



February 6, 2023

Via Electronic Submission (www.regulations.gov)

Mr. Samuel D. Rauch, III
Deputy Assistant Administrator for Regulatory Programs
National Marine Fisheries Service
1315 East-West Highway
Silver Spring, MD 20910

**Re: Comments on Proposed Rule: Taking and Importing Marine Mammals;
Taking Marine Mammals Incidental to Geophysical Surveys in the Gulf of Mexico
(NMFS 221221-0280).**

Dear Mr. Rauch:

Chevron U.S.A. Inc. (Chevron) appreciates the opportunity to submit comments on the National Marine Fisheries Service's ("NMFS's") proposed marine mammal incidental take regulations (ITR) for geophysical surveys in the Gulf of Mexico (GOM) (the "reproposed ITR rule"). See 88 Fed. Reg. 916 (January 5, 2023). Chevron provided comments on the earlier proposed ITR rule that preceded NMFS's issuance of a final rule on January 16, 2021, see 86 Fed. Reg. 5322, and provides these comments to help the agency as it considers any updates and revisions to that rule.

Chevron is a member company of the American Petroleum Institute ("API"), EnerGeo Alliance ("EnerGeo"), the National Ocean Industries Association ("NOIA"), and the Offshore Operators Committee ("OOC"). Accordingly, in addition to these comments, Chevron supports and has participated in the development of comments being submitted jointly by API, EnerGeo, NOIA, and the OOC (collectively, the "Associations"), and incorporates those comments by reference herein. In addition, Chevron incorporates by reference the Associations' earlier comments relating to the ITR rule, including the "Gisiner report" that provided expert analysis documenting concerns with NMFS's modeling approach that leads to a large overestimation of takes, as well as an Information Quality Act ("IQA") submission the Associations sent to the agency in January 2020, which are referenced below. Chevron also incorporates by reference its own comments submitted in response to the earlier proposed ITR rule.

The agency actions at issue in the reproposed ITR rule significantly affect Chevron's interests. Chevron is one of the largest producers of crude oil and natural gas in the GOM and one of the of the top leaseholders in deepwater areas of the GOM Outer Continental Shelf ("OCS"). Chevron and its affiliated companies hold interests in hundreds of leases in the GOM. Chevron

has invested billions of dollars acquiring leases, obtaining necessary permits and approvals, exploring, developing, and producing oil and natural gas on its leaseholds in the GOM.

Geological and geophysical ("G&G") activities detailed in the reproposed ITR rule are vital to continued exploration and development of oil and natural gas resources in the GOM, as expressly supported by Congress in statutes such as the Outer Continental Shelf Lands Act ("OCSLA"). The G&G data is necessary to support prudent, safe, efficient, and environmentally responsible methods for exploration, drilling, and production of subsea hydrocarbon reservoirs.

Chevron fully supports the promulgation of an appropriate ITR rule. Chevron supports the protection of marine mammals from harassment and injury and agrees, consistent with the statutory mandate, that it is important to apply the "best scientific evidence." Unfortunately, the reproposed ITR rule maintains the same flawed modeling approach based on basic math errors, as described in comments from the Associations and other stakeholders, that was used by NMFS in developing its prior final rule.

The Associations' comments again describe this problem in extensive detail. As those comments make clear, NMFS adds substantial conservative margins to individual, independent inputs in its take estimates model, and then multiplies them together, causing exponential overestimates. This approach of adding a conservative margin to individual, independent variables and then multiplying them together produces orders of magnitude more predicted takes than the best scientific estimate would predict.

The exponentially inflated take estimates that result from NMFS's modeling have already and will continue to limit the number of permits issued to conduct G&G activities and significantly increase uncertainty regarding the process of G&G permitting. The geophysical data collected during these surveys enables environmentally responsible and efficient exploration, drilling, and production of subsea hydrocarbon reservoirs and is the primary means available for locating those hydrocarbons in an economically feasible manner. Such unfounded limitations on permit approvals improperly ignores the environmental and safety benefits of modern geophysical technology, which has led to dramatic improvements in the placement of wells and reduction in the numbers of wells that need to be drilled. A reduction in the availability of geophysical data could increase – not decrease – potential environmental and safety risks. Indeed, Chevron has reduced the number of wells that need to be drilled on exploration and development projects in the GOM as a direct result of improved geophysical data. Therefore, Chevron urges NMFS to take this opportunity to correct the computational errors in the model and to estimate takes by using the best scientific evidence available.

A. Overview of Relevant Legal Requirements



The MMPA requires use of “the best scientific evidence available” in estimates of marine mammal takes.¹ Similarly, NEPA regulations require use of “high quality” information and accurate scientific analysis.”² In addition, OMB Guidelines under the IQA require federal agencies to use the “best data reasonably available.”³ In its own implementing guidelines, the National Oceanic and Atmospheric Administration (“NOAA”) has recognized that one of the core requirements of the IQA is “objectivity,” which “ensures that information is accurate, reliable, and unbiased.”⁴ For the modeling at issue here, objectivity is achieved by “using data of known quality, applying sound analytical techniques, and reviewing the products or processes used to create them before dissemination.”⁵ Under the IQA, information that qualifies as “influential scientific . . . or statistical information must be held to a higher standard of objectivity,”⁶ and an even higher quality standard applies to a “highly influential scientific assessment,” envisioned by the repropose ITR rule.⁷

The modeling for the proposed ITR rule unquestionably qualifies for this heightened level of review under the IQA. The modeling approach for calculating predicted takes is “influential” as it has a significant impact on energy policies and private sector activities. G&G surveys are used to obtain critical data for oil and gas exploration and production activities, including identifying and locating marine mineral resources and optimal siting of offshore equipment to ensure safety and reduce the number of wells that are drilled. Indeed, the activities of Chevron (and industry as a whole) will be hampered if flawed calculations prevent the creation of a proper regulatory framework for permitting geological and geophysical surveys within the scope of the MMPA. The take estimate model is therefore undoubtedly “influential” within the meaning of the NOAA IQA Guidelines.⁸

¹ 16 U.S.C. § 1371(a)(3)(A); 50 C.F.R. § 216.102(a).

² 40 C.F.R. § 1500.1(b) (“Accurate scientific analysis [is] essential to implementing NEPA.”); *see also id.* § 1500.22 (evaluation must be based upon “credible scientific evidence”).

³ OMB, Improving Implementation of the Information Quality Act, M-19-15 (April 24, 2019), at 1.

⁴ NOAA Office of the Chief Information Officer & High Performance Computing and Communications, *NOAA Information Quality Guidelines*, at Part II (Oct. 30, 2014).

⁵ *Id.* at Part II.B.

⁶ OMB, Improving Implementation of the Information Quality Act, M-19-15, at 3 (“The touchstone is ‘fitness for purpose’; information destined for a higher-impact purpose must be held to higher standards of quality. The *Guidelines* characterize a subset of agency information as ‘*influential scientific, financial, or statistical information*’ that is held to higher quality standards.” (emphasis in original)); *see also NOAA Information Quality Act Guidelines* at Part II (“Quality will be ensured and established at levels appropriate to the nature and timeliness of the information to be disseminated.”).

⁷ *Id.* “Highly influential scientific assessment” means:

Influential scientific information that the agency or the Administrator of the Office of Information and Regulatory Affairs in the Office of Management and Budget determines to be a scientific assessment that: (i) could have a potential impact of more than \$ 500 million in any year, or (ii) is novel, controversial, or precedent-setting or has significant interagency interest.

These thresholds are readily met here given that the exponentially inflated take estimates in NMFS’s model could result in fewer permits for seismic surveys and therefore ultimately reduce energy exploration activities.

⁸ *NOAA Information Quality Act Guidelines* at Part I defining “Influential information” as “information the agency reasonably can determine will have or does have a clear and substantial impact on important public policies or private sector decisions.”

