

**BUREAU OF OCEAN ENERGY MANAGEMENT**  
**Transcript of Public Hearing on 04/20/2012**

1 U.S. DEPARTMENT OF THE INTERIOR  
2 BUREAU OF OCEAN ENERGY MANAGEMENT  
3 GULF OF MEXICO OCS REGION  
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TRANSCRIPT OF PUBLIC HEARING

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1 PROCEEDINGS

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3 MR. GOEKE: We're going to go ahead and  
4 go on the record. Thanks, everyone, for coming.  
5 My name is Gary D. Goeke. I'm the Chief of the  
6 Regional Assessment section with the Bureau of  
7 Ocean Energy Management in New Orleans. The  
8 agency is one of the agencies that has  
9 responsibilities on the outer continental shelf.  
10 We write large environmental documents.

11 Tom is the EIS coordinator, a NEPA  
12 coordinator, for one of the large documents that  
13 we do and what we're here to talk about this  
14 afternoon is his document.

15 One of the things that I want to make  
16 sure that we all understand is, the topic that  
17 we're meeting on this afternoon has a lot of  
18 interest. There is a lot of different people  
19 suggesting that there are a lot of different  
20 things that we're trying to do.

21 We have a specific proposal incorporated  
22 into our environmental document. That really is  
23 all we're here to talk about today. The purpose  
24 of this meeting is for us to receive comments from  
25 folks like yourselves who have looked at our

1 document and can give us some feedback. That's  
2 really all we want to talk about this afternoon.

3           There are a lot of other questions that  
4 will come up. And what we have been doing to  
5 everybody and what we've asked is that you keep  
6 the questions -- when you get up, when you get a  
7 chance to give your comments, keep the questions,  
8 keep the statements focused on the topic at hand.  
9 If you have other broader questions, if you have  
10 other issues that you'd like to discuss, we'll  
11 discuss them off line.

12           We have a court reporter here with us  
13 this afternoon who is keeping a verbatim  
14 transcript of what we're speaking about. The  
15 purpose of this is that we're creating a legal  
16 background. We're creating an administrative  
17 record that, if we were to be sued or something  
18 like that, we go to court, and the administrative  
19 records are something that we want to keep clean,  
20 keep to the topic. So if you have other broad  
21 general questions about almost anything else,  
22 we'll be more than willing to sit with you and  
23 chat about them and give you answers afterwards.

24           With that being said, let me introduce  
25 Tom Beirstadt. Dr. Tom Beirstadt is a

1 professional geologist working with our agency and  
2 has been doing National Environmental Policy Act  
3 work, NEPA work, for quite a few years. And Tom's  
4 going to run this session.

5 E. BEIRSTADT: Thank you, Gary. As I've  
6 mentioned, I'm Tom Beirstadt. I was the NEPA  
7 coordinator for this environmental evaluation, but  
8 I was also the contracting officer  
9 representative for the contract that the  
10 Department of the Interior acquired for the  
11 technical work that went into the evaluation  
12 itself, while we hired CSA International,  
13 Incorporated of Stewart, Florida to help us with  
14 the underwater sound modeling for this  
15 evaluation. What I'll do is I'll give a  
16 presentation to talk about what this document is  
17 all about. And then after me, Mr. Will Slogar  
18 from that company, CSA International, Inc., will  
19 come up and talk to you a little bit about the  
20 approach we took for modeling sound in the ocean.

21 We're here today for the Programmatic  
22 Environmental Impact Statement. I might lapse at  
23 some point into acronyms. It's sort of hard to  
24 avoid when you work for the federal government.

25 But geological and geophysical activities

1 are often referred to as G&G. And the area that  
2 we're talking about is on these easel maps that  
3 you can see in the corners of the room in the  
4 back. And I'll show you a more detailed map in a  
5 bit.

6 This is a public meeting scheduled for  
7 all of the interactions we'll be having for this  
8 draft of the environmental impact statement. This  
9 is the third venue, as you can see here. Before  
10 the end of next week we have got several more  
11 places to visit to talk about what we've done here  
12 and also to receive the comments from folks like  
13 yourselves.

14 The Congress directed the Department of  
15 the Interior to conduct this evaluation and  
16 appropriation language that accompanied the 2010  
17 Authorization for the Department of the Interior.  
18 It specifically told us to go and do this  
19 evaluation in this area. And what we've done here  
20 is the evidence of the execution of that directive  
21 from Congress.

22 On the corner of the table there, you'll  
23 see that we do have objective evidence that we  
24 have done. There are two large volumes sitting  
25 there of which you can access on the Web, all the

1 public information. The material outside shows  
2 you where you can get it on the Web.

3 The notice of availability for this  
4 document was published on March 30th and it began  
5 a 60-day comment period, which we are sort of  
6 right in the middle of right now. We're here  
7 today to record or collect your comments on it.

8 This is an Environmental Impact  
9 Statement, and by its nature it's the federal  
10 government's transparency for large -- for  
11 decisions that it makes regarding public  
12 resources.

13 EIS is the step required by NEPA,  
14 National Environmental Policy Act, before the  
15 government makes decisions, to think about it  
16 first, and also to have people like yourself react  
17 to them before they are final.

18 The purpose of the EIS is to evaluate and  
19 assess the potential environmental impacts of  
20 these geological and geophysical techniques in the  
21 large planning areas that are designated on the  
22 outer continental shelf, in this case, the Mid-  
23 and South Atlantic, OCS.

24 We will talk about our -- in the document  
25 you'll see a projection of activity levels for

1 work. They're related to the G&G work that we're  
2 talking about here. We present evaluation of  
3 mitigation measures for this work to reduce or  
4 eliminate impacts on the resources that are  
5 there. And, ultimately, we're looking to provide  
6 information and analysis of impacts for our  
7 Bureau, The Department of the Interior, and other  
8 agencies having responsibilities under  
9 Environmental Law before decisions to authorize  
10 this work are made.

11 The proposed action is part of our  
12 environmental impact statement. That's what's at  
13 issue. And it's to conduct the geological and  
14 geophysical work for the three program areas that  
15 the Department, our bureau, manages: oil and gas,  
16 renewable energy and marine minerals.

17 On the map here, the Mid-Atlantic area  
18 shown here, there is a very large tract of land  
19 south in the Atlantic planning area here. What  
20 this line represents is the exclusive economic  
21 zone for the United States. All waters and sea  
22 bed in shore of that line are territory of the  
23 United States. It extends out 200 nautical  
24 miles.

25 This line, which may be a little bit



1 harder to see, shows a 350 nautical mile limit,  
2 which at the end of it is the outer continental  
3 shelf. That is a boundary that's recognized by  
4 the United Nation Conference on Law of the Sea,  
5 which established the exclusive economic zone by  
6 treaties that we've signed and worked through the  
7 U.N. over the years.

8           This area between 200 and 350 nautical  
9 miles is available for potential claim by the  
10 United States if it can show certain conditions.  
11 If the United States at some point pursues adding  
12 that zone into our exclusive economic zone, we  
13 wanted EIS to have considered this area as part of  
14 our evaluation. I don't know exactly if or when  
15 the United States will pursue this, but we wanted  
16 to include it in case that contingency came up.

17           The types of activity at issue here,  
18 geological and geophysical, is primarily testing.  
19 For the geological, we include coring of the sea  
20 bed. Shallow test drilling can be done, and that  
21 is generally defined as less than 500 feet below  
22 the mud-line. And deep stratigraphic tests are  
23 also available for people who wanted to do them.  
24 They are called COST Test, Continental Off-shore  
25 Stratigraphic Test, that can be deep or they can

1 be shallow, but they're generally greater than 500  
2 feet.

3 They are not exploration wells. They are  
4 exploratory in nature, but if anything is  
5 discovered, it can't be produced because there is  
6 no lease holder.

7 The geophysical work I would be speaking  
8 of here are two- to three-dimensional seismic  
9 surveying. Techniques such as controlled source  
10 electromagnetic surveys is a technique the  
11 industry uses to evaluate the contents of  
12 formation -- for floor space formation of gases  
13 and fluids that might be there.

14 Also high-resolution geophysical  
15 surveys. These are primarily geo-engineering in  
16 nature, the source of work that is carried out  
17 before you build something that's founded in the  
18 sea bed. These consist of things such as  
19 multi-beam echosounders. They are used to  
20 establish depthemetry. Side-scan sonar is used  
21 to look at obstructions on the sea bottom. It can  
22 also be used to determine what sorts of bottom  
23 condition there might be, if there is live bottoms  
24 with corals and other animals there.

25 Boomers is a term that's -- it's not an

1 airgun-type of tool. It's an electro-mechanical  
2 one that involves discharge of electricity and it's  
3 reaction of a diaphragm of metal that causes a  
4 sound pulse into the water. That's what is  
5 bouncing off the sea bed. It's not an airgun-type  
6 of technology. It's a bit more benign.

7           Also, gravity and magnetic surveys, both  
8 on the sea, that are typically conducted when  
9 seismic surveying is done, but also on airborne  
10 surveys, we also permit those.

11           In an evaluation such as this, we assess  
12 what the impact-producing factors are. That's  
13 sorted of a neat term of art for what is stressing  
14 our environment. And you have things you can  
15 predict and things you can't predict.

16           Routine operations are those things that  
17 are inherent in the tools and work that your  
18 planning on doing. And accidental events are  
19 things, of course, that are accidents.

20           For routine operations, the EIS  
21 considered active acoustic sound sources, that  
22 would be both airguns and also the electric  
23 mechanical sound sources I just mentioned.  
24 Aircraft traffic and noise for perhaps  
25 helicopters, service, large ships that are doing

1 seismic surveys. They often bring crew changes  
2 and other supplies.

