Center for Regulatory Effectiveness' ("CRE") Comments on
Bureau of Ocean Energy Management's ("BOEM")
Draft Environmental Impact Study ("DEIS")
For Gulf of Mexico (GOM), Outer Continental Shelf (OCS),
Western Planning Area (WPA) and Central Planning Area (CPA),
Oil and Gas Lease Sales for 2012–2017,
http://www.gpo.gov/fdsys/pkg/FR-2011-12-30/pdf/2011-33605.pdf .
Comments filed electronically on February 13, 2012, to *MultisaleEIS@BOEM.gov*

CRE appreciates the opportunity to comment on this DEIS. CRE offers the following recommendations to BOEM: (1) the final EIS should reflect the conclusion that seismic does not adversely affect marine mammals under current BOEM regulations; (2) any new, significantly more stringent seismic regulations issued by BOEM will require a new proposed Information Collection Request (ICR); and (3) BOEM should further encourage the use of PAMGUARD as part of the protected species observer program.

I. Seismic Under Current Regulation Causes No Harm

BOEM recently issued a Final Supplemental Environmental Impact Statement for Gulf of Mexico OCS Oil and Gas Lease Sale: 2012; Central Planning Area Lease Sale 216/222; Mexico OCS Oil and Gas Lease Sale: 2012; Central Planning Area Lease Sale 216/222 ("SEIS"). This final SEIS for the GOM correctly states that

> "Overall, within the CPA [Central 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 on the proposed action and its impacts, the incremental effect of the proposed action on marine mammal populations is not expected to be significant when compared with all other past, present, and reasonably foreseeable future activities."[1]

This final SEIS for the GOM further states that

[1] Page 4-231 of document available online at http://www.boem.gov/Environmental-Stewardship/Environmental-Assessment/NEPA/nepaprocess.aspx .

> "the proposed action, would result in negligible effects from the proposed drilling activities on sea turtles. In addition, NTL 2007-G02, "Implementation of Seismic Survey Mitigation Measures and Protected Species Observer Program," minimizes the potential of harm from seismic operations to sea turtles and 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 sea turtles 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."[2]

CRE agrees with BOEM that seismic does not harm marine mammals or sea turtles or anything else under current regulation.

The National Marine Fisheries Service ("NMFS") recently issued a biological opinion for a seismic Take application under the Marine Mammal Protection Act. This BiOp concluded that the Sperm Whale Synthesis Report and other studies suggest that seismic does NOT affect Sperm Whale behavior such as foraging:

> "These studies suggest that sperm whales exhibit considerable tolerance of seismic sources (*e.g.*, no apparent disruption of behaviors such as foraging or calling), or possibly some degree of habituation."[3]

NMFS' biological opinion also concludes that:

> "The evidence available leads us to conclude that exposure to seismic pulse energy from the proposed seismic activities is not likely to cause a reduction in an individual whale's growth, survival, annual reproductive success, or lifetime reproductive success (i.e., fitness). As a result, we do not expect the proposed action to have an effect on the extinction risk of the population(s) these individuals represent or the whale species these population(s) comprise."[4]

These conclusions are consistent with recent BOEM actions. For example, BOEM's Supplemental Environmental Impact Statement for proposed oil and gas Lease Sale 218 in the GOM Western Planning Area ("WSEIS") contains an extensive discussion of sperm whales, other marine mammals, and sound. This WSEIS correctly concludes:

[2] ***Id***., page 4-242.

[3] Pages 73-74 of NMFS biological opinion available online at http://www.nmfs.noaa.gov/pr/pdfs/consultations/biop_usgs2011.pdf .

[4] ***Id***. at page 86.

