

Seismic Exploration is Heavily and Effectively Regulated In
The Gulf of Mexico

THE STATE OF SEISMIC REGULATION IN THE GULF OF MEXICO

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The Existing US Regulatory Program for Seismic Exploration

The Federal Government primarily uses Notices to Lessees (“NTL”) to regulate oil and gas seismic in the Gulf of Mexico. These NTLs are currently issued by the U.S. Bureau of Ocean Energy Management (“BOEM). The Bureau of Safety and Environmental Enforcement claims it no longer regulates seismic, even though the current NTL is BOEM/BSEE’s JOINT NTL No. 2012-G02.²

This NTL explains that it implements the National Marine Fisheries Service’s (“NMFS”) requirements for seismic under the Marine Mammal Protection Act (“MMPA”) and under the Endangered Species Act (“ESA”):

*The use of an airgun or airgun arrays while conducting seismic operations may have an impact on marine wildlife, including marine mammals and sea turtles. Some marine mammals, such as the sperm whale (*Physeter macrocephalus*), and all sea turtles that inhabit the Gulf of Mexico are protected under the Endangered Species Act (ESA). All marine mammals are protected under the Marine Mammal Protection Act (MMPA). In order to protect marine mammals and sea turtles during seismic operations, the National Marine Fisheries Service (NMFS) requires seismic operators to use ramp-up and visual observation procedures when conducting seismic surveys. Procedures for ramp-up, protected species observer training, visual monitoring and reporting are described in detail in this NTL.³*

This use of NTLs to implement MMPA and ESA seismic requirements is emphasized in another recent BOEM publication:

The Bureau of Ocean Energy Management (BOEM) conveys regulations to offshore operators via the Notice to Lessees (NTL), which mandates standard operating

¹ The summary discussion in this Paper is augmented by the Appendix attached hereto, which discusses these and other related issues in much greater detail.

² BSEE recently stated that “the regulatory requirements pertaining to seismic requirements are now under BOEM purview.” Click on Supporting Statement A at http://www.reginfo.gov/public/do/PRAViewDocument?ref_nbr=201202-1014-004 (BSEE’s response to Question 8 in the Supporting Statement).

³ JOINT NTL No. 2012-G02, Effective Date: January 1, 2012, NOTICE TO LESSEES AND OPERATORS (NTL) OF FEDERAL OIL, GAS, AND SULPHUR LEASES IN THE OCS, GULF OF MEXICO OCS REGION, Implementation of Seismic Survey Mitigation Measures and Protected Species Observer Program, page 1, available online at <http://www.bsee.gov/Regulations-and-Guidance/Notices-to-Lessees-and-Operators.aspx>.

*procedures necessary to comply with the Endangered Species Act (ESA) and the Marine Mammal Protection Act (MMPA).*⁴

BOEM summarizes these seismic requirements in the following recent Environmental Impact Statement (“EIS”) for GOM oil and gas leasing:

*The BOEM and BSEE have mitigations in place (NTL 2012-JOINT-G02) that require G&G operators conducting seismic operations in all Federal waters >200 m (656 ft) deep in the WPA and CPA, and in all Federal waters of the EPA (regardless of water depth) to (1) employ ramp-up, (2) utilize trained protected species observers, and (3) complete BOEM reporting requirements. Ramp-up is to be initiated only during periods of sufficient visibility when observers are able to scan and clear an area (i.e., impact radius or exclusion zone) at least 500 m (1,640 ft) around seismic operations. Specifically, the NTL requires that visual protected species observers clear the exclusion zone at and below the sea surface within a radius of 500 m (1,640 ft) surrounding the center of an airgun array and the area within the immediate vicinity of the survey vessel. Observers must observe no marine mammals or sea turtles within (or approaching) the 500-m (1,640-ft) exclusion zone for a period of 30 minutes, after which ramp-up operations may begin. Once ramp-up has been completed and the seismic array is operating at full power, visual observations are to continue until seismic operations cease or sighting conditions do not allow observation of the sea surface (e.g., fog, rain, and darkness). If a whale (but not dolphins) or sea turtle is sighted either within the 500-m (1,640-ft) exclusion zone or moving towards the exclusion zone, the array must be shut down until the area can be cleared. The seismic array may be powered down to a minimum level of 160 dB re 1 μ Pa (rms) without reinitiating ramp-up. Procedures for ramp-up, protected species observers’ training, visual monitoring, and reporting are described in detail in NTL 2012-JOINT-G02 and in the section below.*⁵

After extensive study, the Federal Government has repeatedly concluded that there is no significant harm to marine mammals or endangered species from GOM seismic that is conducted in compliance with the NTL requirements. For example:

... NTL 2012-JOINT-G02, ‘Implementation of Seismic Survey Mitigation Measures and Protected Species Observer Program,’ minimizes the potential of harm from seismic operations to marine mammals. These mitigations include onboard observers, airgun shut-downs for whales in the exclusion zone, ramp-up procedures, and the use of a minimum sound source. Therefore, no significant cumulative impacts to marine

⁴ Seismic Survey Mitigation Measures and Marine Mammal Observer Reports, OCS Study BOEM 2012-015, page 2, available online at <http://www.data.boem.gov/PI/PDFImages/ESPIS/5/5177.pdf> .

⁵ Gulf of Mexico OCS Oil and Gas Lease Sales: 2012-2017; Western Planning Area Lease Sales 229, 233, 238, 246, and 248; Central Planning Area Lease Sales 227, 231, 235, 241, and 247; Final Environmental Impact Statement; [Volume I](#) , page 4-201; available online at <http://www.boem.gov/Environmental-Stewardship/Environmental-Assessment/NEPA/nepaprocess.aspx>.

mammals would be expected as a result of the proposed exploration activities when added to the impacts of past, present, or reasonably foreseeable oil and gas development in the area, as well as other ongoing activities in the area. Within the [GOM] WPA, there is a long-standing and well-developed OCS Program (more than 50 years); there are no data to suggest that activities from the preexisting OCS Program are significantly impacting marine mammal populations. Therefore, in light of the above analysis for a WPA proposed action and its impacts, the incremental effect of a WPA proposed action on marine mammal populations is not expected to be significant when compared with non-OCS energy-related activities.

Although there will always be some level of incomplete information on the effects from routine activities under a [GOM] CPA proposed action on marine mammals, there is credible scientific information, applied using acceptable scientific methodologies, to support the conclusion that any realized impacts would be sublethal in nature and not in themselves rise to the level of reasonably foreseeable significant adverse (population-level) effects. Also, routine activities will be ongoing in the CPA proposed action area as a result of active leases and related activities. As of May 2012, there are 4,377 active leases in the CPA. Within the CPA, there is a long-standing and well-developed OCS Program (more than 50 years); there are no data to suggest that routine activities from the preexisting OCS Program are significantly impacting marine mammal populations.⁶

Change in Existing Regulation would have to be Supported by a Cost Benefit Analysis and would have to Comply with other U.S. Good Government Laws

There are a number of *good government* laws which *regulate the regulators*. U.S. federal agencies would have to comply with these laws before they could change the existing U.S. regulation of GOM seismic.⁷ These laws include Presidential Executive Orders 12866 and 13563; the Paperwork Reduction act (“PRA”); and the Information Quality Act (“IQA”).

A. *Executive Orders 12866 and 13563*

Among other requirements, U.S. Presidential Executive Order 13563 requires that any new rules regulating seismic in the GOM be supported by a cost benefit analysis:

This order is supplemental to and reaffirms the principles, structures, and definitions governing contemporary regulatory review that were established in Executive Order 12866 of September 30, 1993. As stated in that Executive Order

⁶ Gulf of Mexico OCS Oil and Gas Lease Sales: 2012-2017; Western Planning Area Lease Sales 229, 233, 238, 246, and 248; Central Planning Area Lease Sales 227, 231, 235, 241, and 247; Final Environmental Impact Statement; [Volume I](#), page 4-215; [Volume II](#), page 4-710; available online at <http://www.boem.gov/Environmental-Stewardship/Environmental-Assessment/NEPA/nepaprocess.aspx>.

⁷ See the linked discussions at http://www.thecre.com/pdf/20110530_Governors_of_the_Regulatory_State.pdf for background on the U.S. good government laws.

and to the extent permitted by law, each agency must, among other things: (1) propose or adopt a regulation only upon a reasoned determination that its benefits justify its costs (recognizing that some benefits and costs are difficult to quantify); (2) tailor its regulations to impose the least burden on society, consistent with obtaining regulatory objectives, taking into account, among other things, and to the extent practicable, the costs of cumulative regulations; (3) select, in choosing among alternative regulatory approaches, those approaches that maximize net benefits (including potential economic, environmental, public health and safety, and other advantages; distributive impacts; and equity); (4) to the extent feasible, specify performance objectives, rather than specifying the behavior or manner of compliance that regulated entities must adopt; and (5) identify and assess available alternatives to direct regulation, including providing economic incentives to encourage the desired behavior, such as user fees or marketable permits, or providing information upon which choices can be made by the public.

(c) In applying these principles, each agency is directed to use the best available techniques to quantify anticipated present and future benefits and costs as accurately as possible. Where appropriate and permitted by law, each agency may consider (and discuss qualitatively) values that are difficult or impossible to quantify, including equity, human dignity, fairness, and distributive impacts.⁸

President Obama's Executive Order 13563 supplements the long-standing Executive Order 12866. This Order imposes additional requirements on "significant regulatory actions." These requirements include review of these regulatory actions by the Office of Information and Regulatory Affairs ("OIRA") in the U.S. Office of Management and Budget ("OMB"). Executive Order 12866 explains that:

(B) For each matter identified as, or determined by the Administrator of OIRA to be, a significant regulatory action, the issuing agency shall provide to OIRA:

(i) The text of the draft regulatory action, together with a reasonably detailed description of the need for the regulatory action and an explanation of how the regulatory action will meet that need; and

(ii) An assessment of the potential costs and benefits of the regulatory action, including an explanation of the manner in which the regulatory action is consistent with a statutory mandate and, to the extent permitted by law, promotes the President's priorities and avoids undue interference with State, local, and tribal governments in the exercise of their governmental functions.

(C) For those matters identified as, or determined by the Administrator of OIRA to be, a significant regulatory action within the scope of section 3(f)(1), the agency shall

⁸ <http://www.whitehouse.gov/the-press-office/2011/01/18/improving-regulation-and-regulatory-review-executive-order>. NMFS' record for BOEM's petition for GOM seismic Take rules is available online at <http://www.nmfs.noaa.gov/pr/permits/incidental.htm>. Scroll down to "Bureau of Ocean Energy Management, Regulation, and Enforcement (BOEMRE, formerly Minerals Management Service (MMS)) Seismic Surveys in the Gulf of Mexico."

also provide to OIRA the following additional information developed as part of the agency's decision-making process (unless prohibited by law):

(i) An assessment, including the underlying analysis, of benefits anticipated from the regulatory action (such as, but not limited to, the promotion of the efficient functioning of the economy and private markets, the enhancement of health and safety, the protection of the natural environment, and the elimination or reduction of discrimination or bias) together with, to the extent feasible, a quantification of those benefits;

(ii) An assessment, including the underlying analysis, of costs anticipated from the regulatory action (such as, but not limited to, the direct cost both to the government in administering the regulation and to businesses and others in complying with the regulation, and any adverse effects on the efficient functioning of the economy, private markets (including productivity, employment, and competitiveness), health, safety, and the natural environment), together with, to the extent feasible, a quantification of those costs; and

(iii) An assessment, including the underlying analysis, of costs and benefits of potentially effective and reasonably feasible alternatives to the planned regulation, identified by the agencies or the public (including improving the current regulation and reasonably viable nonregulatory actions), and an explanation why the planned regulatory action is preferable to the identified potential alternatives.⁹

Executive Order 12866 defines “significant regulatory action” as:

(e) ‘Regulatory action’ means any substantive action by an agency (normally published in the Federal Register) that promulgates or is expected to lead to the promulgation of a final rule or regulation, including notices of inquiry, advance notices of proposed rulemaking, and notices of proposed rulemaking.

(f) ‘Significant regulatory action’ means any regulatory action that is likely to result in a rule that may:

(1) Have an annual effect on the economy of \$100 million or more or adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or State, local, or tribal governments or communities;

(2) Create a serious inconsistency or otherwise interfere with an action taken or planned by another agency;

(3) Materially alter the budgetary impact of entitlements, grants, user fees, or loan programs or the rights and obligations of recipients thereof; or

(4) Raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in this Executive order.¹⁰

⁹ Executive Order 12866, available online at <http://www.archives.gov/federal-register/executive-orders/pdf/12866.pdf>.

