

Via Regulations.gov and Electronic Mail

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Gary D. Goeke
Bureau of Ocean Energy Management, Gulf of Mexico OCS Region
Office of Environment (GM 623E)
1201 Elmwood Park Boulevard
New Orleans, Louisiana 70123-2394
multisaleeis2017-2022@boem.gov

RE: DRAFT ENVIRONMENTAL IMPACT STATEMENT FOR OUTER CONTINENTAL SHELF OIL AND GAS LEASES IN THE GULF OF MEXICO FROM 2017-2022; DOCKET NO. BOEM-2016-0009

Dear Mr. Goeke:

The Sierra Club hereby submits the following comments to the Bureau of Ocean Energy Management (“BOEM”) on the Draft Environmental Impacts Statement for the Gulf of Mexico Outer Continental Shelf Oil and Gas Leases: 2017-2022 (hereinafter “Draft EIS”). Under the Draft EIS, BOEM proposes 10 regionwide lease sales for the Gulf of Mexico, encompassing all unleased blocks in the Western, Central and part of the Eastern¹ Planning Areas, totaling close to 70 million acres.

The Sierra Club opposes new lease sales in the Gulf of Mexico. The problems and risks associated with oil and gas drilling have wreaked havoc on Gulf of Mexico ecosystems and the livelihoods of residents in the region. These adverse impacts outweigh the benefit of continued leasing and new drilling to the region and nation, particularly in a time when demand for climate change inducing fossil fuels is softening and the majority of existing offshore Gulf of Mexico leases remain undeveloped while existing onshore supplies are capable of meeting domestic consumption. New and expansive federal policies are further reducing our nation’s dependence on oil forcing demand to decrease in the coming decades as vehicle technology improves and transitions away from fossil fuels. Simply put, the need for new leases and expanded oil and gas production activities in the Gulf of Mexico is non-existent.

Further, climate change disruption and the urgency to mitigate its impacts make rigorous cutbacks to fossil fuel consumption an imperative. The U.S. has been compelled into action by its recent signing of the Paris Agreement obliging the nation to make ambitious carbon reduction commitments to ensure that temperature warming does not exceed 1.5 to 2 degrees Celsius.

¹ Not subject to Congressional moratorium.

The DEIS also fails to adequately analyze the true impacts to and risks of ultra-deepwater drilling on the Gulf's sensitive and treasured ecosystems. Indeed, this is a crucial analysis given that industry is expanding its deep and ultra-deepwater drilling endeavors and that large swaths of the proposed lease areas have depths of over 10,000 feet.

The Draft EIS fails to consider these critical factors in managing Gulf of Mexico resources and determining whether to proceed with area-wide leasing of the Gulf's remaining unleased blocks. As explained below, BOEM must evaluate the impacts of the lease sales and its choice of alternatives, including a true "no action alternative," using accurate information about oil demand. In addition, BOEM must incorporate the lessons learned from catastrophic oil spills like the 2010 BP Deepwater Horizon oil spill disaster and conduct an analysis based on the wide range of significant impacts the Gulf has endured from the disaster and the thousands of other frequently occurring spills.

I. BOEM's Flawed Purpose and Need for the Proposed Action Makes Leasing the Gulf a Foregone Conclusion

NEPA regulations require that an EIS should "specify the underlying purpose and need to which the agency is responding in proposing the alternatives including the proposed action."² The purpose and need inquiry is crucial for a sufficient environmental analysis because "[t]he stated goal of a project necessarily dictates the range of 'reasonable' alternatives."³ Thus, "an agency cannot define its objectives in unreasonably narrow terms" without violating NEPA.⁴ Further, the Outer Continental Shelf Lands Act ("OCSLA") mandates that BOEM balance offshore oil and gas development "with protection of the human, marine, and coastal environment," and that BOEM consider "national needs" in making decisions.⁵

BOEM's stated purpose for the Proposed Actions – "to offer for lease those areas that may contain economically recoverable oil and gas resources" – wholly ignores its statutory mandate and narrowly frames the statement to auction areas of the OCS that might contain recoverable oil and gas as the only means of meeting an alleged need.⁶ Similarly, BOEM's stated need for the proposed actions "to further the orderly development of OCS resources in an environmentally and economically responsible manner ... to contribute[] to meeting domestic demand and enhances national economic security,"⁷ violates BOEM's duties under NEPA and OCSLA. In particular, the need statement overlooks the realities of current and projected energy demand, fails to take a hard look at the state of existing leases, and appeases industry interests to expand drilling without adequately analyzing its impacts. *Id.* As described in detail below, BOEM's flawed assumptions about energy demand and contributions to our nation's

² 40 C.F.R. § 1502.13.

³ *Carmel-by-the-Sea v. U.S. Dep't of Transp.* 123 F.3d 1142, 1155 (9th Cir. 1997).

⁴ *Id.*

⁵ 43 U.S.C. §§ 1802(2); 1332(3).

⁶ Draft EIS at 1-5.

⁷ *Id.*

energy supply narrow the purpose and need inquiry in such a way that makes leasing the remaining unleased blocks of the Gulf of Mexico – BOEM’s preferred alternative – a foregone conclusion.

a. BOEM Uses Misinformation and Flawed Reasoning about Oil and Gas Markets to Justify Leasing the Gulf of Mexico

BOEM must define the purpose and need for the proposed action based on an accurate picture of our nation’s demand for and projected consumption of oil and gas in the decades to come. According to the EIA’s energy outlook projections through 2040, crude oil consumption in the transportation sector will experience a gradual decline,⁸ underscoring that the need for new leasing and production is largely absent. The widespread implementation of federal policies improving fuel economy throughout the transportation sector will further reduce overall domestic oil consumption.⁹ Oddly, the DEIS makes the following contradiction without explanation: while “consumption of liquid fuels will decrease”... the nation will need to “rely on more oil” in the years to come.¹⁰ BOEM cannot simply rely on these contradictory statements to justify further drilling development in the Gulf of Mexico.