Finally, a parallel statute to the IQA, the Foundations for Evidence-Based Policymaking Act of 2018 (Public Law No. 115-435), focuses on data used for “making estimates,” including “methods” used in “models.” This 2018 law, according to OMB guidance, creates a “new paradigm by calling on agencies to significantly rethink how they currently plan and organize evidence-building . . . functions.”⁹

B. NMFS’s Model Suffers from a Basic Math Error and Other Flaws

As described in the Associations’ comments, NMFS’s statistical methodology for estimating takes fails to satisfy the “objectivity” and best-data-reasonably-available standards required by law. Although NMFS’s model is technical, the fundamental error is quite simple to identify and fix. NMFS should remove the extra margins added to independent variables derived from best scientific evidence available before they are multiplied.

NMFS acknowledges that at least some of the independent variables in the model are based not on the best scientific evidence but “on the worst-case modeling results.”¹⁰ Again, NMFS compounds this problem by taking such worst-case, conservative margins for various model inputs, and multiplying these inputs at each stage of the model, resulting in grossly inflated take estimates.

The Association’s comments go into extensive detail about this flaw with the modeling approach. In fact, the Associations submitted an expert report in response to the initial rule that described in detail the problems with this statistical methodology.¹¹

Among other things, the report explained this approach conflicts with a mainstay scientific principle of predictive modeling:

Conservatism due to uncertainty about the values entered into the model must properly be handled separately, after modeling to most likely outcome, as is widely demonstrated and well-known for a variety of similar risk models such as weather models, economic models, and medical diagnostic and treatment models.¹²

⁹ <https://www.whitehouse.gov/wp-content/uploads/2019/07/M-19-23.pdf>.

¹⁰ 88 Fed. Reg. at 920.

¹¹ See International Association of Geophysical Contractors’ (“IAGC”), the American Petroleum Institute’s (“API”), NOIA’s, and OOC’s (together “Associations”) Nov. 29, 2016 comments to BOEM Environmental Impact Statements regarding the Gulf of Mexico at Attachment A, R. Gisinier, Synopsis of Precautionary Assumptions (hereinafter “Gisinier Report”), at p. 1. (<https://www.regulations.gov/document?D=BOEM-2016-0068-1026>).

¹² See Associations’ Aug. 21, 2018 comments to proposed Incidental Take Regulations for the Gulf of Mexico at p. 42 (citing Slingo and Palmer, *Uncertainty in weather and climate prediction*, Phil. Trans. R. Soc. A(2011) 369: 4751-4767) (<https://www.regulations.gov/document?D=NOAA-NMFS-2018-0043-0015>).



Unfortunately, this math error persists with NMFS's updated modeling of takes set forth in the reproposed ITR rule, and the compounding effect leads to take estimates that are orders of magnitude higher than appropriate modeling would predict.¹³

In addition to the systemic modeling error described above, NMFS ignores real-world observations that directly contradict its model estimates. For example, NMFS notes in the current proposed ITR rule that takes of Rice's whales (*Balaenoptera ricei*) "were generally not implicated in LOA requests based on the location of planned surveys."¹⁴ But the reproposed ITR rule does not account for such data in its take estimates, instead maintaining artificially high modelled estimates of takes for Rice's whales that have no relationship to real-world experience. In addition, the final ITR rule requires industry to submit to NMFS an annual report based on data collected from letters of authorization issued pursuant to the rule, and the results from the 2022 study compiled by the U.S. Gulf of Mexico Proactive Regulatory and Observational Program ("GOM-PROP") showed that actual takes are far less prevalent than estimated by NMFS's modeling.¹⁵ That evidence is not accounted for in the reproposed ITR rule. The agency cannot choose assumptions that contradict actual scientific evidence, experience, and data.¹⁶

* * *

In sum, Chevron urges NMFS to correct fundamental errors in its take modelling identified in this letter. G&G data is imperative for safe, effective, and environmentally responsible resource development, and accurate modeling for the ITR rule is needed to ensure these operations are safe and conducted in the most effective manner possible.

Sincerely,



Luis Rodriguez
General Manager, Health Safety and Environment

¹³ See Nov. 29, 2016 comments at Attachment A, Gisinier Report.

¹⁴ 88 Fed. Reg. at 924.

¹⁵ <https://www.reginfo.gov/public/do/viewEO12866Meeting?viewRule=true&rin=0648-BL68&meetingId=160773&acronym=0648-DOC/NOAA>

¹⁶ See, e.g., *San-Luis & Delta-Mendota Water Auth. V. Jewell*, 747 F.3d 581, 602 (9th Cir. 2014) (explaining that agency cannot reject available data on the grounds that it is not the "best scientific data possible"); *Blue Ocean Institute v. Gutierrez*, 585 F. Supp. 2d 36, 46-47 (D.D.C. 2008) (cautioning NMFS that it cannot disregard superior data); *Defenders of Wildlife v. FWS*, No. 16-VC-01993-LHK, 2016 WL 4382604, at *19 (N.D. Cal. Aug. 17, 2016) (agency "cannot ignore available biological information"). Cf. *Dow AgroSciences LLC v. NMFS*, 707 F.3d 462, 473 (4th Cir. 2013) (rejecting NMFS's reliance on outdated data with no explanation).

Attachments



Sandi M. Fury
Manager, Regulatory Affairs, Gulf of Mexico Business Unit

August 21, 2018

Via Electronic Submission (www.regulations.gov)

Ms. Jolie Harrison
Chief, Permits and Conservation Division
Office of Protected Resources
National Marine Fisheries Service
1315 East-West Highway
Silver Spring, MD 20910

Re: Comments on the Proposed Marine Mammal Incidental Take Regulations for Geophysical Surveys in the Gulf of Mexico (NMFS-2018-0043)

Dear Ms. Harrison:

Chevron U.S.A. Inc. ("Chevron") appreciates the opportunity to submit comments on the National Marine Fisheries Service's ("NMFS's") request for comments on its proposed marine mammal incidental take regulations for geophysical surveys in the Gulf of Mexico (GOM) (the "Proposed ITRs"). See 83 Fed. Reg. 29,212 (June 22, 2018). Chevron provided comments on the connected action of Bureau of Ocean Energy Management's ("BOEM's") Application to NMFS for marine mammal Incidental Take Regulations ("ITRs") governing geophysical surveys on the Gulf of Mexico ("GOM") Outer Continental Shelf ("OCS") and those comments are incorporated by reference.¹

The agency actions at issue in NMFS's proposed ITRs would significantly affect Chevron's interests. Chevron is one of the largest producers of crude oil and natural gas in the GOM, and one of the top leaseholders in deep-water areas. Chevron and its affiliated companies hold interests in hundreds of leases in the GOM, most of which are in water depths greater than 1,000 feet. Chevron and its legacy companies have invested billions of dollars over decades in the GOM acquiring leases, obtaining necessary permits/approvals, exploring, developing, and producing oil and natural gas on its leasehold.

Chevron fully supports NMFS's promulgation of ITRs. Geophysical activities detailed in BOEM's Application and the Proposed ITRs are vital to continued exploration and development of oil and natural gas resources in the GOM, as expressly supported by the will of Congress in statutes such as the Outer Continental Shelf Lands Act ("OCSLA"). The geophysical data enables environmentally responsible and efficient exploration, drilling, and production of subsea

¹ Chevron, Comments on the Revised Application of Marine Mammal Incidental Take Regulations Governing Geophysical Surveys in the Gulf of Mexico (Jan. 23, 2017).

hydrocarbon reservoirs and is the primary means available for locating those hydrocarbons in an economically feasible manner.

Chevron is a member company of the American Petroleum Institute (“API”), the National Ocean Industries Association (“NOIA”), and the Offshore Operators Committee (“OOC”). Accordingly, in addition to these comments, Chevron supports and has participated in the development of comments being submitted jointly by API, NOIA, OOC and the International Association of Geophysical Contractors (collectively, the “Associations”), and incorporates those comments by reference herein. In addition, Chevron incorporates by reference the Associations’ earlier comments on BOEM’s Application. See IAGC, API, NOIA, and OOC Comments on Revised Application for Marine Mammal Incidental Take Regulations for Geophysical Surveys in the Gulf of Mexico (Jan. 23, 2017).

