

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 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." 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.

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.

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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



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." This multiplication effect leads to, at least, millions of higher take estimates. 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."

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 <u>double</u> 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. Yet, NMFS concluded that accounting for the effects of mitigation measures in its model would be too difficult. 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," 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." Indeed, the Guidelines describe a subset of agency information, including "influential scientific . . . or statistical information' that is held to higher quality standards." 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. A parallel statute, the Evidence-Based Policymaking Act of 2018, 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." 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).

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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.

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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. 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. Appendix C, Section 1 of *The Regulatory Impact Analysis for Proposed Regulation of Geological and Geophysical Activities in the Gulf of Mexico* ("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." 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.

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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.