on the rig and 11 certainly involved the three players, BP, Halliburton 12 and Transocean.</p> <p>13 And when we look at the cement testing, this 14 was testing of the cement slurry and components 15 themselves prior to that cement being pumped into the 16 well, what we found is that management processes in 17 place at Halliburton and BP did not ensure that the 18 cement was adequately tested before it was pumped into 19 that well. Halliburton didn't have the controls in 20 place to initiate testing soon enough and did not have 21 the controls in place to make sure that the test 22 results were properly communicated to the operator BP</p>	<p style="text-align: right;">27</p> <p>1 about in November, the difficult pressure environment 2 at the bottom of the well. But in doing this they did 3 not necessarily communicate all of these issues with 4 each other. They again selectively shared information 5 and certainly did not share a lot of this information 6 with the rig crew. The rig crew who had some 7 responsibility for monitoring the safety of this well 8 and being aware of the state of the well didn't even 9 know some key information about the cement job, that it 10 was a key component of the state of this well, and the 11 well-site leaders and Transocean crew didn't consult, 12 we could find no evidence that they consulted on shore 13 experts about the interpretation of very confusing data 14 from a very complex series of negative pressure tests, 15 and as a result they were making decisions and, again, 16 communication, poor communications were at the center 17 of it, and we do believe that had this been done 18 differently, had the conversation on the rig about, for 19 example, the negative pressure test been instead of, 20 instead of being, Well, I've seen this before and, if 21 instead the conversation would have started with, Well, 22 look, you've got high pressure hydrocarbons at 18,000</p>
<p style="text-align: right;">26</p> <p>1 who was ultimately responsible for what was happening.</p> <p>2 In some cases, in one case in particular, it 3 appeared to us, appears to us that the test was 4 undertaken so late that the test results were not even 5 available to Halliburton prior to the pumping of the 6 cement.</p> <p>7 This is important, and it's even more 8 important that BP personnel having engaged in e-mail 9 dialogue prior to this about the importance of this 10 cement job, the cementing of the production casing, 11 that they authorized the pumping of the cement without 12 actually knowing whether this test data had been 13 received, without reviewing it, without rigorously 14 vetting it, and we could not find that there was an 15 engaged conversation discussion between the players 16 about it. And so, again, it's failures of management 17 certainly about this particular area.</p> <p>18 And then after the cement was pumped they 19 continued in really poor communication. BP, 20 Halliburton employees had had many discussions about 21 the complexities of this cement job, the fact that it 22 was a very low-volume cement, all the things we talked</p>	<p style="text-align: right;">28</p> <p>1 feet, something like 13,000 psi, we have a very 2 difficult cement job we just pumped, we've had lost 3 circulation, we had difficulty converting the floats, 4 we had a long list of things that we discussed in 5 detail in November; had that conversation occurred, we 6 believe that the Macondo blowout could have been 7 prevented. A very different kind of conversation on 8 the rig at the time could have prevented this incident.</p> <p>9 So when you come back to decision making, 10 the bottom line is you can't leave it to chance. You 11 can't hope that the right conversation happens at the 12 right time with the right people. Again, you have to 13 have processes in place that allow these people to come 14 together that encourage and in fact insist that these 15 people come together to consider the complexity of what 16 they're undertaking, and given the risks in the 17 deepwater drilling companies have to create these 18 processes and policies. They have to enforce them.</p> <p>19 This has to be the way the business is done, and if 20 they don't do this, the risk is that the time pressures 21 that are inherent in these big expensive operations are 22 going to bias decisions in favor of efficiency and time</p>

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<p style="text-align: right;">29</p> <p>1 and cost savings, and it's just a very natural outcome 2 of not looking at it clearly and systematically, and we 3 found that BP did not have these policies or systems in 4 place, or if they did, they weren't applied in the 5 Macondo case; they weren't used; they weren't enforced; 6 and there's not evidence across the board that there 7 was good systemic thinking about what they were doing. 8 Now, we talked, in this context we talked 9 briefly in November about a number of decisions that 10 had been made which ultimately did result in time 11 savings on the rig, and reference was made to a chart 12 that was made very much at the last minute. It was 13 still a work in progress at the time of the November 14 hearing. This is that chart. This is a preliminary 15 version of that chart. We're actually working on it 16 now to improve it. We found there are errors on it in 17 the sense that it certainly could be made clearer and 18 more complete, and an updated version of this chart's 19 going to be available very shortly which we'll share 20 with the Commission, but when we look at this chart, on 21 the left-hand column under decision these are again the 22 things we talked about in the November hearing about</p>	<p style="text-align: right;">31</p> <p>1 So when we sum all of this up, we have, 2 which frankly for me is a very disturbing conclusion: 3 That better management systems at Macondo by these 4 three companies certainly would have prevented this 5 blowout by improving the ability of the people on this 6 rig to identify the risks that they faced, to manage 7 them, communicate them and address them properly. 8 This is a very difficult thing for me to 9 say, frankly. I've worked in this industry for more 10 than three decades. I was one of these managers, and 11 to think that these three companies screwed up like 12 this bothers me, but it is, it is the conclusion of our 13 work that we found, and it's from here that I'm going 14 to hand it back to Nancy who's going to talk about what 15 this means in the context of trying to create a proper 16 safety system and try to build an environment where 17 this work can be done better. 18 CO-CHAIR REILLY: Thank you. 19 MS. KETE: Any very brief questions or 20 comments from Rich now before we go into the next part? 21 MR. BOESCH: Rich, in this summary table, 22 chart, the negative pressure test isn't specifically</p>
<p style="text-align: right;">30</p> <p>1 centralizers, about the cement job, about various tests 2 that were done or were not done, and many decisions 3 made about these, and in particular decisions that were 4 taken turned out to be riskier than alternative 5 decisions and in most cases saved time during the 6 operation. 7 CO-CHAIR REILLY: The updated chart does not 8 I would assume take away from the conclusions that are 9 drawn in those columns? 10 MR. SEARS: No. The updated chart is being 11 updated for completeness and clarity mostly. There's a 12 little bit of redundancy on this chart, and there are 13 things that we think just plain could be worded better, 14 but the conclusion is the same, and the conclusion is 15 important. Many decisions taken on the rig one at a 16 time turned out to add risk to the whole operation. 17 The result of that decision there was some time saving 18 involved. Whether that was a primary driver or not is 19 not the point, but in the end, if you look at the 20 right-hand column, all of these companies were involved 21 either as the primary decision maker or involved in the 22 decision making process.</p>	<p style="text-align: right;">32</p> <p>1 listed. 2 MR. SEARS: It's not, and again, as I said, 3 this is a preliminary chart, and that's -- in the 4 revised version we have added the negative pressure 5 test. Thanks for asking about that, because again, in 6 the negative -- it's all complex because the negative 7 pressure test wasn't necessarily carried out swiftly. 8 It was debated over a six-hour period, but at the end 9 of the day they chose to move on, and there could have 10 been more debate, extensive debate and thinking about 11 what is actually, what is exactly happening here, and 12 other ways, maybe this negative -- for example, maybe 13 this negative pressure test didn't actually confirm 14 that the cement is good. How could we, what could we 15 do to further evaluate the quality of the cement job? 16 That is a decision that could have been taken, and it 17 certainly would have added time to the whole process. 18 It was a decision that was not made. 19 CO-CHAIR REILLY: Dr. Boesch misses nothing. 20 MR. SEARS: Thank you for asking. 21 MS. KETE: Okay. So we've just talked about 22 sort of what we've gotten out of our own investigation</p>

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<p style="text-align: right;">33</p> <p>1 of what happened at Macondo, and at the same time we've 2 been trying to look at the context of that. What do we 3 know about investigations of previous accidents or 4 investigations or looks at the three, first of all, at 5 the three companies that were involved at Macondo, and 6 this is a slide that shows that BP which is one of the 7 world's largest integrated oil companies and it's the 8 largest company in the Gulf of Mexico deep water, it 9 has a history of cost cutting and resulting problems 10 associated with that across all its business segments 11 over many years, and this suggests to us systemic 12 corporate culture issues.</p> <p>13 So going back just to 2000, there were, at 14 the Grangemouth Refinery complex there were incidents 15 that I'm going to show you about in a minute that 16 turned out to be very similar to Texas City Refinery, 17 but in between that they had problems at a production 18 platform in the Gulf of Mexico called the Forties 19 Alpha, and then after Texas City Refinery they had 20 problems with their Thunder Horse Platform which was 21 related to poor materials. It was an engineering 22 problem, and then just after Texas City which is the</p>	<p style="text-align: right;">35</p> <p>1 stress here I want to point out is that they found that 2 it was weaknesses in the safety management system that 3 over a period of time contributed to the succession of 4 events that resulted in the failure. That was about 5 one particular event, but then they reached virtually 6 the same conclusions about the other two events, and 7 these all happened over the course of about a month.</p> <p>8 And then in investigating the Texas City 9 Refinery explosion the US Chemical Safety Board found 10 that at Texas City the tragedy was an accident with 11 organizational causes embedded in the refinery's 12 culture. Certainly the Chemical Safety Board looked at 13 all the technical causes of the accident. I'm pulling 14 out the comments that speak to management culture and 15 organizational causes. And they went on to find that 16 these organizational causes linked the numerous safety 17 system failures that extended beyond the unit that had 18 trouble, and I'm imagining you're hearing an echo of 19 what Rich just told you is these combinations of 20 problems that link up within this failure as a failure 21 of a safety system.</p> <p>22 As you all probably recall, BP itself</p>
<p style="text-align: right;">34</p> <p>1 most famous problem that BP had in the United States 2 they discovered really serious problems with the 3 pipeline in Prudhoe Bay up in Alaska.</p> <p>4 We've been talking about the Deepwater 5 Horizon which overshadowed the fact that they had 6 chemical leaks, exposures, serious exposures at the 7 fence line at Texas City Refinery again this summer, 8 and then there's just been reporting from their own 9 self-investigation about really serious problems with 10 their pipelines across Alaska.</p> <p>11 So all this adds up to give us the 12 impression that the safety lapses do appear to be 13 chronic with BP, and it's about system safety 14 engineering and safety culture and that company still 15 needing improvement even though they're making a lot of 16 effort to improve it and they're investing a lot to 17 improve it.</p> <p>18 So just to blow up a couple of these, and 19 these are taken from previous accident investigations 20 like our own, the UK Health and Safety Executive looked 21 at the -- there were a series of three incidents at the 22 Grangemouth Complex Refinery and chemicals, and the</p>	<p style="text-align: right;">36</p> <p>1 commissioned a panel to look at what went wrong and how 2 they can change it after Texas City, and this Baker 3 Panel as it's called noted similarities between 4 Grangemouth which is in the UK and the Texas City blast 5 including the lack of management, leadership and 6 accountability, and just to highlight, the poor 7 understanding of and a lack of focus on process safety, 8 and the panel concluded that in its response to 9 Grangemouth BP missed an opportunity to make and 10 sustain company-wide changes that would have resulted 11 in safer work places, and I want to highlight here that 12 I think a failure, well, that the -- whoops, sorry.</p> <p>13 I'm ahead of myself -- that I think it's important for 14 us and for everybody who's paying attention to this 15 accident to make sure that the lessons of Deepwater 16 Horizon are learned across the whole industry.</p> <p>17 CO-CHAIR GRAHAM: Nancy, can I ask a 18 question --</p> <p>19 MS. KETE: Of course.</p> <p>20 CO-CHAIR GRAHAM: -- before we leave BP. You 21 said that you thought that BP had instituted some 22 practices now that would improve the situation. I</p>

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<p style="text-align: right;">37</p> <p>1 notice the last sentence in the Baker Panel item is 2 untimely completion of corrective actions from audits, 3 peer reviews and past incidents investigation. What is 4 our evaluation that leads to the conclusion that they 5 have made significant improvement? 6 MS. KETE: They have sent us a summary of 7 what, how they're handling safety improvements, and we 8 -- for example, after Texas City one of the 9 recommendations was that they have an independent 10 evaluation of their safety management systems, and they 11 did hire this independent, I think it's called an 12 independent investigator or independent evaluator who's 13 preparing annual or biannual reports, and in reviewing 14 one of those reports we found that they're making 15 progress in a number of areas, and they're not making 16 progress in other areas. So I think it would be unfair 17 to the company to say that they are not paying 18 attention and that they're not trying, but I also think 19 it's fair to take a look at Macondo and to say, to 20 conclude that they just haven't gotten there. They 21 haven't been able to completely reform and come up with 22 a new safety culture that would have avoided, that they</p>	<p style="text-align: right;">39</p> <p>1 continue to let something go forward when you're not 2 absolutely sure that you're providing the best? 3 And there was a large explosion on a rig off 4 the northern coast of Australia in August of 2009, and 5 the accident inquiry just officially came out last 6 week, and it confirmed that cementing problems led to 7 the blowout, and the specific problems were different 8 at Montara than they were at Macondo, but in both cases 9 management processes by the operator who holds ultimate 10 responsibility and Halliburton failed to ensure that 11 the crew achieved a good cementing job. 12 And then we have Transocean which is the 13 world's largest deepwater driller, and they have their 14 own safety culture problems. In February of this year 15 the UK Health and Safety Executive accused the 16 company's offshore managers of bullying, aggression, 17 harassment, humiliation and intimidation towards their 18 staff, I have to add, according to one of the industry 19 trade journals that had seen a copy of the report. And 20 also in response to a series of serious accidents and 21 near hits within the Transocean global organization the 22 company contracted Lloyd's Register to review its</p>
<p style="text-align: right;">38</p> <p>1 weren't able to avoid Deepwater Horizon. So they have 2 an operation management system which I think they would 3 like to be like Exxon Mobil's operation, I think, 4 operational integrity management system that Mr. 5 Tillerson told us about at the last hearing. I'm not 6 in a position to say if it's good enough or how 7 comparable it is, but they've invested in a number of 8 efforts in light of the Texas City blast and the 9 recommendations that came from it. 10 So then just some things that we've learned 11 about Halliburton which is the world's largest cementer 12 in the oil field cementing business, and it's a 13 significant part of Halliburton's total global 14 business, and the comment I have here is that for all 15 of its experience they prepared cement for BP which is 16 one of its largest clients that repeatedly failed 17 laboratory tests, and then the Halliburton managers on 18 shore let its own team, Transocean and BP continue with 19 the cement job without timely and positive stability 20 results, and it begs the question for me is if you have 21 all this experience and you're the largest in the 22 field, how do you -- how does that happen? How do you</p>	<p style="text-align: right;">40</p> <p>1 safety management and its safety culture, and of the 2 four North American rigs that Lloyd's visited the 3 Deepwater Horizon had the highest scores. They were 4 really in the middle of a five point scale; twos and 5 threes; and then on the next page I'm going to show you 6 that of the comments that Lloyd's collected on hazards 7 identification, on the risks and how the crews managed 8 them looked really strikingly similar to what our 9 investigators found at Macondo. 10 So these are quotes coming from the Register 11 report, that they found a fundamental lack of hazard 12 awareness underpinning many of the issues in the North 13 America Division; the Transocean supervisors and rig 14 leaders themselves believed, and these are quotes that 15 they found, "that the work force was not always aware 16 of the hazards they were exposed to, that risk 17 management plans didn't always identify relevant major 18 hazards related to the task, that risks posed by 19 identified hazards were not fully understood, that 20 emerging hazards during task execution and hazards with 21 a changing risk level were not always detected or fully 22 appreciated, and that the crews didn't always know what</p>

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<p style="text-align: right;">41</p> <p>1 they don't know. So the front line crews seemed to be 2 working with a mindset or were potentially working with 3 a mindset that they believe they're fully aware of all 4 the hazards when it's highly likely that they were 5 not," and I think that's really eerily similar to what 6 Rich was describing as was going on at Macondo. 7 MS. MURRAY: So Nancy can I ask, were these 8 supervisors and rig leaders mostly on shore? Because 9 rig leaders implies that they're also on the rig. 10 MS. KETE: These were all over. They looked 11 -- I'd have to come back and answer you. These were on 12 the rig and on shore, and I remember from reading the 13 report that the answers were quite different on the rig 14 versus on shore, and there were a lot of, again, to be 15 clear, there were a lot of positive responses. There 16 wasn't -- it wasn't a uniformly negative audit. There 17 were a lot of good cohesion. There was a lot of trust 18 in the managers on the rig. They felt like they had a 19 really good safety culture. They felt like the high 20 majority of the people working on the rig felt like 21 they had the ability to stop if something was 22 dangerous, but that contrasts with these kinds of</p>	<p style="text-align: right;">43</p> <p>1 to pull the plug on the operation if they see a 2 dangerous situation. Do we have data as to how 3 frequently that has occurred on the rigs in the Gulf of 4 Mexico? 5 MS. KETE: I haven't seen any data on that. 6 I think that it would take surveys, and there might be 7 surveys done by companies. Like the Lloyd's Register 8 report is a private report produced for one company 9 that was trying to improve, understand and then improve 10 its own safety culture. The reporting is very uneven. 11 It's not done the same across countries with respect to 12 official reporting by companies to a regulator or a 13 safety authority. So I would say that we don't have 14 very strong confidence that we have a comprehensive 15 global understanding of accidents probably better, but 16 near-misses I don't think we have a good base line of 17 that at all, and very importantly, for example, is in 18 the US we're not required, the US doesn't require the 19 reporting of releases of hydrocarbons which really 20 means gases because if they release oil, then it would 21 be a spill and they'd have to report that, but the 22 release of gases is an indication that you've lost</p>
<p style="text-align: right;">42</p> <p>1 comments which is they weren't necessarily sure that 2 they would know when something was too hazardous to 3 continue. 4 CO-CHAIR REILLY: Don. 5 MR. BOESCH: Yeah. Before we go on to the 6 international scene. I wonder if on the Halliburton 7 issue, do you know, is there a corporate protocol that 8 requires that they have satisfactory tests conducted 9 and approved and accepted before they actually do a job 10 and cement a job and communicate the test to the oil 11 company? 12 MR. SANKAR: We've asked Halliburton to 13 provide those materials. 14 MR. BOESCH: You don't have them yet? 15 MR. SANKAR: We don't have them yet. We 16 don't know whether they aren't there or they just 17 haven't been provided. 18 CO-CHAIR GRAHAM: Can I -- we are about to 19 turn to a page that has Gulf of Mexico accidents and 20 incidents. How confident are we that indicators of 21 safety are being fully reported? For instance, you 22 raised the question of is the crew culturally willing</p>	<p style="text-align: right;">44</p> <p>1 control, and that should be reported and investigated 2 as a near-miss if for no other reason than it's 3 learning, that really gets -- not reporting that gets 4 in the way of having learning within the industry, and 5 I think Shirley might touch on this later on, that 6 that's something that should be changed in the coming 7 months, and other regulatory regimes do require that. 8 CO-CHAIR GRAHAM: Could I go back a moment to 9 the Lloyd's issue. I would assume that there's a 10 relationship between the cost of insurance and the 11 insurer's level of confidence in the safety of the 12 operation. Is that kind of information maintained in 13 some systematic way? 14 MS. KETE: Well, I want to make one 15 clarifying point. Lloyd's Register is not Lloyd's 16 insurance. They're not the same company. They might 17 be in the same group, but I don't understand that. But 18 secondly, we did look into the question of to what 19 extent do the underwriters, to what extent are they 20 able to discern safe from unsafe behavior? And the 21 answer from the research was that they certainly do try 22 to look at that, but I think that they know that</p>

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<p style="text-align: right;">45</p> <p>1 they're going to try harder in the future. They 2 weren't as aware of some of these system safety risks 3 that they were taking before Macondo and Montara. 4 There are not -- there is not a well-accepted set of 5 what you might call process safety or systems safety 6 leading indicators that everybody would look at and 7 agree this company is really managing its engineering 8 system risks better than that company. That's very 9 difficult to do today, but understanding from 10 interviews with the industry is that they will be 11 investing more in trying to discern that kind of, kinds 12 of behaviors moving forward.</p> <p>13 CO-CHAIR GRAHAM: So is what you're saying 14 that as of today insurance rates are not a particularly 15 reliable indicator of the underlying safety of the 16 operation?</p> <p>17 MS. KETE: No, not completely. Yeah, not 18 completely.</p> <p>19 CO-CHAIR REILLY: I would just add that that 20 map and the list of incidents suggests to me a very, 21 two very important needs. One is for standardized 22 reporting throughout the world. It is a global</p>	<p style="text-align: right;">47</p> <p>1 it's the members of that themselves who have gotten 2 together frequently in the past year post Macondo and 3 post Montara and they've come up with some consensus 4 recommendations really quite consistent with what 5 you're suggesting, and I have those listed in just a 6 couple of slides from now, and we'll get to them, and I 7 don't know if they're heading towards a treaty, and 8 that's something that we can investigate for you, a 9 formal treaty. There's an awful lot though that even 10 absent a treaty, of those recommendations that 11 companies can do themselves and that national 12 regulators can do themselves and that don't need to 13 wait for a lot of formal negotiations. They've done 14 some of them. They've worked through a lot of what 15 they consider to be best practices and how to proceed 16 in order to stay on top of best practices as we move 17 forward, and I'd just make one more point before we 18 leave this slide is to say unfortunately a list of 19 incidents is sitting over where there will be new 20 deepwater activity very soon which is off the coast of 21 Cuba, only about 50 miles from the Florida coast, and 22 of course, our, the US operators and companies won't be</p>
<p style="text-align: right;">46</p> <p>1 industry, after all, and there aren't that many players 2 in it. That is one, and I assume could be done by 3 international regulators meeting together to agree on 4 such standards for reporting; but secondly, it suggests 5 the need for international agreements on safety itself. 6 When you look at the very large part of the Gulf that 7 is not under United States sovereignty and one company 8 is responsible for whatever oil and gas development 9 occurs in Mexican waters, that's PEMEX, we have its 10 similar issues in the Arctic with Canada on one side 11 and Russia on the other, any one of those three 12 countries in that immediate area could affect 13 significantly the resources, the environment and the 14 wildlife and the rest of the others, and there's every 15 reason it seems to me for an international agreement on 16 safety. Has anyone pursued that? Is that an issue 17 with the State Department? Is it something that we 18 should recommend?</p> <p>19 MS. KETE: I don't know if it's an issue for 20 the State Department. I do know that there is a group 21 called the International Regulators Forum, and it's -- 22 I don't know if -- informal might be too strong, but</p>	<p style="text-align: right;">48</p> <p>1 involved in that directly because of our trade embargo, 2 but that's going to be one of the next sites of --</p> <p>3 CO-CHAIR REILLY: We understand that GasProm 4 is likely to be the company that's preferred there, so 5 it would be very useful to have a relationship, if not 6 with Cuba, at least with GasProm on their international 7 operations because obviously we have a lot riding on 8 it.</p> <p>9 MS. KETE: Right, and China, the Chinese will 10 be involved and I think the Spanish will have the 11 lease, if that's what it looks like. So this is just 12 up here. It's not exhaustive. It just illustrates 13 that Macondo wasn't the black swan. It wasn't a fluke. 14 There's a lot of losses of well control, a lot of 15 blowouts. There's loss of life out there and a lot of 16 near-misses, and this isn't even a complete list. 17 There's a much longer list of incidents out there on 18 the shelf that have been serious enough to trigger a 19 panel investigation.</p> <p>20 MS. BEINECKE: Nancy, can I just ask a 21 question of you and Rich. When you look at the list of 22 incidents and you look down the list of names, some of</p>

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<p style="text-align: right;">49</p> <p>1 them are the large oil companies that we are familiar 2 with. There are many other names that aren't as well 3 known, at least to the general public. So does this 4 indicate, are these independent contractors, smaller 5 companies? I mean I think coming to the issue of the 6 risk profile and whether the companies have the 7 resources to manage the risk, can you just go through, 8 perhaps reflect on what this list indicates as sort of 9 the range of size companies that are participating out 10 there? Because I think that, you know, there's some 11 sense that only the large majors are out there 12 operating in these very high risk situations, but this 13 indicates a much broader range of companies, and 14 because I'm not familiar with them I wonder if you 15 could just elucidate that.</p> <p>16 MR. SEARS: Yeah. It is a very diverse list 17 for sure. There are very large companies on there, BP 18 for example. A lot of the medium size -- well, and 19 Chevron is a large company; a lot of the medium size 20 companies, Anadarko. I would consider in terms of the 21 offshore companies like Devon and Mariner and Apache to 22 be in that, firmly in that medium size, and then there</p>	<p style="text-align: right;">51</p> <p>1 others, you know, I don't know what self-insured means 2 in this context. I don't know that you can actually go 3 out and buy tens of billions of dollars worth of 4 insurance. I don't think you can.</p> <p>5 CO-CHAIR REILLY: Did anyone walk away from 6 the liability, any of these companies?</p> <p>7 MR. SEARS: I don't know, to be honest. I 8 can't say. The ones that -- by the way, I think I can 9 say that the ones on that list that don't exist I don't 10 think it's because of these incidents. It's because 11 they were absorbed by something else. So it wasn't -- 12 I don't think that is an issue, but I don't know what 13 the insurance standing is of most of the companies on 14 the list, to be honest.</p> <p>15 CO-CHAIR GRAHAM: Nancy, could I ask another 16 question about this list. I notice that from the first 17 which is a 1979 through 1999 there were a total of 12 18 incidents reported. Beginning in two 2000 there have 19 been 21. Now, is that a function of the data set, or 20 has there in fact been that degree of acceleration of 21 accidents?</p> <p>22 MS. KETE: I can't answer for certain, but</p>
<p style="text-align: right;">50</p> <p>1 are some rather small operators, independent operators. 2 They're not insubstantial companies. They have 3 significant market capitalization and they're fairly 4 active, and they produce a lot of oil and gas, but 5 they're nowhere near the scale. A couple orders of 6 magnitude separate the top of the scale from the bottom 7 if you look at market capital revenues or production. 8 So it is a diverse list.</p> <p>9 Now, one of the things about this list as I 10 was looking at it and I was thinking, there are many of 11 those companies that don't exist anymore because 12 they've been absorbed by others even on that list, and 13 that's another aspect of this business in that it's a 14 very sort of vibrant ecosystem of companies and assets 15 out there, and that's part of what makes it complex.</p> <p>16 CO-CHAIR REILLY: Cherry.</p> <p>17 MS. MURRAY: I was going to ask how many of 18 those that you know are self-insured.</p> <p>19 MR. SEARS: On that list? I don't know, but 20 I would guess that two at least, BP and Chevron.</p> <p>21 MS. MURRAY: The big ones.</p> <p>22 MR. SEARS: The big ones for sure. The</p>	<p style="text-align: right;">52</p> <p>1 when we put this together, when this was given to me, I 2 was told this is not exhaustive, and I think the staff 3 putting these together are trying to only put things on 4 the list that they understand enough about to put on 5 the list. So I wouldn't draw a conclusion about 6 acceleration of accidents from the pattern here, and we 7 can do more research on this, but this wasn't a primary 8 point of our investigation; rather, just to show it 9 wasn't -- it wasn't like we've been in the Gulf of 10 Mexico for 30 years and nothing has happened until 11 Macondo.</p> <p>12 I do want to make one point about the size, 13 about the range of companies, the independents versus 14 the majors and the super majors out there. We've done 15 a little bit of work and I don't think there's any 16 reason to think that the independents are riskier 17 operators than the super majors. They're smaller, but 18 everybody's smaller than a super major oil company. 19 Some of them are really big companies and then some of 20 them are quite small, but I don't think we have any 21 research that says they're riskier. They don't have 22 the capitalization, and so this is a big part of the</p>

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<p style="text-align: right;">53</p> <p>1 discussion that has to further happen about how to make 2 sure there's a robust, if we're going to have an oil 3 and gas industry in the Gulf, there's a robust 4 ecosystem of economic actors out there because they do 5 all serve important purposes in the economy of the 6 exploration and exploitation of the resources out 7 there, and size doesn't correlate with risk as far as 8 we can tell.</p> <p>9 MR. SEARS: Yeah. I'd say that all of these 10 companies operate with very similar skill sets. Many 11 of the very small companies are in fact startups of 12 people that have left the large companies and gone out 13 on their own thinking this would be an interesting 14 business to run, and so they operate with very similar 15 skill sets and even experience. Significantly they all 16 use the same group of contracting companies, and this 17 is where the relationships between operator and 18 contractor become important because they all I expect 19 have very different relationships on how they rely on 20 the expertise of the contractors, and in our 21 conversations with contractors some of the contractors 22 so much as said that: Well, we know who we're talking</p>	<p style="text-align: right;">55</p> <p>1 a very practical way to practice rescue, response and 2 containment. I thought I'd start this session with a 3 slide quoting from the, I think of him as the dean of 4 regulators, the director-general of Norway's Petroleum 5 Safety Authority, and he put it that "it's a risky 6 business," no question about it. We've talked a lot 7 about the risks, "but the presence of risk doesn't mean 8 accidents have to happen," and then Rex Tillerson at 9 our previous hearing said "If we don't learn lessons 10 from this disaster, it will have been a double 11 tragedy." So the next section is how do we put those 12 two ideas together.</p> <p>13 I mentioned earlier in response to Bill's 14 question there is International Regulators Forum, and 15 they have very recently come up with consensus findings 16 and recommendations. Because this is the session on 17 industry, and we'll leave the -- I'm going to focus 18 just on the things that industry can do.</p> <p>19 Industry really needs to take the lead on 20 the third point, on continuous improvement, and they 21 need to take the lead on communications and learning. 22 Although there's a government role there, for the</p>
<p style="text-align: right;">54</p> <p>1 to. If it's a very large company with a deep bench and 2 a lot of experience in this environment, we recognize 3 that versus when we're talking to a small independent 4 that might need more of our expertise, and how that 5 plays out exactly in terms of sharing is not clear, but 6 certainly the same group of contractors are involved.</p> <p>7 MR. GARCIA: Rich or Nancy, do we know how 8 many of these small or medium size companies are in 9 ultra-deep water? Is there any evidence of that?</p> <p>10 MR. SEARS: Of the ones that exist still in 11 this list several, I'll just say, and yes, several.</p> <p>12 MS. KETE: They were in, the independents 13 that operate in deep water, have been in to talk with 14 us, but we didn't do a head count on them. There's 15 more than one would think when we all talk about the 16 majors.</p> <p>17 MR. GARCIA: It's obviously important when we 18 get to financial responsibility.</p> <p>19 MS. KETE: It is. We're now going to shift 20 gears a little bit and talk about solutions and how to 21 transform, ideas for how to transform the industry 22 safety culture and make sure that they are prepared in</p>	<p style="text-align: right;">56</p> <p>1 government regulators themselves and also for helping, 2 industry needs to take the lead on that. Industry has 3 a big role in international standards and in peer 4 audits.</p> <p>5 Just to spend a few minutes on this. 6 Operators and contractors have to manage their 7 companies to achieve safety objectives and continually 8 assess the effectiveness of their management programs, 9 and we talked about there really is a need for 10 indicators to identify major hazards and safety 11 culture, and worker input is also essential. This is 12 something that's talked about less in the US than in 13 the other OECD countries, but there has to be much more 14 worker input in this whole safety system.</p> <p>15 Rich talked an awful lot about how the role, 16 what the role of poor communication was in the Macondo 17 accident, and this shows up in all accidents. It shows 18 up in all accidents in all industries. Usually there's 19 a communication problem, and this is communications 20 among the regulators but also the operators and the 21 contractors, and some of that's communication during 22 operations but also the collection and the maintenance</p>

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<p style="text-align: right;">57</p> <p>1 of comprehensive and verifiable incident databases, as 2 Senator Graham just brought up. We certainly don't 3 have comprehensive incident databases that one could 4 learn from and rely upon. 5 And international standards. We need an 6 effort now to identify best standards and apply them 7 internationally, and these can't be lowest common 8 denominators which is how a lot of people describe the 9 standards we have today, and these can't really be 10 options papers. We do know how to do things best. The 11 industry knows how to do things. Some ways are best, 12 some ways are better, and some ways just aren't okay. 13 They shouldn't be having options papers on this, and 14 peer auditing programs should be considered for both 15 regulators and for operators, and this is part of our 16 recommendation. 17 As Bill mentioned earlier, there have been 18 other inherently risky activities or industries and 19 areas that have made the decision, that leadership's 20 made the decision that they are going to become safer, 21 and civil aviation comes to mind. In the '50s there 22 were not a lot of passengers for airplanes. This came</p>	<p style="text-align: right;">59</p> <p>1 companies that made commercial airliners: Lockheed 2 Martin, Douglas. Today basically there are two. 3 There's Boeing and there's Airbus. Do you think we're 4 looking in terms of achieving the level of safety that 5 we want here towards a similar consolidation and that 6 may have something to say about this issue of liability 7 insurance which has tended to revolve around how do we 8 protect the smaller companies? 9 MS. KETE: We -- I've looked at some of the 10 recent literature and the analysts predict more 11 consolidation in the oil and gas industry. As Rich 12 said, there's been a lot of consolidation even before 13 this accident, and the industry analysts predict that 14 there will be more consolidation. It's doubtful that 15 it will consolidate in a healthy way down to just the 16 majors. I haven't seen anybody who thinks that we 17 could have a healthy and efficient oil and gas 18 exploration and production industry that's just a 19 handful of companies out on the Gulf, and that comes to 20 then how we have to be careful about the liability 21 which isn't as much the issue as much as the 22 certificate of financial responsibility, how those</p>
<p style="text-align: right;">58</p> <p>1 out of the airline, or the airplane industry came out 2 of the war effort and they wanted a lot of people to 3 fly in them and people said, no, I don't think so, and 4 so there were just too many accidents, and so Boeing, 5 the manufacturers and the nascent airline industry and 6 the nascent regulator got together and did what it took 7 to make the industry safe to convince the consumer that 8 they could use this service safely, and we'll talk 9 about nuclear power, and then there was a tremendous 10 effort in the nuclear Navy to make sure after the loss 11 of the Thresher submarine that they would never lose a 12 submarine again, and the beginning of all this was that 13 the leadership in the industry came to the realization 14 that they were only as safe as the weakest link, and 15 they agreed to hold themselves and their peers 16 accountable for safety, and then they set up mechanisms 17 to make this real. 18 CO-CHAIR GRAHAM: Can I make an observation. 19 MS. KETE: Yes, sir. 20 CO-CHAIR GRAHAM: There was another thing 21 that happened, and that was there was a dramatic 22 consolidation of, it used to be there was a dozen or so</p>	<p style="text-align: right;">60</p> <p>1 provisions are handled, and then on the industry side 2 particularly how they're going to demonstrate that they 3 can prevent accidents and then demonstrate that they're 4 prepared if an accident does happen to respond and 5 contain it, and that's related to the marine well 6 containment is one of the proposed solutions but 7 there's another set of, sort of an industry consortium 8 that the independents are pulling together that I think 9 that the government should require and the industry 10 groups on their own should demonstrate that they have 11 the capability to get in there and respond and contain 12 a spill that does get past all of their best efforts 13 which as of now I don't think are good enough to 14 prevent a spill from ever happening. So it will be a 15 combination of financial plus physical demonstration of 16 how to prevent there being a spill, a large spill for 17 three months. 18 MR. SEARS: I don't -- let me make a comment. 19 I don't know if having been in the industry qualifies 20 me as an analyst, but I'll try. I would expect that 21 the current players there will certainly be continued 22 consolidation because it's a very natural part of any</p>

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<p style="text-align: right;">61</p> <p>1 business cycle, but beneath that there will always be 2 small players springing up to pick up assets that these 3 larger consolidated players just don't, find that they 4 just don't fit their business, their business model the 5 way they're capitalized. So within the operating 6 community I think there will be consolidation, but 7 there will always be small players that create 8 themselves out of small groups of assets because a 9 small asset can sustain even a deepwater operating 10 company at a small level.</p> <p>11 Where it might -- where you might not see 12 that happening is with the service companies. The 13 service companies have been consolidating over the 14 course of time. If you look at the landscape now, even 15 names that were active on the Deepwater Horizon rig 16 sort of cascade up to a couple of large holding, 17 holders of big service companies, and it might be that 18 the service industry sees more consolidation. It's 19 much harder to grow a boutique service company and 20 capitalize it properly than it is to grow a very small 21 operating company.</p> <p>22 CO-CHAIR REILLY: Cherry.</p>	<p style="text-align: right;">63</p> <p>1 effective way to produce better platforms, better 2 structures, more resilient, more robust facilities. So 3 I think there is a parallel of that in the oil industry 4 now when you look at the physical plant, but that's 5 different than the operating world.</p> <p>6 MS. KETE: I would like to do a time check.</p> <p>7 CO-CHAIR REILLY: Let's move along.</p> <p>8 MS. KETE: Do you want me to try to do the 9 rest of the slides or --</p> <p>10 CO-CHAIR REILLY: Yes.</p> <p>11 MS. KETE: So the analogy -- we did look at 12 the aviation industry, and there are a lot of good 13 analogies and more we can learn from it. We looked at 14 the SUBSAFE, but the analogy that seems most apt right 15 now is the Institute of Nuclear Power Operations which 16 emerged from the 1979 meltdown at the Three Mile Island 17 nuclear power plant, and the first recommendation that 18 emerged from the President's commission that 19 investigated that accident created a clear social 20 mandate for the industry to improve, and I won't go 21 through what they said because I'm going to come back 22 to that. So I won't go through what they said at this</p>
<p style="text-align: right;">62</p> <p>1 MS. MURRAY: No. I was going to bring up 2 almost that point, but also the point that I understand 3 in the airlines industry and maybe you have looked at 4 this, there is a very tight relationship between -- 5 there are a lot of contractors. There's a very tight 6 relationship between the, let me call it the operator 7 who's designing the planes and the entire design of all 8 components and contractors, and I'm wondering if we 9 could learn something from that here. As Rich pointed 10 out, there seems to be a little bit of communication 11 mismatch between what's going on in the contractors 12 which are an incredibly important part of this 13 operation on any rig and the operator or the on shore 14 people. Do you have anything to comment about that?</p> <p>15 MR. SEARS: Well, I think in -- if I look at 16 the analogous part of the industry, when large -- when 17 oil companies, large and small, are building 18 facilities, I think they do have that kind of close 19 relationship with the construction and equipment 20 supplier communities, and companies have developed very 21 tight alliance contracts with suppliers of equipment 22 because they found that it was a more efficient, more</p>	<p style="text-align: right;">64</p> <p>1 point, but I'll come back to it in a few slides.</p> <p>2 INPO today is a very -- it's a 400-person 3 staff with a hundred million dollar budget. It does a 4 lot of detailed technical work. Two hundred-fifty of 5 its staff are technical nuclear engineers or 6 scientists, and so they add a lot of value to the 7 nuclear operators, and their influence is interesting.</p> <p>8 We did sort of an informal 360 of INPO because we had 9 read a book about them, we heard from the managers of 10 INPO, but we wanted to find out for ourselves what 11 everybody thought of it. So we talked to the former 12 chairman of the NRC and another NRC commissioner and 13 the insurers and some companies that are members of 14 INPO and some of the NGOs that follow the nuclear issue 15 and they're against nuclear power. So the sense that I 16 get is that INPO is very important and everybody thinks 17 that we're safer because of the existence of INPO.</p> <p>18 For all their technical work they give a lot 19 of technical scores. They're all rolled up into a 20 metric from one to five, and the grades are announced 21 at a yearly meeting of all the utility CEOs, and in a 22 public setting it includes the NRC commissioners and</p>

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1 some other outsiders. The companies that get the high
2 scores are announced, and an INPO 1 has been described
3 as it's like the closest thing to getting an Academy
4 Award if you're a nuclear engineer or a utility CEO;
5 whereas in a smaller meeting, in a private meeting the
6 INPO 4s are announced, and that has been described by
7 companies that get them as the walk of shame, and the
8 CEOs and the chief nuclear officers who get an INPO 4
9 have to stand in front of their peers and explain why,
10 why their system is failing essentially, why their
11 total system safety engineering is not good, and
12 usually whoever is in charge, the highest level of
13 management loses their job for having an INPO 4, and of
14 course, an INPO 5 leads to the immediate shutdown of
15 the plant. There's nobody talking about why they got
16 to an INPO 5 because that manager's lost their job.

17 Then a particular industry's scores and
18 detailed results aren't shared with anybody, I mean the
19 particular companies, aren't shared with anybody else,
20 but the lessons learned are, and those are shared
21 widely across the industry in a number of different
22 ways, and just to reiterate at the bottom, everybody

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1 complements the role -- everybody compliments, with an
2 I, the role of INPO, but most importantly they say that
3 it couldn't work if there weren't the Nuclear
4 Regulatory Commission doing its role. So it's sort of
5 a tri-partite thing. You've got the company being
6 influenced by both INPO and the NRC.

7 CO-CHAIR GRAHAM: They must share information
8 with insurance companies.

9 MS. KETE: They do.

10 CO-CHAIR GRAHAM: What about with governments
11 that have a safety or a response obligation? Do they
12 inform them as to the safety of the plan?

13 MS. KETE: It's a very interesting and subtle
14 relationship. They apparently will let the NRC read
15 the full report, but the NRC never gets control of it.

16 CO-CHAIR GRAHAM: But I mean, for instance,
17 in Florida there are three forms of nuclear plans.
18 There's a safety response plan for each one of those
19 three. The plan might be different if you knew that it
20 was a 1 as opposed to a 4 in terms of INPO's standard.

21 MS. KETE: I can't answer -- I wasn't smart
22 enough to ask about the state level safety responders.

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1 The sense I get is that one can know generally what a
2 score is and one would know bad performers. The NRC
3 might be the one to share it with the state. I can
4 follow up to see who would know that, so I can't -- I'm
5 sorry, sir. I can't answer your question about how
6 it's shared with the state regulators, and I know that
7 the inspections are coordinated with the other federal
8 agencies like OSHA and the NRC, and I can't imagine
9 that they wouldn't have to coordinate with the state
10 regulators also.

11 Just quickly by the numbers, for the scale
12 of INPO there are 104 units operating across 66 sites,
13 and the inspections are serious. They are two weeks on
14 site, but the INPO inspection or audit team takes a
15 couple weeks to get ready. Then there's a week of
16 writing the report and then having the reports
17 screened. So these are serious efforts, and although
18 it's sort of contradictory with getting an Academy
19 Award because 40 percent of the actors don't actually
20 get an Academy Award, 40 percent of the plants now do
21 get an INPO 1, but they're not graded on a curve. So
22 maybe it's a matter of that this has worked over the

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1 past decades of the constant upward improvement.

2 So the recommendation we're making to you is
3 that you challenge the oil and gas industry to create a
4 similar kind of safety institute for oil and gas, and I
5 thought that the wording from the Three Mile Island
6 commission was fine. So if you just cross out nuclear
7 and put the oil and gas industry must dramatically
8 change its attitudes toward safety and regulations, and
9 at the same time as the regulatory agency improves, the
10 industry must set and police its own standards of
11 excellence to ensure the effective management and safe
12 operation of offshore oil and gas production. You
13 don't know how hard I had to fight the editors who kept
14 trying to fix my slide because it had a crossout in it.

15 MS. BEINECKE: Back changes.

16 MS. KETE: Yes, exactly.

17 MS. ULMER: Can I ask you a quick question
18 about this recommendation. It makes so much sense
19 based on what you've already told us, and as was noted
20 previously by the co-chairs the industry should have an
21 interest in doing this because, as you pointed out, an
22 industry's only as safe as its weakest link, but I'm

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<p style="text-align: right;">69</p> <p>1 trying to imagine why or how we would transition from 2 where we are today with representatives of the oil 3 industry like API basically saying we're not sure we 4 need more regulation, even this kind of regulation of 5 self-policing to a place where somebody might actually 6 get graded and have to, you know, take a walk of shame. 7 I mean that's pretty stunning stuff. So why is it that 8 the nuclear industry was willing to do this? I'm 9 trying to tease out of that how it could translate into 10 the oil and gas industry, and when I see the point 11 about insurance, for example, that their ability to get 12 insurance and the rates that they pay is tied to their 13 rating under the system, you can see the connection. 14 You can see at least one of what may be several 15 motivators for the industry to participate in this but 16 also to do a better job and increase their safety. 17 Again, in the oil and gas industry when you have 18 self-insured or multiple insurers and when you have 19 liability limits, you have a very different situation. 20 So if you have thought about this, Nancy, 21 can you give us a little bit of your thinking about how 22 we might get the industry to see that this is in their</p>	<p style="text-align: right;">71</p> <p>1 public and government doesn't trust them to operate 2 safely out there, and so I think part of this proposal 3 is do something new that shows that you're taking 4 system safety seriously and that, and looking 5 backwards, what you've had in the past doesn't do that. 6 Now, I do have to say the role of insurance 7 doesn't seem to be that important in INPO today. It's 8 there structurally but it's not as big a driver. What 9 seems to drive the companies in INPO presently is that 10 peer competition and the added value of INPO in its 11 reviews and its audits. So it's there but it's not as 12 big a driver as it might have been at INPO's inception, 13 and I don't know what to say other than they're stuck 14 now. They don't have permits. It's becoming extremely 15 expensive for them to keep their operations going 16 without being able to actually do the work, and they 17 should recognize that there's nothing has really 18 fundamentally changed. They don't know if everybody 19 else in there operating is going to operate as safely 20 as they each think that they are doing. There's a 21 complacency. I think most operators think that they're 22 operating safely, and I don't think they should be that</p>
<p style="text-align: right;">70</p> <p>1 long term best interest, in the nation's best interest 2 and to be willing to take what could be a big risk for 3 several of them anyway, maybe many of them. 4 MS. KETE: I think you've hit on the 5 challenge. Of course, as a government panel you can't 6 tell industry what to do. The question would be what 7 would motivate them. What motivated the nuclear 8 industry to do it is they actually, I think that they 9 felt, they feared, much stricter regulation or 10 potentially even a federal takeover because, you know, 11 France operates their nuclear industry as a fed, as a 12 national system, and that wasn't an unreasonable model 13 that you might have considered. 14 I think the situation we're in now with oil 15 and gas though is that all the companies are losing a 16 tremendous amount of money. They've worked really -- 17 most of the ones that I know of have kept very high 18 costs running to not lose contracts on equipment that 19 they need and cannot lay off staff, and so they're all 20 hoping that they're going to get their permits, and 21 their permits are stuck for a lot of reasons. The 22 overarching reason though one could explain is that the</p>	<p style="text-align: right;">72</p> <p>1 confident in themselves. They should undertake this 2 peer auditing to make sure that they are. 3 MR. GARCIA: Nancy, in one of the hearings 4 API testified, and I think they suggest that they are 5 the self-policing mechanism in the industry. This is 6 kind of a leading question, but does anybody other than 7 API believe that that would be an appropriate response? 8 MS. KETE: Maybe -- 9 MR. GARCIA: Maybe that's a statement in the 10 form of a question. So you don't need to answer. 11 MS. KETE: Our recommendation is that for 12 various reasons it shouldn't be API. As staff we would 13 recommend to you that it not be API primarily because 14 we think that this panel, this safety institute, should 15 do nothing but promote excellence in safety, and in 16 most other industries there are multiple industry 17 associations. Like in the nuclear industry there's the 18 Nuclear Energy Institute, there's INPO, there's another 19 one, and they do different things, and this is actually 20 quite normal. We think that the oil and gas industry 21 needs something that focuses on nothing else but 22 safety.</p>

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<p style="text-align: right;">73</p> <p>1 Secondly, we think that for credibility this 2 institute can't lobby, and one of the main things that 3 API does is lobby, and every industry has a right to 4 have its lobbying organization. It's part of the 5 American system, but this safety institute can't lobby, 6 and then the third thing is that the API is the 7 American Petroleum Institute, and we think that safety 8 in American waters and in the Arctic will be 9 accelerated faster if there's more, if there's like 10 immediate international cooperation to get to best 11 practices or excellent practices, and in that case we 12 think that it's better to create something new that's 13 really focused on the best. So it's for those three 14 reasons that -- no, there's a fourth, and the fourth is 15 that API's own culture is a culture of consensus, and 16 we'd really like to see the industry set something up 17 that isn't based on consensus that has the kind of 18 tough love built into it that INPO has. It can be 19 quiet tough love, but it really needs to, you know, 20 somebody needs to tell the truth to the operators or 21 the contractors that they're really not operating at 22 the top of their game.</p>	<p style="text-align: right;">75</p> <p>1 regulator, and then will they demonstrate a new 2 commitment to systems safety excellence by creating 3 this complimentary institution that can relate to 4 government and to their own companies in this nuclear 5 regulatory mission and INPO relationship kind of way. 6 Okay. So a lot of Fran's questions and some 7 of the other questions are presaged what's on this 8 slide. People are saying there's such a big difference 9 between oil and gas on the one hand and nuclear on the 10 other, that oil industry is more heterogeneous; there 11 are more service providers, more types of technology, 12 so therefore, it's not a great model, or, and this is 13 the point that I think is more important, the industry 14 structure is much more complicated. There's a small 15 number of very large companies and then a large number 16 of smaller companies, and so the costs of something 17 like this and the influence of something like this will 18 be more complicated, and my -- our answer to that is, 19 yes, it will be more complicated and I don't think we 20 can design this for them, but I think that they can 21 handle that. 22 There are issues of competition among,</p>
<p style="text-align: right;">74</p> <p>1 MR. GARCIA: All compelling reasons. 2 MS. KETE: Since you asked. 3 MR. GARCIA: Thank you. 4 MS. KETE: So we have moved past this a 5 little bit, but there have been a lot of voluntary -- 6 the industry has been guided by both voluntary industry 7 standards and subject to government regulation and 8 oversight, as we've talked about repeatedly, and the 9 Deepwater Horizon accident showed that system hasn't 10 worked well enough. We need something new. It didn't 11 protect the workers. It didn't protect the economy of 12 the Gulf, and it hasn't protected the broader public 13 interest, and again, the panel after mine or after this 14 one will detail a lot of staff recommendations for how 15 to improve the autonomy and competence of federal 16 regulators, but the question we're talking about now is 17 whether the industry can up its own game without just 18 waiting for the government to tell it what it has to 19 do, and also I want to tee up the point that I think 20 one of the co-chairs mentioned, can the companies 21 figure out that they need to support the resources and 22 policies in order to get a good competent federal</p>	<p style="text-align: right;">76</p> <p>1 across the operators. They're, and confidentiality, 2 but again this is about safety, and from our 3 understanding from interviewing people is that the 4 competition in oil and gas is really about the geology. 5 It's about finding the elephants. It's about finding 6 the reserves, not about operating safely to confirm 7 through exploration that you have and then extract 8 them, and then there's a special antitrust background 9 that has to be dealt with, but it can probably be 10 managed. 11 On antitrust we just note that the industry, 12 oil and gas industry has cooperated on a number of 13 safety and technology issues in the past, and so we 14 think that they can work it out in this case, and I'd 15 just like to stress that this is an institute that will 16 be focused on safety and they should be able to work 17 out all the other technical issues. 18 The new safety institute should have a core 19 mission, as I was saying before, to achieve excellence 20 in safety, system safety across the whole industry. 21 The companies have proposed when they think about it 22 that they would have third party auditing, and I'm not</p>

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<p style="text-align: right;">77</p> <p>1 entirely sure what they mean, but we think that they 2 would go to external third parties not part of their 3 safety institute like some of the third party auditors 4 that are extant today. We would strongly recommend 5 that they build that capability within their own 6 institute for a number of reasons including that that 7 is where they get that peer relationship and also when 8 we look back at, for example, the third party auditing 9 of the food safety industry in the United States, 10 there's just issues there. It doesn't look to be as 11 clear, without conflict of interest, as what we see in 12 the INPO relationship to the companies, and that's what 13 we'd like to see the oil and gas industry develop. 14 Because of the lobbying reason as well as the others 15 that I laid out we don't think this can be any of the 16 existing organizations, and there are many member 17 organizations, but API is the one that suggested at our 18 previous hearing that it could be them. 19 For this to work the company CEOs and the 20 boards of directors have to provide leadership, and 21 then they would ensure engagement of the employees with 22 this organization because it is going to be intrusive</p>	<p style="text-align: right;">79</p> <p>1 problems causing blowouts. A safety institute is a 2 good place to work through that. It has to be 3 bureaucratically effective and autonomous. That's a 4 kind of lame way of saying that they need to hire a 5 really good leader and they need to resource it with 6 money and staff that can get it off to a good start. I 7 mention here that INPO really didn't get the 8 credibility that it has today across its industry until 9 they effectively got the leadership of one of the 10 utilities fired because the utility didn't respond to 11 its recommendations for improving its cautions and then 12 its recommendations -- 13 CO-CHAIR REILLY: That would do it. 14 MS. KETE: -- to improve its safety. So they 15 went over the leadership's head to the board of 16 directors and said you're operating a plant that's not 17 safe and got rid of the leadership, and then the rest 18 of the company started paying attention. 19 And, of course, it has to be coupled with a 20 proactive federal safety regulator, and this will help. 21 If I -- we believe that if there is this institute, 22 industry institute, it will help us get to this new</p>
<p style="text-align: right;">78</p> <p>1 to work, and it has to be empowered to use real rewards 2 and sanctions to help all of the industry players 3 overcome what the nuclear Navy, SUBSAFE, the 4 organization for the nuclear Navy calls the enemies of 5 safety: Ignorance, not knowing what you don't know; 6 arrogance, thinking you can do it without being sure; 7 and complacency. 8 But it will only be effective if the 9 companies are really dedicated to it and remember, keep 10 in mind that one company's accident affects all of 11 them. It's cost them billions. It can happen again. 12 If they figure out how to improve safety in all aspects 13 of the industry, this speaks to the majors and the 14 independents and the small independents and the 15 contractors. There's a lot of value added in there 16 about working out some of these I think barriers to 17 safer operations, not just at the design phase but 18 there's something, there's some legal issues associated 19 with who can do what in order to manage risk well 20 between the operator and the cementer, for example, 21 where we're seeing the best cementer in the world, yet 22 the operator giving instructions and you have cementing</p>	<p style="text-align: right;">80</p> <p>1 balance between base line prescriptive regulations and 2 a comprehensive risk based performance that we want to 3 get to. 4 CO-CHAIR GRAHAM: Could I ask a question. 5 MS. KETE: Yes, sir. 6 CO-CHAIR GRAHAM: Under proactive federal 7 safety regulator you say a single federal agency solely 8 responsible for safety. We had a brief discussion 9 yesterday about the issue of whether you should, or 10 which is the higher value: The singularity of the 11 regulator or the competence of the regulator 12 particularly in more specialized areas. I was 13 interested that OSHA regulates the safety at nuclear 14 power plants. Are there areas where specific 15 competence is required where the rule of the single 16 agency should be violated? 17 MS. KETE: Well, I'm going to leave that to 18 the next panel because they have an hour and a half and 19 I only have five minutes. 20 CO-CHAIR GRAHAM: Okay. 21 MS. KETE: But I will say that we spent a lot 22 of time talking with the other national regulators</p>

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<p style="text-align: right;">81</p> <p>1 about this and there are -- you -- there are -- I don't 2 want to say tradeoffs, but one has to work this out, 3 and it is a little bit complicated when you're talking 4 about how to best regulate rigs that are offshore. In 5 the end you have to resource whatever regulator you're 6 going to put in charge with not just the financial 7 resources but the skills in order to review the permits 8 and do the investigations and the auditing, and so 9 wherever you put the authority you have to put the 10 skills to follow up on that authority. 11 MS. BEINECKE: Nancy, I know you only have a 12 second, so if you could just comment on how you see the 13 transition. If we make this recommendation, and I 14 think, you know, we have consensus that we need this 15 kind of a safety culture in the industry, but where is 16 the leverage to get them to actually move forward 17 quickly to do this? Is there leverage in conditioning 18 access to certain parts of the offshore environment 19 based on whether you're a participant in a safety 20 institute where you are pooling best practices and 21 improving the standards that they're operating under? 22 Because I mean as a commission looking at the</p>	<p style="text-align: right;">83</p> <p>1 from Shirley. She's been looking at those. 2 CO-CHAIR REILLY: That rigs are not 3 certified, that they don't qualify for it or apply for 4 it or it doesn't apply to them? 5 MS. BEINECKE: We can get an answer. 6 CO-CHAIR REILLY: Okay. I just wonder how 7 something like that might relate to this, but I don't 8 want to hold you up on that. Why don't you complete 9 your presentation. 10 MS. KETE: Thank you. I just have a couple 11 more slides. This is a slide that we haven't talked 12 about extensively in the industry discussion and it 13 will come up later in the presentations on response and 14 containment, but this is the industry twist on this. 15 So we know that oil is a strategic resource, and it's 16 important to our security and the whole economy, but 17 drilling in it in a reckless manner threatens American 18 lives, jobs, businesses and environmental resources. 19 It's time for a national energy strategy 20 that reflects our dedication to energy and economic 21 security and safety and environmental protection. 22 There's an industry role in this. Industry needs to do</p>
<p style="text-align: right;">82</p> <p>1 recommendation, if it's a recommendation that requires, 2 you know, their willingness to do it, fine, but because 3 it's a public resource that they're getting access to, 4 should we be considering that access to what we would 5 perceive to be high risk areas depends on actually 6 moving forward on this? Is that something you have 7 discussed on the staff level or that we should discuss 8 here? 9 MS. KETE: We haven't, but I think that's a 10 good decision for you to deliberate over. Sorry. I'm 11 punting on all your questions. 12 MS. BEINECKE: No, that's okay. I do think 13 it's something we should consider because otherwise 14 where's the leverage? 15 CO-CHAIR REILLY: It's a very good question. 16 What's the relationship between 4001, for example? Are 17 rigs certified according to 4001 standards in the way 18 that plants are around the country? And if so, how 19 many? I think -- 20 MS. KETE: Oh, ISO 14001? 21 CO-CHAIR REILLY: 14001, sorry. 22 MS. KETE: No, not yet. I'm getting a nod</p>	<p style="text-align: right;">84</p> <p>1 a better job at protecting jobs and livelihoods across 2 the regions in which they operate, and these are oil 3 and fishing jobs and tourism jobs, and then the 4 environment is the natural and the cultural environment 5 that support them. Drilling down on that, that means 6 that industry needs a strategic approach to prevention, 7 to containment and to response so that it's truly ready 8 when it's needed. 9 The two main consortia that they have put 10 together in the past don't have good records of 11 responding to big events. One's the Alyeska consortia 12 that was ineffective in responding to the Exxon Valdez 13 spill, and then the Marine Spill Response Company was 14 underresourced and maybe wrongly resourced to respond 15 to the Macondo spill. 16 We need the companies individually and 17 together to demonstrate that they have the ability to 18 prevent spills or blowups or any other kind of accident 19 and then respond to and contain a worst case spill 20 through a number of not just paper exercises. They 21 need to get out there the way in my view the Navy does 22 and other emergency responders do. They need to have</p>

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<p style="text-align: right;">85</p> <p>1 this muscle memory capability to go through drills and 2 exercises, simulations, strategic planning, scenario 3 building, equipment testing and maintenance, research 4 and demonstration of new equipment and procedures and 5 instrumentation. They really lag on all of this, and I 6 think this goes towards what would be the size of the 7 maximum worst case spill in the future and how 8 confident we can be in their ability to both prevent 9 and respond to a spill in the future, and then that 10 starts to speak to the liability and the certificate of 11 financial responsibility, and the companies are 12 starting to look at this, but they have to do this 13 cooperatively, and this suggestion is don't wait for 14 the government to tell you how to do this. Do it, and 15 don't plan on demonstrating this stuff on paper. 16 And this is the conclusion, that the 17 accident undermined the public faith in the energy 18 industry, in government regulators and even in our 19 ability as a nation to respond to crises, and this 20 shouldn't happen again. Other companies, other nations 21 have responded to accidents like this and made the 22 decision that it should never happen again. We need to</p>	<p style="text-align: right;">87</p> <p>1 responsibility, a duty on the driller that the private 2 sector holds the responsibility for operating safely in 3 Norwegian waters, and that's -- they completely after 4 their big accident shifted, and they won't as a 5 regulator take responsibility for this. 6 CO-CHAIR REILLY: So essentially there is a 7 certification consequence to wish to drill in Norwegian 8 waters. You have to be further -- you have to achieve 9 first the hurdle of showing that you have special 10 sensitivity to safety and do so very specifically to 11 the regulator. 12 MS. KETE: Yes, yes, and more than that -- 13 CO-CHAIR REILLY: So there is a precedent for 14 this -- 15 MS. KETE: Oh, absolutely. 16 CO-CHAIR REILLY: -- for requiring, not just 17 for recommending, but for the government requiring a 18 safety case be demonstrated. 19 MS. KETE: Absolutely. Further, and Norway 20 further goes and they will look at a company's 21 operation in non-Norwegian waters and factor that into 22 their decision as to whether an applicant is likely to</p>
<p style="text-align: right;">86</p> <p>1 make that decision in a very practical way. So that -- 2 and the offshore oil and gas industry needs to make 3 that decision, and we've made some recommendations on 4 how they can demonstrate they've truly made that 5 decision. 6 CO-CHAIR REILLY: It's an excellent and very 7 thorough presentation. Let me just ask one question 8 following up on Frances Beinecke's. My understanding 9 is that in order to drill in the North Sea subject to 10 Norwegian sovereignty a safety case must be 11 demonstrated. You cannot even become certified to 12 lease unless you have demonstrated safety case. Is 13 that right? 14 MS. KETE: The Norwegian system doesn't call 15 it safety case, but it's very close to it. 16 CO-CHAIR REILLY: The British call it safety 17 case. What do the Norwegians call it? 18 MR. BOESCH: In Norwegian or -- 19 MS. KETE: British call it safety case. AOC. 20 It's something in Norwegian, but it's very similar. 21 The Norwegians are very clear that the company holds 22 the operator particularly but then there's also a</p>	<p style="text-align: right;">88</p> <p>1 operate safely in Norway's waters, and then they might 2 recommend that they couple up with an operator that the 3 Norwegians have more confidence in for a while. 4 CO-CHAIR REILLY: How long did it take INPO 5 to become a credible, recognized and trusted enterprise 6 in the whole nuclear field? 7 MS. KETE: I'm going to have to come back on 8 the years, but I think it was almost a decade from '79 9 was the Three Mile Island, and it was into the -- '88? 10 Miss Peachbottom. 11 CO-CHAIR REILLY: When did they get the CEO 12 fired? 13 MS. KETE: That was '88. So it wasn't they 14 had no credibility, but that was according to the 15 historical record when all of the companies really took 16 themselves -- 17 CO-CHAIR REILLY: Do you have a sense of what 18 kind of transition period we might contemplate were we 19 to go down this road? 20 MS. KETE: On the private side for the 21 institute? 22 CO-CHAIR REILLY: Yes.</p>

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1 MS. KETE: It depends how -- well, I think
2 the criteria are if a couple of the leading companies
3 and I would hope it would be some of the independents
4 and some of the majors really work in the coming few
5 months and decide they want to do this and find the
6 kind of leader. They need a particular leader type to
7 step in and then resource it with the money, they
8 should be able to get this up and running, and then
9 what it does next, I don't know if it's going to take,
10 what it's going to take to get them to get that kind of
11 credibility.

12 CO-CHAIR REILLY: It seems to me the burden
13 of your presentation is really we're talking about
14 management here. We're not talking about cement or
15 centralizers. I mean we're talking about the whole
16 orientation toward the enterprise and recognition of
17 how complete and comprehensive understanding of risk
18 has to be and how thorough communication among the
19 people who manage them must be. That strikes me as
20 business school fodder, as stuff that ought to be
21 better understood more broadly in a number of
22 industries, and as you discussed it is in some, but not

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1 yet adequately in this one.

2 MS. KETE: I think both -- I'm not sure,
3 maybe business school, but it's a combination of
4 business school and systems safety engineering.
5 There's a lot from the engineering schools. It's
6 really -- the place I see this done the best is in
7 aviation and aeronautics. I think that, and in some of
8 the military applications. We don't want to stress too
9 much on the military, but when we were researching
10 this, the best examples seemed to be coming out of the
11 definitions coming out of the Air Force and the
12 SUBSAFE. I mean one thing that really struck me is
13 apparently every year the leaders of SUBSAFE listen to
14 the recordings of the Thresher going down, that no
15 mistake about what they're about. They will never let
16 that happen again because they have the recordings of
17 the sub being crushed and all the crew on board dying,
18 and that was a materials failure. It was just somebody
19 used the wrong materials.

20 Similarly, we found out in our research that
21 at DuPont the managers every year look at the video
22 that the Chemical Safety Board made of the Texas City

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1 Refinery blowing up, and they make all the managers
2 watch that so they don't forget what their job is and
3 their job is to not, no matter what their bottom line
4 is that they have to make, they won't forget that they
5 have to keep everybody safe and something like this
6 can't happen again.

7 So when we look at the good practices that
8 the industries and the companies that have decided that
9 safety's at the top, that it's a value, not a priority,
10 as one of our witnesses said at the last hearing,
11 that's the kind of thing they seem to do. It's
12 something deep inside that they recognize that all,
13 everybody from the top down through the company, has to
14 appropriate deep inside. How you create an outside
15 institute to do that, part of it I think is going to
16 include setting up this internal auditing function.
17 That's why we want it internal, not external. It's not
18 somebody else going out and telling them you need to do
19 better. It's their -- they need to create their own
20 club.

21 CO-CHAIR REILLY: It's what we heard from Rex
22 Tillerson finally that having made a misstep and trying

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1 to get consultants to help them transform they decided
2 they had to do it themselves. The other lesson it
3 seems to me comes through from this conversation is
4 this won't happen without a really much more effective
5 regulator. You have got to have standing behind any
6 industry self-policing the long arm of the government
7 and a club that makes clear that there are very serious
8 consequences from this that go well beyond the industry
9 itself and that government is watching very closely and
10 presumably using information about low graded companies
11 to incentivize performance, deny access to certain
12 sensitive areas and make the decisions that would seem
13 to be called for.