3           Drilling and coring would also involve  
4 operational waste consisting of the cuttings that  
5 are brought up from the well bores that would be  
6 drilled either typically discharged into the sea  
7 bottom or at the sea bottom. Sometimes there are  
8 various chemicals that are used to lubricate and  
9 condition the well.

10           Sea floor disturbances would include  
11 anything that touches the bottom. Bottom sampling  
12 would actually collect pieces from the bottom.  
13 Drilling, coring including the discharges, of  
14 course, that touch the bottom. Placement of  
15 anchors, cables and sensors, some types of seismic  
16 surveys and all placement of instrumentation on  
17 the sea bed.

18           On shore base support services: When you  
19 have people working on the ocean, you have shore-  
20 base supports that are a part of that,  
21 indirectly. You have ships in need of a place to  
22 berth. You have suppliers that need to provide  
23 supplies and materials for the ships off shore.  
24 We have people that work on the ships at that live  
25 on shore somewhere.

1           Vessel traffic, the noise presence of the  
2 vessels, exclusion zones for safety or for  
3 protected species that might be under observation.  
4 Also, anytime ships are at sea, there are wastes  
5 that are generated. And trash and debris are also  
6 a consequence of any work on the ocean. That is  
7 always something that has to be considered.

8           As far as accident events go, we're  
9 talking about fuel spills really, in case of an  
10 accident at sea, a collision or some other  
11 mishap. Since the proposed action is only for the  
12 geological and geophysical work, we're not talking  
13 about exploration of wells. We're not talking  
14 about production. We're not talking pipe lines.  
15 We're not talking about tankers. We're not  
16 talking about moving oil. We're talking about  
17 work on the ocean for seismic kinds of surveying.

18           Once you have taken a look at what is  
19 stressing the environment by what you are  
20 proposing, you need to know what's in the area  
21 that could be affected. And those are the  
22 affected environmental resources, physical  
23 biological and socioeconomic.

24           These are the environmental resources we  
25 have looked at in the communities: Fish and

1 fisheries, both commercial and recreational, the  
2 essential fish habitat, which is the conditions  
3 under which healthy and vibrant commercial and  
4 recreational fisheries, what they require, in  
5 order to sustain themselves; marine mammals, of  
6 course, sea turtles and coastal and marine birds,  
7 protected species from any of these categories.

8           And socioeconomic issues as well. The  
9 Atlantic seaboard, like I said, has a long history  
10 of human activity on it. There are lot of  
11 shipwrecks out there.

12           Marine protected areas, they include two  
13 in the planning areas that we're talking about:  
14 in the Mid-Atlantic planning area, the Monitor  
15 National Marine Sanctuary; and in the South  
16 Atlantic we have the Raised Reef National Marine  
17 Sanctuary. Those are the special places that have  
18 been designated by law.

19           Recreational resources, human resources  
20 and land use and other marine uses that would be  
21 conducted at the same time, just sort of while  
22 work is done. For example, along the Atlantic  
23 there is a large range complex for the Department  
24 of Defense that does all manner of underwater  
25 testing, service exercises, airborne exercises

1 where things are dropped in the water. And these  
2 are large tracts that are all along the Mid- and  
3 South Atlantic planning areas. We have maps and  
4 documents to show them.

5 The heart and soul of EIS is the  
6 alternatives you structure to evaluate the work.  
7 NEPA requires not only what you prepared but a  
8 reasonable alternatives to how you can conduct  
9 that work to give a decision maker a range of  
10 variation for choosing how they might want to  
11 approve it.

12 For our EIS, we have three alternatives  
13 that we have constructed. And they are  
14 fundamentally based on existing regulations that  
15 have designated activity restriction in certain  
16 parts of the OCS for certain periods of time by  
17 National Oceanic Atmospheric Administration for  
18 protection of the Northern Right Whale. We have  
19 taken those areas and said: Okay; let's use these  
20 seasonal management areas as a basis to either  
21 restrict some of our activity during the periods  
22 of time where NOLA recognizes vessel speed  
23 restrictions. And that's part of the structure of  
24 the alternative, is to recognize what current  
25 regulations are recognizing, and then also to look

1 at what we might be able to do in addition to  
2 that.

3 Also as a part of Alternative A, in the  
4 Gulf of Mexico, there is a long history of  
5 geologic and geophysical activity. We have a lot  
6 of mitigation measures that have been designed  
7 over time to help protect the resources at that  
8 basin.

9 They are in existence for what we call  
10 notices to lessees, people who are holding  
11 leases. It's an explanation of our regulations  
12 and details that the regulation itself might not  
13 be appropriate because there's too much  
14 information. So we tend to have NTL to help us  
15 explain what we're expecting of industry as they  
16 go about their work out there.

17 We have our controls for species  
18 protection, observers observing activity out there  
19 for ramp-up of airguns when the surveys is about  
20 to begin. We have special vessel strike  
21 avoidance, meaning people are on board watching  
22 for animals. Also marine trash and debris  
23 awareness.

24 For Alternative B, part of our philosophy  
25 was, was to take Alternative A and try to enhance



1 or add to what we have already identified. And in  
2 the case of these areas in the Atlantic ocean, we  
3 have considered an expanded marine time area  
4 closures for activity in these seasonal management  
5 areas.

6 We've also looked at closure area for  
7 nesting of sea turtles off of central Florida,  
8 Brevard County. And as part of B, the separation  
9 between simultaneous surveys that might be taking  
10 place. And also a requirement for this  
11 alternative, a technique called passive acoustic  
12 monitoring, often referred to as PAM, as a  
13 technique whereby sensitive hydrophones are  
14 deployed in the water and technicians listen for  
15 sounds that marine mammals make. Because if  
16 they're on the surface you can see them; if they  
17 are under water, you can't see them but you might  
18 be able to hear them. So this is a technique  
19 designed to attempt to hear them if you can't see  
20 them. In Alternative A it's recommended, but for  
21 Alternative B, we made it a requirement.

22 And any eco-evaluation involves what is  
23 called a no-action alternative. For us, since we  
24 have three program areas for the way we have  
25 constructed the no-action alternative is that we

1 would foreclose this kind of work in this area.

2 In other words, just not let it happen, not permit  
3 it.

4 For removal energy and marine minerals,  
5 we selected a status quo arrangement, which is  
6 permitted by NEPA regulations. We're not seeking  
7 to foreclose or stop something that's already  
8 permitted or that's already allowed to happen.

9 Renewable energy activities are already allowed in  
10 these areas. Also marine minerals are borrowed  
11 off of the off shore and brought on shore for  
12 coastal restoration and such.

13 So Alternative C is no oil and gas-type  
14 work, but continue on with renewable energy or  
15 marine mineral work when it comes to us for  
16 action. So that's how we structured Alternative  
17 C.

18 We have our own set of slides, so I'm  
19 going to go through this.

20 Time area closure for A. This area down  
21 here is showing the hatchery is a critical habitat  
22 area for the northern right whale that is  
23 recognized by NOLA Fisheries. This hatchery area  
24 off shore Jacksonville extends down the shoreline  
25 of north Florida to end here at the bottom of the

1 southern end of the south Atlantic planning area.

2 This area in the orange that is  
3 surrounding it is called the Southeast Seasonal  
4 Management Area and this yellow zone is the  
5 Mid-Atlantic Seasonal Management Area. What these  
6 are, are zones that have been recognized by  
7 regulation promulgated NOLA fisheries to have  
8 vessel speed restrictions in their regulation.

9 What we're proposing here is that we  
10 simply not have airgun activity in the same period  
11 of time that NOLA has not allowed -- that NOLA  
12 requires vessels go more slowly. And the reason  
13 for that is that this is the wintering calving  
14 area for the northern right whale. They tend to  
15 summer off in the New England states. And then,  
16 as you might guess, they migrate down the coast  
17 generally along the coast in a band about 20 miles  
18 from shore. There are whales all through here,  
19 but they tend to concentrate close to shore. So  
20 as the year progresses, they are moving down the  
21 shore to finally over winter here where they calve  
22 before they migrate back to where they summer.

23 So these areas are, during these periods  
24 when there are whales there are restricted vessel  
25 speeds are now recognized and we're saying: Okay;

1 no seismic surveying there.

2 These little coastal bay areas are always  
3 important. Of course, lots of vessel traffic so  
4 we're saying slow down during these times of  
5 year.

6 We prepared what they -- we call them  
7 time/area closures for that time. For Alternative  
8 B, the time/area closures, as I've mentioned, are  
9 expanded.

10 Down in the south of the Seasonal  
11 Management Area we have an extension along the  
12 Florida coast out for 20 miles. And we filled in  
13 the gaps in these areas that NOLA recognizes to  
14 have sort of a continuous band along both planning  
15 areas extend off shore 20 nautical miles. So we  
16 consider that an enhancement of mitigation by not  
17 having work done there -- not having seismic work  
18 done there during those periods that NOLA  
19 recognizes for vessel speed restrictions.

20 And this turtle closure area, moving to  
21 the slide -- or the next one over is right down  
22 here, about 11 miles off shore. The Brevard  
23 County/Cape Canaveral area. This is a very dense  
24 turtle nesting area, tens of thousands of  
25 leatherback and loggerhead turtle nests are

1 observed, watched by people.

2 We're saying: Okay; let's not have any  
3 seismic surveying done along this band when the  
4 turtles are coming in and laying their eggs, the  
5 hatchlings are leaving the sand and going  
6 offshore.