Further, the DEIS significantly overstates the nation’s consumption of natural gas. The DEIS states that U.S. consumption of natural gas in 2014 was 25.26 trillion cubic feet per day.¹¹ However, the DEIS conflates annual with daily consumption, resulting in an inflation of consumption by a factor of 365. According to the EIA, 2014 *annual* U.S. natural gas consumption totaled 26.70 tcf.¹² BOEM must rectify any conclusions it reaches about the purpose and need for the proposed lease sales if they are based on this inflated figure.

⁸ EIA, Annual Energy Outlook 2015, *Transportation Sector Key Indicators and Delivered Energy Consumption*, available at [http://www.eia.gov/forecasts/aeo/data/browser/#/?id=7-AEO2015®ion=00&cases=ref2015&start=2012&end=2040&f=A&linechart=~~~~~
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<sup>9</sup> 40 CFR §§ 85, 86, 600, 1036, 1037 (Light-Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards for model years 2017 and beyond, combined with previous standards, will reduce oil consumption by 12 billion barrels. Phase 1 Fuel Efficiency and GHG Emission Standards for Medium and Heavy Duty Trucks for model years 2014 and beyond project reductions of 530 million barrels of oil. Proposed Phase 2 standards for medium and heavy duty vehicles for model years 2018 and beyond project an additional consumption reduction of 1.8 billion barrels.)

<sup>10</sup> Draft EIS at 1-5.

<sup>11</sup> *Id.*

<sup>12</sup> U.S. Energy Information Administration, *Natural Gas Consumption by End Use*, available at [https://www.eia.gov/dnav/ng/ng\\_cons\\_sum\\_dcunus\\_a.htm](https://www.eia.gov/dnav/ng/ng_cons_sum_dcunus_a.htm).

BOEM's conclusion that continued leasing and development of the Gulf is necessary as a long-term, stable energy supply and to provide economic security is in error. BOEM reasons that the current glut in onshore natural gas production and higher pricing on the world market is pushing industry to export excess natural gas,<sup>13</sup> thus creating the need for additional offshore leasing. But, BOEM misses a critical point, evidenced by recent EIA and NERA studies, which is that as world demand and U.S. exports of natural gas increase, the accompanied increase in prices will cause U.S. natural gas consumption to decline.<sup>14</sup> BOEM's reasoning omits the critical point that a reduction in U.S. consumption will result, thus minimizing the demand for additional natural gas supplies. Given the huge glut of natural gas supply serving the world market and domestic demand, these studies affirm the absence of additional demand for new offshore sources of oil and gas supply.

Moreover, the natural gas industry reports that the significant increase in unconventional natural gas production, due to technological advances such as horizontal and directional drilling and hydraulic fracturing, have led to a decrease in conventional production whereby conventional rigs such as those found in the offshore are mostly directed at oil drilling.<sup>15</sup> Unconventional onshore natural gas plays are expected to comprise more than 80% of the natural gas production in the US by 2040, whereas conventional offshore production will decrease to approximately 6% of total production.<sup>16</sup>

Further, the American Petroleum Industry report and the EIA and NERA studies all show that although demand for natural gas will gradually increase over the next two decades, overall domestic supply will surpass U.S. consumption and world market export demand combined. In addition, domestic supply will continue to respond to market fluctuations, and has the capacity to supply both world market export and domestic consumption demands even as they increase according to projections in the coming decades.<sup>17</sup>

In addition, the high rates of onshore natural gas well shut-ins provide further evidence of the diminishing need to develop new offshore leases in the Gulf of Mexico under increased natural gas demand conditions.<sup>18</sup> Because shut-in wells are readily capable of producing as market

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<sup>13</sup> Draft EIS at 1-5 – 1-6.

<sup>14</sup> U.S. Energy Information Administration, *Effect of Increased Natural Gas Exports on Domestic Markets*, Jan. 2012, available at [http://energy.gov/sites/prod/files/2013/04/f0/fe\\_eia\\_ing.pdf](http://energy.gov/sites/prod/files/2013/04/f0/fe_eia_ing.pdf); NERA Economic Consulting, *Macroeconomic Impacts of LNG Exports from the United States*, Dec. 2012, available at [http://energy.gov/sites/prod/files/2013/04/f0/nera\\_ing\\_report.pdf](http://energy.gov/sites/prod/files/2013/04/f0/nera_ing_report.pdf).

<sup>15</sup> American Petroleum Institute, *Understanding Natural Gas Markets*, 2014, available at <http://www.api.org/~media/files/oil-and-natural-gas/natural-gas-primer/understanding-natural-gas-markets-primer-high.pdf>.

<sup>16</sup> *Id.* at 9.

<sup>17</sup> *Id.*

<sup>18</sup> Farmington Daily Times, *Shut-in Wells to Increase as Low Prices Linger*, May 28, 2016, available at <http://www.daily-times.com/story/money/industries/oil-gas/2016/05/28/shut--wells-increase-low-prices-linger/84510614/>.

conditions become more favorable, the additional production capacity could fulfill demand in the unlikely scenario that there is a supply deficit.

BOEM also fails to acknowledge the sharp rise in exports of processed crude coming out of the Gulf Coast in recent years,<sup>19</sup> and the potential for increasing exports given the recent lifting of the federal export ban for domestically produced raw crudes. Within this new context, Gulf of Mexico production may not actually serve domestic consumption needs as the Draft EIS contends. Thus, BOEM's unsubstantiated conclusion that new Gulf of Mexico leases are necessary to ensure domestic energy supply and economic security requires further analysis.

#### **b. Most of the Existing Leases in the Gulf of Mexico Remain Undeveloped**

BOEM also fails to evaluate the state of existing offshore Gulf leases. As of 2016, more than 22 million acres of the Gulf of Mexico have been leased to the oil and gas industry, with additional lease sales scheduled in 2016. However, approximately 80% of the leased acreage has not yet been developed while much of the producing areas will continue to produce for the foreseeable future. These facts coupled with the glut of onshore natural gas supply and the projected decline in oil consumption in the decades to come are sufficient to meet current energy needs for the 2017 to 2022 period and beyond, thereby refuting BOEM's alleged need to lease the remaining unleased blocks of the Gulf of Mexico.