> "In addition, NTL 2007-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 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."[5]

The WSEIS correctly concludes, "Marine mammals may exhibit some avoidance behaviors, but their behavioral or physiological responses to noise associated with the proposed action, however, are unlikely to have population-level impacts to marine mammals in the northern Gulf of Mexico."[6]

MMS/BOEM and the National Research Council have similarly concluded:

> "[T]here have been no known instances of injury, mortality, or population level effects on marine mammals from seismic exposure but… the potential for these types of impacts may exist without appropriate mitigation measures. The MMS-approved seismic surveys include mitigation measures designed to reduce the potential for effects to occur."[7]

NMFS has also 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."[8]

NMFS' conclusions are supported by the results of recent controlled sound exposure experiments on a sperm whale, which concluded:

> "In neither CEE [controlled sound exposure experiment] did this individual appear to demonstrate obvious behavioral responses, as seen in the dive profiles

[5] Page 4-150, http://www.gomr.boemre.gov/PDFs/2011/2011-034-v1.pdf .

[6] Page 4-145, http://www.gomr.boemre.gov/PDFs/2011/2011-034-v1.pdf .

[7] See, *e.g.*, Outer Continental Shelf Oil & Gas Leasing Program,2007-2012 Final Environmental Impact Statement, page V-64 (MMS April 2007), available at http://www.boemre.gov/5-year/2007-2012DEIS/VolumeII/5and6-ConsultationPreparers.pdf

[8] 75 FR 49795-96 (Aug. 13, 2010), page 49795, available at http://edocket.access.gpo.gov/2010/2010-19962.htm .

> below; no clear changes in the production of echolocation clicks were observed in either case.[9]

II. A New ICR Would be Necessary for Any Significant Change from Current Seismic Regulation

CRE has previously filed two comments that are relevant to the DEIS and seismic. BOEM's response to these comments agrees with CRE on an important point—BOEM will have to prepare a new Information Collection Request ("ICR") for public comment and for Office of Management and Budget ("OMB") review before BOEM could regulate seismic in a manner that is significantly different from current regulation under NTL No. 2007-G02.

First, on September 30, 2011, BOEM published Federal Register notice that BOEM was submitting an ICR to OMB for review. This FR notice also responds to comments that CRE submitted on BOEM's draft ICR. This ICR is for regulations that apply to offshore seismic.[10]

Second, on October 21, 2011, BOEM published Federal Register notice that BOEM was submitting another ICR to OMB for review. This FR notice responds to comments that CRE submitted on BOEM's draft ICR. This ICR is also for regulations that apply to offshore seismic.[11]

BOEM's September 30th FR notice explains:

> "We received two comments in response to the Federal Register notice. The first comment, from the Marine Mammal Commission, supported our request to OMB. The second comment, from the Center for Regulatory Effectiveness, 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. Response: For the renewal of this ICR, we are not requesting anything more

[9] Biological and Behavioral Response Studies of Marine Mammals in Southern California, 2010 ("SOCAL-10"), Project Report, 26 February 2011, page 24, available online at http://www.cascadiaresearch.org/reports/SOCAL10_final_report-2010.pdf.

[10] BOEM's September 30, 2011 Federal Register notice of the ICR's submission to OMB is available online at http://www.gpo.gov/fdsys/pkg/FR-2011-09-30/html/2011-25262.htm. The OMB file for this ICR is available online at http://www.reginfo.gov/public/do/PRAViewICR?ref_nbr=201108-1010-003 .

[11] BOEM's October 21, 2011 Federal Register notice of the ICR's submission to OMB is available online at http://www.gpo.gov/fdsys/pkg/FR-2011-10-21/html/2011-27331.htm . The OMB file for this ICR is available online at http://www.reginfo.gov/public/do/PRAViewICR?ref_nbr=201106-1010-004 .