¹⁰ *Id.*

In sum, any proposed new rules that regulate GOM seismic more stringently than under existing regulations would have to be accompanied and supported by a cost benefit analysis, which is likely to be reviewed by OMB/OIRA.

B. *Paperwork Reduction Act*

OMB/OIRA will also review the PRA Information Collection Requests (“ICRs”) that are likely to be required for any new seismic regulation in the GOM. The PRA, 44 U.S.C. 3501-3520, requires that every U.S. federal agency obtain approval from OMB/OIRA before collecting the same or similar information from 10 or more members of the public. In order to obtain PRA approval, the agency submits an ICR to OMB/OIRA. An ICR submission:

- Describes the information to be collected,
- Gives the reason the information is needed,
- Estimates the time and cost for the public to answer the request, and
- Includes an explicit reference to the operating unit’s information quality guidelines, as required by the IQA¹¹

After reviewing an ICR submission, OMB/OIRA may approve or disapprove it, or place conditions on it that must be met for approval. This process is designed to prevent unnecessary collections, to reduce costs, and to ensure the “practical utility” of the information request.

“Practical utility” is defined by the PRA as “the actual, not merely the theoretical or potential, usefulness of information to or for an agency, taking into account its accuracy, validity, adequacy, and reliability, and the agency’s ability to process the information it collects”¹²

OMB-approved ICRs are necessary for the agencies’ regulation of offshore seismic because that regulation depends in large part on operators’ monitoring and compliance reports to federal agencies. Before it split into BOEM and BSEE, BOEMRE responded to comments on BOEMRE’s seismic ICR 1010–0151 by stating that BOEMRE would require and request a new ICR if it ever intends to regulate offshore seismic activities in a manner more burdensome than required at the time it responded to the comments. This BOEMRE response defines the burden and scope of seismic information collection authorized by ICR 1010– 0151, which was approved by OMB/OIRA.

BSEE subsequently asked OMB to approve a new seismic ICR which, according to BSEE “does not change the burden hours or make any other modifications to what was previously approved [under ICR 1010–0151], other than to remove the collections under the purview of BOEM” in order to

¹¹ See, for example, the Department of Commerce’s ICR guidance, which applies to NOAA/NMFS, at http://ocio.os.doc.gov/ITPolicyandPrograms/Information_Collection/dev01_003742#P102_18486.

¹² 5 C.F.R. § 1320.3(1), available online at http://www.givemeliberty.org/RTP2/PRA/PRA-CFR/5_C_F_R_1320_3.pdf.

accommodate the split of regulations from the Bureau of Ocean Energy Management, Regulation and Enforcement (“BOEMRE”) to BOEM and BSEE.”¹³

BSEE’s ICR Supporting Statement to OMB/OIRA reads in part as follows:

As required in 5 CFR 1320.8(d), BSEE provided a 60-day notice in the Federal Register on July 6, 2011 (76 FR 39419). Also, 30 CFR 250.199 and the Paperwork Reduction Act explain that BSEE will accept comments at any time on the information collected and the burden. We received two comments in response to the Federal Register notice. The first comment, from the Marine Mammal Commission, supported our request to OMB. Another commenter requested that we should state that we are not submitting any ICRs for seismic regulations that are more stringent than current regulations, including NTL 2007-G02.

We believe that this comment is not germane to current BSEE regulatory requirements because when BOEMRE split into the new bureaus of BOEM and BSEE, the regulatory requirements pertaining to seismic requirements are now under BOEM purview. Nonetheless, we agree with BOEM’s response that the public will be given the opportunity to comment on modifications made to any information collections as a result of changes to NTL 2007-G02 and 30 CFR 250, subpart B regulations. BOEM’s actual reply was:

Response: For the renewal of this ICR, we are not requesting anything more stringent than in current NTL 2007-G02 and 30 CFR 250, subpart B regulations, which are covered under OMB Control Number 1010-0151. We have no plans, at this time, to change the content of or the resultant burdens imposed by NTL 2007-G02. Therefore, BOEMRE should move forward with the required information collection to ensure compliance with OMB deadlines. If the lawsuit settlement or resulting decree requires changes to the NTL and/or DOI regulations, information collection coordination and OMB approval will occur before any NTL is reissued or regulations are promulgated.¹⁴

OMB/OIRA’s approval of this BSEE ICR states:

Terms of Clearance: The public will be given the opportunity to comment on substantive modifications made to any information collections as a result of changes to NTL 2007-G02 and 30 CFR 250, subpart B regulations.¹⁵

¹³ 77 FR 58858 (Sept. 24, 2012), available online at <http://www.gpo.gov/fdsys/pkg/FR-2012-09-24/html/2012-23386.htm>.

¹⁴ Click on Supporting Statement A at http://www.reginfo.gov/public/do/PRAViewDocument?ref_nbr=201202-1014-004, and read BSEE’s response to Question 8 in the Supporting Statement.

¹⁵ Available online at http://www.reginfo.gov/public/do/PRAViewICR?ref_nbr=201202-1014-004.

In sum, any U.S. federal agency seeking to change existing regulation of seismic in the GOM will probably have to justify that change to OMB/OIRA during review of the agency's proposed new ICR for the change.

C. *Information Quality Act ("IQA")*

The IQA requires that NMFS, BOEM, BSEE and most other U.S. federal agencies meet specified quality standards before they make scientific or other information publicly available. This statutory requirement means that the agencies must ensure that all scientific information they use or rely on meets the IQA standards. These quality standards are implemented first by Government-wide guidelines developed and published by OMB. The IQA requires that the other federal government agencies develop and publish their own, agency-specific quality guidelines. The agency-specific guidelines must be approved by OMB and must be consistent with OMB's Government-wide guidelines.¹⁶

OMB/OIRA will review any ICR for more stringent GOM seismic regulation to determine whether it complies with the agency's IQA Guidelines. For example, the U.S. Department of Commerce, which includes NMFS, has Department-wide procedures for developing and submitting ICRs that state in part:

What is required for an information collection request?

Form OMB 83-1, Paperwork Reduction Act Submission, is used to request OMB clearance for an information collection from the public. The package, including the collection instrument, instructions, and all attachments, is prepared by the operating unit....The submission package must include:

- *A Supporting Statement that includes narrative information explaining the purpose, scope, and benefits(s) of the collection.*
- *The Supporting Statement must include an explicit reference to the operating unit's information quality guidelines, as required by the Data Quality Act (addressed in question 2 of Supporting Statement).¹⁷*

OMB/OIRA's guidance to the U.S. federal agencies clearly states that ICRs must meet IQA requirements in order to be approved:

¹⁶ Supporting citations for this discussion, and a more detailed discussion, are available beginning at page 4 of the document at <http://thecre.com/pdf/20051228.pdf>.

¹⁷ Available online at http://ocio.os.doc.gov/ITPolicyandPrograms/Information_Collection/dev01_003742.

*In this light, we note that each agency is already required to demonstrate the practical utility of a proposed collection of information in its PRA submission, i.e., for draft information collections designed to gather information that the agency plans to disseminate. Thus, we think it important that each agency should declare in its guidelines that it will demonstrate in its PRA clearance packages that each such draft information collection will result in information that will be collected, maintained, and used in a way consistent with the OMB and agency information quality standards. It is important that we make use of the PRA clearance process to help improve the quality of information that agencies collect and disseminate. Thus, OMB will approve only those information collections that are likely to obtain data that will comply with the OMB and agency information quality guidelines.*¹⁸

OMB explains that “if an agency, as an institution, disseminates information prepared by an outside party in a manner that reasonably suggests that the agency agrees with the information, this appearance of having the information represent agency views makes agency dissemination of the information subject to these [IQA] guidelines.”¹⁹

NMFS acknowledges that both the OMB Government-wide and NMFS’ own IQA guidelines apply to outside or third-party information if NMFS uses or relies on that information.²⁰

U.S. federal agencies must have a record for their regulatory actions which demonstrates IQA compliance. For example, NMFS’ *Instruction on GUIDELINES FOR AGENCY ADMINISTRATIVE RECORDS*, states at pages 2-3 that: “The AR [Administrative Record] first must document the process the agency used in reaching its final decision in order to show that the agency followed required procedures. For NOAA [and NMFS] actions, procedural requirements include...the Information Quality Act....”²¹

¹⁸ John D. Graham, *Memorandum for the President’s Management Council*, p. 12, June 10, 2002, available at http://www.whitehouse.gov/sites/default/files/omb/assets/omb/inforeg/iqg_comments.pdf.

¹⁹ Page 8454 of OMB’s Federal Register notice available online at <http://www.whitehouse.gov/sites/default/files/omb/assets/omb/fedreg/reproducible2.pdf>.

²⁰ See, e.g., NMFS’ letter available online at http://thecre.com/pdf/NOAA-IWC_Letter.pdf.

²¹ This NMFS *Instruction* is available online at <https://reefshark.nmfs.noaa.gov/f/pds/publicsite/documents/procedures/30-123-01.pdf>. NMFS’ IQA guidelines are available online at *Policy Directive on Policy on the Data Quality Act*, <https://reefshark.nmfs.noaa.gov/f/pds/publicsite/documents/policies/04-108.pdf>. See also *NMFS INSTRUCTION on Data Quality Act, SECTION 515 PRE-DISSEMINATION REVIEW AND DOCUMENTATION GUIDELINES*,

<https://reefshark.nmfs.noaa.gov/f/pds/publicsite/documents/procedures/04-108-03.pdf>.

In sum, any change in the existing U.S. regulation of GOM seismic would be reviewed by OMB/OIRA for their compliance with the IQA. So would the ICRs necessary for any such changes.

Conclusions:

- **The record clearly demonstrates that the existing regulatory regime provides more than adequate protection to marine mammals.**
- **Incremental increases in the stringency of the existing regulatory regime, or the establishment of new regime, must pass a benefit/cost analysis.**
- **Since marine mammals are being protected under the current regulatory regime there will be no net benefits from a new or modified regime.**
- **The response to petitions for regulatory certainty can be met by memorializing the existing regulatory regime.**
- **In accord with BOEM's response to CRE, BOEM cannot take any action to increase the stringency of regulations dealing with seismic exploration unless it first receives the approval from the Office of Management and Budget to collect the relevant information pursuant to the Paperwork Reduction Act.**

Appendix

A BLUEPRINT FOR A MARINE SOUND REGULATORY PROGRAM

The Center for Regulatory Effectiveness
Washington, DC

Table of Contents

I.	INTRODUCTION	1
II.	ANSWERS TO KEY QUESTIONS.....	2
A.	<u>Is there any Need for More Stringent GOM Seismic Regulation?</u>	
	1. <i>No.</i>	2
	2. <i>More Stringent Regulation Would Require a New ICR, and there is No Record Supporting a New ICR</i>	3
	3. <i>Any GOM Take Rules Will Require a Cost-Benefit Analysis and there is No Record Showing any Benefits from More Stringent Regulation</i>	3
B.	<u>What Are Small Numbers of Takes?</u>	
	1. <i>Summary.</i>	4
	2. <i>The MMPA’s “Small Numbers” and “Negligible Impact” Requirements.</i>	4
	3. <i>How NMFS Determines “Small Numbers” and “Negligible Impact”</i>	7
	4. <i>Recommended Actions: Continue Current Regulatory Approach and Don’t Use Aim.</i>	10
C.	<u>AIM Should Not Be Used to Estimate Takes</u>	
	1. <i>Summary</i>	11
	2. <i>AIM Needs to Be Externally Peer Reviewed for Every Application</i>	11
	3. <i>The AIM input data are inadequate</i>	12
D.	<u>What’s a Take?</u>	
	1. <i>The Current Take Definition is Vague but Effective in Preventing</i>	15
	2. <i>Recommended Action: Continue Current Regulatory Approach</i>	19
E.	<u>Require PAM</u>	
	1. <i>PAM is Already Being Used.</i>	19
	2. <i>Encourage PAMGuard Use.</i>	21

III. LEGAL BACKGROUND

A. Outer Continental Shelf Lands Act (“OCSLA”) 21

B. Marine Mammal Protection Act (“MMPA”) 24

C. Endangered Species Act (“ESA”) 25

D. National Environmental Policy Act (“NEPA”) 25

**E. A Marine Sound Regulatory Program Should be Driven by Science –
Not Litigation 25**

IV. APPLICABLE GOOD GOVERNMENT LAWS

A. Information Quality Act (“IQA”) 26

B. Paperwork Reduction Act (“PRA”) 29

C. Unified Agenda 31

D. Executive Orders 12866 and 13563 31

V. CONCLUSIONS 33

A Blueprint for a Marine Sound Regulatory Program

I. Introduction

This material in this Appendix has been provided to CRE Brazil for its use in the harmonization of marine sound activities in a number of international proceedings.