I. Chevron Supports NMFS’s Conclusion That It Can Issue ITRs for Geophysical Surveys

The Marine Mammal Protection Act (“MMPA”) requires NMFS, upon request, to allow incidental taking on a finding of negligible impact on relevant species or stock. 16 U.S.C. § 1371(a)(5). Chevron agrees with NMFS’s conclusion that geophysical surveys will have a negligible impact, particularly given that the best available data demonstrates no known detrimental impact to marine mammal populations from such surveys.² As outlined below and in the Associations’ comments, however, the Proposed ITRs contain substantial flaws that should be corrected before NMFS issues the final ITRs.

II. The Proposed ITRs Are Inconsistent with the National Policy of “Expeditious and Orderly Development” of the OCS

In acting upon BOEM’s Application for ITRs, NMFS must be mindful of the mandates under OCSLA to assess and then balance the costs and benefits of alternative restrictions on geophysical activities against a requirement for “expeditious and orderly development” of GOM resources. Certain provisions of OCSLA were enacted after the MMPA and require that the OCS, which Congress deemed to be “a vital national resource,” be “made available for expeditious and orderly development, subject to environmental safeguards...” 43 U.S.C. § 1332(3) (emphasis added).

Congress imposed this balancing requirement because at the time OCSLA was amended in 1978 – six years after enactment of MMPA – the country faced an energy crisis that threatened not only the nation’s economy, but its national security. On the heels of this crisis, which triggered a global recession, Congress amended OCSLA to accelerate domestic oil and gas production, particularly in the Gulf of Mexico. Previously, OCSLA contained “a variety of technological, economic, environmental, administrative, and legal problems which tend[ed] to retard the development of the oil and natural gas reserves.” *Id.* § 1801(8) (“Congressional findings”). Congress replaced those impediments with “policies and procedures . . . intended to result in expedited exploration

² BOEM, Science Notes, <http://www.boem.gov/BOEM-Science-Note-August-2017/> (Aug. 22, 2014).

and development of the Outer Continental Shelf.” *Id.* § 1802(1) (emphasis added). Those provisions remain in place today.

Chevron responded to Congress’ initiative by continuing to invest billions of dollars in GOM assets. NMFS’s decision to use methods and data that, as shown below, NMFS admits to being overstated (and which BOEM admitted to being “unrealistic”), could undermine these national policies by leading to measures that threaten the availability of geophysical information needed for basically any meaningful exploration and development.

III. NMFS Has Failed to Reject the Use of Methods and Data That Produce Admittedly Unrealistic Estimates of Exposure

The Proposed ITRs improperly use an admittedly “unrealistic” methodology used by BOEM in its Application to estimate “takes” of marine mammals under the MMPA and the Endangered Species Act (“ESA”). BOEM readily, and repeatedly, admitted in its Draft Programmatic Environmental Impact Statement (“DPEIS”) and Application that this methodology produced “unrealistically high” take numbers that were unrelated to real-world conditions, and which failed to account for mitigation measures currently employed in the GOM. See 81 Fed. Reg. 67,380 (Sept. 30, 2016), and <https://www.boem.gov/GOM-G-G-PEIS/>. Use of such a methodology would be arbitrary, capricious and contrary to law.

According to NMFS in the Proposed ITRs:³

- “Mitigation procedures, such as shutting down an airgun array when animals are detected within an established exclusion zone, can reduce the injury exposure estimates. ... [Yet,] the effects of mitigation were not included in the exposure estimates.” 83 Fed. Reg. at 29,254.
- Scaling up estimates “greatly overestimates the number of individual marine mammals exposed to levels exceeding threshold when determined over the entire simulation.” *Id.* at 29,256.
- “Quantification of mitigation effectiveness was not incorporated” in order to provide a “very conservative estimate of mitigation effectiveness.” *Id.* at 29,258.
- “We acknowledge that [aversion] would lead to a reduction in likely injurious exposure to some degree. However, ... there is too little information regarding the likely level of onset and degree of aversion to justify its use in the modeling.” *Id.* at 29,260.
- Our “method of correction still overestimates the numbers of individuals affected across the year.” *Id.* at 29,261.

Ultimately, NMFS acknowledges that “it is likely that [the modeling] leads to substantial overestimates of the numbers of individuals potentially disturbed.” *Id.* at 29,291.

Chevron agrees with NMFS’s acknowledgement that exposure and take are not synonymous. See, e.g., 83 Fed. Reg. at 29,291. NMFS must therefore reject use of any model that equates

³ See also Chevron’s Comments on the BOEM Application for BOEM’s admissions on this issue.

exposures with takes in the final ITRs, particularly when the exposure estimates are unrealistic and unsupported by the best available scientific data.

A. NMFS inappropriately ignores real-world evidence that contradicts its methods and resulting data

In addition to using admittedly erroneous models and their output data, NMFS ignores existing real-world observations and scientific studies that directly contradict its unrealistic model estimates. NMFS's failure to account for real-world observations is arbitrary and capricious. For example, and as set forth in more detail in the Associations' current comments and their earlier comments on the BOEM Application incorporated herein, NMFS failed to evaluate accumulated observational impact data collected by Protected Species Observers on survey vessels in the GOM since 2002 as part of the effects analysis. This vitally relevant, but ignored, data show negligible effects on species from seismic activities. Indeed, the comments showed NMFS's estimates are wrong not just by orders of magnitude but "10,000 to 100,000 times greater than 'best available data,'" which combined with other errors create exposure estimates that are "millions of times higher than the most likely outcomes" in several instances.

NMFS also ignores BOEM's earlier admissions that no scientific evidence exists contradicting the real-world observations of negligible impact:

To date, there has been no documented scientific evidence of noise from air guns used in geological and geophysical (G&G) seismic activities adversely affecting marine animal populations or coastal communities. This technology has been used for more than 30 years around the world. It is still used in U.S. waters off of the Gulf of Mexico with no known detrimental impact to marine animal populations or to commercial fishing.

<http://www.boem.gov/BOEM-Science-Note-August-2014/> (Science Note, August 22, 2014) (emphasis added); see also <https://www.boem.gov/BOEM-Science-Note-March-2015/> (Science Note, March 9, 2015) (there has been "no documented scientific evidence of noise from air guns used in geological and geophysical (G&G) seismic activities adversely affecting animal populations.>"). NMFS's and BOEM's failure to account for this evidence is also arbitrary and capricious.

The errors in methodology and admissions in BOEM's DPEIS and Application illustrate that the methodology and data presented in the Proposed ITRs do not represent the sort of rigorous science required in the implementation of the National Environmental Policy Act (NEPA) and MMPA. Even if NMFS had used a real-world "worst case scenario," rather than "unrealistic" data, in the Proposed ITRs, such use would be prohibited across the wide spectrum of federal environmental laws. Courts have made it clear that use of such a worst-case scenario has a high likelihood of resulting in unfair, unlawful and potentially unconstitutional limitations on private commercial activity, which is supported by OCSLA, federal oil and gas leases, congressional policy and the national interest. See, e.g., *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 354-56 (1989) (highly speculative harms in a worst-case estimate distort the decision-making process).

Instead, the MMPA requires NMFS to use the best available scientific information possible in its decision-making process. Yet throughout its analysis, NMFS repeatedly rejects and omits science that is available, in favor of speculation over what future science might potentially show. This not only contravenes the requirement of the MMPA, but it runs afoul of longstanding precedent that agencies cannot choose assumptions and speculation that contradict actual scientific data. See, e.g., *San-Luis & Delta-Mendota Water Auth. V. Jewell*, 747 F.3d 581, 602 (9th Cir. 2014) (explaining that agency cannot reject available data on the grounds that it is not the “best scientific data possible”); *Blue Ocean Institute v. Gutierrez*, 585 F. Supp. 2d 36, 46-47 (D.D.C. 2008) (cautioning NMFS that it cannot disregard superior data); *Defenders of Wildlife v. FWS*, No. 16-VC-01993-LHK, 2016 WL 4382604, at *19 (N.D. Cal. Aug. 17, 2016) (agency “cannot ignore available biological information”). Cf. *Dow AgroSciences LLC v. NMFS*, 707 F.3d 462, 473 (4th Cir. 2013) (rejecting NMFS’s reliance on outdated data with no explanation).