7 This table here is an example of what you  
8 could see in the EIS. If you want a good summary  
9 of the work that we have done, take a look at  
10 Table 2-2 in the document. There what you will  
11 see is all of the resource that we've recognized,  
12 all of the impact-producing factors that pertain  
13 to those resources recognized and then each  
14 alternative here.

15 And then in a matrix arrangement, what  
16 you see is what we call significance criteria that  
17 are assigned that characterize what the impacts  
18 are. For our evaluation, we would characterize  
19 impact levels that range from negligible through  
20 minor through moderate and major. None of our  
21 resources, none of our impacts reach a major level  
22 for any resource for any activity. They are  
23 something less than that.

24 This is an example of an airgun that  
25 pertain to these particular resources on the left-

1 hand column. So if you want to just -- you know,  
2 it's a big document. It's 1,500 pages. And if  
3 you want to try to hydrate your time in  
4 understanding what we've done, just take a look at  
5 Table 2-2. That's as a good a roll-up of what we  
6 concluded as any.

7           During NEPA evaluations, when we have  
8 consultations required by Environmental Law that  
9 are done concurrently with the evaluation. With  
10 our circumstances, we have consultations with Fish  
11 and Wild life Service and National Range Fishery.

12           For Section 7 of the Endangered Species  
13 Act and we have consultations for the Marine  
14 Mammal Protection Act as well. These were done  
15 alongside the EIS. And if everything here works  
16 properly, they tend to be finished, by the time  
17 EIS is finished.

18           For the next step, this our project  
19 schedule.

20           As I've mentioned, we're up for comment  
21 now, so we have 60 days to comment on the  
22 document. After we've received comments from  
23 folks like yourselves, from federal agencies,  
24 state agencies, we'll incorporate them into the  
25 document and then we'll roll up a summary for

1 management that would give us some recommendation  
2 on how to proceed.

3 All during that time we have  
4 environmental consultations that are taking place,  
5 and at the end of all this, we have what's called  
6 a record of decision, which is a publication in  
7 the Federal Register that says: Okay; now that  
8 you have done this work, what have you concluded  
9 from it and what does it mean? We forecast that  
10 takes place before the end of the calendar year.

11 I've mentioned the commentary period  
12 closes May 30th. We can receive oral testimony  
13 from you here today or written comments from you  
14 here today or later. We have a dedicated e-mail  
15 address at [GGBEIS@boem.gov](mailto:GGBEIS@boem.gov). And a copy of the EIS  
16 can be found on our web site and most of the  
17 materials that are on the desks out there show  
18 what the hyperlink is and you can just click on  
19 the document and go right to it.

20 If you want to send us comments by U.S.  
21 Postal, you can send it to this address and that  
22 address is also in the public materials that are  
23 outside on the tables.

24 And, in closing, then, I would say -- I  
25 would like to say in conclusion, then, that we

1 have spent about over a year preparing this  
2 evaluation. It involves state of the practice  
3 integration and modeling for noise in the ocean  
4 that are caused by these instruments, airguns,  
5 some of the electrical and mechanical techniques.

6 It's pretty dense; it's kind of  
7 complicated. But what we ask and what we need  
8 from people like yourself is to take a look at it  
9 and draw your own conclusions and send us what you  
10 feel would aide in making a better decision,  
11 ultimately. Because that's what the Secretary of  
12 the Interior is going to do with this document.

13 With that, I will introduce William  
14 Slogar from DSCA International, Inc. And he will  
15 talk to you about the marine -- the modeling of  
16 impacts for marine mammals.

17 Will, come up on, please and I'll try to  
18 boot you up here.

19 MR. SLOGAR: Thank you, Tom.

20 As Tom just mentioned, what I would like  
21 to do is describe for you the assessment of  
22 potential impacts of marine mammals. One of the  
23 earlier slides you saw had a list of 15 resource  
24 areas. Those are areas that were identified as  
25 potentially being impacted by the proposed action



1 and marine mammals is just one of those 15 areas.

2 This assessment process basically is a  
3 five-step process, the first step being to  
4 identify those resource areas that could be  
5 impacted; as I said, marine mammals being 1 of 15.

6 The next step is to establish criteria by  
7 which we would define the significance of the  
8 impact.

9 The third step is to identify impact-  
10 producing factors. Also, the previous slide that  
11 Tom showed, he listed the impact-producing factors  
12 that could result from the proposed action  
13 following the two general categories, routine and  
14 accidental.

15 Following that, the next step is to  
16 collect data about the proposed action, about the  
17 resources impacted or potentially impacted, about  
18 the mitigation measures that might be applied, and  
19 then, finally. The analysis itself to develop  
20 estimates of impact, if any.

21 Within the area of interest, there are 38  
22 species of marine mammals that can occur. This is  
23 a listing of them. And while we're looking at  
24 this, perhaps I should better explain the area of  
25 interest.

1           As Tom mentioned and you can see on these  
2 maps, it's the two planning areas off the Atlantic  
3 coast. The area of interest begins at the end of  
4 state waters. The area of interest covers federal  
5 waters, so state waters end three miles off shore  
6 so the area of interest starts three miles off  
7 shore and extends 200 miles off shore.

8           These various species listed here occur  
9 in different numbers and distributions throughout  
10 the area of interest, some hardly at all; for  
11 instance, the manatee or the three species of  
12 pinnipeds, so will unlikely be impacted by the  
13 proposed action.

14           In order to help us establish impact  
15 criteria, we look at existing federal law such as  
16 the Endangered Species Act and Marine Mammal  
17 Protection Act. The Endangered Species Act, of  
18 course, is a federal law that identifies  
19 species -- lists species either threatened or  
20 endangered. And under the Endangered Species Act,  
21 there is what's called Section 7, which requires  
22 consultation. And so BOEM will be consulting by  
23 submitting biological assessment to the National  
24 Fishery Service.

25           One thing I should also mention is that

1 operators in the future will have to apply for  
2 incident take authorizations for their specific  
3 surveys. That will not be a part of what's done  
4 in this process that we're talking about.

5 As I mentioned, ESA lists species  
6 threatened or endangered. There are seven in the  
7 areas of interest. Perhaps the most notable one  
8 in this area is the North Atlantic right whale,  
9 which Tom talked about some of the mitigation  
10 measures that would be applied.

11 Again, getting back to the Marine  
12 Protection Act and identification impact criteria,  
13 the Marine Protection Act identifies two levels of  
14 harassment to marine mammals, Level A and Level  
15 B. And, as you can see, they cover a fairly broad  
16 range of things that fall within the harassment  
17 category, particularly Level B.

18 To help us define impact, we ended up  
19 identifying four levels as to significance of  
20 impact. To define these levels, we looked at  
21 number of parameters: detectability, is the act  
22 detectable or measurable; duration, is it short  
23 term or long term; spacial extent, is it localized  
24 or extensive; and finally, severity. These four  
25 levels of impact criteria were identified for this

1 analysis.

2 Tom's also prior slide identified impact-  
3 producing factors that realized as potential  
4 increasing impacts as a result of the proposed  
5 action. These five were identified in the  
6 analysis of impacts to marine mammals. Obviously,  
7 they cover both the routine activities as well as  
8 accidental.

9 There are three basic steps to the impact  
10 assessment process, the first being collecting  
11 information. Secondly, establishing mitigation  
12 measures and finally determining potential  
13 impacts.

14 To help in the analysis, we have  
15 evaluated all potential equipment that can be used  
16 in surveys and we determined there were six  
17 specific types of equipment that cover all those  
18 survey types. Two sizes of airguns, a large and  
19 small airgun; electrical mechanical sources, side-  
20 scan, boomer and sub-bottom profiler and multi-  
21 beam depth sounder.

22 This slide shows what would be  
23 anticipated as the level of effort within the area  
24 of interest for the time period analyzed, 2012 to  
25 2020. These numbers are lying kilometers, to give

1 you an idea of the extent of various survey  
2 types.

3 As you can see the from the maps, there  
4 are a number of miles or lying kilometers here is  
5 two seismic surveys. All of these various survey-  
6 types listed are different types of seismic  
7 surveys.

8 This slide, in essence, shows you the  
9 same information as the previous slide. What you  
10 see here is two of these surveys applied across  
11 the areas in which they might occur. The darkest  
12 areas indicate the areas where the greatest level  
13 of survey activity might occur.

14 Part of the data gathering process,  
15 including gathering information about marine  
16 mammals, their range of hearing, the acoustic  
17 thresholds of each. And also for the evaluation  
18 we used two acoustic impact thresholds for  
19 analysis: Sound pressure level approach supported  
20 by NMFS as well as the southhall approach.

21 The modeling effort, as I mentioned, used  
22 six different types of sound sources. We looked  
23 at 22 modeling sites that were chosen throughout  
24 the area of interest to help define it. Those 22  
25 sites helped define it by water depth, bottom

1 type. Water temperatures is a big factor in sound  
2 speed profiles. The result was that 35 different  
3 propagation scenarios that were developed. When  
4 applying the different sound sources, we created  
5 estimates for 105 different acoustic fields.

6 This slide is an intermedia product of  
7 analysis showing different sound pressure levels  
8 resulting from the two different sizes of airgun  
9 arrays. One of these diagrams -- two of them are  
10 different sized airguns would be on the  
11 continental slope. The other two on the  
12 continental shelf within the area of interest.

13 This brings us to the acoustic impact  
14 modeling that was done, AIM. As you can see, a  
15 fair amount of information was fed into the model  
16 in order to create estimates. In essences, what  
17 AIM does is create a virtual environment of the  
18 area of interest with sound sources and the marine  
19 mammals that might be impacted.