The United States Government has regulated oil and gas seismic in the Gulf of Mexico (“GOM”) for many years, first through the Minerals Management Service (“MMS”) and now through MMS’ successors the Bureau of Ocean Energy Management (“BOEM”) and the Bureau of Safety and Environmental Enforcement (“BSEE”).

It should be noted that the US Government has repeatedly, consistently, and correctly stated that decades of GOM seismic, conducted under long-standing regulation, have not harmed any marine mammal population. There is no record supporting a more stringent ICR, or showing any benefits from more stringent rules.

Notwithstanding this laudable record, the US regulatory system is one that conducts retrospective reviews of regulations on a periodic basis. To this end the US Government is now reviewing its regulation of GOM seismic. This review in part responds to a petition for rulemaking filed with the National Marine Fisheries Service (“NMFS”) by what was then MMS. The MMS Petition asked NMFS to promulgate rules under the Marine Mammal Protection Act (“MMPA”) for marine mammal “Takes” by offshore oil and gas seismic. NMFS has not yet promulgated these MMPA rules.¹

Based upon the existing record, CRE concludes that if NMFS promulgates final MMPA rules for GOM seismic, then those rules should essentially codify the Government’s current, successful regulation of seismic through, *e.g.*, Joint Notice to Lessees (“NTL”) 2012-G02.²

It should be noted that the US regulatory system has established rigorous analytical requirements for modifying existing rules. More specifically, any NMFS rules under the MMPA will have to comply with several “Good Government” laws, including the Data Quality Act (“DQA”); the Paperwork Reduction Act (“PRA”); and Executive Orders 13563 and 12866.

As discussed in more detail below, any GOM seismic regulation that is more stringent than Joint NTL 2012-G02 would also require a new Information Collection Request (“ICR”) under the

¹ NMFS’ public record for this petition is available online by going to <http://www.nmfs.noaa.gov/pr/permits/incidental.htm>, and scrolling down to “Bureau of Ocean Energy Management, Regulation, and Enforcement (BOEMRE, formerly Minerals Management Service (MMS)) Seismic Surveys in the Gulf of Mexico.” The Government explains at <http://www.boemre.gov> / that BOEMRE has now split into BOEM and BSEE.

² This NTL is available online by going to <http://www.bsee.gov/Regulations-and-Guidance/Notices-to-Lessees-and-Operators.aspx>, and scrolling down to 2012-JOINT-G02.

Paperwork Reduction Act and would have to be justified by a cost benefit analysis under Executive Order 13563.

II. Answers to Key Questions

A. Is there any Need for More Stringent GOM Seismic Regulation?

1. *No.*

In areas like the Gulf of Mexico, the Federal Government has studied and regulated offshore oil and gas seismic for decades. Consequently, the key and controlling question should be whether the record shows the need for any more stringent regulation in order to protect marine mammals or any other species.

The answer to this question is based on repeated and consistent conclusions by NMFS and BOEM, and as discussed in more detail below. For example, BOEM recently published a Final Environmental Impact Statement for Gulf of Mexico OCS Oil and Gas Lease Sales: 2012-2017; Western Planning Area Lease Sales 229, 233, 238, 246, and 248; Central Planning Area Lease Sales 227, 231, 235, 241, and 247. This final EIS for the GOM states:

Within the WPA, there is a long-standing and well-developed OCS Program (more than 50 years); there are no data to suggest that activities from the preexisting OCS Program are significantly impacting marine mammal populations.³

This GOM EIS further states:

Although there will always be some level of incomplete information on the effects from routine activities under a CPA proposed action on marine mammals, there is credible scientific information, applied using acceptable scientific methodologies, to support the conclusion that any realized impacts would be sublethal in nature and not in themselves rise to the level of reasonably foreseeable significant adverse (population-level) effects. Also, routine activities will be ongoing in the CPA proposed action area as a result of active leases and related activities. As of May 2012, there are 4,377 active leases in the CPA. Within the CPA, there is a long-standing and well-developed OCS Program (more than 50 years); there are no data to suggest that routine activities from the preexisting OCS Program are significantly impacting marine mammal populations.⁴

³ BOEM PEIS, Vol. 1 page 4-215 and Vol. 2 page 4-710, available online at <http://www.boem.gov/Environmental-Stewardship/Environmental-Assessment/NEPA/nepaprocess.aspx>.

⁴ Id.

2. *More Stringent Regulation Would Require a New ICR, and there is No Record Supporting a New ICR*

Any more stringent GOM regulation would also require a new ICR under the PRA, regardless of whether NMFS ever promulgates GOM Take rules. Under the PRA, OMB-approved ICRs are necessary before agencies can collect information from the public. OMB-approved ICRs are necessary for the agencies' regulation of offshore seismic because that regulation depends in large part on operators' monitoring and reports.

Before it split into BOEM and BSEE, BOEMRE responded to public comments on seismic ICR 1010–0151 by stating that BOEMRE would require and request a new ICR if it ever intends to regulate offshore seismic activities in a manner more burdensome than required at the time it responded to CRE's comments. This BOEMRE response to comment defined the burden and scope of seismic information collection authorized by ICR 1010– 0151.⁵

There is no public record supporting any ICR for regulation of offshore seismic that is more burdensome than required under BOEM/BSEE's JOINT NTL No. 2012-G02.⁶

3. *Any GOM Take Rules Will Require a Cost-Benefit Analysis and there is No Record Showing any Benefits from More Stringent Regulation*

If NMFS promulgates MMPA seismic take rules for the GOM, then Executive Order 13563 requires that NMFS prepare a cost benefit analysis for those rules:

This order is supplemental to and reaffirms the principles, structures, and definitions governing contemporary regulatory review that were established in Executive Order 12866 of September 30, 1993. As stated in that Executive Order and to the extent permitted by law, each agency must, among other things: (1) propose or adopt a regulation only upon a reasoned determination that its benefits justify its costs (recognizing that some benefits and costs are difficult to quantify); (2) tailor its regulations to impose the least burden on society, consistent with obtaining regulatory objectives, taking into account, among other things, and to the extent practicable, the costs of cumulative regulations; (3) select, in choosing among alternative regulatory approaches, those approaches that maximize net benefits (including potential economic, environmental, public health and safety, and other advantages; distributive impacts; and equity); (4) to the extent feasible, specify performance objectives, rather than specifying the behavior or manner of compliance that regulated entities must adopt; and (5) identify and assess available alternatives to direct regulation, including providing economic incentives to encourage the desired

⁵ This ICR issue is discussed in more detail *infra* at page 28.

⁶ Public comments to OMB on this ICR issue are available at <http://www.thecre.com/creipd/wp-content/uploads/2009/06/BSEE-ICR-on-Offshore-Activities.pdf>.

behavior, such as user fees or marketable permits, or providing information upon which choices can be made by the public.

(c) In applying these principles, each agency is directed to use the best available techniques to quantify anticipated present and future benefits and costs as accurately as possible. Where appropriate and permitted by law, each agency may consider (and discuss qualitatively) values that are difficult or impossible to quantify, including equity, human dignity, fairness, and distributive impacts.⁷

B. What Are Small Numbers of Takes?

1. Summary

NMFS can only authorize the Take of “small numbers” of marine mammals under the MMPA.

The term “small numbers” is not well defined. It is usually expressed as the percentage of a marine mammal population that will be Taken by the proposed activity. NMFS should continue this approach.

NMFS does not appear to have established any general numerical or population-percentage standard for determining “small numbers” under the MMPA.

The highest NMFS authorization of Takes appears to be 36.8% (Level B Takes, Shell, bowhead whales in the Beaufort).

The use of computer models like AIM to estimate Takes unreasonably increases the number of Takes over those estimated by line transect. Use of line transect to estimate Takes is consistent with NMFS’ use of line transect, and not AIM, to estimate Takes under the MMPA.

2. *The MMPA’s “Small Numbers” and “Negligible Impact” Requirements*

NMFS may authorize marine mammal Takes provided certain conditions are met. These conditions include : (i) NMFS’ authorizations must result in the incidental Take of only "small numbers of marine mammals of a species or population stock"; and (iii) the authorized Takes can have no more than a "negligible impact" on species and stocks. The relevant sections of the MMPA read as follows:

*5)(A)(i) Upon request therefor by citizens of the United States who engage in a specified activity (other than commercial fishing) within a specified geographical region, the Secretary shall allow, during periods of not more than five consecutive years each, the incidental, but not intentional, taking by citizens while engaging in that activity within that region of **small numbers of***

⁷ <http://www.whitehouse.gov/the-press-office/2011/01/18/improving-regulation-and-regulatory-review-executive-order>. NMFS’ record for BOEM’s petition for GOM seismic Take rules is available online at <http://www.nmfs.noaa.gov/pr/permits/incidental.htm>. Scroll down to “Bureau of Ocean Energy Management, Regulation, and Enforcement (BOEMRE, formerly Minerals Management Service (MMS)) Seismic Surveys in the Gulf of Mexico.”

*marine mammals of a species or population stock if the Secretary, after notice (in the Federal Register and in newspapers of general circulation, and through appropriate electronic media, in the coastal areas that may be affected by such activity) and opportunity for public comment— (I) finds that the total of such taking during each five-year (or less) period concerned will have a **negligible impact on such species or stock....**”*

*(D)(i) Upon request therefor by citizens of the United States who engage in a specified activity (other than commercial fishing) within a specific geographic region, the Secretary shall authorize, for periods of not more than 1 year, subject to such conditions as the Secretary may specify, the incidental, but not intentional, taking by harassment of **small numbers of marine mammals of a species or population stock** by such citizens while engaging in that activity within that region if the Secretary finds that such harassment during each period concerned—(I) will have a **negligible impact on such species or stock....**⁸*

NMFS’s current regulations define “small numbers” as:

a portion of a marine mammal species or stock whose taking would have a negligible impact on that species or stock.⁹

NMFS’s current regulations define “negligible impact” as:

Negligible impact is an impact resulting from the specified activity that cannot be reasonably expected to, and is not reasonably likely to, adversely affect the species or stock through effects on annual rates of recruitment or survival.¹⁰

NMFS discusses the “small numbers” and “negligible impact” requirements in a power point presentation which states:

Negligible Impact

⁸ 16 USC §§ 1371 (a)(5)(A)(i), (D)(i) (emphasis added).

⁹ 50 CFR § 216.103 (“General Regulations Governing Small Takes of Marine Mammals Incidental to Specified Activities, available online at http://www.nmfs.noaa.gov/pr/pdfs/laws/mmpa_regs_216.pdf). The FWS’ definition of “small numbers,” is identical to NMFS’. 50 CFR § 18.27(c), available online at <http://cfr.vlex.com/vid/governing-takes-incidenta-specified-19894445>.

¹⁰ 50 CFR 216.103 (“General Regulations Governing Small Takes of Marine Mammals Incidental to Specified Activities, available online at http://www.nmfs.noaa.gov/pr/pdfs/laws/mmpa_regs_216.pdf). The FWS’ definition of “negligible impact,” 50 CFR 18.27, is identical to NMFS’. 50 CFR 18.27(c), available online at <http://cfr.vlex.com/vid/governing-takes-incidenta-specified-19894445>.

An activity has a “negligible impact” on a species or stock when it is determined that total taking is not likely to reduce annual rates of adult survival or annual recruitment (i.e. offspring survival, birth rates).

Small Numbers

An activity affects ‘small numbers’ of a species or stock when it is determined that total taking will be small relative to the estimated population size and relevant to the behavioral, physiological, and life history characteristics of the species.¹¹

In its Federal Register publications of MMPA Take authorizations, NMFS routinely includes the following discussion of “negligible impact”:

In making a negligible impact determination, NMFS considers:

- (1) The number of anticipated mortalities;*
- (2) The number and nature of anticipated injuries;*
- (3) The number, nature, and intensity, and duration of Level B harassment; and*
- (4) The context in which the takes occur.¹²*

Environmental NGOs argue that NMFS can authorize Takes of marine mammals only if the Take will both be limited to “small numbers” and have a “negligible impact” on the species or stock. In other words, they argue that these are separate, distinct, and different statutory requirements, and that NMFS illegally fails to distinguish between them when NMFS decides whether to authorize Takes.¹³

In NRDC v. Evans, 232 F. Supp. 2d 1003 (N.D. Cal. 2002), one federal court agreed with the NGOs and held that NMFS’ current regulatory definition of “small numbers” violated the MMPA.¹⁴ Nevertheless, perhaps for the following reasons, NMFS still applies this “small numbers” definition to seismic.