The current Associations’ comments reference scientific studies and years of real-world observations that support issuance of the ITRs requested by BOEM. Chevron urges NMFS to incorporate this information in its drafting of the final ITRs and to reject use of unrealistic model data.

B. Courts would not accept the level of flaws in the methods and resulting data that NMFS explicitly acknowledges

Based on its own candid admissions, NMFS’s reliance on BOEM’s methods and resulting data must be rejected as a matter of law. NMFS defends its reliance on flawed modeling and assumptions, stating that it is “appropriate to incorporate conservatism to a reasonable extent,” yet it fails to explain why it is reasonable to adjust for uncertainty only in an upward (*i.e.*, exceedingly conservative) direction. NMFS acknowledges that aversion and mitigation “would lead to a reduction in likely injurious exposure to some degree.” 83 Fed. Reg. at 29,260. Yet, rather than apply a rational downward adjustment to reflect the impact of these beneficial factors, NMFS omits them entirely. *Id.*

The NEPA regulations require NMFS to rely on “high quality” information and “accurate scientific analysis.” 40 C.F.R. § 1500.1(b) (“Accurate scientific analysis [is] essential to implementing NEPA.”); see also *id.* § 1502.22 (evaluation must be based upon “credible scientific evidence”). The Council on Environmental Quality concluded long ago that the type of overly conservative methods NMFS and BOEM used in the Programmatic Environmental Impact Statement (PEIS) is “an unproductive and ineffective method of achieving [NEPA’s] goals; one which can breed endless hypothesis and speculation.” 51 Fed. Reg. 15,618 (Apr. 25, 1986). The Supreme Court has agreed. *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 354-56 (1989) (confirming that worst case analysis is no longer lawful). NMFS should therefore reconsider whether the Final PEIS, which clearly adopted “worst case” modeling, complies with NEPA and whether a supplemental EIS would be beneficial to inform the public and the decisionmaker of the realistic impacts of the proposed ITRs.

IV. Several of NMFS's Proposed Mitigation Measures Would Impose Substantial Hardship on Chevron Without Any Demonstrable Benefit to Marine Mammals Over Measures Already in Place

Chevron joins in the Associations' detailed comments regarding the proposed mitigation measures and highlights two proposed measures of particular concern for Chevron.

A. Non-airgun high-resolution geophysical surveys should not be subjected to pre-clearance and shutdown requirements

Chevron has serious concerns about the mitigation measures proposed for non-airgun high-resolution geophysical (HRG) surveys. First, as the Associations explains, there is no evidence that non-airgun, high-resolution geophysical (HRG) surveys warrant pre-clearance requirements at 400 meters or shutdown at 200 meters. Second, the proposed ITRs could be interpreted to apply these requirements to autonomous underwater vehicles (AUV) without any consideration of whether the mitigation requirements are feasible or even relevant for use with non-airgun HRG surveys conducted by AUVs. Finally, the proposed non-airgun HRG measures present serious safety and cost concerns that have not been fully vetted. Chevron urges NMFS to reevaluate the viability of this proposed mitigation in light of the concerns identified by the Associations and to exempt HRG surveys from pre-clearance and shutdown requirements.

B. The Area 3 restrictions are not supported by the best available science and would impose significant operational limits and costs

Chevron joins the Associations in strongly opposing any seasonal restriction in Area 3 because such a restriction is neither based on the best science nor supported by an adequate practicality assessment.

NMFS states that it intends a seasonal (or even year-round) restriction to "be helpful" at reducing the severity of behavioral responses of Bryde's whales at various distances, but NMFS does not present any evidence in support of the idea that severity scales with distance. NMFS may not impose significant new mitigation measures where there is simply no data indicating that the measures are needed to avoid an adverse effect.

More concerningly, NMFS appears to premise its imposition of this mitigation on the unfounded hypothesis that Bryde's whales may have once used more of the GOM but have abandoned areas due to energy exploration and production activities. 83 Fed. Reg. at 29,280. This speculation does not constitute the best available science. As noted by the Associations, neither whaling records nor historical or recent stock assessment data suggest any such change in the Bryde's whale's range, nor are there other areas of the world where there is evidence that oil and gas activities have caused whales to abandon habitat.

Finally, the Proposed ITRs' Area 3 practicability analysis is inadequate because it assumes a temporary moratorium would reduce interest in survey work within the moratorium area. To the contrary, a temporary moratorium on leasing does not limit the need for survey work and

exploration planning. The Proposed ITRs' delay of such surveys would have direct impacts on the industry's ability to prepare for leasing that is expected to occur once the moratorium is lifted. In sum, the final ITRs should not impose any closures for Area 3. However, if restrictions are imposed, seasonal closures will have significant impacts but are preferable to a year-round closure.

V. NMFS's Analysis Improperly Ignores the Benefits of Geophysical Data to Safety and the Environment

The Proposed ITRs also improperly ignore the environmental and safety benefits of modern geophysical technology, which has led to dramatic improvements in the placement of wells and reduction in the numbers of wells that need to be drilled. A reduction in the availability of geophysical data threatened by many of the mitigation measures discussed in the Proposed ITRs could increase – not decrease – potential environmental and safety risks. Indeed, Chevron has reduced the number of wells that need to be drilled on exploration and development projects in the GOM as a direct result of improved geophysical data.

Improvements in 3D and newer 4D seismic technology, for example, allow Chevron geoscientists to visualize the sub-surface without drilling and to optimize exploration well locations and evaluate lease blocks with minimal drilling activity. For development drilling, modern geophysical imaging enables geoscientists to identify potentially hazardous and over-pressurized zones in subsurface reservoirs. As a result, Chevron can better position wells to avoid hazards, and design the wells for improved safety and increased productivity. G&G data allows Chevron to reduce substantially the number of wells drilled, install facilities with smaller footprints, identify risks, mitigate potential consequences and decrease the overall impact on the environment. NMFS must acknowledge and evaluate such crucial benefits from the availability of geophysical data before analyzing alternatives that would reduce its obtainability either directly or by increasing its cost. A failure to do so would also be arbitrary and capricious.

VI. Negligible Impact on Marine Mammals

Chevron agrees with the Associations that NMFS reached the correct substantive conclusion that the proposed ITRs will have negligible impact on marine mammals in the GOM. Like the Associations, Chevron supports NMFS's effort to make the negligible impact analysis more objective and transparent. In addition to the suggestions made by the Associations to further this goal, Chevron adds the following recommendations.

NMFS should make the final version of the Expert Working Group (EWG) Report available to the public for review. In that version, Chevron suggests expanding the description of the inputs of the analysis. The "vulnerability" assessment, in particular, would benefit from additional discussion to explain how professional judgments led to specific rankings for each species.

Further, because NMFS's approach on negligible impact is likely to set a standard for future determinations under the MMPA, this analysis will be important not just for the proposed ITRs,

but for future implementation of the statute. As such, to better inform the public, regulated industry, and the courts of NMFS's interpretation of this critical statutory provision, Chevron suggests NMFS provide an additional plain language discussion of the risk analysis process if it issues the final ITRs. This discussion should include a background on the development of the risk analysis framework, including any relevant analogues in other ecosystems or regulatory contexts, the ways in which species may be considered "vulnerable," and the meaning of the "risk" discussed (*i.e.*, risk of exposure to a given level of acoustic impact or risk of biologically relevant impact at an individual- or population-level).