14 Well, this is very good. Chairman Graham.

15 CO-CHAIR GRAHAM: Can I just raise one
16 concern with your second point. I don't think we can
17 tell the American people whatever we do that this will
18 never happen again. This is a high risk operation. In
19 another high risk area by the thinnest of threads we
20 have avoided a successful terrorist attack inside the
21 United States since 9/11, but I think most people who
22 are in the business recognize that there's going to

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<p style="text-align: right;">93</p> <p>1 come a time when that thread breaks and it's going to 2 be successful, and if the American people have been 3 told that it will never happen, that will be a further 4 disintegration of public confidence in their 5 government, and so I think we need to be a little bit 6 temperate in using phrases like never for something 7 which in all likelihood will in fact occur, and the 8 American people shouldn't think that when there is that 9 breaking thread that this means the whole system is 10 collapsed. It's just it is just the reality of the 11 risk ratio that is involved in an activity like this. 12 MR. BOESCH: But it is what the industry 13 should strive for. 14 CO-CHAIR GRAHAM: Oh, sure. It's an 15 aspiration, but it's an aspiration which is almost 16 certainly not going to be fully attained. 17 CO-CHAIR REILLY: Well, on that real world 18 note, thank you. Thank you very much on behalf of the 19 Commission. These are very meaty subjects, and we will 20 now take a break until 11:05. 21 (A recess was taken from 10:55 a.m. to 11:05 22 a.m.)</p>	<p style="text-align: right;">95</p> <p>1 last four months really investigating how the current 2 system of regulatory oversight operates, what the 3 processes are that have been followed and what the 4 resources are that are available to the agency to carry 5 out these responsibilities. We've really tried to 6 analyze whether the current regulatory system of 7 regulations is adequate to address the current 8 practices in the deep water and also looking to the 9 future and other fragile environments, and we included 10 the extent to which MMS's resources were adequate from 11 a budget and staffing perspective to cover the 12 increased inactivity over the past 15 to 20 years as 13 the industry has moved into the deep water. We've 14 looked at how the exploration, development, production 15 plans have been developed, the oil spill contingency 16 plans, what the inspection procedures have been, how 17 human safety responsibility is managed, the fact that 18 OSHA does not have a presence on the offshore rigs and 19 the extent to which other agencies with statutory 20 responsibilities have actually shifted the oversight of 21 that to MMS through a memorandum of understanding. 22 In this investigation we've also looked</p>
<p style="text-align: right;">94</p> <p>1 MS. BEINECKE: Thank you, Bill, and I'm going 2 to make some opening comments based on what the 3 subcommittee that has been looking at the regulatory 4 oversight has been doing, and I think Fran Ulmer might 5 have some initial comments too. 6 First of all, just looking at what we just 7 heard on the industry approach and the need to get a 8 more proactive approach to safety on industry, this is 9 very much in parallel to what we need to see happen on 10 the regulatory side. Chairman Graham started off this 11 morning talking about the fact that this resource, both 12 the ocean and the oil that lies under the ocean, are 13 public resources and that the federal government has a 14 responsibility to provide stewardship and oversight of 15 those resources, and how that resource is managed is 16 very much under the authority of the federal 17 government, and I think in the aftermath of the 18 Deepwater Horizon disaster certainly the public is 19 looking to us as a commission to really focus on how to 20 ensure that the federal government carries out its 21 responsibilities in the most complete way. 22 So on the regulatory side we've spent the</p>	<p style="text-align: right;">96</p> <p>1 carefully at what's been going on in other countries, 2 some of which was discussed in a panel earlier, 3 particularly in the North Sea, in Canada and in 4 Australia, what we consider to be our peer regulators, 5 and particularly how practices have changed as a result 6 of offshore accidents, some of which were listed in the 7 previous panel by Nancy. 8 We've looked at the risk management approach 9 that has been adopted in these other countries and how 10 it has forced industry to consider serious risks in a 11 particular activity and demonstrate how those risks 12 will be managed. 13 As we go forward we're going to be looking 14 at both what the structure is in the Interior 15 Department in the former Minerals Management Service, 16 how that structure could be improved to ensure that 17 there is a direct, a much more direct and affirmative 18 approach to safety and also in later conversations 19 today we're going to be looking at what the 20 environmental review provisions are with particular 21 focus on the Arctic which is of course an issue of real 22 concern.</p>

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98	<p>1 industry assuming that the industry could more or less</p> <p>2 police itself, and there has been a tension I would</p> <p>3 suggest and putting it in context of what we're about</p> <p>4 to talk about a tension between an industry that is</p> <p>5 very sophisticated, very technologically advanced, and</p> <p>6 government agencies that are supposed to be regulating</p> <p>7 them for purposes of safety, not only environmental</p> <p>8 safety but process and human worker safety, where does</p> <p>9 the resource come from to support the regulatory regime</p> <p>10 that would be sufficient, adequate, prepared, capable,</p> <p>11 competent, to balance that expertise in the industry.</p> <p>12 Co-chairman Reilly mentioned it in his early</p> <p>13 opening remarks about the failures of MMS, and I would</p> <p>14 urge us to remember that MMS over the last couple of</p> <p>15 decades actually tried to change the way in which they</p> <p>16 regulate the industry with the adoption of regulations,</p> <p>17 the SEMS regs that were recently adopted only within</p> <p>18 the last couple of months, but it was actually a number</p> <p>19 of administrations that had tried to change this</p> <p>20 balance between the industry and regulators to try to</p> <p>21 require a higher level of safe performance, and why</p> <p>22 didn't that happen?</p>	100

1 It wasn't MMS's fault actually. It was

2 push-back from the industry. It was political pressure

3 from congress and from state and local officials that

4 were afraid that it might have too much of a chilling

5 effect on the oil and gas development.

6 So the balance of power between regulators

7 and industry is what's on the table in this discussion

8 in my opinion. We've spent the last couple of hours

9 talking about how important it is that the industry

10 step up its game, take responsibility and involve

11 itself in a very active way of setting high standards

12 of operational safety. At this point in time we need

13 to think about what is the appropriate balance between

14 industry and governmental regulation and what are the

15 appropriate standards for how not only MMS, now BOEM,

16 the Department of Interior and other federal agencies,

17 but the support that they need from congress, from an

18 administration and from the American public because as

19 Co-Chairman Graham pointed out this is a public asset

20 we're talking about. There is a national interest. It

21 isn't a private reserve. It is a national interest.

22 So that's the context that I would just like

1 us to think about this discussion about regulation. We

2 can't simply blame MMS, former MMS. We have to take

3 responsibility ourselves as a people for the attitude

4 of complacency and the notion that it really isn't

5 somehow a responsible and important function for us to

6 regulate to the highest available standards, and

7 without further ado, Shirley, can you put in context

8 for us both what we have learned about how the industry

9 has been regulated and what recommendations you might

10 have for us.

11 CO-CHAIR GRAHAM: Fran, before you turn it

12 over to Shirley, can I just add a comment. I think the

13 word regulation has a number of meanings. In maybe the

14 macro sense it means the degree to which an outside

15 entity can influence the standards and activities of

16 another entity. We tend to think of regulation in the

17 sense of a government agency developing standards and

18 then enforcing those standards. I guess I'm suggesting

19 that we should stay at the macro level. I believe much

20 of what we want to accomplish could be accomplished by

21 things like we talked about yesterday, having the

22 sunseting of standards on a periodic basis so that

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<p style="text-align: right;">101</p> <p>1 people are forced to reexamine whether the standards of 2 five years or ten years ago are still relevant, things 3 like using the lease agreement more aggressively as a 4 means of inserting what the standards and the 5 conditions of execution, maybe trying to involve the 6 insurance industry which has a very big interest in 7 this and a lot of expertise potentially. 8 So I think that as we use the word 9 regulation we don't want to constrict it to the narrow 10 concept but to all of the range of instruments in our 11 orchestra which are available to accomplish the common 12 objective of getting a symphony produced that's safe 13 and environmentally protected. 14 MS. ULMER: I think it's an excellent point 15 that you need a variety of carrots and sticks to make 16 things happen in the way in which we all want them to 17 happen which is a robust and healthy oil and gas 18 industry that operates at the highest levels of safety. 19 MS. BEINECKE: Just one point before Shirley 20 starts. Of course, since the accident in April the 21 MMS, now the BOEM, or E, or ER, has been making 22 significant changes along the way, and we have been in</p>	<p style="text-align: right;">103</p> <p>1 our research and findings and tee up some points for 2 discussion. Through the discussion, through the 3 presentation rather, I'm going to be referring to the 4 agency as MMS. It has, in fact, been renamed. Part of 5 it has been restructured, reorganized, but a part of 6 the reorganization has yet to be done. So for 7 simplicity I'm going to refer to MMS. For the most 8 part it will be the nonrevenue pieces. 9 I want to move to the slides. I'm going to 10 put up a number of slides that have information just 11 for context. I won't go through them. A couple of 12 points I wanted to make on this initial slide is that 13 the Outer Continental Shelf Lands Act is the major 14 statute that affects offshore development of oil, gas 15 and renewable energy now, and we need not forget that 16 renewable energy has become a significant part of the 17 agency's portfolio in the last few years, and we're 18 just focused in this commission on the oil and gas 19 aspects. 20 The other piece I want to point out is that 21 the agency was not created in the statute. MMS was 22 not. It was a creation of the Secretary of the</p>
<p style="text-align: right;">102</p> <p>1 regular conversations with them, with Mike Bromwich, 2 the head of that department. He's testified I think at 3 every hearing we've had. So we've been monitoring what 4 the changes are. I think this morning what we want to 5 do is talk about where we need to go beyond where they 6 have already taken themselves, and also to Senator 7 Graham's point, where the points of leverage are, what 8 we can recommend that can actually assist these changes 9 and to move them more rapidly, and so if we could sort 10 of focus not only what the specifics are but how to 11 actually design them in a way that the likelihood of 12 them happening are, are higher than they might 13 otherwise be. Shirley. 14 MS. NEFF: Thank you, and I would like to add 15 on to Commissioner Beinecke's comment the progress 16 that's been made. I will be going back and going over 17 some things that we've learned about our research that 18 is based on historical studies, management reviews, et 19 cetera. So I just want to qualify that because we 20 definitely think that they have been moving 21 aggressively in recent months. 22 My presentation is intended to just frame</p>	<p style="text-align: right;">104</p> <p>1 Interior in 1982, and Secretary Watt combined the 2 royalty functions for all onshore and offshore mineral 3 development and offshore oil and gas activities into 4 one agency. So it doesn't have what's called an 5 organic statute. So some of these aspects of the 6 agency have evolved over time. 7 The other piece of it is because of the, and 8 I think this is natural, back in the 1980s we didn't 9 have the communication mechanisms that we have now, so 10 the agency was largely organized on a regional basis 11 rather than a functional basis, and this will come to, 12 you'll understand more and more why that decision in 13 1982 has had such an impact on how things are today. 14 CO-CHAIR GRAHAM: Shirley, before you leave 15 it, you list under leasing four, five of the 16 considerations, all of which seem to be basically 17 economic judgments like financial prequalifications, 18 antitrust, ensure resources are produced in a way to 19 optimize recovery. Are there any safety factors 20 written into the current contract? 21 MS. NEFF: Into the prequalification and the 22 lease itself?</p>

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1 CO-CHAIR GRAHAM: Yes.
2 MS. NEFF: No.
3 CO-CHAIR GRAHAM: Is there a reason why they
4 are not?
5 MS. NEFF: Under the US system the
6 determination as to safe operations happens later at
7 the permitting stage. In other countries, as discussed
8 earlier, there are prequalification requirements before
9 a company can even have a license or a concession to
10 operate.
11 MS. BEINECKE: So that's a major area to
12 focus on because that's where you have the greatest
13 leverage is access to the resource in the first place.
14 CO-CHAIR GRAHAM: Absolutely.
15 MS. NEFF: The first finding I'll go over is
16 the fact that the thing that's become so clear to us is
17 that there's too much regulatory coordination required
18 in the offshore. As one of the other regulators who's
19 been through this pointed out, overlaps have tended to
20 result in underlaps. The oversight of these very high-
21 risk activities on the OCS has been divided among a
22 number of different agencies for various reasons. Some

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1 of the responsibilities are aligned with the capacities
2 of these agencies. Others have by memoranda of
3 understanding and memoranda of agreement been shifted
4 over to the Department of the Interior to MMS and its
5 successor agency.
6 The US Coast Guard has responsibility for
7 vessels, and a lot of these drilling rigs, most of them
8 now, mobile drilling rigs, are vessels while they're
9 under way, while they're moving out to location, and
10 they're under jurisdiction of the Coast Guard for
11 inspection and certification. When they become
12 stationary and prepare to operate in a drilling mode,
13 all of these aspects of the operations are under the
14 MMS jurisdiction, and they review the equipment that's
15 related to petroleum activities. So you have two
16 agencies regulating and overseeing the drilling rigs,
17 and that's important in this case.
18 The other issue is work place safety. OSHA
19 does not have jurisdiction in the offshore. That was
20 given to the Coast Guard. The Coast Guard because of
21 its resource constraints and the fact that it largely
22 deals with these vessels while they're under way, not

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1 while they're out there in petroleum stationary mode
2 and engaged in petroleum activities, they over time
3 negotiated various memoranda of understanding and
4 agreement with the MMS to handle the work place safety
5 issues and --
6 CO-CHAIR REILLY: But where do we start
7 though? OSHA had statutory responsibility to begin
8 with, and they deferred to the Coast Guard? Is that
9 what I understood, or not?
10 MS. NEFF: No. The congress made a decision
11 earlier on.
12 CO-CHAIR REILLY: Statutory in the Coast
13 Guard.
14 MS. NEFF: Statutory in the Coast Guard.
15 CO-CHAIR REILLY: They delegated it further
16 to MMS.
17 MS. NEFF: Well, they haven't totally
18 delegated it, but they have an agreement on how
19 different activities or different areas of oversight
20 will be handled. So basically you have two agencies,
21 and this is the overlap issue and a question of whether
22 that's the most efficient way to operate.

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1 The Department of Transportation Office of
2 Pipeline Safety is responsible for offshore pipelines.
3 They do not have the helicopters and ships to go out
4 and inspect these. They have delegated that
5 responsibility to MMS.
6 One issue is, another one, is helicopters,
7 and I, in the limited time we've had to do this
8 investigation I have to say we just don't fully
9 understand who or how offshore helicopters are overseen
10 by the federal government. We do know that this is a
11 significant safety issue. The incidents are reported
12 to MMS when there's a helicopter accident that occurs
13 at a platform. We know that in 2008 I believe, Scott,
14 eight people were killed on a petroleum helicopter, a
15 helicopter that was taking crew back and forth to a
16 couple of facilities, but it didn't occur at the
17 platform so it doesn't show up in the MMS statistics.
18 We found it in the NTSB's, the National Transportation
19 Safety Board's statistics. We know helicopters don't
20 have to file flight plans, so we don't really know what
21 coverage there is there.
22 There are other agencies that have

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1 responsibility for different environmental permits.
2 One of the things, and I'll come back to this again
3 later on, one of the recommendations and clear findings
4 from the International Regulators Forum that Nancy
5 referred to earlier is that regulatory regimes can only
6 function effectively when there's a single entity that
7 has responsibility for safety and pollution protection
8 when it's out on the OCS.
9 The next finding from the staff is that the
10 regulators' resources have been idled while the
11 industry activity has increased, and by idled we mean
12 just not moving forward as they should have been
13 commensurate with the degree of complexity of the
14 activities. Inadequate budget and management oversight
15 by the Congress and successive administrations, and we
16 literally have looked at this going back 20 years, and
17 it's been persistent, have left MMS without the
18 resources to carry out its responsibilities. In fact,
19 the MMS's budget has never been linked to activity or
20 the revenues that the agency generates, and you'll
21 notice here the low point of the budget for the
22 offshore program was in 1996. That's the black line on

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1 the chart, and of course the red area and the green
2 area is drilling in deep water and ultra-deep water,
3 and these are more complex systems. I mean, I just --
4 I think you've heard enough from earlier presentations
5 in the hearings to understand that.
6 The Secretary of the Interior's appointed
7 Safety Oversight Board reported that one of the
8 outcomes of this is that there's been a lack of ongoing
9 training and workforce development. They haven't had
10 the staff as the activity has increased and they
11 haven't had the budget to continue to maintain the
12 skills, and in fact, that reliance on on-the-job
13 training for inspectors has been too prevalent.
14 The next finding is that the regulator has
15 been unable to keep pace with the industry. The
16 technology and operational complexity that the federal
17 approach to management and oversight of the leasing and
18 development of offshore resources has not kept up with
19 these rapid changes in technology, practices and risks
20 in different geological as well as ocean environments.
21 Now, one point to make here is that the geology is not
22 always and the complexity is not tied to the water

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1 depth. That's a distinct risk. Water depth and ocean
2 environment is another factor all together.
3 The Safety Oversight Board acknowledged the
4 lack of ongoing training for engineers and inspectors
5 again, and we went back and looked at participation on
6 the part of the professional staff in meetings and
7 conferences where there's a lot of exchange on current
8 activities in the industry. I think my slides -- did I
9 skip too far?
10 MS. BEINECKE: I think you missed a slide.
11 MS. NEFF: I skipped a slide. I apologize.
12 I skipped over one of the most important ones.
13 MS. BEINECKE: Right.
14 MS. NEFF: The one thing that we clearly
15 discovered is that there's been a conflict of interest
16 and distraction with so many different responsibilities
17 in this one agency. One of the areas is -- there's
18 been a large responsibility for revenue generation from
19 leasing these federal resources, and the offshore
20 Office of Energy and Minerals Management sets the
21 royalty rates, the rental rates and the lease terms for
22 leases at the front stage. The Office of Mineral

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1 Revenue Management which has now been reorganized into
2 the Office of Natural Resource Revenue -- it's no
3 longer under the same assistant secretary. That was
4 effective October 1. That part of the secretary's
5 announced reorganization has occurred -- that office
6 just deals with collection and auditing. It doesn't
7 set the financial terms of the leases, and then the
8 offshore inspectors check the production meters to
9 verify that they're performing accurately because this
10 is important in doing the collection of revenues.
11 You can see from this chart here, it's
12 obvious to see what the revenues are over the years.
13 The line that's hard to see is the agency's budget
14 which you can see is almost a flat line at the bottom.
15 I just point that out. I've gone over the issue of the
16 technical complexity, as I skipped over the slide.
17 MS. BEINECKE: Could we just pause on the
18 budget for a second.
19 MS. NEFF: Sure.
20 MS. BEINECKE: In the following respect.
21 This is a hugely profitable program for the United
22 States. I mean there's tremendous revenue that flows

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<p style="text-align: right;">113</p> <p>1 as a result. So I think we should explore how to 2 ensure that the MMS oversight responsibility is 3 adequately funded and whether there is a mechanism to 4 draw from those revenues in a consistent fashion to 5 meet the regulatory obligations, because to Fran's 6 earlier point, this has been an underresourced, 7 understaffed agency while the complexity has grown, and 8 whether there is specific recommendations, I mean 9 obviously I think the conclusion that we can come to is 10 this agency needs more capacity to fulfill its 11 obligations. Then what are the mechanisms to provide 12 that? Because Congress has consistently failed to 13 provide that over 20 to 30 years. So if we feel that 14 that's a very important aspect of it, turning to 15 Congress to do it or figuring out whether there's a 16 funding mechanism from the revenue source that's being 17 generated is something we should consider. I don't 18 know if anyone has a comment.</p> <p>19 MS. MURRAY: I have a comment, and that is in 20 other countries there are other revenue sources such as 21 the leases, and so in talking to, for example, the 22 Australian Safety and Environmental Authority they are</p>	<p style="text-align: right;">115</p> <p>1 facility and does their thing. The second dry cleaner 2 is on privately owned land doing the same function. 3 The idea that we should say to the person who's 4 operating on the Baltimore public land that they should 5 essentially pay less because their cost of regulation 6 is going to be absorbed as part of the lease that 7 they're paying, whereas the guy who is on private land 8 is going to pay the market lease for that land plus the 9 cost of regulation. So the idea that we should take, 10 particularly in this environment of so much focus on 11 deficit reduction, that we should take a portion of the 12 money which now is going into the federal treasury and 13 use it to subsidize the regulation which I think the 14 industry ought to pay for isn't very compelling to me.</p> <p>15 MS. ULMER: Well, I guess that would suggest 16 some sort of additional fee structure that would cover 17 the regulatory cost which I think is another approach. 18 I think any of these are possibilities. The question 19 is which is the best way to actually assure adequate 20 resourcing for an agency that if we want it to be 21 effective has to get additional support from Congress 22 one way or another, and I think this is a challenge</p>
<p style="text-align: right;">114</p> <p>1 not funded by a line item from the government. They 2 are funded from the, yes, by the revenue.</p> <p>3 MS. NEFF: We have looked very closely at 4 that issue, in fact, and in these other countries the 5 acquisition of the lease up front does not cost the 6 companies nearly what it does here. We have a policy 7 where we auction these leases, and the companies pay 8 millions, in some cases tens of millions of dollars to 9 an access to a single tract for development. At the 10 hearing earlier in November a couple of the executives 11 from the oil companies pointed out that they actually 12 think they've paid when they acquire these leases for 13 the regulatory services and for the government to 14 perform its oversight. So that's been a bit of a 15 conflict in our budgeting process.</p> <p>16 CO-CHAIR GRAHAM: I don't really buy that 17 argument. I'm going to pick a very simple example. A 18 heavily regulated industry are dry cleaners because 19 they deal with a lot of chemicals and they can pollute 20 the water. Let's say we have two situations. We have 21 one where the City of Baltimore has some land and they 22 lease it to a dry cleaner, dry cleaner builds a</p>	<p style="text-align: right;">116</p> <p>1 we've heard actually from industry leaders, that it's 2 important from the industry's perspective to have 3 competent, well-funded, focused, capable regulators to 4 work with.</p> <p>5 So this is one of the to-dos for Congress. 6 I mean we need to think of the list of what is it that 7 industry needs to do? What is it that federal agencies 8 need to do? What is it that Congress needs to do? 9 What is it that state and local governments need to go 10 as we move forward? This is clearly one. Whether they 11 chose a process whereby the funding comes directly from 12 the treasury, from fees, from leases or whatever, I 13 think the bottom line is that if you look at that 14 budget, you can see how woefully inadequate it's been 15 in relationship to what's happened in this very 16 complicated high-risk industry.</p> <p>17 MS. BEINECKE: Right. And just commenting on 18 part of Chairman Reilly's introductory statement, one 19 of the concerns of industry clearly is that these 20 things are taking time. It takes a long time to 21 process the permits. Well, one of the reasons is there 22 is not enough people to do it, and if the industry</p>

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<p style="text-align: right;">117</p> <p>1 became an advocate for adequately staffing this agency 2 and really assisting in the process of getting the 3 resources that were required it might change the 4 dynamic in order to actually have the access they are 5 seeking to have.</p> <p>6 CO-CHAIR REILLY: You know, I think that's 7 absolutely right, and I have been reading something 8 handed to me just this morning about industry's 9 reaction to the Administration decision not to go 10 forward with respect to scoping, to do nothing more 11 than seismic testing, allowing permissions in the, 12 along the Atlantic coast and in the eastern Gulf, and 13 industry obviously is distressed about that and upset 14 about it. One has to ask, however, how a decision ever 15 could have been made otherwise given the poor state of 16 the agency itself which I think was very good 17 justification and I gather some officials in the 18 administration actually offered it as an explanation as 19 to why it would be inappropriate to have a more 20 expansive leasing program in the way that had been 21 contemplated by Secretary Salazar and the President as 22 of a month before Macondo, that if ever you need an</p>	<p style="text-align: right;">119</p> <p>1 well, if you have these plans, why shouldn't everybody 2 who's operating offshore have them? Because their 3 companies participate in the rule making process with 4 the trade associations as a whole saying, no, don't 5 make this mandatory; let us each choose how we'll do 6 this ourselves. And we've heard back that some of them 7 were surprised to find out that their companies were, 8 in fact, participating in these general what we would 9 consider to be lowest common denominator industry 10 comments.</p> <p>11 What's clear is that the agency itself has 12 an outdated organizational structure. Its activities 13 are misaligned. It's created difficulties for 14 assessing where resources are needed and putting 15 resources in the right place. They've recognized that. 16 I mean they've recognized it for a number of years. In 17 fact, in the fall of 2006 the offshore minerals 18 management program asked for an independent government 19 expert management firm to come in and look at how they 20 should reorganize to improve their efficiency. LMI 21 Government Consulting did this for them. They 22 interviewed a number of senior executives throughout</p>
<p style="text-align: right;">118</p> <p>1 illustration of the nexus between resources, the 2 regulatory agency and a combination of industry's 3 wishes to expand, there is in that history, and it's 4 just straightforward.</p> <p>5 MS. NEFF: So I already discussed the 6 technological and operational complexity. The other 7 aspect that has really lagged, not just the industry 8 but other regulators, has to do with the requirement 9 for a safety and environmental management plan. The 10 MMS philosophy on the part of the staff and the agency 11 itself evolved in the early '90s, and they came out 12 with a proposed SEMS program. It was initially 13 voluntary, and they didn't see a lot of uptake from the 14 industry, and as Commissioner Ulmer mentioned, I mean 15 over time they tried to make this permanent. 16 Unfortunately the industry has resisted, and we had a 17 meeting, we've had a number of meetings with industry, 18 with senior executives from different companies, and 19 pointed out to them that while they come and tell us 20 that they have these plans and they're even higher than 21 the standards required by even the API recommended 22 practice, that, you know, we have asked them then,</p>	<p style="text-align: right;">120</p> <p>1 the agency in all of the regions and in headquarters. 2 They talked to industry. They talked to other 3 agencies, and they came up with the same findings that 4 we have. One, that there are four primary 5 responsibilities: The access to resources on the OCS, 6 that there be minimum impact to the environment, there 7 be safe operations on the platforms and receipt of fair 8 market value for resources.</p> <p>9 Now, during this period in early 2007 when 10 they did the survey they asked all of these senior 11 managers what do you think is the dominant focus within 12 the agency? And you can see there they concluded that 13 the dominant focus was on access to resources. The 14 OMM, the LMI management group found that the OMM awards 15 oil and gas leases while also regulating operations of 16 the oil and gas industry, and then it politely said to 17 its client, which might be perceived as a conflict of 18 interest.</p> <p>19 There were a number of other recommendations 20 that speak to this issue of needing clear functional 21 organization. They did conclude that the workforce was 22 highly specialized, educated, experienced, was</p>

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<p style="text-align: right;">121</p> <p>1 dedicated to the profession. I can say personally for 2 myself and I know Scott McKee, my colleague here, has 3 been in many conversations as we've been doing our 4 research with career staff and the agency, they are 5 knowledgeable, and we've said to them you used to do 6 this analysis, you used to provide these reports. The 7 bottom line is as the work load increased they just did 8 not have the time to commit to doing the analysis, and 9 it's been a challenge for us because that analysis 10 which had been there over the years sort of went away 11 in the last decade. The raw data was there. So we've 12 been, you know, pulling it together in that time, 13 and the bottom line conclusion was that you have twice 14 as many technical experts in managerial positions 15 because of this regional organization. 16 Now, the government best practice is about 17 15 to 1. Seven to 1, and that's because when you look 18 at the organization chart of this agency, there's the 19 Gulf of Mexico region, the Pacific region, Alaska. 20 Within the Gulf of Mexico there are four district 21 offices, and so you have this real hierarchical 22 structure that's built on an outdated regional mode</p>	<p style="text-align: right;">123</p> <p>1 recommendations were made. The changes were not made. 2 People continued to work at these stovepiped isolated 3 environments with this increasing activity, and 4 remember, the renewable activity was taking more and 5 more engineering time, and none of the changes were 6 made. The industry, the people who participated in 7 this process I was told flat-out were so optimistic 8 that they had gone through this, they were going to see 9 these reforms, they were going to have these expert 10 teams who would be able to address critical issues. 11 One of the things we've seen in some of the surveys is 12 that the staff feel like they've got good expertise 13 when it comes to actual production in deep water. When 14 you're talking about production platforms out there, 15 they focused on that early on because they knew they 16 had to because these production systems were much 17 larger than what they'd seen in shallower waters on the 18 shelf. They're more like but not quite as big as what 19 we see in the North Sea, for example. 20 They thought that was going to happen. It 21 didn't. Meanwhile drilling continued, and from some of 22 the statistics you saw earlier from Nancy's</p>
<p style="text-align: right;">122</p> <p>1 when it should be more functional, and that was the 2 conclusion of the study. There was a recommendation 3 that they proceed expeditiously to do this. That was 4 in May of 2007. It has not happened now. That's what 5 Secretary Salazar announced back in May of this year. 6 And again -- 7 CO-CHAIR REILLY: I just ask, this is, some 8 of this, is at odds with the safety, the Oversight 9 Board's report which concluded that you had a fully, a 10 highly demoralized agency. Forty percent or more, I've 11 forgotten, didn't consider that they were supported by 12 their superiors, frequent reversals by their superiors 13 when they were ordered infractions, forum shopping 14 accepted as something that they tolerated. I mean how 15 do you -- when you say it's highly specialized, 16 educated and experienced and we also saw all of the 17 responses that indicated that they didn't understand 18 things like centralizers and cementing and the rest, 19 somehow we've got to reconcile that with what this is 20 saying. 21 MS. NEFF: Our impression is that there was a 22 serious effort -- this was three years ago these</p>	<p style="text-align: right;">124</p> <p>1 presentation there were a number of well blowouts that 2 were increasing to happen, loss of well control, 3 because there were some geological provinces that 4 companies were drilling in that were much riskier, more 5 complex, and the agency increasingly felt like, the 6 staff felt like they didn't have the drilling 7 expertise, and so the frustration there, and that's why 8 the demoralization has come about, is they thought they 9 were going to be addressing it, and it didn't happen. 10 They didn't have the resources. They didn't have the 11 commitment from the political leadership, and the 12 bottom line is this agency, the political leadership 13 determined how they're going to manage these agencies, 14 these career staff that are dedicated to performing 15 this public function. So now three years later that's 16 the reaction that we've gotten. 17 CO-CHAIR REILLY: And this agency reported 18 directly to the Interior secretaries over the years. 19 That's the way it was established? It had no organic 20 act, no independent entity existence. Did secretaries 21 raise the issues of these inadequacies? Did anybody 22 call the alarm on this? Was there attention to it,</p>

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<p style="text-align: right;">125</p> <p>1 unsuccessful attention? 2 MS. NEFF: The first -- the main -- this is 3 the main study that we were able to find in recent 4 years as the industry has moved into deep water, and we 5 just got this shortly before Thanksgiving. We didn't 6 know it existed until, you know, we dug into more and 7 more information. So we do know and we've since talked 8 to a number of the people who participated in this 9 process. 10 I mean it was apparent by 2006 that this 11 needed to happen. I mean that's why they asked for the 12 review. I mean to have the internet age, to have four 13 district offices, and in fact we saw in the surveys 14 that were done for the Safety Oversight Board that a 15 number of the staff felt like they should be having a 16 lot more interaction so they would know what the 17 companies were doing about this forum shopping and how 18 they were handling things. 19 MS. BEINECKE: But, Shirley, this goes to 20 your original point which is from every MMS person, 21 administrator, what we've heard is that the focus was 22 on the revenue; it wasn't on the safety regulation, and</p>	<p style="text-align: right;">127</p> <p>1 understand where these dangers were. Other regulators 2 all require this, and in fact, they publish the data. 3 They aggressively reach out to the industry to address 4 these issues with hydrocarbon releases. 5 Again, this is in the same vein here. Our 6 conclusion, our finding is that the focus on production 7 trumped resources and adequacy of commitment and staff 8 time and updating regulations to address safety. 9 Again, as Commissioner Ulmer pointed out, industry when 10 they've not been happy with regulations and proposals 11 that the agency has brought up have gone to Congress. 12 There was especially a lot of activity of congressional 13 direction and prohibiting the agency from implementing 14 rules on oil valuation, on use of geological and 15 geophysical data for its own scientific purposes where 16 the agency felt it needed it. Congress told it, well, 17 wait a minute here, you know, this is proprietary so we 18 want to make sure you work this out with the companies 19 before you use this or have a contractor use this for 20 you. The limitation for 30 days on exploratory permit 21 reviews is well known. 22 CO-CHAIR GRAHAM: Shirley, can I go back a</p>
<p style="text-align: right;">126</p> <p>1 now since the accident the agency has done a much more 2 thorough analysis. We've done our own analysis and 3 have concluded that it needs to be much, much greater 4 resourced but also have the authorities change and 5 bulked up to meet the challenge. 6 MS. NEFF: And organized differently, yes. 7 MS. BEINECKE: And organized differently, so 8 we should get more towards that as we get going. 9 MS. NEFF: And then back on this whole 10 question of risk management. Again, I don't think I 11 need to belabor the point. I will reinforce what Nancy 12 said earlier, that we have a gap here in reporting 13 hydrocarbon releases. Now, spills, the purple line on 14 the graph that you see, anything that's a liquid has to 15 be reported, and those are, even in very small amounts. 16 When it comes to gas, and gas is the 17 dangerous hydrocarbon, it's only reported if it results 18 in an equipment shutdown or equipment or process 19 shutdown. Now, the agency, and again, the career 20 experts within this agency had tried to get this to be 21 reported so that you'd have this precursor information 22 so that both the agency and the industry would</p>	<p style="text-align: right;">128</p> <p>1 moment to this issue of no required reporting of gas 2 releases. Is that a congressional prohibition or -- 3 MS. NEFF: No. 4 CO-CHAIR GRAHAM: Who's the source? And 5 therefore who can solve that issue? 6 MS. NEFF: It can be handled through the 7 regulatory process. 8 MS. MURRAY: Then, Shirley, can I just ask, 9 in the North Sea, I mean obviously there is here in the 10 US an underreporting of gas releases just looking at 11 this data. In the North Sea do you know what the ratio 12 is of gas to liquid? 13 MS. NEFF: Well, it's very hard to show that 14 because of the different measurement. We did try to 15 figure out a way I can state that. 16 MS. MURRAY: Well, it's different geology as 17 well, of course, but I'm just wondering is it ten times 18 underreported or two times? I just don't know. 19 MS. NEFF: I, I don't know. I would guess 20 that it's there are far more gas releases than oil 21 releases. 22 This slide is a very busy slide but it was</p>

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<p style="text-align: right;">129</p> <p>1 an attempt to compile a lot of information to show you 2 that there have been a series of incidents by US based 3 international oil companies going back to the early 4 days of offshore development in the early '60s, as 5 Nancy mentioned earlier. Some of them have been 6 blowouts. Some of them actually resulted in an oil 7 spill. This one did. They don't always. They can 8 result in other, you know, catastrophic events. Others 9 have been structural problems where we've had rigs, you 10 know, sink with catastrophic consequences, et cetera. 11 In the late '80s the Piper Alpha incident in 12 the UK North Sea led to a heightened focus on the need 13 for regulators to focus on risk. Lord Cullen spent two 14 years doing an investigation and looking at and making 15 recommendations for how to transform that. At the time 16 the MMS was looking at exactly the same thing. There 17 had been an incident in the Gulf of Mexico in 1989, the 18 South Pass Block 60, and unfortunately within the week 19 the Exxon Valdez ran aground in Prince William Sound 20 and everybody's attention focused on that. So while 21 the rest of the world was moving forward with a more 22 proactive risk based approach, you know, our regulator</p>	<p style="text-align: right;">131</p> <p>1 out, one of the regulators pointed out to us, the 2 things you embody in prescriptive regulations are the 3 things everyone knows need to be done, and so there are 4 a number of things that do need to be in prescriptive 5 regulations, but beyond that where things aren't so 6 known or where they're higher risk or where you're 7 involving more companies and contractors you need to 8 have a proactive risk approach. You need to assess the 9 operator and all of the other facilities involved 10 including the drilling rigs. You need to assess what 11 the risks are and how they're going to manage them, and 12 they need to communicate that amongst themselves, and 13 they're specific to the operation. 14 If you're in a conventional area where 15 things are well understood and known, the prescriptive 16 regulations are probably going to cover everything you 17 need. I mean you've got to be mindful and observant. 18 They have a different approach to inspection which is 19 to audit the management systems and ensure that they 20 are complying with the prescriptive regulations, of 21 course. 22 Personnel and training is another issue that</p>
<p style="text-align: right;">130</p> <p>1 and the focus of Congress and others was more on 2 tankers. 3 One point I do want to bring up here because 4 this goes back to what Nancy said earlier, at the very 5 bottom on the lower left-hand side, we had the Montara 6 blowout last fall in Australia. That was well known in 7 the industry. There were some of the same companies 8 involved including Halliburton on the cementing. When 9 the commissioners asked at the hearing earlier this 10 month whether the international companies had 11 disseminated the information from the Montara blowout 12 within their companies, it was basically a non-reply. 13 There was a near-blowout in the Norwegian North Sea at 14 Gullfaks. This has been widely reported recently. It 15 wasn't a blowout. It didn't result in a spill, but 16 it's been widely reported because the Norwegian 17 regulator makes a big issue of this, and if you go to 18 their website you'll see all sorts of information on 19 it, and you've all gone through and heard presentations 20 from us on how these other regulators operate, the 21 focus on risk based regulation. They do all have 22 minimum prescriptive standards. As somebody pointed</p>	<p style="text-align: right;">132</p> <p>1 there is extensive work on and resources committed to 2 in these agencies to make sure that their engineers and 3 their technical people are up to date on what's going 4 on in the industry. They've acknowledged they can't 5 know everything, but they make a serious effort at it 6 and they have salary scales in hiring, bonus retention 7 programs to enable them to retain people, and they do 8 record the statistics and publish them widely. 9 MR. GARCIA: Shirley, in these other 10 jurisdictions in Norway and the UK I gather from this 11 chart that they require a safety case for the rigs and 12 the mobile drilling units? 13 MS. NEFF: Yes. Whether it's called a safety 14 case or not, essentially, yes, they do. 15 MR. GARCIA: Which I think is an important 16 point given that there were only a handful of BP people 17 on that rig, and so a safety case applying only to the 18 operator would have not addressed all the problems that 19 we're talking about now. 20 MS. NEFF: One comment I would just add from 21 the Montara investigation, the results of which were 22 just released this past week, is that the inquiry found</p>

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<p style="text-align: right;">133</p> <p>1 that their approach using safety cases, they continue 2 to support that, but that in this case perhaps the 3 pendulum had swung too far. Everybody brings up that 4 Montara happened under a safety case. What the inquiry 5 said was, yes, but we need to make sure that the 6 prescriptive standards are really covering those things 7 that need to be laid out clearly, and then they go on 8 to speak to the issues of well design and well control 9 in prescriptive rules.</p> <p>10 Finally --</p> <p>11 CO-CHAIR REILLY: And it was cementing that 12 failed at Montara. Is that right?</p> <p>13 MS. NEFF: There were a number of issues.</p> <p>14 MS. BEINECKE: But that was one of the 15 issues.</p> <p>16 MS. NEFF: Yes; the loss of barriers. 17 Basically the other regulators all have minimum 18 requirements on barriers, and it was a question of loss 19 of barriers and assumptions about what could stand in 20 for barriers.</p> <p>21 CO-CHAIR REILLY: Thank you.</p> <p>22 MS. MURRAY: I was just going to say it's</p>	<p style="text-align: right;">135</p> <p>1 coordinating.</p> <p>2 CO-CHAIR GRAHAM: To pick a specific example, 3 you'll note that Halliburton had tested this cement 4 recipe twice, and it had failed. The third test was 5 not complete before the cement pour was undertaken. 6 Whose responsibility would it have been in Norway if 7 they had seen those two failures to say we're not going 8 to proceed until we have a satisfactory resolution of 9 the stability of the cement?</p> <p>10 MS. NEFF: Senator Graham, I have spoken with 11 the Norwegian regulators a number of times, but I have 12 to admit I couldn't really speak to that issue. It 13 would have been a matter of how they had determined 14 that they were going to ensure that the various 15 elements of their plan were going to ensure safety and 16 that they were executed as intended. I mean that's a 17 major focus in the safety case and the risk management 18 world that the regulators look at whether the 19 management systems were in place to ensure that the 20 plan was executed as laid out and as presented to the 21 regulator.</p> <p>22 CO-CHAIR GRAHAM: And would that typically,</p>
<p style="text-align: right;">134</p> <p>1 eerily similar.</p> <p>2 MR. BOESCH: Yeah. I think there are, you 3 know, systemic issues and problems that occurred in 4 almost all of these cases but those two in particular, 5 and in response to something that Terry said about the 6 complexity that involved more than just the operator 7 who has only a few people on the rig, still someone has 8 to be responsible for coordination, and it is the 9 operator, and so even though there are multiple 10 failures, the responsibility centers on the operator, 11 and it's the operator's responsibility to develop the 12 safety case, as I understand it. Is that correct?</p> <p>13 MS. NEFF: Well, no. In these other systems 14 it's not just the operator of the drilling rig.</p> <p>15 MR. BOESCH: But in consort with them.</p> <p>16 MS. NEFF: They're all required to.</p> <p>17 MR. BOESCH: But if there's one entity that's 18 responsible for it, it's the operator.</p> <p>19 MS. NEFF: Well, the operator is ultimately 20 responsible, but the others in order to be part of the 21 team that does the development are required to have 22 their own systems and to ensure that they're</p>	<p style="text-align: right;">136</p> <p>1 for instance, include the fact that you had to have 2 demonstrated that the cement that you're going to pour 3 will be stable and will result in the desired outcome?</p> <p>4 MS. NEFF: I would imagine so. I'm not an 5 engineer, but I would certainly imagine that -- that's 6 an interesting point to bring up right now. Most of 7 these other regulators, the offices, the chief 8 regulator is an engineer, a professional engineer. 9 Magne Ognedal, the executive director of the Norwegian 10 Safety Authority, has spent his entire career in the 11 petroleum sector.</p> <p>12 CO-CHAIR REILLY: But it has been notably 13 untrue at MMS. We have not had expertise, engineers, 14 petroleum geologists or anybody who seems to know a lot 15 about the industry running that for its 30-year 16 history.</p> <p>17 MS. NEFF: Yes. One former MMS director had 18 a Bachelor's in engineering but did not work in this 19 particular area. So that comes to the recommendation 20 from the staff, and that is that there be a move to 21 risk management approach, that the whole regulatory 22 approach move to integrate risk assessment and risk</p>

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<p style="text-align: right;">137</p> <p>1 management practices into the oversight of the offshore 2 industry.</p> <p>3 The regulatory regime should evolve from one 4 of basic prescriptive regulations which is what we have 5 now to a system of augmented baseline regulations 6 supplemented with a proactive risk based performance 7 approach specific to individual facilities, operations 8 and environments. I brought up a number of these 9 factors earlier. Nancy talked about them in her 10 presentation earlier; a risk based approach initially, 11 and we think the, from what we've concluded in the 12 course of many discussions with industry and with 13 Director Bromwich and career staff at the agency is 14 that a risk based approach right now in the US should 15 really focus on areas with high risk geological 16 structures, potentially the Arctic and other frontier 17 areas that are less known, again, where the issues are 18 not already fully embodied in the regulations.</p> <p>19 MS. BEINECKE: Shirley, just to pause on this 20 for a second. So my impression is that in the last 21 five months MMS has really focused on the first part of 22 this which is the augmented baseline to really get the</p>	<p style="text-align: right;">139</p> <p>1 question that in deeper waters where the geology is 2 complex that perhaps the agency should set competent 3 standards at the bidding stage so that in order to bid 4 on certain tracts and when they do a lease sale they 5 identify certain tracts where there are specific, 6 particular circumstances. Now, they typically relate 7 to environmental stipulations or shipwrecks or other 8 things that need to be taken into consideration. They 9 could also cull those out and say you have to be 10 approved by us before you can bid on this. That's 11 consistent with the way other governments operate. 12 There are also a lot of companies that are well known 13 -- most of the companies are well known. I mean most 14 regulators come and look to the US. Have you operated 15 there? What's your record? So this is not something 16 that would be a huge difficulty for the agency. They 17 know who would have the expertise and who wouldn't.</p> <p>18 And then we recommend that in those leases 19 that those are the ones where the regulator require 20 that there be a clear risk assessment, risk management 21 demonstration prior to proceeding with any activities. 22 CO-CHAIR GRAHAM: If this standard had been</p>
<p style="text-align: right;">138</p> <p>1 current prescriptive regulatory structure upgraded 2 significantly, and there have been a number of notice 3 lessees and other things that have come out as a result 4 of that but that the shift which is what we're 5 proposing recommending would be a significant shift to 6 this adding this dimension of a proactive risk based 7 performance approach and that would require, I mean you 8 talked about additional resources into the agency. 9 This would require not only additional resources but a 10 change in structure to really have an independent 11 oversight of the safety elements both on the human 12 safety side and also on the environmental safety side. 13 So we're going to talk about that a little bit more, 14 but they've come part of the way, only the first part 15 of the sentence. The second half would be a major 16 shift.</p> <p>17 MS. NEFF: Yes. Along with that we are 18 suggesting that there's a long history of area-wide 19 leasing in the Gulf of Mexico. After the moratoria in 20 the '90s it's pretty much narrowed down to that. It's 21 an area where there's a lot of experience and a lot of 22 players and that that should continue. There is a</p>	<p style="text-align: right;">140</p> <p>1 in effect when there was an area-wide lease, one of the 2 tracts within that was the tract that BP got became the 3 Macondo, would it have been picked up as an area of 4 complex geology?</p> <p>5 MS. NEFF: Yes, yes. It would have also 6 required under the staff recommendation that before 7 this well was drilled that BP demonstrate to the senior 8 engineers at the agency how it was going to go about 9 managing this, the whole drilling activity, not just 10 submit a permit and then submit revisions to the 11 permit. They'd have to actually say how they're going 12 to do this, how they're going to maintain barriers, and 13 they would have to have fully thought that out. They 14 would have had to have explained how they were going to 15 coordinate this with Transocean, with Halliburton, with 16 all these other contractors that were there to make 17 sure that when you got into the point of having all 18 sorts of multiple activities at one time that people 19 would understand and stay focused on the risks.</p> <p>20 MR. GARCIA: I just want to make sure we're 21 clear on something, and it goes back to Don's point, 22 that what we're proposing is that a safety case would</p>

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<p style="text-align: right;">141</p> <p>1 have to be developed by each of the major players, so 2 the drilling company and the operator, and they'll be 3 complementary, but they are independent, and, you know, 4 that leads to another issue which is we want people on 5 the rig to take responsibility, and presumably there is 6 some pressure that's brought to bear on these drilling 7 operators. They get their income from -- or drilling 8 companies -- they get their income from the operators. 9 There has to be some mechanism that insulates a drill 10 rig worker from retaliation if that person decides to 11 hold up their hand and say stop, and I don't think we 12 have that now, so it's got to be built in to whatever 13 it is, is going to be proposed here and required of the 14 industry.</p> <p>15 CO-CHAIR REILLY: That raises a really 16 important question. I guess I understood or would have 17 imagined that a safety case would be the responsibility 18 of the operator who would require basically a safety 19 case on the part of everyone working for the operator, 20 that it would be an integrated safety case for which 21 responsibility would lie primarily with the operator 22 but also go all the way down, and the responsibility</p>	<p style="text-align: right;">143</p> <p>1 the regulator needs to ensure that these companies also 2 have considered all the risks because they are the ones 3 with the hardware; they have the majority of the 4 people. So it's not that the operator is absolved of 5 any responsibility, but the regulators are also 6 insisting. In Norway they don't call it a safety case. 7 They have what they call an AOC. In order to have 8 permission for a drilling rig to operate in Norwegian 9 waters it has to go through a detailed inspection of 10 the physical components of the drilling rig but also 11 the management practices and systems and their approach 12 to managing risk and communicating amongst all the 13 staff, the workers on the rig and with the other 14 companies, and they have to maintain that, and if they 15 leave Norway, when they come back, if they haven't kept 16 to those standards, wherever they're operating, they 17 have to go through the recertification.</p> <p>18 MR. BOESCH: This is the driller. 19 MS. NEFF: The drilling rig. 20 MR. BOESCH: But not the operator? 21 MS. NEFF: Oh, well, the operator too also 22 but --</p>
<p style="text-align: right;">142</p> <p>1 for policing its adequacy would be the operator and 2 there wouldn't be a separate series of individually 3 distinct or liable safety cases developed. Is that --</p> <p>4 MR. GARCIA: My understanding, well, I 5 thought the drilling association has in fact proposed 6 that, and they have guidelines out for the drill 7 owners, the drilling operators, developing a safety 8 case. So I'm assuming. Is that right? I'm assuming 9 that these are developed separately.</p> <p>10 CO-CHAIR REILLY: But the operator would have 11 to take responsibility for integrating it all or not 12 and would be responsible for everything that happens. 13 Right?</p> <p>14 MS. NEFF: The operator is required to do 15 that, whether it's spelled out in the regulations or 16 not.</p> <p>17 CO-CHAIR REILLY: And effectively BP would be 18 policing everybody working for it. Is that correct?</p> <p>19 MS. NEFF: Right, right. The regulatory 20 philosophy is that if these entities, these facilities 21 which is these huge drilling rigs are out there in the 22 nation's waters performing a very high-risk activity,</p>	<p style="text-align: right;">144</p> <p>1 MS. BEINECKE: I think both independently 2 have to be certified, that it isn't solely the 3 operator.</p> <p>4 MS. NEFF: And these drilling rigs can be 5 under contract to different companies, and one of the 6 things we've discovered is there's a different culture 7 and a different way of operating depending on who the 8 operator is, and the companies, the contractors, will 9 operate to the standards of the operator, and what the 10 regulators have said, in fact, the director of the 11 Norwegian Safety Authority said that the drilling 12 companies actually asked to have a mandatory 13 certification so that they could say to some of the 14 operators who they didn't think were operating at a 15 standard that they had to do it themselves.</p> <p>16 MR. BOESCH: But if we could use a concrete 17 example from the Macondo well, that will help me 18 understand this, this layered responsibility. I asked 19 earlier about whether Halliburton had a protocol for 20 making sure that this test of the stability of cement 21 were in hand and certified before proceeding with the 22 job, and the answer I got is that we don't know yet</p>

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<p style="text-align: right;">145</p> <p>1 because we have requested that but they haven't 2 provided that information.</p> <p>3 It would seem to me that in an integrated 4 safety case, if I can call it that, that BP would have 5 a protocol that says we're not going to proceed unless 6 we have a certification, and for that reason then I'm 7 going to require, make sure that Halliburton have that 8 process and have that protocol in place. As opposed to 9 that, what we now have is in this latest exchange we 10 have from BP is this finger pointing about whose 11 responsibility. Ultimately in a layered sense of 12 responsibility someone needs to be responsible and in 13 our system where we license, we give that certification 14 to the company, it is the operator.</p> <p>15 MS. MURRAY: But to Terry's point, let us 16 just say in this example Halliburton engineer who is 17 pouring cement says, wait a minute, where is the 18 certification? Who ensures that that person can say 19 that without retribution? I understand that in the 20 North Sea it is heavily unionized and the unions do 21 that whistle blower policy. So --</p> <p>22 MR. BOESCH: As some protection from --</p>	<p style="text-align: right;">147</p> <p>1 though that it's an increasingly recognized SOP. At 2 least among the companies we talked to, every one of 3 them said they had it.</p> <p>4 MR. GARCIA: Then there shouldn't be a 5 problem in requiring it I think is what I'm hearing.</p> <p>6 CO-CHAIR REILLY: I agree.</p> <p>7 MS. MURRAY: So for example, in the nuclear 8 industry there is a whistle blower policy and it's out 9 of the Nuclear Regulatory Commission, so we might think 10 about that.</p> <p>11 MS. BEINECKE: So that's an area where MMS 12 could put in regulation.</p> <p>13 CO-CHAIR REILLY: Yeah. I think we would all 14 agree on that. We'd better move along here and finish 15 up on time. You didn't talk about financial 16 responsibility and liability limits, so I think we 17 ought to have that conversation. Do you want to lead 18 off or shall --</p> <p>19 MS. BEINECKE: I think Louise is going to 20 lead off because we got a recent paper with a series of 21 recommendations. Do you just want to highlight what 22 those are and then we could discuss them.</p>
<p style="text-align: right;">146</p> <p>1 MS. MURRAY: As protection for workers. It 2 doesn't matter whether they're a contractor or a worker 3 at a -- but Terry's point is a good one. What is the 4 whistle blower policy here in the US?</p> <p>5 CO-CHAIR REILLY: We went into that with 6 several companies which have a stop work capability and 7 are very proud of it, and in two cases at least 8 reported that their CEOs make a practice of visiting a 9 rig where that has happened and recognizing the 10 individual with benefits, with notoriety or publicity, 11 and even in the case where it proved later to have been 12 a false alarm.</p> <p>13 MS. MURRAY: And that person was a 14 contractor?</p> <p>15 CO-CHAIR REILLY: Whoever it was, yes, 16 whoever it was.</p> <p>17 MR. GARCIA: But that requires an enlightened 18 CEO, right? So what if you don't have an enlightened 19 CEO?</p> <p>20 CO-CHAIR REILLY: We just don't know.</p> <p>21 MR. GARCIA: It's not required by law.</p> <p>22 CO-CHAIR REILLY: Well, I have the impression</p>	<p style="text-align: right;">148</p> <p>1 MS. MILKMAN: Sure, and before I do let me 2 just describe the situation a little bit. In many ways 3 we were fortunate that BP caused the Macondo spill 4 because BP has deep pockets. The law, under the law, 5 Oil Pollution Act of 1990, if a smaller company had 6 caused the spill, they likely would have gone bankrupt 7 before paying anything close to the damages that were 8 required, and that's for two reasons. The first is 9 that although the Oil Pollution Act makes responsible 10 parties strictly liable for damages and for removal 11 costs, it caps the amount of liability on offshore 12 facilities at 75 million dollars. That's liability for 13 damages, with certain exceptions, and it also caps the 14 amount of financial responsibility that is needed to be 15 demonstrated at 150 million, both of which are 16 obviously far less than what would have been needed to 17 compensate for the spill, for the Macondo spill 18 damages.</p> <p>19 The Oil Pollution Act does provide that if a 20 responsible party is not able to compensate all of the 21 damages, the Oil Spill Liability Trust Fund will, is a 22 source of payment for compensation, but the trust fund</p>

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150	<p>1 the view that raising or eliminating liability caps 2 would result in the inability of smaller companies to 3 stay in the oil exploration and production business. 4 So in staff's view we think that we should 5 try and, that Congress should try and act to balance 6 these two competing really sort of interests or 7 concerns. One is that there should be a way to provide 8 incentives for companies to mitigate risk of oil 9 spills, and also there should be some assurance of full 10 compensation to innocent victims of spills. At the 11 same time we believe there are good reasons for smaller 12 companies to remain in the business, and so that a 13 regime that simply has the effect of everyone but the 14 majors or most companies except the majors exiting the 15 oil exploration and production business isn't the right 16 answer. 17 So staff recommends four general ways that 18 Congress could address these issues. The first is to 19 raise the liability cap for offshore facilities using a 20 phased-in approach so that the insurance market has 21 time to adjust to the increase in caps. The second is 22 to raise financial responsibility requirements</p>	152	<p>1 though wouldn't be that they had to pay out 75 million 2 dollars. 3 MR. GARCIA: No, no. I know. 4 CO-CHAIR REILLY: It would be because the 5 fines that are not subject to the cap, the Clean Water 6 Act fines, the state outlays, the federal outlays, that 7 would bankrupt a small company. 8 MR. GARCIA: Right. 9 CO-CHAIR REILLY: Under current situation. 10 Your third point, you said provide for MMS specific 11 risk assessment. What would be -- would the effect of 12 that or the idea behind that be essentially to say 13 you're too small or undercapitalized to undertake 14 drilling in this particular sensitive geology? Is that 15 the idea? 16 MS. MILKMAN: Yes, I think so. 17 MR. GARCIA: Or, well, or it would require a 18 joint venture. Go find a partner if you want to go out 19 there and engage in ultra-deep drilling. 20 CO-CHAIR GRAHAM: I really don't understand 21 the policy argument for this liability limit. Maybe 22 the area in which liability limits are most used today</p>

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<p style="text-align: right;">153</p> <p>1 is in medical malpractice. Many states have now put a 2 cap on the maximum liability of a physician in an 3 untoward event. The theory there is (A) that we don't 4 want to have a mass exodus of physicians for fear that 5 they're going to be bankrupt; (B) that medicine has 6 become so technological and complex that liability has 7 become somewhat of a phantom assignment. 8 I don't know what -- I mean I'm thinking 9 here of that little fisherman in Alabama who has just 10 been wiped out because of this oil spill. Under the 11 current system it seems to me we're saying, well, 12 that's too bad; you may have been an innocent bystander 13 but you're going to bear the full uncompensated cost 14 because the company has a liability limit and the oil 15 spill fund has a limit. Why -- what's the -- what is 16 the public policy that justifies making the little 17 fisherman bear the burden? 18 MS. NEFF: First the oil spill fund was 19 capped because at the time that it was set up it was 20 thought that a few billion dollars would be sufficient. 21 That was 20 years ago. 22 CO-CHAIR REILLY: That was thought to be real</p>	<p style="text-align: right;">155</p> <p>1 burden. If the agency were to look at where the risks 2 are, one, it would inform the industry and the 3 insurance companies as to whether or not they were 4 capable or they should take on such a prospect and 5 price insurance accordingly or not permit these folks 6 to participate there. 7 CO-CHAIR GRAHAM: But if they have a limit on 8 how much they can pay, they aren't going to buy more 9 than 75 million dollars worth of insurance I would 10 assume if that's their maximum liability. 11 MS. NEFF: I'm not an expert in this area. I 12 would say that the insurance has to cover more than 13 just -- the liability under the law is, only covers 14 certain things. 15 CO-CHAIR REILLY: Well, I would assume I mean 16 the way the issue is always posed is in terms of trying 17 to ensure that we're not just left with half a dozen 18 competitors for offshore oil and gas development, that 19 we don't price out the smaller operators of which I 20 think I asked someone on the staff to do a count and we 21 came up with 281 who are active in the Gulf at any one 22 time.</p>
<p style="text-align: right;">154</p> <p>1 money then. 2 MS. NEFF: And then over time this fee on all 3 -- it's on all oil; produced, imported and that enters 4 a refinery plus on imported refined product; and it was 5 being collected over the years and building up a 6 significant fund, and so Congress suspended the 7 collection, and it's been back and forth in that. 8 If there were -- the concept behind it was 9 to have the pooled risk, especially for incidents like 10 these where they're high consequence but extremely 11 rare, and while we've seen the statistics on blowouts 12 and that sort of thing, this is a very rare event that 13 we're seeing here. 14 CO-CHAIR GRAHAM: But I still don't 15 understand what's the social policy that says that if 16 in that rare event, and we've had, according to the 17 chart we looked at a few minutes ago there have been 21 18 of these events since the beginning of the 21st 19 century, why should we ask innocent third parties to 20 bear the burden? 21 MS. NEFF: There are a couple of aspects to 22 this. One, we wouldn't be asking them to bear the</p>	<p style="text-align: right;">156</p> <p>1 It seems to me that it is a reasonable and 2 important public policy to try to keep them in being 3 for a variety of competitive reasons and social reasons 4 and others, but it's not reasonable that a company that 5 can cause billions and billions of dollars of damage 6 simply be free to walk away and say turn that over to 7 the public. There has to be some reconciliation 8 between those two. So it does strike me that liability 9 limits ought to be raised. I don't have a number to 10 suggest and yet there is a principle here that we want 11 to go some distance towards accommodating the fisherman 12 that you described, but I think we don't want to do it 13 to the extent of limiting the jobs of the folks on the 14 rigs. 15 CO-CHAIR GRAHAM: It almost sounds as if 16 we're adopting a policy of too small to fail. Is that 17 -- 18 MS. ULMER: I think you're right, and it's 19 true that we're talking about something where there's 20 competing public policy interests, and the question is 21 how do you balance those, and I think there's no way of 22 concluding that 75 million dollar cap on liability is</p>

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<p style="text-align: right;">157</p> <p>1 high enough. I mean that was adopted 20 years ago. 2 That's when OPA 90 became law. We all know that 75 3 million dollars doesn't mean what 75 million dollars 4 meant in 1990 for starters, but even more importantly I 5 think is this point that a liability cap removes the 6 incentive to care about safety. I mean that's the 7 competing public policy issue that I'm very concerned 8 about in the context of our discussing what kind of 9 carrots and sticks we should put together that create a 10 safer operational environment, and unless there is more 11 of an incentive to be safe which is part of this 12 raising the liability cap, I think that clearly ought 13 to be done. Exactly at what level I don't know either, 14 but I think it clearly needs to be raised; whether or 15 not there should be some sort of a pool for those who 16 are too small to play, I mean in a way it's contrary to 17 this incentive question but it does leave open the 18 operation for some small players, but I think that the 19 limit on the per spill incident that you're talking 20 about, the billion dollar limit, goes to your point 21 about why should the poor fisherman end up paying for 22 somebody else's mistake. So if we also limit, if we</p>	<p style="text-align: right;">159</p> <p>1 they are in Norway, UK, Canada, Russia? 2 MS. MILKMAN: Yeah. Canada it's between 30, 3 40 million I believe. UK is 120 million. I don't know 4 about Norway. 5 CO-CHAIR REILLY: 121 million? 6 MS. MILKMAN: 120 million. 7 MR. BOESCH: Pounds or dollars? 8 MS. MILKMAN: I believe that's dollars. 9 CO-CHAIR REILLY: How are the smaller 10 enterprises dealt with in those environments? I was 11 just struck by -- I asked earlier the question whether 12 anyone in all of these incidents that are described had 13 walked away from their liability, and the answer was 14 no. How do we explain that? Are there insurance pools 15 in other countries? Are there consortia that deal with 16 the lesser capitalized companies, drillers? 17 MS. NEFF: We need to focus on the fact that 18 this comes into place when one of these incidents 19 results in a significant spill. There are many 20 incidents, accidents that are catastrophic related to 21 blowouts and near-misses that don't result in an oil 22 spill. So in those situations, you know, many of them</p>
<p style="text-align: right;">158</p> <p>1 change that limit so that more can be paid out, it 2 helps. Unfortunately at some point it comes back to us 3 as taxpayers. 4 MR. GARCIA: But none of it matters if you 5 haven't properly evaluated the financial capacity of 6 the company that's about to engage in this activity, 7 and maybe there are, maybe it's not too small to fail 8 but too small to drill in some cases unless you have 9 found another partner or some way of satisfying 10 society's need that there be a demonstration that you 11 have the financial capacity to cover your mistakes and 12 any damage that you do. 13 CO-CHAIR GRAHAM: One thing, this act came 14 into effect in 1990 when there was virtually no deep 15 water drilling in the Gulf. Maybe we could make a 16 distinction between shallow water drilling where the 17 risks are less and the consequences are probably also 18 less, although I don't know if that's correct or not, 19 and with the very risky deeper and ultra-deep. 20 CO-CHAIR REILLY: Let me ask you a question 21 then, or a couple of questions. One is with respect to 22 liability caps in other countries. Do we know what</p>	<p style="text-align: right;">160</p> <p>1 that you saw before didn't come to this level, and in 2 fact, if they had -- 3 MS. BEINECKE: It's the spill that creates 4 the damage. 5 MS. NEFF: It's the spill that creates the 6 liability, and I have talked to many of these other 7 regulators and I can tell you they're all looking at 8 their own policies. The EU is looking closely at this. 9 I mean everyone is saying, you know, do we have the 10 right framework in place? There was Montara last year. 11 Now we've had this Macondo spill. Both took a very 12 long time to contain, and so everybody is reevaluating 13 this now. 14 CO-CHAIR REILLY: So and in a spill the 15 liability cap is number of barrels multiplied by \$1,100 16 or \$4,300 in the case of gross negligence. I guess 17 that's the answer there, and it hasn't been applied 18 that often, huh? 19 MS. NEFF: No. 20 MS. MILKMAN: That's a penalty. 21 CO-CHAIR REILLY: Well, I know, but I'm 22 saying it's an effective liability and it's unlimited.</p>

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1 Well, it's limited by the number of barrels.
2 MS. MURRAY: It's an incentive on gross
3 negligence being part of the, I mean --
4 CO-CHAIR REILLY: Or negligence in the case
5 of the \$1,100, but those numbers would really add up.
6 Well, where do you come out on this?
7 MS. MILKMAN: Basically what, you know, the
8 four points that I made before which are, you know,
9 which are general but they reflect I think the key
10 components of any policy that is going to be needed to
11 be carried out in order to address these competing
12 public policy interests, and back to Senator Graham's
13 question earlier about why to have limits. It seems
14 conceivable that as the insurance industry adjusts to
15 increased liability caps or financial responsibility
16 limits and new capital comes into the insurance
17 industry for these purposes that eventually it would
18 not, the elimination of caps would not result in the
19 same economic impacts on the smaller or independent
20 companies. I don't think we know the answer to that,
21 but it doesn't seem out of the question that it could.
22 CO-CHAIR REILLY: Well, I can say as a matter

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1 of history that it would have been very possible that a
2 tanker of the same size as the Exxon Valdez would have
3 foundered in Prince William Sound and would have been
4 one of an operator's two or three tankers that it would
5 have had no incentive to stand behind, and that was
6 very much on the minds of everybody in the government
7 at the time. It really was a company that had
8 resources and intended to deploy them responsibly to
9 try to clean up the mess.
10 So these are serious issues, and it sounds
11 like the four recommendations that you have made are to
12 some degree a response to it.
13 MS. BEINECKE: Well, clearly this seems -- I
14 mean, this is an issue which we haven't discussed
15 before and I think we ought to, you know, in the next
16 week or so really examine what the recommendations are
17 and really how to incentivize safer operations, how to
18 ensure that the companies that are operating are
19 prescreened to assure that they have the resources to
20 meet the obligation either through their own
21 capitalization or through their insurance and draw the
22 conclusion which the paper and the work that Louise has

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1 done has that the current system is just totally
2 inadequate, and as she stated at the beginning, it's
3 just fortunate that the company was of a size that it
4 could make the commitment to the American public to
5 meet these obligations. It wasn't required to under
6 the statute as currently designed, and we really need
7 to make recommendations that significantly change that
8 because you can't be sure.
9 CO-CHAIR REILLY: Is it clear that an
10 insurance pool that did in fact deal in adequate
11 realistic liability numbers would have the effect of
12 driving out a number of operators? Have we talked to
13 the insurance industry.
14 MS. MILKMAN: I don't think that an insurance
15 pool would necessarily drive out operators. I mean I
16 think that might be one, one solution.
17 MS. BEINECKE: One approach.
18 MS. MILKMAN: Yes.
19 CO-CHAIR REILLY: I would think that we
20 should explore that then in the days ahead and try to
21 get some reasonable professional help with coming up
22 with, if not a number, at least a principle.