¹¹ NMFS’ power point presentation is available online at http://www.agriculturedefensecoalition.org/sites/default/files/file/us_navy/17N_2010_NOAA_Fisheries_Small_Take_Authorization_MMPA_NOAA_Website_December_18_2010_Power_Point_Presentation_US_Navy_References.pdf.

¹² *E.g.*, Takes of Marine Mammals Incidental to Specified Activities; Marine Geophysical Survey in the Central Pacific Ocean, November, 2011 Through January, 2012, 76 FR 57959 (Sept. 19, 2011), available online at <http://www.gpo.gov/fdsys/pkg/FR-2011-09-19/pdf/2011-23985.pdf>.

¹³ See, *e.g.*, *Natural Resources Defense Council v. Evans*, 232 F.Supp.2d 1003, 1025 (N.D. Cal. 2002). See also *Natural Resources Defense Council v. Evans*, 364 F.Supp.2d 1083 (N.D. Cal. 2003).

¹⁴ *Evans* is available online at <http://www.animallaw.info/cases/caus232fsupp2d1003.htm>.

Center for Regulatory Effectiveness

First, *Evans* is only a single lower court decision, and it only applied to the Navy's peacetime use of SURTASS LFAS for training, testing, and routine operations in the world's oceans under the 2002 Final Rule by NMFS. It does not apply to or govern seismic anywhere.

Second, Congress legislatively overruled *Evans* by deleting the "small numbers" requirement in the MMPA with respect to military readiness activities.¹⁵

For these or whatever other reasons, neither NMFS nor the FWS have changed their regulatory definition of "small numbers," which is quoted above.

3. *How NMFS Determines "Small Numbers" and "Negligible Impact"*

This determination begins with estimating the number of marine mammal Takes from a proposed seismic activity. There are two methods of estimating Takes: line transect and computer models like AIM. These methods will not be discussed in detail here.

For an example of line transect, see pages 68 to 78 of L-DEO/NSF EA available online at http://www.nmfs.noaa.gov/pr/pdfs/permits/ldeo_seismic_ea_attachment.pdf.

For another example of line transect, see Shell IHA discussion available online at <http://www.nmfs.noaa.gov/pr/pdfs/fr/fr76-69958.pdf> at pages 69990 and Shell IHA page 29, available online at http://www.nmfs.noaa.gov/pr/pdfs/permits/shell_chukchi_iha_application2012.pdf.

For an example of using AIM and other models to estimate Takes, see Final Programmatic Environmental Impact Statement (EIS)/Overseas Environmental Impact Statement for Marine Seismic Research funded by the National Science Foundation or Conducted by the U.S. Geological Survey, page ES-6, available online at <http://www.nsf.gov/geo/oce/envcomp/usgs-nsf-marine-seismic-research/nsf-usgs-final-eis-oeis-with-appendices.pdf>.

For another example of models use, see Atlantic OCS Proposed Geological and Geophysical Activities Mid-Atlantic and South Atlantic Planning Areas Draft Programmatic Environmental Impact Statement Volume I, page 2-12, available online at <http://www.boem.gov/oil-and-gas-energy-program/GOMR/GandG.aspx>.

Once there is a Take estimate for the seismic activity, NMFS (or the body needing NMFS authorization under the MMPA) usually compares that Take estimate to the estimated marine mammal populations in the area. That comparison usually results in a percentage which represents the percentage of the marine mammal populations that will be 'Taken' by the proposed seismic activity.

¹⁵ The National Defense Authorization Act of 2004 (NDAA; Pub. L. 108-136) amended the MMPA by removing the "small numbers" and "specified geographical region" provisions and amended the definition of "harassment" as it applies to a "military readiness activity" (as defined in section 315(f) of Public Law 107-314; 16 U.S.C. 703note).

Center for Regulatory Effectiveness

NMFS apparently bases its “small numbers” determination on this percentage of the populations. The word “apparently” is necessary because NMFS does not use the term “small numbers” much in its MMPA authorizations. Instead, NMFS emphasizes the “negligible impact” requirement in its MMPA authorizations.

For some examples, see the following, all of which use some form of line transect analysis to estimate Takes. None of them use AIM or any other marine mammal exposure model:

- BP oil and gas IHA for the Beaufort, which was granted when the highest percentage of any marine mammal population taken was 1.35%, page 40021, available online at <http://www.nmfs.noaa.gov/pr/pdfs/fr/fr77-40007.pdf>.
- Shell oil and gas IHA for Chukchi, which was granted when the highest percentage of any marine mammal population taken was less than 2.5 %, page 70001 available online at <http://www.nmfs.noaa.gov/pr/pdfs/fr/fr76-69958.pdf>.
- Shell oil and gas IHA for the Beaufort, which was granted when the highest percentage of any marine mammal population taken was 36.8% (bowhead whales), page 69018, available online at <http://www.nmfs.noaa.gov/pr/pdfs/fr/fr76-68974.pdf>.
- Apache Alaska Corporation oil and gas IHA for Cook Inlet Alaska, which was granted when the highest percentage of any marine mammal population taken was 8.45 %, page 58485, available online at <http://www.nmfs.noaa.gov/pr/pdfs/fr/fr76-58473.pdf>.
- L-DEO IHA for Western Gulf of Alaska, which was granted when the highest percentage of any marine mammal population taken was 8.8%, page 26277, available online at <http://www.nmfs.noaa.gov/pr/pdfs/fr/fr76-26255.pdf>.
- Scripps IHA for South-Eastern Pacific, which was granted when the highest percentage of any marine mammal population taken was 0.92%, page 27200, available online at <http://www.nmfs.noaa.gov/pr/pdfs/fr/fr77-27189.pdf>.
- L-DEO IHA for Northwest Pacific, which was granted when the highest percentage of any marine mammal population taken was 0.53 %, page 4785, available online at <http://www.nmfs.noaa.gov/pr/pdfs/fr/fr77-4765.pdf>.
- L-DEO IHA for Northern Mariana Islands, which was granted when the highest percentage of any marine mammal population taken was 1.89%, page 77804, available online at <http://www.nmfs.noaa.gov/pr/pdfs/fr/fr76-77782.pdf>.
- University of Alaska Geophysics Institute for the Arctic, which was granted when the highest percentage of any marine mammal population taken was 3%, page 41482, available online at <http://www.nmfs.noaa.gov/pr/pdfs/fr/fr76-41463.pdf>.

So far, the granted IHA with the highest percentage of marine mammal populations taken (36.8%) appears to be the above-referenced Shell bowhead whale Level B Take authorization.

Center for Regulatory Effectiveness

NMFS does not appear to have established any general numerical or population-percentage standard for determining “small numbers” under the MMPA.

NMFS was a cooperating agency in NSF’s preparation of a Final Programmatic Environmental Impact Statement (EIS)/Overseas Environmental Impact Statement for Marine Seismic Research funded by the National Science Foundation or Conducted by the U.S. Geological Survey, available online at <http://www.nsf.gov/geo/oce/envcomp/usgs-nsf-marine-seismic-research/nsf-usgs-final-eis-oeis-with-appendices.pdf> . Consequently, one can assume that NMFS agreed with this PEIS, which contains the following statements about estimated Takes of “small numbers” of various marine mammal populations. All the following statements are from footnotes to tables in the PEIS:

For Mysticetes

*No effects expected at population level for any species. Insignificant number = >0.0 /<1.0 individual exposed representing <1% of estimated regional population size. **Small number =>0.0 /<3.1% of estimated regional population size exposed***

For Odontocites

*(a) **Small number = <2.1% of estimated regional population size exposed.***
(b) Negligible number: for non-listed species = 0.5- <1.0 individual exposed representing <1.0% of estimated regional population size; for ESA-listed species = 0.05-<0.5 individual exposed representing <0.01% of estimated regional population size

For Odontocetes

*(a) For the purpose of analysis, for non-listed species, only predicted exposures >0.5 animal as presented in Appendix. Tables B-14 – B-25 are considered an actual exposure. For ESA-listed species, only predicted exposures >0.05 animal as presented in Appendix Tables B-14 – B-25 are considered an actual exposure. (b) **Small number = <2-3% of estimated regional population size.***

For Pinnepeds

Small number (<1%) of estimated regional population size exposed.¹⁶

The numbers bolded in the above quotes from the NSF PEIS could possibly be interpreted as general population percentage standards for “small number” determinations. However, this interpretation would be inconsistent with NMFS’ “small numbers” determinations in IHAs, some of which are provided above. These NMFS determinations in granted IHAs are higher in some cases than the NSF

¹⁶ Final PEIS, pages ES-20, ES-23, ES-25, available online at <http://www.nsf.gov/geo/oce/envcomp/usgs-nsf-marine-seismic-research/nsf-usgs-final-eis-oeis-with-appendices.pdf> (emphasis added).

DPEIS numbers: e.g., 8.45 % and 8.8 %. Also, the NSF PEIS does not expressly state that these are general population percentage standards for “small number” determinations. They may just represent the population percentages represented by the estimated Takes addressed by the PEIS.

4. Recommended Actions: Continue Current Regulatory Approach and Don't Use Aim

NMFS' current and longstanding interpretation of “small numbers” is reasonable and preferable to other more restrictive interpretations. NMFS' current and longstanding implementation of the MMPA has not harmed marine mammal populations in areas with heavy oil and gas activity. As BOEM stated in their Programmatic Environmental Impact Statement for oil and gas leasing in the GOM:

Within the WPA [GOM Western Planning Area], there is a long-standing and well-developed OCS Program (more than 50 years); there are no data to suggest that activities from the preexisting OCS Program are significantly impacting marine mammal populations. Therefore, in light of the above analysis for a WPA proposed action and its impacts, the incremental effect of a WPA proposed action on marine mammal populations is not expected to be significant when compared with non-OCS energy-related activities.

Although there will always be some level of incomplete information on the effects from routine activities under a CPA [Central Planning Area] proposed action on marine mammals, there is credible scientific information, applied using acceptable scientific methodologies, to support the conclusion that any realized impacts would be sublethal in nature and not in themselves rise to the level of reasonably foreseeable significant adverse (population-level) effects. Also, routine activities will be ongoing in the CPA proposed action area as a result of active leases and related activities. As of May 2012, there are 4,377 active leases in the CPA. Within the CPA, there is a long-standing and well-developed OCS Program (more than 50 years); there are no data to suggest that routine activities from the preexisting OCS Program are significantly impacting marine mammal populations.

Summary and Conclusion

Some routine activities related to a CPA proposed action have the potential to have adverse, but not significant impacts to marine mammal populations in the GOM. Impacts from vessel traffic, structure removals, and seismic activity could negatively impact marine mammals; however, when mitigated as required by BOEM and NMFS, these activities are not expected to have long-term impacts on the size and productivity of any marine mammal species or

*population. Most other routine activities are expected to have negligible effects.*¹⁷

The use of marine mammals exposure computer models like AIM also appears to significantly increase the number of estimated Takes over the number generated by line transect.¹⁸ NMFS does not use models for IHA authorizations but instead uses line transect. Moreover, AIM has not been properly validated; consequently, it should not be used.

C. AIM Should Not Be Used to Estimate Takes

1. Summary

The agencies should not use the Acoustic Integration Model (“AIM”) for any purpose until and unless external peer review states (i) that adequate behavioral effects data exist for AIM’s use for that purpose, and (ii) that AIM is otherwise sufficiently accurate and reliable for use for that purpose. Until and unless this occurs, BOEM and other agencies should use line transect to estimate all exposures and Takes, just as NMFS uses line transect and not AIM to assess exposures and Takes when issuing IHAs.

Using AIM would violate IQA requirements because AIM has never been peer reviewed for the GOM and because the behavioral effects data input into the model are inadequate to assess exposures and estimate Takes.

2. AIM Needs to Be Externally Peer Reviewed for Every Application

NMFS had AIM externally peer reviewed in 2006. This peer review report stated that

The three terms of reference required that the Panel evaluate whether AIM correctly implements the models and data upon which it is based; whether animal movements are adequately simulated; and whether AIM meets the Council for Regulatory Monitoring [sic] (CREM) guidelines for model development and evaluation.

The Panel agreed that AIM appears to be correctly implemented. However, all panelists had recommendations for further testing to be undertaken. They also agreed that animal movement appears to be appropriately modelled within AIM given the inadequacies of the available data.

¹⁷ BOEM PEIS, Vol. 1 page 4-215 and Vol. 2 page 4-710, available online at <http://www.boem.gov/Environmental-Stewardship/Environmental-Assessment/NEPA/nepaprocess.aspx>.