20 Information that goes into it include  
21 sound source properties and movements that come  
22 from the acoustic propagation modeling results,  
23 also species distribution and dive and swim  
24 patterns, and finally the environmental conditions  
25 I mentioned earlier: water depth, bottom type,

1 those sorts of things.

2 Also feeding into this modeling is a  
3 number of the post-mitigation measures. Because  
4 it's important to point out that the results are  
5 rather conservative because they don't include all  
6 of the mitigation measures that would be applied  
7 such as pre-survey reviews of the area by  
8 protected species observers, ramp-up processes  
9 using the equipment, and then, of course,  
10 potentially shut down the surveys if marine  
11 mammals might be spotted within the safety area.

12 This slide summarizes some of the various  
13 mitigation measures and how they are applied to  
14 the different alternatives. Alternative A, of  
15 course, is the proposed action; Alternative C is  
16 no action. Here you can see a list of primary  
17 mitigation measures.

18 It's important to point out that  
19 alternatives A and B, with regard to the survey  
20 activities, are identical. The only difference  
21 between those two are mitigation measures. For  
22 instance, the time/area closures were expanded  
23 within B compared to A. Passing acoustic  
24 monitoring is optional in A but required in B.

25 And there is a third difference here. A

1 third primary difference is the separation  
2 distance between surveys; A doesn't require a  
3 separation distance between simultaneous surveys  
4 while B does.

5 You saw this slide earlier. Again, it  
6 shows the closure areas and the times that they  
7 would be closed along the coast, primarily to  
8 address the right whale. This is Alternative A.

9 Alternative B expands those areas north  
10 and south and also includes areas to the south to  
11 address turtle nesting off the Florida coast.

12 I'll conclude with this slide, which  
13 summarizes the impact levels for the three  
14 alternatives looking at the impact-producing  
15 factors that were realized for marine mammals.

16 As you can see, with the exception of  
17 airguns, the impact levels are determined to be  
18 negligible or minor for all the impact-producing  
19 factors.

20 That ends my presentation. I will turn  
21 it back over to Tom now for the comments portion  
22 of this meeting.

23 Thank you.

24 MR. BEIRSTADT: Before we offer the floor  
25 to the folks here wishing to speak, we need some



1 guideline for fairness.

2 Our goal is to allow comments from  
3 everyone who has signed up to speak until we are  
4 done. Federal and State representatives and other  
5 elected or appointed officials will speak first  
6 with no time restrictions.

7 We ask any members of the public police  
8 themselves to limited it to three minutes per  
9 speaker. When all who wish to speak have spoken,  
10 the floor will be open for additional comments.

11 We're here to receive comments on the  
12 draft document. Comments about anything other  
13 than our draft document really doesn't support our  
14 reason for being here.

15 People making comments need to address us  
16 up front as opposed to addressing the audience in  
17 general. We can take short general information-  
18 type questions, but we're not really here to  
19 debate the merits of the document or the  
20 proposal.

21 So with these guidelines, I'll call the  
22 first speaker, State Senator Paul G. Campbell,  
23 Jr.

24 SENATOR CAMPBELL: Would you like me to  
25 speak there in the middle? Is the microphone on?

1 Usually, I don't need a microphone.

2 You know, it is dangerous when you say  
3 elected officials and public officials can talk  
4 without the time limit. I don't know if you said  
5 that or not. I think I had stepped out of the  
6 room when you said that. But it is a pleasure to  
7 speak to you this afternoon to talk about this  
8 potential opportunity for South Carolina.

9 I chaired the off shores natural gas  
10 study. We met for about a year. We had people on  
11 the panel from industry side, the environmental  
12 side, from the South Carolina Department of  
13 Environmental Control, for the South Carolina  
14 Department of Natural Resources, from my chosen  
15 community, our agricultural community, our  
16 industrial community. We met over the state. We  
17 took comments about the potential impact if we do  
18 off shore exploration for natural gas.

19 We had the USGS come in and talk about  
20 what they thought might be out there. We talked  
21 to the folks, the geologists, that have been doing  
22 studies out there. We looked and, quite frankly,  
23 didn't see much in our state waters within the  
24 three-mile limit. It looks like we have go off  
25 some 60 or 70 miles before there is potential for

1 gas. But it looks like there is some significant  
2 amount of natural gas at the Carolina trough, if  
3 we can it get out that far.

4 To get this some background, you know,  
5 what I would like to do is to reach out some  
6 comments, talk to you about comments. You know, I  
7 might be a dumb official to you. We know that  
8 South Carolina has some history because we have  
9 done this. And, again, we've look at all aspects  
10 of our economy, all the folks from the  
11 environmental side and the industrial side.

12 We know that natural gas is out there.  
13 We know that we depend on natural gas in South  
14 Carolina. And we don't have a fuel in this state  
15 to generate electricity. So this would give us an  
16 opportunity to do that. It would save us that  
17 transportation cost, so it would significantly  
18 impact our economy and the state if we do some of  
19 these things. Plus it would create jobs over  
20 there.

21 We also know that the natural gas is  
22 being used for many, many different things.  
23 Basically, it's really a raw material for  
24 plastic. It's a raw material for textiles. It's  
25 a raw material for all chemical products in

1 addition to creating electricity. So we know if  
2 it's out there, we can take advantage of it and  
3 our economy will be better. And we think we can  
4 do it safely and we think we can do it  
5 appropriately.

6 My backgrounds is that I'm a chemical  
7 engineer and I've work in the industry most of my  
8 life. I'm a retired president of Alcoa. I know a  
9 little bit about the energy side of the equation.

10 I want to elaborate a little bit about  
11 the testing that I understand that these as these  
12 things come to view, so that we can check that  
13 this exploration can be done safely.

14 Basically, first of all, the oil and  
15 natural gas industry will do everything to make  
16 sure that our marine life is protected as much as  
17 possible. And we talked about some of the things  
18 you mentioned earlier, the protection that already  
19 exists and what you guys require.

20 This is what the industry wants to add to  
21 it; for example, to train marine mammal observers  
22 on board to watch for mammals, a seismic survey  
23 standard operators use a round up procedure so  
24 that the sound is gradually ramped-up so that any  
25 animals that are being impact will have an

1 opportunity to move out of the area where the  
2 seismic study is being done, if it's at all  
3 uncomfortable.

4           If the operations detect any marine  
5 mammals in the area, they will stop and they will  
6 not start again until at least 30 minutes past the  
7 detected marine mammal. And if you add these to  
8 what you talked about and what your protections  
9 are today, I think we can do this exploration  
10 safely.

11           And, most certainly, if we find natural  
12 gas off the coast of South Carolina, that  
13 definitely benefits our state. I've mentioned  
14 some before, you know, the possibility of oil  
15 payments to the states there. We know that in the  
16 Gulf Coast that there are oil payments to the  
17 states there. And some of the oil payments can  
18 certainly then help the economy in this state. We  
19 could use them, for instance, on our  
20 infrastructure, what we're trying do for the port.

21           This year -- this week in the State  
22 Senate we passed a conservation fact finding and  
23 we could use it for conservation purposes. So we  
24 can see a lot of beneficial uses for the  
25 population, for the citizens of South Carolina and

1 for the economy of South Carolina. I think that  
2 is very, very important.

3 Well, it will certainly be able to  
4 support more jobs. Not so much the jobs that  
5 would be off shore because they are somewhat  
6 limited there, but it would bring natural gas to  
7 the state for energy production, for chemical  
8 production, for fertilizer production, for many,  
9 many different things. And keep our folks that do  
10 this more economic or in balance with other  
11 competitors in other states and other places in  
12 the world. So we can use this money very, very  
13 wisely if you will allow us to do this and we do  
14 find natural gas. And I think that it's out there  
15 off the shores of Charleston, South Carolina.

16 We do care about the environment in this  
17 state. The Carolinas attract tourism. That's why  
18 we have tourism involved in the off shore natural  
19 gas study going into it this year. We are  
20 satisfied that we are doing things appropriately  
21 and safely so we don't hurt our tourism industry.

22 We have an environmental side there  
23 because we want to make sure they understand  
24 exactly what we're trying to do so we don't harm  
25 the environment of South Carolina. We depend on

1 tourism and we depend on other industries. We  
2 depends on many, many different things.

3 And again, it keeps us from relying on  
4 off shore energy production. We don't want to be  
5 depending on somebody else if we can independent  
6 in this country. We would like our lives and our  
7 situation to be better in this country. So to  
8 allow these things would give us the chance to be  
9 energy independent because from we've seen what  
10 you guys have shown is that potentially it might  
11 be out there, coupled with what hydraulic  
12 fracturing is doing for natural gas reserves in  
13 this country, what we were seeing is, we can  
14 improve our energy independence as opposed to  
15 relying on someone else. So I think that's very,  
16 very important.

17 I would urge the Bureau of Ocean and  
18 Energy Management to consider the pro-development  
19 of this part of the region of the continental  
20 shelf, the east coast continental shelf, because I  
21 do think we can do it safely. I think we can do  
22 it safely. And I think the industry would do it  
23 safely, and I think we can show everyone we can be  
24 a model for what goes on as far as finding this  
25 stuff.

1           So I do encourage you to go forward with  
2 this and allow them to do exploration tests in our  
3 areas.

4           I'll be happy to answer any questions you  
5 might have about it. Thank you for allowing me  
6 the opportunity to speak to you.

7           MR. BEIRSTADT: State Representative  
8 Jenny Horne.

9           MS. HORNE: Thank you for allowing me the  
10 opportunity to speak on behalf of the citizens of  
11 South Carolina.