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1 MS. MILKMAN: And I think that these are the
2 main principles here, and we'd be happy to help give
3 you more information to fine tune them a little bit.
4 CO-CHAIR GRAHAM: I don't want to put an old
5 record back on the machine, but it's not self-evident
6 to me that the recommendation number one is reality. I
7 mean this industry has had a single regulator and has
8 had all the problems that we have discussed. There are
9 other industries which have multiple regulators such as
10 nuclear power which have had a much better record. So
11 I just question in terms of fact if this first
12 statement is correct.
13 As a matter of pragmatism, the reality is
14 it's going to be some time before even a reenergized
15 MMS or whatever it's ended up being called comes in
16 place. How long will it -- I mean I'm not asking for
17 an answer to this question but I throw the question
18 out. How long is it going to take for the Department
19 of Interior to get the same level of safety for the
20 workers on these rigs as OSHA is providing to workers
21 in nuclear power plants? I'd suggest it's going to be
22 a long time. So one thing we might suggest would be

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1 somewhat of a hybrid and say and identify the most
2 risky areas where there is a competent regulator with a
3 good record of success and maybe give them the
4 responsibility until such time as that area within the
5 Department of Interior can demonstrate that it can
6 function.

7 I don't think we ought to go another decade
8 with people at risk, and we've seen the statistics of
9 the number of injuries and deaths. It's horrific.
10 It's almost like the mining industry was, you know,
11 back in the first 25 years of the last century, that we
12 ought to consider some more creative ideas other than
13 just replicating a system which has clearly not served
14 us well.

15 CO-CHAIR REILLY: Shirley, how much more time
16 do you need? We've run out of time. I'm willing to
17 extend this a little bit if you need some more time to
18 complete the last four or five slides.

19 MS. NEFF: Well, we do need just a few
20 minutes, but I would point out that the regulatory
21 oversight subcommittee is continuing for an hour after
22 the lunch break and will focus a very brief

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1 presentation on the environmental issues.

2 CO-CHAIR REILLY: Right. So we went through
3 environmental review then.

4 MS. NEFF: Right. That's the NEPA part of
5 what the subcommittee has been handling. We just split
6 it up in that way. So you'll have --

7 CO-CHAIR REILLY: All right. So we can take
8 this after lunch?

9 MS. NEFF: Do you want to take a few minutes
10 right now and go through this so you can consider this?
11 We have two major recommendations.

12 CO-CHAIR REILLY: All right. Go ahead.

13 MS. BEINECKE: Take the two last slides.

14 MS. NEFF: I would --

15 CO-CHAIR REILLY: I guess let's get the
16 regulatory considerations on the table. That's your
17 last couple slides, your reorganization on the
18 proposals.

19 MS. NEFF: Yeah. We're not proposing that
20 this continue under the same structure that it was.
21 We're actually proposing very similar, along the lines
22 of what Secretary Salazar proposed earlier, that

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1 Director Bromwich is trying to move forward with which
2 is the separation of the leasing and environmental
3 responsibilities, the NEPA process over in one entity
4 so that we determine properly when and where to lease
5 and under what circumstances, and then that the safety
6 regulator be separate, be independent, not be a
7 political appointee subject to being, you know, revoked
8 or overruled by, you know, one secretary or assistant
9 secretary, that it be staffed by a career expert,
10 engineer or somebody else with technical competence,
11 that they serve for a fixed term, say five years.
12 That's what the head of the FAA does. It's the way the
13 person is recruited, that you have the competence setup
14 in that one office. Whether it stays in the Department
15 of the Interior shouldn't matter. There are
16 organizational reasons why it makes sense to keep it
17 there because we're talking, unlike a lot of other
18 regulators, in fact, Mine Safety was moved outside of
19 Interior and moved over to the Department of Labor, but
20 there there's not the direct relationship with these
21 individual leases and these individual prospects that
22 are under the responsibility of the Secretary of the

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1 Interior in his or her role to manage the public trust
2 for these public lands.

3 So the safety regulator that we're proposing
4 is not at all what we have today, and it would require
5 a higher caliber of staff. It would require a
6 different schedule and the ability to compete for these
7 experts. There are other agencies that have, the NRC,
8 for example, that has that type of a hiring schedule.

9 I would point out that the NRC was in
10 existence at the time of Three Mile Island. It was
11 improved. There were a number of things that were
12 changed. The creation of INPO, as Nancy described
13 earlier, was a fundamental aspect to moving forward and
14 improving the performance of that industry, and that's
15 what we're proposing here is along with the earlier
16 recommendation on the industry side that you also have
17 a dedicated regulator that's not subject to the
18 pressures to promote production, that's subject to
19 pressures to generate revenue. This regulator would
20 have one mandate, and that is safety and technical
21 integrity of these facilities, and that's critical to
22 avoiding spills.

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<p style="text-align: right;">169</p> <p>1 CO-CHAIR REILLY: My understanding is that 2 the UK and Norway at least, Australia I don't know, did 3 in fact after their catastrophes move revenue and 4 environmental and safety regulation to be completely 5 distinct not only within the same agency but within 6 different ministries. Is that what you think we really 7 should head for? 8 MS. NEFF: It's not just revenue. It's the 9 leasing activity because that's what really drives it, 10 yes, that the safety and the technical oversight of 11 these operations and facilities be in a distinct 12 independent entity. 13 MR. GARCIA: But not necessarily a different 14 cabinet agency or department, right? 15 CO-CHAIR REILLY: Except it is in other 16 countries. 17 MS. NEFF: Well, it is in some places and 18 some places not. In fact, when Lord Cullen made the 19 recommendation to move the safety regulator to the 20 Health Safety and Environment Ministry, there was a lot 21 of heavy industry, and there was the benefit of having 22 experts that dealt with explosions and other sorts of</p>	<p style="text-align: right;">171</p> <p>1 different possibilities as proposed by the 2 commissioners earlier on in this process, and 3 fundamentally this industry and the expertise and the 4 knowledge that's associated with offshore drilling is 5 confined to a relatively small group of people. It's 6 the people in the industry, the academics in the 7 petroleum institutes and the people who deal with this 8 very particular type of high risk activity added to the 9 fact that it's offshore. I mean this is the only 10 offshore activity we have that aren't marine vessels. 11 CO-CHAIR REILLY: Would the Oceans Commission 12 under Leon Panetta have handled this -- they did 13 recommend an oceans department. 14 MS. NEFF: I'm going to take that as a 15 rhetorical question. 16 CO-CHAIR REILLY: That's fine. 17 MR. GARCIA: Back to your question I suppose 18 on where this independent agency should be. I don't 19 know that it matters which department it's in so much 20 as what Shirley mentioned that you need to have an 21 independent director, someone who can't be removed at 22 the will of the secretary or the President, and then</p>
<p style="text-align: right;">170</p> <p>1 high risk industries. Now that's less the case because 2 what's happened is this industry is so specialized that 3 even in places where they are in the Health Safety 4 Ministry, and in fact the Norwegian, Magne Ognedal, the 5 executive director of the Norwegian regulator said, 6 yes, we're in the labor department but we're a group 7 unto ourselves because this is so different and because 8 we have to be able to go out to the offshore; no one 9 else does this. 10 So that distinction isn't there as much 11 other than being able to -- and in fact they've all 12 told me that one of the critical, most important 13 features now is being able to have peer reviews, you 14 know, from other countries of their offshore regulatory 15 activities but also from other regulators within their 16 own countries. In fact, here it would be useful to 17 have say the FAA and the NRC be peer regulators that 18 would review and share practices with this agency. 19 CO-CHAIR REILLY: Has staff considered other 20 agencies or a stand-alone agency to carry out the 21 regulatory functions? 22 MS. NEFF: We've looked at a number of</p>	<p style="text-align: right;">172</p> <p>1 two, some way of protecting its budget because even if 2 you have that career person who is insulated, if that 3 budget is subject to either the department's control or 4 Congress, there are many ways to skin a cat, and if you 5 want to stop the agency, you just dial down its budget. 6 CO-CHAIR GRAHAM: I guess my question is -- 7 MR. BOESCH: Terry dealt with my question. 8 CO-CHAIR GRAHAM: What about let's focus on 9 the money part of it. Why should a Department of 10 Interior which was established in order to manage the 11 natural resources of America be thought of as being a 12 particularly effective entity to collect the second 13 largest source of revenue next to the IRS that the 14 federal government collects? Why shouldn't we put the 15 revenue collection function in the Department of 16 Treasury. 17 MS. NEFF: Senator Graham, I think that 18 question's been asked many times in history, but it 19 wasn't part of the mandate for this Commission. So we 20 haven't looked at that. 21 CO-CHAIR GRAHAM: Well, we had a mandate to 22 make recommendations for the future, and one of the</p>

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<p style="text-align: right;">173</p> <p>1 problems that we identified is that structurally when 2 the money function and the safety function are close 3 together, money tends to trump safety. Has that not 4 been one of our consistent themes? So one thing you do 5 is you put the money some place at the other end of 6 Pennsylvania Avenue.</p> <p>7 MS. NEFF: But as I pointed out before, I 8 think everyone has assumed that this revenue management 9 function is really the driver. It's not. It's the 10 leasing. It's the leasing, the royalty rates, the 11 bonus bids, getting that production going to generate 12 the revenue. What that revenue office does is it just 13 collects and audits. They don't set any financial 14 terms.</p> <p>15 CO-CHAIR GRAHAM: But now, wait a minute. Am 16 I not correct that in the last ten years we had a whole 17 raft of leases that were so ineptly written that we 18 didn't collect royalties of in the billions of dollars?</p> <p>19 MS. NEFF: And that's the leasing office. 20 What we are recommending, Senator, is that this entity 21 that's responsible for safety be totally separate from 22 the leasing office and the office that collects the</p>	<p style="text-align: right;">175</p> <p>1 MS. BEINECKE: You still have to get a budget 2 though.</p> <p>3 CO-CHAIR REILLY: You still have to get a 4 budget for it.</p> <p>5 MS. NEFF: At the time Secretary Salazar 6 announced the reorganization he tasked Director 7 Bromwich to doing a serious review to look at how these 8 functions, the leasing, the safety and the environment 9 should all be handled. They initially said we're going 10 to have to look more closely at how we're going to deal 11 with some of these permitting issues with respect to, 12 you know, whether the well permitting exploration plans 13 including the well design and those operations should 14 be under the leasing entity or whether they should go 15 into a separate entity. So we have really focused on 16 this: What should stay with leasing and what should be 17 definitely separated into what I call over with the 18 engineers.</p> <p>19 In the leasing office, just to look at the 20 expertise that you have, you've got the geologists, the 21 land men, and you've got the environmentalists and 22 biologists who have to look at where we're leasing and</p>
<p style="text-align: right;">174</p> <p>1 money, that this be an entity that is solely 2 responsible for the technical integrity of operations 3 and workplace safety.</p> <p>4 CO-CHAIR REILLY: The only thing that bothers 5 me about that is that this would require congressional 6 action. You could not create a five-year appointment, 7 a term appointment without -- the secretary can't do 8 that himself. The President can't do it by executive 9 order.</p> <p>10 MS. NEFF: That's true.</p> <p>11 CO-CHAIR REILLY: He can do it for his term. 12 I mean he can reorganize the department, but that would 13 be subject to relative --</p> <p>14 MS. ULMER: But I don't think we ought to shy 15 away from recommendations just because it requires 16 congressional action.</p> <p>17 CO-CHAIR REILLY: I'm not arguing we should. 18 I just think this is a consideration. You could 19 actually move the whole enterprise out of the 20 department by executive order. You could put it as 21 President Nixon created EPA. That's not out of the 22 question.</p>	<p style="text-align: right;">176</p> <p>1 what the circumstances are and what stipulations should 2 be on those leases. That all stay together in the 3 recommendations that we have.</p> <p>4 Clearly this is a different area. We've 5 been looking at it closely. We've had discussions with 6 Director Bromwich over time. It seems that he's moving 7 along in that direction too.</p> <p>8 CO-CHAIR REILLY: You mean he's moving beyond 9 where the secretary previously separated the two?</p> <p>10 MS. NEFF: No, no, as far as what functions 11 should stay with leasing, which functions should be 12 clearly separated off into a safety entity so that you 13 have a focused attention on the operation.</p> <p>14 CO-CHAIR REILLY: But my understanding is the 15 current reorganization resulted in the entities going 16 up through two assistant secretaries, both of whom 17 report to the same deputy and to the secretary. That 18 struck me as directionally correct but not sufficient 19 to make the point.</p> <p>20 MS. NEFF: At this point that's still where 21 they are as far as any announcement they've made.</p> <p>22 CO-CHAIR REILLY: But you're saying Bromwich</p>

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<p style="text-align: right;">177</p> <p>1 is thinking of going further? 2 MS. NEFF: Well, as far as separating them, 3 my understanding is they're recognizing more and more 4 as they've had discussions too with the other 5 regulators that you need to have one regulator that 6 addresses the operations side of it. Now, they haven't 7 gone there yet. They haven't made a final decision. 8 MR. BOESCH: But this is all within BOEMRE, 9 and what the recommendation here is that we take that a 10 step further and take it out of BOEMRE and make it 11 independent of those decisions. 12 CO-CHAIR REILLY: We can revisit this after 13 lunch. I think we've covered this pretty well for now. 14 We say come back at 1:30? All right. We'll resume at 15 1:30, and go have lunch. Excellent. Thank you very 16 much, Shirley, Scott, Louise. 17 (A lunch recess was taken from 12:46 p.m. to 18 1:35 p.m.) 19 CO-CHAIR GRAHAM: I call the meeting back to 20 order. Continuing with our discussion with Shirley now 21 moving towards environmental review. 22 Fran, do you have any opening statements?</p>	<p style="text-align: right;">179</p> <p>1 not having environmental accidents or big impacts. So 2 these things are related, and I don't want to make them 3 too separate because of how important they all are and 4 how they work together, but we'll try to focus on the 5 environmental piece. 6 Over the last several months we have talked 7 to a wide variety of people about the environmental 8 review process that is undertaken by the Department of 9 Interior and the extent to which other agencies are 10 involved in those environmental reviews before key 11 decisions get made. 12 We had the opportunity to listen to the 13 White House Counsel on Environmental Quality, NOAA, 14 former MMS directors and many others who have been 15 involved in the regulatory structure over the years who 16 have painted a picture for us of how these various laws 17 interact, and we're talking about different agencies 18 with different statutory jurisdictions and different 19 areas of expertise. So it's a fairly complicated area, 20 but we've primarily focused on the questions of how the 21 National Environmental Policy Act, how NEPA processes 22 have been incorporated in the decisions that have been</p>
<p style="text-align: right;">178</p> <p>1 MS. ULMER: Thank you, Mr. Chairman. I do, 2 and I think Shirley is going to show us one slide in a 3 moment that will perhaps tie together what we've been 4 talking about all morning and what we're about to talk 5 about this afternoon. 6 We have focused on safety so far, and there 7 are three pieces to the safety equation. There is 8 occupational safety. There's process safety and 9 there's environmental safety. Now, this morning we've 10 mainly been talking about process safety and to the 11 extent that that includes occupational safety, and what 12 I mean by that, of course, is basically the practices, 13 the drilling practices, and that also includes spills 14 and unintended hydrocarbon surges and then in terms of 15 occupational safety deaths, injuries, et cetera. This 16 afternoon we're focusing on environmental safety, and 17 of course the goal here in terms of regulation is to 18 minimize the impact on the environment so that the oil 19 and gas activity that is taking place has the minimal 20 impact, and not too surprisingly all these things 21 really are related, and if you're not having accidents, 22 occupational safety, the odds are excellent you're also</p>	<p style="text-align: right;">180</p> <p>1 made by MMS. 2 We have focused on how other agencies have 3 been involved in influencing those decisions, 4 commenting on major actions through the NEPA process 5 and offering their expertise and advice, and we have 6 focused on the extent to which the MMS science process 7 and their plans and their programs have been adequately 8 and accurately focused on those questions where 9 decisions need to be made by regulators. So that's 10 been our principal focus. 11 In addition to speaking with agency people 12 in Washington, D.C. and in New Orleans and in Alaska 13 we've also had rather extensive conversations with 14 scientists. We have talked to scientists in 15 universities, in agencies from industry, from NGOs to 16 better understand from their perspective how science is 17 being used and how the use of science could be improved 18 in the decision making process both in the preleasing, 19 the five-year planning process, the specific lease 20 process of issuing permits but also in the oil spill 21 response planning process which requires a lot of 22 information and probably should require better science.</p>

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1 So all of these various conversations with
2 agency people, with scientists, with NGOs and our
3 studying the various decision points within the agency
4 has led us to a few specific recommendations that I
5 think we need to discuss today as possible
6 recommendations of the Commission, and again primarily
7 it focuses on, these focus on the NEPA review process.
8 At what level should the environmental assessments or
9 environmental impact statements or the categoric
10 exclusions which became sort of the normal business
11 practice in the Gulf of Mexico, how those processes
12 should be modified or strengthened, how the NEPA
13 reviews and the interagency consultations should take
14 place to take advantage of the other expertise of other
15 agencies, whether it's NOAA or the Coast Guard or
16 anyone else, and how we can devise a more robust oil
17 spill response planning process so that we have better
18 results than what was experienced in the Gulf of
19 Mexico. I'll stop there.
20 CO-CHAIR GRAHAM: Thanks, Fran. Shirley.
21 MS. NEFF: Do you want me to keep the
22 structural slide up for the discussion?

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1 MS. ULMER: I think it would help. The last
2 slide from the session before lunch shows the Office of
3 Environment and Science off of, as a sort of a sister
4 agency to the Office of Leasing and Resource Management
5 and I think that is a good springboard into the
6 discussion of how we view the role of environmental and
7 scientific reviews and the decisions that need to be
8 made by MMS, now BOEM, or whatever it ends up being
9 called, but Shirley, do you want to talk just a little
10 bit about why that separation.
11 MS. NEFF: As we discussed earlier, the
12 Office of Leasing and Resource Management has
13 geologists and economists who are responsible for
14 assessing what the economic value is of these resources
15 that the government is proposing to lease, and that's
16 its focus. It's specialized in that area. That's what
17 it does.
18 The environmental side of this is what are
19 the scientists, the environmental studies program, the
20 marine scientists, the biologists, these other people
21 who are also in the same agency right now have a
22 different set of expertise, and they have different

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1 responsibilities. It's their job to inform the process
2 at the, beginning at the five-year planning stage and
3 throughout with regard to NEPA and the various
4 environmental considerations there and whatever
5 stipulations might need to be applied to leases in
6 areas where there's a decision to go forward and lease
7 but with certain caveats, and so there are different
8 competencies and they have different goals. They have
9 different -- they should have different cultures too.
10 That's the view of the staff.
11 MS. BEINECKE: Let me address that briefly.
12 I think our objective here is to really figure out how
13 to make environmental review much more robust than it's
14 been up until this point in the Department of Interior.
15 The question is how best to do that, and there are two
16 arguments that you could make. One argument would be
17 to separate the environmental review from the leasing
18 process, and Senator Graham, this is to your point
19 earlier about money has a lot of influence on the
20 process, so the more separated they are, for example,
21 taking the environmental science and review into that
22 independent safety and environmental authority would

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1 not have a connection under the same assistant
2 secretary who is responsible for the leasing. So
3 there's an argument to separate it quite distinctly
4 from the leasing decisions.
5 The other way to consider it which is the
6 proposal that's identified here is to separate it into
7 a separate office, have a distinct director of that
8 office who would be a chief scientist for the agency
9 who would be the voice of science in the leasing
10 decisions and structure it in a way that scientific
11 information and the environmental review would actually
12 inform the leasing decisions. I think that our
13 impression from the review that we did is the leasing
14 decisions are pretty much made. The NEPA review is
15 pretty pro forma, more procedural than it is
16 substantive in the decision making. So here, you know,
17 we really need to discuss what's the best model to
18 ensure that the information on the marine resource and
19 on the vulnerability of that system that needs to be
20 taken in consideration when the lease is defined,
21 what's the best way to affect that, to have them
22 talking together but separate it enough so that the

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1 science and environmental review voice is strong and
2 has an impact or separate it even further so there's
3 real independence in the view with a different, totally
4 different director, and as I said, I think there are
5 pros and cons to either approach with the underlying
6 premise that in all cases, and I'll just put this in
7 the context since the spill the President in July
8 announced the new national ocean policy which actually
9 directs all the agencies to confer an interagency
10 planning process to determine what's the best way to
11 manage our ocean resources.

12 So public policy has actually moved forward
13 since the spill on the oceans and we should factor that
14 in as well. Don, do you have a view of how best to
15 structure?

16 MR. BOESCH: Yes. Well, I think you framed
17 it well. It's a decision about whether, the degree to
18 which you make it independent or a part of the integral
19 decision making, and I think I come down on the end of
20 it really needs to be housed pretty much as you've
21 described it with a working connection to the decision
22 making so that the decision making is informed by the

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1 environmental science that's conducted by the program
2 and also synthesized. However, I think we've learned
3 from the past, particularly with respect to what this
4 tragedy revealed is that the kind of consultations with
5 the other parts of our government which have expertise
6 in environmental and responsibilities in environmental
7 stewardship haven't been what they should be, and I
8 think that what we need to make sure that we recommend
9 is a real partnership, as you said, under the National
10 Ocean Council, but it ought to be mandatory, not just
11 advisory, that there ought to be the other agencies,
12 NOAA in particular, which has major resource
13 responsibilities for the ocean, our nation's ocean,
14 ought to be at the table involved not only in the
15 consultation and assessments but also in the studies
16 that are being conducted to better inform decision
17 making.

18 CO-CHAIR GRAHAM: Fran, can I ask a question.
19 The one proposal which is to have in a dotted
20 relationship with the secretary the independent safety
21 and environmental authority, would that be exclusively
22 for offshore oil and gas or would that be generally for

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1 all safety and environment that comes under the
2 Department of Interior?

3 MS. BEINECKE: As recommended here, it would
4 be exclusively for offshore, and it would be the safety
5 and environmental authority. So it would have
6 enforcement authority for any environmental
7 stipulations that were placed on the leases, any
8 permits, et cetera, that the releases were subject to
9 that Interior had the responsibility for.

10 CO-CHAIR GRAHAM: Second question. Down in
11 the right-hand corner it says the Office of Natural
12 Resource Revenue royalty collection and auditing.
13 Change was effective 10/1/10. Where is that? Where is
14 that group?

15 MS. BEINECKE: That's the box way over to the
16 left under the assistant secretary for policy
17 management and budget. That's the revenue group that I
18 think you were suggesting earlier may go over to the
19 Treasury Department.

20 CO-CHAIR GRAHAM: Does this assistant
21 secretary collect revenue for only offshore oil and gas
22 or for other areas of the Department of Interior?

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1 MS. BEINECKE: I am going to turn to Shirley
2 on that. I don't know.

3 MS. NEFF: That office collects the royalties
4 for all federal lands onshore and offshore and all
5 tribal lands. It includes oil, gas and other minerals.
6 So it's all revenues of any sort, royalties, there are
7 a host of fees, penalties, et cetera.

8 MS. BEINECKE: Any revenues that flow through
9 the Interior Department.

10 MS. NEFF: Any revenues from federal lands
11 and from Indian lands.

12 CO-CHAIR GRAHAM: Again, what is the
13 particular competence of the Department of Interior to
14 have that responsibility?

15 MS. NEFF: I would say that they have
16 developed the competence over time as required to by
17 the Congress under the various statutes that directed
18 the Secretary of the Interior to engage in these
19 activities and collect the revenues from them.

20 CO-CHAIR GRAHAM: I mean what's -- I mean my
21 impression is just the opposite, that they have shown a
22 pattern of incompetence, whether it was collecting for

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<p style="text-align: right;">189</p> <p>1 the Indians or collecting leases offshore, and so what, 2 what, again, what is the rationale of putting this 3 revenue collection function in the Department? 4 MS. NEFF: I would -- as far as -- the 5 Congress made these decisions, you know, in the '50s at 6 least with regard to the offshore. The secretary moved 7 it. I can't explain. I didn't do the research on the 8 rationale behind why they continue to have the 9 collection and auditing function within the Department 10 and have not moved that. That just wasn't part of 11 my -- 12 MS. BEINECKE: Well, actually this here, this 13 is not our recommendation. This slide is just 14 reflecting what the Interior Department has already 15 done. 16 CO-CHAIR GRAHAM: Oh, this is not -- 17 MS. BEINECKE: This particular box is what 18 Salazar has done, and we're accepting it, endorsing it. 19 The area of change is really the other two boxes, the 20 independent safety and environment authority, and 21 separating the leasing office into two, one which would 22 be grouped the geologists actually doing the leasing</p>	<p style="text-align: right;">191</p> <p>1 recommendation regarding the environment? Okay, great. 2 MS. NEFF: The staff has three 3 recommendations related to the environment as part of 4 regulatory oversight. Emily Lindau is the lead staff 5 person who handled this, but she is on her honeymoon 6 right now scuba diving in the oceans off Australia. So 7 I will read the recommendations and I think you're all 8 quite familiar with the topic. 9 The federal government should seek to reduce 10 risk to the environment from oil and gas activities by 11 strengthening science and interagency consultations in 12 the OCS oil and gas decision making process. More 13 specifically on strengthening science, the joint 14 government research program should systematically 15 collect data and fill research gaps needed to 16 characterize offshore ecosystems and processes, and by 17 joint government this includes all of the agencies that 18 have a role and have scientific research activities in 19 this area. 20 The Environmental Studies Program should be 21 reviewed by the National Academy of Sciences every five 22 years. The government developed ecological monitoring</p>
<p style="text-align: right;">190</p> <p>1 plan, and the other would be separating out the 2 environmental review and environmental science capacity 3 with the chief scientist, and that could be here down 4 with the leasing office or it could be up in the 5 independent safety and environment authority which is I 6 think the decision that we need to make a 7 recommendation on. 8 I think, number one, the recommendation 9 should be they should be separated. Number two, the 10 recommendation should be there should be a chief 11 scientist, and then the decision on number three would 12 be whether to continue having a leasing office or move 13 it into the independent authority and, you know, 14 honestly if an independent authority was created, 15 putting the environmental responsibility all together 16 there, I mean they still need to be connected because 17 the safety authority has to know what's happening in 18 the leasing operation but it would give it more 19 independence. Would you agree with that, Don? 20 MR. BOESCH: I do. 21 MS. ULMER: So, Shirley, maybe do you want to 22 go on to the next slide, the proposed staff</p>	<p style="text-align: right;">192</p> <p>1 protocols that are implemented by industry and that 2 formal response to NEPA comments submitted by other 3 federal agencies. In other words, the agency now 4 doesn't provide a formal response, and we're 5 recommending that that be required. 6 MS. ULMER: Mr. Chairman, I might note that 7 we all have come to the conclusion that there's a lot 8 of science that is being done but it is not all being 9 coordinated or synthesized in a way that makes it 10 possible for people to understand what the implication 11 of the science is or how that information should really 12 guide decision makers, regulators or for that matter 13 private participants in this industry. 14 So I think the idea is that with increased 15 consultation and coordination we will be able to get 16 more bang for the buck out of the dollars that we are 17 spending in federal research in this arena. I think 18 it's also fair to say and we should put on the record 19 that the Secretary of Interior tasked USGS with doing a 20 GAAP assessment of the science which is due in March I 21 think, March or April of next year. So there will be a 22 more comprehensive look by USGS of some of the</p>

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<p style="text-align: right;">193</p> <p>1 questions that we've been asking which is, you know, is 2 there enough science and who's done it, for the Arctic, 3 where a lot of this issue currently is a very hot topic 4 is how adequate is the science; how much do we know and 5 how much more do we need to know for good decisions to 6 be made.</p> <p>7 So there are things in process which we 8 should recognize and appreciate. It's not as though 9 nothing's happening. There's a lot of science being 10 done. There's a lot of focus on this, but there's a 11 lot that can be improved by having a more formal 12 structure for both the scientific research coordination 13 but also the consultation with agencies with relevant 14 expertise in the decision making process.</p> <p>15 MS. NEFF: There's a final aspect to this on 16 strengthening the consultation, and at one of the 17 earlier sessions we went through a series of options of 18 different ways that agencies consult with one another, 19 and we're recommending that the formal consultation 20 with NOAA at both the five-year program stage and at 21 the leasing stages, and we've put up here the list of 22 the various different options and narrowed it down to</p>	<p style="text-align: right;">195</p> <p>1 would have to be, would be the structural default 2 unless there was a very strong rationale which was 3 explained specifically by the Interior Department. I 4 think one of the things we learned is that NOAA has 5 participated in part not as fully as I think we would 6 envision partially because the recommendations haven't 7 received full consideration. So if there was more of a 8 defined partnership with a more robust role for NOAA, 9 they would then participate more fully and there would 10 be more information available at the very early stage 11 before money flows which I think is the critical issue 12 here, that environmental review needs to be done, areas 13 of ecological significance, any considerations that 14 would alter the way a particular subsea area was 15 managed need to be identified prior to the lease 16 actually being sold. Once it's sold it's very hard to 17 put those kind of stipulations on. So to try to push 18 the whole process forward more so that the lessee is 19 aware of what the limitations and issues might be when 20 they actually buy the lease.</p> <p>21 CO-CHAIR REILLY: Deputy Secretary Hayes said 22 yesterday that in the scoping for the Beaufort NOAA</p>
<p style="text-align: right;">194</p> <p>1 options E and F and somewhere in that range seem to be 2 where the general consensus was, and if you'd like to 3 speak more specifically to that I will leave the slide 4 up.</p> <p>5 CO-CHAIR REILLY: Essentially what we're 6 dealing with here is an agency that has expertise 7 authority, scientific capability and has commented 8 without effect without having been taken seriously, at 9 least in their own view, on leasing proposals for quite 10 a considerable amount of time, meaning NOAA, and 11 therefore, the solution is to require that when they do 12 make comments, the receiving entity has to respond to 13 those comments. It doesn't have to take the comments. 14 It's not a veto. The authority, the decision still 15 remains with the BOEMRE, but they have to show that 16 they have reacted to, rejected, accommodated the 17 comments, and if they do not, then the NOAA comments 18 are the default position. Is that correct?</p> <p>19 MS. NEFF: Yes.</p> <p>20 CO-CHAIR REILLY: Okay.</p> <p>21 MS. BEINECKE: Yes. That would be the 22 recommendation F, that basically NOAA recommendations</p>	<p style="text-align: right;">196</p> <p>1 will be a cooperating agency. Under those 2 circumstances I suppose they don't make comments? They 3 simply share in the decision? Is that how the -- does 4 that work differently than the conventional occasion 5 where they get a proposal?</p> <p>6 MS. BEINECKE: Maybe Shirley or Scott can 7 talk to this. Cooperating is more than just submitting 8 comments. There's more of a relationship. The 9 relationship envisioned here goes several steps further 10 than just the cooperating under NEPA, and I think this 11 would actually require either an executive order 12 directing this relationship between the two agencies or 13 an amendment to the OCS that will actually define those 14 roles more specifically.</p> <p>15 CO-CHAIR REILLY: Do I recall there is 16 precedent for this? Jody Freeman said there have been 17 instances where comment has been required and if 18 responses are also obligated that have consequences 19 that causes them to be taken seriously.</p> <p>20 MS. BEINECKE: Yes, particularly under the 21 Federal Power Act.</p> <p>22 CO-CHAIR REILLY: Okay, Federal Power Act. I</p>

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1 remember the presentation.
2 MR. BOESCH: I was just a little bit
3 concerned about what does structural default means, I
4 mean because option E is clearly requiring must consult
5 with and provide reasons for deviating, but option F
6 includes that process but basically says unless the
7 agency can come back with compelling reasons the
8 position of the consultative agency rules. So
9 ostensibly what this means is that if NOAA puts in a
10 comment that an area shouldn't be leased, then it's
11 incumbent on the agency to come back and say, well, we
12 disagree for the following reasons, but that's
13 actually, if it's followed true to form, that's
14 actually included in option E as well, so I'm not quite
15 sure what we're gaining by other than the form of a
16 threat.
17 MR. GARCIA: Is there a higher proof under F
18 than E, because the agency or in this case Interior
19 would have to say that not only do they disagree and
20 here's why but that following the advice of NOAA would
21 be inconsistent with some legal duty that they have.
22 MR. BOESCH: As opposed to some other reason

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1 for disagreeing.
2 MR. GARCIA: Right.
3 CO-CHAIR REILLY: I'm not sure I would go
4 that far.
5 MR. GARCIA: No. That's what F says though.
6 CO-CHAIR REILLY: That is what F says. Yes,
7 I see. I think E sounds a lot more administratively
8 understandable and efficient.
9 MS. BEINECKE: I think we had some language
10 that was sort of in between the two that we were
11 looking at that maybe we could share again with the
12 Commission.
13 MS. ULMER: We might want to ask for that
14 language to be --
15 MR. BOESCH: I think it should be strong
16 mandate, but it's difficult to take a responsibility
17 away from an agency that's managing it.
18 CO-CHAIR REILLY: That's where I came out in
19 the presentation that we had, the conversation that we
20 had with the deputy secretary and his colleagues that
21 there ought to be a single decision maker that's
22 sufficient. We ought not to try to build in more than

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1 one, and if they had to respond to comments, public
2 comments publicly, that's a pretty strong indication or
3 incentive for them to take them seriously.
4 MS. ULMER: Interesting question is when the
5 other agency has a statutory mandate to protect a
6 resource as NOAA does and if they have made the
7 determination that a proposed action by Interior would
8 undermine their fulfilling their statutory mandate by
9 that decision, you get a very interesting conflict
10 zone, and I think that may be what F was trying to get
11 at, that you have competing statutory responsibilities
12 in some cases, not just one agency owning a whole
13 field. Particularly in offshore drilling, seeing that
14 NOAA is the ocean agency, you know, you could see how
15 that could be a serious conflict.
16 MR. GARCIA: And these are provisions that
17 are allowed under NEPA. We didn't just make this up,
18 right?
19 MR. BOESCH: These are Jody Freeman's range
20 of options.
21 MS. NEFF: The staff recommendation based on
22 discussion in the subcommittee was that it would be

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1 somewhere between the two but --
2 MS. BEINECKE: We have language on that.
3 CO-CHAIR GRAHAM: Let me say I think we
4 should avoid in our recommendation the word
5 consultations because that's such an umbrella, and if
6 we're going to have some merger of E and F, that merger
7 ought to be inserted in lieu of the word consultation
8 so we know what it is we are recommending.
9 MS. BEINECKE: Right.
10 MS. NEFF: The staff can circulate some
11 language before the deliberations on this.
12 MS. BEINECKE: Yeah. Maybe before we
13 complete tomorrow we can look at that revised language
14 that we had actually reviewed earlier.
15 CO-CHAIR REILLY: Action agency must take
16 initiative to solicit comments from and provide reasons
17 for deviating from recommended comments of interested
18 agency.
19 MS. BEINECKE: Yeah. I think just on that
20 point these were Jody Freeman's examples of sort of
21 generic agencies. I think what we want to do is make a
22 recommendation specific to NOAA so it would not be as

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1 vague to a particular relationship between NOAA and the
2 Department of Interior. So let's look at that language
3 before we finish up tomorrow.
4 CO-CHAIR GRAHAM: Is NOAA the only agency
5 that's affected by this?
6 MS. BEINECKE: It's not the only agency, but
7 because it is the premier ocean agency and this is in
8 the ocean resource, we recommended that NOAA have a
9 stronger role than other agencies like EPA and others
10 that might have an interest, that that cooperating, and
11 I think there's a chart actually later on --
12 MS. NEFF: I have put the chart up.
13 MS. BEINECKE: -- that lists the agencies.
14 There's the chart.
15 MS. NEFF: The actual -- the recommendation
16 was that NOAA always be a cooperating agency which
17 would make it a co-author of the NEPA review for the
18 five-year leasing program and on --
19 CO-CHAIR REILLY: That makes it a proponent,
20 a co-proponent of the action, right?
21 MS. NEFF: No, of the NEPA process.
22 MS. BEINECKE: Of the review.

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1 CO-CHAIR REILLY: Oh, not of NEPA itself.
2 MS. BEINECKE: No. It's a cooperating in the
3 environmental review but not in the lease decision.
4 It's doing the document that's informing the lease
5 decision.
6 CO-CHAIR REILLY: Okay. But it has to -- if
7 it's responsible for the environmental impact
8 assessment, it is a proponent of an action
9 significantly affecting the quality of the environment,
10 right? I think it is. So I think it's -- that point
11 it's implicated I think.
12 MS. BEINECKE: That's a good question.
13 That's interesting. We'll explore that.
14 MS. ULMER: I hadn't really thought about it
15 that way before. I had been thinking about it as an
16 author adding value in terms of the substance of the
17 analysis of the environmental impact associated with
18 that particular project. I hadn't really thought of it
19 somehow transferring into this other zone of being an
20 advocate. So I actually want to think about that a
21 little bit.
22 CO-CHAIR REILLY: The only entity that is

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1 required to submit a statement is one responsible for
2 the action that's being proposed under NEPA, so --
3 MS. NEFF: If I could. Not being a lawyer I
4 would still point out that the five-year leasing, the
5 planning process is where the government looks scopes a
6 number of different areas to determine whether or not
7 they want to be included in the five-year leasing plan.
8 That's where the environmental review as to what will
9 be leased is most critical. That's why the
10 recommendation that NOAA be a cooperating agency at
11 that stage, that's where its voice will be heard with
12 regard to where there will be leasing or not, and if
13 there's leasing, what stipulation should go in the plan
14 then when you get to the individual leases, and because
15 a lease sale is proposed in a five-year plan does not
16 mean that it will actually take place. It means it can
17 take place. If it's not in the plan, it can't. It has
18 to be -- the area has to be considered at some future,
19 in some future plan. So this is the planning part
20 where NOAA's views or all the other agencies are most
21 critical with regard to whether there will be leasing.
22 MR. BOESCH: But there is the individual

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1 lease sale, an associated EIS associated with that at
2 that point.
3 MS. NEFF: Yes, yes, and that follows really,
4 but I just remind you as we -- let me skip back here --
5 we had this chart -- I've lost it -- that shows that
6 there are a number of different stages for the
7 environmental review in offshore development, and this
8 stage at the five-year plan is where any government, in
9 our government this is where we decide what we're going
10 to lease, and we make an assessment of, you know, the
11 resources that are available; then we make an
12 assessment of whether for environmental or other
13 considerations, conflicts with fishing or whatever,
14 we're not going to lease there. This is the point.
15 And so the recommendation to have NOAA as a
16 cooperating agency, you know, as the standard procedure
17 and by law was to ensure that that input was there and
18 part of the decision.
19 MR. GARCIA: Shirley, what is NOAA'S role
20 right now in the five-year plan?
21 MS. NEFF: NOAA has the option of choosing to
22 participate as a cooperating agency. It does mean that

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1 it's a co-author then of the NEPA document.
2 MR. GARCIA: So currently they could?
3 MS. NEFF: They could, and what MMS is --
4 CO-CHAIR REILLY: It's their option?
5 MS. NEFF: Yes. My understanding is that
6 it's an agency's option to do that. MMS has said we're
7 happy to have cooperating agencies, but they want to
8 make sure that they do as much of the work. In other
9 words, it is a real burden, and this is a challenge for
10 NOAA. I mean NOAA's another one of the agencies that
11 has, you know, many parts to its mission. It is not
12 well resourced and, in fact, they have told us in a
13 number of discussions -- you've all met with them too
14 -- that that's been one of their problems. They just
15 haven't had the ability to participate in all of these
16 whereas if they are --
17 MS. BEINECKE: But I think actually that
18 argues for why to define their authority more, more
19 strongly because I think the view has been, well, we've
20 spent all this time and we've put in our comments and
21 they're ignored; we have very limited resources; let's
22 put them on something where we can have an impact. If

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1 you give them more authority and a greater voice, then
2 it's worth their while to actually do the analysis and
3 identify what their areas of interest or concern might
4 be.
5 MS. NEFF: This goes back to the overall
6 recommendation that these agencies that should have a
7 role in these activities should be recognized as having
8 that role. It should be in statute, and they should be
9 funded appropriately to be able to perform that role.
10 I think Nancy Sutley brought that out very well in our
11 hearing back in August, and it is the Congress and the
12 administration have to recognize that these resources
13 have to be available.
14 CO-CHAIR REILLY: And there are situations, I
15 gather they're not uncommon, when MMS would actually
16 finance a NOAA activity, and I've heard them take
17 credit for that. That is discretionary with MMS when
18 they want to finance NOAA's involvement in doing
19 scientific studies research?
20 MS. NEFF: Well, there's this, the
21 Environmental Studies Program which I think Mr. Boesch
22 can speak to better than I can.

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1 MR. BOESCH: I can give you a brief on that.
2 I think just to kind of bring this to a point, what I'm
3 hearing around the table is that there's an agreement
4 that NOAA's role ought to be mandatory and it be
5 substantive. It ought not be the veto, have veto
6 authority, and it need not be a proponent of the
7 action. So I think we can craft something around that.
8 CO-CHAIR REILLY: I agree.
9 MR. BOESCH: We can get there. I did want to
10 say a little bit about what you just asked, Chairman
11 Reilly, about the environmental studies aspect because
12 I actually was involved in the early part of my career
13 in doing some of these studies myself and actually was
14 a member of the Scientific Advisory Committee and
15 chaired it for a few years some years ago, and it's a
16 program that actually increased very rapidly in the
17 early days when it was announced for expanded leasing
18 around the country, but after the moratoria went into
19 place, the area-wide moratoria around the country and
20 the driving force for information that is necessary for
21 developing the EISs and so on subsided, the program has
22 dwindled, and so until just recently when it took a

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1 little uptick again in terms of budget it had dwindled
2 down to about a third of the level that it was in terms
3 of dollars that it was in its high point which was
4 about 55 million dollars back in '75, and if you put it
5 in real terms, inflation adjusted terms, that's ten
6 percent of what it was at the high point.
7 Meanwhile we have got into -- so we say,
8 well, okay, we're working the historically developed
9 area, the information need isn't there, but as we now
10 know this isn't true because we've expanded into a new
11 territory, the deep Gulf of Mexico, and I think what
12 we've seen as a result of this incident is that we came
13 up short in terms of understanding the risk and
14 vulnerability of that environment when we could not as
15 a nation or agencies or scientific community even
16 answer basic questions about where the deep water was
17 flowing. You know, when this oil was spewing out of
18 the well and putting up this plume of oil droplets, we
19 knew very little about that, and we knew very little
20 about where the oil was flowing, much less the
21 biological effects and the complex interrelationships
22 within that ecosystem.

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210	<p>1 particular in this case not only with NOAA but also</p> <p>2 with the very powerful science agency within Interior</p> <p>3 USGS which has great expertise not only about the</p> <p>4 geological resources but also about certain aspects,</p> <p>5 certain elements of the living resources.</p> <p>6 So I think what we're thinking about is</p> <p>7 making recommendations along those lines to basically</p> <p>8 still leave Interior and BOEM or whatever we're now</p> <p>9 going to call it with that responsibility but with</p> <p>10 having a strong recommendation that it ought to be done</p> <p>11 in partnership, and I have to say also that one of the</p> <p>12 things we've also learned, if we didn't know it before</p> <p>13 about from this spill, was the tremendous scientific</p> <p>14 capacity that exists in my sector, in the academic</p> <p>15 sector and research laboratories, that they need to be</p> <p>16 involved in this process as well. So there are</p> <p>17 programs like the National Ocean Partnership program</p> <p>18 which exist to bring academic scientists and federal</p> <p>19 scientists and industry folks together to work on these</p> <p>20 kinds of problems.</p> <p>21 So I'd like to see some recommendations</p> <p>22 crafted along those lines to put some, a little bit</p>	<p>1 more meat on the general recommendations about boosting</p> <p>2 this environmental studies program, and as Fran</p> <p>3 mentioned, the needs, information needs really</p> <p>4 ballooned when we go to the Arctic areas and areas</p> <p>5 where we don't have this history of development and are</p> <p>6 going to put a substantial demand on our ability, not</p> <p>7 only monetary ability, financial ability, but our</p> <p>8 intellectual ability to address these questions to</p> <p>9 protect these sensitive environments and exploit the</p> <p>10 resources in a safe way.</p> <p>11 MS. MURRAY: I would also point out that for</p> <p>12 in particular renewables offshore wind Department of</p> <p>13 Energy, National Labs are important for this research</p> <p>14 partnership.</p> <p>15 MR. BOESCH: I agree.</p> <p>16 CO-CHAIR GRAHAM: Is there any further</p> <p>17 discussion on this? Okay. Shirley.</p> <p>18 MS. NEFF: I'll move to the next</p> <p>19 recommendation. It's a continuation. The staff</p> <p>20 recommends that DOI, NEPA policies, practices and</p> <p>21 procedures should be revised and strengthened to</p> <p>22 improve the level of environmental analysis,</p>	212

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<p style="text-align: right;">213</p> <p>1 had many discussions, and there's no clear definition. 2 We just use that -- 3 CO-CHAIR REILLY: Everybody but central and 4 western Gulf. 5 MS. NEFF: Yes, central -- 6 MS. MURRAY: Unknown geology. 7 MS. NEFF: Yes, unknown geology, I mean areas 8 where there's no experience. 9 CO-CHAIR REILLY: Oh, a frontier area could 10 be in an existing developed area? 11 MS. MURRAY: Unknown geology. 12 MS. NEFF: And the -- 13 CO-CHAIR GRAHAM: Do we make a recommendation 14 about this 30-day period? 15 MS. ULMER: We're suggesting we do make a 16 recommendation. 17 MS. NEFF: That it should be -- the 18 recommendation from the staff is that the 30-day 19 deadline should be removed and it should be application 20 should not be deemed submitted until all environmental 21 consultations are complete. As far as the time frame, 22 the Department has recommended 90 days. I mean</p>	<p style="text-align: right;">215</p> <p>1 they're exploratory, and there are more details to look 2 at than -- 3 MR. BOESCH: Each plan would be submitted by 4 the operator, by the industry, right, so it's a 5 reasonable thing to have a response time. 6 MS. NEFF: If the Commission endorsed and the 7 recommendations of staff were accepted with regard to 8 having a risk approach and a risk management safety 9 case type demonstration before these, then all of this 10 would be part of a whole and there would be the need 11 for about that amount of time, you know, to discuss the 12 plan. 13 CO-CHAIR GRAHAM: Okay. Any other discussion 14 on that? Just this is a procedural concern. I am 15 trying to track what we're talking about with this 16 proposed recommendations list. There's going to be a 17 new list of proposed recommendations coming out on 18 Monday I gather. Will this language be in the Monday 19 version? 20 MS. NEFF: Senator, the draft that we had to 21 circulate, the one that you're referring to, was our 22 first consensus effort to find out whether our general</p>
<p style="text-align: right;">214</p> <p>1 assuming they're not complete until all the documents 2 are there and then they have asked for 90 days as a 3 reasonable time period. 4 CO-CHAIR REILLY: You've got to have a 5 deadline because otherwise people will go on sabbatical 6 for a year. 7 CO-CHAIR GRAHAM: I don't -- in this list of 8 summary of all recommendations which number talks about 9 the 30-day deadline? 10 MS. NEFF: We've included that under 11 recommendation number two. 12 MS. ULMER: It's on page 7. Oh, he has a 13 different one. It's in your -- 14 CO-CHAIR REILLY: So 90 is what you're 15 proposing? 16 MS. NEFF: Well, that's what the Department 17 has told us is a reasonable time frame and, you know, 18 they're responsible for the action, so I believe. 19 CO-CHAIR REILLY: Well, NEPA certainly has 20 deadlines, so it's reasonable to try to line them up. 21 MS. NEFF: I mean these are for exploratory 22 wells. I mean these are new unknown areas. That's why</p>	<p style="text-align: right;">216</p> <p>1 recommendations were in the ball park. We have put 2 them on these slides to walk through now, and I think 3 that as you complete your deliberations we will, to the 4 extent we can, narrow them down to refined language. 5 So the more you can tell us and the more you can define 6 what you want in the recommendations the easier it will 7 be for us to do that. 8 CO-CHAIR GRAHAM: As a stylistic matter, we 9 have a number of recommendations that begin with the 10 words the federal government should do something. 11 That's an awfully big universe, the federal government. 12 It seems to me where we can we ought to be more 13 specific like the Department of Interior so we know 14 which of that big universe we're focused upon. Is 15 there some reason why we're using the words the federal 16 government? 17 MS. NEFF: Well, one there was some 18 discussion earlier in your meetings about whether or 19 not you wanted this responsibility to stay within the 20 Department of the Interior. 21 CO-CHAIR GRAHAM: Well, I think we shouldn't 22 be vague about that. So if we -- we should say that it</p>

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1 should be in the Department of Interior or if we have
2 another suggestion we should say that, but just to
3 leave it the federal government is I think
4 unnecessarily obscure.
5 MS. NEFF: Okay. I think in the language
6 that you're looking at it may -- I don't have that
7 document in front of me, but it may relate to the fact
8 that when we're talking about the environmental reviews
9 and the environmental science, it was hard to capture
10 all of the agencies that might be relevant, and so I
11 think there we defaulted to the federal government
12 whereas I think in other places we clearly said more
13 specifically. Is it that situation?
14 CO-CHAIR GRAHAM: Well, we say the federal
15 government should reduce the risk to the environment
16 OSC, oil and gas activities by strengthening science
17 and technology interagency consultant -- consultations.
18 So we clearly are talking about more than one agency,
19 but I think we mean the Department of Interior should
20 seek to reduce the risk, and one of the strategies to
21 do that is interagency consultation.
22 MS. NEFF: Oh, okay. I see. Yes. I

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1 apologize. I hadn't gone back to that language. But
2 we are saying that the federal government as a whole
3 and I think as Commissioner Ulmer and Commissioner
4 Boesch have both spoken to is that the science program
5 cuts across many areas.
6 MS. BEINECKE: Actually in that
7 recommendation it might be the overarching driver for
8 the federal government. A lot of that comes out of
9 this new national oceans policy. So if you're going to
10 say federal government, you might want to refer to that
11 change in the policy as the driver, the national oceans
12 policy because in essence they should actually seek to
13 reduce the risk and that should be an overarching
14 mandate of theirs as carrying out these policies.
15 MS. NEFF: So you'd like it to say the
16 federal government is advised by the National Oceans
17 Council with regard to --
18 MS. BEINECKE: And then later on you get into
19 more specifics of the Interior and NOAA and so on.
20 MS. NEFF: Recommendation two we're clearly
21 talking about the Department of the Interior and its
22 NEPA policies. You want to move on to the third.

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1 MS. BEINECKE: Yes.
2 MS. NEFF: Again, we're back to the federal
3 government should create a rigorous transparent and
4 meaningful oil spill risk analysis and planning
5 process, and here we're clearly talking about the
6 Department of the Interior, the US Coast Guard, other
7 federal agencies, EPA.
8 MR. BOESCH: NOAA has a very specific role.
9 MS. NEFF: NOAA, definitely.
10 MS. BEINECKE: Should that be then DOI in
11 partnership with USGS and NOAA should?
12 MS. NEFF: I just want to say that on this
13 issue you're going to have a lot of discussion here
14 about what agencies are involved and who should be
15 engaged where and to what extent. From our standpoint
16 we were looking at what the Department of the Interior
17 and the Minerals Management Service was doing, what it
18 thought its responsibilities were with regard to risk
19 studies, risk analysis and planning when it dealt with
20 the operators when they were proposing exploration and
21 development plans. It is the view of the staff working
22 on this particular issue that you need to really

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1 consider why the Coast Guard and other agencies were
2 not actively reviewing these spill response plans.
3 Clearly we have identified that as I'll lay through
4 here or go through this list that there need to be
5 improved regulations guidance and a review process for
6 these oil spill response plans.
7 There's been criticism that MMS wasn't
8 reviewing these or that they weren't giving them to the
9 Coast Guard. We were told in meetings with the staff
10 that they had been sending them to the Coast Guard but
11 they weren't reviewing them.
12 CO-CHAIR REILLY: I thought that they were
13 simply entered in the Federal Register. They're not?
14 I thought that was the Coast Guard answers that
15 question.
16 MS. NEFF: Okay. That's a question to ask
17 whether the Coast Guard should have additional
18 responsibilities, whether other agencies should be
19 involved, and we're suggesting that there should be
20 more guidance and more interagency review by EPA, NOAA
21 and the US Coast Guard. That's the second bullet here.
22 MS. ULMER: I mean I for one would like to

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<p style="text-align: right;">221</p> <p>1 see a requirement that the US Coast Guard approve those 2 plans. It's the Coast Guard that's on the front line 3 of actually having to supervise and in some cases clean 4 up after failed response efforts. I just think it's 5 unrealistic for agencies to simply kind of tip their 6 hat saying, oh, yeah, we understand the US Coast Guard 7 needs to get a copy of this, but they're the ones who 8 are on the front line of doing battle when there's a 9 spill. Same thing for EPA and dispersants. I mean I 10 think the current system is far too passive, far too 11 passive in terms of the expertise and other agency 12 responsibilities that are involved in oil spill 13 planning. 14 MS. MURRAY: Well, another thing that 15 happened in this case completely outside the plan was 16 the Department of Energy brought in their scientific 17 team, and should they not, you know, they do have 18 relevant expertise. Should they not be at least part 19 of the containment plan, you know, as a consultation? 20 MS. ULMER: And then there's the whole 21 relationship between the individual oil spill response 22 plans for particular projects and the area response</p>	<p style="text-align: right;">223</p> <p>1 MS. ULMER: No, I'm not talking about our 2 commission. I'm talking about the Coast Guard 3 commission. 4 MS. NEFF: I don't know whether that's the 5 case. 6 MS. ULMER: Well, who was it? Was it the 7 Secretary of the Navy that appointed the Coast Guard 8 Review Commission that looked at response? Richard, 9 can you help me with this? 10 MR. LAZARUS: Yes, Secretary of Homeland 11 Security, Janet Napolitano tasked the Coast Guard to do 12 an internal investigation of the response efforts. Two 13 retired admirals have been doing that for the past 14 several months. We've been working very closely with 15 Ms. Priya Aiyar who you'll hear from later, Deputy 16 Chief Counsel. They've basically been working hand in 17 hand with them for the past several months looking at 18 the response actions of the federal government and the 19 federal agencies. 20 This is a fairly standard practice in the 21 military, to engage in some very intensive internal 22 introspection after a crisis, and they're going to have</p>
<p style="text-align: right;">222</p> <p>1 plan that is done which is done, you know, beyond it's 2 not just scoped around a particular project or 3 particular improvement. It's scoped around a 4 particular area and how that fits into the national 5 contingency plan. 6 Linking these things up we lack a structure 7 to have those things get integrated and reviewed in a 8 meaningful way. That's what sets up for failure in 9 ultimately being able to implement a meaningful 10 response, and I'm not sure that we have spent, we being 11 either the Commission or the staff, have spent much 12 time puzzling through those links. I am aware of the 13 fact that there is a separate review commission that is 14 looking at Coast Guard response, and it's very possible 15 that that commission which I guess will be making a 16 recommendation shortly may be looking at the kind of 17 linkages that I'm talking about in all of these 18 response plans. Maybe no? 19 MS. NEFF: Commissioner, I think it's the 20 same commission but some of my colleagues on the staff 21 have been looking at it. They were other members of 22 this commission, but yes, it will be coming up.</p>	<p style="text-align: right;">224</p> <p>1 their own report. They've been actually timing their 2 report to come out about the same time as ours, and 3 we're working, coordinating closely with them all along 4 the way, and actually it has been very helpful to get a 5 lot of information we otherwise might not have gotten. 6 MS. ULMER: So, Richard, my question is, are 7 they only looking at the way in which the response 8 worked, or are they also looking at the sort of 9 statutory and multi-agency responsibilities and 10 authorities that I'm talking about in terms of how all 11 these various response planning efforts at both the 12 individual project level, the company level, the area 13 planning process and the national contingency plan? 14 Are they looking at that sort of structurally? 15 MR. LAZARUS: Priya Aiyar can address that 16 more precisely than I can. My sense is I don't think 17 that they're necessarily going to the broader issues, 18 but she will know exactly the answer to that question. 19 MS. ULMER: I think it's really important 20 that we think about this in a systems way just like 21 we're thinking about process safety in a systems way, 22 and I'm not sure from any of the material that I've</p>

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<p style="text-align: right;">225</p> <p>1 seen so far from our staff that we have done that. 2 MS. BEINECKE: Should we defer discussion of 3 these specific recommendations on the oil spill 4 response to tomorrow when we are discussing -- 5 MR. BOESCH: I think the oil spill response 6 she's discussing this afternoon. It will be next. 7 There is some overlap and that's why I think Shirley is 8 speaking to it. 9 MS. NEFF: We were focused primarily on the 10 Department of Interior and MMS, and clearly what we 11 concluded was that the worst case scenario calculations 12 that MMS was using were flawed and that those need to 13 be improved because they're incorporated in all the 14 environmental reviews and consultations that go forward 15 and that one of the critical recommendations here is 16 that there should be a credible outside party that 17 reviews on an ongoing basis this oil spill risk 18 analysis model. The earlier bullets on this particular 19 slide spoke to the fact that while MMS had these spill 20 response plans after they'd gone through their worst 21 case scenario, they weren't the ones charged with the 22 spill response. So the question then is whether you</p>	<p style="text-align: right;">227</p> <p>1 indicate who we think should be the credible outside 2 party? 3 MR. BOESCH: I don't think we need to get 4 that clear. I think it's a good point that we have a 5 credible, but I could imagine a number of ways to do 6 that. 7 CO-CHAIR GRAHAM: I mean maybe we could just 8 -- I think even giving some suggestion of who we're 9 talking about, that that's -- 10 CO-CHAIR REILLY: The national Academy of 11 Engineering would be logical I thought. 12 MS. MURRAY: So one possibility is that the 13 safety and environmental authority which could include, 14 you know, both of those entities, the safety one and 15 the environmental one, if they get moved together would 16 have an advisory body which could be chosen by the 17 National Academy of Science, very much like the FAA 18 advisory body, and that would be a credible third party 19 that would be, you know, third party. 20 CO-CHAIR GRAHAM: I'm not suggesting that we 21 necessarily limit it to one but have some suggestions. 22 MS. BEINECKE: More definition.</p>
<p style="text-align: right;">226</p> <p>1 want to make recommendations that these other agencies 2 should be involved, and we thought it best to leave 3 that to the group that was really looking closely at 4 how this performed during the spill response. 5 CO-CHAIR GRAHAM: Let me say stylistically 6 that if there is an issue that we would normally opine 7 upon but which we made a conscious judgment to defer to 8 another entity, possibly the one that Fran has just 9 discussed, I think we should say that, that we 10 recognize this as an appropriate issue but we are 11 consciously deferring to XYZ because of their special 12 expertise, but let's don't leave the impression that we 13 didn't think about the issue. 14 What do we mean by credible outside party 15 should review? What's the criteria for a credible 16 outside party? 17 MS. NEFF: It could be another federal 18 agency. It could be one of the National Labs, the 19 National Academies of Science, an academic advisory 20 group. I mean it could be appointed by the agency. 21 CO-CHAIR GRAHAM: Don't you think we ought -- 22 we're supposed to be the experts in this. Shouldn't we</p>	<p style="text-align: right;">228</p> <p>1 CO-CHAIR GRAHAM: Yeah. Shirley, are we 2 wrapped up? We're now going to go to the Atlantic -- I 3 mean -- excuse me. The Arctic. We skipped right over 4 the Atlantic, paid no attention at all. 5 MS. ULMER: Mr. Chairman, I would like to say 6 thanks to Shirley and Scott for an amazing amount of 7 work in trying to figure out how the NEPA process 8 works, how the regulatory systems have changed, how 9 they compare with other countries, thinking through the 10 whole safety case questions and how we can make change 11 happen. That has not been easy, and for those of us 12 who served on some of these subcommittees tried to 13 figure it out alongside of the staff, it's quite 14 dramatic in terms of how many layers of decisions, how 15 many different kinds of statutory authorities and 16 trying to understand all of that. I just want to say 17 thanks very much. 18 CO-CHAIR REILLY: And I don't think we asked 19 you any questions the answers to which you didn't have. 20 MS. NEFF: I would like to say on behalf of 21 myself and Emily, Scott, Joel Hobson, everybody who's 22 worked on this, how much we've appreciated the</p>

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<p style="text-align: right;">229</p> <p>1 opportunity to work with all of you.</p> <p>2 CO-CHAIR REILLY: Shirley, fine work. Thank</p> <p>3 you. All right. Dealing in the Arctic. I will make</p> <p>4 some opening comments, and then Jessica O'Neill and</p> <p>5 Kate Clark will take over.</p> <p>6 In the executive order that established the</p> <p>7 Commission the President charged our group with</p> <p>8 developing options for guarding against and mitigating</p> <p>9 the impact of oil spills associated with offshore</p> <p>10 drilling taking into consideration the environmental,</p> <p>11 public health and economic effects of such options.</p> <p>12 Well, of all the areas that are or could be producing</p> <p>13 oil and gas in the United States, competing</p> <p>14 environmental, economic and public health concerns may</p> <p>15 be most dramatic and possibly also contentious in the</p> <p>16 Arctic.</p> <p>17 The commissioners and staff have heard a</p> <p>18 wide range of views about the future of offshore</p> <p>19 drilling in the Arctic. Commissioner Fran Ulmer and I</p> <p>20 have gone to Alaska, met with Shell, ConocoPhillips, US</p> <p>21 Geological Survey, with MMS, Nature Conservancy, Pew,</p> <p>22 several other NGOs, Mayor Itta of the North Slope</p>	<p style="text-align: right;">231</p> <p>1 abundant in the Arctic.</p> <p>2 Arctic living marine resources support the</p> <p>3 native Inupiat Eskimos of Alaska who have survived via</p> <p>4 subsistence hunting and fishing for thousands of years.</p> <p>5 If not conducted responsibly, oil and gas activities</p> <p>6 are a threat to this life style. Seismic or drilling</p> <p>7 activities with acoustic impacts in the Beaufort Sea</p> <p>8 where whales are hunted could make marine mammals more</p> <p>9 difficult and more dangerous to hunt. Oil spills could</p> <p>10 also pose a very serious threat to the feeding grounds</p> <p>11 and habitat of the subsistent species.</p> <p>12 However, the future of drilling in the</p> <p>13 Arctic is complicated by the fact that areas have</p> <p>14 already been leased to industry. The most recent MMS</p> <p>15 lease sale in the Chukchi Sea resulted in 2.8 billion</p> <p>16 dollars in high bids. Five exploratory wells were</p> <p>17 drilled in the early 1990s in the Chukchi Sea and 30</p> <p>18 have been drilled in the Beaufort. So these are not</p> <p>19 wholly undeveloped areas. A common estimate of</p> <p>20 recoverable oil in the Chukchi and Beaufort Sea is 27</p> <p>21 to 35 billion barrels of oil.</p> <p>22 These recently awarded leases could provide</p>
<p style="text-align: right;">230</p> <p>1 Borough and with the Alaska Development Commission. Is</p> <p>2 that what it's called that regulates all the oil?</p> <p>3 MS. ULMER: Alaska Oil and Gas Commission.</p> <p>4 CO-CHAIR REILLY: Oil and Gas Commission. So</p> <p>5 we really tried to range this as widely as we could to</p> <p>6 get a variety of opinions and authority on the subject.</p> <p>7 The topic we discovered invokes a great deal</p> <p>8 of passion both from people who believe that offshore</p> <p>9 oil and gas resources in the Arctic should be developed</p> <p>10 and those that would prefer to have no industrial</p> <p>11 activities in the area ever.</p> <p>12 The US Arctic which includes the Beaufort</p> <p>13 and Chukchi Seas is an area of diverse and unique</p> <p>14 ecosystems. The marine mammal fauna in the Chukchi and</p> <p>15 Beaufort are among the most diverse in the world. The</p> <p>16 Chukchi Sea is home to roughly half of America's polar</p> <p>17 bears which is approximately one-tenth of the world</p> <p>18 population.</p> <p>19 In addition to being an important feeding</p> <p>20 ground for marine mammals, the Chukchi and Beaufort</p> <p>21 Seas support millions of shore birds, sea birds and</p> <p>22 water fowl. Marine fishery resources are also very</p>	<p style="text-align: right;">232</p> <p>1 significant economic, national security and energy</p> <p>2 security benefits. One industry funded study estimates</p> <p>3 that 35,000 jobs and 1.6 million barrels of oil per day</p> <p>4 could be produced if offshore Arctic exploration</p> <p>5 matures into production. This oil could also help</p> <p>6 extend the life of the Trans-Alaska pipeline which</p> <p>7 would be beneficial to the State of Alaska and the rest</p> <p>8 of the United States.</p> <p>9 All of these competing views point us toward</p> <p>10 the need for a precautionary approach to oil and gas</p> <p>11 drilling and leasing in the Arctic. A number of areas</p> <p>12 warrant targeted research on an expedited time frame</p> <p>13 for additional capacity as activities more forward.</p> <p>14 The need for additional research should not, however,</p> <p>15 be used as a de facto moratorium on activity in the</p> <p>16 Arctic but instead should be carried out with specific</p> <p>17 timeline drivers in mind in order to inform the</p> <p>18 decision making process regarding the future of Arctic</p> <p>19 offshore leasing.</p> <p>20 So this is a difficult and complicated issue</p> <p>21 but one that is critical for the future of offshore</p> <p>22 drilling in the US. If one speaks to the industry,</p>