¹⁸ Compare Take estimates in Table 6.1 and pages 23- 28 of 2004 BOEM Take application for GOM seismic (using line transect), available online at http://www.nmfs.noaa.gov/pr/pdfs/permits/mms_gom_seismic_application2004.pdf , with Take estimates in Tables 6.1, 6.2 and pages 23-27 of BOEM’s 2011 Supplemental Application (using computer models), available online at http://www.nmfs.noaa.gov/pr/pdfs/permits/boemre_application2011.pdf.

With regard to whether AIM satisfies the CREM guidelines there was some diversity of opinion. This is understandable given that the CREM guidelines are not directly applicable to AIM since it is not an application model (but a tool for developing such models).

It follows, that the Panel agree that the use of AIM can lead to models which will meet the CREM guidelines. However, such models, at this stage, would need to be evaluated on a case-by-case basis (i.e., merely using AIM is not sufficient; it must be used appropriately for the specific application).¹⁹

There is no public record showing that AIM has been peer reviewed for its application in the GOM. If the agencies believe that peer review of AIM application in the GOM has occurred, then BOEM should identify those peer reviews in the public record, and should allow public comment on those peer reviews.

All peer review of AIM should be performed in accordance with OMB's Peer Review Bulletin.²⁰

All peer review should determine the reviewed AIM application's compliance with CREM Guidelines.²¹

The AIM peer reviewers should be advised of the IQA requirements applicable to the agencies. As OMB explained to EPA in a peer review proceeding:

Since the development of Agency Information Quality (IQ) guidelines required by statute, many agencies have been using [peer review] charge language that tracks with the standards of their own IQ guidelines. For example, such language often focuses on whether or not the information in question is accurate, clear, complete, transparently and objectively described, and scientifically justified. We believe it may be useful for EPA to follow a similar approach and incorporate some of the language from your IQ guidelines into the formulation of the [peer review] charge questions.²²

3. The AIM input data are inadequate

The 2006 Aim Peer Review Report concluded that the AIM input data are inadequate:

¹⁹ AIM Peer Review, page 1, available online at http://www.nmfs.noaa.gov/pr/pdfs/permits/lfa_aim_review.pdf.

²⁰ OMB's Peer Review Bulletin is available online at <http://www.whitehouse.gov/sites/default/files/omb/assets/omb/memoranda/fy2005/m05-03.pdf>.

²¹ The CREM Models Guidance is available online at <http://www.epa.gov/crem/cremlib.html#guidance>.

²² OMB document available online at http://oaspub.epa.gov/eims/eimscomm.getfile?p_download_id=495502.

It was generally agreed by the Panel that the animal movement methods used in AIM were appropriate given the level of available data. The qualifier is important here. The Panel did not perceive a problem with AIM's animal movement methods. They do acknowledge a problem with the absence of the type of data needed to realistically simulate animal movement within AIM.

Relevant extracts:

- *At this point in time, I believe the reliability of AIM to assess the exposure hazard of marine mammals to anthropogenic sound is more limited by the realism of the animate engine module of AIM than the sound propagation modules ... animal behavior is far more complicated than behavior of physical systems (Getz 2006).*
- *... requires that aggregative social, feeding, or predator avoidance behavior of individuals be taken into account. In the absence of data that allows aversion parameters to be set that would simulate such behavior, plausible scenarios need to be investigated under 'what if ...?' scenarios that assumed that individuals aggregate for various reasons (Getz 2006).²³*

The inadequacy of AIM's input data is further demonstrated by the discussion of AIM in BOEM's 2011 Application to NMFS for GOM Take rules under the MMPA. For example,

2.6.6 Animal Behavior Parameters

The specific animal behavioral parameters that were used in this analysis are provided below. Where the "Surfacing/Dive Angle" column is empty, there were no meaningful data available and, as such, 75° was used as a default value...²⁴

There were "no meaningful data available," and "75°" was used as AIM's default value, for the vast majority of marine mammals modeled: *i.e.*, beaked whales; dwarf and pygmy sperm whales; blackfish: false killer whale, pygmy killer whale, melon-headed whale, and pilot whale; killer whales: Risso's dolphin; bottlenose dolphin; stenella: spinner, atlantic/pantropical spotted, and striped dolphins; fraser's dolphin; and rough toothed dolphin.

The 2011 application candidly acknowledges many other inadequacies in the data that AIM uses to model behavioral effects on specific marine mammals in the GoM. For example:

Bryde's Whale

²³ AIM Peer Review, pages 6-7, available online at http://www.nmfs.noaa.gov/pr/pdfs/permits/lfa_aim_review.pdf.

²⁴ 2011 Application, Appendix A at page 61, available online at http://www.nmfs.noaa.gov/pr/pdfs/permits/boemre_application2011.pdf.

There is a paucity of data for this species. Since they are similar in size, data for both sei and Bryde's whales have been pooled to derive parameters. Note that Sei whales are rare in the Gulf of Mexico, but their similarities to Bryde's whales was used to determine some of their movement parameters.

Surface Time

No direct data available, fin whale values used.

Dive Depth

No direct data available, fin whale values used.²⁵

Beaked Whales

Data on the behavior of beaked whales are sparse. Therefore, all beaked whale species have been pooled into a single animat²⁶

Dwarf and Pygmy Sperm Whales (Kogia spp.)

Data on dwarf and pygmy sperm whales are rare, and these species are very similar, so data for these two species have been combined.²⁷

“Blackfish: False Killer Whale, Pygmy Killer Whale, Melon-headed Whale, Pilot Whale Studies describing the movements and diving patterns of these animals are rare and sparse. Therefore, they have been combined into a single “blackfish” category. As more data become available, these species will be split into separate animats”²⁸

Killer Whale

*There is a remarkable paucity of quantitative data available for killer whales, considering their coastal habitat and popular appeal. Nevertheless, most data from “blackfish” were used to model *Orcinus orca*, with the exception of dive depth. The different feeding ecology of these species makes very deep dives apparently unnecessary. When additional data allow, separate animats for “resident” and “transient” killer whales will be developed.²⁹*

²⁵ 2011 Application, Appendix A at page 61, available online at http://www.nmfs.noaa.gov/pr/pdfs/permits/boemre_application2011.pdf.

²⁶ *Id.* at page 64.

²⁷ *Id.* at page 65.

²⁸ *Id.* at page 66.

²⁹ *Id.* at page 66.

Risso's Dolphin

Dive Time

*No data on dive times could be found. The values for blackfish, which have a similar ecological niche, were used.*³⁰

Rough toothed dolphin

Dive Depth

*No dive depth data are available; depths are based upon other species.*³¹

These problems with AIM's input data render the model too inaccurate and unreliable to assess and estimate marine mammal exposures and Takes in the GOM. AIM's use would violate the IQA accuracy and reliability requirements.³²

D. What's a Take?

1. *The Current Take Definition is Vague but Effective in Preventing Harm*

A company does not need MMPA authorization unless its GOM seismic "Takes" marine mammals. There are two types of possible MMPA "Takes": Level A physical injury; and Level B behavioral effects.

A Level A "Take" through physical injury from GOM seismic is extremely unlikely assuming compliance with NTL 2007-G02. NMFS has correctly emphasized that "to date, there is no evidence that serious injury, death, or stranding by marine mammals can occur from exposure to airgun pulses, even in the case of large airgun arrays."³³

NMFS' current definition of Level B "Takes" is "complex and context specific, and it depends on several variables in addition to the received level of the sound by the animals."³⁴ To illustrate this point, there follows a recent NMFS discussion of Level B "Takes" under the MMPA:

³⁰ *Id* at page 70.

³¹ *Id.* at page 74.

³² See, e.g., <http://www.doi.gov/archive/ocio/guidelines/515Guides.pdf> for the DOI IQA Guidelines.

³³ 75 FR 49795-96 (Aug. 13, 2010), page 49795, available online at <http://edocket.access.gpo.gov/2010/2010-19962.htm>.

³⁴ Takes of Marine Mammals Incidental to Specified Activities; Taking Marine Mammals Incidental to a Marine Geophysical Survey in the Arctic Ocean, September-October 2011, NMFS, 76 FR 54433 (Sept. 1, 2011), available online at <http://www.gpo.gov/fdsys/pkg/FR-2011-09-01/html/2011-22434.htm>.

Although it is possible that marine mammals could react to any sound levels detectable above the ambient noise level within the animals' respective frequency response range, this does not mean that such animals would react in a biologically significant way. According to experts on marine mammal behavior, the degree of reaction which constitutes a 'take,' i.e., a reaction deemed to be biologically significant that could potentially disrupt the migration, breathing, nursing, breeding, feeding, or sheltering, etc., of a marine mammal is complex and context specific, and it depends on several variables in addition to the received level of the sound by the animals. These additional variables include, but are not limited to, other source characteristics (such as frequency range, duty cycle, continuous vs. impulse vs. intermittent sounds, duration, moving vs. stationary sources, etc.); specific species, populations, and/or stocks; prior experience of the animals (na[iv]e vs. previously exposed); habituation or sensitization of the sound by the animals; and behavior context (whether the animal perceives the sound as predatory or simply annoyance), etc. (Southall et al., 2007).³⁵

The Navy has explained that, with regard to Level B behavioral “Takes”:

The harassment status of slight behavior disruption has been addressed in workshops, previous actions, and rulings (NOAA 2001, 2008b, 2008c; DoN 2001a). The conclusion is that a momentary behavioral reaction of an animal to a brief, time-isolated acoustic event does not qualify as MMPA Level B harassment. A more general conclusion, that MMPA Level B harassment occurs only when there is “a potential for a significant behavioral change or response in a biologically important behavior or activity,” is found in recent rulings (NOAA 2002a, 2008b, 2008c).³⁶

The Navy’s explanation of Level B MMPA “Takes” is consistent with the discussion above.

The *Southall* acoustic criteria study is influential when NMFS is assessing “Takes.” The *Southall* criteria indicate that the 180 and 190 dB standards that NMFS historically and currently uses to guard against physical injury from seismic are too low and too stringent.³⁷

Any Take assessment should keep in mind the fact that there is no evidence of harm to marine mammals from oil and gas seismic in compliance with the long-standing regulation currently embodied by JOINT NTL No. 2012-G02 , NOTICE TO LESSEES AND OPERATORS (NTL) OF

³⁵ *Id.*

³⁶ Page 120, Request for Letter of Authorization for the Incidental Harassment of Marine Mammals Resulting from Navy Training Activities in the Gulf of Alaska Temporary Maritime Activities Area, available online at http://www.nmfs.noaa.gov/pr/pdfs/permits/goa_loa_application.pdf.

³⁷ Marine Mammal Noise Exposure Criteria: Initial Scientific Recommendations, Southall *et al.*, *Aquatic Mammals*, Volume 33 (Nov. 4, 2007) Table 3, page 443, available online at http://thecre.com/pdf/Aquatic%20Mammals%2033%204_FINAL1.pdf.

FEDERAL OIL, GAS, AND SULPHUR LEASES IN THE OCS, GULF OF MEXICO OCS REGION, <http://www.bsee.gov/Regulations-and-Guidance/Notices-to-Lessees-and-Operators.aspx>.

This Paper has already provided BOEM's statements about the absence of harm in the GOM under current seismic regulation. In addition, with regard to oil and gas seismic, NMFS states:

There is no specific evidence that exposure to pulses of airgun sound can cause PTS [physical injury] in any marine mammal, even with large arrays of airguns.

To date, there is no evidence that serious injury, death, or stranding by marine mammals can occur from exposure to airgun pulses, even in the case of large airgun arrays.

NMFS does not expect any marine mammals will incur serious injury or mortality in the Arctic Ocean or strand as a result of the proposed seismic survey.

Thus, the proposed activity is not expected to have any habitat-related effects on prey species that could cause significant or long-term consequences for individual marine mammals or their populations.

Data on short-term reactions by cetaceans to impulsive noises are not necessarily indicative of long-term or biologically significant effects. It is not known whether impulsive sounds affect reproductive rate or distribution and habitat use in subsequent days or years. However, gray whales have continued to migrate annually along the west coast of North America despite intermittent seismic exploration (and much ship traffic) in that area for decades (Appendix A in Malme et al. 1984; Richardson et al. 1995), and there has been a substantial increase in the population over recent decades (Allen and Angliss 2010). The western Pacific gray whale population did not seem affected by a seismic survey in its feeding ground during a prior year (Johnson et al. 2007). Similarly, bowhead whales have continued to travel to the eastern Beaufort Sea each summer despite seismic exploration in their summer and autumn range for many years (Richardson et al. 1987), and their numbers have increased notably (Allen and Angliss 2010). Bowheads also have been observed over periods of days or weeks in areas ensonified repeatedly by seismic pulses (Richardson et al. 1987; Harris et al. 2007).³⁸

A recent NMFS Biological Opinion similarly concludes that marine mammals are flourishing and increasing in the Arctic during increasing oil and gas seismic activities there:

³⁸ NMFS' Federal Register notice available online at <http://www.gpo.gov/fdsys/pkg/FR-2012-05-01/pdf/2012-10386.pdf>.