12           As we all know, gas prices are on the  
13 rise, not just here but all around the country.  
14 And nationally, the average price of gasoline is  
15 over \$3.90. Here in our state the price has risen  
16 to an average of more than \$3.80 per gallon. For  
17 a car with a 15 gallon tank, that means you're  
18 shelling out about \$60 each time you're filling  
19 up.

20           These rises in gas prices are putting the  
21 squeeze on South Carolina families and for far too  
22 long our country has been dependent on foreign  
23 nations to meet our energy needs. The Talmasha  
24 Middle East region remains a major supplier of  
25 energy to the United States, which means that



1 we're susceptible to the effects of any sabre-  
2 rattling in the area have on the global price of  
3 energy.

4           Currently, Israel and Iran are exchanging  
5 threatening messages, markets around the world are  
6 fearful of hostilities at that could effect the  
7 crude oil production and export from that area.  
8 Why do we continue to put ourselves at the mercy  
9 of foreign countries? It is time that we started  
10 depending more on ourselves and on America's  
11 undeveloped resources.

12           Recently, the Bureau of Ocean Energy  
13 Management announced that it can conduct new  
14 seismic surveys at the Atlantic outer  
15 continental shelf, part of which lies off the  
16 coast South Carolina. We need these studies  
17 because the last surveys of this region were  
18 conducted more than 25 years ago, especially since  
19 recent technological developments have given us  
20 much more sophisticated tools to analyze the data  
21 from these surveys and to recover oil and natural  
22 gas resources discovered through the use of this  
23 data.

24           Estimates change because technology  
25 changes that were previously thought

1 unrecoverable. With this new geological theory  
2 about where oil and natural gas might be located,  
3 we don't need arbitrary capricious policies that  
4 hinder developing these much needed resources.  
5 And, unfortunately, because of some policy  
6 decisions, we are not able to lease this energy  
7 resource region to companies for development until  
8 at least 2018. But we need the benefits of new  
9 development today.

10           A recent Wood-Mackenzie study estimates  
11 that increasing development would create  
12 approximately 5,000 jobs in South Carolina. These  
13 include jobs involved indirectly in developing new  
14 energy as well other related jobs in construction,  
15 manufacturing and other sectors that affected  
16 indirectly by new development.

17           By choosing to develop these off shore  
18 areas, we can and should put thousands of South  
19 Carolinians back to work much helping to secure  
20 our energy's future now, not six years from now.

21           By choosing new energy resource  
22 development will also mean millions of dollars in  
23 new revenues and royalties for our state.  
24 Estimates for South Carolina are somewhere around  
25 \$500 million according to Wood-Mackenzie study.

1 This money could be used to fund education,  
2 improve roads and bridges and many other critical  
3 services the state provides.

4 I urge you to deliver the South Carolina  
5 message of supporting the testing that must be  
6 done to let us know if there is oil and/or natural  
7 gas off the coast of South Carolina. This new  
8 technology that will be used will not disrupt  
9 marine life. In fact, trained marine mammal  
10 observers are onboard to watch for mammals.  
11 Operations stop if an marine mammals enter an  
12 exclusion zone, as Senator Campbell previously  
13 mentioned, and the operation is not restarted  
14 until the zone is clear for 30 minute.

15 If oil and natural gas is found off our  
16 coast, we will have the opportunity, along with  
17 other states in the South Atlantic region and  
18 across the country, to produce American energy for  
19 Americans.

20 Our energy future can't wait until 2018.  
21 There has never been a better time than now to  
22 begin putting South Carolinians to work securing  
23 America's energy future. Thank you very much.

24 MR. BEIRSTADT: Thank you. Anne  
25 Johnston.

1 MS. JOHNSTON: Good afternoon. My name  
2 is Anne Johnston. I am the mayor of St. George,  
3 South Carolina. I want to thank you for giving me  
4 the opportunity today to speak to you about the  
5 positive affects of being able to find and produce  
6 American energy.

7 I understand that the proposed action is  
8 to allow geological and geophysical activities in  
9 support of oil and natural gas exploration and  
10 development of renewable energy and marine  
11 minerals in the Mid- and South Atlantic planning  
12 area. I urge the Bureau of Ocean Energy  
13 Management to move forward with 2012 levels to  
14 determine what may be out there in the outer  
15 continental shelf.

16 Gathering new data is important, as  
17 Representative Horne said, because the current  
18 estimates are based on decade's old information,  
19 information that not has not benefited from the  
20 advances of technology, for decades. I understand  
21 there has been no testing off the coast of South  
22 Carolina and North Carolina since the 1970s and  
23 very earlier 1980s.

24 It seems to me that any possibility of  
25 finding oil and/or natural gas off our coast an in

1 environmentally sound manner is positive and  
2 exciting. I'm quite concerned about the jobs that  
3 have been lost in the United States and, indeed,  
4 here in South Carolina in recent years.

5 I find it difficult to name one reason  
6 why this state and other coastal states would not  
7 pursue the benefits of new industry for the sake  
8 of job and capital investments that come from it.

9 I ask myself and you who are here today,  
10 why should these jobs go to other countries?  
11 Currently, the unemployment rate in South Carolina  
12 is 9.1 percent. For each new job created by off  
13 shore exploration and production, there will be  
14 substantial creation of other jobs to support  
15 these efforts.

16 For example, in the coastal areas where  
17 drilling might take place, there would need to be  
18 restaurants, motels, helicopter pilots, helicopter  
19 infrastructure, fuel, supplies -- fuel, supplies,  
20 mechanics, offices for support activity, grocery  
21 stores and companies which supply equipment and  
22 other support services off shore and on shore as  
23 well as construct the infrastructure required to  
24 drill off shore.

25 What is not to like about the prospect of

1 the creation of jobs in an environmentally sound  
2 manner? We don't not need to send these jobs to  
3 the foreign countries, particularly those who do  
4 not hold the United States in great esteem.

5 I understand that today you want to hear  
6 about moving forward with the testing that will be  
7 needed to be done in order to found out what is  
8 out there off the coast of South Carolina.

9 Believe me, we South Carolinians love our coast  
10 and our marshes, our beaches, our creeks and the  
11 vast Atlantic ocean. They are a part of the  
12 history of our state and certainly part of it's  
13 beauty.

14 The attraction of the coast and drilling  
15 for oil for natural gas does not need to be  
16 mutually exclusive. Today, in the year 2012,  
17 there is technology that can and does find oil and  
18 natural gas more easily than 20 years ago. I also  
19 understand the finds are bigger now due to the  
20 technology changes and new geological theories  
21 about where oil and natural gas might be.

22 My son is a pilot for Delta Airlines. We  
23 have discussed the positive impact of natural  
24 gas -- the positive impact that natural gas can  
25 have on this country. Aviation, agriculture and

1 oil are three of the biggest components of the  
2 GDP. Airlines use jet A fuel. Trucking companies  
3 use diesel fuel. Both are highly refined  
4 petroleum products that compete for production  
5 capacity.

6 The biggest single factor that would  
7 reduce pressure on refining capacity and thereby  
8 bringing down the cost of jet fuel would be to  
9 convert all long-distance trucking fleets to  
10 natural gas. If we can produce more natural gas  
11 and have a long-term stable supply, trucking  
12 costs -- excuse me -- trucking companies would  
13 find conversion economic and economically  
14 affordable.

15 Aviation costs could go down. Certainly  
16 aviation has brought jobs to South Carolina. I  
17 urge you to approve forward motion of using  
18 seismic surveys to start this important process  
19 that would provide jobs and revenue and decrease  
20 our dependence on foreign countries. Thank you.

21 MR. BEIRSTADT: Jeff Hamley.  
22 Mr. Hamley? Trip Talson? Rick Cobb? He signed  
23 up to speak. Kathy Norbinger?

24 MS. NORBINGER: That's close enough. I  
25 answer to a lot of things.

1           Mr. Goeke and Mr. Beirstadt, thank you  
2     for giving us the opportunity here today to  
3     speak. I am not a geologist and I'm certainly not  
4     a oceanographer and all those important things a  
5     lot of you folks are, but I do have a 30-year-old  
6     career in energy and I am retired from SCANA  
7     Corporation, which is the parent company for South  
8     Carolina Electric and Gas. After 30 years of  
9     service there, I retired as a senior officer, so I  
10    do have some background in energy.

11           I'm here today, though, representing  
12    Palmetto Agribusiness Counsel. I serve as the  
13    Executive Director of the state-wide association.  
14    We represent some of our state's largest  
15    agribusiness employers and we have a mission to  
16    sustain the economic viability of our state's  
17    largest industry, Senator.

18           And we are all the ultimate  
19    environmentalist. We live off the land. And by  
20    the way, we produce energy. We produce the fuel,  
21    if you will, for our bodies.

22           I'm speaking on behalf of this  
23    organization in support of the surveys and studies  
24    that can resolve to enable the possibility of off  
25    shore drilling for energy sources off the coast of



1 South Carolina. They are being located in states  
2 that borders our great Atlantic ocean. A point I  
3 mentioned, by giving our state an opportunity, we  
4 can be a contributor now. South Carolina can be a  
5 contributor to our nation's fuel stability.

6 Safe off shore exploration of additional  
7 fuel supplies can also have the ability to capture  
8 those untapped natural resources that could assist  
9 us in reducing the price of our much-needed fuel  
10 supply.