VII. Small Numbers

Chevron agrees with NMFS determination that the "small numbers" evaluation should occur at the individual LOA level. As the Associations' comments articulate, this approach is consistent with the best reading of the statute.

Like the Associations, Chevron encourages NMFS to provide a more extensive explanation of its rationale for selecting the one-third threshold. NMFS's explanation in the Proposed ITRs could be read to mean that NMFS intends to use the one-third standard as a guideline for assessing the eventual LOAs, but given that a numeric threshold at the ITR level is neither necessary nor required by the MMPA, the final ITRs would benefit from more detail on the basis for selecting the threshold and its intended use.

VIII. NMFS Should Clarify How It Intends to Evaluate and Process LOA Applications

Chevron joins the Associations in suggesting that NMFS carefully evaluate how it will implement the ITRs.

First, the Proposed ITRs do not address how NMFS intends to timely process the numerous LOA applications it will receive under the ITRs. There will likely be short periods of time during the five-year ITR period (*e.g.*, immediately upon promulgation of the ITRs) in which NMFS receives a high volume of LOA applications that cannot be processed in a timely manner, thus delaying critical and time-sensitive activities. Chevron encourages NMFS to retain flexibility in the final ITRs for the development of efficient and effective LOA processes through workshops or other engagement with the regulated community.

Although we appreciate that predicting the nature and quantity of offshore activities in the GOM is difficult and subject to many uncertain factors, the final ITRs should acknowledge the possibility that NMFS has underestimated activity levels and should appropriately account for such underestimation. We therefore strongly disagree with NMFS's suggestion that the amount of incidental takes listed in the ITRs serves as a "cap on the number of authorizations that could be issued." 83 Fed. Reg. at 29,301. Whether NMFS may continue to authorize incidental take under an ITR is not determined by the amount of take projected in the ITR, or by the amount of activity projected in the ITR, but rather upon NMFS's determination as to whether the actual "total of such taking" allowed under the ITR has a negligible impact. 16 U.S.C. § 1371(a)(5)(A)(i)(I). NMFS

should not and cannot restrain its own discretion by placing a “cap” on incidental take, particularly when doing so is contrary to Section 101(a)(5)(A) of the MMPA.

IX. Other Considerations for Development of ITRs

In addition to the considerations outlined above, Chevron also urges NMFS to apply scrupulously the analyses required under applicable Executive Orders in developing its ITRs for geophysical surveys in the GOM. These analyses are critical for satisfying both Congressional policy and Presidential mandates regarding any potential limitations on federal lease exploration, development and production activities.

A. Executive Order 12866

E.O. 12866 requires NMFS to “provide a qualitative and quantitative assessment of the anticipated costs and benefits of a Federal mandate resulting in annual expenditures of \$100 million or more, including the costs and benefits to State, local, and tribal governments or the private sector.” The Proposed ITRs state that it is “economically significant” within the meaning of E.O. 12866. 83 Fed. Reg. at 29,303. NMFS should ensure in the final ITRs that all costs are evaluated, including the cost of reduced environmental benefits from effective geophysical surveys.

B. Executive Order 13211

In addition, E.O. 13211 requires a Statement of Energy Effects for matters identified as “significant energy actions.” A significant energy action is defined in the Executive Order as one that “is likely to have a significant adverse effect on the supply, distribution or use of energy.” OMB Guidance states that “a significant adverse effect” on energy supply could include: “Reductions in crude oil supply in excess of 10,000 barrels per day;” “Reductions in natural gas production in excess of 25 million mcf per year;” and “Increases in the cost of energy production in excess of one percent;” among other things. If the NMFS rule were to have an adverse impact on GOM exploration and development activities, it would surely be a “significant energy action” within the meaning of this Order. If a Statement of Energy Effects were required, NMFS would need to provide a “detailed statement” relating to 1) “any adverse effects on energy supply,” including “increased use of foreign supplies,” and 2) “reasonable alternatives to the action” and “the expected effects of such alternatives on energy supply.” NMFS has opined that it would be “speculative to draw definitive conclusions regarding the economic impacts of proposed seasonal restrictions and area closures,” and thus NMFS concludes that the “Proposed Rule is not expected to constitute a significant adverse effect on energy supply.” The inconsistency between these two conclusions should be resolved in the final regulatory impact analysis for the ITRs.

C. Executive Order 13795

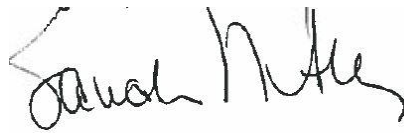
E.O. 13795 directs agencies to take a range of actions to “[i]mplement an America-First Offshore Energy Strategy.” Section 9 instructs the Secretaries of the Interior and Commerce to “expedite” all stages of consideration of Incidental Take Authorization request. Section 10 instructs the

Secretary of Commerce to reevaluate Technical Memorandum NMFS-OPR-55 (Technical Guidance for Assessing the Effects of Anthropogenic Sound on Marine Mammal Hearing) to ensure it is consistent with the policy of encouraging offshore energy development articulated in Section 2 of the Executive Order. The Technical Memorandum is one of the pieces used in BOEM's modeling. The assumptions in the Technical Memorandum are multiplied with those in other elements of the modeling to reach "unrealistic" conclusions, as discussed above. Consequently, the result of the overall modeling is not consistent with Section 2 of the Executive Order because it vastly overestimates the impacts, creating the potential for an outcome that threatens Industry's ability to operate.

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Chevron urges NMFS to acknowledge and correct the errors in methodology identified above and in the Associations' comments and to recognize geophysical activities as imperative for safe, effective, and environmentally responsible resource development consistent with OCSLA. Chevron looks forward to assisting NMFS in its further development of the ITRs within the timeframe agreed upon in court. Please contact me with any questions regarding these comments.

Sincerely,

A handwritten signature in black ink, appearing to read "Sandi M. Fury". The signature is fluid and cursive, with the first name "Sandi" being more prominent than the last name "Fury".

Sandi M. Fury

cc: Dr. Jill Lewandowski, BOEM, Chief, Division of Environmental Assessment



Mark Hatfield
Vice President, Gulf of Mexico Business Unit

Via Mail and OIRA_submission@omb.eop.gov

January 13, 2020

Paul J. Ray
Acting Administrator
Office of Information and Regulatory Affairs
Office of Management and Budget
725 17th Street, NW
Washington, DC 20503

Re: Marine Mammal Incidental Take Regulations for Geophysical Surveys in the Gulf of Mexico (RIN: 0648-BB38)

Dear Administrator Ray:

Chevron U.S.A. Inc. (“Chevron”) submits this letter in connection with the Office of Information and Regulatory Affairs’ (“OIRA’s”) evaluation of Marine Mammal Incidental Take Regulations for Geophysical Surveys in the Gulf of Mexico (“ITRs”) (RIN: 0648-BB38). The ITRs have been proposed by the National Marine Fisheries Service (“NMFS”) in response to a petition from the Bureau of Ocean Energy Management (“BOEM”) for incidental “take” authorization under the Marine Mammal Protection Act (“MMPA”).

The agency actions at issue in NMFS’s proposed ITRs would significantly affect Chevron’s interests. Chevron is one of the largest producers of crude oil and natural gas in the Gulf of Mexico, and one of the top leaseholders in deepwater areas of the Gulf of Mexico Outer Continental Shelf (“OCS”). Chevron and its affiliated companies hold interests in hundreds of leases in the Gulf of Mexico, most of which are in water depths greater than 1,000 feet. Chevron has invested tens of billions of dollars acquiring leases, obtaining necessary permits and approvals, exploring, developing, and producing oil and natural gas on its leaseholds in the Gulf of Mexico.