Data indicate that bowhead whales are robust, increasing in abundance, and have been approaching (or have reached) the lower limit of their historic population size at the same time that oil and gas exploration activities have been occurring in the Beaufort Sea and, to a lesser extent, the Chukchi Sea.”

To our knowledge, no whales or other marine mammals have been killed or injured by these past seismic operations, and the BCB population of bowhead whales continues to increase at an annual rate estimated more than 3 percent.³⁹

BOEM, when it was still MMS, concluded with regard to the entire Outer Continental Shelf that: “[T]here have been no known instances of injury, mortality, or population level effects on marine mammals from seismic exposure....”⁴⁰

In reaching this conclusion, BOEM relied on a report by the National Academy of Sciences’ National Research Council, which states:

*With the exception of the beaked whale strandings, connections between anthropogenic sound in the oceans and marine mammal deaths have not been documented. In the presence of clear evidence of lethal interactions between humans and marine mammals in association with fishing and vessel collisions (Clapham et al., 1999; Laist et al., 2001), the absence of such documentation has raised the question of the relative importance of sound in the spectrum of anthropogenic effects on marine mammal populations. Anthropogenic ocean noise is thought not to be a factor in any of the recent major declines in marine mammal populations, such as Steller sea lions (*Eumetopias jubatus*; NRC, 2003a), harbor seals (*Phoca vitulina*; Pitcher, 1990), fur seals (York, 1987), and Aleutian Island sea otters (*Enhydra lutris*; Doroff et al., 2003). No scientific studies have conclusively demonstrated a link between exposure to sound and adverse effects on a marine mammal population.⁴¹*

BOEM itself recently issued a Final Supplemental Environmental Impact Statement for a Gulf of Mexico OCS Oil and Gas Lease Sale. This final SEIS for the GOM concludes that, despite more than 50 years of oil and gas G&G, “there are no data to suggest that activities from the preexisting OCS Program are significantly impacting marine mammal populations”:

³⁹ Pages 64-65, ENDANGERED SPECIES ACT: SECTION 7 CONSULTATION BIOLOGICAL OPINION, Incidental harassment authorization to allow for incidental takes of marine mammals during shallow hazards survey in the Chukchi Sea, Alaska, 2011 (NMFS 2011), available online at http://www.nmfs.noaa.gov/pr/pdfs/permits/statoil_biop2011.pdf.

⁴⁰ See, e.g., Outer Continental Shelf Oil & Gas Leasing Program, 2007-2012 Final Environmental Impact Statement, page V-64 (MMS April 2007).

⁴¹ Marine Mammal Populations and Ocean Noise: Determining when Noise causes Biologically Significant Effects, Oceans science board (2005), page 15, available online at <http://www.nap.edu/openbook.php?isbn=0309094496>.

*Overall, within the CPA [GOM Central Planning Area], there is a long-standing and well-developed OCS [oil and gas] Program (more than 50 years); there are no data to suggest that activities from the preexisting OCS Program are significantly impacting marine mammal populations.*⁴²

BOEM reached the same conclusion in still another Final Supplemental Environmental Impact Statement for a Gulf of Mexico OCS Oil and Gas Lease Sale:

*Within the WPA, there is a long-standing and well-developed OCS program (more than 50 years); there are no data to suggest that routine activities from the pre-existing OCS program are significantly impacting marine mammal populations. Therefore, a full understanding of any incomplete or unavailable information on the effects of routine activities is not essential to make a reasoned choice among the alternatives.*⁴³

2. Recommended Action: Continue Current Regulatory Approach

Given the agencies' consistent position on lack of harm under current regulation, it is difficult to see what benefits would come from a more restricted definition and application of "Take."

E. Require PAM

1. PAM is Already Being Used

Recent Navy research shows that PAM improves detection of marine mammals:

*The PAM component of the survey was effective in detecting some species humpback whale (*Megaptera novaeangliae*) and minke whale (*Balaenoptera acutorostrata*) that were infrequently (or never) visually detected, and for other species (e.g., sperm whale [*Physeter macrocephalus*] and small groups of delphinids), increased detection rates when visual sighting conditions were poor.*⁴⁴

⁴² Vol. 1, page 4-231 of document available online at <http://www.boem.gov/Environmental-Stewardship/Environmental-Assessment/NEPA/nepaprocess.aspx>. Click on "Gulf of Mexico OCS Oil and Gas Lease Sale: 2012; Central Planning Area Lease Sale 216/222; Final Supplemental Environmental Impact Statement; Volume I: Chapters 1-4; Volume II: Chapters 5-8, Appendices, and Keyword Index.

⁴³ Gulf of Mexico OCS Oil and Gas Lease Sale: 2011 Western Planning Area Lease Sale 218 Final Supplemental Environmental Impact Statement, Volume I, page 4-147, available online at <http://www.boem.gov/Environmental-Stewardship/Environmental-Assessment/NEPA/nepaprocess.aspx>.

⁴⁴ Department of the Navy, 2012 Annual Marine Species Monitoring Report for the Mariana Islands Range Complex, page 6, available online at http://www.nmfs.noaa.gov/pr/pdfs/permits/mirc2012_monitoring_report.pdf.

Center for Regulatory Effectiveness

NMFS already routinely includes PAM as a monitoring or mitigation requirement in IHAs, LOAs or rules that NMFS issues under the MMPA. A published article by NMFS' staff discusses NMFS' currently required uses of PAM.⁴⁵

In just the year 2011, NMFS included PAM requirements in, e.g.:

- An L-DEO seismic survey in the Western Gulf of Alaska, available online at <http://www.nsf.gov/geo/oce/envcomp/shillington-2011-final-ea-23-may.pdf>, and issued permit at http://www.nmfs.noaa.gov/pr/pdfs/permits/ldeo_wgoa_issued_iha.pdf;
- An industry seismic survey in Cook Inlet, Alaska, available online at http://www.nmfs.noaa.gov/pr/pdfs/permits/apache_ak_iha_application2011.pdf;
- A University of Alaska Geophysics Institute seismic survey in the Arctic Ocean, using PAM, available online at http://www.nmfs.noaa.gov/pr/pdfs/permits/uagi_iha_issued.pdf;
- An industry seismic IHA for the Chukchi, available online at http://www.nmfs.noaa.gov/pr/pdfs/permits/statoil_iha_issued2011.pdf; and
- An USGS seismic survey in Central Gulf of Alaska, available online at http://www.nmfs.noaa.gov/pr/pdfs/permits/usgs_goa_iha2011.pdf.

The Navy and NMFS are also requiring that PAM be used with Navy sonar. With NMFS' concurrence, the Navy stated that "Passive acoustic monitoring for low frequency sounds generated by marine mammals will be conducted when SURTASS [sonar] is deployed."⁴⁶

Recent Brazilian studies have recommended the increased use of PAM to help protect sea life from marine sound:

The possibility of detecting marine mammals by hydrophone arrays linked to special software (Passive Acoustic Monitoring – PAM) has shown promise as a monitoring tool for some species of marine mammal with frequent vocalization (e.g. Swartz et al., 2002; Mellinger, 2004). PAM has been suggested as an alternative or additional technique to improve the effectiveness of monitoring marine mammals (Lewis et al., 1998). This acoustic technique has been used to complement visual surveys during periods of darkness and may have advantages over the visual technique in areas with strong wind and poor visibility (Swartz et al., 2003). Considering all of these factors, it is

⁴⁵ "The use of acoustic monitoring in the National Marine Fisheries Service marine mammal incidental take authorizations," Shane Guan, Office of Protected Resources, NOAA/NMFS, presented at 160th Meeting of the Acoustical Society of America (Nov. 15 – 19, 2010), Session 1pAB: Animal Bioacoustics, available online at <http://scitation.aip.org/getpdf/servlet/GetPDFServlet?filetype=pdf&id=PMARCW00001100000101000200001&idtype=cvips&doi=10.1121/1.3606451&prog=normal>.

⁴⁶ <http://www.surtass-lfa-eis.com/Measures/index.htm>.

*recommended to start experiments with PAM in Brazilian waters as an auxiliary tool to document the presence of marine mammals during seismic surveys.*⁴⁷

BOEM's *Notice to Lessees and Operators of Federal Oil, Gas, and Sulphur Leases in the OCS, Gulf of Mexico Region, Implementation of Seismic Survey Mitigation Measures and Protected Species Observer Program* ("NTL") has a section which strongly encourages the use of PAM:

Experimental Passive Acoustic Monitoring

*Whales, especially sperm whales, are very vocal marine mammals, and periods of silence are usually short and most often occur when these animals are at the surface and may be detected using visual observers. However, sperm whales are at the greatest risk of potential injury from seismic airguns when they are submerged and under the airgun array. Passive acoustic monitoring appears to be very effective at detecting submerged and diving sperm whales, and some other marine mammal species, when they are not detectable by visual observation. BOEM and BSEE strongly encourage operators to participate in an experimental program by including passive acoustic monitoring as part of the protected species observer program. Inclusion of passive acoustic monitoring does relieve an operator of any of the mitigations (including visual observations) in this NTL **with the following exception:** Monitoring for whales with a passive acoustic array by an observer proficient in its use will allow ramp-up and the subsequent start of a seismic survey during times of reduced visibility (darkness, fog, rain, etc.) when such ramp-up otherwise would not be permitted using only visual observers. If you use passive acoustic monitoring, include an assessment of the usefulness, effectiveness, and problems encountered with the use of that method of marine mammal detection in the reports described in this NTL. A description of the passive acoustic system, the software used, and the monitoring plan should also be reported to BSEE at the beginning of its use.*⁴⁸

NMFS rejects as impracticable arguments that seismic should shut down during times of poor visibility. NMFS instead requires PAM during these times in order "to further enhance the detection of marine mammals."⁴⁹

For the same reason, BOEM should require PAM use in the GOM during times of poor visibility, especially since NMFS is already requiring its use under the MMPA.

⁴⁷ Effectiveness of Monitoring Marine Mammals during Marine Seismic Surveys off Northeast Brazil, Parente and de Araújo, *Journal of Integrated Coastal Zone Management* 11(4):409-419 (2011), available online at http://www.aprh.pt/rgci/pdf/rgci-251_Parente.pdf.

⁴⁸ This document is available online at <http://www.bsee.gov/Regulations-and-Guidance/Notices-to-Lessees/2012/2012-JOINT-G02-pdf.aspx>.

⁴⁹ Page 25984 of Federal Register notice available online at <http://www.gpo.gov/fdsys/pkg/FR-2012-05-02/pdf/2012-10627.pdf>.

2. Encourage PAMGuard Use

There is a free version of PAM called PAMGuard. Its availability should be made known, and its use encouraged.⁵⁰

III. Legal Background

A. Outer Continental Shelf Lands Act (“OCSLA”)

OCSLA authorizes the Secretary of the Interior to administer energy and mineral exploration and development of the OCS. The OCS is defined as all submerged lands lying seaward of state coastal waters (3 miles offshore) which are under U.S. jurisdiction. OCSLA empowers the Secretary to grant leases to the highest qualified responsible bidder on the basis of sealed competitive bids and to formulate regulations as necessary to carry out the provisions of the Act. The OCSLA, as amended, provides guidelines for implementing an OCS oil and gas exploration and development program. OCSLA is administered by the Secretary jointly through two Department of Interior agencies: (1) the Bureau of Ocean Energy Management (BOEM) and (2) the Bureau of Safety and Environmental Enforcement (BSEE).

BOEM is responsible for managing development of the nation's offshore resources in an environmentally and economically responsible way. Functions include: Leasing, Plan Administration, Environmental Studies, National Environmental Policy Act Analysis, Resource Evaluation, Economic Analysis and the Renewable Energy Program.

BSEE enforces safety and environmental regulations. Functions include: All field operations including Permitting and Research, Inspections, Offshore Regulatory Programs, Oil Spill Response, and newly formed Training and Environmental Compliance functions.

There is authoritative legal precedent, in the D.C. Circuit, interpreting the environmental protection provisions OCSLA, principally section 18(a)(3), to require that the Department of the Interior through BOEM and BSEE give primary emphasis to the goal of developing new oil and gas resources, with potential environmental impacts a secondary concern.