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<p style="text-align: right;">233</p> <p>1 Shell focuses, for example, Shell focuses on prevention 2 and on their own state of the art containment and 3 response capability, and they point to the shallow 4 waters, the high formations, the absence of challenging 5 geology and the absence of high subsea pressures 6 experienced in the deepwater Gulf. Environmentalists 7 focus on spills, on the special challenges of fog and 8 darkness, storms and ice, on the lack of 9 infrastructure, the absence of government search and 10 rescue, the fact that the Coast Guard is a thousand 11 miles away, that baseline science on species is limited 12 and full seasoned analysis of species of over several 13 seasons nonexistent.</p> <p>14 So this is, in sum, a difficult and 15 complicated issue, one that is crucial for the future 16 of offshore drilling in the United States and one that 17 has produced particularly interested and animated 18 conversations among members of this Commission, and now 19 we will look to Jessica and Kate to resolve it.</p> <p>20 MS. O'NEILL: Well, I'm not sure about that, 21 but thank you so much for that introduction. We have 22 been looking at issues relating to offshore drilling in</p>	<p style="text-align: right;">235</p> <p>1 only during the open water season which lasts between 2 mid July through October.</p> <p>3 These extreme conditions, of course, create 4 challenges for a variety of activities in the Arctic 5 including offshore scientific research, oil and gas 6 activities and the oil spill response activities that 7 might potentially be required as a consequence of that 8 oil and gas development.</p> <p>9 As Commissioner Reilly mentioned, the unique 10 and extreme conditions in the Arctic go along with 11 equally unique and fragile ecosystems. Arctic wildlife 12 makes a substantial contribution to global 13 biodiversity, and the region supports globally 14 significant populations of birds, mammals and fish. 15 The marine mammal fauna of the region are among the 16 most diverse in the world. Marine mammals found in the 17 Arctic include four species of ice seals, multiple 18 cetaceans including porpoises, narwhal, whales, such as 19 killer, beluga, gray and bowhead whales, walrus and 20 polar bears.</p> <p>21 The Beaufort and Chukchi Seas are also very 22 important to migratory birds with large numbers of</p>
<p style="text-align: right;">234</p> <p>1 the Arctic as part of the Commission's general mission 2 of course to consider the future of offshore drilling 3 in general, and we have considered the Arctic one of 4 the primary frontier areas that we needed to evaluate.</p> <p>5 This slide shows the areas that we're 6 talking about, and this shows the Outer Continental 7 Shelf planning areas for Alaska. Areas in yellow are 8 the ones that this presentation focuses on. You see 9 the Chukchi Sea on the left and the Beaufort Sea on the 10 right.</p> <p>11 I think it's important to set the background 12 of the environmental conditions in the region. The 13 Alaskan Arctic is characterized by extreme cold, 14 extensive darkness, fog and ice. The winter season 15 lasts for the majority of the year. It lasts for nine 16 months, and temperatures are usually below zero and can 17 go as low as 58 degrees below zero. From mid November 18 until late January the sun never rises above the 19 horizon in Barrow creating prolonged periods of 20 darkness. The Chukchi and the Beaufort Seas are 21 covered by varying forms of ice for eight to nine 22 months out of the year. The ice retreats northward</p>	<p style="text-align: right;">236</p> <p>1 water fowl and shore birds nesting along the North 2 Slope. Several million birds migrate in the spring and 3 fall along the coast of northern and western Alaska. 4 For populations of many of these species their 5 concentration in the Arctic represents a substantial 6 portion of the world's or North American population. 7 In particular, the bays, lagoons and inlets lining the 8 Chukchi Sea provide breeding and feeding ground for 9 millions of shore birds, sea birds and water fowl, and 10 this area supports some of the largest colonies of 11 marine birds in the northern hemisphere.</p> <p>12 And so this brings us to our draft staff 13 findings as a result of our research into Arctic 14 offshore development. As Commissioner Reilly 15 mentioned, this topic is very controversial and tends 16 to elicit strong and sometimes emotional responses. 17 There are many interests at stake and a wide range of 18 stakeholders.</p> <p>19 Our research has revealed a broad range of 20 opinions on a broad range of topics including the 21 potential environmental impacts of offshore oil and gas 22 development, the economic benefits and who the economic</p>

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<p style="text-align: right;">237</p> <p>1 beneficiaries of this development might be, the 2 potential negative impacts on native subsistence 3 harvests and the effectiveness of oil spill response 4 methods in this unique weather and ice conditions in 5 the Arctic.</p> <p>6 We've also found that there are many areas 7 related to oil and gas development in the Arctic that 8 warrant targeted research on an expedited time frame. 9 We're going to highlight some of those issues as we 10 move through here.</p> <p>11 The staff believes that the need for 12 additional research should not be used itself as a 13 reason to halt all activity in the Arctic but instead 14 that this additional research should be carried out 15 with specific timeline drivers in mind to inform 16 decision makers as they move forward, and so we propose 17 that these findings be -- that these findings highlight 18 issues that should be taken into account as the 19 Administration and the Department of the Interior 20 considers whether oil and gas development should move 21 forward and at what pace.</p> <p>22 And our first finding is about baseline</p>	<p style="text-align: right;">239</p> <p>1 marine mammals and marine fish in the Beaufort and 2 Chukchi Seas as well as understanding other components 3 of the ecosystem such as benthic organisms and the 4 physical, oceanic and atmospheric processes that also 5 influence the ecosystem.</p> <p>6 Our next finding is about oil spill 7 response. The staff believes that there is currently a 8 large gap in knowledge related to oil spill response in 9 the Arctic. As we've discussed, Arctic conditions can 10 be very dangerous to humans. They include extremely 11 cold air and water temperatures, strong winds, multiple 12 forms of ice and fog. Because of these conditions we 13 won't be able to take successful oil spill methods from 14 the Gulf and transplant them wholesale to the Arctic. 15 They won't work in exactly the same way.</p> <p>16 One of the main challenges of oil spill 17 response in the Arctic is locating the oil which if it 18 happens during broken ice conditions can move with the 19 ice and flow under ice floes or become encapsulated 20 within the ice. There are some techniques that have 21 shown promise such as remote sensing and ground 22 penetrating radar that can help responders to locate</p>
<p style="text-align: right;">238</p> <p>1 science data gaps. Due to the extreme weather 2 conditions and the remoteness of the area it's very 3 difficult and very expensive to conduct Arctic 4 research. Now, with that being said, a large amount of 5 research has been conducted by government, academics 6 and industry. All of this data combined with 7 traditional knowledge is helping us to better 8 understand the Arctic.</p> <p>9 For some species during certain times of the 10 year we have very good information. For example, we 11 have very good information about bowhead whales during 12 parts of their lives. However, a better understanding 13 of the full ecosystem and physical processes in the 14 Beaufort and Chukchi Seas over the entire year is 15 needed, and this information is needed by the federal 16 government for leasing decisions, for understanding 17 ecological and subsistence harvest impacts of oil and 18 gas activities and for conducting damage assessments in 19 the case of an oil spill. And the information that 20 we're talking about goes beyond the least specific site 21 specific studies that industry is currently conducting, 22 and it would include regular stock assessments of</p>	<p style="text-align: right;">240</p> <p>1 the oil, but more research on these techniques needs to 2 be done before they can be concluded to be really 3 effective.</p> <p>4 Traditional mechanical recovery techniques such 5 as we saw in the Gulf like skimmers, like using 6 skimmers and boom to contain and recover the oil are of 7 limited applicability in the Arctic. Skimmers become 8 clogged with ice and slush, and boom is difficult to 9 deploy.</p> <p>10 Dispersants were used extensively in the 11 Gulf of Mexico spill. There has been some research 12 showing that dispersants would be effective in the 13 Arctic, but more research is needed regarding their 14 effectiveness in situations involving ice cover, heavy 15 winds and extremely cold temperatures. Additionally, 16 more research needs to be done on the biodegradation 17 rate of oil in the Arctic environment.</p> <p>18 In situ burning is probably the most 19 promising response technique in the Arctic where the 20 oil is burned off the surface of the water. There has 21 been some studies on that, but again, more needs to be 22 done. Now, industry, government and academic research</p>

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<p style="text-align: right;">241</p> <p>1 institutions are conducting some of this oil spill 2 response research through joint industry partnerships, 3 and the staff believes that this is promising but that 4 much more research needs to be done related to the 5 effectiveness and safety of Arctic oil spill response. 6 Next we'll move on to the federal presence. 7 The response to any oil spill in Arctic waters would 8 necessarily be managed by the Coast Guard under the 9 requirements of the national contingency plan. 10 However, Coast Guard officials have noted over the past 11 few years that they are ill-prepared to respond to a 12 spill in the Arctic. The Coast Guard has three polar 13 ice breakers. Two of them are currently out of service 14 and have exceeded their service lives, and so it will 15 be difficult for the Coast Guard to get to an oil spill 16 in the Arctic. 17 Distance is another major hurdle even in 18 open water and good weather conditions. As you know, 19 the nearest Coast Guard operations base is about a 20 thousand miles away from the sites in the Chukchi and 21 Beaufort Seas. 22 Now, industry contends correctly that it</p>	<p style="text-align: right;">243</p> <p>1 capabilities in advance of each type of activity, and 2 evaluation of these outstanding requirements is 3 important to providing transparency and certainty. 4 It's also important to discuss subsistence 5 use of Arctic resources. Subsistence use provides -- 6 is the way of life for the communities in the Arctic. 7 Inupiat Eskimos are the dominant population in the 8 region. They have survived via subsistence hunting and 9 fishing for thousands of years. Subsistence species 10 include bowhead whales, beluga whales, walruses, seals, 11 orca and caribou. The bowhead whale is of particular 12 importance because of its size and food potential. 13 Whale hunting and the customs surrounding it are also 14 an important part of the cultural heritage of the 15 Inupiat. 16 Oil and gas development has the potential to 17 directly and indirectly affect the habitats of these 18 species that are important to subsistence as well as to 19 affecting the success of any subsistence hunt itself. 20 However, even while potentially negatively impacting 21 subsistence, of course, offshore oil development can 22 play an economic role in these communities as well.</p>
<p style="text-align: right;">242</p> <p>1 would carry out an oil spill response with its own 2 personnel, equipment and contractors, and that's 3 correct, and that's what we saw in the Gulf of Mexico. 4 However, the federal government through the Coast Guard 5 would supervise and oversee any oil spill response, and 6 we believe that the Coast Guard needs to have a 7 presence in the region in order to be able to do so. 8 Moreover, the distance of Coast Guard personnel from 9 the region makes federal search and rescue operations 10 difficult, so it would be difficult for the Coast Guard 11 to participate in or oversee a search and rescue 12 operation as well as an oil spill response. 13 Now, exploratory drilling in the Arctic 14 would be confined to the open water season, July 15 through October, while production drilling would occur 16 year round. There can be differences between the 17 potential risks of exploratory drilling and year-round 18 production. A different scale of scientific 19 information and response capabilities might be needed 20 for these two activities, and there's an outstanding 21 question regarding what both government and industry 22 need to demonstrate in terms of information and</p>	<p style="text-align: right;">244</p> <p>1 Onshore oil and gas production in Alaska has 2 been declining, and offshore resources are viewed as a 3 potential replacement. USGS estimates that as much as 4 80 percent of undiscovered oil and gas in the Arctic is 5 offshore in these regions that we're talking about. 6 Now, the level of the economic stimulus 7 provided by the activities can be debated, but it is 8 expected to have an economic benefit for the State of 9 Alaska. Arctic offshore oil could also help extend the 10 life of the Trans-Alaskan pipeline once it's 11 transported from the production site to the top of the 12 pipeline. It could help extend, increase the flow to 13 extend the life of the pipeline. Additionally, oil 14 from the Alaskan offshore could help contribute to 15 energy security and provide economic benefits to the 16 United States as a whole. 17 This map shows the lease sites in the 18 Chukchi and Beaufort Seas, just to give you an update 19 on what activity is currently being conducted and is 20 being proposed for the region. On the left you see the 21 Chukchi Sea. These sites were leased by the federal 22 government in 2008. This lease sale was very lucrative</p>

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<p style="text-align: right;">245</p> <p>1 for the federal government resulting in over 2.6 2 billion dollars in high bids including 2.1 billion 3 dollars from the Shell Oil Company. Looking to the 4 right to the Beaufort Sea, the red dotted line you see 5 there demarcates state versus federal waters, and the 6 in-state waters there is near-shore production in the 7 Beaufort Sea. BP operates some fields there in the 8 Beaufort Sea. They have a well in the Liberty Field 9 that was proposed to begin production, excuse me, to 10 begin development drilling and production this summer. 11 It's an ultra-extended reach well that starts on state 12 waters and drills sort of diagonally. That plan is 13 currently on hold, but there are other near-shore 14 production in the Beaufort Sea.</p> <p>15 In terms of the current applications to 16 drill, Shell had proposed to drill an exploratory well 17 in the Chukchi Sea. That application is not on the 18 table and Shell is instead proposing to drill one 19 exploratory well in the Beaufort Sea next summer. 20 ConocoPhillips has indicated to the Commission that it 21 may apply to conduct exploratory drilling in the 22 Chukchi Sea as early as 2013. STAT Oil is currently</p>	<p style="text-align: right;">247</p> <p>1 Department's about to begin holding public meetings and 2 soliciting public comments in the region on whether or 3 not, and if so, where lease sites should be leased 4 under the 2012 to 2017 leasing plan.</p> <p>5 In its announcement yesterday the Department 6 also referenced and I think it's important to bring up 7 a study being conducted by the USGS about the state of 8 science and what additional research needs to be done 9 in the Arctic. We don't have the results of that study 10 yet, but USGS is expected to produce that at some point 11 this spring.</p> <p>12 So that's where we are as far as the status 13 of applications and leasing and our findings about 14 offshore drilling in the Arctic. I'm happy to take any 15 questions or if you all want to discuss amongst 16 yourselves.</p> <p>17 CO-CHAIR REILLY: Jessica, could you quickly 18 summarize where other countries are with respect to 19 their planning for the Arctic.</p> <p>20 MS. O'NEILL: Yes. Among the other Arctic 21 nations I don't believe that any are actively producing 22 oil from their Arctic fields, although they're all in</p>
<p style="text-align: right;">246</p> <p>1 conducting seismic operations in the Chukchi.</p> <p>2 As far as the current regulatory status, do 3 you know that Secretary of the Interior made an 4 announcement yesterday regarding the status of current 5 and potential leasing decisions for the Arctic Sea? 6 They have decided to honor existing leases in the 7 region and to review Shell's pending application to 8 drill an exploratory well in the Beaufort Sea next 9 summer. So that application is still pending and it's 10 currently undergoing additional environmental 11 assessment. Shell had indicated to the Department that 12 they needed a decision by December in order to be 13 prepared to drill next summer. The Department 14 indicated that it was reviewing the application, wasn't 15 subject to any outside imposed timeline I guess but 16 would be reviewing that application and subjecting it 17 to additional review.</p> <p>18 Additionally, in its announcement yesterday 19 the Secretary said that no additional leases in this 20 region would be held under the 2007 to 2012 five-year 21 leasing plan, but they would be considering additional 22 leases under the '12 to '17 leasing plan, and the</p>	<p style="text-align: right;">248</p> <p>1 various stages of leasing, exploration and production. 2 Russia is producing oil at its Sakhalin fields. Those 3 have Arctic-like weather conditions but they're not in 4 the Arctic. Greenland drilled some exploratory wells 5 this past summer, and they are conducting additional 6 licensing now. Norway produces gas through, produces L 7 and G in its Arctic fields and it has some other 8 exploratory drilling going on as well and is currently 9 conducting additional licensing in its Arctic fields. 10 They did announce that deepwater drilling on the 11 leases, or the licenses that they have recently sold 12 for its Arctic fields are on hold pending further 13 review of the BP Deepwater Horizon accident.</p> <p>14 Canada has lease sites in its offshore Arctic. 15 It does not have any current exploratory or production 16 drilling there. It announced this spring after the 17 Deepwater Horizon accident that it would review its 18 safety and environmental requirements for the Arctic 19 offshore. Canada is also reviewing its current 20 requirement that it require a company to demonstrate an 21 ability to drill a same season relief well in the 22 Arctic. So they have leased areas but they don't have</p>

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<p style="text-align: right;">249</p> <p>1 any drilling at the present time. 2 So every -- the other Arctic nations are 3 similarly moving forward with either leasing or 4 licensing in some respect, but there doesn't appear to 5 be a whole lot of wholesale production yet. 6 CO-CHAIR REILLY: Thank you. 7 CO-CHAIR GRAHAM: Could you review some of 8 the specifics of the Shell lease? The lease went into 9 effect in 2008. Is that correct? 10 MS. O'NEILL: The Chukchi lease went into 11 effect in 2008. 12 CO-CHAIR GRAHAM: And it was for how long? 13 MS. O'NEILL: The leases are for ten years. 14 CO-CHAIR GRAHAM: And what was the action 15 that was taken yesterday that affected that lease? 16 MS. O'NEILL: That lease, there's no pending 17 application to do anything with that lease, to drill 18 that lease. Shell had previously filed an application 19 to drill some exploratory wells on one of those sites 20 that they were going to conduct this past summer, but 21 that was halted. There also is some litigation 22 affecting the five-year leasing, the sale that gave</p>	<p style="text-align: right;">251</p> <p>1 accepting public comments on that application. I think 2 public comments are due at some point this month. So 3 then they'll issue a decision on that and decide 4 whether or not to allow that exploratory well to go 5 forward. 6 MR. BOESCH: Now, Shell had an application or 7 did it get permission to do exploratory drilling in the 8 Chukchi last year or this year, earlier this year? 9 MS. O'NEILL: It did not. 10 MS. ULMER: They withdrew it. 11 MS. O'NEILL: They withdrew it, yes, but it 12 was also held up by the litigation and the 13 announcement. 14 MR. BOESCH: Post Deepwater Horizon. 15 MS. O'NEILL: Yes. 16 MR. BOESCH: So then Shell withdrew it and 17 they have not resubmitted it. 18 MS. O'NEILL: That's correct, and they 19 announced this past October that they would not be 20 resubmitting it for next year but they would be pushing 21 forward on their application for the Beaufort. 22 CO-CHAIR REILLY: Is that lease subject to</p>
<p style="text-align: right;">250</p> <p>1 rise to those leases, and the agency is conducting 2 additional, or reviewing its environmental assessment 3 of that five-year leasing sale. So Shell has no -- 4 they don't have anything pending on their 2008 lease in 5 the Chukchi. Their pending application is for their 6 lease in the Beaufort. 7 CO-CHAIR GRAHAM: And the one that's in the 8 Beaufort, when was that issued? 9 MS. O'NEILL: I believe that was in 2005. 10 CO-CHAIR GRAHAM: And it's also a ten-year 11 lease? 12 MS. O'NEILL: Yes. 13 CO-CHAIR GRAHAM: And what is the action that 14 was announced yesterday? 15 MS. O'NEILL: Yesterday the Secretary 16 announced that they were going to conduct additional, 17 an additional environmental assessment of that 18 application. So they are going to review that 19 application further and then issue a decision on it. 20 The application that's pending there is to drill an 21 exploratory well. So that will be -- they'll conduct 22 an additional analysis of it. They're currently</p>	<p style="text-align: right;">252</p> <p>1 the court order to reconsider or redevelop 2 environmental information, or is it just the Chukchi? 3 MS. O'NEILL: It's just the Chukchi. There 4 was litigation about the Beaufort, and I can't speak as 5 well to that. I don't believe that any of the 6 environmental assessments in the Beaufort have been 7 successfully challenged. 8 CO-CHAIR REILLY: So what will now take place 9 is an environmental impact statement on the permit 10 application? Is that right? 11 MS. O'NEILL: The Secretary's announcement 12 wasn't that specific. It was just that the bureau is 13 preparing additional environmental analysis of the 14 area. I don't think we know exactly what form that 15 will take or if it is something as specific as a SEI, a 16 supplemental environmental impact statement or an 17 additional EIS. 18 CO-CHAIR REILLY: And is it conducted in an 19 open water situation or is it in one of the gravel 20 islands? 21 MS. O'NEILL: It's a drilling rig. It's not 22 a gravel island. It's too far off shore for that. So</p>

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<p style="text-align: right;">253</p> <p>1 it's more like its application in the Chukchi. 2 CO-CHAIR REILLY: How deep is the water? 3 MS. O'NEILL: It's not what we would call 4 deep water. Maybe -- 5 MR. BOESCH: Those green boxes are the 6 Beaufort site. 7 CO-CHAIR REILLY: I can't read it. 8 MR. BOESCH: It doesn't say the depth but 9 it's well over -- 10 MS. O'NEILL: Maybe like 150 feet maybe. I'm 11 not exactly sure, but it's not what we would call deep 12 water, but it's too deep to put an artificial gravel 13 island such as the near-shore fields that they have 14 closer to shore in Beaufort. 15 CO-CHAIR GRAHAM: Are there other questions? 16 MS. BEINECKE: Well, I don't -- no. I have a 17 couple comments. I don't know that they're questions, 18 but thank you, Jessica, very much. That was a very 19 thorough analysis of what's going on in the Arctic. 20 I think that we heard a lot of comments over 21 the last several months from parties who study the 22 Arctic about their very grave concerns about the issues</p>	<p style="text-align: right;">255</p> <p>1 Arctic council consider those international standards. 2 So addressing the data gaps, ensuring that 3 there's resources to close those that take into 4 consideration both the fragility of the Arctic, the way 5 it's changing, the considerable resources that are up 6 there I think are all things that we should highlight 7 in our recommendations and try to think through how to 8 ensure that the full Arctic resource is evaluated in 9 the context of offshore oil and gas and the other 10 values that are up there. 11 The National Ocean Policy, the National 12 Ocean Council is doing a strategic plan on the Arctic 13 for the federal government that will be completed in a 14 year. The USGS research analysis will be done next 15 spring, and the National Ocean Policy calls for a 16 marine spatial plan for the Arctic within the next five 17 years. 18 So I think one of the things that we need to 19 consider is there's an immediate, which is the Shell 20 leases; there's a longer term -- there's a mid term and 21 a longer term. Over the longer term the resource is 22 going to change dramatically. In the mid term there is</p>
<p style="text-align: right;">254</p> <p>1 that Jessica identified, the response gap and the 2 research gap, and putting these current leases aside, I 3 think, thinking through where the Commission should 4 make recommendations, I think that we ought to 5 recommend strongly that the Interior Department, the 6 federal government, invest in closing those gaps and 7 doing the kind of research and both on the technology 8 on response and on the biological and geologic 9 information in the Arctic. 10 The Arctic's changing very rapidly. It's 11 changing with climate change probably more rapidly than 12 any other part of the globe which is, of course, one of 13 the things that will make the Arctic perhaps more 14 accessible across the entire north, not just in Alaska. 15 We talked earlier about the international 16 regulators. This is certainly an area where there 17 needs to be a set of international standards for 18 operations, and I think that would apply across the 19 Arctic all the countries that are engaged. There's 20 another commission on the Arctic that I'm on that Fran 21 has participated in as well that will be making 22 recommendations specifically on creating, having the</p>	<p style="text-align: right;">256</p> <p>1 a lot of focus on trying to understand the complexity 2 of the Arctic and preparing for those changes and what 3 kinds of decisions should be made, and I think because 4 one of our charges is to look forward we really should 5 focus more on what's required in that mid term and 6 ensure that there's a full body of information and 7 capacity, and that comes to federal government, USGS, 8 Coast Guard and others engaging in that area for any 9 decisions that are made going forward. 10 And just one comment on seismic activity. 11 Seismic activity is an activity that has very grave 12 consequences on the marine mammal population, and 13 there's been a tremendous amount of research done over 14 the past number of, half dozen years on what the impact 15 of seismic operations are on marine mammals mostly 16 related to activity that the Navy conducts in their 17 operations but equally relevant in offshore seismic 18 activity. So since this is in the area of very 19 plentiful marine mammal populations, albeit ones that 20 are threatened, the impact of seismic activity is not a 21 small matter. In fact, it's very serious, but I think 22 there's series of things we should be considering.</p>

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<p style="text-align: right;">257</p> <p>1 MR. GARCIA: I agree with Frances. I'd also 2 say that whether it's mid term, long term, that one of 3 the conditions to drilling, any drilling, should be 4 that we are satisfied that there has been demonstrated 5 an effective response and containment capacity. I 6 don't think that's an unreasonable demand. I think 7 that should be a condition for going forward with Shell 8 or any other company, and the other thing is we heard a 9 lot about this during our hearings over the last few 10 months and that is the need for an effective government 11 oversight, and the staff has indicated that there is 12 some question as to whether the Coast Guard is capable 13 of effectively overseeing an event. Whether or not 14 that's true, someone needs to make a determination as 15 to whether or not the government does have that effect 16 of oversight and before moving forward an affirmative 17 response to that needs to be given.</p> <p>18 MS. ULMER: Mr. Chairman, just to follow up 19 on the Coast Guard point which is extremely important. 20 You know, the Arctic is opening up not because, only 21 because of oil and gas interests. Navigation, tourism, 22 potentially fisheries, although the North Pacific</p>	<p style="text-align: right;">259</p> <p>1 potential human uses of the Arctic as well as for the 2 well being of the very special ecosystem.</p> <p>3 One other point I'd like to make and that is 4 about the involvement of local people in the whole 5 decision making process. You know, in Alaska after the 6 Exxon Valdez oil spill regional citizens advisory 7 councils or we call them RCACs were created to engage 8 local people in oil spill response planning, 9 preparedness, training and to help manage and supervise 10 both regulators and industry in whether or not they 11 were behaving safely, and both the Prince William Sound 12 RCAC and the Cooke Inlet RCAC have been mentioned to 13 this Commission previously. When we have held public 14 hearings people of the Gulf of Mexico have said, we'd 15 like to have an RCAC as well both from the standpoint 16 of being able to have citizens' voices be heard in the 17 decision making process but also so that we can be, we 18 can do something. When a tragedy happens, we'll know 19 how we can be engaged and we can be trained and how we 20 could be ready. I think it's an important piece of 21 Arctic development as well. At this point in time we 22 don't have an Arctic regional citizens advisory council</p>
<p style="text-align: right;">258</p> <p>1 Fisheries Management Council last year decided in a 2 sort of preemptory way to say we don't want to have any 3 commercial fishing until we know more about the 4 science, the ecology and the environment. So they took 5 sort of a precautionary approach. But all of these 6 things are moving quite quickly, and again, not just in 7 Alaska but throughout the Arctic.</p> <p>8 The capacity not just of the US Coast Guard 9 but frankly of the governments of all of the Arctic 10 nations to be able to stand up the capacity to do 11 search and rescue, to be able to do an analysis of 12 where the currents would take an oil spill if there was 13 one, I mean all of these pieces of the puzzle, you'll 14 hear the same kind of conversation taking place if 15 you're in Norway or in Canada or among the Russians 16 about the opportunities, the potential but also the 17 fear of the unknown and the lack of preparedness.</p> <p>18 So to the extent that this Commission can 19 help drive the message with Congress that funding the 20 Coast Guard, funding NOAA, funding the other agencies 21 that have the capacity if they're funded to do the work 22 is absolutely essential for all of the various</p>	<p style="text-align: right;">260</p> <p>1 in Alaska. I think we should have one, I think both 2 from the standpoint of readiness and involvement but 3 because we're talking about the North Slope of Alaska 4 which has been home to the Inupiat for thousands of 5 years, they are people who are intimately integrated 6 into the health and well being of that ecosystem, and 7 for them to have active engagement not just in 8 testifying before commissions like ours but also to 9 have an active role in the preparedness I think is an 10 important piece as well.</p> <p>11 So I'd like to see the Commission recommend 12 citizens advisory councils for both the Gulf of Mexico 13 and the Arctic not only for oil spill preparedness and 14 response, for decision making, for citizen competency 15 in these very important issues. I think it's an 16 important piece of, again, something where we can make 17 a recommendation that would have long lasting effect.</p> <p>18 CO-CHAIR REILLY: Don.</p> <p>19 MR. BOESCH: I appreciate the sense of 20 precaution which Chairman Reilly started off the 21 discussion with and had been echoed here in all of the 22 information needs and due diligence and concerns. I</p>

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<p style="text-align: right;">261</p> <p>1 think though we're going to have to somehow deal with 2 the practical matter of that map and the fact that our 3 government has made lease commitments to those 4 companies, and it's not likely that we're going to 5 stand up a substantially expanded Coast Guard presence 6 in five years before the exploration of the Beaufort 7 Sea leases or complete all of the research that 8 everyone would like to see done in that time frame as 9 well, so, and I haven't had a chance to really read it 10 or digest it, the Secretary's announcement yesterday, 11 but as I understand it they're going to do a more 12 careful but more accelerated evaluation of the initial 13 applications to drill in the Beaufort, and I'd be 14 surprised if Shell didn't follow up with more, you 15 know, in subsequent years with its interest in 16 exploring what it's leased in the Chukchi. 17 So are we confident or comfortable with a 18 review process the Secretary's announced? Can we 19 provide some advice about the standards that should be 20 used in that judgment? I believe, and I haven't read 21 the official release, but the press accounts quoted 22 Interior officials as saying that the need to explore</p>	<p style="text-align: right;">263</p> <p>1 environmental community to the science community that 2 there are very serious gaps up there that need to be 3 addressed, and they should be addressing them 4 immediately as well as preparing for whatever the 5 decisions are in the future. 6 CO-CHAIR GRAHAM: I was just going to say I 7 think some of the things that Fran and Fran and Don 8 just said are also relevant to our morning discussion. 9 I mean why were these leases granted if the Coast Guard 10 did not demonstrate that it had the intention and 11 capability of doing the things that it's going to be 12 required to do for offshore? And maybe that's another 13 thing we should think about in the early stages of 14 considering leasing is are the governmental functions 15 that are going to be required in place or will they be 16 in place by the time the drilling is ready to go 17 forward? 18 CO-CHAIR REILLY: I believe I recall that 19 USGS has identified the Beaufort and the Chukchi as two 20 of the four areas of highest recoverable oil and gas 21 regions in the United States. The decision to forgo 22 them is really going to leave us in the Gulf pretty</p>
<p style="text-align: right;">262</p> <p>1 the nature of the resource that is in a way that only, 2 you can only do by drilling a well rather than just 3 seismic surveys is going to be a determinant and that 4 the larger issues of expansion, development and so on 5 involve a whole other set of questions. So are we 6 comfortable with the process which is announced? 7 Should we support it or can we provide some guidance in 8 the shorter term as opposed to the longer, intermediate 9 and longer term issues that Frances talked about? 10 MS. BEINECKE: I mean I would suggest that 11 the issues that we have identified particularly on the 12 response gap and the research gap and that we encourage 13 Interior to address those directly as they proceed with 14 the decisions that they made yesterday, that the 15 criteria that they use and that the analysis that they 16 do in anticipating these decisions coming forward 17 should be at a very different level than what we've 18 been led to believe they were in the past, and I 19 imagine from the announcement yesterday that they would 20 intend to do that, but I think that we can add more 21 specifics to that because we've certainly heard, you 22 know, very powerful testimony from the mayor to the</p>	<p style="text-align: right;">264</p> <p>1 much, probably put more pressure on the Gulf, and to 2 the extent that deprives the country of hydrocarbons 3 require that we increase the buy from Nigeria, 4 Venezuela and Saudi Arabia which are the three 5 countries I gather that would be most likely to provide 6 that with all of the impacts that that will entail. 7 I think that if there is anything like 27 to 8 35 billion barrels of oil in that area, it would be 9 very useful to find out, to put some reasonable line 10 under it to figure out whether it's worth going forward 11 with or not. If there is a decision to go forward 12 after Shell, for example, were to find significant 13 reserves in the Chukchi, we're still many years away, 14 probably 10 or 12 I think we were told, Fran, of 15 producing oil based upon the need to construct a 16 pipeline to the mainland and then to construct it 17 across the National Petroleum Reserve. 18 So time has a significance and especially 19 for the Trans-Alaskan pipeline it has a significance 20 that it very likely would come close to not having 21 sufficient flow to maintain its operation. 22 I thought a lot about these issues. I</p>

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1 support I think pretty much everything that Fran
2 started by recommending in terms of baseline science
3 needs, movement of the Coast Guard oversight capacity
4 over time, determining impacts on species, but I think
5 you have to recognize that the reality is that it isn't
6 very likely the Coast Guard is going to be moved up
7 there in any significant way, and the degree to which
8 that really matters honestly is questionable because
9 the Coast Guard doesn't have booms or skimmers or
10 response capability itself. It does oversight work,
11 and it doesn't require a, you know, a division of
12 forces to exercise that role. It's something that can
13 be exercised from some distance away by, or by near,
14 from a nearby location from basically headquarters type
15 overseers. So I don't think that ought to be a
16 fundamental and obviously it wasn't a fundamental
17 determinant in the decision to go ahead with the leases
18 anyway.

19 On the activities themselves, there are a
20 couple of ways of looking at it, it seems to me, and
21 one of them is that with respect to virtually everybody
22 we spoke with, environmentalists included in Alaska,

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1 people were uniformly admiring of the Shell plants and
2 could not really think of anything further that the
3 company could do except perhaps conduct simulations and
4 drills for response capability even including their
5 presence of the intention to have a 500,000 gallon
6 containment tanker standing by. They would be
7 operating in 140 feet of water, no need for robots.
8 They would be dealing with formations that instead of
9 being 18, 20,000 feet down as we saw in Macondo are
10 only 5,000 feet subsea and dealing with pressures that
11 are significantly less, a third or so of what they are
12 in Macondo in the Gulf, and of course this is not deep
13 water which makes a lot of differences.

14 As for the operations in the ice, what I
15 understand their problem, their proposal was with
16 respect to exploratory drilling, and I have to say as
17 co-chairman of the National Commission on Energy Policy
18 a few years ago, I recommended, was part of a group
19 that recommended exploring in a number of places at
20 least to determine what our options were and what we
21 had, that it could be done in a matter of days. They
22 were intending to conduct their exploratory operation

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1 within a one month or so period, could construct their
2 well in 28 days and could construct a relief well in
3 the same period and intended to cease operations a
4 month before the onset of ice.

5 All those considerations I think are worthy
6 of entering into this conversation, and to me what they
7 argue for is an effort to try to get some parallel
8 efforts under way to try to resolve the significant
9 scientific and ecological unknowns with respect to
10 species, health impacts and the like, at the same time
11 as at least exploratory wells of the sort that had been
12 under consideration and proposed by Shell and I
13 understand were withdrawn in the Chukchi for now, can
14 be contemplated, can be permitted. Whether we're
15 talking for two or three years it's entirely unclear I
16 think from the Secretary's statement yesterday, but I
17 think that would shed light on what the resource is. I
18 think we could at the same time answer a number of the
19 outstanding scientific questions and also begin to make
20 a significant contribution or at least what appears to
21 be that if the find goes as Shell expects to the
22 country's energy budget and incidentally to the economy

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1 of Alaska and the security of the country.

2 CO-CHAIR GRAHAM: Any other comments?

3 MS. O'NEILL: If I could just add from the
4 staff perspective. One thing that we didn't very much
5 during the presentation but we think is very important
6 as far as oil spill response capacity would be a
7 demonstration of that capacity. We've all learned a
8 lot about what the oil spill response plans would be in
9 the Arctic, and the staff finds that a demonstration of
10 actual recovery of oil on the water would be critical
11 before allowing further drilling to go forward.

12 MR. BOESCH: Well, that raises another
13 interesting subject that's going to be covered in one
14 of our later discussions about oil spill response and
15 the R and D of oil spill response because in point of
16 fact it's been very difficult for anyone to gain
17 permission, authority from EPA to have anything like --

18 CO-CHAIR REILLY: You can imagine why those
19 permits, or applications get lost.

20 MS. ULMER: They probably denied them.

21 MR. BOESCH: So, you know, it's a great idea,
22 but I think we're going to have to make a strong case

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<p style="text-align: right;">269</p> <p>1 about why that --</p> <p>2 CO-CHAIR REILLY: Does anybody permit open</p> <p>3 oil dumping for the purposes of spill control?</p> <p>4 MR. BOESCH: The Norwegians do that with the</p> <p>5 subsurface, subsea discharge. That's how we know about</p> <p>6 these plumes.</p> <p>7 CO-CHAIR REILLY: How much oil do they</p> <p>8 intentionally --</p> <p>9 MS. O'NEILL: It varies in Norway. If you</p> <p>10 look at the staff paper that was released I guess last</p> <p>11 week, it discussed the, what the staff considers to be</p> <p>12 EPA's de facto ban on open water testing. There was a</p> <p>13 permit process in place. No permit has been granted.</p> <p>14 Norway does permit open water testing on many Ameri- --</p> <p>15 we've heard from industry that they go to Norway to</p> <p>16 conduct these field tests.</p> <p>17 MS. CLARK: I would just add, I'm not sure</p> <p>18 that that was the intent of what we mean by</p> <p>19 demonstration of actually picking up gross oil or real</p> <p>20 oil. I think it's a demonstration. These things are</p> <p>21 done on the water in all other water bodies, and to</p> <p>22 date an exercise, an oil spill exercise has not been</p>	<p style="text-align: right;">271</p> <p>1 think Shell has certainly gone beyond what others have</p> <p>2 done in what's required, but whether it's adequate,</p> <p>3 unless you have a test of some kind, you have no way of</p> <p>4 knowing, and your comment that we should at least</p> <p>5 explore and find out what's there, the thing about the</p> <p>6 structure of our leasing program is it doesn't really</p> <p>7 differentiate. You go and once you've bought your</p> <p>8 lease, you explore, if you find something is there, at</p> <p>9 that point is the federal government going to say you</p> <p>10 can't produce? That seems unlikely. So I think there</p> <p>11 is a difference between the leases that have already</p> <p>12 been sold and the areas that have not yet been leased</p> <p>13 and ensuring that we ramp up on the research both on</p> <p>14 the environmental conditions and how to protect those</p> <p>15 in the long term but also on the response is just a</p> <p>16 critical part of decisions on what has already been</p> <p>17 leased and the areas that have not yet been leased. So</p> <p>18 your opening remarks about recommending that the</p> <p>19 precautionary principle be the driver in the Arctic I</p> <p>20 think our recommendations should flow from that because</p> <p>21 it is a both rich and bountiful environment in many</p> <p>22 respects but also very harsh and fragile environment in</p>
<p style="text-align: right;">270</p> <p>1 demonstrated in the Arctic and we would like to see</p> <p>2 that done.</p> <p>3 MR. BOESCH: Deploying boom and what else?</p> <p>4 MS. CLARK: Deploying boom, deploying</p> <p>5 whatever -- you know, as Commissioner Reilly said,</p> <p>6 Shell has all of this equipment. They seem to have</p> <p>7 what sounds like on paper a very impressive artillery</p> <p>8 in order to respond. We'd like to see that</p> <p>9 demonstrated.</p> <p>10 MS. BEINECKE: Are you saying, Kate, that</p> <p>11 have it demonstrated before they are allowed to</p> <p>12 proceed? Because I think one of the issues is Shell</p> <p>13 has put in place a lot of things, and their</p> <p>14 presentation is very impressive, but no one knows</p> <p>15 actually if it would work, and it's a very fragile</p> <p>16 environment, and one of the things we learned in the</p> <p>17 Gulf where there was everything that was available, the</p> <p>18 cleanup was very limited. I mean the actual oil that</p> <p>19 was able to be cleaned up by all this technology, by</p> <p>20 the burning, by the booms, skimming, et cetera, was</p> <p>21 very, very limited and that the containment and the</p> <p>22 relief well were absolutely critical in the end. So I</p>	<p style="text-align: right;">272</p> <p>1 others.</p> <p>2 CO-CHAIR REILLY: Well, my interpretation of</p> <p>3 precautionary principle is not maybe everybody's but it</p> <p>4 doesn't -- a precautionary principle --</p> <p>5 MS. BEINECKE: It may not be mine?</p> <p>6 CO-CHAIR REILLY: It may not be yours.</p> <p>7 Precautionary principle doesn't to me mean you don't do</p> <p>8 anything or you don't continue to move forward with</p> <p>9 whatever the action that was contemplated. You do it</p> <p>10 in a certain way. You do it with special care and</p> <p>11 concern and studies and all addressed, but it doesn't</p> <p>12 mean you necessarily cease operations until, well,</p> <p>13 until we're a hundred percent sure of satisfactory</p> <p>14 conclusion.</p> <p>15 MR. GARCIA: Well, I don't think we're saying</p> <p>16 that, and I wasn't saying that. I'll say again I think</p> <p>17 that a condition to any drilling, whether it's</p> <p>18 exploratory or production, there should be some</p> <p>19 demonstration; someone needs to make an affirmative</p> <p>20 finding that there is an effective containment capacity</p> <p>21 if things go wrong. I think that needs to be sort of</p> <p>22 the minimum, and again, we found in all the hearings</p>

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<p style="text-align: right;">273</p> <p>1 and just listening to the public that everyone expects 2 the government to have some capacity to oversee this. 3 They do not want the federal government to abdicate all 4 responsibility to the responsible party. So whatever 5 that is, there has to be some minimum involvement, and 6 I don't know whether that means that you've got to have 7 a substantial increase in the Coast Guard presence, but 8 based on what we've heard it indicates that someone 9 needs to review what is in place, what the capabilities 10 are and that we are satisfied that the federal 11 government will be able to effectively oversee the 12 responsible party should an event occur. I think those 13 are two fairly minimal and not unreasonable conditions. 14 CO-CHAIR REILLY: Maybe Admiral Allen should 15 be on site in the Chukchi. 16 MR. BOESCH: Well, I think, Terry nailed it. 17 Those two requirements do seem reasonable, and I think 18 there's a way for us to articulate that. 19 CO-CHAIR GRAHAM: I would say that this is a 20 little bit over the horizon what Terry just suggested, 21 but this to me would also be a triggering that we ought 22 to get serious about the international dimensions.</p>	<p style="text-align: right;">275</p> <p>1 MS. O'NEILL: There is an organization, yeah, 2 developing an ISO for permanent structures in the 3 Arctic. So that wouldn't apply to the temporary 4 drilling rig but to any permanent production. I'm not 5 sure the name of the organization. I'm sure I have it 6 here somewhere, but they're developing some kind of 7 ISO. 8 MS. ULMER: Whatever the name of it is, I 9 think the principle is that there are entities in 10 addition to this commission that are very interested in 11 and working towards setting some standards regarding 12 Arctic operations that could become a very important 13 piece of the kind of safe operations that everyone 14 would like to see. 15 CO-CHAIR REILLY: You know, it might be 16 useful to narrow the range of our disagreement here. I 17 mean I am assuming that in order to accomplish the 18 kinds of science that seems to me would be sufficient 19 for a decision to go forward, we're talking about two 20 to three years. I think you're talking about ten if 21 you want the Coast Guard to have to be relocated, if 22 it's going to be at all. I don't know how likely it is</p>
<p style="text-align: right;">274</p> <p>1 MS. MURRAY: Absolutely. 2 MS. BEINECKE: If the United States could 3 take the lead on that and determine what the standards 4 should be. 5 CO-CHAIR REILLY: You know, frankly, my sense 6 has been that we will see Arctic development by other 7 Arctic countries, and I would be very surprised if they 8 are undertaken with as much care and planning and 9 protection as the Shell plan, and one take you can make 10 on Secretary Salazar's interest in having the gold 11 standard of protection is that that's probably the gold 12 standard that Shell has got up there in terms of 13 planning and prevention, and one would do a lot worse 14 than to say, look, it goes so beyond what are typically 15 seen in MMS regulations. Let's say prescriptively 16 henceforth this will be the minimum required for Arctic 17 exploration. 18 MS. ULMER: Actually there's an entity now 19 that is discussing what standards should be for Arctic 20 rigs, and I have forgotten the name of the 21 organization, this international group that has been 22 actually -- what's the --</p>	<p style="text-align: right;">276</p> <p>1 that we could raise that kind of money, or maybe less. 2 Five to seven is what was in the NGO letter before 3 exploratory drilling was permitted. So we may be 4 talking a matter of a few years difference between when 5 we think the area could be ripe for exploration and not 6 much more than that. Is that fair? 7 MS. BEINECKE: Bill, it may be. I think that 8 the other difference is that I would assume that we're 9 looking at three years of baseline study, that one of 10 the elements, and this goes back to our earlier 11 recommendation of having a finer analysis, finer than 12 area-wide leasing for the areas that are more fragile 13 and harsher environments, that in that research what 14 could very well happen is that areas of ecological 15 significance would be identified and would then be an 16 off, become off limits, that they would not be 17 available for leasing. So part of the recommendation 18 if we're going to go in that direction would be to 19 acknowledge that it doesn't mean do the research and 20 then open the area up. It's do the research -- 21 CO-CHAIR REILLY: And determine what doesn't 22 qualify.</p>

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1 MS. BEINECKE: -- and then make very
2 site-specific decisions about where it was appropriate
3 to go forward and where it was not, and that gets in --
4 CO-CHAIR REILLY: Is that a three-year or a
5 seven-year proposition do you think?
6 MS. BEINECKE: You know, it's at least three
7 or I'd say at least three to five, because you assume
8 it's three years of research, but nobody's starting it
9 tomorrow. So, you know, you've got to do it. So I
10 would say it's in the three to five-year time frame,
11 but with the assumption that the outcome means, and
12 this gets back to marine spatial planning and a
13 strategic plan for the Arctic, that it doesn't mean you
14 just do the research, open it all up and then off you
15 go, that based on that information you make decisions
16 about where you may proceed and not, and I think it's
17 that kind of analysis that we haven't seen in the past
18 in offshore anywhere. You know, you just do the
19 research and then it's all leased.
20 MR. BOESCH: Yeah. We're getting a sign over
21 here.
22 CO-CHAIR GRAHAM: What do you think about the

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1 issue, what's fair to these people who pay substantial
2 amounts of money to get these leases? Should we
3 suspend the tolling of the lease during the period of
4 gathering this information? Should we repay the money
5 back to the companies and cancel the lease? Should we
6 make comment on how you treat fairly with the lease
7 holder?
8 MS. ULMER: Well, honestly I think the
9 Commission's mission is to make recommendations about
10 how to prevent major oil spills from happening in the
11 future. What happened in the Gulf and what do we have
12 to say to the nation, to the industry, to Congress, to
13 the President about how to make it safer in the future.
14 I don't think it is our job, and I don't think it is
15 within our mission to pass judgment on specific leases,
16 what their adequacy, whether or not they should go
17 forward or not. We don't have the information. That
18 is not -- we've had a lot to do in four months, and
19 that wasn't one of the things that was part of our
20 mission.
21 So the public policy question associated
22 with what do you do with a lease in this circumstance

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1 that is caught up with either a spill in the Gulf or a
2 lawsuit or whatever is an important public policy
3 question, but it really isn't our question. It is the
4 Secretary of Interior's question, it's Congress's
5 question, it's the President's question, and I have
6 opinions about it, I think we all do, but honestly I
7 don't think that is our mission.
8 CO-CHAIR GRAHAM: Do you think -- I mentioned
9 in an earlier discussion that where we're going to
10 defer, where we recognize that there's an issue but we
11 think it's not in our jurisdiction or there are others
12 that have more competence to opine on that, do you
13 think this is one of those issues that we should opine
14 that the Secretary of the Interior should make a
15 judgment as to what would be a fair resolution of an
16 extended period for appropriate environmental test?
17 MR. BOESCH: Well, you know, he's going to
18 have to do that anyway. So I don't think we have to
19 tell him that. I think it's simplistic.
20 CO-CHAIR GRAHAM: Okay.
21 CO-CHAIR REILLY: Well, it is important
22 though. If you say we shouldn't take a position, we

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1 think a lot of things should be done, but we're not
2 saying necessarily they should all be done before he
3 makes a decision that determines there's an adequate
4 amount of information to go forward. Is that what I
5 understood you said?
6 MS. ULMER: Yeah. I don't think we have said
7 that, have we? I mean I don't think we've said that --
8 CO-CHAIR REILLY: So you're agreeing with
9 what I just formulated?
10 MS. ULMER: I think I am. I think I'm in
11 agreement with you.
12 CO-CHAIR GRAHAM: Okay. With that degree --
13 with that degree of harmony --
14 CO-CHAIR REILLY: Fran Ulmer and I will work
15 it out. You all go have a coffee.
16 CO-CHAIR GRAHAM: It is now 3:35. We were
17 supposed to have broken 20 minutes ago. So let's
18 reconvene at 3:50. That will give us 40 minutes to do
19 oil spill before we turn to public comments.
20 CO-CHAIR REILLY: I told you Arctic was a hot
21 subject. Thank you, Kate, Jessica, and Emily also from
22 far in Australia who prepared so much of the work on

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<p style="text-align: right;">281</p> <p>1 this. All three of you, first class presentations, 2 really very helpful. 3 MS. O'NEILL: Thank you very much. 4 (A recess was taken.) 5 CO-CHAIR GRAHAM: I call the meeting to 6 order. The next and final component of today's hearing 7 prior to public comment, we have approximately six 8 citizens who have thus far indicated a desire to speak 9 with us, is on oil spill response. 10 What was I think stunning about the event 11 that we are focussed on is one in scale. It was beyond 12 what most people had calculated to be the worst 13 possible incident and the range of stakeholders who 14 were involved. Also the difference between what 15 happened before the explosion and what happened after 16 the explosion in terms of response I would give to the 17 things that happened before the explosion at the 18 highest level would be a D minus in terms of the 19 effectiveness of the pre-explosion planning for 20 response. I would give a somewhat higher grade, in 21 fact I would give a fairly commendable grade to what 22 happened thereafter particularly given the point to</p>	<p style="text-align: right;">283</p> <p>1 industry and government preparedness, including the 2 adequacy of industry response plans and of the 3 government's response plan which is known as the 4 National Contingency Plan. The National Contingency 5 Plan is a set of federal regulations establishing how 6 the government will respond to spills of oil and other 7 hazardous materials, and as Commissioner Ulmer 8 mentioned during the previous presentation on 9 regulatory oversight, the Coast Guard also has its own 10 investigative team called the incident specific 11 preparedness review that's looking at the adequacy and 12 implementation of the National Contingency Plan, and 13 we've been working very closely with them throughout 14 our investigation. 15 We also looked at the state of oil spill 16 response technology and of research and development to 17 improve that technology. We looked especially closely 18 at dispersants which were used in unprecedented amounts 19 and in unprecedented ways during the spill response. 20 BP had said in its response plan that it, 21 along with its oil spill removal contractors, could 22 recover up to 500,000 barrels of spilled oil per day.</p>
<p style="text-align: right;">282</p> <p>1 which the response started. 2 I also would like to commend the President 3 for his interest in finding out what happened and 4 soliciting recommendations for actions for the future. 5 Frankly, there are a lot of political leaders when 6 something bad happens they want to bury it, not expose 7 it and use it as the basis of making sound policy in 8 the future. 9 So with those comments I'd like to turn it 10 over to Priya and her crew to discuss the response. 11 MS. AIYAR: Thank you, Senator Graham. The 12 Deepwater Horizon spill was the largest accidental oil 13 spill in history. To give you some sense of the scale, 14 it involved over 45,000 responders at its peak, over 15 6,000 vessels, the application of over one million 16 gallons of chemical dispersants and over 10 million 17 feet of boom. As Senator Graham mentioned, the 18 magnitude of the spill and the fact that it involved 19 many state and local jurisdictions challenged the 20 response capabilities of the government as well as BP. 21 We looked at two major categories of issues 22 in examining the spill response. The first was the</p>	<p style="text-align: right;">284</p> <p>1 That estimate was far too optimistic. As we know, this 2 spill was not nearly that large, but the available 3 response technology was still able to remove only a 4 fraction of the oil. 5 The intensity of public interest in the 6 spill also tested the government's ability to convey 7 information clearly and effectively. For example, 8 federal responders did their best to scale response 9 operations to a worst case scenario, but they did not 10 clearly communicate to the public the nature and basis 11 of that scenario. They also gave official estimates of 12 the flow rate that were initially too low and then kept 13 increasing over time. This undermined public 14 confidence in the government's handling of the 15 response. 16 At the outset of the spill the government 17 also lacked enough expertise to oversee certain aspects 18 of the response such as the effort to control the well. 19 We're going to discuss this in much more detail 20 tomorrow morning during the presentation on 21 containment, but the agencies in charge of the spill 22 response had to scramble to find the expertise they</p>

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<p style="text-align: right;">285</p> <p>1 needed, for example, by bringing in the Secretary of 2 Energy, Steven Chu, his outside science advisers and 3 the National Labs. 4 Finally, while Coast Guard leaders and 5 others viewed the spill response under the National 6 Contingency Plan as a partnership between the 7 government and the party responsible for the spill, the 8 public demanded more government control over BP. 9 Admiral Thad Allen has referred to this as the social 10 and political nullification of the National Contingency 11 Plan. 12 The Deepwater Horizon spill was the first 13 spill of national significance. Currently the only 14 special provision triggered by designating a spill as 15 one of national significance lets the government name a 16 national incident commander to coordinate the response. 17 Here the national incident commander was Admiral Thad 18 Allen who provided extremely valuable leadership during 19 the response, but we think more is required during a 20 major spill. There need to be new procedures for 21 spills of national significance that strengthen 22 government oversight of the responsible party and that</p>	<p style="text-align: right;">287</p> <p>1 expertise and equipment. 2 So this slide contains the first of four 3 sets of recommendations that we'll be discussing today, 4 and I'd like to turn it over to Commissioner Beinecke 5 to discuss these recommendations further. 6 MS. BEINECKE: Thank you, Priya, very much. 7 I think that these are pretty straightforward. We 8 should come back to the industry plan recommendations 9 because that was an issue we were discussing earlier 10 this morning, and does it require interagency review or 11 review and approval, and also there's been a 12 recommendation from outside the Commission that oil 13 spill response capacity be a precondition to access to 14 leases and not only filing the plan but demonstrating 15 that they have the ability to respond that would 16 particularly, based on our most recent conversation, be 17 particularly relevant in the Arctic but I think it was 18 obviously relevant in the Gulf of Mexico, too. So 19 these follow the discussions that we've been having 20 over the last several months based on the very good 21 staff work on these issues, and I certainly endorse 22 them, although I'd like to require that the interagency</p>
<p style="text-align: right;">286</p> <p>1 make clear to the public that the government is in 2 charge of the response. The new procedures should 3 build on existing structures to establish additional 4 sources of scientific and policy making expertise 5 during a spill, and they should create a communications 6 center within the national incident command as well as 7 the communications protocol that accounts for 8 participation by high level officials. 9 BP's response plans were also famously not 10 up to the challenge of this spill. The plan that BP 11 had submitted to the Minerals Management Service was 12 almost identical to plans submitted by four other major 13 oil companies. It listed seals and walrus as species 14 of concern in the Gulf, said that BP would rely on a 15 wildlife expert who had died several years before the 16 plan was submitted, and it contained other embarrassing 17 inaccuracies, but most important BP simply did not have 18 the response capacity it said it had in the plan. 19 There needs to be interagency review of 20 spill response plans as has been discussed in the 21 previous presentations to make sure that they are 22 realistic and that they are supported by adequate</p>	<p style="text-align: right;">288</p> <p>1 review also require approval of that but perhaps also 2 require a pre-lease certification on having capacity. 3 Any other -- 4 MS. ULMER: I would just note that seeing 5 that these plans are currently not required to be 6 reviewed in the public and the important role that the 7 public review and that once the oil spill plans are 8 approved that they be publicly available so that local 9 and state officials and others can have access to them, 10 and I agree that a Coast Guard approval should be 11 required not only because of the Coast Guard's 12 expertise but because of what we were discussing 13 earlier about how the National Contingency Plan, area 14 regional plans and these specific spill response plans 15 should be somehow linked up, integrated, speaking to 16 each other in a meaningful way, and I think requiring 17 Coast Guard approval is at least one mechanism of 18 getting that kind of linkage to happen. 19 MS. BEINECKE: So let's add those two, both 20 Coast Guard approval and public review and access. 21 CO-CHAIR REILLY: Let me ask just a question 22 on the overall anxiety that a lot of people feel about</p>

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<p style="text-align: right;">289</p> <p>1 the ambiguity between the responsible party and the 2 United States government overseeing a spill. The 3 reality is that the responsible party has most of the 4 action, understands the technology, can explain it, can 5 repair it, will probably be experimenting with the 6 containment, and the Coast Guard in this case, as you 7 point out, took charge, oversaw activities and 8 attempted to communicate their views to the public, 9 occasionally contravened the responsible party, but 10 there is a longing and we saw it, we see it every time 11 there's a major spill, we saw it in Prince William 12 Sound, for the government to somehow embrace more of 13 the action of being more completely involved and also 14 knowledgeable and authoritative with respect to the 15 spill and all aspects of it.</p> <p>16 Is there a way to square that circle, to 17 without designing a new full-time government apparatus 18 with a lot of skimmers and booms and understanding BOPs 19 and all the rest of it, is there a way to get them more 20 involved and more responsible and more reassure, in a 21 more reassuring way for the public going forward? 22 MS. AIYAR: We think there is, and I think</p>	<p style="text-align: right;">291</p> <p>1 explanation of why you need to do that and I think the 2 public had more confidence in the effort.</p> <p>3 So I think the way you put it as saying that 4 you need to have the knowledge and the authoritative 5 expertise in government is I think our best suggestion 6 for how you would square that circle.</p> <p>7 CO-CHAIR REILLY: Would it be helpful to have 8 as the czar this sort of, or the on-scene coordinator 9 somebody who actually has overseen those, that kind of 10 equipment, that kind of technology, has been involved 11 in oil and gas development sufficiently to be able to 12 be more authoritative right from the beginning?</p> <p>13 MS. AIYAR: I actually think it would be hard 14 to expect one person I think to have the expertise to 15 oversee all the aspects of the response, but I think if 16 that one person has access to sufficiently high level 17 expertise, then as long as they have sort of good 18 leadership abilities they would be able to effectively 19 run the response. For example, here Admiral Thad Allen 20 we think overall did an excellent job of running the 21 response. Obviously on the well control aspects he 22 wasn't an expert in containment technology, but he was</p>
<p style="text-align: right;">290</p> <p>1 that's an excellent way of putting the question. I 2 think we have to accept that the responsible party is 3 going to need to carry out a lot of the response 4 operations. As you point out, it has access to the 5 technology. It has the contracts with the oil spill 6 removal organizations that have the skimmers and the 7 booms, but I think what we need to have to make sure 8 that the public has confidence in the level of 9 government oversight is the expertise and the knowledge 10 that you mentioned, and I think, for example, we'll 11 talk about this more tomorrow in the well control 12 effort, but there I think even though the government 13 was in theory overseeing and signing off on everything 14 that BP was doing the public felt that the government 15 simply didn't have the expertise to really 16 substantively oversee what BP was doing, to push back, 17 to suggest other options, and I think that was the 18 case, and I think that's why the public felt BP was in 19 charge. Then I think as the spill progressed the 20 government did develop that expertise and the public 21 could see that the government was telling BP, no, don't 22 do this, you need to provide us with a better</p>	<p style="text-align: right;">292</p> <p>1 advised directly by Secretary of Energy Steven Chu and 2 we think that partnership worked very well.</p> <p>3 CO-CHAIR REILLY: Thank you.</p> <p>4 MS. ULMER: Mr. Chairman, there's one other 5 piece of it and that is NOAA's Office of Oil Spill 6 Response and Restoration, and I think we haven't 7 mentioned them per se but we need to speaking of 8 expertise and capacity. I mean they respond to over 9 200 oil spills a year. So they have a cadre of not 10 only capacity, experience, years and years of dealing 11 admittedly with much smaller spills. I mean we're 12 talking about, as you pointed out, a very big scale 13 here, but that expertise was put in place within hours 14 of this spill, and we don't talk a lot about that here, 15 but I think it's important to acknowledge it and to 16 acknowledge that they were on the ground, on the water, 17 in the air, doing everything from coordinating 18 projections of weather, currents in the water, 19 specialized areas that needed extra special protection. 20 I mean there is a lot of expertise in government. We 21 talk a lot about the Coast Guard, but NOAA's Office of 22 Oil Spill Response is kind of the front lines. They</p>

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<p style="text-align: right;">293</p> <p>1 may not have the responsible party capacity in that 2 way, but they have the knowledge and part of I think 3 their problem is, like every other agency we talked 4 about today, their budget has pretty much been flat 5 lined. 6 So, again, if you don't have any spills, 7 that's great, back to your complacency point, and for 8 many years we didn't have the spills of the size that 9 would perhaps generate the interest in supporting the 10 resources necessary for an office like that to be up 11 and running, but I think that's also part of the long 12 term strategy of how we would be better prepared if 13 that office and those people had the capacity to 14 respond in a way that for a spill of this size would be 15 more robust. 16 MS. MURRAY: Well, another possibility is 17 augmenting what capability that we do have from the 18 National Labs who do have and they, hundreds of people 19 from the National Labs were brought into this, you 20 know, kind of ad hoc because they did have some 21 capabilities, but somehow in the contingency plan I 22 think what you're pointing out, Priya, is that we need</p>	<p style="text-align: right;">295</p> <p>1 prepared to reducing the risk. We discovered in our 2 staff research that they had actually planned and 3 proposed a model that looked at subsurface discharges 4 almost like happened and it was never accomplished, 5 never funded, and so contingency planning must also 6 include continued evolution of that capability and 7 capacity and exercises that makes one, makes our 8 capability responsive to an incident like this. 9 CO-CHAIR GRAHAM: It seemed to me that there 10 were sort of at either ends of this areas of weakness 11 that we should try to focus on. One, the first ten 12 days where we stumbled around, got presented 13 information which either appeared to the public to be 14 inaccurate or subsequently proved to be inaccurate set 15 the public attitude towards this whole operation. 16 We ought to talk about what could we do in the front 17 end of this thing to avoid a repetition of that 18 experience. 19 Then more or less towards the back end of 20 the process is the local government role. I think all 21 of us spent some time with parish mayors and other 22 county commissioners, et cetera, who talked about their</p>
<p style="text-align: right;">294</p> <p>1 some way of very quickly accessing the government and 2 university and industry technical expertise for the 3 government that's not in the current National 4 Contingency Plan. 5 MS. AIYAR: Yeah. I think that's right. For 6 example, as you said, the National Labs and the 7 Department of Energy played a very important role in 8 this response, but they're not mentioned in the 9 National Contingency Plan, so it took some time to 10 figure out how to bring them in and make that work. 11 CO-CHAIR REILLY: Don. 12 MR. BOESCH: Yes. Just picking up on this 13 thread. I think contingency plans are important, but I 14 think what we've learned also it's important to 15 exercise their capability and we had, you know, spill 16 response capability that was unprepared for the scale 17 of a challenge and just was not, you know, was not 18 evergreen to deal with the challenge before us, and the 19 same vein Fran mentioned the NOAA group. That's so 20 important to directing where the oil might, advising 21 where the oil might go, where the sensitive 22 environments are and how to then strategize and be</p>	<p style="text-align: right;">296</p> <p>1 problems and some of the lack of responsiveness, and I 2 know that we're not dealing with the Stafford Act here 3 which is really a bottoms-up type approach, but I think 4 we need to try to inject some of that because there are 5 functions that came with this act which were beyond the 6 ability of the central leader, whether it was BP or 7 whether it was Admiral Allen, and required people who 8 knew the territory and could respond in a way that was 9 both more effective and more publicly acceptable. So 10 maybe we could talk a bit about what can we do to make 11 the front end of this less, less confusing and 12 disorderly than what we experienced between April the 13 20th and early May. 14 MS. AIYAR: That would be great, and perhaps 15 I could use that as a segue into the next major issue 16 we looked at which was, as Senator Graham just 17 mentioned, state and local involvement because another 18 major theme that emerged in our examination of the 19 spill response was that state and local officials were 20 not sufficiently involved in advanced oil spill 21 contingency planning, and as Senator Graham said, many 22 of these officials were more familiar with hurricane</p>

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<p style="text-align: right;">297</p> <p>1 response under the Stafford Act where the federal 2 government provides funding but state and local 3 officials control the response. As a result, many of 4 these state and local leaders had incorrect 5 expectations about how the response would be 6 structured. That led in many cases to competing state 7 structures and to struggles over control which undercut 8 the efficiency of the response at the outset.</p> <p>9 The relationship between federal responders 10 and local communities did improve as the response 11 progressed. This is one of the many ways in which I 12 think the response got better as it went along, but we 13 think it definitely could have been more productive in 14 those early stages, and as you discussed, those early 15 stages in many ways set the tone for public perception 16 of the response.</p> <p>17 So based on what we found we have a number 18 of recommendations that are aimed at better integrating 19 state and local officials and resources into spill 20 response planning precisely to make sure that at the 21 beginning the response works better.</p> <p>22 The first recommendation is to include local</p>	<p style="text-align: right;">299</p> <p>1 about this set of recommendations.</p> <p>2 MS. BEINECKE: Well, I think that these get 3 at many of the issues that Senator Graham raised. I'd 4 also like to bring up an issue that Fran Ulmer brought 5 up the last time which is the regional advisory council 6 because we have talked about that several times and the 7 fact that these recommendations and also the Arctic 8 recommendations but that isn't specifically culled out, 9 and I know there's a lot of conversation about how you 10 would actually set that up in the Gulf of Mexico. 11 Maybe you would need more than one, but if you really 12 want to integrate local government into what the 13 expectations are both in the leasing phase and in 14 response phase, having some regional advisory councils 15 would be a good way to do it. I'm sure there are 16 others as well, but these all look like good 17 recommendations to me. Comments?</p> <p>18 MS. ULMER: Well, I completely agree with it. 19 As I mentioned before, it engages people in a way on a 20 continuing basis, not just when an event happens. 21 You've got people who are engaged all along, and it 22 allows you to really improve communications but also</p>
<p style="text-align: right;">298</p> <p>1 officials in spill training exercises. We heard a lot 2 of local officials say that they didn't necessarily 3 know about or they didn't know that they were invited 4 to these exercises.</p> <p>5 Second, we think the unified command should 6 establish liaisons with affected local communities 7 early in a spill response or really at the beginning of 8 a spill response. That's something that in this spill 9 was done later on but should have been done at the 10 beginning.</p> <p>11 Third, we would suggest adding a local 12 on-scene coordinator position to the unified command 13 structure. Right now there's a state on-scene 14 coordinator but no local equivalent.</p> <p>15 And fourth, we think there needs to be 16 additional guidance to federal, state and local 17 officials on the differences between emergency response 18 under the National Contingency Plan and response under 19 the Stafford Act so that local and federal and state 20 officials all have consistent expectations as to how 21 the response is going to be conducted, and again I'd 22 like to turn it over to Commissioner Beinecke to talk</p>	<p style="text-align: right;">300</p> <p>1 get local, a local sense of empowerment that comes with 2 the RCACs that I think we heard actually when we were 3 in the Gulf of Mexico talking to people who just felt 4 frustrated. They wanted to do something to help with 5 the spill but they didn't really know exactly what to 6 do, and so in some cases what they were doing wasn't 7 terribly appropriate, but it was out of this sense of 8 lack of engagement.</p> <p>9 MS. BEINECKE: It's their home.</p> <p>10 MS. ULMER: It's their home. They want to do 11 something. The other thing is the RCACs have provided 12 at least in Alaska is this notion of ongoing training 13 and ongoing in addition to communications, setting up 14 systems whereby people can be monitoring; are the 15 response plans adequate because they actually review 16 the response plans. So you get a whole other way of 17 thinking about these plans as opposed to just the local 18 elected officials as well as you've got citizens sort 19 of looking over the shoulder of others, and for that 20 and many reasons I think it would be an additional 21 value for us, and I agree it's going to look different 22 there than it looks in Alaska and we'll have to figure</p>