The Draft EIS uses flawed reasoning and misinformation to erroneously narrow the purpose and need of the proposed action in order to justify leasing all remaining economically recoverable blocks of the Gulf. By asserting future energy demand is far greater than actual projections, BOEM has set itself up to select only one alternative and reject all other possible action alternatives in violation of NEPA and OCSLA.

### **II. BOEM Failed to Properly Consider a Reasonable Range of Alternatives**

NEPA requires a "detailed statement" of "alternatives to the proposed action,"<sup>20</sup> The purpose of this section is "to insist that no major federal project should be undertaken without intense consideration of other more ecologically sound courses of action, including shelving the entire project, or of accomplishing the same result by entirely different means."<sup>21</sup> The analysis of alternatives is the "heart of the environmental impact statement."<sup>22</sup> However, BOEM's Draft EIS fails to analyze a reasonable range of alternatives, and importantly, fails to properly consider the no-action alternative.

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<sup>19</sup> Fuel Fix, *Gulf Coast Drives Surge in U.S. Exports of Petroleum Products*, Sept. 9 2014, available at <http://fuelfix.com/blog/2014/09/09/gulf-coast-drives-surge-in-u-s-exports-of-petroleum-products/>.

<sup>20</sup> 42 U.S.C. § 4332(2)(c).

<sup>21</sup> *Environmental Defense Fund v. Corps of Engineers*, 492 F.2d 1123, 1135 (5<sup>th</sup> Cir. 1974).

<sup>22</sup> 40 C.F.R. §1502.14.

**a. The Range of Alternatives Fails to Incorporate Additional Protections for Highly Sensitive Ecosystems and Habitat**

BOEM's range of alternatives lacks consideration of sensitive ecosystems and habitats encompassed in the proposed lease area including: designated critical habitat for the Northwest Atlantic loggerhead sea turtle distinct population segment;<sup>23</sup> sperm whale habitat in the Mississippi Canyon, Bryde's whales, sperm whale and other cetacean habitat in De Soto Canyon;<sup>24</sup> and habitat for ESA-listed corals found in the Gulf's Western and Central Planning Areas.<sup>25</sup> At a minimum, BOEM must consider alternatives that prohibit leasing and development in these highly sensitive areas, as well as consider an alternative that expands the exclusion zone for the Flower Garden Banks National Marine Sanctuary.

**b. The DEIS Fails to Properly Consider a "No Action" Alternative**

BOEM fails to put forward a true no action alternative. Alternative E, which BOEM calls the "No Action" alternative, only would "cancel a single proposed lease sale" rather than all ten proposed leased sales that would occur under the proposed action in the 2017 to 2022 period.<sup>26</sup> Further, in rejecting the "No Action" alternative, BOEM assumes that the cancellation of any single proposed lease sale in the five year period is simply a postponement of that lease sale to a future lease sale and therefore any production activity and associated potential environmental impacts resulting from the cancelled lease sale would simply be deferred to a later date.<sup>27</sup> This reasoning disregards entirely the fact that any single lease sale or all ten proposed lease sales combined are not needed now or anytime in the future based on current and projected oil and gas market conditions described above. Indeed, market projections demonstrate that a true "no action" alternative that permanently cancels the proposed leases would in fact allow for continued production of oil and gas without obligating the U.S. to continue oil and gas development the Gulf of Mexico well past 2022.

Moreover, by framing the No Action Alternative as the cancellation (or postponement) of only a single lease sale rather than cancellation of the full swath of lease sales proposed for the five year period, BOEM ignores the full extent of damages that could be avoided by a true No Action Alternative. Indeed, no new leasing would reduce the potential for oil spills and other destructive impacts of oil and gas exploration and development; avoid the release of billions of tons of greenhouse gases and other pollutant discharges to the water and air; and avoid additional negative impacts to wildlife and local communities already impacted by the BP oil spill disaster and subsequent oil spills.

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<sup>23</sup> 79 Fed. Reg. 39,855 (July 10, 2014).

<sup>24</sup> NRDC, *Petition to list the Gulf of Mexico Bryde's whale (Balaenoptera edeni) as endangered under the Endangered Species Act*, Sept. 2014, available at [http://docs.nrdc.org/wildlife/files/wil\\_14091701a.pdf](http://docs.nrdc.org/wildlife/files/wil_14091701a.pdf).

<sup>25</sup> Draft EIS at 4-168.

<sup>26</sup> *Id.* at 2-14.

<sup>27</sup> *Id.*

Without any analysis of the benefits to the marine, coastal and human environments of a permanent cancellation of the new leases, BOEM simply concludes that any adverse economic impacts to companies and federal government revenues of cancelling (or postponing) a single lease take precedent.<sup>28</sup> This conclusion plays into the longstanding culture of appeasing industry interests to maximize profits at all costs which has led to the disastrous consequences of rampant permitting and development of the offshore.

Further, the conclusion that cancellation of leases will adversely impact federal revenues fails to acknowledge the fact that even the industry's desire to invest in the Gulf is dwindling. The recent March 2016 lease auction garnered a total of only \$156 million in bids, the fourth lowest total in the Gulf's Central District since 1983.<sup>29</sup> Notably, no bids were received for auctions blocks in the Eastern Planning Area.<sup>30</sup> BOEM's concerns about declining revenues fail to compare the benefits of a few hundred million dollars in revenues to the enormous costs associated with a single disastrous blow out or the thousands of frequently occurring oil spills. Indeed, the costs of clean-up and restoration, as well as costs to communities and the tourism industry of an oil spill disaster, on the order of billions of dollars, dwarf any benefits conferred by declining federal government revenues.<sup>31</sup>

At the very least, BOEM must consider and analyze a permanent no lease sale option. Given the current state of inactive existing offshore oil and gas leases, gas production nationally, and the ongoing and potential impacts of drilling activities, a true no action alternative that permanently cancels lease sales proposed for the 2017-2022 period balances oil and gas development with protection of the human, marine and coastal environments. In fact, it is the only possible option that comports with BOEM's mandate under OCSLA.