> 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."[12]

Similarly, BOEM's October 21st Federal Register Notice explains:

> "We received two comments in response to the Federal Register notice. The first commenter, the Marine Mammal Commission stated that it was in support of our submission to OMB. The second commenter, Center for Regulatory Effectiveness, requested two actions. One, that we should state that we are not submitting any ICR for seismic regulations that is more stringent than current regulations, including NTL 2007-G02. Response: For the renewal of this ICR, we are not requesting anything more stringent than in current 30 CFR 551 regulations; NTL 2007-G02 is covered under OMB Control Number 1010-0151. Second, that we wait to submit the ICR to OMB. There is current on-going litigation pertaining to seismic regulations (BOEM vs environmental plaintiff(s)). Response: This particular ICR renewal pertains mostly to revising the form currently in use due to new developments in technology; we are not requesting any new requirements. If the lawsuit settlement or decree requires changes to the form and/or DOI regulations, information collection coordination and OMB approval will occur before the form is reissued or regulations are promulgated.[13]

The referenced NTL No. 2007-G02 is entitled "Implementation of Seismic Survey Mitigation Measures and Protected Species Observer Program." This NTL explains that

> "[It] clarifies how you should implement seismic survey mitigation measures, including ramp-up procedures, the use of a minimum sound source, airgun testing and protected species observation and reporting. The measures contained herein apply to all on-lease surveys you conduct under 30 CFR 250 and all off-lease surveys you conduct under 30 CFR 251." [14]

In the above-quoted Federal Register notices, BOEM responds to CRE comments which explain in greater detail that environmental group plaintiffs are suing BOEM in New Orleans federal

[12] http://www.gpo.gov/fdsys/pkg/FR-2011-09-30/html/2011-25262.htm , page 60861.
[13] http://www.gpo.gov/fdsys/pkg/FR-2011-10-21/html/2011-27331.htm , page 65523.
[14] Available online at http://www.gomr.boemre.gov/homepg/regulate/regs/ntls/2007NTLs/07-g02.pdf.

court over regulation of seismic in the GOM. CRE's ICR comments state concerns regarding the regulatory impact of any settlement, and the need for public comment on and OMB review of any such impact.

CRE's ICR comments further state that, for at least two reasons, BOEM should not send OMB any revised ICRs for seismic regulation that is more stringent than currently imposed. First, BOEM has repeatedly and correctly stated that current regulation of seismic adequately protects the environment. In other words, current regulation of seismic is all that's necessary for the proper performance of BOEM's functions. Therefore, under the Paperwork Reduction Act ("PRA") BOEM should not submit, and OMB should not approve, ICRs for more stringent seismic regulation. Such ICRs would violate the PRA because they would be unnecessary for proper performance of BOEM's functions.

Any ICRs for more stringent seismic regulation would also violate the accuracy requirement of BOEM's Data Quality Act ("DQA") Guidelines. The PRA requires that BOEM certify that ICRs are necessary for the proper performance of BOEM's functions. That certification would be inaccurate in the case of ICRs for more stringent seismic regulation. Current regulation of seismic, and ICRs based on current regulation, are all that is necessary for proper performance of BOEM's functions.

CRE's comments on these two ICRS are incorporated by reference into these comments by CRE on the DEIS. [15] CRE recommends that BOEM should strengthen the DEIS by stating more clearly that current regulation of seismic prevents harm and that any significant change to current regulation will be preceded by a new proposed ICR, public comment, and OMB review.

III. BOEM SHOULD FURTHER ENCOURAGE PAMGUARD USE

BOEM regulates offshore oil & gas seismic operations primarily through NTL No. 2007-G02, which has a section that encourages, but does not require, the voluntary or "experimental" use of Passive Acoustic Monitoring (PAM):

[15] CRE's comments on the September 30th ICR are available in www.regulations.gov, Docket ID # BOEM-2011-0011-0003 , http://www.regulations.gov/#!documentDetail;D=BOEM-2011-0011-0003. CRE's comments on the October 21st ICR are available in www.regulations.gov, Docket ID # BOEM-2011-0036-0003, http://www.regulations.gov/#!documentDetail;D=BOEM-2011-0036-0003 .

> **"Experimental Passive Acoustic Monitoring**
>
> Whales, especially sperm whales, are very vocalne 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. MMS strongly encourages 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 **not** 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 MMS at the beginning of its use."[16]

The International Association of Oil and Gas Producers Joint Industry Project ("JIP") has developed and made publicly and freely available a version of PAM which has been tried and tested. This open source method of monitoring marine mammals is called PAMGUARD.