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<p style="text-align: right;">301</p> <p>1 that out but I think we ought to recommend it. 2 MS. BEINECKE: Priya, let's add that 3 recommendation in this section, and to Fran's point, 4 not only focused on what spill response would be but 5 any activities all the way through. 6 MR. GARCIA: Just a clarification I suppose. 7 My understanding is that there were state employees who 8 had been very involved in spill planning. So there was 9 a disconnect between those individuals and the 10 political leaders in these states and counties. It 11 wasn't that the states had not been involved in the 12 process, and so that -- and I don't disagree with 13 anything that's been said about the recommendations but 14 I think it's important to point that out. It's not the 15 states were absent in this process. Is that correct? 16 MS. AIYAR: I think that is exactly correct. 17 There were career oil spill responders in the state who 18 participated in exercises, were very familiar with the 19 National Contingency Plan but because of the magnitude 20 of the spill state, higher level political and elected 21 officials became involved, in some instances displaced 22 those career spill responders, and the higher level</p>	<p style="text-align: right;">303</p> <p>1 way it should be? You know, rather than tinkering 2 around the edges, is there a fundamental reason why 3 dealing with something like a flood or a hurricane 4 should be different than the way we deal with an oil 5 spill? 6 MR. BOESCH: I think there is, and I think 7 the distinction is important, and I think that the way 8 things were organized were appropriate. So take the 9 area of the Gulf coast where hurricanes are common, and 10 so it's often the case where you have to involve 11 evacuation. So you use -- what happens is the only 12 sensible thing to do since those are the resources 13 available to the local governments, the local 14 governments then mobilize their law enforcement 15 authorities, everyone else, the other responders and 16 involves everyone in the community having to act in 17 some way to evacuate, you know, you know when to return 18 home, you know what the safety concerns are after a 19 disaster, as opposed to an oil spill which doesn't oil 20 everyone in the community. It doesn't fit the bill for 21 a police force to determine how to respond to that. It 22 requires special skills. It requires focus on the</p>
<p style="text-align: right;">302</p> <p>1 political officials were not as familiar with the 2 National Contingency Plan. So we should be more 3 specific in our next formulation of these 4 recommendations. What we're really suggesting is that 5 high level and political officials need to be fully 6 integrated into the planning process. 7 CO-CHAIR GRAHAM: I have a suspicion, and I 8 don't know if this is true or not, that the reason that 9 the Stafford Act and the Oil Spill Act are so different 10 in their fundamental approach has a lot to do with the 11 committees in the Congress that produced them. The 12 Environment and Public Works Committee which works very 13 closely with local government, they fund local sewer 14 projects, transportation, et cetera, they -- Senator 15 Stafford was the chairman of the committee when this 16 act was passed and therefore was familiar with that 17 approach. On the other hand, the Energy and Natural 18 Resources Committee deals primarily with federal 19 agencies, particularly the Department of Interior. So 20 it's more focused on a central entity. 21 I think we have the opportunity with this 22 case study in mind to ask the question: Is this the</p>	<p style="text-align: right;">304</p> <p>1 areas that are affected. 2 So I think there are good reasons why 3 they're structured quite differently, and I think what 4 happened was is that, especially in these areas where 5 people who are used to those sort of events, bottom-up 6 responses to hurricanes and so on, the local officials 7 felt motivated because of their experience and getting 8 involved, but they didn't have the knowledge and the 9 skills to respond in the most appropriate ways, and so 10 that caused a lot of friction between the official 11 response capability and local officials who wanted to 12 impose their own judgments about how this should be 13 done. 14 CO-CHAIR REILLY: I think that's exactly 15 right. I think that's a very apt description of what 16 happened. In some places when you look, for example, 17 at the Katrina response, remember Governor Barber 18 saying the federal government has no first responders, 19 and his response to that was to ask for gasoline which 20 he was happy to get and thought, well, that was the 21 most he was going to get, and he got it, a lot of it, 22 and then but viewed it as a largely local response</p>

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<p style="text-align: right;">305</p> <p>1 obligation, faux du mur, and I gather that that was not 2 so quickly decided in Louisiana where there was an 3 expectation of more significant federal government 4 help, that even if it was going to come wasn't going to 5 come until several days after the worst of the event 6 was over. I think you've characterized it exactly 7 right.</p> <p>8 MS. BEINECKE: Good. So let's move on to the 9 next one.</p> <p>10 MS. AIYAR: The next issue we looked at was 11 the use of dispersants which was the subject of much 12 controversy during the spill response. Deciding 13 whether to use dispersant involves difficult tradeoffs. 14 If dispersants are effective, less oil will reach 15 shorelines and fragile marsh environments but more 16 dispersed oil will be spread throughout the water 17 column.</p> <p>18 The federal government had not planned 19 adequately for the use of dispersants to address such a 20 large and sustained oil spill and did not have 21 sufficient research on the long-term effects of 22 dispersants and dispersed oils. Officials had to make</p>	<p style="text-align: right;">307</p> <p>1 few things about this that inspired more emotional 2 response from many people than their concerns about the 3 use of dispersants. To many people it seemed to be 4 counterintuitive to put a chemical on another chemical 5 problem. It would be a surprise to most people I think 6 to understand that the contingency plans to deal with 7 the spill in the Gulf of Mexico, indeed, most parts of 8 this country involve a considered and preapproved use 9 of dispersants. They are seen as -- they are seen by 10 the people who defend the, deal with oil spills to try 11 and minimize their impact as a very important tool, and 12 if you talk to the responders and the people in the 13 Coast Guard, NOAA and other agencies, they will tell 14 you that it was probably one of the most effective 15 tools they had in keeping the oil from reaching the 16 marshes and away from birds and sea turtles and things 17 of this sort.</p> <p>18 Now, having said that, the decision to use 19 the dispersant is a choice between bad alternatives 20 because on one hand you can use a dispersant and inject 21 it into the environment, inject it below the surface 22 into the ocean, and we know that the effects of the</p>
<p style="text-align: right;">306</p> <p>1 decisions about dispersants without important 2 information. Under the circumstances, however, we 3 think that these officials made reasonable decisions 4 about the use of dispersants both at the surface and 5 subsea.</p> <p>6 We have proposed a number of recommendations 7 to ensure more informed decision making about 8 dispersant use in the future. EPA should update its 9 dispersant testing protocols and require more 10 comprehensive testing. EPA and the Coast Guard should 11 modify preapprovals for dispersant use and should 12 establish procedures for further consultation based on 13 the duration, reach and volume of the spill and of the 14 dispersant use, and EPA at no less should conduct and 15 encourage further research on dispersants including on 16 the impacts of high volume and subsea use, the long 17 term fate and effects of dispersants and dispersed oil 18 and the development of less toxic dispersants, and I'd 19 like to turn it over to Commissioner Boesch to further 20 discuss these recommendations.</p> <p>21 MR. BOESCH: Thanks very much. Just to echo 22 what Priya said when she started is that there are a</p>	<p style="text-align: right;">308</p> <p>1 dispersants are primarily because they inject the oil 2 into the sea rather than the toxicity of the 3 dispersants themselves. Dispersants themselves are 4 relatively speaking not very toxic.</p> <p>5 So the decision is is whether you want to 6 inject the oil into the sea or leave it at the surface 7 where it poses other kinds of risks, and so the choices 8 that were made were to apply it both on the surface to 9 keep oil from coming ashore that was already on the 10 surface but in an unprecedented way because we never 11 had this challenge to, and in a completely unplanned 12 way, to inject it at the well head to try to disperse 13 the oil so much of it never came to the surface.</p> <p>14 As emblematic of our lack of understanding 15 of the effects of dispersant applications is the fact 16 that when the most recent update of the oil spill 17 budget that just came out last week was produced the 18 one thing that changed from their estimates in August, 19 primarily one thing, was they increased the estimate of 20 how much oil was chemically dispersed, but if you probe 21 more deeply into that report you will see it's based on 22 a lot of assumptions, untested assumptions about the</p>

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<p style="text-align: right;">309</p> <p>1 effectiveness of those dispersants. 2 So the recommendations really I think are 3 very appropriate because they basically require some 4 more planning ahead so we know protocols in which we 5 would use dispersants. We know their relative 6 toxicities in a comparable way. Right now each company 7 puts its own toxicity information out, and what we 8 discovered is that they're not comparable. So they're 9 not reliable in terms of comparing one against the 10 other because they have been done by different testing 11 labs and the like. 12 Also there needs to be something in here 13 related to this issue of elevation, of when we come 14 from an incident which is a modest incident, can be 15 handled by more traditional protocols as opposed to 16 something like this where the scale of dispersant use, 17 its applications subsurface and so on, just brings it 18 into another range of decision making territory. And 19 so the recommendations then deal with that but also 20 this need to actually, you know, invest more and to 21 understand not just the toxicity of dispersants but 22 their effects in terms of how they disperse oil into</p>	<p style="text-align: right;">311</p> <p>1 done ahead of time is inexcusable. That's just part of 2 the National Contingency Plan. We all know that 3 sensitive areas are off limits to dispersants except 4 under special circumstances, and those preapproval 5 areas are studied, and I would have thought that the 6 kinds of dispersants that are suitable to be used in 7 them and if it comes to that would have been fully 8 vetted and tested. It's more understandable that the 9 impact of dispersants in deep sea would not have been 10 understood at that time. That's just not been a 11 challenge that anybody has had. 12 I looked at a list of dispersants that 13 included COREXIT, the one that was used primarily, 14 sometime in the past couple of months and noticed that 15 it was deemed 55 percent effective and no more or less 16 toxic than about six or eight other alternatives and 17 really wondered why that would have been the dispersant 18 of choice and whether had it been more effective we 19 would have seen a more rapid dispersion or effective 20 use of the dispersant. Do we have any sense of that? 21 And was it strictly that it happened to be available in 22 sufficient quantities?</p>
<p style="text-align: right;">310</p> <p>1 the ocean and what the consequence of that are. So 2 that's I think the recommendations going forward. 3 I should also say I think everyone on this 4 panel knows it but maybe not the other part, members of 5 the public, is that when we were down in New Orleans 6 just a little over a month ago we heard again 7 continued concerns about the health effects of 8 dispersants, people complaining about health effects 9 four months after the well was stopped and no more 10 dispersants are being applied. At this point in time 11 with the best expertise we have, FDA and the like, 12 there's no basis of believing that lingering 13 dispersants out there are in any way a threat to human 14 health or even at this point to the resources of the 15 environment. The impact of the dispersants were that 16 when we applied them we made a decision to take the 17 oil, not so much go to the surface and more inject it 18 into the water column and had the tradeoff of those 19 effects. 20 CO-CHAIR REILLY: My own reaction to this is 21 to think that the need to update the dispersant testing 22 protocols is a little bit obvious. Why that one wasn't</p>	<p style="text-align: right;">312</p> <p>1 MS. AIYAR: I think EPA asked BP to look at 2 that during the spill. I think they came back and they 3 explained that I think based on -- David can supply 4 more details on this -- but based on the tests they 5 conducted it was the most effective and least toxic of 6 the dispersants on the schedule. I think that's right. 7 It was also the only one that was available in anything 8 like the quantities that they needed which was probably 9 the determining factor, but I'll left David -- 10 MR. WEISS: Not only that, I think the supply 11 issue was the thing. 12 MS. BEINECKE: I would just add, and this 13 gets back to the earlier conversation about local 14 involvement. There was tremendous anxiety about 15 dispersant use, not much information, and if there had 16 been a regional advisory committee in place and people 17 knew what the response was and that kind of data was 18 available earlier, I mean I don't know whether there 19 would have been a greater comfort level, but I think 20 the unknown was the huge driver in the public response 21 on dispersants and the federal government was 22 constantly trying to play catch up to get people to</p>

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<p style="text-align: right;">313</p> <p>1 understand the tradeoff that you described in 2 protecting the coast and the coastal resources which 3 are known to be so rich and valuable and therefore 4 using it at the well head, but just the lack of 5 information was a huge driver to public reaction and I 6 think still is based on what you just said about the 7 impact. 8 CO-CHAIR REILLY: Are we reasonably sure that 9 even short term impacts on marine life from that very 10 large deployment of dispersants has not been harmed? 11 MR. BOESCH: No, not at all. We are still in 12 the throes of investigating the effects of the 13 subsurface oil. What we do know though is that the 14 plume of these dispersed droplets of oil that came up 15 and extended over many miles would have been there even 16 without dispersants. Just the physical mixing of high 17 pressure oil and then the gas expanding in volume cause 18 tremendous turbulence which create these droplets. 19 What the dispersants did is it increased that so that 20 what might have been a plume of a certain concentration 21 was a plume of a greater concentration because of the 22 dispersants that were applied, and so there are studies</p>	<p style="text-align: right;">315</p> <p>1 decrease the concentration in the water of oil, you do 2 minimize toxicity. So if it remains dispersed in very 3 small droplets and just goes out, you have considerable 4 less damage even for the corals down below, but we 5 don't know that. I mean this is why it's so important 6 to be taking the data now because we did the 7 experiment; now we should get the results. 8 MS. AIYAR: Well, if we can move on to the 9 last issue that we looked at which is the state of 10 spill response technology. A common observation during 11 the Deepwater Horizon spill response was that cleanup 12 technology has changed very little since the Exxon 13 Valdez spill in 1989. The major oil companies have 14 committed minimal resources to in-house research and 15 development of spill response technology. The 16 companies point to their financial contributions to oil 17 spill removal organizations such as the nonprofit 18 Marine Spill Response Corporation that was created 19 after Exxon Valdez, but those organizations are 20 underfunded in general and dedicate few, if any, 21 resources to research and development. 22 Federal programs for research and</p>
<p style="text-align: right;">314</p> <p>1 under way, there are reports, I mean if you listen to 2 NPR this week, you heard Richard Harris talk about a 3 dive in the Alvin looking at the area near the well and 4 what the effects might have been on the seabed and the 5 corals and things of that sort. So all that's in the 6 process of sorting out. 7 It's certainly not the case that one can say 8 that there were no, there's no evidence of any effects. 9 There's already evidence of effects. It's a question 10 of what the scale of those effects were, how long lived 11 they would be and how consequential they are because 12 you could, for example, kill off the plankton in the 13 seawater moving past the well and just totally 14 annihilate them, but it's a big ocean out there, so the 15 other plankton are going to move in, the water's going 16 to be mixed and you won't see the results in a year or 17 so, but if you kill off cold water corals that may be 18 hundreds of years old, then that's a long-term effect. 19 So those are the kinds of things that have yet to be 20 resolved. 21 MS. MURRAY: I would also argue that 22 dispersants may help in another way and that is as you</p>	<p style="text-align: right;">316</p> <p>1 development related to oil spill response are similarly 2 underfunded. Congress has never appropriated even half 3 of the full amount authorized by the Oil Pollution Act 4 of 1990 for oil spill research. 5 Some industry representatives have suggested 6 to us that more research and development would not have 7 made a difference to the spill response because 8 response technologies will never collect more than a 9 fraction of the spill's oil, but we think that argument 10 is speculative. Neither industry nor government has 11 made significant investments in response research, so 12 we simply don't know what could happen with adequate 13 incentives and funding. In fact, during the Deepwater 14 Horizon spill itself with government and industry 15 focused on spill response technology for the first time 16 in 20 years, some promising new techniques were 17 developed such as beach cleaning machines, subsea 18 dispersant delivery systems which Commissioner Boesch 19 mentioned or totally novel and in situ burning 20 techniques. 21 As laid out in our working paper on this 22 topic we believe that the response technology gap needs</p>

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<p style="text-align: right;">317</p> <p>1 to be addressed by both industry and government. The 2 most powerful incentive for research and development by 3 industry may be the stricter requirements for response 4 plans that we discussed earlier in this presentation 5 and previous presentations. If operators have to truly 6 demonstrate their ability to respond to a worst case 7 spill before they can drill or before they can get a 8 lease, they will have an incentive to develop better 9 response technology. But we've also identified a 10 number of federal regulations that may have the effect 11 of discouraging research and development and that we 12 think agencies should consider changing.</p> <p>13 For example, the Coast Guard's minimum 14 requirement for oil recovery equipment listed in 15 response plans which are called effective daily 16 capacity recovery regulations don't incentivize 17 companies to invest in more efficient equipment that 18 does a better job of recovering oil from water, and as 19 Commissioner Boesch mentioned previously, EPA has a 20 very burdensome permitting process that companies must 21 go through to test response equipment in open water 22 which requires them to intentionally spill oil, and</p>	<p style="text-align: right;">319</p> <p>1 again I'd like to turn it over to Commissioner Boesch. 2 MR. BOESCH: I'll just echo, underscore a few 3 of the points that Priya made. The first is that this 4 is not simply a government responsibility. The 5 research that our staff did shows some surprising, 6 meager investments that the industry itself has made in 7 this area. There are things that can be done and I 8 think the point is that if we're going to require that 9 they develop oil spill response plans, real oil spill 10 response plans rather than some boilerplate things that 11 are borrowed from some other place in the world they 12 will have to be able to demonstrate and prove their 13 capability. So I think there's some opportunities 14 here.</p> <p>15 The other is with respect to government 16 funding, there was a, you know, substantial increase as 17 you are aware after the Amoco, the Exxon Valdez spill, 18 and then, of course, as time went on, just a few years 19 that just waned as we lost the attention and focus on 20 the problem. So the recommendation here that there be 21 some sort of a revenue stream tied to a standing 22 resource would be a way that we would not lose</p>
<p style="text-align: right;">318</p> <p>1 that has resulted in effectively a de facto ban on open 2 water testing in the United States, so United States 3 companies have to go to Norway to do that testing.</p> <p>4 EPA also has a regulation that prevents 5 companies from discharging water with a certain 6 fraction of oil, more than 15 parts per million, which 7 they may sometimes need to do in testing spill response 8 equipment. So we think agencies should consider 9 changing those sets of regulations, and we also think 10 that Congress and the administration should consider 11 ways to encourage private investment in response 12 technology such as through public private partnerships 13 and potentially through an R and D tax credit for spill 14 response technology if a broader R and D tax credit 15 does not pass.</p> <p>16 And finally, even though we understand the 17 difficulty with calling for more funding in this 18 environment, we do think that Congress should consider 19 increasing federal funding for oil spill response 20 research potentially by revising the Oil Pollution Act 21 to make the oil spill research funding already 22 authorized in the act a mandatory appropriation, and</p>	<p style="text-align: right;">320</p> <p>1 attention to the problem.</p> <p>2 But finally, given the other point that she 3 made about the criticism that there are limits of what 4 we can expect from oil spill response, it's a big and 5 turbulent ocean out there. Winds and waves conspire to 6 reduce, and currents, our capacity to recover oil or to 7 burn it even, and so that's why in this budget that's 8 been produced it's a surprisingly and disappointingly 9 small amount of oil that was collected by skimmers. A 10 larger amount of oil actually was burned by a 11 substantial amount than was recovered by skimmers, but 12 on the other hand, if we then think of it in the fact 13 that if we have a spill like this only a very small 14 percentage of the oil anyway is going to get in harm's 15 way close to the shoreline. So if we could improve the 16 capacity of defending sensitive habitats with better 17 collection devices and so on that are designed and 18 developed to work in those kinds of conditions as 19 opposed to a quiet bay somewhere, we could I think, you 20 know, it could reduce the risk to sensitive resources.</p> <p>21 CO-CHAIR GRAHAM: Any further questions or 22 comments?</p>

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1 MS. ULMER: I might just note under the
2 incentives that you have listed, one that seems perhaps
3 an addition from our discussion this morning would be
4 changing the limitation on liability. If, I mean, I
5 think the liability cap is another thing that has made
6 it less attractive, shall we say, to invest in oil
7 spill response technology. So it's another piece. So
8 we were discussing the carrots and sticks. It's
9 another reason for people to take more seriously the
10 investment in oil spill response technology.

11 CO-CHAIR REILLY: Well, you certainly
12 correctly identified the hurry up and put a lot of
13 money in and then gradually, no, no, no, and steadily
14 it goes down over the years and people become very
15 complacent and there's no big spill for 20 years, and
16 then all of a sudden there is and you get all the old
17 equipment out of the garage and it turns out it's no
18 more effective than it was then. That's certainly my
19 very vivid impression, that I saw nothing new at all
20 down in the Gulf that I hadn't seen in Prince William
21 Sound and it was equally ineffective. Three percent I
22 guess we got we discovered from skimmers out of the

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1 whole spill, oil. It's shocking. I continue to wonder
2 and will ask you whether among the improvements,
3 improved technology that is on the horizon or that you
4 saw or we have discovered down in the Gulf in response
5 to this if there are any skimmers that do any better
6 than the ones that die in the open ocean.

7 MS. AIYAR: I mean I think there are some.
8 I'll actually let David talk about this because he
9 knows more about skimmers than I. I think there are
10 some shallow draft skimmers, some greater capacity
11 skimmers, oil water separators which is this technology
12 used by Kevin Costner where actually I think used for
13 the first time during the spill response.

14 CO-CHAIR REILLY: Do you think well of those?

15 MS. AIYAR: I think they were effective. I
16 mean obviously they weren't that effective because
17 skimming only captured three percent, as Commissioner
18 Boesch said, but that's due to a lot of factors,
19 whether also three percent of 4.1 million gallons is
20 still a significant amount of oil. So I think there
21 were improvements made. They were incremental. They
22 weren't sort of leaps forward.

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1 MR. WEISS: Right. I mean the word I would
2 use would be modest, but I would also emphasize that it
3 was a four month incubator period in which these were
4 tested, and if we had a 20-year period these
5 improvements would have been a lot more significant.

6 CO-CHAIR REILLY: And is the big obstacle the
7 wave action in the open ocean? I'm always told they
8 work reasonably well in a placid harbor.

9 MS. AIYAR: I think that's right, and I think
10 also you just can't use them in certain weather
11 conditions. But again, as Commissioner Boesch
12 mentioned, burning also depends on favorable weather
13 conditions, but burning captured five percent of the
14 oil which was significant, and also it had never been
15 done on this scale before. So I think burning was a
16 success.

17 So I don't know if the way forward will be
18 skimmers, but I think there's certainly response
19 technologies that were used that did improve in the
20 course of this spill. There's no reason to think they
21 couldn't improve a lot more.

22 MR. WEISS: Right, and I think one of the

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1 reasons why burning improved was because there were
2 modest improvements and the boom used for burning. So
3 it's all interconnected, and I think it is fair to say
4 that there were modest improvements but --

5 CO-CHAIR REILLY: Boom is better.

6 MR. WEISS: Boom is better.

7 MR. BOESCH: One fairly common sense solution
8 that would help that Priya basically mentioned is that
9 when you use a skimmer, if you're collecting oil off
10 the surface, you're also collecting water, and so what
11 you have to do is to separate the two and you've got to
12 get rid of the water; otherwise you've got a very large
13 volume on your hands, but EPA regulates that as if you
14 were discharging some other oily waste. In other
15 words, you have the same standards if you were
16 discharging other things which could contain oil, when
17 in reality what you're doing is removing oil from the
18 ocean and maybe putting a small percentage of it back
19 in in the process. It's not the same as interjecting
20 new material in the, pollution in the ocean that wasn't
21 there to begin with.

22 CO-CHAIR REILLY: But my understanding is

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1 that cruise ships have oily water separators that get
2 it down to 15 parts per million, the release.
3 MR. BOESCH: Yeah, but to have that kind of
4 technology on a skimming vessel is not even a
5 requirement, when in reality you're bringing it to a
6 standard which defeats the purpose of removing, having
7 to remove it in the first place.
8 MR. GARCIA: Are any peer countries investing
9 in R and D or is this just a global problem? No one is
10 making the appropriate investment?
11 MS. AIYAR: I think we've been told that, not
12 surprisingly, once again, Norway does a better job I
13 think with spill response technology, I think actually
14 a lot of technology from Norway, skimmers, maybe no
15 skimmers, but a lot of other technology from Norway was
16 used during the spill. I don't know if there are any
17 other examples.
18 MR. WEISS: Yeah. I mean we just heard
19 anecdotes about that from Mr. Suttles from BP
20 emphasized that in the Commission's hearing in
21 September and his interviews with us as well that the
22 technology from Norway that was used during the spill

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1 response did a fantastic job and Norway generally was
2 ahead of us.
3 CO-CHAIR REILLY: These are people that dump
4 oil in the water intentionally.
5 MS. AIYAR: Then clean it up.
6 CO-CHAIR GRAHAM: Are there any more comments
7 or questions? We have six members of the public who
8 are --
9 CO-CHAIR REILLY: Great job.
10 MS. BEINECKE: One last comment on that which
11 is we just talked about the inadequacy of the
12 technology in the Gulf and then the previous discussion
13 about the Arctic. If you can't do it in the Gulf in a
14 fairly, you know, tremendous infrastructure, everybody
15 is there and everything is available, the plans are in
16 place, let's just reflect on being prepared in the
17 Arctic, much more difficult.
18 CO-CHAIR REILLY: You think so?
19 MS. BEINECKE: I do. I was just reflecting
20 on your comments about Shell's preparedness after your
21 comments about how nothing had happened in 20 years but
22 --

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1 CO-CHAIR GRAHAM: Jessica, thank you very
2 much, and thank you for the great work that you've
3 done.
4 MR. WEISS: Thank you.
5 CO-CHAIR GRAHAM: Thank you. Thank you very
6 much. We appreciate your persistence and staying power
7 to wait until we're at this hour. Is Mr. John Amos
8 here?
9 MR. AMOS: Senator Graham, yes.
10 CO-CHAIR GRAHAM: Yes. Good, John.
11 MR. AMOS: First of all, I wanted to thank
12 you all for doing what I perceive to be an extremely
13 diligent and thoughtful job on a very complex issue,
14 and I'm looking forward eagerly to the final report.
15 Senator Graham, my comment is actually I
16 hope going to speak to something that you have raised
17 at the beginning of the last panel which is what can we
18 be doing better up front in the beginning to really
19 help increase public confidence that we know what we're
20 doing in the marine environment.
21 My name is John Amos. I'm president of
22 SkyTruth. SkyTruth is a nonprofit organization based

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1 in Shepherdstown, West Virginia. We use satellite
2 images and remote sensing data to study and illustrate
3 environmental issues. During the BP spill we collected
4 near daily imagery from a variety of sources. With
5 this imagery and our expertise we were able to
6 effectively track and measure oil slicks. We were able
7 to make a conservative science based estimate of the
8 flow rate within the first week of the spill. We were
9 able to show the dissipation of slicks following the
10 July 15th capping and closure of the Macondo well, and
11 we were able to measure the total surface footprint of
12 this oil spill event in the Gulf of Mexico.
13 We also stumbled on a small but persistent
14 spill nearby unrelated to the BP spill. This was
15 apparently known to the Minerals Management Service and
16 the Coast Guard, but clearly it was not generally known
17 to the public at large. This spill was caused by a
18 group of wells that were damaged by Hurricane Ivan in
19 2004 and have presumably been leaking ever since.
20 The satellite images, especially radar
21 images, have been regularly used for decades to detect
22 and track oil pollution at sea. During the 1990s I

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<p style="text-align: right;">329</p> <p>1 personally performed dozens of commercial exploration 2 studies for energy companies including BP using 3 satellite images to detect small persistent oil slicks 4 caused by natural oil seeps on the sea floor around the 5 world. Now with an expanded constellation of 6 earth-observing satellites in orbit including several 7 radar imaging satellites routine ocean monitoring is 8 technically feasible.</p> <p>9 In your final report to the President I hope 10 you recommend that the nation moves expeditiously to 11 implement routine publicly transparent satellite 12 monitoring of US waters to detect and assess pollution 13 and other threats and to assure the American public 14 that their government is effectively managing and 15 protecting our vital marine resources. Thank you very 16 much.</p> <p>17 CO-CHAIR GRAHAM: Thank you very much for a 18 very helpful set of comments. Sebastian O'Kelly.</p> <p>19 MR. O'KELLY: Good afternoon. My name is 20 Sebastian O'Kelly. I'm here today representing the 21 Alaska --</p> <p>22 CO-CHAIR GRAHAM: I don't think I've ever</p>	<p style="text-align: right;">331</p> <p>1 the US Fish and Wildlife Service to respond to marine 2 mammal and bird stands the entire gulf coast of Alaska. 3 The center is also contracted with the oil industry 4 operating in the Arctic to provide animal response and 5 rescue if any threatening oil spill occurs. The center 6 has just held an animal de-oiling and husbandry 7 workshop that was widely attended from representatives 8 from a wide array of organizations.</p> <p>9 A big issue for animal rescue and recovery 10 programs across the country is the ability to fund 11 adequate internal capability and readiness to respond 12 to a major accident such as an oil spill. Many of 13 these programs are staffed by volunteers at bare bones 14 facilities and minimal ability to handle the amount of 15 wildlife harmed in a major spill. Funding at the 16 federal level for these activities is modest and 17 primarily comes from NOAA's Prescott grants program 18 which is designated for marine mammals. The SeaLife 19 Center has been recommending and talking with members 20 of Congress that funding in the amount of ten million a 21 year be set aside from the Oil Spill Liability Trust 22 Fund to support animal rescue and recovery programs</p>
<p style="text-align: right;">330</p> <p>1 known an O'Kelly whose first name was Sebastian.</p> <p>2 MR. O'KELLY: You know, I've Googled my name. 3 There's one guy in England, and he's a journalist, and 4 my mom sent him a letter, and they've engaged in 5 correspondence for the last ten years, so the only 6 other Sebastian O'Kelly.</p> <p>7 Today I'm representing the Alaska SeaLife 8 Center based in Seward, Alaska. My comments are on the 9 issue of wildlife rescue and recovery after an oil 10 spill.</p> <p>11 A little bit about the center. It's 12 Alaska's only public aquarium and ocean wildlife rescue 13 center. We are private nonprofit with over a hundred 14 full-time employees. The center was actually formed in 15 the aftermath of the Exxon Valdez oil spill through a 16 grant by the Exxon Valdez Oil Spill Trust Council.</p> <p>17 A primary mission of the center is the 18 rescue and recovery of injured wildlife. This includes 19 the rehab of a number of endangered species, such as 20 northern sea otters, stellar sea lions and spectacled 21 stellar sea otters. Our rescue and rehab program is 22 authorized by the National Marine Fishery Service and</p>	<p style="text-align: right;">332</p> <p>1 nationwide. Rescue capabilities and proper veterinary 2 care are expensive to maintain and must be in place 3 before an accident if they are to be effective.</p> <p>4 We are hopeful that the Commission, I know 5 you have a lot of other, you know, bigger issues to 6 look at, but you will give some scrutiny and an 7 examination of this issue in your final report. Thank 8 you, and I have some written comments which hopefully 9 you'll get to take a look at, and I'm happy to answer 10 any questions.</p> <p>11 CO-CHAIR GRAHAM: Thank you very much. Miss 12 Nancy Sopko.</p> <p>13 MS. SOPKO: That's correct, sir. Thank you. 14 Good afternoon. My name is Nancy Sopko, and I am 15 speaking on behalf of Oceana, the world's largest 16 international focused solely on ocean conservation. 17 Thank you for the opportunity to comment today, and 18 thank you all for your hard work and commitment to this 19 very important issue.</p> <p>20 I would like to begin by thanking the Obama 21 administration for its responsible decision yesterday 22 to keep closed the Atlantic coast and the eastern Gulf</p>

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333	<p>1 of Mexico to offshore oil and gas drilling for the next 2 seven years. It is heartening to learn that the 3 Administration has reconsidered its decision in March 4 to open new areas to leasing. Presidents from both 5 parties imposed offshore drilling moratoriums for more 6 than 20 years. This decision is a very welcome return 7 to common sense.</p> <p>8 While this announcement should be 9 celebrated, it is only a first step. The lessons we 10 learned from the Deepwater Horizon oil spill is that 11 offshore drilling cannot be done safely and should not 12 be done at all. We now know that neither BP nor the 13 federal government was ready for an oil spill of this 14 magnitude. We have also learned that the cleanup 15 technology used by BP during the spill response had 16 made only marginal advances since the Exxon Valdez oil 17 spill in 1989. Commission reports released last week 18 found that despite earning billions of dollars in 19 profits each year, oil companies spend almost no money 20 on researching and developing new ways to respond to an 21 oil spill.</p> <p>22 The fact that oil companies spend billions</p>	335
334	<p>1 of dollars on technology that will allow them to drill 2 to new depths in the ocean floor without comparable 3 spending on cleanup technologies should their reckless 4 practices prove disastrous shows exactly where their 5 priorities lie. It is even more troubling that the 6 federal government would allow such risky drilling to 7 occur without requiring these companies to have a 21st 8 century plan to clean up their inevitable mistakes.</p> <p>9 We have heard from various officials in the 10 oil industry and government that this spill was 11 unprecedented and unforeseeable, and therefore, their 12 lack of preparedness should be excused, but that is 13 simply not true. In a letter addressed to this 14 commission last week, Senator Robert Menendez reminded 15 us of another disastrous spill, the Montara oil spill 16 off the coast of Australia, which caused oil to leak 17 continuously for nearly three months in 2009.</p> <p>18 The substantial similarities between these 19 two spills prove that the Deepwater Horizon oil spill 20 was foreseeable, predictable and preventable. 21 Unfortunately, no lessons were learned, and here we are 22 again.</p>	336

1 As we continue to chase after this dirty and
 2 finite energy source of the past, the rest of the world
 3 is transitioning to a clean and sustainable energy
 4 future. We should use these next seven years to
 5 develop new and innovative renewable energy
 6 technologies such as offshore wind so that we can be
 7 competitive in the global clean energy market.

8 Oceana urges this Commission to include in
 9 its recommendations a ban on all new offshore oil
 10 drilling as well as a call for a plan to transition us
 11 from offshore oil to offshore wind and other renewable
 12 energy resources. It is the only way to prevent
 13 another spill and to ensure America's rightful place as
 14 a leader on the global renewable energy stage. Thank
 15 you for your time.

16 CO-CHAIR GRAHAM: Thank you very much. Mr.
 17 Paul Harrison.

18 MR. HARRISON: Senator, thank you.
 19 Commissioners, good afternoon. I'm Paul Harrison. I'm
 20 senior director for the Mississippi River at the
 21 Environmental Defense Fund. We've had a long and deep
 22 commitment to restoration of the Gulf coast

1 environment, both oceans and its coastal areas,
 2 particularly the Mississippi River delta wetlands that
 3 form the land mass of coastal Louisiana that New
 4 Orleans and critical bayou communities and cultures sit
 5 on and rely upon.

6 I'm here today on behalf of a coalition of
 7 environmental groups generously supported by the Walton
 8 Family Foundation, also economic and community groups,
 9 and our groups include the National Wildlife
 10 Federation, the Nature Conservancy, Ocean Conservancy
 11 and Oxfam America. Together we are presenting you with
 12 all vision for conservation and economic stability
 13 which include ambitious goals for long-term restoration
 14 throughout the Gulf region.

15 To accomplish this we believe that a
 16 significant percentage of the Clean Water Act penalties
 17 that BP will pay and its partners will pay as damages
 18 because of the BP Deepwater Horizon spill need to be
 19 directed towards the Gulf ecosystem restoration.
 20 Restoration is obviously critical for the environment
 21 but it's also a critical element of the economic
 22 survivability and recovery of the Gulf coast region.

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<p style="text-align: right;">337</p> <p>1 Restoration will make the Gulf coast economies and 2 communities more resilient to future disasters 3 including oil spills but also hurricanes and 4 inexorables, rise of sea level that will be coming with 5 climate change.</p> <p>6 The spill makes it increasingly vital to 7 continue, expand and accelerate Gulf-wide conservation 8 and restoration work as quickly and as on a broad a 9 scale as possible. While the natural resource damages 10 and the economic damages payments that BP will have to 11 make must restore the Gulf to the state economically 12 environmentally that it was on the day of the spill, 13 it's important that we use the BP Clean Water Act 14 penalties to address longstanding environmental damage 15 that has been done to the Gulf coast because of the 16 very national economic infrastructure that this well 17 was only a tiny part of. The transportation, water- 18 borne shipping and oil and gas production 19 infrastructure has had a major impact on the 20 degradation of the Gulf coast environment, and it's 21 appropriate that the fines coming from this disaster be 22 put into resolving those long-term issues.</p>	<p style="text-align: right;">339</p> <p>1 common program with common goals developed by the best 2 we know in science and engineering.</p> <p>3 These points and more are all covered in 4 greater detail in the submission that we put on the 5 website last night. I have copies here as well, but 6 together all of the NGOs that we have mentioned and a 7 broad range of economic and community partners are 8 committed to working with the Commission and with state 9 and federal government to address the questions of how 10 we restore the Gulf and have a vibrant and sustainable 11 community as a result, and I really appreciate the 12 opportunity to speak with you today.</p> <p>13 CO-CHAIR GRAHAM: Thank you. Miss Jenny 14 Kordick.</p> <p>15 MS. KORDICK: Hi. My name is Jenny Kordick, 16 and I'm representing the Sierra Club. I just want to 17 thank you all, the Commission, for the work that you've 18 done since the BP spill in allowing for public comment 19 at these meetings.</p> <p>20 In our previous statements to the Commission 21 we stated our support for a ban on all new drilling 22 projects. The Administration's decision yesterday to</p>
<p style="text-align: right;">338</p> <p>1 In addition, we're advocating that Gulf 2 coast restoration efforts engage the state natural 3 resource agencies, universities and private partners 4 from across the region. Involvement of Gulf 5 communities, state and federal governments, NGOs, 6 businesses and others who value the Gulf will ensure a 7 truly comprehensive plan to revitalize and restore it.</p> <p>8 Also critically we're recommending the 9 establishment of the Gulf of Mexico environmental and 10 economic sustainability council. This really gets to 11 the question on how we put together the 21st century 12 governing system for a 21st century environmental and 13 economic problem. We're still operating with 18th 14 century structures in government, and its time to use 15 this as an opportunity to transition.</p> <p>16 The primary role of the sustainability 17 council would be to create the agenda and coordinate 18 the implementation across state and federal agencies of 19 environmental restoration and protection programs. The 20 council and the staff critically must have sufficient 21 authority and budgetary control to ensure that these 22 agencies, both state and federal, are working on a</p>	<p style="text-align: right;">340</p> <p>1 keep the eastern Gulf of Mexico and Atlantic coast out 2 of the new five-year drilling plan is a significant 3 step in the right direction. It shows the 4 Administration is serious about investing in clean 5 energy instead of more dangerous drilling. However, an 6 oil spill like the BP disaster could happen anywhere, 7 in Alaska or in other parts of the central and western 8 Gulf where drilling is allowed. That being said, we 9 would like to reiterate our support of a ban on new 10 leasing in these areas and encourage the Commission to 11 include this in recommendations.</p> <p>12 The best way to protect our coasts is to end 13 our dependence on oil and other fossil fuel. Instead 14 of new drilling, our nation should be investing in 15 clean energy that would create jobs here at home and 16 keep America competitive in the global clean energy 17 economy.</p> <p>18 Despite yesterday's decision we should 19 continue to keep our eyes on the Gulf. As our Gulf 20 attempts to recover from this devastating BP spill, we 21 encourage the Commission to recommend the creation of a 22 Gulf of Mexico regional citizens advisory council</p>

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1 similar to the one created in Alaska after the Exxon
2 Valdez spill. By forming this council affected
3 communities will be involved in the oversight of future
4 drilling decisions and oil industry actions with the
5 opportunity to provide recommendations and input to
6 relevant federal agencies and the energy industry.
7 This council can help guide recovery efforts in the
8 right direction as well and help make sure Gulf
9 communities have resources for restoration.
10 The Sierra Club appreciates the effort of
11 the Commission to be thorough in its charge to ensure
12 the nation's coasts and people are protected from
13 future similar tragedies and the necessary disaster
14 management and response resources and processes are in
15 place to prevent and address future scenarios.
16 Again, the best way to protect our coast is
17 to move beyond oil by 2020, ending our dangerous
18 dependence. Rather than putting coastal communities at
19 risk for more oil spills, we should be expanding wind,
20 solar and efficiency measures in creating a 21st
21 century transportation system. Thank you.
22 CO-CHAIR GRAHAM: Thank you very much, Miss

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1 Kordick, and thank you for your contribution. It's
2 very thoughtful and helpful to the Commission. Thank
3 you.
4 Ladies and gentlemen, are there any further
5 comments from us? If not, we will adjourn until 9:00
6 tomorrow. The meeting is adjourned.
7 (At 5:08 p.m. the meeting was adjourned.)
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1 CERTIFICATE OF REPORTER
2
3 I, Janet A. Hamilton, the officer before
4 whom the foregoing proceedings were taken, do hereby
5 certify that the foregoing transcript is a true and
6 correct record of the proceedings; that said
7 proceedings were taken by me stenographically and
8 thereafter reduced to typewriting under my supervision;
9 and that I am neither counsel for, related to, nor
10 employed by any of the parties to this case and have no
11 interest, financial or otherwise, in its outcome.
12
13 IN WITNESS WHEREOF, I have hereunto set my
14 hand and affixed my notarial seal this 6th day of
15 December, 2010.
16
17
18
19
20 _____
21 NOTARY PUBLIC IN AND FOR
22 THE DISTRICT OF COLUMBIA

NATIONAL OIL SPILL COMMISSION MEETING
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<p style="text-align: right;">1</p> <p>1 NATIONAL COMMISSION ON THE 2 BP DEEPWATER HORIZON OIL SPILL 3 AND OFFSHORE DRILLING 4 ----- x 5 SIXTH MEETING, DAY TWO) 6 Transcript of Proceedings) 7 ----- x 8 9 Thursday, December 3, 2010 10 Council on Foreign Relations 11 1777 F Street, NW 12 Washington, DC 13 9:02 a.m. 14 15 16 17 18 19 20 Job No.: 6683 21 Pages: 1 - 239 22 Reported by: Dianna C. Kilgalen, RPR</p>	<p style="text-align: right;">3</p> <p style="text-align: center;">1 CONTENTS</p> <p>2 Call to Order 4 3 Opening Remarks by Co-Chair Reilly 6 4 Opening Remarks by Co-Chair Graham 10 5 Oil Spill Containment Presentation: 6 Presentation by Ms. Aiyar 20 7 Oil Spill Impacts Presentation: 8 Presentation by Ms. Clark 77 9 Recovery and Restoration in the Gulf Presentation: 10 Presentation by Mr. Roston 142 11 Closing Remarks 210 12 13 14 15 16 17 18 19 20 21 22</p>
<p style="text-align: right;">2</p> <p>1 National Oil Spill Commission meeting held 2 before: 3 4 5 SENATOR BOB GRAHAM, CO-CHAIR 6 WILLIAM K. REILLY, CO-CHAIR 7 FRANCES G. BEINECKE, MEMBER 8 DONALD BOESCH, MEMBER 9 TERRY D. GARCIA, MEMBER 10 CHERRY A. MURRAY, MEMBER 11 FRANCES ULMER, MEMBER 12 and 13 CHRIS SMITH, Designated Federal 14 Official 15 16 17 18 19 Pursuant to Notice, before Dianna C. Kilgalen, 20 Registered Professional Reporter and Notary Public 21 in and for the District of Columbia. 22</p>	<p style="text-align: right;">4</p> <p style="text-align: center;">1 PROCEEDINGS</p> <p>2 MR. SMITH: Good morning, Commissioners and 3 panelists, and good morning to our audience who is 4 participating via live video feed. Welcome to today, 5 Day 2 of the Sixth Meeting of the National Commission 6 on the BP Deepwater Horizon Oil Spill and Offshore 7 Drilling. I hereby call this meeting to order. 8 My name is Chris Smith and I'm the designated 9 federal official for this Commission. I am also the 10 Deputy Assistant Secretary for Oil and Natural Gas at 11 U. S. Department of Energy. 12 The President established this bipartisan 13 commission to exam the root causes of the BP Deepwater 14 Horizon disaster and provide recommendations on how we 15 can prevent future accidents offshore, and mitigate 16 their impact should they occur. 17 This Commission is led by the former Senator 18 Bob Graham of the state of Florida, and the Honorable 19 William Reilly, who led the Environmental Protection 20 Agency under President George H. W. Bush. 21 The Commission is rounded out with five other 22 distinguished Americans who were selected because of</p>

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<p style="text-align: right;">5</p> <p>1 their extensive scientific, legal, engineering and 2 environmental expertise and their knowledge of issues 3 pertaining to offshore operations. 4 They include Francis Beinecke, President of 5 the Natural Resources Defense Council, Doctor Donald 6 Boesch, President of the University of Maryland Center 7 for Environmental Science, Terry Garcia, the Executive 8 Vice-President of the National Geographic Society, 9 Doctor Cherry Murray, Dean of the Harvard School of 10 Engineering and Applied Sciences, Fran Ulmer, 11 Chancellor of the University of Alaska at Anchorage. 12 This Commission is conducting its work in 13 compliance with the Federal Advisory Committee Act 14 which sets a high standard for openness and 15 transparency, and as such, this event is being held in 16 this public forum and is being broadcast via live video 17 feed. 18 Today's meeting is a deliberative session, in 19 which we will hear presentations from the Commission 20 staff and deliberations by the Commissioners. Any 21 member of the public wishing to submit a written 22 comment to the Commission may do so via the website,</p>	<p style="text-align: right;">7</p> <p>1 respond to them. And we concluded that it may lay in a 2 culture of safety -- a safety case which would 3 characterize the way in which industry calculates and 4 assesses its own risks and manages them more 5 effectively, in collaboration with the regulator, and 6 in a safety institute borrowed from the kind of 7 institutions that other high-risk industries, and most 8 notably, the nuclear industry, have established, and 9 they have worked effectively. 10 We reviewed the prospects for future offshore 11 oil and gas exploration and development, and discussed 12 policies for making decisions that are better informed 13 and lead to safer development, particularly in frontier 14 areas. We narrowed the gaps both of our understanding 15 and among each other. 16 So in sum, I think it has been a good five 17 months' work. Later today, we will consider 18 restoration. Like much that we have considered, it 19 poses choices and is characterized by questions. We 20 have long known the Gulf suffers from a large nutrient 21 fed dead zone and from rapidly subsiding and eroding 22 wetlands, the nurseries of most of the creatures of the</p>
<p style="text-align: right;">6</p> <p>1 which is www.oilspillcommission.gov. Again, that is 2 www.oilspillcommission.gov. 3 At this point, I would like to hand the floor 4 over to our two co-chairman, Senator Bob Graham and the 5 Honorable William Reilly. 6 CO-CHAIR GRAHAM: Thank you, Chris. 7 CO-CHAIR REILLY: Good morning. Well, today 8 we begin the second of our two days of deliberations, 9 the last time we will meet formally as a full 10 Commission, before we go public on January 11 with the 11 release of the report and its submission to the 12 President and to the country. 13 Our staff's and Commissioners' interest was 14 focused on answering the central questions the 15 President's Executive Order set for us. We believe we 16 understand the decisions and their consequences that 17 constitute the proximate causes of the loss of well 18 control, blowout, the fire, the explosion and the 19 spill. 20 We considered policies going forward to 21 reduce the risks of such a spill ever happening again, 22 and we zeroed in on a search for root causes and how to</p>	<p style="text-align: right;">8</p> <p>1 sea. 2 Those problems and the projects to address 3 them predate the Macondo oil spill. Energy development 4 has contributed to the loss of wetlands with its canals 5 and pipelines, but it's far from the only cause of 6 their loss. Yet the Clean Water Act fines and the 7 Natural Resource Damages funds appear to be the first 8 serious money we are likely to see to finance 9 restoration projects long on the drawing boards. 10 I have heard from so many in the Gulf: Don't 11 recommend more studies and plans. We have been studied 12 to death, as one governor said to me. And, of course, 13 for there to be serious money beyond the resource 14 damage funds, Congress will have to authorize and 15 appropriate Clean Water Act fines, which, by law, would 16 otherwise go to the Treasury. 17 But as we consider restoration, our priority 18 is on repairing damage to the ecosystem. But the Gulf 19 and its people have other needs, too. Tourism, a 20 mainstay of the economy, is off 60 percent in Alabama 21 Governor Riley told me on Wednesday. Fishing and 22 seafood processing, another major pillar of the</p>

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1 economy, is severely impaired.
2 What the oil may not have done to fisheries,
3 news reports and consumers' fears of oil-contaminated
4 fish dealt the fishermen and their support industries a
5 second and continuing blow.
6 All of the Commissioners, all of us, have had
7 personal encounters with Gulf fishermen, with resort
8 and hotel operators, with the families of energy
9 industry workers. So these people do not just exist in
10 news reports or statistics about job losses. We now
11 know many of the Gulf's people who have been affected
12 by the spill.
13 They come to mind as we consider
14 recommendations to restore their ecology, their
15 economy, and to help their way of life.
16 Finally, presenters and our staff have made
17 clear the very large role the Gulf, the ports, the
18 seafood, the commerce, and the industry, the very large
19 role the Gulf and its economy play in the life of the
20 nation.
21 Thus, it merits continuing attention by all
22 Americans, and, thus, by this Commission, which we have

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1 given it and will give it again today.
2 CO-CHAIR GRAHAM: This will be our last
3 collective gathering to complete our analysis,
4 research, and prepare the report with its findings and
5 recommendations to the American people.
6 I want to extend my appreciation to all of
7 those who have participated. As I have had the
8 privilege of being on several commissions, this is a
9 highlight in terms of the collegiality and the
10 seriousness with which there have been open, candid
11 discussions to arrive, act, and share judgments.
12 I thank each of the Commissioners,
13 particularly my friend and Co-Chair Bill Reilly, for
14 their contribution to that. But also, as Bill said so
15 generously yesterday, our leadership, starting with
16 Richard Lazarus, and then the outstanding staff that he
17 has put together to bring people of this talent
18 together for such an intensive period is a remarkable
19 example of effective leadership.
20 I want to thank all of those of you who heard
21 the call, saw this as an opportunity to serve the
22 nation, and have done so with such distinction.

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1 I want to talk a little bit about where do we
2 go from here. We have invested the better part of half
3 a year in getting to where we are this morning. What's
4 the balance of our road ahead?
5 And I would like to frame that in the context
6 of who are the audiences to whom we should be
7 speaking? One of those is the industry itself. When
8 we started this, I think a question that I certainly
9 had in my mind, and many others, was was this an
10 example of one rogue company which had had a long
11 record of unsafe performance, or did it reflect more
12 broadly on the industry itself?
13 While I think the principal responsible party
14 was an outlier in the sense of its safety culture, that
15 culture was not limited to one company. We've heard
16 very direct evidence about the largest drilling and rig
17 company in the world, and what its safety culture was,
18 and from one of the largest supply companies providing
19 one of the most significant elements of this operation,
20 which was the cement, and its culture.
21 So I don't -- I don't come away from this by
22 saying that we've got just a single target. I think

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1 the industry has got to recognize that it must reform
2 itself, and do so in a manner that will restore the
3 American confidence in their ability to do this highly
4 technical deepwater drilling in a manner that is safe,
5 protective of the environment, and protective of the
6 asset, the seabeds of the Gulf of Mexico and Alaska,
7 which belong to all of us as American citizens.
8 A second audience is the person who appointed
9 each of us and gave us our mission, and that is the
10 President of the United States of America. Many of our
11 recommendations are going to be brought to life by
12 Executive Order. And I hope that our report will be
13 sufficiently confidence-building and inspiring to the
14 President that he will use his ability to put our
15 recommendations into action through that device.
16 Another of our audiences is the Congress of
17 the United States. As one who spent 18 years in those
18 institutions, I think I know them well. I believe that
19 we have uncovered some of the challenges to the
20 Congress.
21 One of those challenges is, in this area, as
22 in so many others, technology is moving at a very rapid

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<p style="text-align: right;">13</p> <p>1 pace. The public policy that surrounds that technology 2 tends to move at a much slower pace. 3 And so we have a situation that occurred on 4 April 20th where a 21st-century event occurred using 5 legislative policy of the 1980s, and it proved to be 6 quite ineffective. We need to think about some 7 strategies that would assist the Congress in closing 8 that gap between what I call the offense of the 9 industry and the defense of government to provide 10 appropriate regulation. 11 One suggestion which has recently emerged is 12 the idea of applying to this industry what we already 13 do to the military, and that is require a periodic, in 14 the case of the military, every-four-year, review of 15 our military strategy and our capabilities. 16 That may be an idea that has resonance in 17 this area, as a means of assuring that Congress, on a 18 periodic basis, has to focus on the issues of are we 19 keeping pace with technology. 20 There are also issues in which the Executive 21 and Legislative Branch will share responsibility. I 22 think high among them is the issue of an energy</p>	<p style="text-align: right;">15</p> <p>1 the current system in which approximately 40 percent of 2 our demand is met by domestic and 60 percent by import, 3 they would last nine years. 4 I said assuming that we continue at our 5 current level of usage. We are about to have a census, 6 and it probably will report that the population in the 7 United States is 310 million people. 8 The Census Bureau has already done a 9 projection of what the population of the United States 10 will be 90 years from now, in the year 2100, and that 11 number is 575 million people. 12 I say that to indicate that the idea that we 13 are going to stay at 20 million barrels a day, even 14 with all the things that we try to do to reduce our 15 addiction to oil, is not going to happen. 16 So we have a particularly, I think, urgent 17 need to develop an energy policy for this country that 18 will not reduce us to what is happening in other places 19 in the world, and that is total depletion of our 20 domestic resources, and, therefore, total reliance on 21 someone else to provide our critical needs. 22 I believe that is a major challenge to the</p>
<p style="text-align: right;">14</p> <p>1 policy. 2 We have been asked to comment about the 3 future of offshore, particularly deepwater, drilling. 4 It's my personal feeling that we cannot do that in a 5 vacuum. There has to be a larger energy policy in to 6 which this becomes a subset. 7 Yesterday, we spent quite a bit of time 8 talking about Alaska. Bill said that the Chukchi and 9 Beaufort Seas represented the fourth -- the second and 10 the fourth largest remaining areas of potential 11 exploration for oil and gas in the United States. 12 I did a quick calculation. If the assumption 13 is that there are 25 billion barrels of petroleum in 14 those two seas combined, our second and fourth largest 15 remaining areas, then how long would they last under 16 two conditions. 17 One, assuming that U. S. consumption stayed 18 at the current level, which is approximately 20 billion 19 barrels a day, how long would it take us to exhaust 20 those two major remaining reserves? Well, the answer 21 is approximately four years. 22 If, on the other hand, we were to maintain</p>	<p style="text-align: right;">16</p> <p>1 Executive and the Legislative Branches of the federal 2 government. 3 A final and maybe the most important audience 4 that we have are the people of the United States of 5 America. This event captured the attention and 6 imagination of the American people for the better part 7 of three months during this past summer. For many, it 8 has now fallen off the attention, even the memory, 9 reservoir of many Americans. 10 I believe it's our responsibility to carry 11 the message of our report, what we have found and what 12 we recommend that we do in this critical area, 13 aggressively to the American people. I know each 14 member of this Commission is prepared to accept their 15 role in doing that. 16 We are challenged to be creative in how we 17 can most effectively communicate this important 18 information. And in many ways, we will be ultimately 19 judged by the degree to which we can affect American 20 public attitude on this issue. 21 So I conclude by saying thank you to each of 22 you who has participated in this effort. Bill, thank</p>

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<p style="text-align: right;">17</p> <p>1 you for the wonderful restoration of a friendship that 2 has lasted -- or started about 40 years ago, and then 3 as frequently happens, we went our own paths in life, 4 and now we have a chance to come back together. This 5 has been an extremely gratifying aspect of this for me 6 personally. 7 So I thank you again, and we still have work 8 to do. And I would like to call on Priya and her 9 outstanding associates as we turn to the containment 10 issue. 11 DR. MURRAY: Okay. So I will take over 12 before Priya even gets to speak. First, I would really 13 like to commend Priya, Jed and Steven and their entire 14 team for absolutely outstanding work. 15 I was just going to point out that in the 16 last four months of really heavy work by the team, 17 Priya has done two subcommittees' worth of work 18 herself. So I'm just incredibly impressed. 19 We are going to talk about the oil spill 20 containment effort for the Macondo well. The blowout 21 was April 20th. The well was finally capped three 22 months later, and five months after that, it was</p>	<p style="text-align: right;">19</p> <p>1 scientists there. It took some time in order for them 2 to get up to speed, so roughly about a month, which 3 Priya will go over. 4 By the time between early May when they were 5 advisors and kind of looking at what BP was doing, to 6 late May where they were directing the operation, they 7 had climbed a steep learning curve. 8 The Commission staff talked to a large number 9 of people involved in the containment effort, BP 10 executives, engineers and contractors, outside industry 11 experts, Coast Guard, MMS officials, all members of the 12 science team, many national labs, USGS, a huge number 13 of people. 14 And so I'm actually pretty impressed with the 15 comprehensive discussion that they have had. It was a 16 success story in that the well was contained. It 17 involved an incredibly impressive effort. The 18 government got up to speed, as I said. BP and the 19 industry working with BP invented things on the fly. 20 The investigation conducted by the 21 subcommittee led to a number of recommendations that we 22 are going to talk about today. Basically, we need to</p>
<p style="text-align: right;">18</p> <p>1 finally killed. 2 The Containment Subcommittee has spent the 3 past few months investigating this effort. It did take 4 quite a while. I will point out that this was similar 5 to what happened in the Pemex well in Mexico and also 6 the well in Australia. 7 So it's not that we did worse than anyone 8 else, but the technology appears not to be quick, let 9 me just say. 10 To understand what the government did and the 11 government's role in the source-control effort, the 12 subcommittee interviewed Secretary of Energy Steve Chu 13 and Doctor Tom Hunter who is the former director of 14 Sandia National Lab, who was Steven Chu's top deputy on 15 the government science team. 16 How the government science team came to be, 17 which was not part of the National Contingency Plan, 18 the subcommittee looked at in some detail. Secretary 19 Chu was asked directly by President Obama to get 20 involved. 21 And in early May, he assembled a small team, 22 including Tom Hunter. The team did bring national lab</p>	<p style="text-align: right;">20</p> <p>1 address the lack of preparedness both by the industry 2 and by the government. 3 So Priya is going to present these 4 recommendations which focus on developing government 5 expertise, improving advanced planning by industry, 6 because this is an inherently hazardous industry, and 7 we just need not to be complacent, and consider the 8 risk of blowouts during the well design, this was a 9 particular issue which we will discuss, and include 10 instrumentation on more components. 11 So now I will hand it over to Priya. 12 MS. AIYAR: Thank you, Commissioner Murray, 13 for that very kind and helpful introduction. As we 14 describe in our staff working paper on this topic, the 15 containment effort was truly unprecedented. It 16 required enormous resources, rapidly produce new 17 containment and collection technologies, and lasted 18 from the April 20th blowout until Admiral Allen 19 declared the well dead on September 19th. 20 This slide shows the timeline of the 21 containment effort. I won't go through it all in 22 detail, as our working paper does. But to provide a</p>

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<p style="text-align: right;">21</p> <p>1 broad overview, BP undertook two unsuccessful source 2 control operations in May, the cofferdam and the top 3 kill. 4 In June, BP moved to a collection strategy 5 which enabled it to recover some, but not all, of the 6 oil. BP was finally able to cap the well on July 7 15th. From that point on, no additional oil leaked 8 from the Macondo well into the Gulf. 9 In examining the containment effort, we 10 focused on several major issues. The first was 11 industry and government preparedness, or the lack 12 thereof. 13 The second was the impact of the flow rate, 14 and, specifically, whether not having an accurate 15 estimate of the rate at which oil was flowing from the 16 Macondo well hindered the effort to control the well. 17 And the third was, as Commissioner Murray 18 mentioned, the impact of BP's design for the Macondo 19 well, and, specifically, whether there were aspects of 20 the well design that complicated the containment 21 effort. 22 We have arrived at a number of findings and</p>	<p style="text-align: right;">23</p> <p>1 Though these efforts were impressive, they 2 would not have been necessary if source control 3 technology had kept pace with the industry's ability to 4 drill in ever deeper water. 5 The staff believes that industry spill 6 response plans should include detailed plans for source 7 control, demonstrating that operators have immediate 8 access to the technology needed to respond to a 9 blowout. Operators should also have to provide a 10 source control analysis specific to each of their 11 wells, in addition to their general spill response 12 plans, and they should have to demonstrate that their 13 containment technology will work for each of their 14 wells. 15 I would like to turn it over to Chairman 16 Reilly to discuss the first of these several sets of 17 recommendations. 18 CO-CHAIR REILLY: Oil spill plans should 19 contain detailed plans for source control, must 20 demonstrate that an operator has access to immediately 21 deployable containment technology. At the well design 22 stage, operators should provide an additional source of</p>
<p style="text-align: right;">22</p> <p>1 proposed recommendations for you to consider today. 2 The common theme is that both industry and government 3 were woefully unprepared to respond to a deepwater 4 blowout. 5 Controlling the Macondo well was a massive 6 engineering effort that was remarkable in many ways, 7 but that massive effort was necessary because of the 8 failure to anticipate and plan for a subsea blowout in 9 the first place. 10 Looking specifically at industry 11 preparedness, as of April 20th, there were no proven 12 options, other than drilling a relief well, for 13 stopping a deepwater blowout if the blowout preventer 14 failed to seal the well. A relief well would take 15 months to drill, but it was the only source control 16 option mentioned by name in BP's initial exploration 17 plan for the region, including the Macondo well. 18 Several of the early techniques that BP tried 19 using to control the well, including the cofferdam and 20 the top kill, had never been used or tested in 21 deepwater. BP had to design and had to engineer new 22 containment devices on the fly.</p>	<p style="text-align: right;">24</p> <p>1 control analysis specific to each well, filling in gaps 2 left by the spill response plan, demonstrating that the 3 well will be compatible with existing technology. 4 This is your recommendations here. The Coast 5 Guard -- do want me to go on with the staff findings 6 that you have here? 7 MS. AIYAR: We can go on to the findings 8 related to government expertise, if that would be 9 helpful. 10 CO-CHAIR REILLY: Go ahead. 11 MS. ULMER: May I ask just one question 12 before we move off the industry preparedness slide? 13 Under the recommendations, you describe the importance 14 of being able to demonstrate that the well will be 15 compatible with the containment technology. 16 Yesterday, we had a bit of a discussion in 17 the context of spill response about the importance of 18 actually being able to demonstrate capacity to 19 respond. And I'm just curious in terms of 20 demonstrating that containment technology would 21 actually work, did you have discussions with industry 22 or with others about how they might actually do that?</p>

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1 I mean, clearly, we have had one
2 demonstration of it, an unplanned demonstration,
3 experiment, one could say, in the Gulf of Mexico. But
4 beyond that, there have been proposals by the industry
5 to come together for this containment organization,
6 with few of the industry leaders saying that they want
7 to do something that is more proactive, more prepared,
8 yet to be built actually.

9 I'm just curious how one would go about
10 actually demonstrating that it would work. Have you
11 thought about that?

12 MS. AIYAR: We have. We have discussed that
13 with the Marine Well Containment Company, which, as you
14 mentioned, is a consortium of now five major oil
15 companies, working on developing actually technology
16 that was very similar to that that was used to control
17 the Macondo well.

18 They believe their technology is compatible
19 with most deepwater wells in the Gulf of Mexico, and
20 they have views as to how they would go about verifying
21 that compatibility when companies become members or
22 seek to use their services.

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1 But I think as we will talk about later in
2 the presentation, we do think there needs to be some
3 interagency review of these control plans, focused on
4 the issue of whether the containment technology will
5 work for each of the wells. Because, again, as we will
6 discuss later, it's not obvious. There may be issues
7 with the well design or the well integrity that will
8 prevent using, for example, the capping stack that was
9 used here to seal the well.

10 So interagency review, third-party expert
11 review could all play a role in verifying that.

12 MS. ULMER: I, for one, would be very
13 interested in considering, at least, a recommendation
14 by the Commission that speaks more specifically to how
15 that demonstration and sort of verification, sort of,
16 you trust, but then there is trust and verify.

17 And I gather that this recommendation is
18 about verification. So some sort of peer review, some
19 sort of technical committee that might be made up of
20 industry academics and agency people come to mind as a
21 possible structure for that kind of -- I don't know
22 what the answer is, I guess.

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1 But based on the conversations that you have
2 had with industry and others, if you have more specific
3 thoughts about something that we could give voice to in
4 our report, I would be interested in doing that. I
5 think it's an important piece of assuring the American
6 public that we are interested in prevention, not just
7 there is a spill and how do we respond.

8 But this is all about, you know, getting to
9 the early part of containment really. So if you have
10 suggestions about that, I think it would be useful for
11 us to make more specific recommendations about that.

12 MS. AIYAR: Thank you.

13 CO-CHAIR REILLY: One part of the
14 recommendation surprised me, and that is I would have
15 thought that based upon this experience, the guidance
16 that the Interior Department has issued, particularly,
17 NTL 5 and NTL 6, would have spoken to this question
18 would have prescribed just the sort of thing that you
19 are suggesting we recommend. Do they not?

20 MS. AIYAR: I think it does prescribe much of
21 it. I think actually before this disaster, the MMS
22 regulations arguably required this. I mean, they

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1 required operators to show that they have plans to
2 contain any oil spill.

3 But the way MMS has interpreted the
4 regulations and enforced them, operators have not, in
5 fact, had to show these detailed plans. And that is
6 why I think the interagency review and the expert
7 review we have been talking about is so crucial.

8 I don't even know that these recommendations
9 would require changes in the wording of the
10 recommendations, but they would require changes in the
11 attitude and in the practices.

12 CO-CHAIR REILLY: I assume that the design of
13 a well itself, rigs and so forth, whether it's a long
14 string or not, would affect the type of containment
15 that is prescribed. So you couldn't prescribe a
16 standard top hat, for example. Is that true?