### **III. BOEM's Risk Analysis for Offshore Spills Does Not Adequately Consider the Inherent Dangers of Deepwater and Ultra-Deepwater Drilling**

In its risk analysis for offshore spills greater or equal to 1,000 barrels, BOEM calculated spill rates "based on the assumption that spills occur in direct proportion to the volume of oil handled and are expressed as number of spills per billion barrels of oil handled."<sup>32</sup> This analysis fails to take into account the risks inherent in deepwater drilling.<sup>33</sup> The lease sales at issue

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<sup>28</sup> *Id.*

<sup>29</sup> Fuel Fix, *Winning Gulf Lease Sale Bids Total \$156 million, 4<sup>th</sup> Lowest Since 1983*, Mar. 23, 2016, available at <http://fuelfix.com/blog/2016/03/23/protesters-swarm-offshore-lease-sale-in-new-orleans/>.

<sup>30</sup> Offshore Magazine, *Gulf of Mexico Lease Sale Yields \$156 million in High Bids*, Mar. 23, 2016, available at <http://www.offshore-mag.com/articles/2016/03/us-offshore-gulf-of-mexico-lease-sale-yields.html>.

<sup>31</sup> Fuel Fix, *BP's Gulf Spill Toll Could Run up to \$68.2 Billion*, June 23, 2015, available at <http://fuelfix.com/blog/2015/06/23/bps-gulf-spill-toll-could-run-up-to-68-2-billion/>.

<sup>32</sup> Draft EIS at 3-113.

<sup>33</sup> *Deep Water: The Gulf Oil Disaster and the Future of Offshore Drilling, A Report to the President by the National Commission on the BP Deepwater Horizon Oil Spill and Offshore Drilling*, available at [http://cybercemetery.unt.edu/archive/oilspill/20121211005728/http://www.oilspillcommission.gov/sites/default/files/documents/DEEPWATER\\_ReporttothePresident\\_FINAL.pdf](http://cybercemetery.unt.edu/archive/oilspill/20121211005728/http://www.oilspillcommission.gov/sites/default/files/documents/DEEPWATER_ReporttothePresident_FINAL.pdf).

encompass high risk ultra-deepwater areas, close to 11,000 feet deep, and contain large areas of high risk formations many of which will produce high pressure/high temperature wells. The increased risk of spills and disasters associated with these high risk conditions must be part of BOEM's spill risk calculus.

Moreover, the Draft EIS bases its risk analysis of spills greater than 1,000 barrels on a report that uses spill data through 2010 which doesn't account for the recent expansion of ultra-deepwater drilling. Since 1992 when deepwater exploratory drilling began in earnest, a total of 244 wells have been drilled in ultra-deep waters. As of 2013, there were 136 ultra-deepwater wells in operation.<sup>34</sup> This number is a significant jump from 2009 when there were only 65 ultra-deepwater wells in operation.<sup>35</sup> The Draft EIS analysis of spill risk through 2010 omits potential significant increases in the risk of a spill, or even catastrophic spill, associated with the significant spike in ultra-deepwater drilling in recent years. This analysis must be corrected and considered when evaluating the risk of developing the unique deepwater areas encompassed within the proposed lease sale areas.

In addition, the industry has developed a "mechanical risk index" ("MRI") which calculates the complexities present in deepwater oil drilling in the Gulf of Mexico based on a number of factors and then rates the complexity of the well on a 1 to 5 scale with 5 being the most complex. Those factors include the water depth (ranging from >3,200 feet to >6,700 feet), well depth (ranging from >19,000 feet to >30,000 feet), the number of casings strings, and the percent population penetrating salt.<sup>36</sup> The Deepwater Horizon well represents a 3+ to 4 in these rankings. As of 2009, only 43 wells were drilled in the Gulf of Mexico with a complexity level of 3, 4, or 5 which would indicate that the actual likelihood of catastrophic failure for wells of this nature based on past oil spills could be as high as 1 in 43.<sup>37</sup> BOEM's risk analysis for high volume catastrophic events wholly ignores the unique characteristics of ultra-deepwater as a risk factor of drilling in the proposed lease sale areas. This must be corrected.

#### **IV. BOEM Failed to Adequately Analyze the Impacts of a Catastrophic Spill**

As described in more detail below, the 2010 BP Deepwater Horizon disaster which spilled 206 million gallons of oil into the Gulf has had devastating impacts on Gulf of Mexico ecosystems, the livelihoods of Gulf communities, and the tourism industry. The Gulf has endured other catastrophic spills, including a 140 million gallon spill in 1979. In 2004, Hurricane Ivan struck a Taylor Energy offshore platform causing hundreds of gallons to leak into the Gulf for over a

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<sup>34</sup> Breaking Energy, *Oil Companies Clamoring for Ultra-Deepwater Rigs*, Sept. 20, 2012, available at <http://breakingenergy.com/2012/09/20/oil-companies-clamoring-for-ultra-deepwater-rigs/>.

<sup>35</sup> *Id.*

<sup>36</sup> Pritchard and Lacy, *Deepwater Well Complexity – The New Domain*, Deepwater Horizon Study Group Working Paper, Jan. 2011, available at [http://ccrm.berkeley.edu/pdfs\\_papers/DHSGWorkingPapersFeb16-2011/DeepwaterWellComplexity-TheNewDomain-DMP\\_DHSG-Jan2011.pdf](http://ccrm.berkeley.edu/pdfs_papers/DHSGWorkingPapersFeb16-2011/DeepwaterWellComplexity-TheNewDomain-DMP_DHSG-Jan2011.pdf).

<sup>37</sup> *Id.*

decade; and, recent reports indicate a dramatic spike in the size of oil sheens in the vicinity and increased volumes of spilled oil in the past two years. Nearly 10,000 smaller spills have been reported between 2010 and 2015 in the Gulf of Mexico. In addition, numerous other catastrophic spills in other parts of the world have devastated marine ecosystems and the communities that depend upon them. The question is not if there will be a catastrophic spill event, it is when there is such an event what are the impacts and what are the response capabilities of the industry, government and other stakeholders.