11 It is our belief at Palmetto Agribusiness  
12 Counsel that there is not a single bullet -- not a  
13 silver bullet that will reduce fuel prices,  
14 maintain stability and totally removed our  
15 dependency on fuel oil. But we do, however,  
16 ascertain that it will take a variety of  
17 alternatives and renewables to help our nation  
18 move forward in making positive energy strides.

19 Vast practices in wind, solar and  
20 geothermal, biomass and traditional production are  
21 all components of that solution.

22 Food harvesting, production and  
23 transportation of food are heavily dependent on  
24 energy. Exploration of fuel alternatives can  
25 serve to assist us in finding ways to reduce the

1 cost of food to our consumers, discourage the  
2 importing of foods that are not as tightly  
3 regulated -- and I hate to say it -- not as safe  
4 as the food grown in our own backyards.

5 We are asking for an opportunity,  
6 however, an opportunity to update, through this  
7 new survey technique decades-old data that you  
8 have heard about that could result in providing  
9 our nation another source of a much-needed energy  
10 supply.

11 The first step to the development of our  
12 off shore resources is approval of seismic surveys  
13 in the Atlantic outer continental shelf. The  
14 knowledge gained would help support leasing,  
15 drilling and development that could mean creating  
16 thousands of jobs and billions in additional  
17 revenue dollars.

18 In fact, projections are that developing  
19 our own energy resources in off shore waters and  
20 other federally-controlled areas could create  
21 much-needed new jobs in this terribly struggling  
22 economy.

23 All businesses, all consumers would  
24 benefit from a greater supply of domestically-  
25 produced fuel strengthening America's security

1 while keeping our energy costs maybe not low, but  
2 certainly help us keep them under control.

3 You know, in our office, we're constantly  
4 having people come in with new techniques and new  
5 ideas on fuel production feed stock. We talk  
6 about switch grass, chicken waste, anaerobic  
7 digesters that use food waste, soybeans, wood  
8 pellets.

9 I've seen a sweet potato -- a 50 pound  
10 sweet potato this big that could be used to  
11 produce energy. And the list goes on and on. We  
12 encourage all of those, just as we encourage the  
13 off shore drilling of our natural resources.

14 We urge you definitely to move forward  
15 with the proposed action here today. Thank you  
16 for allowing us to speak in your consideration.

17 MR. BEIRSTADT: Kay Clamp.

18 MS. CLAMP: Good afternoon. My name is  
19 Kay Clamp. I'm the South Carolina Petroleum  
20 Counsel, which, as you probably know, is the state  
21 office of the American Petroleum Institute in  
22 Washington D.C., which I'm sure you know.

23 Let me start off by saying I was born and  
24 bred in Charleston, South Carolina. Our coast has  
25 been an integral part of my life. My brother and

1 my father and I went flounder gigging on the end  
2 of the Isle of Palms for many, many years and  
3 enjoyed it. And I learn early on how important  
4 our beaches and our oceans and our tidal creeks  
5 were to me and to my family.

6 For many of us who have been lucky enough  
7 to grow up with the ocean as a friend, we  
8 certainly want to preserve and protect the  
9 wonderful resources that we have. But I am  
10 completely confident that we can enjoy the coast  
11 and create jobs and revenue for people of the  
12 state. We can have both.

13 In the world today there cannot be a  
14 choice between the joy of our environment and the  
15 activities and their genres and the creation of  
16 jobs for the people of South Carolina. We need  
17 them both.

18 I'm excited about the prospect of new  
19 jobs in South Carolina. It will include those as  
20 have been mentioned previously that will come  
21 directly with exploration and production. But  
22 there is more to come with that with all the  
23 support jobs that are absolutely necessary, and  
24 South Carolina is ready for those jobs.

25 Our state has a great program of

1 incentives for industries to relocate here and  
2 hire South Carolinians.

3 Let's talk about what comes next in terms  
4 of finding this natural gas or oil. I think  
5 probably it is natural gas. We've talked about  
6 seismic testing today and the method of testing is  
7 far more advanced than that was done off the coast  
8 North and South Carolinas in the late '70s and  
9 '80s. But with these new technologies, I am more  
10 than sure, our environmental impact of these  
11 seismic studies will be minimized.

12 The seismic testing of today will  
13 identify where the natural gas is and where it is  
14 not. If we do find natural gas, chances are we  
15 may have more natural gas than what is  
16 anticipated. With our industry's history of  
17 looking, it's active exploration and development  
18 often leads to increased resource estimates.

19 Obviously, if natural gas is found, it is  
20 my hope that the energy policy of the future will  
21 include an assessing of these natural resources.  
22 It does seem like many of the environmental groups  
23 on the national level are saying no to everything  
24 with exploration production of oil and natural  
25 gas, no to the keystone pipe line, no to hydraulic

1 fracturing used to access oil and natural gas; and  
2 the list goes on.

3 But no is not an environmental policy.  
4 We need natural gas to heat our homes and schools.  
5 It will bolster manufacturing, fuel our fleets.  
6 And to insure a well-balanced plan to preserve the  
7 environment and to access the fuel we need.

8 You may recall a movie that came out many  
9 years ago. It was a baseball movie. One of the  
10 sayings that came from that movie was: If you  
11 build it, it will come. And that applies to our  
12 situation here today. If you will allow the  
13 access, then the jobs and revenue will come to  
14 South Carolina.

15 Thank you for your presentation today and  
16 thank you for being here. We appreciate it.

17 MR. BEIRSTADT: Denver Merrill.

18 MR. Merrill: Good afternoon. Pleasure  
19 to be here today.

20 I'm here on behalf of a group for  
21 Citizens for Sound Conservation. We're here to  
22 voice our strong support for the proposal  
23 activities on the Atlantic continental shelf. Our  
24 organization is dedicated to promoting an  
25 appropriate balance between economic growth and

1 responsible usage of our natural resources. We  
2 don't take this issue lightly.

3 Our supporters includes a wide variety of  
4 business interests who've studied this issue and  
5 believe that seismic studies and associated G&G  
6 activities can be done safely as our prudent first  
7 step towards improving our economy and increasing  
8 our energy independence.

9 According to government sources, there  
10 are at least 86 billion barrels of oil and a 400  
11 trillion cubic feet of natural gas that are  
12 technically recoverable from federal off shore  
13 areas. Of that amount, it is estimated that 3.3  
14 billion barrels of oil and 31 trillion cubic feet  
15 of natural gas are off the Atlantic coast.

16 Given today's volatile energy prices,  
17 economic stagnation and high unemployment rate,  
18 our supporters believe access to these domestic  
19 energy supplies to essentially, provided our  
20 coastal environment is protected to the maximum  
21 extent possible.

22 Senator Campbell and Representative Borne  
23 touched on the safety measures and were confident  
24 that those will be undertaken. And I think even  
25 the presentation itself earlier said that the

1 investigation said the effects will be negative  
2 and you were very confident that it can be done  
3 safely.

4           Everyone's heard the estimate. The  
5 simple fact is we really don't know how much is  
6 off the coast. As other people have said, the  
7 data's old, 25 years old, at least. A lot of  
8 changes have happened over that period,  
9 particularly the technology. As you're aware, the  
10 original surveys have lasted through today.  
11 Reported recovery oil estimate is at 9 billion  
12 barrels.

13           New survey conduction techniques have  
14 helped support over 16 billion barrels in that  
15 area today. Oil estimates in central and western  
16 Gulf of Mexico increased by 400 percent while  
17 natural gas resources have more than doubled due  
18 to new technology, the very technology that we'll  
19 be using here.

20           We need as much information as possible  
21 about the Atlantic OCS energy reserve so we can  
22 make intelligent decisions about our nation's  
23 energy future. The seismic surveys of those are  
24 key to those decisions. New seismic survey  
25 techniques can give producers a vast, more



1 detailed accounting of those OCS resources that  
2 could be done safely.

3 Our need is imperative in order to have a  
4 comprehensive debate over whether to allow further  
5 exploration of drilling and could result in  
6 hundreds of thousands of new jobs and dramatic  
7 increases in domestically produced energy.

8 As we all know, though, without these new  
9 seismic studies, there will be no leasing and  
10 without leasing, there will be no drilling and  
11 without drilling, there will be no development  
12 industrial potential for additional jobs or  
13 revenue that off shore oil and natural gas  
14 drilling can bring.

15 It is encouraging to see the federal  
16 government to start this process forward and  
17 recognize the need for our nation to begin  
18 realizing more of its own energy resources. The  
19 studies and activities discussed here today are  
20 necessary first step toward increasing and towards  
21 the creating of a more secure country, a more  
22 comprehensive and rational energy policy. And for  
23 these reasons we ask that you move forward with  
24 the proposed plan.

25 Thank you for your time and

1 consideration.

2 MR. BEIRSTADT: Tom Brooks.

3 MR. BROOKS: My name is Tom Brooks. And  
4 I'm an engineer by training. I have worked in the  
5 off shore oil and gas business starting in the  
6 early '80s. I've worked off shore Texas. I've  
7 worked off shore Louisiana. I've worked off shore  
8 Canada. I've worked Alaska, both on shore and off  
9 shore. I've worked nine years in Russia. We did  
10 the largest oil gas project that's ever been --  
11 from a financial standpoint that has ever been  
12 done in the world. I talked to you about the  
13 Songling Project (phonetic).

14 What I want to say is: I wasn't quite  
15 sure what to say. But I'll tell you what, I heard  
16 the comments today, particularly from the  
17 legislatures and officials and other folks in the  
18 room. They are encouraging you to move forward.  
19 That is really what I wanted to tell you.

20 I've talked to the folks in my community  
21 and friends, and everybody said: Tom, tell them  
22 to get on with it. This stuff has been done for  
23 decades and is probably a lot safer now than it  
24 has been 10 or 15 years ago. But it's been going  
25 on for decades.