OCSLA concerning consideration of environmental impacts is section 18(a)(3), 43 U.S.C. § 1344(a)(3),⁶ which states:

The Secretary [of the Interior] shall select the timing and location of leasing, to the maximum extent practicable, so as to obtain a proper balance between the potential for environmental damage, the potential the discovery of oil and gas, and the potential for adverse impact on the coastal zone.

The Act gives no specific guidance with regard to what constitutes “a proper balance.” On its face, however, the phrase appears to rule out an interpretation that gives more weight to environmental impacts than to energy development, which seems to be an interpretation otherwise supported by

⁵⁰ The PAMGuard website is available online at <http://www.pamguard.org>.

much of the language of E.O. 13158. And, as will be seen below, section 18(a)(3) and the phrase “a proper balance” has been interpreted on this point by judicial precedent that remains firmly in place.

Other provisions of the OCSLA addressing assessment of environmental impacts of OCS oil and gas leasing at the stages beyond the planning/area selection phase (leasing, oil and gas development and production), indicate that energy development on the OCS is to be given more weight than potential environmental impacts, and that significant risk or degree of environmental impact is considered acceptable. For example:

- The provisions on “Administration of leasing,” 43 U.S.C. §1334, provide that the Secretary may cancel a lease if he determines that the leasing activity “would probably cause serious harm of damage to life (including fish and other aquatic life) . . . or to the marine, coastal, or human environment, and “the threat of harm or damage will not disappear or decrease to an acceptable extent within a reasonable period of time.” Sec. 1334(a)(2)(A) (emphasis added).
- The provisions on “Oil and gas development and production,” 43 U.S.C. § 1351, contain similar qualifications, stating that the Secretary shall disapprove a development and production plan if he determines, “because of . . . exceptional resource values in the marine or coastal environment, or other exceptional circumstances, that (i) implementation of the plan would probably cause serious harm or damage to life (including fish and other aquatic life) . . . or to the marine, coastal or human environments, (ii) the threat of harm or damage will not disappear or decrease to an acceptable extent within a reasonable period of time, and (iii) the advantages of disapproving the plan outweigh the advantages of development and production.” Sec. 1351(h)(1)(D).

The U.S. Court of Appeals for the District of Columbia Circuit has directly addressed interpretation of section 18(a)(3) of the OCSLA. No other federal Circuit Court has addressed the issue, nor has the U.S. Supreme Court.

The leading case is *State of California ex rel. Brown v. Watt*, 668 F.2d 1290 (D.C. Cir. 1981). The court found that, although section 18(a)(3) does not define the “proper balance” between oil and gas development and environmental concerns, a correct interpretation could be derived from statements of Congressional purpose and other provisions of the Act.

First, the court observed at page 1315 of its opinion that in the Act Congress declared it to be the policy of the United States that “the outer Continental Shelf is a vital national resource . . . which should be made available for orderly and expeditious development, subject to environmental safeguards” 43 U.S.C. § 1332(3).

The court found that this statement of purpose reflected the Act’s “primary emphasis on expeditious development of the OCS, qualified by the recognition of a need for measures to alleviate or minimize its adverse impacts.” *Id.* (emphasis added). See also 43 U.S.C. §1802. It found this view to be supported also by the Act’s legislative history.

In arguing its case, the State of California contended that the term “balance” in section 18(a)(3) meant that the three factors in the provision -- the potential for environmental damage, the potential for the discovery of oil and gas, and the potential for adverse impact on the coastal zone -- should be

weighed equally in the lease planning process. The court explicitly disagreed, holding that meeting national energy needs should be considered the most important objective:

That the Act has an objective -- the expeditious development of OCS resources -- persuades us to reject petitioners' view that the three elements in section 18(a)(3) are "equally important" and that no factor is "inherently more important than another." [Footnote omitted] The environmental and coastal zone considerations are undoubtedly important, but the Act does not require they receive a weight equal to that of potential oil and gas discovery. A balancing of factors is not the same as treating all factors equally. The obligation instead is to look at all factors and then `balance the results. The Act does not mandate any particular balance, but vests the Secretary with the discretion to weigh the elements so as to "best meet national energy needs."

At 1316-17 (emphasis added).

The court also endorsed the Secretary's approach of weighing oil and gas benefits against potential environmental costs, and stated with regard to the State's concerns regarding this approach:

Petitioners' objection to this view is essentially that it allows even significant environmental costs and coastal zone impacts to be overridden [sic]. Yet this is precisely what the Act intends, provided that the potential oil and gas benefits exceed those potential costs.

In other words, in order to achieve a "proper balance" under section 18(a)(3), the Secretary must not weigh the factors in section 18(a)(3) "equally"; but rather, must give the greatest weight to the "inherently more important" objective of best meeting national energy needs.

The continuing validity of the Circuit Court's 1981 decision in *State of California ex rel Brown*, has been recognized in *Natural Res. Def. Council v. Hodel*, 865 F.2d 288, 302 (D.C. Cir.1988) ("The primary purpose of OCSLA is expeditious, orderly development of the oil and gas resources of the OCS, with due consideration for the impact of that development . . .", citing *State of California*). Very recently, in *Center for Biological Diversity v. U.S. Dept. of the Interior*, 563 F.3d 466, 472 (D.C. Cir. 2009), the D.C. Circuit again reaffirmed that the primary purpose of the Act is "to ensure 'the expeditious but orderly development of OCS resources,'" citing its 1981 decision in *State of California ex rel. Brown*.

B. Marine Mammal Protection Act ("MMPA")

NMFS is charged with protecting whales, dolphins, porpoises, seals, and sea lions under the MMPA. Walrus, manatees, otters, and polar bears are protected by the Department of the Interior through the U.S. Fish and Wildlife Service (FWS).

The MMPA prohibits the take of marine mammals and listed species in U.S. waters and by U.S. citizens on the high seas, unless appropriate authorizations and consultations are completed with from NMFS.

Center for Regulatory Effectiveness

Take is defined under the MMPA as to “*harass, hunt, capture, kill or collect, or attempt to harass, hunt, capture, kill or collect.*” The MMPA regulations do further define harassment into two categories that include activities with the *potential to injure* (Level A Harassment) or *to disturb* (Level B Harassment) marine mammals.

The MMPA allows for the incidental taking of “small numbers” of marine mammals of a species or stock if NMFS finds that the total of such taking during the five-year ITA period would have a “negligible impact” on marine mammals and would not have an “unmitigable adverse impact” on subsistence harvests of those species.

“Negligible impact” is defined as an impact resulting from the specified activity that cannot be reasonably expected to, and is not reasonably likely to, adversely affect the species or stock through effects on annual rates of recruitment or survival.

“Small numbers” is discussed *supra* in this Paper.

Unmitigable adverse impact is defined as an impact resulting from the specified activity that--is likely to reduce the availability of the species to a level insufficient for a harvest to meet subsistence needs by causing marine mammals to abandon or avoid hunting areas; directly displacing subsistence users; or, placing physical barriers between the marine mammals and the subsistence users; AND cannot be sufficiently mitigated by other measures to increase the availability of marine mammals to allow subsistence needs to be met.

NMFS has established regulatory procedures to allow for the incidental taking of marine mammals during non-fishery commercial activities. This authorization may come at an individual, one-year project level (Incidental Harassment Authorization) or in the form of a five-year programmatic rulemaking (Incidental Take Authorization (ITA), also known as a Letter of Authorization (LOA)).

Take authorizations will include mitigation, monitoring and reporting requirements.

C. Endangered Species Act (“ESA”)

The ESA, 16 U.S.C. §§ 1531 et seq., applies broad “take” prohibitions to all endangered animal species and allows the take prohibitions to apply to threatened species. Section 7 of the ESA requires that Federal agencies consult with NMFS or EWS to ensure that “any action authorized, funded, or carried out by such agency . . . is not likely to jeopardize the continued existence of any endangered species or threatened species or adversely modify or destroy critical habitat”

Take is defined under the ESA as to “*harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.*” The ESA does not define harassment. NMFS and FWS have not defined this term through ESA-based regulation.

D. National Environmental Policy Act (“NEPA”)

NEPA requires that federal agencies consider the environmental impacts of their proposed actions before acting, including cumulative impacts. It also emphasizes public involvement in government

actions affecting the environment by requiring assessment and disclosure of the risks of proposed major federal actions.

In connection with the BOEM petition to NMFS for MMPA rulemaking in the GOM, BOEM and NMFS will concurrently develop an Environmental Impact Statement under NEPA that evaluates potential significant environmental effects of multiple geological and geophysical (G&G) activities on the GOM OCS.

E. A Marine Sound Regulatory Program Should be Driven by Science – Not Litigation

If regulations, as opposed to a refinement of the existing guidance, are to be issued pursuant to the BOEM petition then there is a compelling need that such regulations be science based. In developing the resultant regulations the moving party must demonstrate that the existing regulatory regime fails to provide adequate safeguards to marine mammals. If the resultant regulations do not impose a regulatory regime more stringent than does the existing guidance, then there is no increase in the probability of successful litigation against the government than presently exists if the resultant record is science based and reinforces the existing regulatory regime.

A need to act based upon the threat of litigation is frequently misplaced because of a failure to distinguish between the litigation risk to governmental entities as opposed to the litigation risk to private entities.

More specifically any enforcement actions which could be taken by public entities against private entities will be governed by the regulations to be issued in response to the BOEM petition. In any event private parties can not initiate litigation (regarding the marine sound issues describe herein) against another private party because such actions are not sanctioned by the relevant statutes. The issuance of regulations pursuant to the BOEM petition might not decrease litigation but it might well increase the chance of the government prevailing when government action or inaction is challenged. However in all such instances one private party cannot challenge another private party, only the actions of a governmental entity.

The aforementioned observations suggest: (1) do it right--not fast, and (2) governmental bodies have as much to gain in the successful development of marine sound regulatory program as do private entities.

In order to ensure that a Marine Sound Regulatory Program be science-based it must be developed in a manner which guarantees that the resultant regulations are subject to the "good government" laws which "regulate the regulators" including Executive Orders 12866 and 13563, the Data Quality Act and the Paperwork Reduction Act. In other words no actions, however implicit, should be taken which would undermine the applicability of these laws.

IV. Applicable Good Government Laws

A. Information Quality Act ("IQA")

The IQA requires that NMFS, BOEM, BSEE and most other federal government agencies meet specified quality standards before they make scientific or other information publicly available. This statutory requirement means that the agencies must ensure that all scientific information they use or rely on meets the IQA standards. These quality standards are implemented first by Government-wide guidelines developed and published by OMB. The IQA requires that the other federal government agencies develop and publish their own, agency-specific quality guidelines. The agency-specific guidelines must be approved by OMB and must be consistent with OMB's Government-wide guidelines.⁵¹

OMB's Government-wide IQA Guidelines direct Federal agencies

*to develop information resources management procedures for reviewing and substantiating (by documentation or other means selected by the agency) the quality (including the objectivity, utility, and integrity) of information before it is disseminated. In addition, agencies are to establish administrative mechanisms allowing affected persons to seek and obtain, where appropriate, correction of information disseminated by the agency that does not comply with the OMB or agency guidelines. Agencies must apply these standards flexibly, and in a manner appropriate to the nature and timeliness of the information to be disseminated, and incorporate them into existing agency information resources management and administrative practices.*⁵²

OMB's Government-wide DQA Guidelines define "quality" as the encompassing term, of which "utility," "objectivity," and "integrity" are the constituents. "Utility" refers to the usefulness of the information to the intended users. "Objectivity" focuses on whether the disseminated information is being presented in an accurate, clear, complete, and unbiased manner, and as a matter of substance, is accurate, reliable, and unbiased. "Integrity" refers to security – the protection of information from unauthorized access or revision, to ensure that the information is not compromised through corruption or falsification. "Dissemination" is defined to mean "agency initiated or sponsored distribution of information to the public."

OMB explains that "if an agency, as an institution, disseminates information prepared by an outside party in a manner that reasonably suggests that the agency agrees with the information, this appearance of having the information represent agency views makes agency dissemination of the information subject to these [DQA] guidelines."⁵³

Several months later, in reviewing agency-specific DQA guidelines, OMB further explained how the DQA guidelines covered outside or "third party" information relied upon by an agency in a

⁵¹ Supporting citations for this discussion, and a more detailed discussion, are available beginning at page 4 of the document at <http://thecre.com/pdf/20051228.pdf>.

⁵² Supporting citations for this discussion, and a more detailed discussion, are available in the document online at http://www.thecre.com/misc/20040606_worms.htm.