Oil spills cause irreversible damage to marine and coastal environments, and the destructive impacts of large spills are immediate and severe. Oil spills and cleanup are also disruptive to ship traffic and detrimental to impacted shorelines, subsistence activities, commercial and recreational fishing, tourism, and the health of people living along the coast and people involved in clean-up efforts.

BOEM largely dismisses the impacts of a catastrophic oil spill concluding that such an event has a “low probability” of occurring and is “not reasonably foreseeable.” Further, the Draft EIS oddly states that a catastrophic oil spill event is “not part of the proposed action.”<sup>38</sup> Indeed, an unintended consequence with potential adverse impacts is never part of the proposed action, but it nevertheless must be evaluated as part of the NEPA process.

BOEM deflects all analysis of a catastrophic event by simply referencing the *Catastrophic Spill Event Analysis* white paper prepared after the Deepwater Horizon spill. Further, in the Proposed Five Year Plan document, BOEM largely dismisses the impacts of a catastrophic oil spill reasoning that oil and gas activities are regulated and changes have been implemented since Deepwater Horizon.<sup>39</sup> These assumptions are particularly troubling given that several recently published federal studies have found that necessary regulatory changes have in fact not yet been implemented, and the causes of the Deepwater Horizon oil spill still have not been fully addressed. Moreover, BOEM’s sister agency, BSEE, “has not fully addressed deficiencies in its investigative, environmental compliance, and enforcement capabilities identified by investigations after the Deepwater Horizon incident,”<sup>40</sup> and accordingly, the agency is not able to effectively oversee offshore oil and gas development.<sup>41</sup>

BOEM’s failure to adequately assess the true impacts of a catastrophic spill event within the Draft EIS is a violation of NEPA and must be corrected.

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<sup>38</sup> Draft EIS at 2-22.

<sup>39</sup> See e.g. Proposed Five Year Plan at S-1.

<sup>40</sup> U.S. GAO, *Report: Interior’s Bureau of Safety and Environmental Enforcement Restructuring Has Not Addressed Long-Standing Oversight Deficiencies*, Feb. 2016, available at <http://www.gao.gov/assets/680/675099.pdf>.

<sup>41</sup> *Id.* at 28.

## V. BOEM Sets an Improper Baseline by Failing to Consider the Full Extent of Impacts Caused by the Deepwater Horizon Oil Spill Disaster

NEPA requires BOEM to “describe the environment of the areas to be affected or created by the alternatives under consideration.”<sup>42</sup> Thus, the establishment of the baseline conditions of the affected environment is a fundamental requirement of the NEPA process. “Without establishing the baseline conditions which exist in the vicinity. . . there is simply no way to determine what effect the proposed [project] will have on the environment and, consequently, no way to comply with NEPA.”<sup>43</sup>

BOEM lacks critical information regarding the effects of the Deepwater Horizon oil spill on the Gulf of Mexico. The Deepwater Horizon disaster resulted in the deaths of 11 workers and caused a spill of approximately 206 million gallons of oil over the course of at least 87 days. More than 1,000 miles of shoreline were contaminated with oil; 88,522 square miles of ocean—totaling one-third of the Gulf of Mexico—were closed to commercial and recreational fishing; millions of animals were killed or harmed; and local residents were sickened.

Six years later, the Gulf is still reeling from the effects of the spill. Recent studies demonstrate severe lung disease in dolphins; near-record lows of critically endangered Kemp’s ridley sea turtle nesting; oil dispersants toxic to corals and jellyfish; and a “bathtub ring” of oil on the seafloor.<sup>44</sup> Another recent study published in April 2016 indicates that the spill impacted 19% more coastline than originally observed, finding that oil washed up on 1,313 miles of coastline along the Gulf of Mexico.<sup>45</sup> In addition, the 50,000 people involved in cleanup efforts suffer from an increased risk of physical and psychological injury.<sup>46</sup> Gulf residents are still suffering from increased symptoms of depression, anxiety, mental illness, and posttraumatic stress.<sup>47</sup>

However, the impacts of the spill are not yet fully understood and are still being studied. For example, the Natural Resource Damage Assessment, which assesses spill impacts to natural resources and informs future restoration is still underway. Moreover, BOEM has repeatedly admitted in other environmental review documents that there are data gaps regarding numerous resources in the Gulf of Mexico, including wetlands, coastal water quality, offshore water quality, air quality, commercial and recreational fishing and environmental justice, *and*

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<sup>42</sup> 40 C.F.R. § 1502.15.

<sup>43</sup> *Half Moon Bay Fisherman’s Mark’t Ass’n v. Carlucci*, 857 F.2d 505, 510 (9<sup>th</sup> Cir. 1988).

<sup>44</sup> Colegrove KM, Venn-Watson S, Litz J, Kinsel MJ et. al., *Fetal distress and in utero pneumonia in perinatal dolphins during the Northern Gulf of Mexico unusual mortality event*, *Diseases of Aquatic Organisms* 119, 1-16 (Apr. 12, 2016); Draft EIS at 4-24 (citing DeLeo et al., *Response of deep-water corals to oil and chemical dispersant exposure*, *Deep-Sea Research II* (2015)); Associated Press, *Officials Puzzled Over Drop in Kemp’s Ridley Turtle Nests* (Aug. 12, 2013), available at <http://www.kristv.com/news/officials-puzzled-over-drop-in-kemp-s-ridley-turtle-nests/#>.

<sup>45</sup> Zachary Nixon, et al. *Shoreline oiling from the Deepwater Horizon oil spill*. *Marine Pollution Bulletin* (2016, in press).

<sup>46</sup> See e.g., Oceana, *Time For Action Six Years After Deepwater Horizon*, Apr. 2016, available at [http://usa.oceana.org/sites/default/files/deepwater\\_horizon\\_anniversary\\_report\\_updated\\_4-28.pdf](http://usa.oceana.org/sites/default/files/deepwater_horizon_anniversary_report_updated_4-28.pdf).

