

mitigation or risk reduction measures designed to limit exposure. The modeling is an overestimate and should be viewed with that understanding.

DPEIS at 4-47 (emphases added).

An analysis that, by the agency's admission, purposely overestimates effects and relies upon incorrect and unrealistic assumptions, is, by definition, "inaccurate" and therefore contrary to applicable NEPA standards. *See* 40 C.F.R. § 1500.1(b) (requiring "accurate scientific analysis"). Moreover, the DPEIS's analysis of marine mammal impacts is, at best, "highly speculative" because it is based on scenarios and assumptions that, by BOEM's admission, are not accurate and will not occur. For these additional reasons, the analysis of the effects of seismic activities in the DPEIS is arbitrary and violates NEPA.

3. The Marine Mammal Effects Analysis Does Not Consider the Best Available Information

As addressed above, and in Attachment A, the analysis of potential effects of seismic activities on marine mammals is based on overly conservative, unrealistic, and biased modeling of "exposures." Aside from the flaws with this approach, there is a wealth of available information that actually informs the analysis of the reasonably foreseeable effects caused by seismic activities. These data are either minimized or not addressed at all in the DPEIS. BOEM must consider this available information to assess the biological significance of the exposure estimates. Without any assessment of biological significance, the exposure estimates are entirely uninformative and misleading.

First, BOEM goes to great lengths to assert, correctly, that exposures are not necessarily incidental takes. *See, e.g.*, DPEIS at 1-15. In the same paragraph, however, BOEM contradicts itself by stating, without support, that it expects that the "majority of exposures" are likely to result in takes. *Id.* at 1-15, 1-16. BOEM makes no effort to quantify or otherwise qualitatively address the significance of exposures. As a result, exposures become a de facto surrogate for "takes." *See* DPEIS, Appx. D at D-310-320.

Second, the history of formal assessments of offshore seismic activities demonstrates that levels of actual incidental take are far smaller than even the most balanced pre-operation estimates of incidental take.¹² Indeed, more than four decades of worldwide seismic surveying

¹² *See, e.g.*, BOEM, *Final EIS for Gulf of Mexico OCS Oil and Gas Eastern Planning Area Lease Sales 225 and 226*, at 2-22 (2013), <http://www.boem.gov/BOEM-2013-200-v1/> ("Within the CPA, which is directly adjacent to the EPA, 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.");

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and scientific research indicate that the risk of physical injury to marine life from seismic survey activities is extremely low. Currently, there is no scientific evidence demonstrating any biologically significant negative impacts to marine life from seismic surveying. As stated by BOEM:

To date, there has been no documented scientific evidence of noise from air guns used in geological and geophysical (G&G) seismic

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BOEM, *Final EIS for Gulf of Mexico OCS Oil and Gas Western Planning Area (WPA) Lease Sales 229, 233, 238, 246, and 248 and Central Planning Area (CPA) Lease Sales 227, 231, 235, 241, and 247*, at 4-203 (v.1) (2012), http://www.boem.gov/Environmental-Stewardship/Environmental-Assessment/NEPA/BOEM-2012-019_v1.aspx (WPA); *id.* at 4-710 (v.2), http://www.boem.gov/Environmental-Stewardship/Environmental-Assessment/NEPA/BOEM-2012-019_v2.aspx (CPA) (“Although there will always be some level of incomplete information on the effects from routine activities under a WPA 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.”); BOEM, *Final Supplemental EIS for Gulf of Mexico OCS Oil and Gas WPA Lease Sales 233 and CPA Lease Sale 231*, at 4-30, 4-130 (2013), http://www.boem.gov/uploadedFiles/BOEM/BOEM_Newsroom/Library/Publications/2013/BOEM%202013-0118.pdf (reiterating conclusions noted above); MMS, *Final Programmatic EA, G&G Exploration on Gulf of Mexico OCS*, at III-9, II-14 (2004), http://www.nmfs.noaa.gov/pr/pdfs/permits/mms_pea2004.pdf (“There have been no documented instances of deaths, physical injuries, or auditory (physiological) effects on marine mammals from seismic surveys.”); *id.* at III-23 (“At this point, there is no evidence that adverse behavioral impacts at the local population level are occurring in the GOM.”); LGL Ltd., *Environmental Assessment of a Low-Energy Marine Geophysical Survey by the US Geological Survey in the Northwestern Gulf of Mexico*, at 30 (Apr.-May 2013), http://www.nmfs.noaa.gov/pr/pdfs/permits/usgs_gom_ea.pdf (“[T]here has been no specific documentation of TTS let alone permanent hearing damage, i.e., PTS, in free-ranging marine mammals exposed to sequences of airgun pulses during realistic field conditions.”); 75 Fed. Reg. 49,759, 49,795 (Aug. 13, 2010) (issuance of IHA for Chukchi Sea seismic activities (“[T]o 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.”)); MMS, *Draft Programmatic EIS for OCS Oil & Gas Leasing Program, 2007-2012*, at V-64 (Apr. 2007) (citing 2005 NRC Report), <http://www.boem.gov/Oil-and-Gas-Energy-Program/Leasing/Five-Year-Program/5and6-ConsultationPreparers-pdf.aspx> (MMS agreed with the National Academy of Sciences’ National Research Council that “there are no documented or known population-level effects due to sound,” and “there have been no known instances of injury, mortality, or population level effects on marine mammals from seismic exposure”).