⁵³ Page 8454 of OMB's Federal Register notice available online at <http://www.whitehouse.gov/sites/default/files/omb/assets/omb/fedreg/reproducible2.pdf>.

rulemaking. OMB used the draft Department of Transportation (“DOT”) DQA guidelines as an example:

DOT incorporated these principles from the OMB guidelines by stating that an agency disseminates information if it relies on information in support of a rulemaking. ‘If the Department is to rely on technical, scientific, or economic information submitted by, for example, a commenter to a proposed rule, that information would need to meet appropriate standards of objectivity and utility’ (DOT, 3). ‘The standards of these guidelines apply not only to information that DOT generates, but also to information that other parties provide to DOT, if the other parties seek to have the Department rely upon or disseminate this information or the Department decides to do so.’ (DOT, 8). . . . Other agencies, particularly those likely to be involved with using and/or disseminating ‘influential’ information, must include similar provisions in their guidelines.’⁵⁴

NMFS acknowledges that both the OMB Government-wide and NMFS’ own DQA guidelines apply to outside or third-party information if NMFS uses or relies on that information.⁵⁵

This outside or third party issue is further addressed in a recent report by NOAA’s Science Advisory Board. This NOAA SAB

report, ‘Assessing the Use of Data from non-NOAA Sources’, provides guidelines for developing a NOAA policy on the use of environmental data from external sources for various mission purposes. It aims to provide the basis for creating a NOAA policy that can aid in deciding whether or not to acquire data from non-NOAA sources and proposes standards to be applied to such acquisitions. Though NOAA has used data from external sources throughout its history, the DAARWG found such use has often been on an ad hoc basis. The intent of this document is to inform a potential NOAA policy that would apply particularly when external data are relied upon for operational purposes or decision-making.⁵⁶

This NOAA SAB report on Use of Data from non-NOAA Sources acknowledges that “NOAA Information and Quality Act [DQA] guidelines require that original data be managed using documented processes for quality control...,” and it recommends NOAA-wide protocols for evaluating and using outside or third-party data.⁵⁷

⁵⁴ Memorandum for the President’s Management Council, June 10, 2002, on “Agency Draft Information Quality Guidelines,” from John D. Graham, Administrator of OMB’s Office of Information and Regulatory Affairs, at 6-7 of Attachment, available online at http://www.whitehouse.gov/sites/default/files/omb/assets/omb/inforeg/iqg_comments.pdf.

⁵⁵ See, e.g., NMFS’ letter available online at http://thecre.com/pdf/NOAA-IWC_Letter.pdf.

⁵⁶ See letter available online at http://www.sab.noaa.gov/Reports/DAARWGtrnsmitltr_FINAL.pdf.

⁵⁷ Page 2 of document available online at

Agencies must have a record demonstrating their IQA compliance. NMFS' *Instruction on GUIDELINES FOR AGENCY ADMINISTRATIVE RECORDS*, states at pages 2-3 that: "The AR [Administrative Record] first must document the process the agency used in reaching its final decision in order to show that the agency followed required procedures. For NOAA [and NMFS] actions, procedural requirements include...the Information Quality Act..."⁵⁸

The record requirement is just part of the IQA's emphasis on transparency. As another example, NOAA/NMFS' IQA guidelines state that

*In assessing the usefulness of information that the agency disseminates to the public, NOAA considers the uses of the information not only from its own perspective but also from the perspective of the public. As a result, when transparency of information is relevant for assessing the information's usefulness from the public's perspective, NOAA takes care to ensure that transparency has been addressed in its review of the information.*⁵⁹

The NOAA/NMFS IQA Guidelines further state:

Transparency is not defined in the OMB Guidelines, but the Supplementary Information to the OMB Guidelines indicates (p. 8456) that "transparency" is at the heart of the reproducibility standard. The Guidelines state that "The purpose of the reproducibility standard is to cultivate a consistent agency commitment to transparency about how analytic results are generated: the specific data used, the various assumptions employed, the specific analytic methods applied, and the statistical procedures employed. If sufficient transparency is achieved on each of these matters, then an analytic result should meet the reproducibility standard." In other words, transparency - and ultimately reproducibility - is a matter of showing how you got the results you got.

Without regard to whether information is influential, NOAA strives for the highest level of transparency about data and methods for all categories of information in all its scientific activities, within ethical, feasibility, cost, and confidentiality constraints. This supports the development of consistently superior products and fosters better value to the public. It also facilitates the reproducibility of such information by qualified third parties.

http://www.sab.noaa.gov/Reports/Assessing%20Use%20of%20Data%20from%20non-NOAA%20Sources%20Report%20to%20NOAA_January%202012%20FINAL.pdf.

⁵⁸ This NMFS *Instruction* is available online at <https://reefshark.nmfs.noaa.gov/f/pds/publicsite/documents/procedures/30-123-01.pdf>.

⁵⁹ http://www.cio.noaa.gov/Policy_Programs/IQ_Guidelines_011812.html.

NOAA strives for transparency regarding data collection procedures, level of quality, and limitations.

*NOAA strives for transparency regarding data collection procedures, level of quality, and limitations.*⁶⁰

B. Paperwork Reduction Act (“PRA”)

The PRA, 44 U.S.C. 3501-3520, requires every federal agency to obtain approval from the Office of Management and Budget before collecting the same or similar information from 10 or more members of the public. In order to obtain PRA approval, the agency submits an Information Collection Request (“ICR”) to OMB. An ICR:

- Describes the information to be collected,
- Gives the reason the information is needed,
- Estimates the time and cost for the public to answer the request, and
- Includes an explicit reference to the operating unit’s information quality guidelines, as required by the IQA⁶¹

After reviewing the request, the Office of Management and Budget may approve or disapprove the ICR, or place conditions that must be met for approval. This process was designed to prevent unnecessary collections, reduce costs, and ensure the “practical utility” of the information request. “Practical utility” is defined as “the actual, not merely the theoretical or potential, usefulness of information to or for an agency, taking into account its accuracy, validity, adequacy, and reliability, and the agency’s ability to process the information it collects”⁶²

OMB-approved ICRs are necessary for the agencies’ regulation of offshore seismic because that regulation depends in large part on operators’ monitoring and reports. Before it split into BOEM and BSEE, BOEMRE responded to CRE’s comments on seismic ICR 1010–0151 by stating that BOEMRE would require and request a new ICR if it ever intends to regulate offshore seismic activities in a manner more burdensome than required at the time it responded to CRE’s comments. This BOEMRE response to CRE defined the burden and scope of seismic information collection authorized by ICR 1010– 0151.

BSEE subsequently asked OMB to approve a new seismic ICR which, according to BSEE “does not change the burden hours or make any other modifications to what was previously approved [under ICR 1010–0151], other than to remove the collections under the purview of BOEM” in order to accommodate the split of regulations from the Bureau of Ocean Energy Management, Regulation and Enforcement (“BOEMRE”) to BOEM and BSEE.”

⁶⁰ Id.

⁶¹ See, for example, the Department of Commerce’s ICR guidance, which applies to NOAA/NMFS, at http://ocio.os.doc.gov/ITPolicyandPrograms/Information_Collection/dev01_003742#P102_18486.

⁶² 5 C.F.R. § 1320.3(1).

In support of this new ICR BSEE-2012-0014, BSEE stated that BOEMRE's response to CRE pertains only to BOEM requirements and is not relevant to BSEE regulations. This BSEE statement is impossible to reconcile with the fact that both BOEM and BSEE regulate offshore seismic activity, and CRE's comments pertain to their regulation of offshore seismic.

There is no record supporting any ICR for any regulation of offshore seismic that is more burdensome than required under BOEM/BSEE's JOINT NTL No. 2012-G02.⁶³

C. Unified Agenda

The Federal Government's Unified Agenda is maintained by OMB. OMB's website explains that

The Regulatory Information Service Center (RISC) ...undertakes projects that will facilitate development of and access to information about Federal regulatory and deregulatory activities. It accomplishes this by gathering and publishing information on Federal regulations and their effects on society. The Center provides this information to the President, Congress, agency officials, and the general public to help them better understand and manage the regulatory process. The Center's principal publication is the Unified Agenda, which is published in the spring and fall of each year. Since 1978, Federal agencies have been required by Executive orders to publish agendas of regulatory and deregulatory activities. The Regulatory Plan, which is published as part of the fall edition of the Agenda, identifies regulatory priorities and contains additional detail about the most important significant regulatory actions that agencies expect to take in the coming year.

D. Executive Orders 12866 and 13563

President Obama's Executive Order 13563 supplements the long-standing Executive order 12866. President Obama's Order explains:

(b) This order is supplemental to and reaffirms the principles, structures, and definitions governing contemporary regulatory review that were established in Executive Order 12866 of September 30, 1993. As stated in that Executive Order and to the extent permitted by law, each agency must, among other things: (1) propose or adopt a regulation only upon a reasoned determination that its benefits justify its costs (recognizing that some benefits and costs are difficult to quantify); (2) tailor its regulations to impose the least burden on society, consistent with obtaining regulatory objectives, taking into account, among other things, and to the extent practicable, the costs of cumulative regulations; (3) select, in choosing among alternative regulatory approaches,

⁶³ Public comments to OMB on this ICR issue are available at <http://www.thecre.com/creipd/wp-content/uploads/2009/06/BSEE-ICR-on-Offshore-Activities.pdf>.

those approaches that maximize net benefits (including potential economic, environmental, public health and safety, and other advantages; distributive impacts; and equity); (4) to the extent feasible, specify performance objectives, rather than specifying the behavior or manner of compliance that regulated entities must adopt; and (5) identify and assess available alternatives to direct regulation, including providing economic incentives to encourage the desired behavior, such as user fees or marketable permits, or providing information upon which choices can be made by the public.

(c) In applying these principles, each agency is directed to use the best available techniques to quantify anticipated present and future benefits and costs as accurately as possible. Where appropriate and permitted by law, each agency may consider (and discuss qualitatively) values that are difficult or impossible to quantify, including equity, human dignity, fairness, and distributive impacts.

Sec. 2. Public Participation. (a) Regulations shall be adopted through a process that involves public participation. To that end, regulations shall be based, to the extent feasible and consistent with law, on the open exchange of information and perspectives among State, local, and tribal officials, experts in relevant disciplines, affected stakeholders in the private sector, and the public as a whole.

(b) To promote that open exchange, each agency, consistent with Executive Order 12866 and other applicable legal requirements, shall endeavor to provide the public with an opportunity to participate in the regulatory process. To the extent feasible and permitted by law, each agency shall afford the public a meaningful opportunity to comment through the Internet on any proposed regulation, with a comment period that should generally be at least 60 days. To the extent feasible and permitted by law, each agency shall also provide, for both proposed and final rules, timely online access to the rulemaking docket on regulations.gov, including relevant scientific and technical findings, in an open format that can be easily searched and downloaded. For proposed rules, such access shall include, to the extent feasible and permitted by law, an opportunity for public comment on all pertinent parts of the rulemaking docket, including relevant scientific and technical findings.

(c) Before issuing a notice of proposed rulemaking, each agency, where feasible and appropriate, shall seek the views of those who are likely to be affected, including those who are likely to benefit from and those who are potentially subject to such rulemaking.

Sec. 4. Flexible Approaches. Where relevant, feasible, and consistent with regulatory objectives, and to the extent permitted by law, each agency shall identify and consider regulatory approaches that reduce burdens and maintain flexibility and freedom of choice for the public. These approaches include

warnings, appropriate default rules, and disclosure requirements as well as provision of information to the public in a form that is clear and intelligible.

Sec. 5. Science. Consistent with the President's Memorandum for the Heads of Executive Departments and Agencies, "Scientific Integrity" (March 9, 2009), and its implementing guidance, each agency shall ensure the objectivity of any scientific and technological information and processes used to support the agency's regulatory actions.⁶⁴

Any rules promulgated under the MMPA will have to comply with this Order. Its impact on NMFS/BOEM's development of GOM seismic Take rules are discussed *supra*.

V. Conclusions:

- **The record clearly demonstrates that the existing regulatory regime provides more than adequate protection to marine mammals.**
- **Incremental increases in the stringency of the existing regulatory regime, or the establishment of new regime, must pass a benefit/cost analysis.**
- **Since marine mammals are being protected under the current regulatory regime there will be no net benefits from a new or modified regime.**
- **The response to petitions for regulatory certainty can be met by memorializing the existing regulatory regime.**
- **In accord with BOEM's response to CRE, BOEM cannot take any action to increase the stringency of regulations dealing with seismic exploration unless it first receives the approval from the Office of Management and Budget to collect the relevant information pursuant to the Paperwork Reduction Act.**

⁶⁴ <http://www.whitehouse.gov/the-press-office/2011/01/18/improving-regulation-and-regulatory-review-executive-order>.