1           People in Louisiana are quite happy with  
2     it. The people in Texas are quite happy with it.  
3     The people in Alaska are quite happy with it.  
4     People have been doing this for years and years  
5     and years.

6           Russia -- I'm telling you, when the  
7     Russian government did this, they pushed us so  
8     hard it was just incredible. When they wanted to  
9     move on laws or regulations or approvals, they did  
10    so. That may be a surprise to you.

11           My plea to you is: let's get this stuff  
12    done and get moving along as fast as you can.  
13    Thank you.

14           MR. BEIRSTADT: Mike Smith.

15           MR. SMITH: I am Mike Smith. I am here  
16    on behalf of my business partner, a Medal of Honor  
17    recipient, General Jim Livingston of  
18    Mt. Pleasant. He has asked me to read a few of  
19    his thoughts as he couldn't be here today.

20           The policies that force Americans -- it's  
21    important for you to see the importance of  
22    persuing more aggressively the exploitation of  
23    energy resources here in the United States -- the  
24    policies that force Americans to rely so heavily  
25    on foreign sources of oil reveal an inconvenient

1 truth. Many officials prescribe more value to the  
2 environmentalist than the safety of our men and  
3 women in uniform and the strength of our economy.  
4 And lately, these officials have been anything but  
5 candid with the public about the truth all of us  
6 Americans pay for our dependance on foreign oil.

7           It's easy to identify the retail price  
8 increase for a gallon of gasoline since President  
9 Obama's inauguration. It has more than doubled.  
10 What is more difficult to calculate are the  
11 additional costs Americans incur through the  
12 federal government's use of our treasure to  
13 promote stability in oil markets, notably, by  
14 policing the middle east.

15           Apart from kinetic operations in the  
16 region, the cost of keeping our aircraft carriers  
17 in the middle east from 1967 through 2007 exceeded  
18 \$7 trillion; that's in 2008 dollars. Given the  
19 primary reason for the presence in the region is  
20 to protect oil trans routes given that the U.S. is  
21 not the top consumer of middle Eastern Oil, it is  
22 difficult to argue that this does not constitute a  
23 substantial subsidy for world oil markets.

24           It is also difficult to argue that this  
25 is not an unnecessary form -- pardon the double

1 negative -- a foreign gate provided to top  
2 consumers in mid-east oil like Europe and China,  
3 of the latter of whom we are borrowing a lot money  
4 from to conduct these expensive operations.

5 While those costs are substantial, so too  
6 are the opportunity costs we encounter by relying  
7 on foreign oil verses more aggressively pursuing  
8 extraction opportunities in the United States.

9 According to estimates put by Harold Hann  
10 (phonetic,) CEO of America's 14th largest oil  
11 company: If Washington would allow more drilling  
12 permits on federal lands and in federal waters,  
13 the federal government could raise some \$18  
14 trillion in revenue through royalties.

15 Put simply, importing oil impacts the  
16 national security of the United States and that  
17 impact is not positive. Without a strategic pivot  
18 that places the emphasis on pursuing price  
19 stability with an emphasize on doing more to  
20 insure our access is much easily runnable, we will  
21 continually to unnecessarily risk the health of  
22 our economy along with the lives of our men and  
23 women in uniform.

24 In as much as we should pursue innovative  
25 technologies as they reduce our dependence on

1 fossil fuels, we should also pursue policy  
2 innovations that can drastically reduce the true  
3 cost Americans pay for access to petroleum  
4 products.

5 Policies that expand our access to  
6 domestic energy resources, including oil and  
7 natural gas that may be located off the coast of  
8 South Carolina will pay dividends. These policies  
9 will generate short-term and long-term jobs as  
10 well as substantial growth in a critical sector of  
11 our economy. Such policies also enhance our  
12 economy security by substantially diminishing the  
13 abilities of foreign actors to produce American's  
14 access to its resource that has come the lifeblood  
15 of our economy. Thank you.

16 MR. BEIRSTADT: Chris Carnival.

17 MR. CARNIVAL: Thank you, Mr. Goeke and  
18 Mr. Beirstadt. I have submitted these comments in  
19 written form. It's more than I can get to in  
20 three minutes, but this is true and accurate.

21 On behalf of the Sutherlans for Clean  
22 Energy, I would like to thank you for the  
23 opportunity to discuss off shore energy and would  
24 like to voice our support for off shore wind  
25 energy while urging a moratorium forum on off

1 shore oil and natural gas development in the  
2 Mid-Atlantic and South-Atlantic planning areas.

3 I will make two points and then provide a  
4 series of recommendations on the draft  
5 Programmatic Environmental Impact Statement.

6 Our first point is that off shore wind  
7 energy is a better investment than off shore oil  
8 and gas. The Mid-Atlantic and South Atlantic have  
9 the best off shore wind resource in the country  
10 with the ability to produce enough electricity to  
11 power tens of millions of homes and provide many  
12 thousands of jobs with no air pollution, no risk  
13 of a catastrophic accident, no water consumption,  
14 no mining operations and no risk of resource  
15 depletion.

16 Or second point is that Mid-Atlantic and  
17 South Atlantic off shore oil and gas prospecting  
18 is not very productive and, in fact, harmful.  
19 Extending G&G activity outside of areas interest  
20 to wind energy set 350 nautical miles from shore  
21 as it indicates in the Draft Programmatic  
22 Environmental Impact Statement will significantly  
23 increase shipping and aerial traffic. This could  
24 cause displacement and mortality of marine species  
25 including fish, sea turtles and marine mammals,

1 particularly the North Atlantic right whale.

2           Considering previous estimates they admit  
3 that they did seldom use hydrocarbon resources and  
4 indicate only small amounts of being economically  
5 recoverable oil and gas. The near-term risks to  
6 the marine environment far outweigh the potential  
7 benefits of eventual drilling.

8           In order to promote off shore wind energy  
9 and minimize financial and ecological risk  
10 associated with G&G activities, the Southern  
11 Alliance for Clean Energy make the following  
12 recommendations.

13           Firstly, contain G&G activity to the wind  
14 energy areas designated by BOEM. Thus far, BOEM  
15 has identified areas off of Virginia, Maryland and  
16 Delaware in actively working with task forces in  
17 North Carolina and South Carolina identified wind  
18 energy areas off aerials.

19           Designating areas for G&G activities will  
20 minimize oceanic traffic and will be maximally  
21 beneficial for off shore wind energy development.  
22 BOEM should only work to develop wind energy areas  
23 for Georgia and Florida.

24           Secondly, limit G&G activity to collect  
25 relevant data for near-term off shore wind energy



1 deployment using Europe's long history of off  
2 shore wind energy has a president, G&G activity  
3 should focus within 50 meters water depth and 50  
4 miles from shore. Most turbines utilize pile-  
5 driven modified foundation structures in submarine  
6 interconnection cables. Shallow water near shore,  
7 shallow penetration G&G activities are best suited  
8 for off shore wind energy deployment technologies  
9 in the near-term and BOEM should focus its efforts  
10 on these types of activities.

11 Deep penetration seismic survey long-term  
12 magnetic survey might unnecessary for off shore  
13 wind energy development and thus should be for  
14 gone.

15 Thirdly, minimize overlapping of similar  
16 G&G activities in the mid and South Atlantic.  
17 Increased shipping traffic and intensive acoustic  
18 surveying are likely to have impacts on marine  
19 environment. Due to undue politic G&G activity is  
20 likely to decrease even faster by reducing ship  
21 traffic.

22 Fourthly, for other G&G activities, which  
23 is from November to April, which is when the North  
24 Atlantic right whale are mostly likely to be  
25 within the Mid-Atlantic or South Atlantic planning

1 area.

2 Finally, during G&G, activities  
3 specifically design for off shore oil and gas  
4 resources estimates or having limited  
5 applicability to off shore wind industry. Thank  
6 you.

7 MR. BEIRSTADT: Chris Desharon.

8 MR. DESHARON: Thank you. My name is  
9 Chris Desharon. I worked for Southern  
10 Environmental Law Center here in Charleston, South  
11 Carolina. SELC works in a six to eight week with  
12 a mission of protecting the region's environment  
13 and natural resources. We appreciate the  
14 opportunity to appear here today to comment on the  
15 proposal at issue.

16 We belief the administration show choose  
17 the no action alternative to keep dangerous oil  
18 and gas exploration off of the coast for the  
19 following reasons.

20 As a threshold matter, it is important to  
21 understand that we cannot drill our way out of  
22 high gasoline prices. According to the US Energy  
23 Information Agency, fully developing all of our  
24 recoverable off shore oil reserves everywhere  
25 would low the price of gas by about three cents

1 and would take about 20 years to do so.

2 Although allowing seismic surveys will  
3 not affect the price of gas, it is certain that  
4 allowing these surveys will damage our ocean  
5 resources in a major way. Seismic surveys involve  
6 the use of airguns which will lead intense blasts  
7 of compressed air into the water that are just  
8 about as loud as explosives.

9 For marine mammal relying on hearing to  
10 feed, mate, travel and communicate, these intense  
11 blasts interfere with the ability of marine  
12 mammals and other wild life to hear and survive.  
13 In fact, survey airgun noise is loud enough to  
14 mask whale calls over thousands of miles  
15 destroying their ability to communicate and  
16 breed. Airgun noise can also drive a whales to  
17 abandon their habitat.