Geophysical activities detailed in BOEM’s Application and the Proposed ITRs are vital to continued exploration and development of oil and natural gas resources in the Gulf of Mexico, as expressly supported by the will of Congress in statutes such as the Outer Continental Shelf Lands Act (“OCSLA”). BOEM, whose mission is to manage the development of OCS energy and mineral resources in an environmentally and economically responsible way, notes that “G&G surveys are conducted to: (1) obtain data for oil and gas (O&G) exploration and production, (2) aid in siting offshore (*i.e.*, O&G, renewable energy) structures, and (3) locate marine mineral resources. Such data are also used to ensure the proper use and conservation of Outer Continental Shelf (OCS) energy resources and the receipt of fair market value for the leasing of public lands.”¹

¹ <https://www.boem.gov/sites/default/files/about-boem/BOEM-Regions/Atlantic-Region/GandG-Overview.pdf>.

G&G data is necessary to support prudent, safe, and efficient exploration, drilling, and production of subsea hydrocarbon reservoirs. For these reasons, the Administration's goal of promoting energy independence and maintaining global leadership in energy development cannot be achieved without access to information secured timely via G&G surveys.²

Chevron fully supports NMFS's promulgation of appropriate ITRs. Unfortunately, NMFS' ITRs, as proposed, are premised on a modeling approach that is built on overly conservative assumptions and parameters that are not aligned with "best science", and contains a fundamental math error that results in overestimating by multiple *orders of magnitude*, the number of potential "take[s]" of marine mammals under the MMPA.³ In addition, NMFS excluded from its model the effects of mitigation measures required by BOEM permits that have been recognized as effective in minimizing potential impacts on marine mammals, further compounding the unreasonably high take estimates computed by the model. Notably, in 2014, BOEM concluded that, after more than 30 years of studying the science and data, "there has been no documented scientific evidence of noise from air guns used in [G&G] seismic activities adversely affecting marine animal populations or coastal communities."⁴ NMFS, however, developed a new statistical model that, according to BOEM, results in "exponential" and "unrealistic" numbers of takes.⁵ Chevron supports protection of marine mammals from harassment and injury and agrees, consistent with the statutory mandate of the MMPA, that the "best scientific evidence available" must be used to achieve appropriate protections. The NMFS' model proposed in the draft ITRs however is not only scientifically unsound but, if maintained in the final rule, will jeopardize the Administration's objectives of energy dominance and security attributed to a robust US energy policy.

In conclusion, Chevron fully supports the development of a workable regulatory framework that protects marine mammals, while still providing long-term regulatory predictability to the Gulf of Mexico oil and gas industry. Therefore, we offer the following recommendations:

1. Before the Final Rule is published, OIRA should confirm that the NMFS Model uses "the best scientific evidence available" as required by the Marine Mammal Protection Act (MMPA) and National Environmental Policy Act (NEPA):
 - Chevron urges OIRA to ensure that NMFS corrects the computational errors in the model
 - Chevron urges OIRA to validate the appropriateness of individual input parameters in alignment with "best scientific evidence" requirements.
 - NMFS should be required to appropriately account for the effects of mandated mitigation measures that are recognized as protective of marine mammals.
2. OIRA should validate that the Final Rule can be effectively implemented by NMFS to meet the stated objectives of protecting marine mammals, while enabling activity necessary to meet the Administration's Offshore Energy Strategy.
 - We recommend that OIRA ensure that NMFS has established a reasonable process for

² See E.O. 13783, 82 Fed. Reg. 16,093 (March 31, 2017); E.O. 13795, 82 Fed. Reg. 20,815 (May 3, 2017).

³ 16 U.S.C. § 1371.

⁴ <https://www.boem.gov/sites/default/files/boem-newsroom/Library/Science-Note/BOEM-Science-Note-August-2014.pdf>.

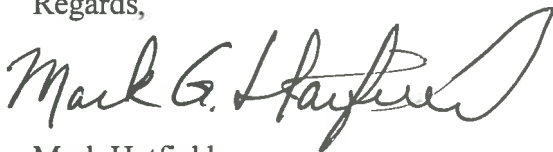
⁵ 81 Fed. Reg. 67,380 (Sept. 30, 2016), <https://www.boem.gov/GOM-G-G-PEIS/>, at 4-47.

timely turnaround of the numerous applications for Letters of Authorization (“LOAs”) that NMFS will receive for G&G surveys under the ITRs prior to finalization of the Rule.

3. OIRA should consider the following as part of the economic impact analysis validation for the Final Rule:
 - NMFS’ erroneous model places artificial estimated take “caps” on G&G surveys. The adverse economic impact of these artificial caps has not been properly analyzed.
 - Because the proposed ITRs did not address how NMFS intends to process the numerous applications for LOAs it will receive under the ITRs, the adverse economic impact associated with delaying critical and time-sensitive activities as a result of operators’ inability to obtain timely LOAs from NMFS has not been addressed.
4. OIRA should thoroughly evaluate the Final Rule to ensure compliance with applicable Executive Orders (EO 13211, 13783, 13785) to avoid unintended adverse impacts to federal lease exploration, development and production activities that are critical to US energy independence.

We look forward to continuing to work with NMFS and BOEM to achieve the goal of marine mammal protection in accordance with sound science and regulatory predictability. Chevron also looks forward to meeting with OIRA to discuss and respond to any questions about the concerns raised in this letter.

Regards,



Mark Hatfield
Vice President
Gulf of Mexico Business Unit

Attachment



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ATTACHMENT A: DETAILED COMMENTS ON THE PROPOSED GULF OF MEXICO ITRs FOR OIRA'S CONSIDERATION

A. NMFS's Proposed Rule Includes a Fundamental Math Error in Its Model That Produces "Unrealistic" Estimates of Takes

Multiplicative Effect of Conservative Assumptions

In its proposed rule, NMFS' model, rather than use a best available scientific estimate of the number of "takes" and then add a conservative margin to the estimated take numbers, erroneously applies conservative margins to individual inputs in the model and *then multiplies them*. The effect of this error is not cumulative but *exponential*—the conservative elements are multiplied together, leading to many orders of magnitude more takes than a best estimate would ever predict.

Many commenters have explained this basic error to NMFS, both before and in response to the proposed rule. For example, commenters noted that "when conservative assumptions are used across multiple variables within the model those conservative assumptions do not average out or add up, but interact multiplicatively, resulting in a substantial overestimate of exposures and associated incidental takes."⁶ This multiplication effect leads to, at least, millions of higher take estimates.⁷ Commenters described how NMFS ignored an elementary scientific principle of predictive modelling: "[c]onservatism due to uncertainty about the values entered into the model must properly be handled separately, after modeling to most likely outcome, as is widely demonstrated and well-known for a variety of similar risk models such as weather models, economic models, and medical diagnostic and treatment models."⁸

There are many such independent conservative assumptions that NMFS embedded into its model. These assumptions exceed the level of conservancy characteristic of a "worst case scenario" and are unrealistic. These input variables include, but are not limited to, the following:

- NMFS used a large air gun array that increases the area exposed to sound by roughly 45-50% over a median-size array for each G&G survey;⁹
- In estimating the propagation of sound from G&G activities, NMFS assumed unrealistic conditions such that "[t]he modeling of sources of variance yielded a 10 decibel difference in sound transmission between an average sound speed profile in the water and the extreme

⁶ See International Association of Geophysical Contractors' (IAGC), the American Petroleum Institute's (API), the National Ocean Industries Association's (NOIA), and the Offshore Operators Committee's (OOC) (together "Associations") Aug. 21, 2018 comments at p. 42 <https://www.regulations.gov/docketBrowser?rpp=25&so=DESC&sb=commentDueDate&po=0&dct=PS&D=NOAA-NMFS-2018-0043>; see also Chevron's Aug. 21, 2018 comments at pp. 2, 4.

⁷ See Associations' Nov. 29, 2016 comments at Attachment A, R. Gisiner, Synopsis of Precautionary Assumptions ("Gisiner Report").

⁸ See Associations' Aug. 21, 2018 comments at p. 42 (citing Slingo and Palmer. 2011); see, also, *Uncertainty in weather and climate prediction*, Phil. Trans. R. Soc. A(2011) 369: 4751-4767).