CRE requests that BOEM revise NTL 2007-G02 to encourage the use of PAMGUARD "as part of the protected species observer program." This would not be a significant change in current regulation given the already existing paragraph on PAM that is quoted above.

The PAMGUARD web site discusses PAMGUARD in considerable detail, and provides free, public access to PAMGUARD.[17] The site is worth quoting at some length:

> **"Background**
>
> The PAMGUARD project was set up to provide the world standard software infrastructure for acoustic detection, localisation and classification for mitigation

[16] NTL 2007-G02, http://sero.nmfs.noaa.gov/sf/deepwater_horizon/Appendix_A_Seismic_NTL_2007-G02.pdf (emphasis in the original).

[17] The industry-sponsored PAMGUARD website is available online at http://www.pamguard.org/home.shtml .

against harm to marine mammals, and for research into their abundance, distribution and behaviour. Many marine activities involve underwater sound emissions. These may be a by-product of the activity (e.g. piling or explosives), or a tool (e.g. air guns used for seismic surveys in oil and gas exploration, or military/commercial sonar). To mitigate against harm to marine mammals, observers are often employed to visually scan the sea surface for the presence of animals. In the event of a sighting, procedures such as suspension/delay of activities may be implemented to avoid harm.

Current Methods

Visual observations play a vital role, but marine mammals are difficult to spot on the sea surface, especially when weather and light conditions are poor. However, many marine mammals produce loud and distinctive vocalisations, which can often be detected more reliably than visual cues. For these species, passive acoustic monitoring (PAM) offers an effective means of detection. Furthermore, the creatures do not need to be on the surface to be detected.

Why do we need PAMGUARD?

While PAM software already exists, the source code is not freely available for others to help to expand and improve. This means that assumptions, and therefore margins for error, are not readily understood, that code evolves more slowly, or not at all, and source code improvements are at the mercy of the time and resources that the few responsible developers can commit. In the case of the military and some commercial organisations, detection, classification and localisation (DCL) technologies are in-house and protected. What is needed is an environment which raises the profile of PAM and creates a means of tapping into the intellectual resources of the research community. Industry and marine environmentalists are well aware of the need to upgrade and modernize."[18]

The Joint Industry Program Annual Report for 2009 also contains extensive, detailed documentation of PAMGUARD.[19] The report explains:

"A software package called PAMGUARD has been released that can interpret and display calls of vocalising marine mammals, locate them by azimuth and range and identify some of them by species. These abilities are critical for detecting animals within safety zones and enabling shut-down." [20]

[18] PamGuard site available at http://www.pamguard.org/background.shtml

[19] See 2009 Report, pages 1, 2, and 3, available online at http://www.soundandmarinelife.org/Site/Basics/AnnRep3.pdf .

[20] ***Id.*** *at 1.*

PAMGUARD was discussed at a recent IAGC meeting, which strongly encouraged the industry to use PAMGUARD and explained its benefits. [21] One power point slide explains the "PAMGUARD Vision" and outlines why the software should be implemented on a widespread basis:

> "● Create an integrated real-time PAM software infrastructure
> --Open source
> --Platform independent
> --Freely available to all PAM users for the benefit of the marine environment.
> --Establish a reliable/robust industry standard interface tool in preparation for PAM being mandated."[22]

BOEM should encourage the use and support of PAMGUARD in BOEM's NTLs and wherever else appropriate. BOEM should, however, recognize that there has been progress in the "development and refinement" of PAMGUARD since the JNCC issued its seismic guidelines.

CRE will be pleased to work with BOEM and further assist the Agency's incorporation of PAMGUARD into the NTL and elsewhere.

We once again thank BOEM for the opportunity to submit these comments, and we look forward to BOEM's response.

Respectfully Submitted,
Jim Tozzi

Member, Board of Advisors

[21] See, beginning with slide 9, power point presentation at http://iagc.org/attachments/contentmanagers/9530/6%207%20IAGC_HSESForum_pres_MarEnv_SMLWkgrpUpdate_V01_2011_09_27.pdf

[22] ***Id***. at Slide 11.