17 MS. AIYAR: I think that is true. Not all of
18 the technology will work on all wells.

19 CO-CHAIR REILLY: And when we hear from, as I
20 have from the Deputy Secretary of Interior, Marcia
21 McNutt, had said were something like this to happen
22 again, it would be a matter of a few days to contain

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29	<p>1 it, what was that based on?</p> <p>2 MS. AIYAR: I think that is based on looking</p> <p>3 at the technology that BP developed.</p> <p>4 CO-CHAIR REILLY: The same technology?</p> <p>5 MS. AIYAR: I think the Marine Well</p> <p>6 Containment Company, for example, believes that the</p> <p>7 capping stack they have could be deployed in a few days</p> <p>8 on most wells. If it wouldn't be, they also have a</p> <p>9 subsea collection capacity that they, sort of,</p> <p>10 designed, and that would be able to collect up to</p> <p>11 100,000 barrels a day.</p> <p>12 CO-CHAIR REILLY: Thank you.</p> <p>13 CO-CHAIR GRAHAM: Don't?</p> <p>14 DR. BOESCH: Yes. Following that, the Marine</p> <p>15 Well Containment Company that the industry has formed</p> <p>16 has indicated that it's going to approach this</p> <p>17 containment technology based upon the experiences of</p> <p>18 the Macondo well, and looking at, as you pointed out,</p> <p>19 other kinds of challenges in which the blowout might be</p> <p>20 around the well, rather than up through the central</p> <p>21 core of the well, as well.</p> <p>22 They also indicated in their representations</p>	31	<p>1 cultivate the expertise necessary to make sure that</p> <p>2 safety and containment and response technology, all of</p> <p>3 those buckets, keeps pace with the drilling and</p> <p>4 exploration technology.</p> <p>5 CO-CHAIR GRAHAM: Question; where in the</p> <p>6 sequence of events that lead up to a company being</p> <p>7 permitted to drill, where does the response plan fall?</p> <p>8 Is it before or after the lease is granted?</p> <p>9 MS. AIYAR: I believe the response plan is</p> <p>10 before the lease is granted. Is that right?</p> <p>11 MR. SIGER: I believe the response plan is</p> <p>12 general for the entire area. So, for example, BP has</p> <p>13 an offshore response plan for the Gulf of Mexico as a</p> <p>14 whole, and within the Gulf of Mexico they have</p> <p>15 individual leases.</p> <p>16 CO-CHAIR GRAHAM: But this requires that the</p> <p>17 response plan contain detailed plans for source control</p> <p>18 which demonstrate the operator's access. Does that</p> <p>19 demonstration of capability occur before or after the</p> <p>20 lease is granted?</p> <p>21 MS. AIYAR: I think we would envision it</p> <p>22 occurring before, but then also later at the drilling</p>
30	<p>1 to us in the plans that they intend to support -- to do</p> <p>2 this based on existing technology and existing</p> <p>3 experience, which is supported by the research, and</p> <p>4 develop a program over the long term, and then also to</p> <p>5 have this capability exercised periodically, as was</p> <p>6 pointed out, demonstrated, so that you can make sure it</p> <p>7 doesn't degrade, it doesn't -- we don't go through</p> <p>8 years where there is no accidents, the attention span,</p> <p>9 focus on this capacity, as it did in the Marine Spill</p> <p>10 Containment Corporation, kind of waned.</p> <p>11 Do we have in our recommendations something</p> <p>12 about that ongoing commitment to improvement, as well</p> <p>13 as verification of the capability of this technology?</p> <p>14 MS. AIYAR: I think we agree that that is the</p> <p>15 critical issue with the Marine Well Containment</p> <p>16 Company, whether their technology will stay evergreen.</p> <p>17 And we have been working closely with Nancy.</p> <p>18 I think the view that the staff had was that</p> <p>19 these recommendations should be general, and should</p> <p>20 focus on making sure that any industry consortia or any</p> <p>21 safety institute has the right incentive and the right</p> <p>22 structure to engage in the R and D necessary, and to</p>	32	<p>1 permit stage a separate analysis for each well. As</p> <p>2 Steve mentioned, the response plan is general. It's</p> <p>3 not particular to any well.</p> <p>4 So we think there would need to be an</p> <p>5 additional more specific analysis.</p> <p>6 CO-CHAIR GRAHAM: In terms of the general</p> <p>7 response plan, paragraph one on your chart, today is</p> <p>8 that demonstration of competence before or after the</p> <p>9 lease is granted?</p> <p>10 MS. AIYAR: I believe it's before. But</p> <p>11 again, I think it's not a robust demonstration. They</p> <p>12 do have to have a spill response plan. They are, in</p> <p>13 theory, supposed to show that they can contain any</p> <p>14 spill. In practice, they have not been required to</p> <p>15 demonstrate source control capacity.</p> <p>16 CO-CHAIR GRAHAM: This also, I think, speaks</p> <p>17 to the time constraints that have been built into this</p> <p>18 process. Today, as I understand it, once an</p> <p>19 application for a drilling permit is made, the</p> <p>20 Department only has 30 days to respond to that, or, by</p> <p>21 default, the permit is granted. Is that a correct</p> <p>22 statement?</p>

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<p style="text-align: right;">33</p> <p>1 MS. AIYAR: I think that is right. 2 CO-CHAIR GRAHAM: Certainly, paragraph 2 of 3 your recommendations would not likely be fulfilled 4 within that time frame. 5 MS. AIYAR: I think that is right. I think 6 the interagency review recommendations we will talk 7 about later would also not be fulfilled in that time 8 frame. 9 CO-CHAIR GRAHAM: And since that is a 10 congressional requirement, not one that is from the 11 Executive Branch, it would require congressional action 12 to amend the 30 days. I would like to ask if we could 13 identify the recommendations that we are making which 14 at a practical de facto level are going to require some 15 time frame longer than 30 days in order to be 16 meaningfully accomplished. 17 MS. AIYAR: We will do that. 18 CO-CHAIR GRAHAM: I'm making that request 19 across the recommendations. I can see us sitting 20 before a congressional committee urging actions such as 21 that. To be equipped with why we think that is 22 necessary would be very helpful.</p>	<p style="text-align: right;">35</p> <p>1 be required. As I mentioned, a relief well was the 2 only source control option mentioned by being here. A 3 relief well is an excellent strategy. That is what 4 worked in this case. But it takes several months in 5 deepwater. 6 I think it took until mid September in this 7 case to drill and cement the relief well. So it's not 8 a way to immediately contain a blowout. 9 CO-CHAIR REILLY: It's not a default judgment 10 that you make? It's something that you would 11 determine. If it's a matter of two or three days to 12 plug the well, then you wouldn't need it presumably, 13 and that is the presumption? 14 MS. AIYAR: I think you might start drilling 15 it, and you might need it eventually. I mean, what was 16 done in this case, for example, they capped the well on 17 July 15th. So there was no oil flowing. The relief 18 well was still the permanent solution. So they drilled 19 it. And then they intercepted -- 20 CO-CHAIR REILLY: Even if top hat worked and 21 you then cement the existing well, you still would have 22 required the relief well.</p>
<p style="text-align: right;">34</p> <p>1 MS. AIYAR: That is an excellent point. 2 DR. MURRAY: Bill, on that point, any 3 modification to change the well design, we will also 4 need to make sure that it's consistent with the 5 containment technology. 6 One of the things that was quite clear in 7 this entire episode is that the procedure for 8 modification was okayed, let's just say, in half an 9 hour by MMS. And the whole system design, the entire 10 system and safety, was not necessarily taken into 11 account looking at one modification per request. 12 So that's going to have to have some kind of 13 change, as well. 14 CO-CHAIR REILLY: We have discussed, at 15 various times, and had suggested to us that a relief 16 well or a second well be part of the actual containment 17 plan for wells, and there was even discussion that this 18 may be required in certain circumstances in Canadian 19 waters. 20 For the record, did you look at that? Did 21 you -- that is not part of the recommendation. 22 MS. AIYAR: We do think a relief well should</p>	<p style="text-align: right;">36</p> <p>1 MS. AIYAR: I think it is the safer way, by 2 far, to shutting the well down, to my understanding. 3 CO-CHAIR REILLY: Put an end to it. Thank 4 you. 5 MS. AIYAR: If we could go on to the next 6 topic, the next issue that we looked at was government 7 preparedness and expertise. At the outset of the 8 spill, the Minerals Management Service and the Coast 9 Guard did not have the expertise to substantively 10 oversee BP's source control operations. 11 They did review procedures to make sure that 12 BP's proposed operations were safe, but they did not 13 try to evaluate whether an operation was likely to 14 succeed or whether BP should perform it. 15 They did not try to fully assess the wisdom 16 of a proposed source control operation, for example, 17 whether it could threaten the integrity of the well, or 18 to suggest other options for BP to consider. This lack 19 of comprehensive oversight may have contributed to a 20 public perception that BP, rather than the government, 21 was in charge of the source-control effort. 22 As Commissioner Murray mentioned in her</p>

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<p style="text-align: right;">37</p> <p>1 introduction, the government was able to put more 2 substantive oversight in place by late May. It drew on 3 expertise from the U. S. Geological Survey and the 4 Department of Energy, including the national labs and 5 outside science advisors brought in by Secretary of 6 Energy Steven Chu.</p> <p>7 These government science teams pushed BP to 8 fully consider contingencies and risks, and they made a 9 substantial contribution to the ultimate success of 10 capping the well on July 15th.</p> <p>11 The government also drew on outside industry 12 expertise, though it had to develop procedures for 13 involving industry on the fly. Experts who were 14 brought in from other major oil companies had concerns 15 about their own potential liabilities, and BP had 16 concerns about conflicts of interest in sharing 17 proprietary information that had not been addressed in 18 advance and were never fully resolved.</p> <p>19 So we think this experience suggests a number 20 of recommendations. First, the government needs to 21 have in-house expertise to oversee a source-control 22 effort. An interagency team should develop and</p>	<p style="text-align: right;">39</p> <p>1 additional understanding, as you said, was that it 2 would be more of a research institute.</p> <p>3 But I think even as a research institute, it 4 could be very valuable in fulfilling the function that 5 we are describing on this slide of basically ensuring 6 that the government is developing and honing and fully 7 up to speed on what industry is doing in terms of its 8 source-control expertise, and also laying out a road 9 map of sorts of how containment research and 10 development needs to proceed in the future.</p> <p>11 CO-CHAIR REILLY: It sounds as if Secretary 12 Salazar proposed it as a -- like a very good idea. It 13 would do much of what you are talking about. It 14 involves academic, scientific expertise, and private 15 industry involvement and the rest. How -- does it have 16 -- I suppose it would need to be congressionally 17 supported?</p> <p>18 It would have some status in law? And do we 19 have any idea of its cost and budget?</p> <p>20 MS. AIYAR: I do not believe we have an idea 21 of that yet. And I think there are a number of other 22 structural features that we would like to see if it</p>
<p style="text-align: right;">38</p> <p>1 maintain that expertise.</p> <p>2 Public/private partnerships, such as the 3 Department of Interior's proposed Ocean Energy Safety 4 Institute, could be very valuable. And the National 5 Contingency Plan needs to institutionalize the goal of 6 government experts in overseeing a source-control 7 effort, and to establish procedures for making the best 8 use of industry experts.</p> <p>9 Now, I would like to turn it over again to 10 Chairman Reilly, or anyone else who would like to --</p> <p>11 CO-CHAIR REILLY: I have a question about the 12 functions anticipated for the Ocean Energy Safety 13 Institute. It appeared, when it was first worded, that 14 it was a research enterprise, that it would focus on 15 containment research going forward.</p> <p>16 Later descriptions made it appear broader and 17 to look more like the kind of safety institute that we 18 discussed yesterday. Are we clear on that? Do we have 19 a charter for it? What is the status of it?</p> <p>20 MS. AIYAR: I don't think we are fully clear 21 yet. I have reviewed a short two or three-page 22 document describing its missions and functions. My</p>	<p style="text-align: right;">40</p> <p>1 were really serving this role.</p> <p>2 For example, we would like to see some 3 independence, perhaps, from the Department of Interior, 4 perhaps a straight reporting line to Congress or a 5 straight reporting line to cabinet secretary. So my 6 understanding is that those structural features have 7 not been set or have not been established yet.</p> <p>8 CO-CHAIR REILLY: Should we, in our own 9 recommendations, make those views part of them?</p> <p>10 MS. AIYAR: I think we can certainly consider 11 that. Again, I think we would want to coordinate 12 closely with Nancy, and to integrate this with the 13 discussion you had yesterday about the safety 14 institute, to make sure that we are doing the right 15 things.</p> <p>16 DR. MURRAY: Bill, I'm going to point out 17 there are renewables on the outer continental shelf, in 18 particular, wind, that the former MMS is also 19 responsible for, and it should incorporate the entire 20 outer continental shelf safety.</p> <p>21 There are issues having to do with very large 22 windmills that are also safety issues. So I really do</p>

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41	<p>1 like this thought of having a separate institute which 2 would involve people from the industry as well as 3 national labs and academia. 4 CO-CHAIR REILLY: You are probably aware that 5 there is this anomaly that EPA is responsible for the 6 National Contingency Plan, but it doesn't have a role 7 in cleanup, typically, unless it is cleanup that is on 8 shore. Pardon? 9 DR. MURRAY: And disbursements. 10 CO-CHAIR REILLY: And disbursements, right. 11 That doesn't preclude their taking a role in this, 12 which I would imagine they would welcome, but don't 13 have resources for, at any rate. 14 MS. ULMER: Mr. Chairman, I really like the 15 idea of the joint public/private partnerships involving 16 national labs, academia, et cetera, for a variety of 17 reasons, most of which are probably obvious. 18 But going back to our previous conversation 19 about being able to demonstrate the containment 20 capacity and the appropriateness of particular 21 technology, it seems like this is another group that 22 would be kind of a sounding board or a verification</p>	43	<p>1 as these area plans that are more general. 2 So I think there is a lot of merit to this. 3 Obviously, it depends upon how it's structured. Yes. 4 It probably does require congressional action. It 5 probably does require industry to step up and 6 participate in a meaningful way financially, as well. 7 DR. MURRAY: Let me point out that one of the 8 things that was seen in at least the U. S., if not 9 other response to blowouts and spills, is the, I will 10 say, shutting the barn door after the horse has gotten 11 out. 12 What we have to do is look at what is going 13 on internationally, how is the technology for drilling 14 and exploration going way farther, and be prepared for 15 the next technology, not shutting the barn door. I 16 mean, that happened after the Exxon Valdez, right? 17 We need to learn from what is going on and be 18 responsive, and such a safety institute could do that. 19 CO-CHAIR GRAHAM: Two questions. One, we 20 have had a continuing discussion about the degree to 21 which responsibility should be focused in a single 22 agency, such as the Department of Interior, or</p>
42	<p>1 entity that would add credibility and a little more 2 certainty to a particular containment approach. 3 And similarly, even with the response plans, 4 I mean the response plans, there are the area response 5 plans, but a response plan is required for both the 6 exploration drilling permit and the development 7 drilling permit, and although those have been treated 8 perhaps much too casually in the past by both industry 9 and government in terms of the review process, even an 10 entity like this could add value to reviewing some of 11 the response technology proposals that may be 12 incorporated in these response plans, particularly in 13 frontier areas. 14 Because if you are talking about new 15 methodologies associated with response, for example, 16 oil and ice, having a public/private partnership along 17 the lines of this kind of concept could be another 18 place where some of those technologies could be tested 19 and verified in a way that would add additional 20 credibility, and give guidance to the agencies that are 21 reviewing and ultimately approving the response plans 22 at both the exploration and development phase, as well</p>	44	<p>1 distributed to a variety of agencies based on content. 2 Why is this National Contingency Plan in EPA? 3 MS. AIYAR: Well, EPA is the one that has to 4 amend it. EPA and the Coast Guard have joint 5 responsibility for spills of oil and other hazardous 6 materials. It would require congressional action -- 7 CO-CHAIR GRAHAM: I'm asking as a matter of 8 policy. 9 CO-CHAIR REILLY: Most fields are on land, I 10 think. 11 CO-CHAIR GRAHAM: I mean, should there be, as 12 we have done in other areas, a difference for offshore 13 activities and onshore? OSHA operates onshore but not 14 offshore. 15 Is EPA the appropriate agency to be 16 overseeing source control in offshore oil and gas? 17 MS. AIYAR: I think that is a very good 18 question. I think the National Contingency Plan does 19 allow the flexibility to bring in other agencies with 20 the right expertise. 21 The Coast Guard traditionally takes the lead 22 for offshore spills. The National Contingency Plan</p>

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1 also allows, as we know, the naming of a national
2 incident commander. Here it was Admiral Thad Allen,
3 but it didn't have to be the Coast Guard Commandant.
4 It could be someone from the Department of
5 Interior. It could be someone from the Department of
6 Energy. It could be someone from an agency with the
7 right expertise. So I think EPA is the one that needs
8 to do the amending of the plan. EPA and the Coast
9 Guard have the lead roles.
10 I think the framework -- without requiring
11 any statutory change or congressional action, I think
12 the framework is flexible enough to bring in the
13 expertise from other parts of government, as needed.
14 CO-CHAIR REILLY: That really strikes me as
15 one of the brilliant moves in the whole response, was
16 the degree to which people who did have knowledge who
17 hadn't ordinarily been expected to come forth with it
18 and be involved were consulted, were included and did
19 actually produce.
20 MS. AIYAR: Yes. We think that is exactly
21 right. The next issue we looked at was the
22 significance of the flow rate. We found that in the

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1 first few weeks of this spill, neither BP nor the
2 government prioritized getting an accurate flow rate
3 estimate, and that the lack of an accurate estimate
4 hindered planning for source-control efforts,
5 particularly the cofferdam and the top kill.
6 Underestimating the flow rate may also have
7 lead BP to misinterpret the failure of the top kill as
8 evidence of a well integrity problem, and this
9 misinterpretation led BP and the government to be
10 extremely concerned about the risk of an underground
11 blowout if they capped the well.
12 And we understand, and we have now been told
13 by high-level government officials, that the government
14 now knows what technology to use to rapidly and
15 accurately measure the flow rate in a deep sea blowout.
16 So based on those findings, the staff
17 believes that in any future oil spill, the government
18 should require the responsible party to obtain an
19 accurate flow rate or spill volume estimate right
20 away.
21 An operator should have to demonstrate in
22 their spill response plan how they will quickly

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1 calculate an accurate flow rate in the event of a
2 spill. And I would like to turn it over to
3 Commissioner Boesch to talk further about that
4 recommendation.
5 DR. BOESCH: Well, I think we have all seen
6 quite a bit of attention in the press and in our
7 discussions with agency officials and so on about this
8 issue of flow rate estimation.
9 The efforts to indicate flow rate were slow
10 in coming, in part, because we had never had this
11 challenge before, but it was quite striking how other
12 entities outside of the government response were able
13 to, using a variety of publicly-available methods
14 involving satellite images, involving looking at and
15 analyzing the video, are able to get closer to a
16 realistic estimate of flow rate faster than our
17 government was.
18 Now, in part, the response is that: Well,
19 you know, it wasn't critical, because we were
20 responding with -- in the worst-case situation. In
21 fact, in terms of spill response, the agency's effort
22 was to try to do everything they possibly could,

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1 mobilize all resources that they could.
2 However, the staff analysis really indicates
3 that the really critical issue for the flow rate
4 estimation wasn't necessarily -- I mean, an important
5 issue is trying to adequately size the appropriate
6 spill response and deploy it appropriately.
7 But even more importantly, the flow rate
8 estimation was absolutely critical to an appropriate,
9 effective strategy for containing the well, containing
10 the blowout. And it appeared that some of the things
11 were -- that were attempted, actually on through -- on
12 through June, and even into early July, were
13 underscaled in order to contain all of the oil coming
14 out of the well. So it really is important moving
15 forward that this be attended to very quickly and
16 accurately.
17 The other thing I should add in passing is
18 that one of the unfortunate consequences of the
19 underestimation of flow rate for a period of more than
20 a month was some, I think, erosion of the confidence of
21 the American people that government was there and
22 prepared to deal with this challenge.

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1 So I think there are multiple lessons from
2 this. But the one that is operable here and affects
3 the staff's recommendations is that this be done so
4 that we know what we are having to deal with with
5 respect to containment, and that the appropriate
6 technologies, the scale of those technologies are used
7 to do something.

8 CO-CHAIR REILLY: I want to follow up on this
9 one. Because, obviously, the determination of the flow
10 rate is an extremely important determination. It is
11 important to the public. It's important to how further
12 responses are designed with respect to containment, and
13 to estimating the size of the spill that you are going
14 to be dealing with.

15 It is the determinate of any fine that is
16 assessed under the Clean Water Act. It strikes me that
17 all of those argue for the government doing it,
18 especially since we have learned that government now
19 knows how to do it. And it apparently is not the
20 complex task that it appeared in the first few days of
21 the spill.

22 This is one where I think the capacity of the

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1 government to say, but we have assessed the flow rate,
2 this is what it is, we have communicated that to the
3 responsible party, and we are going to move forward
4 with its consequences.

5 Does that strike you as reasonable?

6 MS. AIYAR: Now, I think that is an excellent
7 point. I mean, obviously, the problem -- there are
8 many issues with determining flow rate. But one issue
9 is that the responsible party is always going to have
10 an estimate -- sorry -- an incentive to underestimate
11 the flow rate.

12 CO-CHAIR REILLY: Right.

13 MS. AIYAR: I think there are a number of
14 ways to address that problem. One way would be to
15 require the responsible party to determine it. For
16 example, do so by contracting with an outside expert
17 such as Woods Hole.

18 The responsible party would say in a spill
19 response plan we will call in Woods Hole and they will
20 get their acoustic technology down, the remotely
21 operated vehicles, and estimate the flow rate at the
22 outset of the spill. That would be one way to do it.

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1 The other way is the responsible party could
2 do it itself with some form of government or third-
3 party expert review. The government can do it itself,
4 but again, the government may not have the remotely
5 operated vehicles. The government may not have the
6 devices.

7 CO-CHAIR REILLY: Apropos the conversation we
8 had yesterday about the loss of public confidence, and
9 the concern that the government seemed to be in charge,
10 this is probably the first moment at which the
11 government will demonstrate it can take the initiative
12 and be in charge.

13 If it gets the information from the
14 responsible party, it's reading from somebody else's
15 script. That is one reason, aside from your point
16 about the incentive to underestimate the flow rate if
17 you are going to be assessed a fine on the basis of it.

18 MS. BEINECKE: Can I just echo that I think
19 it is -- yes, the responsible party should have an
20 accurate estimate of the flow rate, but that is not
21 necessarily going to give the public confidence, and
22 the government has a responsibility.

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1 So I think we need to strengthen the
2 recommendation, and add the government having
3 independent verification of that and calling on a third
4 party with that expertise.

5 I mean, one thing that I think surprised
6 everybody was that it was the third parties that were
7 providing the accurate flow rate. It wasn't the
8 government. It wasn't the responsible party.

9 So we need to address that head on and make
10 sure that the public is assured that there is a way of
11 getting an accurate flow rate, so that one, it's capped
12 immediately, but two, to the penalty issue, that the
13 responsible party is actually going to be responsible
14 for the amount of oil that is flowing. So we do need
15 to strengthen that recommendation.

16 DR. MURRAY: So first off, in the case of
17 this well and probably many wells, at least in this
18 geology, the flow rate was highly variable. And so it
19 isn't a single number that you have to get.

20 In fact, you have to be monitoring the flow
21 at all times. And the government scientists who were
22 finally brought in to do this had the additional

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<p style="text-align: right;">53</p> <p>1 difficulty that they were not given the data that they 2 needed.</p> <p>3 And so I think we need to strengthen the data 4 requirements of the responsible party to the government 5 so that the government can monitor it. And I think 6 that the responsible party will have incentive to 7 measure it themselves so that they can have some 8 verification that whatever the government is saying is 9 correct.</p> <p>10 They may want to bring in a third party but 11 that is their problem. I think the government should 12 be measuring it. I completely agree. But it has to be 13 monitoring it. It can't just say here is the flow rate 14 and multiply by the number of days. That is not going 15 to work.</p> <p>16 DR. BOESCH: The other thing, I think all the 17 Commissioners can understand the central importance as 18 well as the complexity of this issue. The better 19 estimation of the flow rate turns out to be the 20 absolutely crucial bit of information in the decisions 21 toward the end about whether to leave the capping stack 22 on.</p>	<p style="text-align: right;">55</p> <p>1 determination.</p> <p>2 MR. GARCIA: One question; in our findings, 3 we frame this in an interesting way. We say that 4 Director McKnight has publicly stated that the 5 government now knows how to measure the flow rate 6 quickly and accurately.</p> <p>7 Do we, in fact, believe that government now 8 knows how to do that and has the capacity to accurately 9 measure flow rate?</p> <p>10 MS. AIYAR: I think we do. It's not the 11 government's capacity. It is the Woods Hole technology 12 that we discussed earlier. It's acoustic technology 13 that they use, and that they have a sampling technique 14 that tells them how much of the total flux coming out 15 of the well is oil and gas. That did work in this 16 case. We do think it's good technology.</p> <p>17 But as you point out, it certainly warrants 18 further study to make sure that it would be useful and 19 accurate in other types of deep sea blowouts. I think 20 these are all excellent points.</p> <p>21 And we need to strengthen this recommendation 22 to clarify that the government needs to make sure it</p>
<p style="text-align: right;">54</p> <p>1 As you remember, there was great fear that 2 the pressure would build and break the formation and 3 lose the well from outside the well. And it was only 4 by these better estimations of flow rate that helped 5 them understand how much oil had been lost from the 6 reservoir to improve the model of what the pressure 7 should be in the reservoir.</p> <p>8 DR. MURRAY: Exactly.</p> <p>9 DR. BOESCH: To make that judgment, that 10 fateful judgment, that was based upon the overnight 11 model from the cell phone photograph.</p> <p>12 DR. MURRAY: I want to point out in order to 13 understand that, they actually needed to know the data 14 that was known at the time by BP of what the reservoir 15 was, as much as they knew. And without that data, they 16 could not have made that estimate that the pressure 17 they were measuring is consistent with the reservoir 18 pressure that was depleted. Therefore, the well would 19 probably not blow out the formation.</p> <p>20 Without that kind of data, which is the 21 sharing of data that was not happening for a few 22 months, the government could not make that</p>	<p style="text-align: right;">56</p> <p>1 has and maintains the expertise to measure flow rate 2 itself, and the responsible party needs to give the 3 government -- it needs to calculate an accurate 4 estimate, but it also needs to give the government all 5 of its data so that the government can understand what 6 it's doing and have access to the same data.</p> <p>7 CO-CHAIR GRAHAM: Can I go back to Cherry's 8 point that the flow rate is not a constant? Do we have 9 some data as to the variation in the flow rate over the 10 period? Is that included in our chapter on this?</p> <p>11 MS. AIYAR: Yes, and it's also discussed in 12 the staff working paper. I should just point out this 13 is still the subject of controversy. The government 14 believes that the flow rate varied from about 60,000 15 barrels a day to 53,400 barrels a day. Jed, our 16 expert, will correct me if I'm wrong.</p> <p>17 BP has not offered its own numbers yet. But 18 BP has told us that they think the government's numbers 19 are too high. It thinks the actual flow rate could be 20 20 to 50 percent lower. It's very complicated because 21 it involves issues with flow path at different times 22 during the spill, even before the riser was cut, after</p>

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1 the riser was cut. It's going to be litigated.
2 CO-CHAIR REILLY: 20 to 50 percent, does that
3 affect the total assumption of 200 million gallons that
4 was released? They are going to argue it was 50
5 percent less than that possibly?
6 MS. AIYAR: Well, they haven't committed
7 themselves to a position yet. I think they are going
8 to argue it was less.
9 CO-CHAIR REILLY: 20 to 50 percent, that is a
10 very big number.
11 MS. AIYAR: That is what they told us.
12 CO-CHAIR REILLY: That is a lot more than 60
13 down to 53.
14 MS. AIYAR: Right. They are going to argue
15 it was less. But again, they haven't put out their
16 own, sort of, report and their own estimates.
17 CO-CHAIR REILLY: Jed, were you going to say
18 something?
19 MR. BORGHEI: I was just going to say the 60
20 down to 53 was as the reservoir depleted. So that
21 would be about 62,000 barrels a day when the blowout
22 first occurred down to 53,000 barrels a day when the

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1 well was capped.
2 CO-CHAIR REILLY: I think the fourth point
3 here is that it took some time, but when it all finally
4 came together using a variety of approaches, the
5 government estimation, which is what Jed has described,
6 it took not only the Woods Hole acoustic measurements
7 at the well that was belching oil and gas out initially
8 from multiple points, you will remember, but it also
9 took the Department of Energy experts looking at the
10 modeling, the changing reservoir pressure, and
11 estimation from that point so you could see the
12 pressure --
13 DR. MURRAY: USGS.
14 DR. BOESCH: USGS -- how it changed. You
15 could then estimate how much material had been lost.
16 MR. BORGHEI: As I understand, the final
17 number was using -- the government teams had done
18 different methodologies and Woods Hole kind of looked
19 at all the data they had and kind of used that to
20 track.
21 So the Woods Hole estimate was kind of a
22 midpoint as they tracked the reservoir depletion. It

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1 was a number of different methods, at the end, that
2 they used to kind of generate that consensus number
3 they arrived at.
4 CO-CHAIR REILLY: So whatever number we or
5 others go with is an estimate. This is not a precise
6 science, it sounds like.
7 MS. AIYAR: It's going to be litigated.
8 DR. MURRAY: It's plugged flow. So it goes
9 belch and belch again. It's not like something --
10 MR. GARCIA: It's interesting to just note
11 that the relevance of how much oil was released
12 obviously plays in the calculation of the fine. So we
13 need to bear that in mind when we are talking about
14 there may be a variance between what the government has
15 said was released and what BP is now saying they
16 believe was released, which, not surprisingly, is
17 lower.
18 MS. AIYAR: I think that is right. I do
19 think, however, that the points that Commissioner
20 Boesch was making and we were making about the
21 inaccurate estimates affecting the source-control
22 efforts, you know, those were inaccurate estimates.

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1 They were off by a factor of ten.
2 So even if, you know, now we are down to a 20
3 to 50 percent variance, that is still large. But even
4 if we had had something like that at the time of the
5 top kill or the cofferdam, we would have been a lot
6 better off than an estimate that was off by a factor of
7 ten.
8 CO-CHAIR GRAHAM: Any comment on this area of
9 the report?
10 MS. AIYAR: The next topic is one that we
11 have already discussed, and have also discussed in
12 previous presentations, which is interagency review of
13 spill response plans. We believe that agencies with
14 relevant expertise, including the Coast Guard,
15 potentially the national labs, and NOAA, in addition to
16 the Department of Interior, need to review source
17 control plans and plans to calculate flow rates.
18 And, again, I think we have already discussed
19 much of this. But I will turn it over to Commissioner
20 Boesch for further discussion.
21 DR. BOESCH: Right. I won't add much more
22 other than to point out that no -- imbedded in these

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<p style="text-align: right;">61</p> <p>1 plans is -- was some information about the worst-case 2 estimation of flow. But all of that didn't matter very 3 much, because the Oil Spill Response Plan, and all of 4 the discussion that took place with respect to the 5 permits to drill in this area, had assumed that the 6 probability of a blowout on the sea bed was minimal, 7 and that any oil that did reach the surface would 8 probably not affect the land. 9 And so all of that, because of those 10 assumptions, the risk degraded to zero. Now we know 11 that that was inaccurate. 12 So there needs to be a much more considered 13 analysis of what those risks are in light of this 14 incident, and in light of whatever new capacity we have 15 to control a well earlier than we had. 16 I think apropos to your point, Senator, it, 17 needs to have some site specificity to it. It can't 18 just be generic all over. 19 CO-CHAIR REILLY: Let me ask you a question. 20 We have had some uncertainty about the nature of the 21 consultation that may have taken place. The Coast 22 Guard was or was not given copies of the various plans,</p>	<p style="text-align: right;">63</p> <p>1 What is our assessment of the scientific and 2 operational expertise of these other departments? 3 MS. AIYAR: I think a lot of expertise was 4 developed during the course of this spill. For 5 example, on the flow rate issues, I think the U. S. 6 Geological Survey and NOAA do have expertise that is 7 needed, and drawing, obviously, on outside scientists. 8 But I think they do have it, and they need to make sure 9 they maintain it. 10 I think with source control, again, the 11 national labs, the Department of Energy, did have 12 petroleum engineering expertise, but they certainly 13 could do more. They had to learn a lot in the course 14 of this spill to get up to the same level that the 15 industry experts were at. 16 So I think it's doable. I think the 17 resources and people are there. But certainly there 18 needs to be attention focused on developing and 19 maintaining that expertise. 20 CO-CHAIR GRAHAM: To that point, many of our 21 agencies which have scientists, including national labs 22 and the intelligence community, are now finding</p>
<p style="text-align: right;">62</p> <p>1 or saw them in the Federal Register? 2 Was there no formal process for that? And 3 was it that the Coast Guard and other agencies perhaps 4 didn't take seriously their role in consultation, or 5 that they weren't really consulted? 6 MS. AIYAR: I think it's still somewhat 7 murky. My understanding is that the Coast Guard may 8 have seen some but not all of the plans. It didn't 9 necessarily have to get back with a formal approval or 10 formal response. 11 So I think as we discussed earlier, we do 12 think that interagency review needs to have some 13 teeth. There needs to be required approval from the 14 other agencies perhaps, or a required response at 15 least, and that we need to make those consultation 16 requirements something more than just sending your plan 17 to another agency and assuming it's okay if you don't 18 hear anything back. 19 I think with some of the plans, it's unclear 20 whether MMS actually sent them to the Coast Guard. 21 CO-CHAIR GRAHAM: Your recommendation says 22 with relevant scientific and operational expertise.</p>	<p style="text-align: right;">64</p> <p>1 major -- I wouldn't say brain drain which infers they 2 are going some place else -- but brain retirement as 3 the people who have been expert in these areas reach 4 retirement age. 5 That same phenomenon is probably occurring in 6 the high science areas of other agencies. And maybe 7 some attention to what should the federal government be 8 doing to ensure that it has a constant flow of people 9 who can backfill as one generation moves on, and we do 10 not go into a desert of inadequate scientific 11 capability. 12 MS. ULMER: Mr. Chairman, I think that is an 13 excellent point, and particularly in the stem fields, 14 there is hot competition for the brightest and the 15 best. And I'm not sure that government salaries 16 actually keep pace in the way in which they need to for 17 some of the expertise. So that is a concern. I think 18 that is a legitimate question. 19 I have two questions regarding the 20 recommendations that I don't think is necessarily fair 21 to get an answer today, but I would like you to think 22 about and maybe provide some guidance.</p>

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<p style="text-align: right;">65</p> <p>1 First of all, would OCSLA have to be amended 2 to actually require the Oil Spill Response Plan 3 approval process by Coast Guard and other agencies? I 4 guess that is sort of one of those fundamental 5 questions. 6 There certainly could be some sort of 7 memorandum of understanding between the Department of 8 Interior and the other agencies, EPA, et cetera, that 9 have expertise, but should OCSLA be amended to require 10 that. If we really want to say that for an Oil Spill 11 Response Plan, it requires Coast Guard approval? If we 12 want to take it up to that level, can that happen with 13 just regulatory change, or would that require amendment 14 of OCSLA? So that is question number one. 15 Secondly, with regard to how -- I'm still a 16 little unclear. I think it would help us if we saw a 17 tiny diagram or chart of how the National Contingency 18 Plan, the area response plans, and the individual Oil 19 Spill Response Plans by companies that are drilling, 20 whether it's in the Gulf or any place else, how those 21 things fit together. 22 Because different agencies have</p>	<p style="text-align: right;">67</p> <p>1 background on that, I will certainly appreciate it. 2 MS. AIYAR: Those are excellent points. 3 MS. ULMER: Thank you. 4 CO-CHAIR GRAHAM: Also to add to your list, I 5 would also suggest that we might recommend that some 6 entity within the federal government, such as the 7 Personnel Department, undertake a review of the current 8 scientific capabilities in these key agencies. What is 9 the -- are they experiencing this same loss of talent 10 that I suggested other parts of the government are, and 11 then develop a plan that might be submitted to the 12 Administration and to the Congress and try to deal with 13 this issue. 14 MS. AIYAR: That is a good point. 15 CO-CHAIR GRAHAM: We are now five minutes 16 past our break point, but we are almost through. 17 MS. AIYAR: That is right. We have just got 18 one last issue to discuss, which is well design and 19 approval, as we have already touched on. 20 We found in our investigation that the 21 source-control effort was significantly complicated by 22 the lack of adequate instrumentation on well</p>
<p style="text-align: right;">66</p> <p>1 responsibility for different pieces of that. We have 2 talked about how the National Contingency Plan needs to 3 be amended by EPA and the Coast Guard, yet it's the 4 Department of Interior that has the approval for the 5 Oil Spill Response Plans. 6 How those things link up is still confusing 7 to me anyway, and I don't know if any of the other 8 Commissioners are still struggling with this. But I 9 think it speaks to this question of reliability of both 10 the containment and the response plans. 11 If those things are truly going to be beefed 12 up to the point where we are expecting more than just 13 the, you know, same plan that gets used every place 14 every time without specificity to the area or the 15 specific well or the pressures of that particular zone, 16 or how deep the well is, or any of those other factors 17 that obviously influence the risk factor, and obviously 18 now, as we have learned, the ability to contain and 19 respond, I think if we could make something more 20 specific by way of a recommendation on those, it could 21 add value. 22 If you could help us with a little bit of</p>	<p style="text-align: right;">68</p> <p>1 components, such as the blowout preventer, as well as 2 by certain features of the Macondo well's design. 3 The Macondo well's blowout preventer had one 4 pressure gauge that was accurate only to plus or minus 5 400 pounds per square inch, which is not very 6 accurate. In contrast, the pressure gauges that the 7 government required BP to put in the capping stack were 8 accurate to plus or minus 2 pounds per square inch. 9 And during the spill, the government and BP 10 expended significant resources trying to collect 11 pressure data to understand what was going on in the 12 blowout preventer and in the well. 13 Another complication during the containment 14 effort was the presence of what are called rupture 15 disks in one of the well's casings. Those disks were 16 weak points in the well that BP and the government 17 regarded as posing significant risks during the effort 18 to cap the well. 19 In designing the well, BP did not consider 20 the potential impact of the rupture disks on post- 21 blowout containment efforts. 22 In light of those findings, we believe the</p>

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<p style="text-align: right;">69</p> <p>1 Department of Interior should require well components 2 to have adequate instrumentation and should require 3 wells to be designed to mitigate risks to well 4 integrity during a containment effort. I just want to 5 ask Commissioner Murray to discuss these 6 recommendations</p> <p>7 DR. MURRAY: I will do it quickly, since we 8 are over time. So one of the things that caused 9 several days of delay at the very beginning was the 10 fact that although buttons were pushed on the rig and 11 buttons were pushed under sea on the blowout preventer, 12 there was no indication that the shear ramps had 13 actually closed.</p> <p>14 This is pretty straightforward. You put an 15 indicator that says here is where the shear ramp is. 16 That would have been extremely helpful. It would have 17 prevented several days of the entire blowout. So that 18 is a very straightforward suggestion which is pretty 19 easy to do.</p> <p>20 Also putting a slightly better set of 21 pressure gauges down at the bottom of the sea would be 22 incredibly helpful for trying to figure out what is</p>	<p style="text-align: right;">71</p> <p>1 you know, the probability is zero, that, you know, 2 there is a risk assessment. If the blowout preventer 3 doesn't work, then we have an even worse situation if 4 the cement doesn't work.</p> <p>5 CO-CHAIR REILLY: May I ask, the first point 6 on instrumentation, Secretary Chu made that very 7 forcefully when he appeared with us, before us, and it 8 does strike me this is an illustration of Senator 9 Graham's point about technology just running much 10 faster with respect to some aspects of offshore 11 drilling and complex areas, and not doing the obvious 12 of adjusting by including what I gather are not 13 terribly complicated, sophisticated, or costly 14 instrumentation. That seems a no-brainer.</p> <p>15 With respect to the rupture disks, my 16 understanding is they actually did have a role. They 17 were put there for a function. And what are we 18 saying --</p> <p>19 DR. MURRAY: For production.</p> <p>20 CO-CHAIR REILLY: What are we saying about 21 them? That they should be designed differently?</p> <p>22 MS. AIYAR: All we are saying is they should</p>
<p style="text-align: right;">70</p> <p>1 going on in the well. That was pointed out by the 2 government scientists, and it's also straightforward.</p> <p>3 On the well design issue, the well was 4 designed for a production well, not thinking about 5 well, what happens if there is a blowout. And all that 6 the staff is suggesting is that you need to take that 7 into account as well.</p> <p>8 Because of the long string and the need to 9 put these rupture disks in to prevent the casing from 10 collapsing during production, everyone, including the 11 government scientists and BP and other industry 12 experts, was very worried that the rupture disks had 13 already fractured and the formation could be damaged 14 and then have not just a single containable thing, but 15 the whole floor would blow out.</p> <p>16 And that prevented for several weeks the 17 closing of the well. So it's not just two days or 18 whatever lost. But -- and that was, I will say, 19 preventable or can be preventable in the future by 20 thinking about what happens if there is a blowout? 21 What if the blowout preventer doesn't work? 22 Instead of assuming, as Don was saying, that,</p>	<p style="text-align: right;">72</p> <p>1 be considered in the well design. As you say, it's 2 exactly right, they serve an important function, which 3 is bleeding off annular pressure during production. We 4 heard from other oil companies, I think Shell, that 5 they don't need to use rupture disks. They have other 6 ways of bleeding off annular pressure.</p> <p>7 As nonpetroleum engineers, we aren't trying 8 to judge one way or the other, and we certainly 9 wouldn't propose a recommendation that rupture disks 10 should never be used. But we think that the impact of 11 rupture disks needs to be considered.</p> <p>12 DR. BOESCH: Tied back to the measurement 13 technology, as well. Because part of the suspense that 14 caused the delay is that they had no way of knowing 15 from the surface whether those rupture disks had even 16 ruptured. That makes you then think is there 17 technology which we can employ that helps us understand 18 what is happening.</p> <p>19 DR. MURRAY: Or the shoe, for that matter, 20 speaking of which.</p> <p>21 CO-CHAIR GRAHAM: Are there any other 22 questions or comments? If not, we will take a break</p>

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1 and we convene at 10:14.
2 (Thereupon, there was a recess taken at
3 10:14 a.m.)
4 (Thereupon, the proceedings were resumed at
5 10:26 .m.)
6 CO-CHAIR GRAHAM: Commissioner Terry Garcia
7 will make opening comments, and we will proceed to
8 discuss oil spill impacts with Kate.
9 MR. GARCIA: Thank you, Chairman Graham. The
10 Impacts and Assessments Subcommittee has spent the last
11 several months examining the wide-ranging impacts from
12 the spill.
13 As you are going to hear in detail in a
14 moment from Kate Clark, the subcommittee divided this
15 into three areas. The first is environmental impacts,
16 obviously an important area. The Gulf of Mexico, as we
17 have heard over these many months, supports an
18 extraordinarily diverse ecosystem. It provides vital
19 spawning, feeding, nesting for shellfish, dolphinfish,
20 whales, birds, and turtles.
21 The shores of the Gulf of Mexico are an
22 important resting place for million of migratory birds

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1 each year. In some cases, the impacts of this spill on
2 the environment have been quite obvious, oiled beaches
3 and wetlands, injured and dead wild life.
4 But we need to remember that the spill
5 occurred miles from shore, 5,000 feet below the surface
6 of the ocean. And much of the damage that may have
7 occurred, that has occurred, is out of sight. And a
8 thorough understanding of the true impacts of the
9 damage will not be known for a number of years.
10 That, obviously, points to the need for a
11 very robust long-term monitoring program that will
12 provide us with the information necessary to assess, as
13 well as to repair, the damage.
14 We noted yesterday, Commissioner Boesch, in
15 particular, the work of independent scientists in this
16 effort, in fact, throughout the spill. They have been
17 equally important here and have contributed to the
18 gathering of important data.
19 It's going to be vital that additional
20 funding is provided to continue this effort so that
21 they can compliment the important and fine work of
22 federal and state scientists.

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1 The second area is the economy, or rather the
2 economic impacts on the region. And, you know, if ever
3 there was any doubt about the fact that a healthy
4 economy is inextricably linked to a healthy
5 environment, those doubts should have been addressed by
6 this spill.
7 The Gulf fisheries are some of the most
8 productive in the world. Commercial and recreational
9 fishing is deeply rooted in the culture and provides
10 significant revenue to this region. The region
11 supplies approximately a third of the nation's
12 seafood.
13 And as a result of the incident, some 88,000
14 square miles, or about a third of the U. S. Gulf
15 waters, were closed to fishing with obvious and
16 significant adverse impacts on the commercial fishing
17 community.
18 The Gulf tourism industry did not fare much
19 better. We have heard about the alarming vacancy rates
20 that resulted from cancellations and people just
21 staying away throughout the region. This is an
22 industry that contributes some \$20 billion to the

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1 economy of the Gulf.
2 This spill effectively wiped out a year of
3 revenue for many people, when you consider the fact
4 that their year is a much abbreviated period of some
5 four or five months, and this spill happened to occur
6 just prior to the beginning of that tourism season.
7 It's also important to note, as Chairman
8 Reilly did this morning, that some of the damage is due
9 to perceptions. And we heard over and over again in
10 our visits to the Gulf about the impact the spill has
11 had on the brand, on the Gulf brand, whether it was
12 tourism or seafood.
13 And people continue to express concern that
14 Gulf seafood has been damaged, its image has been
15 damaged by this spill, and that the public generally
16 has been concerned about the safety of that seafood.
17 Finally, we looked at the human health
18 impacts of this event. About 14 million people live in
19 the coastal counties of Texas, Louisiana, Mississippi,
20 Alabama, and western Florida. As we know, many of
21 these counties have already suffered several traumas,
22 including the losses after Hurricanes Katrina and

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<p style="text-align: right;">77</p> <p>1 Rita.</p> <p>2 The spill compounded those traumas and the</p> <p>3 injuries to the residents of this region. Formidable</p> <p>4 physical and mental health impacts have emerged as a</p> <p>5 consequence of the spill, and the impacts have</p> <p>6 penetrated all levels of the community from response</p> <p>7 workers to children. And as is so often the case,</p> <p>8 those with the least have suffered the most.</p> <p>9 Because oil spills have historically been</p> <p>10 viewed as environmental disasters, the regulatory tools</p> <p>11 for addressing them really are inadequate. So Kate</p> <p>12 Clark, who has very ably staffed this subcommittee over</p> <p>13 the last few months, is going to be solo today and</p> <p>14 operating without a net, and will walk us through the</p> <p>15 staff findings and recommendations. Kate.</p> <p>16 MS. CLARK: Thank you, Commissioner Garcia.</p> <p>17 Good morning, Commissioners. Thank you for your time</p> <p>18 this morning.</p> <p>19 Yesterday and today we have heard a lot about</p> <p>20 the events surrounding the Deepwater Horizon oil</p> <p>21 spill. We have heard about the adequacy of the oil</p> <p>22 industry safety culture, regulatory oversight, and</p>	<p style="text-align: right;">79</p> <p>1 issues regarding both impacts and the process related</p> <p>2 to impact assessment. After a general overview, I will</p> <p>3 discuss specific issues and potential recommendations</p> <p>4 for your consideration.</p> <p>5 I will then follow up each recommendation</p> <p>6 with a short summary of how the staff believes this</p> <p>7 recommendation, if implemented, would be a benefit in</p> <p>8 the event of another spill and in the aftermath of this</p> <p>9 spill.</p> <p>10 At the end of each staff recommendation and</p> <p>11 short discussion, I will welcome your input and your</p> <p>12 discussion.</p> <p>13 Our research has focused on these three</p> <p>14 areas. We will discuss the impact to the marine</p> <p>15 environment, the regional economy, and the human health</p> <p>16 of Gulf Coast citizens.</p> <p>17 After many, many meetings and telephone</p> <p>18 interviews with everyone from scientists to community</p> <p>19 leaders to fishermen to government officials, the staff</p> <p>20 is acutely aware of the deep, and, in many cases,</p> <p>21 compounding impact this spill has had on the people,</p> <p>22 animals, and habitats and the economy.</p>
<p style="text-align: right;">78</p> <p>1 environmental review. We have heard about the pros and</p> <p>2 cons of the oil spill response and containment effort.</p> <p>3 We will now discuss the ongoing impacts this</p> <p>4 disaster continues to impart on the Gulf of Mexico, the</p> <p>5 coast, the citizens, and the economy.</p> <p>6 I will use words like ongoing, continue and</p> <p>7 potential, because unlike the safety culture or</p> <p>8 response efforts, a thorough assessment of the impacts</p> <p>9 from this oil spill cannot be made at this point.</p> <p>10 Will people book Alabama vacations next</p> <p>11 season? How did the oil spill affect bluefin tuna or</p> <p>12 deepwater coral? Will the country regain confidence in</p> <p>13 Gulf seafood? We don't know.</p> <p>14 Yet understanding these impacts is crucial</p> <p>15 for many reasons. It informs the compensation of</p> <p>16 businesses, the restoration of ecosystems, and the</p> <p>17 social services needed to mend communities.</p> <p>18 Further, without fully understanding the</p> <p>19 impacts from this spill, the country cannot make fully-</p> <p>20 informed decisions when weighing the risks associated</p> <p>21 with oil exploration.</p> <p>22 Therefore, I offer a snapshot of the current</p>	<p style="text-align: right;">80</p> <p>1 The oil spill compounded existing regional</p> <p>2 hardships. The Gulf of Mexico, its coastline, and the</p> <p>3 people who live and work around it were already</p> <p>4 struggling when this spill occurred.</p> <p>5 The region, like the rest of the country, was</p> <p>6 struggling with the recession, and hopeful that better</p> <p>7 days were ahead. Gulf states are still coping with</p> <p>8 extraordinary personal, economic and infrastructure</p> <p>9 losses due to Hurricanes Katrina and Rita.</p> <p>10 As we will hear later today, land loss, water</p> <p>11 quality, flood protection, and fishery sustainability</p> <p>12 are just some of the many urgent and contentious issues</p> <p>13 for Gulf ecological resiliency.</p> <p>14 Lastly, the Gulf of Mexico is no stranger to</p> <p>15 oil spill pollution. In any given year, it is not</p> <p>16 unusual that about half of America's oil spills in the</p> <p>17 marine ecosystem occur in the Gulf of Mexico.</p> <p>18 The spill created unprecedented and</p> <p>19 unforeseen issues that the current regulatory framework</p> <p>20 for compensation is not equipped to deal with. America</p> <p>21 has had its share of large oil spills. We expect to</p> <p>22 see dead animals. We expect that some businesses will</p>

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<p style="text-align: right;">81</p> <p>1 lose income.</p> <p>2 The Oil Pollution Act resolves these impacts,</p> <p>3 and under the law, industry provides compensation for</p> <p>4 these losses. What the Oil Pollution Act does not</p> <p>5 account for is the formidable loss of consumer</p> <p>6 confidence in Gulf tourism and seafood, and the</p> <p>7 potential for widespread human health impact. I will</p> <p>8 touch on these unforeseen issues in a few minutes.</p> <p>9 First, I would like to discuss the</p> <p>10 environmental damages and the mandated Natural Resource</p> <p>11 Damage Assessment process. As of November 2nd, 2002,</p> <p>12 over 7,600 birds have been collected during the spill</p> <p>13 response, both alive and dead. Of those, over 2,800</p> <p>14 were visibly oiled and over 5,800 were found dead.</p> <p>15 The very recently delisted Brown Pelican, as</p> <p>16 well as the Northern Gannet and Laughing Gull, are the</p> <p>17 bird species most affected to date.</p> <p>18 As of November 2nd, 2010, 109 marine</p> <p>19 animals -- marine mammals -- excuse me -- including,</p> <p>20 and mostly, dolphins have been collected. 100 of the</p> <p>21 109 were found dead. As of November 2nd, 2010, over</p> <p>22 1100 sea turtles have been collected, over 600 -- or</p>	<p style="text-align: right;">83</p> <p>1 Sargassum is corralled by the current and</p> <p>2 wind in the Gulf's convergent zones. This is also</p> <p>3 where the oil ends up flowing on the surface.</p> <p>4 It is very concerning that organisms living</p> <p>5 in the water column have encountered the oil. However,</p> <p>6 it is impossible to say at this point what level of</p> <p>7 impact this exposure may have had on these resources.</p> <p>8 There is emerging evidence that deepwater</p> <p>9 corals and other deep sea communities may have been</p> <p>10 adversely impacted by the oil spill. Conclusions on</p> <p>11 these preliminary findings are pending.</p> <p>12 This slide from NOAA's Damage Assessment</p> <p>13 Remediation and Restoration Program is meant to</p> <p>14 illustrate the three-dimensional changes of assessing</p> <p>15 impacts from this spill. This is not just a coastal</p> <p>16 problem.</p> <p>17 Natural Resource Damage Assessment</p> <p>18 regulation, under the Oil Pollution Act, requires</p> <p>19 restoration for injury to and the lost use of public</p> <p>20 resources. Natural Resource Damage Assessment</p> <p>21 Restoration is defined as restoring, rehabilitating,</p> <p>22 replacing, or acquiring the equivalent of the damaged</p>
<p style="text-align: right;">82</p> <p>1 609, rather, of which were found dead, most of which</p> <p>2 are threatened and endangered species in the Gulf of</p> <p>3 Mexico.</p> <p>4 In addition, 278 loggerhead turtle nests were</p> <p>5 relocated to the Atlantic coast. Louisiana oysters</p> <p>6 have suffered likely oil impacts, as well as impacts</p> <p>7 from freshwater input in Barataria Bay and Breton</p> <p>8 Sound, in a tactical and controversial decision to keep</p> <p>9 oil out of highly-productive estuaries.</p> <p>10 At the height of the shoreline impact, over</p> <p>11 650 miles of coastal habitat were oiled. The bulk of</p> <p>12 the heavy to moderate shoreline oiling occurred in the</p> <p>13 salt marshes of Louisiana. This picture is an aerial</p> <p>14 photograph of a beach in Orange Beach, Alabama, usually</p> <p>15 known for it is sugary-white sand beaches.</p> <p>16 Then there are the likely impacts. I say</p> <p>17 likely, only because there has been no conclusive</p> <p>18 evidence released to date regarding the potential</p> <p>19 impacts to these resources. They include sea grasses</p> <p>20 that grow in the intertidal and shallow subtidal zones</p> <p>21 that were swept by oil; floating seaweed communities</p> <p>22 called sargassum.</p>	<p style="text-align: right;">84</p> <p>1 resources.</p> <p>2 This money, or restoration, as its</p> <p>3 implemented will be very different from the Clean Water</p> <p>4 Act funds, and it's important to make that</p> <p>5 distinction. State and federal scientists and</p> <p>6 economists called Natural Resource trustees are working</p> <p>7 to determine what natural resources were injured,</p> <p>8 quantify the damages, and determine the appropriate</p> <p>9 restoration needed to restore the lost resources and</p> <p>10 the ecological services that they provide.</p> <p>11 They will also conduct an economic evaluation</p> <p>12 of the public's lost use and enjoyment of the public</p> <p>13 beaches, parks, marinas, and other coastal access</p> <p>14 points as part of the damage assessment.</p> <p>15 As in other areas of this bill, the Natural</p> <p>16 Resource Damage Assessment trustees will be challenged</p> <p>17 by the unprecedented size and scope of this spill.</p> <p>18 In the spirit of the regulation, restoration</p> <p>19 following the oil spill should be in place and in kind</p> <p>20 whatever possible. While the coastal and marine</p> <p>21 environments of the five Gulf states were affected, the</p> <p>22 level of impact varies considerably from state to</p>

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<p style="text-align: right;">85</p> <p>1 state.</p> <p>2 Further, that considerable amount of oil and</p> <p>3 dispersant remain in state and federal waters with</p> <p>4 consequences that have yet to be thoroughly</p> <p>5 understood. Special care must be taken to thoroughly</p> <p>6 assess poorly-understood and understudied marine</p> <p>7 impacts.</p> <p>8 The 12 state resource agencies and five</p> <p>9 affected -- from the five affected states, and the</p> <p>10 three federal resource trust agencies must work</p> <p>11 together on behalf of the public and the resources</p> <p>12 without with regard for territorial boundaries.</p> <p>13 This discussion leads me to the staff</p> <p>14 recommendation number one regarding damage assessment.</p> <p>15 The Natural Resource Damage Assessment process should</p> <p>16 ensure that adequate restoration funds are invested in</p> <p>17 areas directly impacted by the oil, including the</p> <p>18 offshore marine environment.</p> <p>19 The Commission staff has heard states make</p> <p>20 assertions about where and how potential early</p> <p>21 restoration funds for the Natural Resource Damage</p> <p>22 Assessment should allocated. Some have talked about</p>	<p style="text-align: right;">87</p> <p>1 injured resources and services.</p> <p>2 Very few environmental regulations require</p> <p>3 that funds go directly back to the point of injury.</p> <p>4 This is the beauty of the Natural Resource Damage</p> <p>5 Assessment regulation, a principle that should be</p> <p>6 honored and, as additional funds may become available,</p> <p>7 emulated.</p> <p>8 Lastly, through understanding of the three-</p> <p>9 dimensional ecosystem impact, at depths we have not</p> <p>10 assessed for oil impacts before, we not only ensure</p> <p>11 proper restoration of the potential deepwater resources</p> <p>12 and the services they provide, but also inform future</p> <p>13 spills and provide insight as to how we should best</p> <p>14 address deepwater spills.</p> <p>15 DR. BOESCH: I just want to -- while we pause</p> <p>16 at the end of this first recommendation on impacts that</p> <p>17 deal with Natural Resources Damage Assessment, I want</p> <p>18 to underscore, I think, the point that Kate very</p> <p>19 forcefully made.</p> <p>20 When this -- the laws were set up, actually</p> <p>21 this is under the Oil Pollution Act. The philosophy of</p> <p>22 this approach goes back to CERCLA, other kinds of</p>
<p style="text-align: right;">86</p> <p>1 equal distribution among the five states. Others have</p> <p>2 talked about fair and equitable distribution.</p> <p>3 Natural resources do not recognize state</p> <p>4 boundaries, and it's imperative that the Natural</p> <p>5 Resource Damage Assessment restoration be focused on</p> <p>6 restoring, rehabilitating, replacing or acquiring the</p> <p>7 equivalent of the damages that were impacted --</p> <p>8 sorry -- the resources impacted.</p> <p>9 If implemented, this would honor the spirit</p> <p>10 of the regulation, and ensure that the injured</p> <p>11 resources are fully restored, thus bolstering the</p> <p>12 strength and resiliency of the Gulf of Mexico and its</p> <p>13 coast.</p> <p>14 Of course, it would be easiest for each state</p> <p>15 to pull shovel-ready coastal projects off the shelf and</p> <p>16 implement them as compensation for spill damages. But</p> <p>17 parsing restoration money out to each state threatens</p> <p>18 to compromise the ecological significance of the</p> <p>19 restoration effort.</p> <p>20 The restoration should be used in a strategic</p> <p>21 attempt to develop a suite of projects that compliment</p> <p>22 each other ecologically and have direct access to the</p>	<p style="text-align: right;">88</p> <p>1 legislation that we have to repair damages and to make</p> <p>2 the party responsible for the damages that are caused.</p> <p>3 So it's very important that they be used for</p> <p>4 that purpose. And it's going to be a process that is</p> <p>5 going to take some time to develop, as Kate mentioned.</p> <p>6 One of the things that we learned on a visit</p> <p>7 down to the Gulf Coast is that the Natural Resources</p> <p>8 Damage Assessment for the fairly substantial spills</p> <p>9 that occurred on land-based facilities and some</p> <p>10 offshore facilities associated with Hurricane Katrina</p> <p>11 when storage tanks and so on were disrupted still</p> <p>12 haven't been resolved. So that is now more than five</p> <p>13 years ago.</p> <p>14 So this is going to take some time. But it</p> <p>15 really is important that this element of the</p> <p>16 restoration activity, restoring the damages that</p> <p>17 actually occur, we honor the intent of the law and not</p> <p>18 be torn apart by political debates about either equal</p> <p>19 or equitable treatment. This is about the resources.</p> <p>20 Particularly challenging will be how do we</p> <p>21 find a way to restore the damages, repair the damages</p> <p>22 in the offshore environment? We can envision</p>

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1 recreating a marsh, an oyster reef, or repairing the
2 beach. But it's difficult to think about how we do
3 this in the open offshore Gulf.

4 So I think we will have to be, and the
5 government will have to be creative in looking for ways
6 that actually have the net effect of having resources,
7 damaged resources, recovered as a result of this.

8 The other thing I want to underscore, and
9 this is, I think, still in development, we have
10 actually fairly little information about exactly what
11 those damages are under this Natural Resources Damage
12 Assessment yet, but they do include, as Kate mentioned,
13 lost use. So they could be fairly significant damages
14 that are due to those trustees, state trustee agencies,
15 state trustees that are in an area that might not have
16 been harmed greatly in terms of the long-term
17 environmental damage, but have had substantial lost
18 use. I'm thinking of the beaches of west Florida, for
19 example, Senator.

20 So I think that we should make sure that we
21 recommend that this whole process play out faithfully,
22 that we use the best methods we have to estimate the

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1 damages, and apply those resources back to recover the
2 things that were lost as a result of the spill.

3 MS. BEINECKE: Thank you, Kate, for that
4 presentation. It was really powerful. I think that
5 the recommendation itself doesn't quite get at the
6 issue that you and Don have identified, which is
7 ensuring that the protection of the assessment goes
8 directly -- I mean you say it, but then you added a lot
9 of additional information about the free-for-all
10 try-to-get-the-money that we know is going on and will
11 continue to go on.

12 So I think that particularly in the findings
13 in the report, we need to be very direct about where
14 the pressure is coming from, and why it's so important
15 that the Commission really reinforce what the NRDA
16 assessment is intended to do and how to direct that
17 money.

18 And I'm assuming in the lost use, yes, it
19 would be the damage to the beaches, but also all the
20 fisheries that were closed for such a period of time
21 which was huge.

22 MS. CLARK: For recreational fishing, yes.

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1 Commercial fishermen would be reimbursed through the
2 Gulf Coast Claims Facility as a third-party claim.

3 MS. BEINECKE: The other question I had, and
4 this is directed more to Fran on the Exxon Valdez NRDA
5 assessment, I remember the Senator testifying on the
6 issue of adding enhanced language to the trustees'
7 directive, I guess, in Alaska.

8 And is that relevant here, and is that
9 something we should be considering? Because this is
10 already a damaged ecosystem, and using the opportunity
11 of enhancement, if that exists, I think we should
12 consider that.

13 MS. ULMER: Remembering that the Exxon Valdez
14 oil spill happened before OPA passed in 1990 makes it a
15 little different, different rules in place. And the
16 Exxon Valdez oil spill settlement embraced not only
17 natural resource damages, but other damages as well.

18 In other words, there was one global
19 settlement which has not yet happened in this
20 situation. It could happen, I mean conceivably.

21 The word enhanced is very important from the
22 standpoint of how you can ultimately allocate funds.

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1 From that standpoint, it was hugely beneficial in the
2 Alaska situation for that language to be part of the
3 ultimate settlement and help guide the expenditure of
4 funds.

5 But this is a slightly different situation
6 both from the standpoint of what the law is, but also
7 whether or not all the parties in this complex
8 situation where you have many more states and others
9 who will be participating --

10 DR. BOESCH: 15 trustees.

11 MS. ULMER: 15 trustees. So it is a more
12 complex situation. Having said that, I'm certain from
13 the trustees' perspective, they are thinking about in
14 this situation what restoration really means, when, as
15 you pointed out, we don't really know what the damages
16 are and aren't likely to know what the damages and
17 long-term implications of this disaster will be for a
18 very long period of time.

19 Which does bring me to one point, and I don't
20 know whether it's being discussed by the trustees
21 currently, or whether it would be relevant as a
22 recommendation for us, and that is the question of

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<p style="text-align: right;">93</p> <p>1 long-term monitoring. 2 The environmental monitoring of the Gulf of 3 Mexico is an important piece of not only understanding 4 what the damages are, not only being able to, in the 5 future, allocate funding appropriately, but frankly, 6 tracking -- improving the understanding of the Gulf of 7 Mexico ecosystem. 8 So a portion of the Exxon Valdez settlement 9 money was allocated consistently, as a matter of fact, 10 is still being allocated by the trustees, to 11 environmental monitoring. There is a science plan that 12 governs that, that helps in the allocation of funding, 13 and helps both academics, state and federal agencies, 14 and others be able to see for the long term how that 15 monitoring can be not only done, but funded. 16 And we all know in the science community, 17 monitoring and sort of that consistent information 18 gathering over years is very hard find funding for. So 19 it seems to me very appropriate that part of the NRDA 20 expenditure be allocated to that. 21 This, again, may be were part of what the 22 trustees are discussing. One or another, I think it</p>	<p style="text-align: right;">95</p> <p>1 CO-CHAIR REILLY: Let me follow up on that. 2 I think the points that Fran and Terry make are 3 excellent, that long-term monitoring has proved very 4 valuable in Alaska, and we will no doubt use the 5 lessons from it, to the extent that they are there, and 6 they are there, to infer a lot about the likely long- 7 term consequences of the oil in the Gulf, even under 8 somewhat different weather conditions. 9 I want to draw you out a little bit on the 10 difference between law and potential policy, the 11 question of the degree of discretion that the trustees 12 will have. We know that the trustees in Alaska chose 13 to operate by unanimity, but they were representing one 14 -- they were all included, at least, within one state. 15 Is it your opinion that, for example, to 16 relate a conversation I had two days ago with the 17 governor of Alabama, that the extreme damage done to 18 the tourism industry in his state, 60 percent down he 19 said still, and he gets estimates it will be three 20 years or so before people will begin to revisit the 21 beaches of the Gulf, not just Mississippi, that what he 22 needs is a magnet.</p>
<p style="text-align: right;">94</p> <p>1 would be appropriate for our Commission recommendation 2 to take that into consideration and to emphasize, in 3 case anybody has forgotten how important that is, for 4 the long-term well-being of the Gulf of Mexico, and all 5 the restoration choices that need to be made in the 6 future, that information is critical. 7 MR. GARCIA: Fran, I think, raises a very 8 important point. We have had conversation over the 9 last two days about the need for science. And 10 references have been made in the other sessions we have 11 had of studying the ecosystem around these drilling 12 sites. 13 I think the Commission should make it clear 14 that maybe we should go through the report and make 15 sure that wherever we talk about the need for more 16 research, more science, that we try to tie these things 17 together. 18 Because one of the dangers is that it's going 19 to be uncoordinated. It won't be a comprehensive 20 assessment. And everyone is going to rush with their 21 pet projects and try to get them funding. So we should 22 address that possibility and make some recommendations.</p>	<p style="text-align: right;">96</p> <p>1 What he needs is more tourism infrastructure, 2 and what he particularly wants is a convention center. 3 Is that a lawful use, setting aside whether it's an 4 appropriate use, of natural resource damages? 5 MS. CLARK: No, it's not. 6 CO-CHAIR REILLY: It is not a lawful use? 7 MS. CLARK: No. 8 CO-CHAIR REILLY: Why not? 9 MS. CLARK: Because it doesn't restore the 10 injured resources and services. 11 CO-CHAIR REILLY: Is any infrastructure an 12 authorized or legal use of natural resource damages? 13 MS. CLARK: No, it's not. The issue -- 14 CO-CHAIR REILLY: They are not free to use 15 their discretion to allocate money in that way? Is 16 that the correct reading of the law? 17 MS. CLARK: If there were to be a settlement, 18 then the language of the settlement would dictate how 19 the money was spent. Under the way restoration is 20 prescribed in the regulation, that would not be an 21 adequate restoration project. 22 What the governor is clearly concerned about</p>

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1 is loss of tourism to his state and loss of revenue for
2 the state. That's compensable under the Oil Pollution
3 Act through third-party claim. The state of Alabama
4 can bring a claim against BP and the other responsible
5 parties for lost revenue, and through that mechanism he
6 could pursue that issue.