⁹ Gisiner Report at pp. 3-8.

case used in the model (10 decibels is an order of magnitude or ten times the average),”¹⁰ and

- NMFS used “about double the official NMFS abundance numbers in the [Stock Assessment Reports] SARS.”¹¹ (NMFS is required by statute to create SARs “in consultation with the appropriate regional scientific group” for each marine mammal stock “based on the best scientific evidence available.”¹²)

Failure to Consider Required Mitigations in Model

In addition, all permits issued by BOEM for G&G activities require use of numerous mitigation measures to minimize potential impacts on marine mammals, including use of lower-sound emissions during a lengthy ramp-up period to cause marine mammals to disperse; use of independent observers on G&G vessels who prevent start-up or require immediate shut-down of activities if a marine mammal is detected; use of passive acoustic monitoring at times of reduced visibility to prevent start-up or require shut-down if a marine mammal is detected; and geographic and seasonal restrictions on G&G activities when marine mammal abundance is higher.¹³ Yet, NMFS concluded that accounting for the effects of mitigation measures in its model would be too difficult.¹⁴ Failure to account for the effects of mitigation measures is inappropriate and contributes to the unrealistically conservative assumptions included in the model, and consequential unreasonably high take estimates predicted by the flawed model.

In summary, the math error caused by using conservative assumptions at each iterative stage of the model produces wildly inflated take numbers that are completely untethered from realistic estimates. Consequently, because under NMFS’ proposed rule “[t]he annual estimated take, per zone per species, would serve as a cap on the number of authorizations that could be issued,”¹⁵ such exponential take estimates unreasonably constrain exploration and development in the Gulf.

B. Disagreements Between BOEM and NMFS Should Be Resolved in Favor of Realistic Take Estimates

As noted, NMFS’ model contradicts over 30 years of observations and experience in the Gulf previously reported by BOEM:

To date, there has been no documented scientific evidence of noise from air guns used in geological and geophysical (G&G) seismic activities adversely affecting marine animal populations or coastal communities. This technology has been used for more than 30 years around the world. It is still used in U.S. waters off of the Gulf of Mexico with no known

¹⁰ *Id.*

¹¹ *Id.*

¹² 16 U.S.C. § 1386(a).

¹³ 83 Fed. Reg. at 63,345-51 (Dec. 7, 2018).

¹⁴ 83 Fed. Reg. at 29,258, 29,260 (June 22, 2018).

¹⁵ 83 Fed. Reg. at 29,301 (June 22, 2018).

detrimental impact to marine animal populations or to commercial fishing.¹⁶

Even before NMFS published its proposed ITRs, BOEM informed NMFS that its model creates “unrealistically high,” “exponentially increase[d]” take numbers, while also failing to account for mitigation measures being employed in the Gulf:

- “The existing modeling largely does not account for uncertainty in the data inputs and also selects highly conservative data inputs. *This bias often produces unrealistically high exposure numbers and ‘takes’ that exponentially increase uncertainty throughout each step of the modeling.* The modeling does not incorporate mitigation or risk reduction measures designed to limit exposure. *The modeling is an overestimate and should be viewed with that understanding.*”¹⁷
- “Using the model estimates most often requires accepting a worst-case scenario, which ultimately *overestimates the numbers* of ‘take’ under the MMPA by equating those numbers with the exposures identified in the modeling *rather than real world conditions.*”¹⁸
- “Without a rigorous methodology to do this interpretation, BOEM and other agencies must move forward with an overly conservative scenario equating the number of exposures to the number of ‘takes’ under the MMPA and ESA. This often produces *unrealistically high exposure/take numbers.* In this instance, the exposure/take numbers were also modeled without the application of mitigation measures, *adding to the unrealistically high exposure/take numbers.*”¹⁹
- “It is important to note that BOEM and NMFS do not equate every exposure to sound results in ‘take’ as defined by the MMPA’s Section 101(A)(5)(A-D). Therefore, exposure estimates used in this Programmatic EIS are not necessarily the same as a ‘take’ or an injury to an animal under the MMPA or ESA.”²⁰

It is clear that using “unrealistic” methods and data leads to false conclusions.

NMFS itself concedes in the preamble to the proposed rule that its model “greatly overestimates” the number of takes and omits the impact of mitigation measures:

- Scaling up estimates “*greatly overestimates* the number of individual marine mammals

¹⁶ <https://www.boem.gov/BOEM-Science-Note-August-2014/> (Science Note, August 22, 2014) (emphasis added); *see also* <https://www.boem.gov/BOEM-Science-Note-March-2015/> (Science Note, March 9, 2015) (There has been “no documented scientific evidence of noise from air guns used in geological and geophysical (G&G) seismic activities adversely affecting animal populations.”).

¹⁷ Draft Programmatic Environmental Impact Statement, 81 Fed. Reg. 67,380 (Sept. 30, 2016), <https://www.boem.gov/GOM-G-G-PEIS/>, at 4-47 (emphasis added).

¹⁸ *Id.* at 1-20 (emphasis added).

¹⁹ *Id.* at 1-21 (emphasis added).

²⁰ *Id.* at 1-19.

exposed to levels exceeding threshold when determined over the entire simulation.”²¹

- “[I]t is likely that [the modeling] leads to *substantial overestimates of the numbers of individuals potentially disturbed*.”²²
- “Mitigation procedures, such as shutting down an air gun array when animals are detected within an established exclusion zone, can reduce the injury exposure estimates. ... [Yet,] the effects of mitigation were not included in the exposure estimates.”²³
- “Quantification of mitigation effectiveness was not incorporated” in order to provide a “very conservative estimate of mitigation effectiveness.”²⁴

Yet, as to the math error resulting in exponential modeled takes described above, NMFS casually rejected BOEM’s criticism that each “input” in the model was purposely designed to be conservative stating, “[a]lthough it may be correct that conservativeness accumulates throughout the analysis, BOEM has not adequately described the nature of conservativeness associated with model inputs or to what degree (either quantitatively or qualitatively) such conservativeness ‘accumulates.’”²⁵ But industry comments more than adequately described, both *quantitatively* and *qualitatively*—and in much detail—how NMFS’s formula improperly multiplies the conservative estimations included in each element of the model inputs.²⁶ NMFS should correct this error in the final rule, which has been repeatedly explained by BOEM and other interested stakeholders.

C. NMFS’s Flawed Modeling Approach Does Not Meet the MMPA “Best Scientific Evidence” Requirement and Is at Odds with Proper Agency Decision-Making

Even if NMFS were to use realistic “worst-case scenarios” of the numbers of takes, rather than the “unrealistic” estimates noted by BOEM, these scenarios would still be improper under federal environmental laws, including the MMPA and the National Environmental Policy Act (“NEPA”). The Supreme Court has warned that “worst-case” scenarios (let alone “unrealistic” scenarios) should not be used because they distort the decision-making process. *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 354-56 (1989) (speculative harms in a “worst case” estimate distort the decision-making process). The Council on Environmental Quality concluded long ago that a “worst case analysis” is “an unproductive and ineffective method of achieving [environmental] goals; one which can breed endless hypothesis and speculation.”²⁷

Again, the MMPA requires NMFS to use “the best scientific evidence available” in its estimates

²¹ 83 Fed. Reg. at 29,256 (June 22, 2018) (emphasis added). *See, also*, Chevron’s Aug. 21, 2018 comments at p. 3.

²² *Id.* at 29,291 (emphasis added).

²³ *Id.* at 29,254.

²⁴ *Id.* at 29,258.

²⁵ *Id.* at 29,259.

²⁶ *See, e.g., supra* notes 6 and 9.

²⁷ 51 Fed. Reg. at 15,620 (Apr. 25, 1986).

of marine mammal takes.²⁸ Similarly, NEPA regulations require use of “high quality” information and “accurate scientific analysis.”²⁹ Although we appreciate that predicting the nature and quantity of marine mammal takes is difficult and subject to uncertain factors, that cannot justify “unrealistic,” “exponentially” high take estimates under a statute requiring use of the “best” evidence.