<sup>47</sup> *Id.*

that the impacts of the Deepwater Horizon oil spill on such resources may have changed baseline conditions.<sup>48</sup>

Further, BOEM has not yet completed its Section 7 consultation under the ESA following the Deepwater Horizon oil spill.<sup>49</sup> BOEM therefore does not have an accurate picture of the effects that authorizing more offshore oil and gas leasing and drilling (including in the very same area where the Deepwater Horizon spill occurred) could have on already imperiled species.

Accordingly, BOEM cannot properly define the environmental baseline, and BOEM cannot conduct a proper NEPA analysis unless and until these significant data gaps are filled. As such, any decision by BOEM to allow substantially more offshore oil and gas drilling is arbitrary and capricious.

## **VI. BOEM Failed to Take a Hard Look at the Direct, Indirect and Cumulative Impacts of Greenhouse Gas Emissions and Climate Change**

While the DEIS acknowledges that offshore oil and gas activities result in the emissions of greenhouse gases,<sup>50</sup> BOEM wholly failed consider the impacts of refining, transporting, and consuming the oil and gas that could be developed under its leasing proposal. Moreover, while BOEM incorporates some analysis of climate change, that analysis is entirely cursory and fails to adequately describe baseline conditions or even acknowledge how climate change will impact oil and gas infrastructure in the Gulf. Such failures violate NEPA.

### **a. BOEM Failed to Consider Downstream Greenhouse Gas Emissions**

BOEM's Draft EIS fails to consider the greenhouse gas emissions that would be emitted by refining, transporting and burning the oil and gas to be extracted under its proposal. In evaluating the environmental impacts of the proposed action, NEPA requires BOEM to consider and describe the direct and indirect impacts.<sup>51</sup> These impacts are distinct from one another. Direct effects are "caused by the action and occur at the same time and place."<sup>52</sup> Indirect effects are caused by the action but, "are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect effects may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems."<sup>53</sup> Downstream greenhouse gas emissions are precisely the kind of indirect effects that BOEM must consider in analyzing the impacts of its leasing proposal.

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<sup>48</sup> See e.g., Draft SEIS on Lease Sale 247 in the Central Gulf of Mexico at 4-8; 4-13; 4-17; 4-25.

<sup>49</sup> *Id.* at 4-7 to 4-8.

<sup>50</sup> See e.g., Draft EIS at 3-91.

<sup>51</sup> 40 C.F.R §§ 1502.16, 1508.7, 1508.8; *Northern Plains Resource Council v. Surface Transportation Board*, 668 F.3d 1067, 1072-73 (9th Cir. 2011).

<sup>52</sup> 40 C.F.R. § 1508.8(a).

<sup>53</sup> *Id.* § 1508.8(b).

Indeed, guidance from the Council on Environmental Quality instructs agencies that “[e]missions from activities that have a reasonably close causal relationship to the federal action, such as those that may occur . . . as a consequence of the agency action (often referred to as downstream emissions) should be accounted for in the NEPA analysis.”<sup>54</sup> As it described, “[f]or example, a particular NEPA analysis for a proposed open pit mine could include the reasonably foreseeable effects of various components of the mining process, such as . . . refining or processing the resource, and using the resource . . . as the direct and indirect effects of phases of a single proposed action.”<sup>55</sup>

BOEM estimates that its proposal could result in the development and production of up to an estimated 9.5 billion barrels of oil equivalent.<sup>56</sup> It is possible even more oil will be developed given BOEM’s estimates that put all undiscovered technically recoverable resources in the Gulf of Mexico at 73 billion barrels of oil equivalent.<sup>57</sup> Using EPA’s carbon equivalent calculator, this means that BOEM’s proposal could result in up to roughly 4.1 to 31.4 billion metric tons of greenhouse gas emissions from consumption of the oil.<sup>58</sup> But BOEM wholly failed to consider the impacts of these emissions or how allowing offshore oil and gas leases in federal waters will impact our ability to limit warming below 2 degrees Celsius consistent with goals of and obligations under the Paris Agreement.<sup>59</sup>

There is only a finite amount of carbon dioxide (“CO<sub>2</sub>”) that can be released into the atmosphere without rendering the goal of meeting the 1.5°C (or even a 2°C) target virtually impossible. Unleased OCS areas alone would consume between 11.6% and 13.8% of that *global* budget.<sup>60</sup> Continued leasing of these fossil fuels is incompatible with any reasonable domestic

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<sup>54</sup> Council on Environmental Quality, *Revised Draft Guidance on Consideration of Greenhouse Gas Emissions and Climate Change in National Environmental Policy Act Evaluations*, Dec. 2014, at 11.

<sup>55</sup> *Id.* at 12

<sup>56</sup> Proposed Program at 5-10.

<sup>57</sup> BOEM, *Assessment of Undiscovered Technically Recoverable Oil and Gas Resources of the Nation’s Outer Continental Shelf*, 2016, available at <http://www.boem.gov/National-Assessment-2016/>.

<sup>58</sup> U.S. Environmental Protection Agency, *GHG Equivalencies Calculator - Calculations and References*, available at <https://www.epa.gov/energy/ghg-equivalencies-calculator-calculations-and-references>.

<sup>59</sup> Climate change, driven primarily by the combustion of fossil fuels, poses a severe and immediate threat to the health, welfare, ecosystems, and economy of the United States and the world. In recognition of these threats, the Paris Agreement—adopted by 197 countries, including the United States, on December 12, 2015—codifies the international, scientific consensus that climate change is an “*urgent and potentially irreversible threat to human societies and the planet* and thus requires the widest possible cooperation by all countries.” Paris Agreement, Decision, Art. 4(3). Accordingly, the Paris Agreement commits all signatories to an articulated target to hold the long-term global average temperature “to well below 2°C above pre-industrial levels and to pursue efforts to limit the temperature increase to 1.5°C above pre-industrial levels.” Immediate and aggressive greenhouse gas emissions reductions are necessary to keep warming below a 1.5° or 2°C rise above pre-industrial levels.