7 CO-CHAIR REILLY: But he could not price a
8 specific infrastructure investment, and make that as a
9 claim under NRDA. Is that right?

10 MS. CLARK: That's right.

11 CO-CHAIR REILLY: And the consequences for a
12 trustee group which decides to allocate money, there
13 are five states, suppose it's just split five ways and
14 each state is encouraged to go ahead and spend it on
15 whatever its governor and public officials wish, is
16 that lawful? Is that contemplated in the law? Would
17 that actually be unlawful?

18 MS. CLARK: This is a unique situation with
19 five states. The idea of early restoration is also an
20 emerging idea in Natural Resource Damage Assessment.
21 So the idea that BP might give each state money for
22 early restoration, exactly how that money should or

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1 could be spent, I'm not sure how they would write that
2 up.

3 CO-CHAIR REILLY: You are talking about,
4 though, possibly whether it could be deducted from
5 their later NRD, NRDA claims.

6 MS. CLARK: That's right. They would be
7 given money prior to quantification of injury.

8 CO-CHAIR REILLY: There is no question in
9 your mind, though, that the long-term monitoring, long-
10 term science monitoring, could be financed under NRDA?

11 MS. CLARK: I would like to say something
12 quickly about that, as well. Under the Natural
13 Resource Damage Assessment regulations, long-term
14 monitoring of the restoration projects is prescribed in
15 the regulations, monitoring of -- long-term monitoring
16 of the ecosystem is not, the idea being that once the
17 damages are quantified, the responsible parties are no
18 longer responsible for continuing to monitor the
19 ecosystem.

20 CO-CHAIR REILLY: So were that to occur, it
21 would have to occur much the way it did in Alaska.
22 That is, a fund would have to be established for it

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1 where it could be drawn down over time?

2 MS. CLARK: That's right.

3 CO-CHAIR REILLY: One other question;
4 unanimity among the trustees is required, not just as a
5 matter of law and practice, but policy?

6 MS. CLARK: There is nothing in the
7 regulation that says exactly how trustees should
8 coordinate. It does encourage coordination. And then
9 in the guidance, it encourages coordination through
10 Memorandum of Agreement.

11 It's my understanding that the trustees in
12 this instance are constructing a Memorandum of
13 Agreement. Within that agreement, they will then
14 decide how the votes will be carried out.

15 CO-CHAIR REILLY: Some of the advice we have
16 had, particularly from public officials in Louisiana,
17 is follow the science. You would say follow the
18 impacts. I suppose probably the same effect, that
19 impacts, in a sense, are where the dollars will go.

20 MS. CLARK: Well, they are going to go where
21 the actual impact, direct impact, of the oiling was.
22 Impact of oiling does not necessarily mean there is

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1 damages. Some resources and services are much more
2 sensitive to oiling. So a little oiling on a highly
3 sensitive species can result in a larger impact than a
4 lot of oiling on a habitat that is not as sensitive,
5 like a sand beach, for instance.

6 Then you also have this lost use component.
7 So you may not see oil all over the Florida beaches. I
8 believe it was about 26 miles of light and
9 tarballing -- light oil and tarballing in Florida.
10 However, beaches were closed. That is a lost use, the
11 public's use of the resource. The public has the right
12 to access coastal areas.

13 CO-CHAIR REILLY: So a dollar amount would be
14 associated with that?

15 MS. CLARK: Generally, that is evaluated
16 economically.

17 CO-CHAIR REILLY: I think the Commissioners
18 may know that Kate was in the Gulf, was on site in the
19 midst of all that oiling when we enticed you to come to
20 work for us. It shows that you have that experience.
21 Thanks, Kate.

22 MR. GARCIA: Long-term monitoring, just to

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<p style="text-align: right;">101</p> <p>1 follow up on your point, given that there is so much we 2 don't know about the impact, especially in the marine 3 environment, is going to have to be assessed over a 4 period of time, probably a long period of time. Could 5 that not be part of the assessment, and, therefore, 6 reimbursed under NRDA?</p> <p>7 MS. CLARK: The assessment is reimbursed, 8 yes.</p> <p>9 MR. GARCIA: So would that not be an 10 assessment?</p> <p>11 MS. CLARK: Yes. I guess it's the nuance 12 between long-term monitoring and assessment and what 13 you call it. As soon as a settlement is reached, then 14 the responsible party would no longer be required to 15 perform additional monitoring.</p> <p>16 DR. BOESCH: On the point of the monitoring 17 issue, long-term monitoring that Fran raised, and Terry 18 just spoke about, you spoke about, Chairman Reilly, 19 I'm -- it is hard to remember exactly where it now sits 20 within our recommendations.</p> <p>21 But it came from our subcommittee that a 22 recommendation for a long-term monitoring program,</p>	<p style="text-align: right;">103</p> <p>1 handled within OPA, but not Natural Resource Damage 2 Assessment.</p> <p>3 CO-CHAIR GRAHAM: Any other questions?</p> <p>4 MS. CLARK: Okay. So I will now discuss the 5 science of oil spills and opportunities that were 6 missed. And as I believe Commissioner Garcia has 7 pointed out, there are a lot of areas where science is 8 being recommended throughout. And I believe this is an 9 area where we could coordinate on these issues.</p> <p>10 Coordination and integration of science 11 during oil spills is essential to expand our knowledge 12 of how oil spills impact our environment, communities 13 and economies.</p> <p>14 Field studies of oil spills and their 15 environmental economic and human impact is largely 16 opportunistic. We cannot pour oil, as a general 17 practice, or for that matter any other pollutant, into 18 the ocean and study what toxic effect it will have on 19 the ecosystem.</p> <p>20 Rather, we usually have to wait for disaster 21 to strike before study becomes possible. Therefore, 22 preparedness, funding, coordination, and resources are</p>
<p style="text-align: right;">102</p> <p>1 that, in a interesting way, a recommendation would 2 involve and engage the industry itself as part of the 3 monitoring approach that would involve not only the 4 government monitoring of the Gulf, but also involving 5 the industry, because it has such an enormous 6 infrastructure, extensive infrastructure in place.</p> <p>7 So we do have a recommendation on long-term 8 monitoring. I'm not sure exactly what it says about 9 financing. But I think there is a powerful modern 10 recommendation about how we can do monitoring of that, 11 long-term monitoring with the technologies, current 12 technologies that we have had.</p> <p>13 CO-CHAIR GRAHAM: Kate, you indicated that 14 one of the economic areas that is compensable is loss 15 of use of public property. What are the other economic 16 areas that are compensable under NRDA?</p> <p>17 MS. CLARK: Under Natural Resource Damage 18 Assessment, that is it. So it's -- Natural Resource 19 Damage Assessment regulations are meant to protect the 20 public's resources and use of them. So as far as any 21 other economic losses that might be to private 22 individuals and businesses or state revenues, those are</p>	<p style="text-align: right;">104</p> <p>1 critical to capitalizing on these unpredictable events.</p> <p>2 As we just discussed, designated natural 3 resource trustees comprised of affected state, federal 4 and tribal entities assess oil spill damages at the 5 expense of the polluter through a regulatory 6 framework. They are prepared and equipped to respond 7 quickly to oil spills, as they did in this instance.</p> <p>8 However, during the Deepwater Horizon oil 9 spill, we witnessed a wider scientific community 10 containing long-time scholars of the Gulf ecosystem 11 eager to help but lacking adequate funding, access to 12 impacted areas, and resources, thus decreasing our 13 potential understanding of the true impacts of this oil 14 spill.</p> <p>15 For these scientists, the National Science 16 Foundation was virtually the sole source for expedited 17 research funding in the Gulf under their grants for 18 rapid response research programs, or Rapid Grants. The 19 program became so popular that it exhausted its 20 available funds well before the fiscal year ended and 21 had to halt its grant process.</p> <p>22 BP did place \$500 million in escrow for</p>

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1 independent research on ecosystem and human health
2 assessment impacts and recovery efforts. For multiple
3 procedural and political reasons, little of that money,
4 about 40 million in total, was allocated in a timely
5 manner.

6 CO-CHAIR GRAHAM: Did you say the 500 million
7 was a commitment by BP?

8 MS. CLARK: Yes.

9 CO-CHAIR GRAHAM: What were the bureaucratic
10 restraints on BP's money that caused only 40 to be
11 used?

12 MS. CLARK: BP allocated in, I believe it was
13 June, the 500 million to be set up in the Gulf Research
14 Initiative. Around mid July, there was urging from the
15 Administration that the -- that BP give that money
16 to -- give the states more say in how that money would
17 be allocated.

18 And for some time, it took a while to figure
19 out how that would happen. And it wasn't until late
20 September that the five Gulf states' governors announced
21 that that money would go into the Gulf of Mexico
22 Alliance.

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1 That money is still there, \$460 million. We
2 expect now that they will release a request for
3 proposals any day now. So that money still has not --

4 DR. BOESCH: Part of that is that there was a
5 tremendous lost opportunity, because the signal,
6 primary signal when the oil was flowing is now
7 dissipated, is lost. Every day, you lose the power to
8 resolve what happened to the oil and what the effects
9 are.

10 So I think that the gist of this
11 conversation -- this recommendation is that as a
12 nation, we have this tremendous scientific capacity
13 that is eager to come in and help understand these
14 problems, need to be -- need to have an ability to
15 respond more rapidly.

16 It could be other things, other than major
17 oil spills, that we can bring the talent that we
18 basically have to address these issues in a creative
19 way so that we learn from this as we go on.

20 DR. MURRAY: One obvious thing to do is to
21 have, in other agencies, the equivalent of Rapid
22 Grants, so DOE, NOAA, USGS, just have this ability to

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1 quickly ramp up and do peer review of the grants.
2 I think the complaints about the BP money, I
3 will call it bureaucratic complaint, was what kind of
4 peer review system is going to be set up to allocate
5 this money.

6 Ahead of time, if we have another one of
7 these major events, not necessarily an oil spill, and
8 the injured party puts up some money, we should have a
9 plan for: Okay. If you are going to do this, either
10 we give it to the national academies, they do the peer
11 review, so it's very quick, or we have some better way
12 of deciding this, rather than three months of
13 wrangling.

14 MS. CLARK: Thank you. Senator?

15 CO-CHAIR GRAHAM: From what Cherry just said,
16 it sounds as if our problem was not funding. They had
17 the \$500 million. It was working out a process to
18 accomplish the objective with the funds that were
19 available.

20 MS. CLARK: Yes. In this instance, the BP
21 funds were there and available if the expedited process
22 had been in place. I think that in the future, we

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1 cannot count on the responsible party to be able to
2 provide that kind of money. They were not required to
3 do so.

4 So I think thinking forward, we can't rely on
5 the polluter to pay for this kind of effort.

6 CO-CHAIR REILLY: The failure to get out more
7 than \$40 million lies with the institutions, or with
8 BP's reviews and proposals? I wasn't clear on that.

9 MS. CLARK: BP had allocated \$40 million to
10 some institutes around the Gulf area. The money
11 stopped being allocated when the Administration and the
12 state governors wanted to have some say in how the
13 money was being allocated.

14 And there was concern that having BP strictly
15 allocate the money would create some issues regarding
16 transparency.

17 CO-CHAIR REILLY: And the status currently,
18 it's still 500 million?

19 MS. CLARK: There is 460 million left. We
20 expect them -- so at this point, it makes more sense
21 for them to proceed cautiously to figure out what they
22 want to use the money to study.

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<p style="text-align: right;">109</p> <p>1 The window has been missed for ephemeral 2 data. So I think that they are doing that now. We 3 believe that a request for proposals will come out very 4 soon, imminently. 5 CO-CHAIR REILLY: And the proposals needn't 6 come equally from the various institutions? Who will 7 make those decisions? 8 MS. CLARK: So the Gulf of Mexico Alliance 9 has set up a Gulf Research Initiative. I believe there 10 are two people from each state participating on that, 11 GRI and some federal entities, and BP-appointed 12 scientists as well. And they have set up criteria for 13 what the proposals can be. 14 CO-CHAIR REILLY: Sounds a little bit like 15 the NRDA trustees. 16 MS. CLARK: There's fewer of them. 17 CO-CHAIR GRAHAM: It seems to me that we 18 ought to have a recommendation that deals with process 19 as well as the funding. Because in this case, funding 20 wasn't a problem. 21 DR. BOESCH: This recommendation really goes 22 to recommend -- we can't tell BP or the next BP what to</p>	<p style="text-align: right;">111</p> <p>1 it is we can do a much better job being prepared to 2 bring the best and brightest to bear on these issues. 3 You know, I'm hopeful that the BP investment 4 will provide those results. And, in fact, to be blunt 5 about it, the real tension of this, we say all politics 6 is local, well science politics is local as well. 7 The contention was the degree to which the 8 national community should play in this and do these 9 studies as opposed to the regional institutions. 10 Obviously, the governors, I would feel the same way if 11 I were one of them, wanted to bill their own 12 institutions and get their institutions involved. 13 There seems to be a way to do that, to bring 14 local knowledge to bear on addressing the problem, as 15 well as world-class knowledge, wherever it exists. 16 MS. BEINECKE: It just seems to me, and to 17 Doctor Murray's point, having another recommendation 18 that sort of identifies a process so that you are 19 prepared. This particular recommendation only goes so 20 far and is very, very general. 21 So if you want to be prepared, you need to 22 identify how you would be prepared.</p>
<p style="text-align: right;">110</p> <p>1 do. This recommendation really goes to our government. 2 We have a tremendous capacity within our 3 agencies which have been assigned to this Commission. 4 We have a tremendous resource out there. If we look 5 at, for example, the early papers, there are really 6 spectacular papers that have produced. Several of them 7 were produced because of the NSF Rapid Grants, not 8 because of the agencies that are responsible for the 9 natural resources. 10 MS. CLARK: The flow rate determination was 11 funded by -- 12 DR. BOESCH: What we know about the dispersed 13 plums, and how they dissipate and the rate of 14 biodegradation, all of that is really spectacular work 15 that brought together the capacity that some of our 16 scientists have to address a problem. 17 And what happened was that we found, for a 18 number of reasons which were really more related to 19 bureaucratic limitations, contracting procedures, all 20 of these type of things were constraining, rather than 21 the amount of dollars involved and resources involved. 22 So I think we can do -- I think the gist of</p>	<p style="text-align: right;">112</p> <p>1 MS. CLARK: The second sentence to this 2 recommendation, that I left off to not crowd the slide, 3 but it does -- maybe I should have left it on -- it 4 does recommend that the National Ocean Council 5 establish a framework under which independent science 6 related to impact assessment can be facilitated and 7 coordinated. 8 CO-CHAIR GRAHAM: Very good. Already done. 9 MS. CLARK: There you go. 10 DR. MURRAY: I just wanted to point out one 11 thing. I'm sure that Don probably knows this, as 12 well. But there was a lot of frustration by scientists 13 who wanted to quickly get in and do some of the 14 ephemeral assessments before the oil hit or as the oil 15 was coming up in the deep sea, that they could not get 16 access because it was basically off limits. 17 So part of the process that the Ocean Council 18 can think about is how do you allow the best science to 19 get done, at the same time realizing there are 50 20 vessels out there, there are helicopters flying, it's 21 dangerous, instead of just saying no. We do need to do 22 these scientific studies.</p>

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1 MS. CLARK: Thank you. I think that is a
2 great point. I think I have gone through this. I will
3 just say if implemented, this would improve our
4 knowledge, encourage innovation, and maximize our
5 potential for effective recovery.
6 In turn, this knowledge gap again would
7 inform our decisions when we are talking about -- or
8 closing this knowledge gap would inform our decisions
9 when talking about offshore drilling.
10 I would like to shift gears from science and
11 the environment to discussing the economic impacts from
12 the Deepwater Horizon oil spill.
13 The oil spill directly and indirectly
14 impacted the region's economy. It impacted fishermen,
15 the seafood industry, restaurants, tourism, the oil
16 industry, real estate, government revenues, and many
17 other local businesses.
18 Direct losses, direct claims for economic
19 losses are being assessed through the Gulf Claims
20 Facility. This is the facility that is being
21 administered by Ken Feinberg.
22 CO-CHAIR GRAHAM: There was an initial \$20

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1 billion --
2 MS. CLARK: \$20 billion.
3 CO-CHAIR GRAHAM: -- which was, I understood,
4 intended primarily for emergency compensation. Is
5 that -- is that 20 billion also the source of the
6 funding for the Gulf Coast Claims Facility?
7 MS. CLARK: It is the only source for the
8 Gulf Coast Claims Facility. The emergency funding
9 was -- the way it was working, quickly, is the 20
10 million will be provided over three years -- 20
11 billion, excuse me, over three years.
12 In the first six months, people could apply
13 for emergency awards or claims without forfeiting their
14 right to sue. And then as of November 23rd, they were
15 going to be then offered a final settlement, which then
16 they would waive their right to sue BP directly. And
17 that settlement would be through the Claims Facility.
18 I believe that the November 23rd deadline was
19 lifted, and people can still continue to claim
20 emergency funds without giving up their right to sue.
21 But all of that money, that 20 billion, is going toward
22 long-term claims and emergency claims.

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1 MR. GARCIA: I think we should take note of
2 one fact, which is that the Gulf Coast Claims Facility
3 exists for one reason, and that is that BP has very
4 deep pockets. They weren't required to do this.
5 If BP did not have those deep pockets, you
6 would have a lot of people who are either not going to
7 be compensated, or would have to wait a very long time
8 for that claims process by filing a lawsuit to resolve
9 itself.
10 And so it goes back to the earlier
11 discussions we had about the need for a very rigorous
12 process up front, before drilling commences, so that
13 you don't find yourself in a position where citizens
14 like the hotel owners, restaurant owners, fishermen,
15 are left to fend for themselves in state courts and
16 federal courts.
17 MS. CLARK: Thank you, Commissioner Garcia.
18 I think that is a great point. I think throughout
19 these impacts, we have to keep in mind if this had not
20 been BP, where we would be.
21 What remains is a sizable loss of consumer
22 confidence in Gulf seafood and in Gulf tourism. This

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1 indirect economic loss, if quantifiable, is not legally
2 compensable under the Oil Pollution Act.
3 CO-CHAIR GRAHAM: Excuse me, Kate, but going
4 back to the Gulf Coast Claims Facility and its initial
5 use for emergencies, when we visited the region, we
6 were getting varying assessments of how effective that
7 process had been.
8 Do you have any comment? Should we say
9 anything about we think this worked in an acceptable
10 manner, or that it demonstrated there were some reforms
11 that are needed to make it work satisfactorily?
12 MS. CLARK: The staff has not spent -- well,
13 I know how the claims facility is functioning. We have
14 not spent a lot of time analyzing whether or not it's
15 working well, although we have heard from a lot of
16 people their frustrations about timely payments and
17 different decisions that Feinberg is making.
18 Again, I think that given that it's an
19 unusual circumstance, and one that would not
20 necessarily be protocol in the future, it was not a
21 focus of our research.
22 CO-CHAIR GRAHAM: I think there should be an

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<p style="text-align: right;">117</p> <p>1 area somewhat like studying the long-term impacts of 2 the -- on the oceans of this, that we might recognize 3 this is an issue, but say that at this point in time, 4 it's not ripe for a full evaluation, but suggest that 5 somebody look at this when it is ripe, so to inform 6 future claims issues such as this.</p> <p>7 MS. CLARK: Thank you.</p> <p>8 CO-CHAIR REILLY: Doctor Boesch and I met 9 with Vietnamese fishermen when we were in the Gulf, and 10 discovered that they are having to live on hundred- 11 dollar food vouchers provided by Catholic Relief. Why 12 should they not be eligible for Feinberg money?</p> <p>13 MS. CLARK: In many instances, they are, if 14 they have the proper paperwork to file.</p> <p>15 CO-CHAIR REILLY: What are we talking about?</p> <p>16 MS. CLARK: Like any -- I guess like any 17 claims process, you would provide your income 18 statements, your records, tax records, things like 19 that, and you have to prove a loss.</p> <p>20 CO-CHAIR REILLY: And you have to, I suppose, 21 hire lawyers, and you have to have had these records 22 already. And if you were a subsistence fisherman, you</p>	<p style="text-align: right;">119</p> <p>1 claims to get their claims settled. When they were 2 settled, they were settled at a mere fraction of the 3 real cost to the individuals and businesses throughout 4 the Alaska coastline that were impacted by the Exxon 5 Valdez spill.</p> <p>6 And I'm thinking about that in the context of 7 Terry Garcia's comment about what would we be talking 8 about today if this wasn't a spill caused by a company 9 with substantial assets. And if we continue our 10 preoccupation as a nation of protecting interests that 11 can't necessarily be held accountable when you have 12 things like the limit on liability that we have, by 13 matter of public policy, adopted.</p> <p>14 In a strange sort of way, America has 15 privatized the profits off of public resource. And 16 yet, we have socialized the risks of a private 17 business. Because if BP couldn't pay, you know who 18 would be paying. We would be paying, taxpayers, or no 19 one would be paying.</p> <p>20 And those Vietnamese shrimpers, or anybody 21 else in the Gulf, would be left, as many of the victims 22 as the Exxon Valdez oil spill were left, with big holes</p>
<p style="text-align: right;">118</p> <p>1 might not have them?</p> <p>2 MS. CLARK: Subsistence fishing is another 3 area of the Claims Facility. They are handling 4 subsistence fishing claims. I'm not sure what the 5 standard of proof is.</p> <p>6 DR. BOESCH: Mr. Chairman, I think in 7 reflection of that visit we had, both, I had the 8 pleasure of accompanying both of you there, and I 9 understand focusing on our recommendation we will get 10 to in a minute, but I think it's very important in this 11 discussion of economic impacts, we make sure that we 12 are aware of and sensitive to that these impacts were 13 far more economic, and that they, in many ways, as we 14 learned, affected social structure in very troubling 15 ways.</p> <p>16 It affected communities and families and 17 things of this sort in more ways than just dollars and 18 cents. And I think we should reflect that in our 19 chapter in this part of our report.</p> <p>20 MS. ULMER: Mr. Chairman, I might just note 21 for a moment, going back to the Exxon Valdez, it took 22 over 20 years for private litigants with economic</p>	<p style="text-align: right;">120</p> <p>1 in their lives and in their businesses.</p> <p>2 So I think it's an important moment for us to 3 reflect on and make recommendations to Congress on what 4 we really think is fair.</p> <p>5 MS. CLARK: Thank you. I will --</p> <p>6 DR. BOESCH: Take care of that, will you?</p> <p>7 MS. CLARK: I will. In the interest of time, 8 I will read the recommendation. I will discuss the 9 benefits of the recommendation as the staff sees it.</p> <p>10 And while these direct impact issues are 11 certainly formidable and important, there is this issue 12 of indirect impacts.</p> <p>13 And the recommendation from the staff is that 14 in the aftermath of a spill of national significance, 15 that government and the responsible parties should 16 consider restoration of consumer confidence, if deemed 17 necessary, as an appropriate place to allocate funding 18 when calculating fines and settlements.</p> <p>19 In this instance, it was Gulf tourism and 20 seafood. A large spill on another coast or in another 21 water body could be something else. But what we did 22 see here was a large loss.</p>

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1 CO-CHAIR REILLY: Can we do this as an
2 amendment to OPA?
3 MS. CLARK: This doesn't have an amendment to
4 any regulation. This would be when considering
5 settlement money --
6 CO-CHAIR REILLY: Just settlement?
7 MS. CLARK: -- this would be used to add in.
8 CO-CHAIR REILLY: But in the absence of
9 settlement, there would be no legal entitlement?
10 MS. CLARK: Yes. I think that -- I know the
11 Commissioners have recognized the importance of this
12 issue, as does the staff. We have wrangled with this.
13 The issue that you face, if you make it a
14 regulatory issue, is the ripple effect of indirect
15 impacts and how to quantify them and where they stop.
16 So we recognize that this recommendation needs some
17 explanation, and maybe needs some more boundaries. I
18 don't know.
19 CO-CHAIR REILLY: Feinberg solicited a legal
20 memorandum. I remember when he asked for it, received
21 some news on ripple effects, or what was called
22 indirect effects. What was the upshot of that? Do you

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1 know?
2 MS. CLARK: So BP's -- by setting up the
3 Claims Facility, BP's goal is to keep claims out of the
4 courts. It's in their best interests. So what
5 Feinberg did is he hired a tort specialist to analyze
6 how far these claims might go.
7 And, you know, his primary goal is to assess,
8 you know, the risk of where he might go to court or not
9 go to court, and pay those fines accordingly. That is
10 my understanding of what he did.
11 He did lift -- under extreme pressure from
12 DOJ that came out of Florida, he did lift the
13 geographic proximity rule on compensation, which
14 initially had said that you have to be directly
15 impacted by the spill. The considerable indirect
16 impacts that we have seen, he was pressured to lift
17 that in mid September by a letter from DOJ, which he
18 did.
19 At that point, he hired the tort specialist,
20 because this, obviously, creates a very large issue of
21 where these effects stop.
22 CO-CHAIR REILLY: And the conclusion of the

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1 tort specialist?
2 MS. CLARK: I would have to get back to you
3 on that.
4 CO-CHAIR REILLY: Okay. Thanks.
5 DR. BOESCH: Some of these -- BP has, in
6 fact, made payments to some of the states to deal with
7 some of these issues, the monitoring, safety monitoring
8 and marketing issues.
9 MS. CLARK: Yes. BP has paid millions of
10 dollars to both Florida and Louisiana, at their
11 request. I know that Alabama also has a pending
12 request. I believe the total is 68 million for
13 tourism.
14 DR. BOESCH: Is there more to do that we are
15 recommending?
16 MS. CLARK: I'm not sure that anybody knows
17 if more money is required at this point. So the money
18 has been given out. The states plan to use that money
19 to do further testing and marketing.
20 What I'm hearing from them right now, when
21 asked if they think that that is enough, they said they
22 don't know. They will have to see what the next season

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1 brings. They will have to see if people actually do
2 come back to Gulf seafood.
3 You hear, when you talk to them, they say
4 recovery of what money we lost is great, but if the
5 consumers don't come back, then, you know, we have to
6 continue to push the product.
7 DR. BOESCH: For the record, we should
8 indicate that this Commission has actually done that,
9 had Gulf seafood here in Washington.
10 DR. MURRAY: As well as in the Gulf.
11 MR. GARCIA: This is another one of those
12 gaps. We have a law that allows us to assess and then
13 to provide redress for injury to a region's natural
14 resources, but we don't have a way of compensating a
15 region for losses to its economy. That is what you are
16 seeing here.
17 MS. CLARK: That's right.
18 CO-CHAIR GRAHAM: This happy anomaly that the
19 perpetrator of this happened to be one of the
20 wealthiest corporations in the world might be worth
21 commenting about. What would have been the situation
22 had it been someone other than a BP?

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<p style="text-align: right;">125</p> <p>1 For instance, maybe the people of in these 2 affected areas need to think about should they buy 3 insurance against these events if the responsible party 4 is not able to cover the loss. 5 DR. MURRAY: Or maybe the company should buy 6 the insurance. 7 CO-CHAIR GRAHAM: I'm trying to think of an 8 area where you might possibly be able to place specific 9 responsibility. But as a general rule, this is to 10 cover situations like hurricanes or floods or tornados, 11 earthquakes that don't have any human -- 12 DR. MURRAY: They don't typically have a 13 perpetrator. Here we do have one. I would think that 14 the insurance should be required of the perpetrator. 15 MS. BEINECKE: This goes back to yesterday's 16 conversation about liability. The nation, in many 17 respects, is fortunate that it was such a deep pocket. 18 It would be good to have a chart in the report sort of 19 itemizing what money BP put out there for all of these 20 things that they weren't required to, and where the 21 communities would be without that resource, and then 22 how we have a series of recommendations that gets just</p>	<p style="text-align: right;">127</p> <p>1 that BP has laid out here. Is it capped at \$2 billion, 2 I remember. 3 MS. CLARK: 2.4. 4 CO-CHAIR REILLY: Okay. I think we need to 5 move along. 6 MS. CLARK: Great. Thank you for that 7 discussion. Just to follow up, if this were 8 implemented, it would certainly ensure that funds were 9 available to sustain these markets, and that while 10 individuals and businesses, I will just reiterate, can 11 recuperate financial losses, this does not change the 12 fact that consumer and market shares have been lost. 13 I would now like to talk about the third area 14 of impact, and my fourth recommendation to the 15 Commission, and perhaps the most underserved area of 16 impact under the Oil Pollution Act, and that is human 17 health. 18 The oil spill mentally and/or physical 19 impacted people around the Gulf. It impacted response 20 workers, communities, families, adults and children. 21 Many Gulf residents report adverse health effects 22 related to chemical exposure and stress in the wake of</p>
<p style="text-align: right;">126</p> <p>1 directly to that, because that is a very serious issue. 2 CO-CHAIR GRAHAM: And where you have had a 3 public policy that limits the perpetrator's 4 responsibility. Exactly. 5 MR. GARCIA: But, again, as Fran and I were 6 pointing out, it really underscores the importance of 7 making sure that whatever permitting process is put 8 into place as a result of this, that it's very robust 9 and that it's designed to ensure that if companies are 10 going to engage in this risky enterprise, that they 11 have the capacity to do it, and to do it safely, and if 12 something goes wrong, the ability to respond 13 effectively. 14 Because otherwise, there is no guaranty that 15 you will have BP or a BP-like company standing behind 16 the next incident. It could be, as we said yesterday, 17 Acme Oil Company, or someone with much less 18 wherewithal. 19 CO-CHAIR REILLY: We have recommended, have 20 we not, or are considering recommending an increase in 21 the Oil Spill Liability Fund. But, of course, it 22 wouldn't go very far relative to the kind of monies</p>	<p style="text-align: right;">128</p> <p>1 the BP oil spill. 2 Given the scale of the response and the need 3 to enlist local help, which was unusual, many response 4 workers were not screened for pre-existing conditions 5 before being put to work. While there is concern that 6 screening could hinder a timely response in a situation 7 where time is of the essence, response workers were 8 already required to undergo training and basic 9 enrollment procedures, such that a quick medical screen 10 would not substantially increase the administrative 11 burden. 12 Regarding long-term monitoring of worker 13 health, the National Institutes of Health is presently 14 undertaking a comprehensive study of over 55,000 15 response workers, or half the workers involved in the 16 response efforts. 17 This work and other human health studies 18 concerning Deepwater Horizon oil spill will be 19 significantly hampered by the lack of baseline data. 20 Insufficient or delayed government action 21 impeded accurate research of potential public health 22 effects. I should mention that part of that delay is</p>

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1 because it's not required under the Oil Pollution Act.
2 CO-CHAIR REILLY: With respect to cleanup
3 workers, you might amplify, as you have done for me, we
4 are not talking about physicals before people go out on
5 the beaches?
6 MS. CLARK: No. We are talking about medical
7 questionnaires. It makes it very difficult if people
8 now claim that they have some kind of respiratory
9 problem if you didn't have some kind of baseline
10 questioning, like do you have a heart problem, high
11 blood pressure, things like that. It makes it
12 difficult to tease out --
13 CO-CHAIR REILLY: Thank you.
14 MS. CLARK: -- where these issues began.
15 Further, adequate funding and resources were not in
16 place to deal with claims of physical and mental
17 illness among Gulf Coast residents.
18 The National Contingency Plan, and this is
19 the framework used to respond to oil spills under the
20 Oil Pollution Act, contains no specific guidance for
21 responding to public health impacts of an oil spill or
22 hazardous substance releases, much less any systematic

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1 long-term monitoring of health effects resulting from
2 an oil spill.
3 We have heard from citizens around the Gulf
4 who allege that they have had health problems that
5 result from or were exacerbated by the spill, response
6 actions, or the resulting struggles inflicted on the
7 region.
8 Whether or not these health concerns are
9 warranted does not change the perception among some
10 that government is not and has not been responsive to
11 such concerns.
12 Sorry about that. Next slide. This leads me
13 to my fourth and last proposed recommendation from the
14 Commission staff, that the Environmental Protection
15 Agency should amend the National Contingency Plan to
16 add distinct plans and procedures to address human
17 health impacts during a spill of national
18 significance.
19 With respect to worker health and safety,
20 existing authorities should be strengthened and ensure
21 consistent application of medical screening and
22 surveillance procedures to formal response contractors

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1 and citizen responders.
2 There is a nuance in there, that, in general,
3 in smaller spills, contractors are brought in that
4 already have experience in cleaning up oil spills and
5 are medically screened to do so. In this instance, so
6 many people were required to address and respond to
7 this spill that they were hiring local everyday
8 citizens, and this is where the issue begins.
9 Regarding public health, a medical service
10 protocol should be incorporated. Provisions should
11 also be made for long-term monitoring of health effects
12 for cleanup workers and affected citizens alike.
13 CO-CHAIR REILLY: The only thing I would say
14 with respect to long-term monitoring of health effects,
15 that is structurally a little difficult to see how that
16 is financed, particularly, if there is a settlement.
17 Beyond that, that is very expensive, if you are talking
18 about a reasonably significant population long term
19 depending on what it is you do. But usually you would
20 give an annual physical and blood test and a whole
21 range of reviews annually.
22 I would suspect that we need to be more

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1 careful maybe to narrow that to exactly what we mean by
2 it, and if it's long term, how it's meant.
3 MS. CLARK: Great. Thank you.
4 MS. BEINECKE: I would like to comment on
5 this. I think we all traveled to the Gulf and heard
6 repeatedly from local citizens their concern about
7 exposure. They are concerned about their exposure to
8 the oil, their possible exposure to toxic impacts of
9 dispersants. Whether or not they were actually
10 exposed, the uncertainty is what really pervaded, I
11 think, every conversation we had with people in the
12 Gulf.
13 So I think it is so critical to set up a
14 protocol so that the public can be confident in the
15 data they are getting. Those protocols weren't set
16 up. The EPA responded actually quite quickly and set
17 up monitoring. But I think there was a continuing
18 problem on the physical exposure.
19 And then the mental health concerns continue
20 to this day. And, I think, you know, if you continue
21 to read any of the news reports from the Gulf or listen
22 to the radio, this is an ongoing concern which really

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1 just -- perhaps part of it is the aftermath of the toll
2 that Katrina left on the region, and then having this
3 added on top of that.

4 But this is -- we have looked at the Gulf of
5 Mexico as a region that has just been hammered with so
6 many impacts from so many activities, whether they are
7 natural disasters or human-caused disasters, as this
8 was, and realize emphasizing what the toll was on human
9 health is a very important dimension of this, because
10 it will, in many ways, have the longest-lasting effect
11 on the psyche of the people.

12 I think these recommendations are really,
13 really important ones, being able to highlight this, if
14 this requires both an amendment to the National
15 Contingency Plan, but looking back at what OPA actually
16 addresses. Because, as we know, it was drafted really
17 responding to Exxon Valdez, which was in a very
18 different part of the country, many different issues,
19 and ensuring that OPA, as enacted, actually covers the
20 range of issues that we have experienced here I think
21 is really important.

22 MS. CLARK: Thank you, Commissioner

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1 Beinecke. I will close in saying that this
2 recommendation would ensure timely collection of
3 crucial human health baseline data. The lack of basic
4 medical information that could have been collected on a
5 one-page medical questionnaire limits the ability to
6 make accurate conclusions regarding long-term physical
7 health impacts.

8 It would also create a prepared and
9 integrated public health response mechanism. Lastly,
10 it would ensure that citizens physically or mentally
11 affected by the oil spill disaster receive adequate
12 attention, diagnosis and treatment.

13 CO-CHAIR REILLY: May I ask, does the
14 Stafford Act contemplate any of this?

15 MS. CLARK: The Stafford Act, under Response
16 Action 80, thank you, Claire, has a human health
17 response provision. We believe that there are parts of
18 that emergency response provision that are useful in
19 this instance.

20 We don't believe that they should be enacted
21 together. That would require a clash of authorities,
22 essentially, and set up a lot of conflict in terms of

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1 command structure and carrying out the response.
2 What we are recommending is that useful
3 portions of that emergency response function be
4 transport -- be put underneath the National Contingency
5 Plan so that you keep the authority structure in place.

6 CO-CHAIR REILLY: Thank you.

7 CO-CHAIR GRAHAM: That last comment may have
8 some applicability to another subject we talked about
9 yesterday, and that is, how do you integrate local
10 officials in doing things that are truly local?

11 I recognize that things like the skimmers, et
12 cetera, are going to be nationalized. But the things
13 that happen in the direct community, to have those
14 managed by a federal authority I found not to be very
15 efficient or sensitive to local needs.

16 So maybe that might be another area of the
17 Stafford Act that we could look at, see if not the Act
18 itself but some of the learning that we have had under
19 the Act could be inserted into the Oil Pollution Act.

20 MS. CLARK: Thank you.

21 CO-CHAIR GRAHAM: Are there any other
22 comments? If not, we are going to break for lunch. We

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1 will reconvene in one hour at 1 o'clock.

2 CO-CHAIR REILLY: Very nicely done.

3 MS. CLARK: Thank you very much.

4 CO-CHAIR GRAHAM: Kate, let me congratulate
5 you and, through you, your whole staff. It's just
6 very, very impressive and reassuring to see the quality
7 of the work that's been done here.

8 MS. CLARK: Thank you. Claire Bonridge and
9 Adam Benton have worked very hard in this instance.
10 Thank you very much.

11 CO-CHAIR GRAHAM: The pelican has thanked
12 you.

13 MS. CLARK: I should add Sarah Rubin to that.

14 CO-CHAIR GRAHAM: What is that?

15 MS. CLARK: I should add Sarah Rubin to the
16 list of people who have worked very hard on this.

17 CO-CHAIR GRAHAM: Thank you.

18 (Thereupon, there was a lunch recess taken at
19 11:59 a.m.)

20 (Thereupon, the proceedings were resumed at
21 1:01 p.m.)

22 CO-CHAIR REILLY: Good afternoon. We will

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<p style="text-align: right;">137</p> <p>1 resume our day two of deliberations. And we will begin 2 to address the subject of recovery and restoration in 3 the Gulf, and we will have opening remarks from 4 Professor Boesch.</p> <p>5 DR. BOESCH: Thank you very much. While 6 Americans were shocked by the scale, duration and 7 devastation potential of the Macondo well blowout, the 8 attention of the incident focused on the region made us 9 well aware of the long-term environmental tragedies 10 that are well under way in the Gulf of Mexico.</p> <p>11 Some of these, in part, are attributed to 12 extraction and associated chemical industries. For 13 example, over 1800 square miles of wetlands have 14 disappeared through the last century, to day an area 15 the size of the State of Delaware, a so-called dead 16 zone in the northern Gulf over the last 30 to 40 years, 17 an area that lacks oxygen near the sea floor.</p> <p>18 Virtually every summer, this past summer, it 19 extended over 7200 square miles, and to use the state 20 scale, a size just slightly smaller than the state of 21 Massachusetts. So this area has already some very 22 large and substantial environmental challenges.</p>	<p style="text-align: right;">139</p> <p>1 to future changes, future impacts of activities such as 2 this going forward.</p> <p>3 Eric Roston of our staff will review the 4 findings and recommendations regarding restoration and 5 recovery. The focus will be on environmental 6 restoration and less on recovery from the acute 7 economic impacts that we discussed earlier, which are 8 the subject of compensation from the Gulf Coast 9 Restoration Fund and other legal means.</p> <p>10 Fortunately, we can frame our recommendations 11 in the context of several efforts that are already 12 underway. We are not working from a blank slate. 13 Restoration plans for wetlands and barrier islands in 14 Louisiana and Mississippi, and for the amelioration of 15 hypoxia, these are these low oxygen conditions on the 16 shelf, are already quite mature, have been developed 17 over a number of years.</p> <p>18 Right now, what are lacking are the potential 19 the political commitments and resources to execute 20 these plans.</p> <p>21 Secondly, during the oil spill, President 22 Obama charged Secretary of the Navy Ray Mabus, a former</p>
<p style="text-align: right;">138</p> <p>1 Every year this attendant degradation of the 2 coastal environment and the offshore environment exacts 3 a toll, frankly, greater than our worst fears about the 4 impacts of this oil spill. This is occurring every 5 year.</p> <p>6 The spill provided us both a wake-up call, 7 drawing attention to the complex interaction of fossil 8 fuel production, river management, commerce up 9 America's great river, industrial agriculture in the 10 heartland, hurricane risks, fishing, and climate change 11 that have conspired to produce chronic threats of 12 ongoing degradation, and an opportunity not only to 13 repair the damage of this oil spill, as we discussed 14 earlier with respect to the Natural Resource Damage 15 Assessment, but to restore the internationally 16 significant ecosystems by addressing the systemic 17 problems that are causing these tragedies that I have 18 referred to.</p> <p>19 The opportunity is presented, again not just 20 to damages due to the oil spill, but also to reverse 21 the trend and improve the degraded condition that 22 exists and makes the systems that much more resilient</p>	<p style="text-align: right;">140</p> <p>1 Mississippi governor, to prepare a proposal for spill 2 restoration and recovery, post-spill restoration and 3 recovery. And, in September, I think we saw Secretary 4 Mabus delivered an extensive -- after an extensive 5 listing to have delivered a thoughtful report which 6 provides a comprehensive perspective on addressing 7 these pre-existent ecosystem challenges.</p> <p>8 And he recommended that Congress direct a 9 significant portion of the fines and penalties that may 10 be recovered under the Clean Water Act for these 11 purposes. As we know, members of Congress from the 12 region have suggested that the significant portion 13 should be as much as 80 percent of those fines and 14 penalties.</p> <p>15 So there may be a means, as well as a way, to 16 begin, in a more earnest way, in this restoration 17 task.</p> <p>18 The President, as we know, signed an 19 Executive Order establishing a Gulf Coast Ecosystem 20 Task Force headed by another native of a Gulf Coast 21 state, Lisa Jackson, Administrator of EPA, to 22 coordinate the efforts of that purpose. And Secretary</p>

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<p style="text-align: right;">141</p> <p>1 Mabus recommended a longer-term structure in order to 2 begin this task, to undertake this task.</p> <p>3 Also, when the oil was still flowing from 4 Macondo well, the President signed another Executive 5 Order creating within his administration a National 6 Oceans Council. This is a body that is meant to pull 7 together within the Executive Branch and government to 8 develop a coherent National Oceans Policy, and apply a 9 career National Oceans Policy.</p> <p>10 Among the recommendations for that policy are 11 what is commonly known -- become commonly known as 12 coastal marine spacial planning, in which we, as a 13 nation, could find ways to reconcile conflicts that 14 exist within our uses of our national ocean, and to 15 make our use more beneficial in the long run and 16 sustainable to achieve those results.</p> <p>17 This provides -- this new framework provides 18 an opportunity for efforts to restore the resilience of 19 offshore environments, which are under complete 20 responsibility of the federal government. And, indeed 21 as Commissioner Garcia mentioned earlier, it is these 22 environments that receive the bulk of the oil.</p>	<p style="text-align: right;">143</p> <p>1 technology. He spoke about battle plans.</p> <p>2 If you look at this satellite image which was 3 taken on May 24th, the attack is clear and present. 4 But what this image calls into question, to carry on 5 the President's metaphor, is the defense. Now, there 6 are many kinds of defense, many of which you have heard 7 about in previous presentations in previous hearings.</p> <p>8 What we see in this image from this height is 9 not a particularly wide battlefield. The land to the 10 northwest of the spill is southern Louisiana, the 11 bird's foot, as it's called. If you look at this vein, 12 from this perspective it looks like a vein, is the 13 Mississippi River.</p> <p>14 This is not the picture of a healthy river 15 delta, one that continuously replenishes and rebuilds 16 itself, that protects land and defends communities 17 behind it. Why that is the case and what can be done 18 to provide better defense is one of the topics that I 19 would like to discuss today.</p> <p>20 The Gulf of Mexico is vast, bordering three 21 countries. 47 estuaries sit off the Gulf. The 22 Mississippi and the Atchafalaya River is pouring</p>
<p style="text-align: right;">142</p> <p>1 Although we fully don't know the impacts yet, 2 these provide opportunities that go beyond physical 3 restoration, managing these environments and resources 4 in a more sustainable way going forward.</p> <p>5 So as the nation and the region addresses 6 these restoration challenges, it is essential that our 7 efforts are both effective and efficient. They must 8 address the root causes, rather than just the 9 collection of piecemeal palliative projects, and they 10 must be guided by the best science and engage 11 substantial public input.</p> <p>12 So Mr. Roston will now provide an overview of 13 our thoughts and resulting staff research and 14 deliberations with the subcommittees of this Commission 15 on the issue of restoration.</p> <p>16 MR. ROSTON: Thank you. Good afternoon. 17 Thank you for inviting staff to participate in this 18 forum.</p> <p>19 In his June 15th remarks about the oil spill 20 to the Oval Office, President Obama cast the incident 21 in war-like terms. He spoke about a battle being 22 waged. He spoke about mobilizing equipment and</p>	<p style="text-align: right;">144</p> <p>1 two-thirds of its total inflow. U. S. tidal shoreline 2 stretches more than 17,000 miles. It is a complicated 3 place with complicated issues, made much more so by the 4 Deepwater Horizon disaster.</p> <p>5 Consequently, the potential topics of this 6 presentation are vast. As you can see from the 7 contents list on the left, staff has made a decision to 8 focus on what might be called the challenges of 9 greatest magnitude.</p> <p>10 Much of the Gulf, about two-thirds of the 11 Gulf, is a geography composed of barrier islands with 12 sporadic wetlands. There are similar themes in the 13 creation of the issues experienced in Florida, Alabama, 14 Mississippi, Texas. There are similar geographies. 15 There are similar solutions to many of their problems.</p> <p>16 If you survey the issues and the restoration 17 needs of these states, sometimes they look very 18 similar. Beach nourishment is a major issue in 19 Florida, Alabama, southern Texas. Economies in these 20 states hinge on their tourism industries, fishing 21 industries, and those interests often guide the 22 restoration needs.</p>

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<p style="text-align: right;">145</p> <p>1 I had prepared a swing through the Gulf 2 overview. But in the interest of time, I'm going to 3 pass by some of these slides and focus, so that we can 4 come back to them later in discussion. We can get to 5 the discussion faster. 6 Now, resilience, the word resilience has 7 become something of a buzzword in the last couple of 8 years. I believe it's still on the ascent. We will be 9 hearing much more of it. It's becoming a political 10 word. But it's a good word and it's a ground word, and 11 that is worth keeping in mind. 12 An early study from 1973 that brought rigor 13 to the scientific ecological consideration to the word 14 resilience is this paper from a Canadian ecologist 15 named C. S. Holling. He distinguishes two kinds of 16 systems, resilient and stable or dynamic and static. 17 You can call it different things. 18 Part of what he argues is that because of 19 kind of habits of mind from engineering, from the 20 physicists of the 19th century, we tend to apply 21 mechanical habits of mind to living systems. And if 22 you -- what defines stable systems is an equilibrium.</p>	<p style="text-align: right;">147</p> <p>1 And in a way of framing the pool of potential 2 recommendations you might discuss, I want to break down 3 the system into some variables, into some sort of 4 planes of potential conflict. 5 There are many interests in the Gulf. There 6 are federal interests in the Gulf, and there are state 7 interests in the Gulf. There are interests in the Gulf 8 among the five states and among factions, collections 9 of those individual states. And there are potential 10 conflicts among coastal issues and marine issues. 11 What I just described are nine variables. 12 And those variables, you can imagine yourself at a 13 control panel and these are the gauges, and you can 14 turn it up or turn it down. That is just -- that has 15 been my working image of how to make sense of so many 16 complicated issues. 17 Again, we can return to these upon request. 18 But I do want to move through the slides and get to the 19 recommendations, which are at the end. 20 Again, as a -- just in terms of the simplest 21 explanation of why I'm focusing on what I'm focusing on 22 are issues of scale. These are the issues of largest</p>
<p style="text-align: right;">146</p> <p>1 You want it to do the same thing and do it over and 2 over again with great reliability. 3 With resilient systems, you want something 4 else. You don't need that equilibrium. You want it to 5 persist. And that is the definition of resilience, the 6 capacity to persist. 7 And in achieving that goal of persistence, 8 there is much more variability. In some ways, this is 9 just a complicated way of talking about the difference 10 between living systems and human mechanical systems. 11 Holling ends the paper by saying the 12 resilience and stability viewpoints of behavior of 13 ecological systems can yield very different approaches 14 to the management of resources. The resilience 15 framework can accommodate the shift of perspective for 16 it does not require a precise capacity to predict the 17 future, but only a qualitative capacity to divide 18 systems that can absorb and accommodate future events 19 in whatever unexpected form they may take. 20 Now, what I want to try to do for you today 21 is assemble a big picture, a picture of a resilient 22 system that has many new static stable elements in it.</p>	<p style="text-align: right;">148</p> <p>1 scale. 2 And focus here on Louisiana, I'm going to 3 talk a little bit about history. And what we found on 4 staff is that by understanding history, the Commission 5 might come to some conclusions about what has been 6 done, what has not been done, and, consequently, what 7 recommendations might be for future actions. 8 So technically, the Mississippi River begins 9 at Lake Itasca, about 2300 miles to the north of the 10 Gulf. And this is neat. I think there may not be a 11 better word for it. It's neat what happens, is that it 12 rains over the Rocky Mountains and the water flows into 13 the system, loosens soil and rock along the way. 14 The same thing happens along the Appalachian 15 Mountains. And feeders from 31 states converge on the 16 Lower Mississippi Valley and flow past New Orleans on 17 the Atchafalaya River. 18 And in Washington, probably a day doesn't 19 pass in Washington when you turn a corner, look down an 20 avenue, and you see the Washington Monument. The 21 Washington Monument is made with stones taken from all 22 of the different states. That is one thing, part of</p>

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1 its great symbolism.
2 Louisiana, because it's composed of material
3 from all of the rest of this great basin, you can argue
4 that Louisiana is the Washington Monument of the river
5 delta.
6 So again, I want to emphasize the national
7 scale of problems here. It's not only rain that comes
8 down. It's sediment that comes down. It's sediment
9 that forms the -- has formed, historically, the land of
10 the delta. Sediment is coming down less and less, and
11 that is because in the middle of the last century,
12 there were a number of major dams built, particularly
13 in the Missouri River Basin.
14 This has dramatically brought down the levels
15 of sediment coming down into the Gulf, down from about
16 125 million metric tons before the dams to about 25
17 million metric tons today, if even that much. It's not
18 being used to rebuild and replenish the delta. It's
19 being pushed out into the Gulf, basically being
20 wasted.
21 And one function of levying the river as much
22 as we have is that you lose this natural flood plain.

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1 You lose -- the more water that is in the riverbed, the
2 more sediment load. It increases exponentially 12
3 times.
4 So if you levy the river and you prevent this
5 flooding, that is -- the flooding is a time when there
6 is the richest amount of sediment in the river. So
7 that is another way that we are inhibiting the system.
8 John Barry appeared at our September hearing
9 on these topics, and he addressed fellow Americans, I
10 guess, in the north. He said: If people in the
11 Dakotas, Nebraska and Missouri understood that their
12 profits and even their safety have endangered the lives
13 and property of people in the Gulf, they would support,
14 rather than oppose, national policy to help the Gulf.
15 They would see it as a responsibility and not a
16 handout.
17 Before we go on to the next slide, one
18 question I had, in the course of my research, was it's
19 very -- it's very easy to get Louisianans to talk about
20 these problems. But what about people who are found
21 elsewhere in the country? What attracts other
22 Americans to think about this, as Americans are now

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1 being asked to think about this?
2 And what we found is that trying to make a
3 difference in the Gulf is not a birthright. For
4 example, Paul Kemp is a former LSU professor, now the
5 Vice-President of the Audubon Society, he grew up on
6 Long Island, and spent summers sailing and exploring
7 the fringe marshes of Great South Bay along the
8 southern shore.
9 He told us that these experiences had primed
10 him for a college-age awakening to a marsh environment
11 that was much larger than the one he was used to, and
12 that is the Mississippi Delta wetlands.
13 And on a Commissioner trip to New Orleans, he
14 was asked, sort of at the end of an interview, kind of
15 casually: Why do you do this for a living? And he
16 said something very interesting that I ask you to take
17 note of, and that I ask people watching to take note
18 of.
19 What he said was: I fell in love with the
20 system. When I came to Louisiana, he added in a later
21 interview, I saw this expanse, that you could just get
22 lost in it, it's so full of life. I saw it was

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1 threatened, as if a decision had been made to destroy
2 it, and end of quote.
3 People tend to be more sensitive to active
4 attempts to kill something or someone than they are to
5 benign neglect. What Kemp and many others see is that
6 benign neglect is stripping, literally in the case of
7 marsh canals, valuable land and ecosystems from the
8 face of the country.
9 I won't dwell on this, but just more about
10 the sort of invisible daily kind of activity of how the
11 basin holds this all together. This blue area --
12 sorry -- above Tennessee, this is a map of the average
13 precipitation from May. And that blue mass above
14 Tennessee is the precipitation that came down when that
15 terrible storm parked above Nashville and flooded the
16 city and killed 30 people around the southeast.
17 One thing that scientists believe happened is
18 that river flushed into the Ohio, down the Mississippi,
19 out into the Gulf, potentially keeping some of the oil
20 at bay.
21 CO-CHAIR REILLY: Eric, just quickly, the
22 sediment that no longer reaches Louisiana presumably

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1 piles up behind these new dams, meaning they have to be
2 rebuilt regularly or more frequently than what
3 otherwise would be the case?
4 MR. ROSTON: I believe they are restored or
5 disposed of.
6 CO-CHAIR REILLY: They obsolesce these
7 structures?
8 MR. ROSTON: They are taken out of play.
9 CO-CHAIR REILLY: Thank you.
10 MR. ROSTON: Again, this is just about the
11 best set of images I think we have come across showing
12 the difference between resilient and static systems,
13 dynamic and static systems. The image on the left is
14 graphic of the historic meander of the Mississippi
15 River, how it goes, where it goes, how hard it is to
16 protect, but it does persist, as it's supposed to,
17 versus the image on the right, which is -- the broader
18 strip is the flood plain from the 1927 flood, and the
19 blue is the modern river, levied as tightly as it is as
20 a result of the '27 event.
21 Now, again, there is a -- America's top
22 hydrologist has a book on the national best-seller list

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1 at the moment, Mark Twain, and it's worth taking into
2 account some of his thoughts on how the system works
3 and how the river elongates and shrinks.
4 You couldn't have foreseen how much it would
5 shrink. He wrote in *Life on the Mississippi*: By the
6 same token, any person can see that 742 years from now,
7 the lower Mississippi will be only a mile and three-
8 quarters long and Cairo, Illinois and New Orleans will
9 have joined their streets together and be plotting
10 comfortably under a single mayor, and an unusual board
11 of aldermans. There is something fascinating about
12 science. One gets such wholesale returns of conjecture
13 on such a trifling investment of fact.
14 On a much more serious level, and I bring in
15 Twain to belittle -- at the risk of seeming to lighten
16 these issues which perhaps one should not do. Senator
17 Mary Landrieu came to our September hearing and
18 described a more somber description -- a more somber
19 description of these two slides.
20 She called it a strangulation. She said for
21 more than a century, the federal government has
22 mismanaged critical water resource projects, placing

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1 delicate ecosystems like the Mississippi Delta at
2 extreme risk of complete and utter collapse. The loss
3 of protective wetlands is not a natural disaster, but a
4 manmade one.
5 I'm going to pass by some things in the
6 interest of time. What is the end result of natural
7 behavior of the Gulf in the delta versus human cause
8 change?
9 And you can see on the bottom left what part
10 of Louisiana this image is taken from. In the upper
11 left is natural marsh. That is fed with sediment
12 because there are two distributaries of the Mississippi
13 River.
14 One is the Mississippi River that goes out
15 the bird's foot, and the other is the Atchafalaya
16 River, through which 30 percent of the river's water
17 flows. And it flows, and there is not the
18 infrastructure there that there is at the tail end of
19 the Mississippi River.
20 And consequently, it floods and the floods
21 bring sediment, and the sediment settles into land and
22 the microbes and the trees come and the bird watchers.

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1 Compare that with just several miles away --
2 I apologize, there is no key on there to indicate the
3 scale -- but the modified marsh is deprived of
4 sediment, and what is more, it's run through with
5 canals, navigation canals that the industry has put
6 in. Some 10,000 miles of canals have been driven
7 through the Louisiana marsh.
8 A 2009 Mineral Management study quantified
9 wetland loss within the vicinity of oil and gas
10 structures. They concluded that the construction of
11 OCS-related pipelines through coastal ecosystems of the
12 MMS western and central panning areas of the northern
13 Gulf of Mexico can cause locally intense habitat
14 changes, thereby contributing to the loss of critically
15 important land in wetland areas, whether conversion to
16 open water or whether from fresh water marsh and salt
17 water marsh.
18 This is a slide that was prepared by the
19 Louisiana Office of Coastal Protection and Restoration,
20 I believe earlier this year, and it's a history and a
21 projection. You can see the key in the lower right,
22 land loss from 1932 to 2000 in red, potential land loss

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1 expected in the next 40 years.
2 That's about 500 -- according to the model,
3 513 square miles of land could be lost if current
4 trends continue. And that depiction does not take into
5 account any additional sea level rise, which is,
6 obviously, a great concern in the years ahead.
7 The Office of Coastal Protection and
8 Restoration was created in the aftermath of Hurricane
9 Katrina. And Louisiana and Mississippi, which were hit
10 hardest by the storm, made internal changes. Their
11 relations with the federal government changed as new
12 programs and new defenses were called in to prevent
13 damage on the scale that they saw in 2005.
14 This slide is a -- shows the inundation area
15 from Hurricane Katrina on the lower Mississippi. You
16 can see those barrier islands about 12 miles south of
17 the shore. Down at the bottom is a graphic that shows
18 the -- kind of one of the state-of-the-art ideas in how
19 to make the Gulf stronger and more resilient to
20 storms.
21 It's called the multiple lines of defense
22 strategy. And typically, in the last century,

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1 hurricane protection, storm protection, used what is
2 called hard engineering; basically, building levies.
3 And there is more knowledge and more skill
4 hopefully to bring in what are also called -- what are
5 called soft engineering approaches to beating back
6 storms. So you could just kind of -- you can see it as
7 a system.
8 Again, there is a trend to move away from
9 this mechanical way of thinking into a consideration of
10 resilient systems and what we can do to encourage
11 them. And this is a hybrid. So you can try to bring
12 back barrier islands. You can build sand dunes before
13 a highway on top of a sea wall, and on and on you go
14 until you have the actual levies and the flood gates
15 protecting the communities.
16 Louisiana is more advanced than any of the
17 other states. I think in conversations with people
18 from the other states, there's either envy -- or
19 probably not envy. It's noticed that Louisiana is
20 skilled at communicating its challenges.
21 It's challenges are great. And it has and
22 continues to put an enormous amount of resources, human

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1 and financial, into trying to address them.
2 So as Don said at the beginning, there's not
3 a -- this is not a fresh start. There are, in some
4 cases, decades of work that have gone into the
5 conversation that you are having.
6 And there's no need to probably unpack
7 everything in the slide. If you want, there are a
8 couple of projects. This is all live. This is all
9 happening in real time. It was just a couple of weeks
10 ago that the latest batch of feasibility reports from
11 major Army Corps of Engineer projects came out.
12 There is a lot of work being done modeling
13 potential future restoration projects that involve the
14 state of Louisiana, and a group of NGOs are doing a lot
15 of work trying to get these large initial projects
16 built, which both have restoration value and which are
17 good test cases for even larger projects.
18 So when we talk about restorations -- excuse
19 me -- recommendations, I feel that in a succinct way,
20 Don -- Commissioner Boesch --
21 DR. BOESCH: That is okay.
22 MR. ROSTON: -- has said that at the

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1 beginning. What are lacking are the political
2 commitments and the resources to execute them.
3 He was talking about hypoxia. But it's true
4 at many scales of both communities in Louisiana, the
5 state of Louisiana, projects around the Gulf and other
6 states. So the first two recommendations here go to
7 address the lack of funding and lack of authority.
8 Proposed recommendation; dedicated sustained
9 funding is necessary to accomplish nationally
10 significant long-term Gulf ecosystem restoration.
11 Congress should direct 80 percent of civil and criminal
12 Clean Water Act penalties to this work, which would
13 support implementation of a region-wide comprehensive
14 plan.
15 Global settlement of litigation should
16 include supplemental environmental projects, criminal
17 restitution and community service projects that direct
18 payments to the Gulf. Should Clean Water Act penalties
19 not be directed toward Gulf ecosystem restoration,
20 Congress should seek other mechanisms outside the
21 appropriations process.
22 I will go through the next two coastal

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<p style="text-align: right;">161</p> <p>1 recommendations and then pause. Here there are two 2 options to begin deliberations. In the first set, 3 Congress should establish a joint state/federal Gulf 4 Coast Ecosystem Restoration Council. The council 5 should implement the comprehensive plan for the region 6 that is compatible with existing state plans. 7 The comprehensive plan should set short- and 8 long-term restoration goals with binding criteria for 9 selecting projects eligible for funding. Key criteria 10 should include spill impact, degree of restoration 11 need, and opportunities to build ecosystem resilience. 12 And another option; Congress should establish 13 a joint state/federal Gulf Coast Ecosystem Restoration 14 Council that is responsible for allocating funding 15 based on at least three criteria; it's national 16 significance, the extent to which federal policy 17 directly contributed to the environmental problem, and 18 compatibility with state comprehensive plans. 19 These criteria should form the basis of a 20 comprehensive regional plan which would set short- and 21 long-term restoration goals. 22 Finally, these are recommendations that</p>	<p style="text-align: right;">163</p> <p>1 Those statements are conditional on the results of 2 either litigation or settlement results. 3 CO-CHAIR REILLY: It seems to me that needs 4 to be made a little more specific. We do not want to 5 assume the result of any kind of criminal 6 investigation. We really don't. That is very clear 7 from the Executive Order we should not interfere with 8 the criminal prosecution or investigation process. 9 Let me ask just a couple of questions before 10 we get into the details. How do the -- how many of the 11 Gulf states already have comprehensive restoration 12 plans? 13 We have heard so much, particularly in 14 Louisiana, of what great effort citizens have expended 15 to try to get a restoration plan. I have had the 16 impression that we should probably support what they 17 have done. But what they have not had has been money. 18 Is that correct? And is it equally true from 19 the other states? 20 MR. ROSTON: I would preface that by saying 21 that a number of the bills that have come out in 22 Congress addressing these issues, this White House has</p>
<p style="text-align: right;">162</p> <p>1 concern input from the public in guiding these programs 2 and scientists in designing them. Gulf Coast Ecosystem 3 Restoration Council priorities and decisions should be 4 informed by meaningful input from a citizens advisory 5 council that represents the diverse stakeholder 6 interests in the Gulf. 7 The federal government should establish and 8 fund a Gulf restoration science program that dedicates 9 resources to research Gulf ecology. A project-focused 10 review panel, scientific review panel, should evaluate 11 individual projects for scientific validity and 12 consistency with the comprehensive plan. 13 I will pause my presentation now. 14 CO-CHAIR REILLY: I'm going to ask you, Eric, 15 to characterize the difference and the distinctions 16 between those options in a minute. 17 But first of all, may I ask, the use of the 18 term criminal restitution, what kind of assumption are 19 you making in that, that this is a given, a foregone 20 conclusion that will result from the Justice 21 Department. 22 MR. ROSTON: These are all conditional.</p>	<p style="text-align: right;">164</p> <p>1 spent time and human resources in thinking through some 2 of these policy issues. 3 I think you will find that all of them have 4 some phrase akin to compatibility with existing state 5 plans. So yes. Yes. 6 CO-CHAIR REILLY: All the states have them? 7 MR. ROSTON: They all have -- I would say 8 they all have programs. One way to think about, kind 9 of, a fundamental problem here is that there are five 10 states. They have vastly different environmental 11 problems. 12 These environmental problems are -- have -- 13 carry vastly different expenses and they are understood 14 at -- they have been studied at very different levels. 15 So the playing field, in terms of preparation for 16 discussion, if nothing else, in terms of volume, is -- 17 means that Louisiana has the most developed program. 18 CO-CHAIR REILLY: We have heard so much from 19 Senator Landrieu, from Governor Riley, and others, we 20 have been studied to death, don't really get us into 21 other spiral, a vortex, I suppose of further planning 22 and review.</p>

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1 So to the extent possible, I guess what I'm
2 getting at is how much that we consider is worthwhile
3 we could work with and reinforce in our
4 recommendations, and how much could we recommend which
5 is novel.

6 MR. ROSTON: I think that all of the states,
7 at different scales, have very important and vital
8 programs and policies that should form the basis of any
9 national entity.

10 They have done the work. It is their land,
11 and they know the land, and they know what the needs
12 are. That is not to discount the obvious need for what
13 I believe, I would recommend is a federal and
14 scientific program and a scientific review.

15 But the Louisiana -- Louisiana actually has
16 passed a constitutional amendment that links all of its
17 oil and gas revenue to a coastal protection and
18 restoration fund. That is more advanced than any other
19 state.

20 They have also developed an evolving
21 comprehensive master plan that will have an update in
22 2012. And part of that is a prioritization model that

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1 classifies, you know, hundreds of potential restoration
2 projects.

3 Mississippi, after Hurricane Katrina, also
4 has a comprehensive plan. It has actually appropriated
5 \$439 million in 2009. There is still -- that is not
6 even most of the cost of the program, but also
7 represents probably the second most -- gotten the
8 second most attention from federal resources.

9 Then there are other programs. The Coastal
10 Impact Assistance Program, which is run through
11 Interior, is a program -- is a revenue-return program
12 to four Gulf states. Florida doesn't participate in
13 those discussions -- participates in the discussions --
14 but anyway.

15 Most significantly, perhaps particularly in
16 the previous years, is the Gulf of Mexico Energy
17 Security Act, which has -- which will deliver up to --
18 if I get this wrong, I will be corrected -- I think 500
19 million dollars a year to states beginning in the early
20 2020s. For budgetary reasons, the largest value of
21 revenue return doesn't begin until 2017.

22 So from this constellation -- and there are

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1 state programs. You can go on. That's -- there is a
2 constellation of things that the federal government
3 could help the states build in to a comprehensive
4 regional program.

5 CO-CHAIR REILLY: Senator Graham and I have
6 had meetings with Governor Mabus, and he has
7 recommended, as you said, I think, that Clean Water Act
8 fines be directed to the Gulf, some for natural
9 resource restoration, some for economic recovery.

10 I recall his mentioning there are 37
11 different congressional districts that border the Gulf,
12 and ten Senators. And he took the political sounding,
13 did extensive consultation before he developed his
14 report, which it deserves a large presumption, I think,
15 of acceptance.