18 Whale companies have already applied to  
19 run hundreds of thousands of miles of airgun  
20 surveys off the east coast. Over the next eight  
21 years, according to the administration's own  
22 estimates, seismic exploration would injure up to  
23 138,500 marine mammals and disrupt marine feeding,  
24 calving, breeding and other vital activities more  
25 than 13.5 million times.

1           Airgun noise and oil and gas development  
2 more generally alter or threatens our fisheries  
3 and coastal economies. Airguns have been known to  
4 displace commercial species of fish on a vast  
5 scale over thousands of square kilometers. The  
6 result has been to dramatically depress capturing  
7 species such as cod, haddock and rod fish across  
8 large areas as big as the state of Rhode Island.  
9 This, of course, has negatives impacts on  
10 commercial and recreational fishermen.

11           In South Carolina alone there are more  
12 than 6,000 fishermen jobs, more than \$440 million  
13 in recreational fishing sales and more than \$70  
14 million in commercial fishing sales. In addition,  
15 South Carolina's tourism and recreation industry  
16 generates more than \$2.2 billion and more than 55  
17 thousand jobs. Off shore oil drilling in the  
18 Atlantic could be devastating for recreational  
19 activity in South Carolina.

20           To reduce harm, airguns must be kept out  
21 of sensitive environmental areas. We recommend  
22 promoting the use of less damaging alternatives  
23 and require companies the share data. Less  
24 damaging alternative technology that could  
25 substantially cut the environmental footprint of

1 airguns are already well into development and can  
2 be available for use in three to five years or  
3 less.

4           However, the administration is proposing  
5 to allow the use of current, more dangerous  
6 technologies now. There's no reason to rush ahead  
7 with dangerous airgun surveys when less harmful  
8 technologies will soon be available.

9           Also, the plan under consideration would  
10 allow seismic operators to reshoot the same area  
11 again and again so they can resell the same data  
12 to oil companies. This is the case even though  
13 the agencies own experts have called for data  
14 sharing to the minimizing the noise.

15           The administration should not allow for  
16 duplicative surveying. Shooting airguns and  
17 drilling off our coast does not make sense.  
18 Ultimately, if we care about our fisheries, our  
19 marine life and our coastal economy, the  
20 administration should promote off shore renewables  
21 like wind farms.

22           Scanning the ocean floor for wind farm  
23 development uses a technology that is far safer  
24 than high intensity airguns. We urge the  
25 administration to chose Alternative C and release

1 an environmental impact statement focused on the  
2 development of renewable energy. Thank you.

3 MR. BEIRSTADT: Thank you. That's the  
4 end of the list for people who have signed up to  
5 speak. If there is anybody else that would like  
6 to make a statement, come forward. And please say  
7 your name and spell it for the Court Reporter.

8 MR. RAPPACK: Sure. my name is Steve  
9 Rappack. First I want to applaud everybody making  
10 their way out here. I notice there are about 150  
11 seats here and we have maybe 25 people that  
12 actually are not part of the demonstration here.

13 I will say that personally I don't like  
14 identifying myself necessarily with groups, but I  
15 will say that I am a member of a group of roughly  
16 about 250 members, 300 members and I can  
17 relatively sure I can speak for them.

18 First off, I guess the biggest thing that  
19 we need to do is go ahead and get as much energy  
20 here as possible. We need to go ahead, and if we  
21 got natural resources, let's go ahead and do it.  
22 So I think all of us here would agree or most of  
23 us would agree that we need to develop the  
24 resources.

25 The second thing is, I hear other options

1 as far as energy development. I would suggest  
2 that there is no conflict between the drilling and  
3 seismic activity that we want to do to find out  
4 what we have got and having wind farms. All I  
5 would say is: You know what? Let the private  
6 industry do the farms. If the private industry  
7 can't make it work, then I certainly don't want  
8 tax dollars going towards it.

9 As far as addressing things to you  
10 fellows, you had mentioned that you don't  
11 necessarily want to get to the methodology of the  
12 presentation there, but I will say that obviously  
13 there was a bias to begin with on this. Because  
14 you've given three options, all of them would be  
15 considered maybe environmentally friendly, whereas  
16 if you have true people that don't even care about  
17 the environment, they would say drill with  
18 everything you've got and do it right now and  
19 forget everything else. But that's not one of the  
20 options, you guys started from the center and just  
21 most left from that point.

22 The second thing I would like to know on  
23 moratorium zone, the airguns. With Option A, you  
24 have got five months that you can't use airguns.  
25 How much exploration -- because I'm ignorant on

1 this -- how much exploration can be done if you're  
2 not able to use the airguns? In other words,  
3 already you have got half the area you can't do  
4 these things. So how is that going to impact the  
5 overall ability to research this?

6 MR. GOEKE: We will have to tailor survey  
7 programs for those area closures, time limits.

8 MR. RAPPACK: So with that, though, if it  
9 turns out somebody started doing the research  
10 here, what's the possibility that all of a sudden  
11 this moratorium thing comes in and all the  
12 research has got to stop now, or is there an awful  
13 lot of other stuff that could be done?

14 MR. GOEKE: Let me make sure that we're  
15 understanding.

16 MR. RAPPACK: Okay.

17 MR. GOEKE: The entire area would not be  
18 closed. We're talking about special areas along  
19 the coast that would be protected for marine  
20 mammals, so the areas off shore would still be  
21 available.

22 MR. RAPPACK: A hundred miles out, 200  
23 mile out or whatever, we can still do the airguns?

24 MR. GOEKE: Yeah, yeah. They have a  
25 special area.



1           MR. RAPPACK: That makes me feel a little  
2 bit better. Looking at this, I noticed you had  
3 option A, option B, option C. And unless you're  
4 really immersed in this stuff, really it's tough  
5 to tell the difference.

6           Let me see. One other thing: As far as  
7 the terms you guys are using. Potential: I here  
8 potential an awful lot. Potential can mean an  
9 awful lot of anything. I hear "moderate."  
10 Moderate is a relative term. There are times that  
11 I saw statements up there saying that something --  
12 there wasn't going to be any impact or there was  
13 negligible impact or there was major impact or  
14 whatever. I guess it's just sort of interesting  
15 that for those of us in the audience that aren't  
16 really behind the scenes developing this whole  
17 thing, these being relative terms, I don't know  
18 that we're ever really going to get a good idea  
19 for exactly what goes into saying we like option  
20 A, option B. Certainly we know what option C is,  
21 but option A or option B. But that is just an  
22 observation there. Anyway, I had other thoughts,  
23 but I don't have any more time, so thank you very  
24 much.

25           MR. BEIRSTADT: Would anyone else care to

1 make a comment? Anyone at all? Yes, sir.

2 MR. RITCHER: I'd like to make a comment.

3 MR. BEIRSTADT: Please state your name  
4 and spell it for the Court Reporter.

5 MR. RITCHER: My name is Bill Richter,  
6 R-i-t-c-h-e-r. I am here as a potential users of  
7 all the technology that we're hearing about. It  
8 seems to me generally something that needs to be  
9 done in this area of producing electricity or  
10 power or however you want to put it from the ocean  
11 based on what is in the ocean. And various people  
12 have various ways of doing this.

13 It seems to me what should happen next is  
14 for the people who have come up with these ideas  
15 of what to do, put them together and get them to  
16 the House of Representatives in Columbia and say  
17 here's how much money we need to do it. Because  
18 it does look like someone has to put up some money  
19 to do it. And I think that's the way to do it.  
20 And if anyone is reluctant to take on managing  
21 this stuff once it gets to the House of  
22 Representatives when they know what is coming,  
23 I'll be glad to volunteer to help take care of  
24 that part of the problem.

25 MR. BEIRSTADT: Thank you, sir. Yes,

1 ma'am.

2 MS. ENSOR: My name is Linda Ensor and I  
3 may be a part of some 250 people I'm with, but I'm  
4 with a conservative group in Summerville. If any  
5 reporter has said that America has a choice  
6 between purchasing oil from our closest neighbor  
7 and best friend, Canada, or from our nation's  
8 worst enemies, we know what choices have been  
9 made. We need to do everything we can to be  
10 energy efficient. Since your study has showed any  
11 significant impact, I can see no reason why we  
12 shouldn't proceed with all speed.

13 MR. BEIRSTADT: If there is nothing else,  
14 I would call these proceedings closed.

15 (The public meeting was  
16 concluded at 2:40 p.m.)

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1 CERTIFICATE OF REPORTER

2

3 STATE OF SOUTH CAROLINA )

4 DORCHESTER COUNTY )

5

I, Naomi E. McCracken, a Computerized Stenotype Reporter and Notary Public within and for the State of South Carolina, duly commissioned and qualified, do hereby certify that these proceedings were taken by me, reduced to stenotype, afterwards prepared and produced by means of Computer-Aided Transcription to the best of my ability and that the foregoing is a true and accurate transcription of the proceedings so taken as aforesaid.

10 I do further certify that these proceedings were taken at the time and place in the foregoing caption specified, and was completed without adjournment.

12 I do further certify that I am not a relative, employee of or attorney for party or counsel, or otherwise interested in the event of this action.

13 I do further certify that I am not, nor is the court reporting firm with which I am affiliated, under a contract as defined in Civil Rule 28(D).

15 IN WITNESS WHEREOF, I have hereunto set my hand and affixed my seal of office at Summerville, South Carolina on this 2nd day of May, 2012.

16

17

18

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Naomi E. McCracken,  
Computerized Stenotype Reporter  
And Notary Public in and for  
The State of South Carolina.

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My Commission Expires October 4th, 2020

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**BUREAU OF OCEAN ENERGY MANAGEMENT**  
**Transcript of Public Hearing on 04/20/2012**

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