NMFS’ model also violates recent Guidelines issued by OMB under the Information Quality Act, which requires federal agencies to use “the best data reasonably available.”³⁰ Indeed, the Guidelines describe a subset of agency information, including “‘*influential scientific . . . or statistical information*’ that is held to higher quality standards.”³¹ NMFS’ model will “have a clear and substantial impact on important public policies or important private sector decisions” under the Guidelines and should be held to these higher standards.³² A parallel statute, the Evidence-Based Policymaking Act of 2018,³³ which focuses on “analysis of data for the purpose of describing or making estimates,” including “development of methods” used in “models,” created a “new paradigm by calling on agencies to significantly rethink how they currently plan and organize evidence building . . . functions.”³⁴ This law speaks directly to the model NMFS used to support the proposed ITRs. NMFS must comply with this new legal obligation before finalizing its ITRs.

D. NMFS’s Analysis Improperly Ignored the Benefits of Geophysical Data to Safety and the Environment

The proposed rule also improperly ignored the environmental and safety benefits of modern geophysical technology which has substantially reduced impacts on marine mammals from offshore activities. Improved G&G data has led to dramatic improvements in the placement of wells and reductions in the numbers of dry wells. Chevron has substantially reduced the number of wells drilled on exploration and development projects in the Gulf as a direct result of this data.

Improvements in 3D and newer 4D seismic technology, for example, allow Chevron geoscientists to visualize the ocean’s sub-surface without drilling, and to optimize exploration well locations and evaluate lease blocks with minimal drilling activity. For development drilling, modern geophysical imaging enables geoscientists to identify potentially hazardous and over-pressurized zones in subsurface reservoirs. As a result, Chevron better positions wells to avoid hazards and designs wells for improved safety and increased productivity. G&G data therefore allows

²⁸ 16 U.S.C. § 1371(a)(3)(A); 50 C.F.R. § 216.102(a).

²⁹ 40 C.F.R. § 1500.1(b) (“Accurate scientific analysis [is] essential to implementing NEPA.”); *see also id.* § 1502.22 (evaluation must be based upon “credible scientific evidence”); *see* Chevron’s Aug. 21, 2018 comments at p. 5.

³⁰ OMB, Improving Implementation of the Information Quality Act, M-19-15 (April 24, 2019) at 1.

³¹ OMB, Improving Implementation of the Information Quality Act, M-19-15 (April 24, 2019) at 3 (emphasis in original).

³² *See id.*

³³ Pub. L. No. 115-435, 132 Stat. 5529.

³⁴ *See* OMB, Phase 1 Implementation of the Foundations for Evidence-Based Policymaking Act of 2018 (July 10, 2019).

Chevron to install facilities that leave smaller footprints, identify risks, mitigate potential consequences and decrease the overall impact on the environment and marine mammals.³⁵

E. NMFS's Analysis of the Economic Impact of the Rule is Deeply Flawed.

NMFS has designated the proposed ITRs as not economically significant. However, since NMFS' model places artificial caps on G&G surveys that are needed for oil & gas exploration and development, the adverse economic impact of the proposed ITRs is far greater than NMFS described. Indeed, a realistic analysis of the costs resulting from NMFS' flawed modeling approach would show the substantial harm that would result if the ITRs are finalized as proposed.

F. NMFS's Unrealistic Model Undermines the Administration's Offshore Energy Policy Promoting Energy Independence and Economic Growth

Chevron urges OIRA to require scrupulous application of the analyses required under applicable Executive Orders in finalizing the ITRs. These analyses are critical to satisfying both Congressional policy and Presidential mandates regarding unreasonable limitations on federal lease exploration, development and production activities.

1. Executive Order 13795

Executive Order 13795 directs agencies to take a range of actions to implement the Administration's Offshore Energy Strategy to "maintain global leadership in energy innovation, exploration and production." Section 9 instructs the Secretaries of the Interior and Commerce to "expedite" all stages of consideration of Incidental Take Authorization requests. Section 10 instructs the Secretary of Commerce to reevaluate certain elements of NMFS' takes estimate model. The fundamental errors in NMFS' model described above directly conflict with E.O. 13795.

2. Executive Order 13783

Environmental regulations must be "developed through transparent processes that employ the best available peer-reviewed science and economics."³⁶ To ensure sound regulatory decision-making, agencies must "use estimates of costs and benefits in their regulatory analysis that are based on the best available science and economics."³⁷

As discussed above, NMFS' proposed model does not incorporate best available science—indeed,

³⁵ See Chevron's Aug. 21, 2018 comments at p. 7.

³⁶ E.O. 13783 at Section 1. In addition, "Promoting Energy Independence and Economic Growth" is in the "national interest to promote clean and safe development of our Nation's vast energy resources, while at the same time avoiding regulatory burdens that unnecessarily encumber energy production, constrain economic growth, and prevent job creation." *Id.*

³⁷ E.O. 13783 at Section 5.

it is flawed. NMFS' modeling is premised on a fundamental error that exponentially increases conservative margins in each element in the model, resulting in an "unrealistic" overestimation that stands in direct conflict to the best available science standard.

G. In Addition to Correcting Its Model, NMFS Should Clarify How It Intends to Evaluate and Timely Process LOA Applications

1. Executive Order 13211

Executive Order 13211 acknowledges that the federal government can have a significant effect on the energy supply.³⁸ As such, a "Statement of Energy Effects" is required for "significant" energy actions to provide a detailed assessment of the effects of the regulatory action on the energy supply, distribution, or use.³⁹ Appendix C, Section 1 of *The Regulatory Impact Analysis for Proposed Regulation of Geological and Geophysical Activities in the Gulf of Mexico*⁴⁰ ("RIA") presents the Energy Impact analysis for the Proposed Rule. The overall conclusion is that the ITRs are not expected to create a significant adverse effect on energy supply, distribution or use, but this conclusion is based exclusively on the expected increase in the direct cost of G&G surveys and uncertainties about time and area closures. The RIA fails to consider the cumulative implications of disruptions to exploration and production if NMFS and BOEM fail to implement a process to efficiently process applications associated with the ITRs.

The proposed ITRs did not address how NMFS intends to timely process the numerous applications for Letter of Authorization ("LOA") it will receive under the ITRs. The Gulf of Mexico is an active, mature oil and gas basin that is critical to the nation's energy supply. There will likely be times during the five-year ITR period (*e.g.*, immediately upon promulgation of the ITRs) in which NMFS receives a high volume of LOA applications that cannot be processed in a timely manner, thus delaying critical and time-sensitive activities underpinning complex projects with intricate schedules.

Although we appreciate that predicting the nature and quantity of offshore activities in the Gulf of Mexico is difficult and subject to many uncertain factors, the final ITRs should acknowledge the possibility that NMFS has underestimated LOA application levels and should appropriately account for a mechanism to prevent a backlog in processing those applications. A predictable, robust procedure for reviewing and approving LOA applications is imperative to mitigate impacts to leasing, exploration, and development of oil and gas resources caused by any inability to obtain LOA approvals in a timely fashion. As acknowledged in the RIA, any reductions in seismic data gathering during the applicable five-year period of the ITRs "could result in delayed exploration and development of oil and gas resources beyond [the ITRs] five-year timeframe."⁴¹ Without effective processing of LOA applications, collective and cumulative permitting-related delays in exploration and development could easily and significantly alter the productivity of the Gulf of Mexico.

³⁸ E.O. 13211, Section 1.

³⁹ *Id.* at Section 2.

⁴⁰ Published Draft (April 3, 2018).

⁴¹ RIA at C-3.

* * *

In sum, Chevron urges OIRA to require NMFS to correct fundamental errors in its take estimate methodology identified above. G&G data is imperative for safe, effective, and environmentally responsible resource development and NMFS is required by statute to use “the best scientific evidence available” in ITRs affecting the gathering of such data. OIRA should also require that the final ITRs provide a reasonable process for timely consideration of applications for Letters of Authorization.