16 How do the options that you set up there
17 reinforce or differ from what Secretary Mabus has
18 proposed?

19 MR. ROSTON: My discussion of those options
20 before were sort of agnostic of the predicated
21 situation, if that. When looking at those options, you
22 can look at different predicates, resource restoration,

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1 fisheries, any of the interests you can plug in and see
2 which variables may best serve that interest.

3 I think that -- there are some things that
4 have made sense and still make sense but have not been
5 done. As Commissioner Boesch said, what we are lacking
6 are the political commitments and resources to execute
7 them.

8 CO-CHAIR REILLY: That is pretty much what he
9 was intending to try to deal with, to get some nexus
10 between what makes sense from the scientific and
11 restoration point of view and what is politically
12 plausible and salable.

13 MR. ROSTON: Yes. I believe that report went
14 through interagency review. So there were probably a
15 lot of eyes and hands on it. And the solutions
16 proposed are -- again, they are good solutions that we
17 should support to the extent that you decide to.

18 I apologize. The two main ways, I would say,
19 are a federal organizing council and the redirection of
20 these funds. The first slide was the redirection of
21 the funds, because without the resources to have a
22 program, you can't have a program.

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1 CO-CHAIR REILLY: And with respect to the two
2 options, is one or the other more consistent or less
3 consistent with the Mabus recommendations?
4 MR. ROSTON: The two, I would -- you could
5 divide them probably along the -- the tendency in civic
6 media discourse, when you are speaking of something for
7 an hour, is to make things very black and white. But
8 particularly in this area, there is a lot of gray.
9 So I'm going to describe a tendency of one
10 recommendation versus a tendency of the other.
11 CO-CHAIR REILLY: An emulation, in the words
12 of famous Justice Douglas.
13 MR. ROSTON: I would say the first tends
14 toward a loser confederation of states working together
15 with federal agencies. And the second one has like a
16 stronger national -- consideration of national ideas,
17 what is nationally important, and there are, of course,
18 many ways you can answer that.
19 But those are -- this is -- these are big
20 complicated issues, and to just put forth one
21 recommendation I felt wasn't including --
22 CO-CHAIR REILLY: I hadn't seen these

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1 before. That is why I asked.
2 CO-CHAIR GRAHAM: I think what Bill was
3 asking, it seems to me you can break both of the two --
4 the options have some similar characteristics. I guess
5 Mabus recommended the joint state/federal Gulf Coast
6 Ecosystem Restoration Council. Is that correct?
7 MR. ROSTON: One distinction is Secretary
8 Mabus proposed, I think, a wider council, a council
9 that would take on a wider array of issues.
10 DR. BOESCH: More than just ecosystems.
11 MR. ROSTON: It would take on recovery
12 CO-CHAIR GRAHAM: So we now have a basic
13 issue. Should we be recommending restoration-related
14 items, or should we be recommending restoration and
15 economic items?
16 I will tell you personally, I would feel that
17 what we ought to do is to recommend that a percentage
18 of this money be used for restoration, and then the
19 balance of it would be a jump ball for something else.
20 There are going to be lots of people with
21 their projects for convention centers and ports, et
22 cetera, that will be lined up. I think -- I feel one

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1 of our responsibilities is to try to protect a
2 significant amount of this money for the ecosystem
3 restoration.
4 CO-CHAIR REILLY: Professor Boesch?
5 DR. BOESCH: Yes. I just want to actually
6 second the Senator's thoughts about this and elaborate
7 a little more my perspective on the matter.
8 I think the two alternatives really differ in
9 terms of how the criteria are expressed. Both agree
10 that there ought to be criteria. And that if the
11 nation is going to invest part of these damages to
12 recovery which would otherwise go to the benefit of the
13 nation as a whole, they ought to be strongly in the
14 national interests.
15 And I think if we look at that, I think
16 embodied in the second is the issue of national
17 significance. I would submit that some of the concepts
18 put in the first suggestion, and these are obviously
19 just ideas we are battling within the Commission, that
20 is the degree of restoration, meaning the opportunity
21 to build ecosystems are actually components of what we
22 might call national significance.

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1 The other thing which I think is very
2 important in this second item is the extent to which
3 federal policy contributed to the nature of the
4 problem. That is also a dimension of national
5 interest. But I think that is an important
6 consideration and criterion that needs to be taken into
7 account.
8 I also think the Senators made a wise
9 suggestion, because I think we can make a compelling
10 case with respect to environmental restoration, that it
11 is in the national interests, and that there ought to
12 be accountability on how it's conducted with these
13 resources.
14 It ought to meet principles and outside merit
15 review, be part of comprehensive plans that deal not
16 only with the national vision of what ecosystem in the
17 Gulf is, but also be consistent with state plans, as
18 stated here.
19 I can tell you one of my concerns about if we
20 don't make a strong recommendation, is just like when
21 funds have become available, say, in the Gulf Coast
22 particularly, in the state of Louisiana, for dealing

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1 with their twin threats of coastal erosion, coastal
2 wetland loss and hurricane protection, it generally has
3 been the immediate need for hurricane protection, the
4 building of levies and so on that has gotten the bulk
5 of the resources.

6 So we really need to have a long-term view
7 here. This tragedy hopefully won't be repeated again
8 in a long time. It gives us an opportunity to make
9 long-term investments for the resilience of this
10 system, and with respect to restoring the natural
11 environment. And I think we ought to make a very
12 strong recommendation along those lines.

13 CO-CHAIR REILLY: Ms. Ulmer.

14 MS. ULMER: You know, I just happen to have
15 one of the notebooks that I had with me when Don and I
16 traveled to New Orleans to listen to people pretty
17 early in the process.

18 And I remember two meetings in particular
19 that I have notes from, one at the University of New
20 Orleans, and one Tulane University, listening to people
21 who have, from an academic perspective as opposed to
22 from a state or federal or oil industry perspective,

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1 been watching developments of these various planning
2 processes and doing some of the research over many
3 years.

4 And there are just three thoughts that I will
5 share with you from my notes from some of those
6 conversations. One is that there is no one unified
7 goal behind all of these various plans. For some of
8 them, it's about flood protection. For some of them,
9 it's about navigation. For some, it's about species
10 protection. For some, it's about coastal and marshland
11 restoration.

12 There are a variety of purposes that these
13 various plans address. There isn't just one overriding
14 goal. I remember specifically one of the women we
15 talked to talked about if nothing else, reaching
16 consensus about what we are really trying to achieve
17 with the investment of these funds would be an
18 important thing to do.

19 Secondly, that not all of these projects are
20 equal in terms of their ability to achieve any of these
21 goals. In other words, there is a cost efficiency of
22 projects.

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1 Some of them sound great and they might make
2 lots of people happy politically, but in terms of what
3 it actually buys in terms of restoration or any of
4 these other goals, there is a huge difference. So you
5 can't just simply say everybody gets a little piece of
6 the action if you want to fully maximize the dollars
7 that you have to spend.

8 So there has to be some mechanism, probably a
9 council like this one with scientific advisors, that
10 can rate how these things actually tier up in priority
11 and in utility from the standpoint of how you use the
12 money.

13 And one of the other overriding things that
14 we actually heard several times was the importance of
15 using science and long-term decision making as opposed
16 to short-term political expediency.

17 And the concern, again, the balance between
18 the federal and the state, the balance between economic
19 interests versus biological and ecosystem interests,
20 the balance between short term versus long term, how to
21 build that into the criteria, and how to have a council
22 that considers those things in a powerful way, not an

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1 advisory way, but in a the-buck-stops-here way.

2 Not easy, but I think important if we want
3 this effort to have lasting value.

4 CO-CHAIR REILLY: Any comments, questions?

5 CO-CHAIR GRAHAM: One small comment is we use
6 the word comprehensive plan. As William knows from his
7 former urban land days, the word comprehensive plan
8 has, in the field, a very specific meaning. And I
9 don't know if these states all have a, quote,
10 comprehensive plan in that definition.

11 I think we might be better to say that the
12 state plans maybe such as or including their Coastal
13 Zone Management Plan. Because all states are required
14 to have a Coastal Zone Management Plan. So there is
15 some consistency there.

16 Whether they all have a technically
17 comprehensive plan, I don't know.

18 DR. BOESCH: The two states that have
19 something close to the comprehensive plan are
20 Louisiana, which, again, as Eric described, has been
21 going at this for a while, actually has a revision of
22 the comprehensive plan coming out soon.

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1 Also, Mississippi, as part of its post-
2 Katrina recovery plan, has a comprehensive plan that
3 deals, in the case of Mississippi as well as Louisiana,
4 not only with restoring the environment, but also has
5 significant elements towards reducing the risk of
6 people and their homes to hurricane risks.

7 So the Mississippi plan and the Louisiana
8 plan, I think, are something -- plans that would serve
9 and be suitable for that purpose.

10 The other states, I'm not quite sure we agree
11 Alabama has such a plan. It has a fairly, really
12 relative to the other states, a fairly small section of
13 coastline, but it is built around Mobile Bay. I
14 imagine there are plans for that region.

15 The other states, of course, Texas and
16 Florida, big states, were only a small part of the
17 coast states that actually were impacted directly by
18 the oil spill. I don't know, to the degree to which
19 they have comprehensive plan, they all have focus in
20 the areas in question.

21 CO-CHAIR GRAHAM: A larger question is do you
22 think should we make a recommendation as to a specific

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1 number, percentage of funds that will be available to
2 this Gulf Coast Ecosystem Restoration Council, as to
3 what portion of those funds should be used specifically
4 for natural system restoration?

5 MR. GARCIA: I don't know that I have an
6 answer to that, other than that I think that the bulk
7 of the funds, the great majority of the funds that are
8 available, should be directed towards the natural
9 resources.

10 I like this notion that restoration should be
11 looked at as resilience, how do you increase or enhance
12 the resilience of the system. Because if we are going
13 to mitigate against the impact of a future spill or
14 event, it's resilience that is going to allow that.

15 I think we will be missing an opportunity if
16 we don't stay focused on the national interests, and
17 the fact that the Administration has said that it wants
18 to develop and intends to develop a national ocean
19 policy.

20 And one of the problems that we have had over
21 the years is there really hasn't been a national ocean
22 policy. So whatever is decided should be put in the

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1 context of that. We are not just talking about the
2 coast; we are talking about a larger system that is
3 very important to the country, not just that region but
4 to the country, and it should be a national policy.

5 CO-CHAIR REILLY: I suspect most of us would
6 find that acceptable, would agree with that. When I
7 came into this, my initial impulse is to think that we
8 are familiar with a lot of projects that have been
9 proposed over the years, many of which make imminently
10 good sense that have been given great thought,
11 reflection and support in the region.

12 For that reason, it strikes me as quite
13 understandable that people are saying to us don't ask
14 us to do more planning. We have done it. I don't know
15 what kind of money we will be talking about here. None
16 of us can really be sure.

17 But I suspect it won't stretch as far as all
18 of the existing good ideas and projects that have been
19 on the drawing boards, many authorized although not
20 appropriated.

21 Would it be conceivable, would it be
22 constructive to proceed ourselves to look at some of

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1 these projects that we think ought to go to the front
2 of the line and give some direction in that way,
3 specific direction, to what is done with the money to
4 the council, to the Gulf Coast Ecosystem Restoration
5 Council?

6 MR. ROSTON: Staff recommendation on the
7 question of looking at specific projects, to look at it
8 in the context of, really, the technical nature of
9 these. And probably more importantly is the holistic
10 nature of planning.

11 And that is that one project, pick one, you
12 know, could be very important to a section of the Gulf,
13 but in isolation isn't doing anything, because you are
14 sort of back to that issue of mechanistic solution to a
15 dynamic system. What is most important really --

16 CO-CHAIR REILLY: So you have thought about
17 that?

18 MR. ROSTON: -- is the system project. One
19 project is not necessarily important, but all of the
20 projects are phenomenally important.

21 CO-CHAIR REILLY: What about the suggestion
22 that Senator Graham has made, irrespective of where

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1 that final number comes out, that some percentage, 75
2 percent or whatever the number is, go for ecological
3 restoration?
4 DR. BOESCH: That is what you are proposing?
5 MR. ROSTON: Yes. The 80-percent figure is
6 not ours. It was taken from --
7 DR. BOESCH: Senator Landrieu.
8 CO-CHAIR REILLY: I thought the 80-percent
9 number was the amount of the fines.
10 MR. ROSTON: The amount of the fines
11 returning.
12 CO-CHAIR REILLY: 80 percent. No. The 80
13 percent I'm talking about is to distinguish -- I
14 thought you were between what goes to restoration of
15 ecology versus economic recovery kind of things that
16 Secretary Mabus had proposed. Those are two different
17 figures. Did I misunderstand you?
18 CO-CHAIR GRAHAM: Well, I was suggesting that
19 we should say that 80 percent of the fines collected go
20 for natural system restoration in the Gulf.
21 CO-CHAIR REILLY: The whole thing?
22 CO-CHAIR GRAHAM: Yes. That leaves 20

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1 percent. Congress can decide we are going to send 20
2 percent or 15 percent to the -- to economic projects in
3 the Gulf, or zero to economic projects in the Gulf, and
4 send it all to the Treasury.
5 But I think we ought to start from a strong
6 negotiating position vis-a-vis the natural system.
7 DR. BOESCH: I think that in my mind, other
8 than a strong interest in restoring that part of the
9 world and system, in my mind, from a national
10 perspective, it makes sense for all the reasons we just
11 discussed.
12 These are problems that are caused by
13 activities of national scale and significance, number
14 one. But also you are asking the American people to
15 forego -- to dedicate the resources to that part of the
16 world, not to provide, you know, economic development
17 programs which might not be -- they might not view in
18 their own interests, but in restoring part of the
19 natural world, which is a treasure of this country,
20 which they do, I think, see as part of their
21 interests.
22 In addition to that, there are other

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1 mechanisms that we discussed earlier, both with respect
2 to the Natural Resource Damage Assessment, with respect
3 to lost use of the beaches and things of this sort, but
4 also the kinds of settlements that not only may be
5 legal settlements because of lawsuits about lost
6 economic benefits, but also the kinds of things that BP
7 has already been working with the state on, on a
8 almost -- well, negotiated way rather than voluntary
9 way, to provide assistance to those states and affected
10 communities to make amends and make improvements.
11 So there are many other ways these things can
12 be done, as well as the fact that one could argue from
13 a parochial point of view, from someone who doesn't
14 live in the region, that developing a court or building
15 a convention center is not really in the national
16 interests.
17 CO-CHAIR REILLY: But to go back to your
18 point, Senator, you would be comfortable with 80
19 percent going for ecology, and 20 percent going for
20 economic development in the region? 100 percent, in
21 other words, going to the region?
22 CO-CHAIR GRAHAM: I would leave that up to

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1 Congress.
2 CO-CHAIR REILLY: The only thing -- you would
3 just stay with the 80 percent?
4 CO-CHAIR GRAHAM: I would say 80 percent to
5 go to natural systems.
6 CO-CHAIR REILLY: I think we would have to be
7 prepared for significant pushback from the Gulf states
8 if we did nothing or had nothing to say.
9 DR. BOESCH: I don't think our job is to
10 negotiate.
11 CO-CHAIR REILLY: I understand.
12 CO-CHAIR GRAHAM: What I'm taking into
13 account is the underside. Apparently Senator Landrieu
14 is in negotiation with Jeff Sessions or somebody, and
15 they are down to 60 percent of the money for natural
16 systems. I think the economic side --
17 CO-CHAIR REILLY: Is going to take care of
18 itself?
19 CO-CHAIR GRAHAM: -- is going to take care of
20 itself.
21 MS. ULMER: We have been talking about cost
22 versus safety, similarly, economics versus the

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<p style="text-align: right;">185</p> <p>1 environment, even though we know that restoring the 2 Gulf ecosystem is critical to the economy of the Gulf. 3 I mean, we have to remind ourselves continually, I 4 think, that restoring the ecosystem of the Gulf is not 5 some sort of abstract theoretical thing that has no 6 economic -- 7 CO-CHAIR REILLY: I don't think there is any 8 disagreement here. 9 MS. ULMER: Maybe we are. I think a 10 recommendation along the lines of what Senator Graham 11 is suggesting needs to be qualified and quantified in 12 the context of what it means. 13 CO-CHAIR REILLY: Do you have a preference 14 between those options? 15 MS. ULMER: My concern about the option that 16 describes the extent to which federal policy directly 17 contributes to the environmental problem, I'm just 18 struggling with that phrase a little bit. 19 Because I guess that is code for the U. S. 20 Army Corps of Engineers building dams, dikes, retaining 21 walls. But let's remember that didn't happen in the 22 abstract. That was done in response to local people</p>	<p style="text-align: right;">187</p> <p>1 it -- so it says to Congress, you know, you are an 2 unindicted co-conspirator voting for all these 3 projects. And, therefore, there is more responsibility 4 than if the federal government had not. 5 CO-CHAIR REILLY: An ex-Senator can say 6 that. Some of the rest of us can't. 7 CO-CHAIR GRAHAM: Would the transcriber of 8 the record -- 9 CO-CHAIR REILLY: You know, Franklin 10 Roosevelt would have said, faced with this choice, put 11 them together. Are there comments, questions? 12 CO-CHAIR GRAHAM: I think maybe the first 13 couple of sentences of the first option, and then the 14 last -- is there a period in that? I don't know if 15 there is a period. But where it begins allocate 16 funding based on these -- at least these three 17 criteria, kind of put those two together. 18 CO-CHAIR REILLY: Other comments, questions? 19 MR. GARCIA: Well, at the risk of prolonging 20 this, the phrase, and it's in both of them, 21 compatibility with state comprehensive plans, those 22 plans vary in quality. Maybe it's compatibility with</p>
<p style="text-align: right;">186</p> <p>1 wanting protection. 2 So I think it kind of unfairly paints the 3 picture that somehow somebody sitting in Washington, DC 4 decided it was going to build retaining walls or dikes 5 or drainage ditches. 6 DR. BOESCH: The decisions -- 7 MS. ULMER: If that is what we are trying to 8 say, I think we ought to be clearer on that. 9 CO-CHAIR REILLY: I know exactly what you are 10 thinking about, Bob, there in Florida, the river in 11 Florida. 12 CO-CHAIR GRAHAM: I was really thinking about 13 the Mississippi. But obviously, there are other 14 areas. I don't know if it meets the first standard of 15 national significance. I think that is the most 16 important criteria. 17 DR. BOESCH: Maybe the alternative just came 18 overnight, basically, with some recent discussions. I 19 think there is time for us to study these more 20 carefully, and come up with more precise wording. 21 CO-CHAIR GRAHAM: I think the value of that 22 second one, it may not be the most artfully worded, but</p>	<p style="text-align: right;">188</p> <p>1 the goals of the state comprehensive plans. 2 But, I mean, that should not necessarily be 3 driving the choice here. And I don't think we should 4 leave the impression that, well, that they are great or 5 that whatever we propose has to be compatible with the 6 state plan. 7 CO-CHAIR GRAHAM: I guess, again, I was 8 thinking Louisiana, and apparently both Louisiana and 9 Mississippi have what are considered to be, from a 10 science standpoint as well as a broad support 11 standpoint, good plans. 12 DR. BOESCH: I think Terry's point is that we 13 ought to be -- if we are going to devote national 14 resources to this, it ought to accomplish these 15 objectives of ensuring resilience, ought to be 16 effective, ought to be science based. 17 There are general requirements that we would 18 expect this council to use in applying those funds. 19 Within that, I think it would be inappropriate for a 20 Gulfline council to micro manage exactly how a state 21 could execute it. 22 So I think it needs to be compatible with the</p>

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<p style="text-align: right;">189</p> <p>1 state's plans insofar as they meet those standards. 2 CO-CHAIR REILLY: Do you want to comment on 3 the composition that the state/federal Gulf Coast 4 Ecosystem Restoration Council, on what proportion of 5 federal officials, state officials there should be. 6 DR. BOESCH: What does Mabus say about that? 7 MR. ROSTON: The answer to the question is 8 prescribed by the structure of the agencies and who is 9 involved in the five states. 10 CO-CHAIR REILLY: Each of the states 11 determines their representation, and how much do they 12 get? 13 MR. ROSTON: Each of the states, I think the 14 general structure is dictated by the agencies and the 15 states, and, you know, the proportions from each are 16 variable. 17 CO-CHAIR REILLY: I'm just getting at what is 18 the balance of power between the federal government and 19 the state governments in terms of numbers of 20 representatives? 21 MR. ROSTON: I would have to look it up. 22 CO-CHAIR REILLY: It's 50/50.</p>	<p style="text-align: right;">191</p> <p>1 are not doing rocket science, novelty. Maybe we could 2 work into the language here suggesting that the -- 3 recognizing the difference, but that the structure and 4 the function of the Alaska council could serve as a 5 model. 6 I will give you the opportunity to keep 7 returning to Washington. 8 MR. ROSTON: I'm going to run briefly through 9 these. I am not aware of how much time we have, and 10 assuming very little, there are some points that could 11 be made here, and they probably could be made visually. 12 CO-CHAIR GRAHAM: Could we make a 13 recommendation to abolish the Gulf of Mexico loop 14 current slides? That causes us a lot of concern. 15 MR. ROSTON: The one thing that was heard 16 throughout at the level, at least, of commentary during 17 this spill was the fact that NASA might know more about 18 the moon or Mars than we know about the Gulf of 19 Mexico. 20 And while that was repeated with some 21 frequency, we do know quite a bit about the Gulf of 22 Mexico. We know a lot about the physical</p>
<p style="text-align: right;">190</p> <p>1 DR. BOESCH: We would have to look. Mabus 2 has the recommendation. 3 CO-CHAIR REILLY: We would go with the Mabus 4 recommendation on that. Other comments, questions? 5 CO-CHAIR GRAHAM: Would you say, Fran, that 6 the Alaska council is the one that could serve as a 7 model for this? I recognize it has a fundamental 8 difference, but I mean in terms of the way it's 9 actually performed. 10 MS. ULMER: I would say very definitely that 11 the Exxon Valdez Trustees Council, which has been 12 management -- has the management responsibility for the 13 funds, has functioned very effectively based on both 14 science, local input, balance between federal and 15 state, 50/50, and keeping in mind the principal goal of 16 restoration, habitat protection, et cetera. 17 So yes, it is more complicated in the Gulf 18 because of the nature of the multiple states. But yes, 19 I think there is much that can be learned from and 20 copied from that experience. 21 CO-CHAIR GRAHAM: And Congress likes 22 precedent. If something has been done in the past, you</p>	<p style="text-align: right;">192</p> <p>1 characteristics of the Gulf, how it works. We do know 2 quite a bit about habitats at various depths. 3 We do not know as much as we would like to 4 know, perhaps not nearly as much as we would like to 5 know. I think in the scientific recommendations you 6 discussed on the last panel and that are coming up now, 7 in a different variety, that is the case. 8 And so there was a -- the Gulf of Mexico has 9 this dominant current that flows up through the Yucatan 10 Channel, up northwest, swings around and turns around 11 the Keys. And once or twice a year, a part of that 12 system just kind of breaks off and moves west and 13 erodes. But in the case of the spill, this eddy formed 14 in May and likely contained some of the oil in the 15 Gulf. 16 This is the Department of Interior leasing 17 map that shows the extent of oil and gas infrastructure 18 in the Gulf. I put it up because I wanted to show it 19 in quick succession with a couple of other slides. So 20 this is the oil and gas infrastructure. That is not 21 taking into account what is called idle iron, which is 22 up in the northern part of the Gulf, a previously-used</p>

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<p style="text-align: right;">193</p> <p>1 infrastructure.</p> <p>2 This is a snapshot of some key fishing</p> <p>3 habitats. This is a snapshot of the Gulf of Mexico</p> <p>4 hypoxia or dead zone that I spoke about earlier,</p> <p>5 caused, in large part, by the fertilizer runoff from</p> <p>6 the north.</p> <p>7 There is a military presence. There is, of</p> <p>8 course, our nation's --</p> <p>9 CO-CHAIR REILLY: Back to the hypoxia, it</p> <p>10 seems to me that as sedimentation declines, so should</p> <p>11 nutrient flow. Is that not true? Is it not getting</p> <p>12 any better? That ought to be one of the positives that</p> <p>13 comes out of that.</p> <p>14 MR. ROSTON: I could have my impression of</p> <p>15 the answer to the question. I would like to provide a</p> <p>16 more precise answer to the question, if I could submit</p> <p>17 my answer in writing.</p> <p>18 DR. BOESCH: Send you my reprints. The</p> <p>19 primary culprits, there are two obvious nutrients,</p> <p>20 nitrogen and phosphorus. The one that has really</p> <p>21 increased more so than the other that seems to be</p> <p>22 driving this is nitrogen. Nitrogen, in its usual form,</p>	<p style="text-align: right;">195</p> <p>1 coming out of the river. So it has to be an integrated</p> <p>2 strategy to address the problem.</p> <p>3 That is, indeed, what the Hypoxia Action Plan</p> <p>4 calls for. The problem is it is the inaction plan</p> <p>5 because it has been there since 2001 and very little</p> <p>6 has been done.</p> <p>7 CO-CHAIR REILLY: And it depends on upstream</p> <p>8 farmers. Okay. Thank you.</p> <p>9 CO-CHAIR GRAHAM: Excuse me. But I think</p> <p>10 what Don just said caused me to think of something we</p> <p>11 have not dealt with in that earlier slide, and that is</p> <p>12 we need to suggest that these funds be put in an</p> <p>13 Alaska-like trust fund, and are not subject to</p> <p>14 congressional -- angled congressional appropriations.</p> <p>15 I imagine one of the reasons that the action</p> <p>16 plan became a nonaction plan is maybe because you it</p> <p>17 couldn't get through --</p> <p>18 DR. BOESCH: Well, that is part of it but</p> <p>19 also it requires political will. For example, we spend</p> <p>20 an awful lot of money on farm subsidies, including a</p> <p>21 lot of funds for conservation. And what we haven't</p> <p>22 been able to do is focus those investments, not</p>
<p style="text-align: right;">194</p> <p>1 nitrogen is very soluble. It's not really bound to</p> <p>2 sediments. It's moving independently.</p> <p>3 CO-CHAIR REILLY: It is driven by corn price.</p> <p>4 DR. BOESCH: It is driven by fertilizer</p> <p>5 application. It is also driven by the fact that to</p> <p>6 farm in the midwest, we have intensively drained,</p> <p>7 artificially drained, the landscape. So when you apply</p> <p>8 the fertilizer, the first rain comes along, a lot of</p> <p>9 that nitrate washes out, goes through the drain tiles,</p> <p>10 out the creeks and down the river.</p> <p>11 So it is a combination of the altered</p> <p>12 hydrology plus the increased fertilizer application</p> <p>13 that is driving the problem. So you have to do one of</p> <p>14 several things. One is you have to reduce the amount</p> <p>15 of excess fertilizer that you use. You have to be able</p> <p>16 to retain and manage the water so that you can use the</p> <p>17 natural filters and traps in the system, the flood</p> <p>18 planes and things of this sort which would remove it.</p> <p>19 And then also importantly, part of the</p> <p>20 coastal restoration strategy of reopening the river and</p> <p>21 causing these deltas to build, delta logs to build is</p> <p>22 those bills. That will also trap some of the nitrogen</p>	<p style="text-align: right;">196</p> <p>1 increase the investments, just focus the investments on</p> <p>2 where they would do the most good.</p> <p>3 Now, Secretary Vilsack announced a program</p> <p>4 that within the existing farm bill authorizations, he</p> <p>5 intends to do that, but that needs to continue. It</p> <p>6 doesn't need to use any of the funds we talked about</p> <p>7 from the penalties. It just needs -- in addition to</p> <p>8 applying the funds for restoration purposes, we need to</p> <p>9 better align our government policy to remove the</p> <p>10 root -- term of art -- root cause of the problems.</p> <p>11 CO-CHAIR REILLY: As I found personally in a</p> <p>12 visit to the area in Iowa in July, people in Iowa are</p> <p>13 very aware, including their Senator, Senator Harkin, of</p> <p>14 their contribution to this and concerned to try to</p> <p>15 abate it, to reduce it.</p> <p>16 So there are some very promising signs in the</p> <p>17 areas of most sedimentation nitrogen flow, nitrate</p> <p>18 flow. Okay.</p> <p>19 MR. ROSTON: Our largest ports are in the</p> <p>20 Gulf. Military has a sizable footprint in the Gulf.</p> <p>21 There are a couple marine sanctuaries, Florida Keys</p> <p>22 National Marine sanctuary and the Flower Garden Banks</p>

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1 in the northern part.
2 The point is, in showing these on top of
3 another, is that they are occurring on top of another.
4 And as vast as the Gulf of Mexico is and as much as it
5 has been able to absorb the proliferation and
6 acceleration of human activities, it is not infinite.
7 And in the last several years, ten years, a
8 new kind of systems thought has emerged. It goes by
9 the name Coastal and Marine Spatial Planning.
10 And as a result of the Executive Order from
11 July, it's now federal policy to take into
12 consideration the possible uses of the space, the
13 characteristics of the space itself, for the goal of,
14 A, just more efficient planning.
15 And if there is a, for example, a very well-
16 understood section of the ocean that has been
17 identified ahead of time as being a rich source of red
18 snapper, or if there's a spot that has been identified
19 as having high wind resources, then knowing these
20 things ahead of time could hopefully bring efficiency
21 to regulation and decision making.
22 And the other is given the number of -- pure

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1 number of users, really right up against each other, it
2 has the potential to set up systems that reduce
3 conflict and increase networks among different users.
4 CO-CHAIR REILLY: Before you get to this, I
5 want to raise an issue that continues to bother me.
6 And that is if you put up a map of the entire Gulf of
7 Mexico, almost half of it is under the sovereign
8 jurisdiction of Mexico. They are interested, and have
9 been interested, in drilling. There hasn't been that
10 much deepwater drilling, but there will be. And that
11 is subject to one company, and it's Pemex. And Pemex,
12 to put it lightly, is safety process challenged.
13 I believe that we have paid insufficient
14 attention, in the Commission and in the report, to the
15 need for international attention. We have recommended
16 or are considering recommending international standards
17 for operation, but we really need to elevate the issues
18 for the Mexico/U. S. cabinet exchange, which is a
19 regular institutional exchange.
20 Secretary Salazar invited me to go with him
21 when I raised this issue with him in February. I would
22 like to do that. I would like to have, armed in the

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1 report itself, a recommendation for cooperation on
2 matters of safety, environment protection, a whole
3 range of concerns that we have raised, to raise the
4 priority and attention within the government of Mexico,
5 and do the same thing with Russia and Canada with
6 respect to the Arctic.
7 I think that's got to be a distinct part or
8 section of our work. And it doesn't need a separate
9 chapter, but I think it's a very significant
10 contribution that we can make. And the State
11 Department -- it's a recommendation to the State
12 Department, among others, to raise this issue.
13 MS. BEINECKE: I would just like to support
14 that. Yesterday, we did talk about the need for a
15 suite of international standards for the Arctic, and
16 through the Arctic Council to get those countries, and
17 I think making a similar one in the Gulf, particularly
18 with Mexico, and as you pointed out yesterday, Cuba, is
19 going to proceed, too.
20 So maybe we are not at this point going to
21 have direct conversations with Cuba. Maybe if there
22 was a line with Mexico on the standards, at least set

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1 standards for operating in the Gulf.
2 CO-CHAIR REILLY: Good point.
3 MR. ROSTON: If you would like me to provide
4 some context, I can or move on.
5 CO-CHAIR REILLY: Please.
6 MR. ROSTON: At the scientific level, there
7 is -- and to some extent the NGO level, there is
8 coordination and conversation among the U. S., Mexico
9 and Cuba. In fact, this is a report from the Harte
10 Institute, research institute, of Texas A & M. In
11 June, they had an international conference on these
12 issues.
13 I can't tell you how happy I am that I have
14 that sitting there. But it is an issue that we have
15 looked into and are monitoring and are in discussion
16 with the participants.
17 CO-CHAIR REILLY: Terrific. All right. Do
18 you want to proceed?
19 MR. ROSTON: So with the July Presidential
20 Executive Order creating National Oceans Council and
21 implementing marine spatial planning, there is a lot in
22 motion now, but there are things that might be

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<p style="text-align: right;">201</p> <p>1 highlighted and might be supported. That was the 2 approach in these slides.</p> <p>3 Long-term monitoring of potential harm to the 4 Gulf sea floor habitats, water column, and valued 5 species, bluefin tuna, shrimp, and many others is 6 critical to successful restoration. Coastal marine and 7 spatial planning can optimize green resource use and 8 lessen conflict among users.</p> <p>9 It now has the backing of a President 10 Executive Order. Congress should fully appropriate 11 fiscal year 2011 White House request to fund regional 12 planning bodies, which is the next step of this 13 process.</p> <p>14 Marine protected areas should be considered 15 as possible mitigation banks to help offset harm in the 16 marine environment, and all of this, as in all matters, 17 should be aggressively vetted by the public.</p> <p>18 Also, National Marine Sanctuaries have built 19 in, they pass through a rigorous public process and 20 provide protection across a number of metrics. Current 21 budget restrictions should be reconsidered to allow 22 proposals for new sanctuaries.</p>	<p style="text-align: right;">203</p> <p>1 platforms, buoys and a number of other mechanisms have 2 been used successfully in other areas where there is 3 ocean monitoring going on, and probably should be added 4 ultimately in language we use.</p> <p>5 And I would say with regard to your very 6 first one, the long-term monitoring of potential harm, 7 which we discussed a couple of different ways already 8 today, it's stated as a -- this is important. But I 9 guess in a way, it isn't stated as to who is going to 10 do it, how it's going to get funded, you know, how it 11 actually happens.</p> <p>12 And again, if it's possible between now and 13 when the report gets written, to add a little more 14 direction on that particular point about who is 15 responsible, and how it will be integrated with some of 16 the other scientific research that we have talked about 17 in other sections of the report, I think that would be 18 helpful.</p> <p>19 CO-CHAIR REILLY: Further comments, 20 observations?</p> <p>21 MR. GARCIA: Yes. I would just point out one 22 precedent that we might want to be aware of, and that</p>
<p style="text-align: right;">202</p> <p>1 CO-CHAIR REILLY: Questions?</p> <p>2 MR. ROSTON: There is discussion -- I have 3 discussion material for some of this, if you would like 4 to hear it.</p> <p>5 I will read the second one. Marine 6 scientists have emerged from the Deepwater Horizon 7 incident with more precise questions to investigate and 8 a better sense of Gulf monitoring needs.</p> <p>9 To that end, responsible federal agencies 10 should direct the industry and the scientific community 11 to expand the Gulf of Mexico Ocean Observing System by 12 installing and maintaining an in situ network of 13 instruments deployed on selected production platforms.</p> <p>14 DR. BOESCH: This is the approach -- we had 15 an earlier discussion about monitoring. This is to put 16 it in the modern context. We have these wonderful 17 measurement tools.</p> <p>18 CO-CHAIR REILLY: The Commission likes 19 monitoring. We have no problem with it.</p> <p>20 DR. BOESCH: All right.</p> <p>21 MS. ULMER: Mr. Chairman, just a minor point 22 on the last one. I think in addition to production</p>	<p style="text-align: right;">204</p> <p>1 was in Alaska in response to the Valdez. One of the 2 restoration options that was selected as a result of 3 the language that was inserted in the settlement 4 agreement enhanced was the acquisition of habitat, 5 critical habitat, as -- in recognition of the fact that 6 something needed to be done to set aside some habitat 7 to protect against the threats to -- the existing 8 threats to wilderness areas.</p> <p>9 An analogous or equivalent measure in this 10 case is to consider better managed and protected marine 11 resources. And in this case, one way of doing that is 12 marine-protected areas, which is the equivalent of 13 acquiring or setting aside a critical habitat and 14 terrestrial ecosystem, and should be considered as part 15 of the restoration.</p> <p>16 Because if we are concerned about increasing 17 resilience or restoring resilience, one way to do that 18 is through this tool, which actually has the potential 19 for increasing productivity, not limiting access but 20 increasing productivity for all users.</p> <p>21 CO-CHAIR REILLY: No other comments, 22 questions?</p>

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1 MR. ROSTON: Those are the end of my
2 remarks. We can go back, if you would like, to talk a
3 little bit more about marine stuff, which I went
4 through very quickly. I can answer more questions.
5 MS. BEINECKE: I just have a question, Eric,
6 about the marine spatial planning. As the President's
7 Executive Order directed, I think, all coastal parts of
8 the country to undertake marine spatial planning, it's
9 envisioned that this will happen sort of in some kind
10 of sequence. It's not going to happen all at once.
11 The question, I think, here is certainly the
12 Gulf, that map that we are looking at, shows how many
13 competing uses there are here. Of course, yesterday in
14 our conversation on the Arctic, we focused on what was
15 unknown there, and the fact that there is going to be
16 an Arctic strategic plan, and hopefully that area will
17 get in sequence.
18 I just wonder if we should have stronger
19 recommendation, rather than just identify this as a
20 tool, but try to get these two regions, because of
21 these competing uses, at the head of the line for early
22 consideration under that Executive Order. I would

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1 recommend that.
2 MR. ROSTON: Okay.
3 DR. BOESCH: I support that, as well. That
4 is an excellent idea.
5 MR. ROSTON: Let me go back to this slide for
6 a second, and talk about one of the things that was in
7 the recommendation. If it's too loud, I can go to a
8 different one here. Excuse me. I completely lost my
9 train of thought here.
10 The beginning of the section about we do know
11 quite a lot about the physical characteristics of the
12 Gulf. And scientists have been very good for a long
13 time doing things like tracing beach and shorelines.
14 And as ice sheets come and go, ice ages, the shore
15 changes.
16 And previous shores are composed differently
17 than a lot of the rest of the floors, hard bottoms, and
18 they make good habitats for all sorts of species that
19 are of ecological and commercial interest.
20 And so how to protect resources in the Gulf
21 has been changing, and new ideas have emerged that take
22 advantage of the notion that a lot of these places are

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1 connected, that they form networks.
2 And going back to your question, Chairman
3 Reilly, about the international element, the notion of
4 protecting internationally and applying this knowledge
5 of the networked habitats that are connected through
6 the Gulf current and through other physical elements of
7 the system, that's what's on the table now in those
8 discussions.
9 I think it is very important to note that it
10 is very hard to do marine protected areas and marine
11 sanctuaries. And this, for example, this plan, it was
12 put forwarded in 2008. It's a program called Islands
13 In The Stream put forward by NOAA. And it was a
14 science conference in January 2008.
15 There was a Gulf Fishery Management Council a
16 week later where it was rolled out there, and the
17 American Sport Fishing Association came out in February
18 with a policy recommendation that fishing areas not be
19 changed in any way.
20 And a couple months after that, towards the
21 end of the year, I think Senators Vitter and Shelby and
22 Sessions, I think I have that letter right, wrote

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1 requesting that the program be withheld.
2 So there are a lot of great ideas, great
3 scientific ideas, a lot of great policy ideas, and a
4 lot of work to be done, from staff observations, in
5 selling that to the people who live closest to it.
6 CO-CHAIR REILLY: Okay.
7 MS. ULMER: Mr. Chairman, what comes to mind,
8 when you talk about that, is your very first slide
9 about resilience and the need to accept change and
10 adapt, whether we are talking about natural systems or
11 human systems, how we regulate oil and gas, how we
12 manage fisheries, how we protect special areas.
13 It's just interesting to me how resistant
14 human beings are to change when they perceive that
15 modifying the status quo is going to impact them
16 negatively financially, and how that drag on adjusting
17 to new conditions really has hurt us as a society in
18 being able to adjust quickly to new conditions, whether
19 they be in oil and gas technology or response
20 technology or managing specialized areas like the Gulf
21 of Mexico.
22 It's unfortunate, as I think Senator Graham

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<p style="text-align: right;">209</p> <p>1 mentioned, that our public policy tends to lag so badly 2 behind changed conditions. And I know that we can't 3 exactly fix that, but I hope as a Commission we won't 4 be so bound up in protecting the status quo that we 5 aren't afraid to push others to think about how 6 important it is to be resilient and to adapt.</p> <p>7 CO-CHAIR REILLY: That is well put. We are 8 keeping in mind that if we don't learn resilience, in 9 the Gulf particularly, we will have to learn 10 reinforcement, and probably discover it's insufficient 11 and then retreat. Those are the -- that is the 12 sequence of responses that one can anticipate.</p> <p>13 But I think we have probably come to the end 14 of the day. Very nice job on a quite complex subject 15 that has all the issues of ecology, politics, 16 economics, local versus federal interests that make it 17 a really rich subject to study.</p> <p>18 We are grateful to your employer, Nicholas 19 Institute for Environmental Policy Solutions, for 20 allowing you to come to work for us at Duke 21 University.</p> <p>22 I guess while I'm saying this, we are</p>	<p style="text-align: right;">211</p> <p>1 the President to become Co-Chairman, the first question 2 I had was who would be the co-chair, and I learned it 3 was going to be Senator Graham.</p> <p>4 And I was reminded, as he mentioned this 5 morning, that we went back 40 years. I only go back 43 6 with my wife, Bob. That was tremendously reassuring 7 and encouraging to me, and I later learned that she had 8 made the same case about me to him.</p> <p>9 I was in the White House, White House counsel 10 on environmental quality, when he was a state Senator 11 sponsoring a bill that was criticized for being radical 12 and leftist and socialistic in Florida, the Florida 13 Land and Water Management Act, which was put to rest 14 when he received a letter signed by no less than 15 President Richard Nixon complimenting that statute in 16 detail, in fact, indicating a quite specific 17 understanding of its various provisions, which happened 18 to be also in a bill that we were preparing to propose, 19 National Land Use Policy Act, which, in fact, later 20 became the Coastal Zone Management Act.</p> <p>21 It has been a real pleasure to work with you, 22 and I cannot imagine a more congenial relationship than</p>
<p style="text-align: right;">210</p> <p>1 grateful to the National Geographic Society, the 2 Natural Resources Defense Council, Harvard University, 3 University of Alaska, University of Maryland, and 4 Graham friendly enterprise.</p> <p>5 MR. ROSTON: I would like to thank Adam 6 Benton, who is our GIS expert and put together the maps 7 that you saw on the slide, and also Claire Bonridge, 8 who is our researcher, and Louise Milkman, who is the 9 chief of staff of the Commission and really did a deep 10 dive.</p> <p>11 CO-CHAIR REILLY: Well, we understand that, 12 and we very much appreciate it, as the staff has 13 distinguished itself repeatedly in the presentations of 14 really, I think, spoken extraordinary and exemplary 15 high quality of background, research understanding, and 16 quite articulate, and even congenial patience with 17 sometimes pressing questions and points of view with 18 which possibly sometimes you are not in 100 percent 19 agreement, although we can't tell.</p> <p>20 I would just like to conclude these remarks. 21 We have no public commentators today. Okay. Simply to 22 say when I was invited by Carol Browner on behalf of</p>	<p style="text-align: right;">212</p> <p>1 the one that we have had. Really, all of the energy 2 and commitment and intelligence and knowledge that the 3 Commission has, I keep wanting to talk specifically to 4 the editorial board of the Wall Street Journal and tell 5 them how really good we are, those that had 6 reservations about us. What was that?</p> <p>7 I think each of the Commissioners brought a 8 distinct perspective and specialized knowledge and 9 experience to this enterprise, which has made it not 10 just very satisfying to participate, but intellectually 11 engaging.</p> <p>12 We have learned so much together in the time 13 that we have been at this. And we are -- we do feel an 14 obligation, all of us, to keep it going, to continue to 15 watch what is done with our recommendations, to put 16 immediate premium on those that the President and the 17 administration itself and alone can implement by 18 Executive Order, but to recognize also the long-term 19 possibility that some of the less plausible, less 20 realistic, maybe less immediate likely recommendations, 21 might find their home over time, just as Marine Spatial 22 Planning found some three or four years after it was</p>

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<p style="text-align: right;">213</p> <p>1 first proposed in a Commission, I think in the Pugh 2 Commission and also the Watkins Commission on the 3 oceans. 4 That was very reassuring to me when the 5 President, last spring, announced support for marine 6 spatial planning, and I remembered well that that is 7 one of those recommendations that seemed like a good 8 idea at the time, went absolutely nowhere, and had very 9 few champions in the beginning. It did have in the 10 environmental community, and that really, I think, 11 helped make a difference, kept them alive. 12 We can hope that the same will happen with 13 some of your recommendations that may not be 14 immediately acted upon, but shouldn't discourage us. 15 I have really found this a pleasure to move 16 here from San Francisco for the past six months. It's 17 a pleasure to come to Washington from San Francisco. 18 It's not something I always do. It is literally true 19 in this case, and it is really largely because of the 20 community of commissioners and staff who made it so. 21 Thanks to you, Chris, and to the support of 22 the Department of Energy for our budget, for the</p>	<p style="text-align: right;">215</p> <p>1 DR. MURRAY: We have to do this in order 2 according to the staff. 3 MR. GARCIA: Alphabetically. 4 DR. MURRAY: I'm first. Well, I have 5 certainly enjoyed working with the Commission and 6 getting to know you, and especially getting to know the 7 incredible staff, which was truly amazing working with 8 all of the just intellectuals here. 9 I also wanted to thank Chris, in particular, 10 and the DOE, for hosting us in a rather complex and 11 very intense working relationship. 12 So I spent most of my career in industry. So 13 I was going to focus -- this is the order. I was going 14 to focus on more what our discussions to our industrial 15 audience is. So in my belief, offshore oil and gas are 16 national resources. We will need to exploit them in 17 the next few decades, at least. 18 We will need to move, as a nation, to a more 19 sustainable energy future. If you just look 20 realistically at how we are going to do that, we still 21 need our offshore oil and gas. So what are we going to 22 do about this?</p>
<p style="text-align: right;">214</p> <p>1 support that you have given us, for your very patient 2 attention to us, and your occasional willingness to 3 overlook our straying into policy and into specific 4 recommendations in camera, which I wouldn't tell your 5 boss you did. 6 MR. SMITH: You just did. 7 CO-CHAIR REILLY: I have given you away in a 8 way that you would have never given us away. Well, we 9 appreciate that relationship. It did pose, at the 10 outset, as you recognized, given the nature of this 11 Commission, given its profile, its visibility, special 12 stresses with respect to the FACA, Federal Advisory 13 Commission Act. 14 And I thought that you very practically and 15 reasonably tried to ensure respect and compliance with 16 the law, but also understanding and patience with the 17 fact that we had to really exchange information freely 18 and regularly along the way, particularly because of 19 the very short period that we were given to address 20 these issues, six months. 21 That concludes my closing remarks. Are we 22 going to go around the table.</p>	<p style="text-align: right;">216</p> <p>1 The U. S. oil and gas safety culture should 2 be the best in the world. Right now, it is pretty 3 clear it's not. Government and oil and gas industry 4 working in the U. S. must depart from the current 5 business-as-usual attitude to accomplish this. 6 I think we all agree on the Commission, and I 7 think that the complacency in business as usual has to 8 stop. It's clear from what we experienced with 9 Deepwater Horizon that operating safely with minimal 10 environmental impacts is way less expensive and better 11 for business profits in the long run, not just for the 12 responsible party but for the whole industry. 13 It will also reduce the chance of another 14 Deepwater Horizon disaster. So I think this is a key 15 finding of our Commission. We need to take lessons 16 from those who manage the commercial airline and 17 nuclear power industries. They rearranged themselves 18 after dealing with similar crises, and they have 19 emerged with a regulatory and business environment with 20 admirable safety records. 21 Nothing is perfect, but continuous 22 improvement is really quite important. Both of these</p>

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218	<p>1 process actually has to be taking into account 2 potential risk in the whole system, not just that one 3 single change needs to happen. 4 R and D for enhanced safety, containment and 5 cleanup needs to keep pace with exploring and drilling, 6 and we went over this in great deal. These investments 7 are inadequate, and we need to move to an offshore 8 leasing policy in which both the environmental impacts 9 and regulatory requirements are managed according to 10 local geology and potential risks that are site 11 specific. This is quite reasonable. 12 This is especially the case in uncharted 13 geology and in the Arctic, and we went over that 14 today. I'm actually confident that the U. S. can put 15 in place a robust safety and environmental protection 16 regime. We did it for two other industries. 17 As we have seen demonstrated, the costs and 18 consequences of not doing this far outweigh that which 19 is needed to maintain an inherent safety culture. 20 Thank you. 21 CO-CHAIR REILLY: Thank you. 22 DR. MURRAY: Next is Fran.</p>	220	<p>1 The Exxon Valdez oil spill happened in March 2 of 1989. And let's ask ourselves what was the legacy 3 of that spill? Congress acted quite quickly; the Oil 4 Pollution Act of 1990. Think about the safety 5 improvements that happened as a result of that tragedy; 6 the requirement for double-hulled tankers, for improved 7 escort tugs, for regional citizens advisory councils. 8 I could go on and on. 9 My point is that a lot was done, and Congress 10 stepped up to the plate to do it in ways that have made 11 a difference. We have had much fewer -- many fewer 12 spills in terms of tanker spills, and there was a 13 billion-dollar settlement which set in motion 14 restoration, habitat protection, environmental 15 monitoring, scientific research, a legacy of 16 restoration which, again, continues to this day. 17 So that tragedy, as sad as it was and still 18 is for many people, left a legacy of change. 19 What will be the legacy of change from the 20 Macondo spill? That is a question that is still open. 21 Unquestionably, the Department of Interior has moved 22 forward with some changes in terms of regulations that</p>

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<p style="text-align: right;">221</p> <p>1 have been adopted in terms of proposed 2 reorganizations. But I would suggest that there is 3 quite a bit more to be done. 4 I will summarize from the last few days and 5 last few months of work five areas that I think we 6 should focus on, and hopefully others who have the 7 power to act will focus on. 8 One of the lasting lessons is that the lack 9 of risk management and safety process systems create at 10 least as much, if not more, risk than technical 11 equipment failures, particularly in highly complex 12 operations like deepwater drilling. 13 So what does that tell us? Number one, that 14 we need a regulatory regime that emphasizes safety and 15 performance and continued improvement over check-the- 16 box supervision, and that may require considerable 17 change from the regulatory regime that we have today. 18 And we have talked a lot about the safety case. 19 Number two, it will require a better 20 resourced and better prepared regulator focusing on 21 safety as much as or more than simply extracting oil 22 and gas resources. And that may involve, as I said,</p>	<p style="text-align: right;">223</p> <p>1 CO-CHAIR REILLY: Thank you. Who is next? 2 MR. GARCIA: I thought you would never ask. 3 It's me. Over the course of these last several months, 4 this investigation has made it clear that the system 5 failed massively and at multiple levels. There was 6 obviously the failure of management of the three 7 companies, failure of industry, failure of government. 8 We have seen successive administrations of 9 the Congresses ignoring the problem. They must share 10 the blame, and a failure of political will and 11 imagination, lessons that weren't learned or were 12 simply ignored, hard decisions that were delayed, and a 13 complacent it-could-never-possibly-happen attitude. 14 Sadly, this proved to be a deadly and 15 disastrous combination. It should never have happened, 16 and that it did is, frankly, inexcusable. 17 There is a fundamental need to overhaul our 18 regulatory system and industry culture, and I 19 completely endorse the need to move beyond the current 20 prescriptive regulatory approach to one that more 21 closely resembles the safety case approach used by the 22 UK. Even as we discussed yesterday, it must also be</p>
<p style="text-align: right;">222</p> <p>1 change, but also some tough laws for industry. 2 Number three, we need political leadership 3 that will create incentives, both carrots and sticks, 4 for industry to set higher standards for safe 5 operation, instead of simply protecting the status 6 quo. 7 Number four, America needs an oil and gas 8 industry that takes an active role in improving safety 9 culture and investing in technological improvements for 10 spill prevention, containment and response. 11 And finally, America needs a vibrant Gulf of 12 Mexico restoration process that will, for not only the 13 Gulf region, but for the United States, provide the 14 vibrancy of that ecosystem and the human and ecological 15 and economic systems that people expect and need from 16 the Gulf of Mexico. 17 Thanks, again, to our staff, to my fellow 18 Commissioners. And my hope is that the President, his 19 cabinet, Congress, the industry, and the American 20 people will take this opportunity, as we did after the 21 Exxon Valdez oil spill, to turn a tragedy into a 22 significant improvement, progress for America.</p>	<p style="text-align: right;">224</p> <p>1 revised to enhance environmental analysis. 2 One of the lessons that I hope we take away, 3 and there are a number of them, that we take away from 4 this experience is the importance of being vigilant, 5 and, as Fran noted a moment ago, adapting to changing 6 circumstances. 7 After Valdez, we made significant efforts to 8 improve tankard safety. Those investments paid off. 9 But like an Army that is always preparing for the last 10 war, we didn't anticipate future risks. It is stunning 11 how primitive our ability to respond to spills remains 12 and how undeveloped our ability to cap a deepwater 13 blowout was prior to Macondo. 14 We need a real and serious investment in 15 response and containment technology by industry and 16 government, and it shouldn't be just a one-shot 17 investment. It's going to have to be an ongoing 18 commitment, and one that continually monitors new risks 19 as they emerge, not just in the Gulf but everywhere we 20 drill. 21 Now, we all witnessed the anxiety and 22 suffering during our visits to the Gulf, and it</p>

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1 certainly made an impression on me, as I know it did on
2 the other Commissioners. And I want to emphasize
3 something that came up in our last discussion.
4 Because we will be doing a great disservice
5 to the people if we are satisfied with taking the Gulf
6 back to it is state on the morning of April 19th. And
7 in this sense, the term restoration is not apt. The
8 Gulf is damaged on so many fronts.
9 What we need to do is make the Gulf stronger
10 and more resilient, resilient being the key word. A
11 resilient Gulf will enable future generations to enjoy
12 its natural value. A resilient Gulf will be better
13 able to withstand the damage of future accidents,
14 should they happen. A resilient Gulf will ensure that
15 this unique way of life and national treasure persist.
16 Now, at our first meeting, I expressed
17 confidence that the Commission would be independent and
18 impartial, that we would conduct a thorough
19 investigation, provide an objective accounting of what
20 happened, and how we can best avoid it happening again
21 in the future.
22 I also expressed the hope that we would lay

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1 the groundwork not only to build the Gulf back but to
2 build it better.
3 When we deliver our report in January to the
4 President, I think that the American people will agree
5 that that is exactly what we have done.
6 It's been said before, but I don't think we
7 can say it enough; the Commission staff is composed of
8 an extraordinary group of professionals who have done
9 an extraordinarily professional job, and I thank them
10 very much, as well as my fellow Commissioners, and it
11 has been an honor to serve. Thank you.
12 CO-CHAIR REILLY: Thank you.
13 MS. BEINECKE: Thank you, Terry. When the
14 Macondo blowout occurred, now five months ago, I think
15 we were all stunned by the fact that we didn't have the
16 systems and we didn't have the technology to abate it.
17 30 years ago, I worked on offshore oil and
18 gas issues, and the environmental community which is
19 known to always consider the worst case, I think it's
20 fair to say we never envisioned a case as bad as this
21 one.
22 We did -- we were concerned about what

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1 serious ecological consequences of a disaster of this
2 scale might be, but I think we never guessed what the
3 human and economic consequences would be as well. And
4 over the last five months, the Commission has really
5 been charged with how do we ensure that this kind of
6 disaster does not happen again.
7 And I hope that with the series of
8 recommendations that we have identified, we really have
9 set in place a series of changes that need to be made
10 by the federal government, by the regulatory structure,
11 by Congress, and by the industry to ensure that the
12 United States, and, hopefully if we can set standards
13 that are of international consequence, that no place in
14 the world experiences the kind of impacts that the Gulf
15 of Mexico and the people who live there and the marine
16 environments that are there have experienced over the
17 last several months.
18 At the same time, I think it's important to
19 put the whole issue of offshore oil and gas leasing and
20 our energy appetite in the context of American energy
21 policy.
22 For four decades, offshore oil and gas

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1 leasing has continued at a pace because we have an
2 insatiable appetite for oil. Drilling offshore,
3 drilling onshore, drilling for gas, a whole series of
4 extraction programs that we have are designed to meet
5 an appetite that is literally impossible to meet on a
6 domestic scale.
7 And yet we have not as a country invested in
8 an alternative energy policy that really takes on that
9 addiction head on, that looks for the strategies that
10 are going to improve the efficiency in which we use the
11 resources to advance new technologies, to take
12 advantage of the ingenuity and creativity of the United
13 States, to ensure that we have the most fuel-efficient
14 cars, new electric cars, hybrid vehicles, that we
15 invest in public transportation, that we invest in
16 environmentally-compatible biofuels, so that we
17 understand where the future lies.
18 Because no matter how much drilling occurs
19 offshore or onshore, we cannot meet that appetite here
20 in the United States. And as Senator Graham has told
21 us, I think at every meeting, this is a serious
22 national security issue that we have to address as a

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1 nation.

2 So even though that was not the mandate of

3 our Commission, I think it's very important to put the

4 work that we have done in that context as we complete

5 our final recommendations and submit the report.

6 I would also like to just comment briefly on

7 the fact that I think that the experience in the Gulf

8 provides a real opportunity for the nation to

9 understand the value and productivity and richness of

10 the marine environment that really circles the nation.

11 And that, finally, we have an opportunity to

12 take that head on and to develop innovative new

13 strategies for marine and coastal protection, and

14 figure out how to manage the offshore resource, so that

15 different values that are out there, the values of the

16 marine environment and the values of the oil and gas,

17 are considered equally, and that we have systems in

18 place to ensure that the long-term, getting to the

19 earlier conversations about resilience and

20 productivity, that those are there for the benefit of

21 America well into the future, and that the plans are

22 affirmative in their approach and not just reactive.

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1 So I'm hoping that as we address the serious

2 shortcomings that we have identified in both the

3 regulatory structure and the industry practices, and

4 make very specific recommendations on how to change

5 those, at the same time we make strong recommendations

6 on a very different future for America, one that

7 addresses what our long-term energy needs are, one that

8 addresses how to ensure that the rich natural resources

9 that we do have remain productive and available for the

10 long term for the American people, and that we look in

11 a very positive and new way at what the resources of

12 the nation can offer if wisely managed and cared for

13 over the long term.

14 I would just like to also thank all of you.

15 It has been a real pleasure to work with you over the

16 last several months, and a real pleasure to work with

17 the staff. Richard Lazarus, our Deputy Director, and

18 all the staff, have done most of the work. We have

19 benefited from it. So for that, I'm very grateful.

20 It's a wonderful experience. Thank you.

21 DR. BOESCH: Well, I have been asked to close

22 because of my intense and deep personal ties to the

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1 region.

2 CO-CHAIR REILLY: Because you live the

3 closest to Washington.

4 DR. BOESCH: Yes. And I think the

5 Commissioners, by now, have become -- can repeat them

6 by heart, many of my anecdotes about growing up in the

7 Gulf Coast and learning all about the marshes and

8 bayous of coastal Louisiana with my father during

9 vacations and summer camp on the Mississippi Gulf

10 Coast, enjoying the rich bounty of the sea that defines

11 the cuisine and culture of the region in so many

12 important ways. I'm pleased at least you got some

13 chance to sample that during your visits, as well.

14 The other thing, you know, I'm

15 extraordinarily fortunate to be able to live a dream

16 that I had as a young boy, that I would like to do this

17 kind of work, work in the environment as a profession.

18 So I have been lucky enough to be able to do that, and

19 to ultimately, eventually as time went on, venture out

20 in the Gulf on research, even in the research vessel

21 that I helped build. It was really living a dream.

22 One of the things that I worked on when I was

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1 in Louisiana, of course, is the impact of the offshore

2 oil and gas industry. It's the dream I had as a

3 youngster that really -- and the values that I

4 developed -- that really guide and animate me to this

5 day.

6 So this experience of having grown up there,

7 formed my profession, gave me an opportunity to

8 investigate this, made this disaster obviously

9 extremely personal to me. But there is, as we have

10 just been discussing earlier today, an ongoing disaster

11 that exists, apart from the oil that was gushing from

12 the well and washing ashore.

13 And another part of the personal dimensions

14 of this is that much of this disaster, I'm speaking of

15 the disappearance of viable coastal environments,

16 wetlands, in particular, the creation -- the

17 development of this dead zone in the Gulf of Mexico and

18 the like, it really happened during my lifetime, and a

19 good part of it I got to witness and deal with as a

20 professional.

21 So it really happened on my watch. So I

22 really feel I have been guided and compelled to return

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<p style="text-align: right;">233</p> <p>1 to the Gulf and try to help address those problems. 2 And I think this Commission service gave me great 3 opportunity to do that. So I'm thankful for that. 4 Just as an example, we talked at great length 5 about the coastal wetlands loss, and the reasons and 6 the restoration plans. But just to put it in personal 7 terms, you had asked earlier, Commissioner Reilly, 8 about the dead zones and the nutrients in that loop 9 current. 10 When I was a youngster growing up just seven 11 blocks from the Mississippi, the nitrate levels in the 12 river were one-third what they are today. They have 13 grown that dramatically. This dead zone didn't exist; 14 now it does. So one of my personal challenges and 15 professional challenges is to do something about that. 16 So I'm hopeful that one of the 17 recommendations we make in terms of repairing the 18 damages of the spill, but also looking more deeply into 19 the root causes of the long-term environmental 20 problems, that we can provide some constructive 21 recommendations that will result in taking advantage of 22 this unfortunate opportunity and making a difference in</p>	<p style="text-align: right;">235</p> <p>1 situation where if you are raising young kids, you will 2 know that one of your kid's friends, the father is 3 there for two or three weeks at home, around the house, 4 and then he's gone because of the work patterns in the 5 offshore industry and what that does to the families. 6 There are other folks that I knew, one of my 7 daughter's other father's -- friend's father was home 8 all the time because he was permanently disabled by 9 working in the industry. So it's a dangerous 10 industry. It can be very dangerous. 11 And I think one of the things we should 12 reflect on in terms of our work is the protection of 13 the lives of people who do that very hard and very 14 valuable work for this nation. So we can make a 15 difference there. It affects me, my personal outlook, 16 very directly as well. 17 Particularly, as I said, because of these 18 personal experiences, I'm really greatly honored to 19 have been selected for the service on this Commission, 20 had a chance to work on it, hopefully have made a small 21 contribution. I'm hopeful. If I wasn't hopeful, I 22 would probably find some other line of work, I</p>
<p style="text-align: right;">234</p> <p>1 the long run. 2 We must not -- the other personal aspect of 3 this, and I guess I have not really talked with many of 4 you about this, except for Fran who accompanied me on 5 several trips, but including one in to Houma, Louisiana 6 which is not only where the Command Center is, but also 7 it's really probably the key coastal city that supports 8 the offshore gas and oil industry. 9 I lived in Houma for a decade, raised my 10 daughter there, by and large, and I well appreciate how 11 the regional economy depends on this industry. I have 12 many friends, family members, who work in the 13 industry. So I know that it's important to them, not 14 only important for our nation's energy supply, but 15 vital to that economy. 16 But my daughter went to school, public school 17 with children of shrimpers, Vietnamese shrimpers, with 18 other fisherman, with rig workers, with people who 19 worked in the onshore construction and supply industry 20 that supported it. 21 And it's a different set of situations that 22 result in this. There's some prosperity, but it's a</p>	<p style="text-align: right;">236</p> <p>1 suppose. 2 And I think that we have some recommendations 3 that we can form up that will make a difference. They 4 are practical. They are honest. They are creative. 5 And I hope, as Fran pointed out, the nation, the 6 public, political leaders, the President, and the 7 Congress take our recommendations to heart. 8 Like everyone else, I'm just -- I have just 9 had a great experience in working with extraordinary 10 staff who has served us so well, worked very hard, and 11 with people who are just exceptional people who have 12 developed wonderful reputations and done great things 13 in their own lives, and bring this rich experience and 14 talent they bear to the task. 15 I couldn't have asked for a better six 16 colleagues on the Commission. Thanks very much. 17 CO-CHAIR GRAHAM: As they sometimes say in 18 the Senate, everything has been said, it just hasn't 19 been said by everybody. So I will try to avoid 20 repeating the eloquence. That's right. Don't worry. 21 I won't be too long. 22 If I could stay with politics, one thing that</p>

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1 we tend to try to do is find what is the rising current
2 of public opinion and attach yourself to that in order
3 to optimize your chance of political success.
4 With that, it looks as if we are not facing a
5 particularly conducive environment. We are advocating
6 regulation when the political winds are for smaller
7 government that is less involved in our lives. We are
8 going to be recommending some additional expenditures
9 when the climate is deficit reduction.
10 So what is it that we attach ourselves to?
11 Well, I would suggest to Theodore Roosevelt, Theodore
12 Roosevelt, whose popularity has maintained but, I
13 think, has escalated.
14 He talked about the fact that each generation
15 had a responsibility to leave a better America to
16 following generations. I think our recommendations
17 point the way in an important area of America to do
18 that, to be able to leave to our children and
19 grandchildren and their grandchildren a Gulf of Mexico
20 that has the kind of qualities that Don just described
21 so eloquently, serves so many important purposes, to
22 leave to America an important industry that is a better

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1 industry, a more reliable industry, and one in which
2 maybe ten years from now, when they list the industries
3 that have developed an effective culture of safety,
4 they won't stop at nuclear energy and commercial
5 aviation. They will say and the offshore oil and gas
6 industry is also in that category.
7 So I think that we can attach ourselves to
8 that attitude of generational responsibility. And the
9 work we have done and the recommendations we have made
10 hopefully will contribute to this being a better
11 America for future generations.
12 I have said it before, but I will say it
13 again, it has been a wonderful personal experience to
14 work with each of the Commissioners of this fantastic
15 group of people that have come to make our work
16 possible.
17 And I thank each of you for that service and
18 for the personal rewards that we receive from it.
19 CO-CHAIR REILLY: Here, here. Amen. With
20 that, I think that we have concluded our public
21 meeting.
22 (Whereupon, proceedings were concluded at 3:14 p.m.)

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1 CERTIFICATE OF SHORTHAND REPORTER
2 NOTARY PUBLIC
3 I, Dianna C. Kilgalen, the officer before
4 whom the foregoing proceedings were taken, do hereby
5 certify that the foregoing transcript is a true and
6 correct record of the proceedings, that said
7 proceedings were taken by me stenographically and
8 thereafter reduced to typewriting under my supervision;
9 and that I am neither counsel or related to, nor
10 employed by any of the parties to this case and have no
11 interest, financial or otherwise, in its outcome.
12 IN WITNESS WHEREOF I have hereunto set my
13 hand and affixed my notarial seal this 7th day of
14 December, 2010.
15
16 My commission expires April 15, 2014.
17
18
19
20 _____
21 NOTARY PUBLIC IN AND FOR
22 THE DISTRICT OF COLUMBIA