<sup>60</sup> See, e.g., IPCC, 2014: Climate Change 2014: Synthesis Report. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change at 64 & Table 2.2 [Core Writing Team, R.K. Pachauri and L.A. Meyer (eds.)] at 18, 24-25 (offshore crude oil potential

and international path to limiting warming to 1.5°C or even 2°C. Conversely, keeping fossil fuels in the ground by ending new offshore leases will help limit warming by reducing greenhouse gas emissions.

BOEM violates NEPA by ignoring the impacts of refining and consuming the oil and gas to be extracted under the proposal. This omission makes it impossible to know how BOEM's proposal can possibly be consistent with the Paris Agreement and efforts to limit warming to 1.5°C or even 2°C to avert the worst impacts of climate change.

#### **b. BOEM Failed to Adequately Consider Climate Change Impacts on the Ocean and Coastal Environment**

In addition to failing to address the impacts of consuming the oil and gas extracted under its proposal, BOEM's environmental analysis fails to adequately consider the impacts of climate change on the ocean environment. While BOEM acknowledges that climate change is occurring, its analysis of the impacts of that change is cursory, fails to properly disclose the enormity of the problem, or the contribution of the proposed action to the problem.

For example, BOEM fails to adequately analyze the impacts of ocean acidification over the course of its proposal. The ocean's absorption of anthropogenic carbon dioxide is changing its chemistry, lowering its pH and causing ocean acidification.<sup>61</sup> Surface ocean pH has already dropped by about 0.1 pH units from 8.16 in 1800 to 8.05 today, resulting in a rise in surface ocean acidity of about 30 percent.<sup>62</sup> The pH of the ocean is changing rapidly at a rate 100 times anything seen in hundreds of millennia, and may drop by another 0.3 or 0.4 (resulting in a 100–150% increase in acidity) by the end of this century.<sup>63</sup> If carbon dioxide emissions continue unabated, resulting changes in ocean acidity could exceed anything experienced in the past 300 million years.<sup>64</sup>

Increased ocean acidification has significant adverse impacts on marine organisms. Among many other impacts, increased ocean acidity hinders species such as corals, crabs, seastars, sea urchins, and plankton from building the protective armor they need to survive.<sup>65</sup> Rising acidity

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emissions of 27.65-31.50 GtCO<sub>2</sub>e, offshore natural gas potential emissions of 24.07-30.05 GtCO<sub>2</sub>e). ("IPCC AR5 Synthesis Report").

<sup>61</sup> Feely, R. A., S. C. Doney, and S. R. Cooley, *Ocean acidification: present conditions and future changes in a high-CO<sub>2</sub> world*. *Oceanography* 22:36-47, 2009.

<sup>62</sup> Orr, J. C., et al., *Anthropogenic ocean acidification over the twenty-first century and its impact on calcifying organisms*. *Nature* 437:681-686, 2005.

<sup>63</sup> Meehl, G. A., et al., 2007: Global Climate Projections. in S. Solomon, D. Qin, M. Manning, Z. Chen, M. Marquis, K. B. Averyt, M. Tignor, and G. H. Miller, editors. *Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*. Cambridge University Press, Cambridge University Press, Cambridge, UK, and New York, NY, USA.

<sup>64</sup> Caldeira, K., and M. E. Wickett. 2003. Anthropogenic carbon and ocean pH. *Nature* 425:365.

<sup>65</sup> Fabry, V. J., B. A. Seibel, R. A. Feely, and J. C. Orr. 2008. Impacts of ocean acidification on marine fauna and ecosystem processes. *ICES Journal of Marine Sciences* 65:414-432.

also affects the basic functions of fish, squid, and invertebrates, impeding growth and increasing mortality.<sup>66</sup> Ocean acidification threatens to disrupt the entire marine food web.

BOEM also failed to consider how the increased frequency and severity of hurricanes and sea level rise will impact coastal areas and oil and gas infrastructure. Sea level rise is already increasing the risk of storm surge and flooding in coastal areas. Coastal communities are endangered by the potential for more intense hurricanes and weather events caused by human induced climate change.<sup>67</sup> The adverse impacts of sea level rise, including land loss, erosion, wetland submergence and habitat loss, directly threaten Gulf of Mexico's coastal states. Louisiana has lost more than one million acres of coastal wetlands over an 80 year period.<sup>68</sup> The Department of the Interior has stated that the industry could be responsible for as much as 56% of the loss.<sup>69</sup> And scientists say that at current rates, coastal erosion and sea level rise will lead to nearly all of southeast Louisiana to be under water by 2100.<sup>70</sup> Yet BOEM fails to adequately analyze these impacts or how its proposal will contribute to these problems.

Moreover, the DEIS violates NEPA because it fails to analyze how increased storm severity in the face of climate change will increase the risks of oil spills, accidents and other environmental harms associated with offshore oil and gas drilling and infrastructure<sup>71</sup> in the Gulf of Mexico.

#### **VII. BOEM Cannot Escape Performing Site Specific Reviews by Claiming Analysis is Completed at the Post-Lease Stage When It Tiers Later Documents to the Lease Sale**

BOEM makes many decisions about the unique characteristics of deepwater drilling as well as other site specific decisions at the post lease stage. This includes reviews of oil spill response plans and exploration and development plans. The Draft EIS states that various mitigation stipulations may be required on a given lease but that Supplemental Environmental Impact Statements will not be prepared for individual lease sales,<sup>72</sup> thereby preventing the public from weighing in on the unique risks and areas of concern in a particular lease sale. This is especially troubling because BOEM's failure to consider the high-temperature/high pressure conditions

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<sup>66</sup> *Id.*

<sup>67</sup> 74 Fed. Reg. at 66,498; *see also* EPA, Climate Impacts in the Southeast, available at <https://www3.epa.gov/climatechange/impacts/southeast.html>; Carter, L. M., J. W. Jones, L. Berry, V. Burkett, J. F. Murley, J. Obeysekera, P. J. Schramm, and D. Wear, 2014: *Ch. 17: Southeast and the Caribbean. Climate Change Impacts in the United States: The Third National Climate Assessment*, J. M. Melillo, Terese (T.C.) Richmond, and G. W. Yohe, Eds., U.S. Global Change Research Program, 396-417. doi:10.7930/JON-P22CB.

<sup>68</sup> Draft EIS at 3-188; Nathaniel Rich, *The Most Ambitious Environmental Lawsuit Ever*, NY Times, Oct. 02, 2014, available at [http://www.nytimes.com/interactive/2014/10/02/magazine/mag-oil-lawsuit.html?\\_r=0](http://www.nytimes.com/interactive/2014/10/02/magazine/mag-oil-lawsuit.html?_r=0).

<sup>69</sup> *Id.*

<sup>70</sup> Bob Marshall, *The Lens*, ProPublica, Aug. 28, 2014, available at <http://www.scientificamerican.com/article/losing-ground-southeast-louisiana-is-disappearing-quickly/>.

<sup>71</sup> *See supra* at 8, impacts of Hurricane Ivan on Taylor Energy offshore platform.

<sup>72</sup> Draft EIS at 1-9.

and water depths in the Draft EIS risk assessment means that it makes critical decisions about the unique and high risk conditions of ultra-deepwater drilling at the post-lease stage without any public and essential stakeholder participation. As described in more detail below, BOEM's area-wide lease sale proposal encompasses a variety of diverse ecosystems and species habitat, as well as high risk landscapes that may require specialized protections and mitigation. Absent site specific impact analyses and mitigation determinations, certain regions may not be given the special protections they deserve.

The deferral of analysis is particularly troubling given that site specific analysis often does not occur in the post-lease process as the Draft EIS states. Instead, environmental assessments often tier back to the leasing analysis. BOEM cannot escape performing site specific analyses by claiming it is done at later post-lease stages when it claims in those stages that the analysis was done at the leasing sale. This approach violates BOEM's duties under OCSLA to comply with NEPA and the ESA at every stage of the offshore oil and gas authorization process and its duty to ensure offshore developments are balanced with environmental safeguards and protection of the human, marine and coastal environments.<sup>73</sup> Moreover, BOEM's approach also directly contradicts the National Commission on the BP Deepwater Horizon Oil Spill and Offshore Drilling's ("Commission") express recommendation that BOEM conduct environmental review on a finer geographic scale.

BOEM's proposed area-wide lease sale approach in the DEIS makes post-lease analyses and decision making, and tiered assessments even more problematic. The area-wide lease sales combine 70 million acres from three separate planning areas – the Western Gulf, the Central Gulf and the Eastern Gulf – each with distinct ecological features. For example, the Western Region "hosts the northernmost tropical coral reef system in the United States at the Flower Garden Banks, an isolated system of predominately encrusting corals atop salt dome formations."<sup>74</sup> The system attracts reef fishes and large open-water species such as hammerhead and whale sharks.<sup>75</sup> The Western Region is also "home to some of the most important nesting sites for the endangered Kemp's ridley sea turtle."<sup>76</sup> The Central Region is home to a resident population of endangered sperm whales, and the Eastern Region includes manatee habitat.<sup>77</sup> The Louisiana coastline contains a variety of wetlands that make up one of the largest deltas in the world.<sup>78</sup> Moreover, the line between the Western and Central Regions and the Eastern Region follows the De Soto Canyon off the coast of Alabama and traces the eastern edge of the Loop Current, which effectively divides the Gulf.<sup>79</sup>

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<sup>73</sup> See e.g., 43 U.S.C. § 1802(2); *Village of False Pass v. Clark*, 733 F.2d 605, 609 (9<sup>th</sup> Cir. 1984).

<sup>74</sup> See e.g., Draft Proposed Program for 2017 to 2022 at 6-11.

<sup>75</sup> *Id.*

<sup>76</sup> *Id.* at 6-24.

<sup>77</sup> *Id.*

<sup>78</sup> Draft EIS at 3-188.

<sup>79</sup> *Id.*

The Gulf's size and variation clearly require greater specificity in the size and location of lease sales. By combining these diverse regions into a single analysis, BOEM violates OCSLA's express requirement to prepare a leasing program that consists "of a schedule of proposed lease sales indicating, as precisely as possible, the size, timing, and location of leasing activity."<sup>80</sup> Further, this approach has been cited as particularly problematic by the Commission, which noted that the area-wide leasing approach favors industry at the cost of meaningful environmental analysis.<sup>81</sup>

Expressly contradicting the Commission's conclusions and directives, as well as statutory requirements, BOEM asserts that it is proposing an area-wide approach to provide greater flexibility to industry and balance agency workload.<sup>82</sup> BOEM does not have "carte blanche to wholly disregard a statutory requirement of convenience."<sup>83</sup> Nor can it abdicate its statutory duties under OCSLA or NEPA to appease industry. The designation lacks the precision required by statute and is therefore unlawful.<sup>84</sup>

#### **VIII. BOEM has Created a Process Whereby the Public is Never Given a Meaningful Opportunity to Participate in the Review of Oil Spill Response Measures**

BOEM does not make Oil Spill Response Plans and the certification process open to public notice and comment. However, NEPA requires more: "The NEPA process has two purposes. First, '[i]t ensures that the agency, in reaching its decision, will have available, and will carefully consider, detailed information concerning significant environmental impacts.' Second, it 'guarantees that the relevant information will be made available to the larger audience that may also play a role in both the decision-making process and the implementation of that decision.'"<sup>85</sup> "The 'informational role' of an EIS is to 'giv[e] the public the assurance that the agency 'has indeed considered environmental concerns in its decision-making process,' and, perhaps more significantly, provides a springboard for public comment' in the agency decision-making process itself."<sup>86</sup>

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<sup>80</sup> 43 U.S.C. § 1344(a) (requiring the Bureau to precisely define where lease sales occur); see also *Watt*, 668 F.2d at 1304 (OCSLA "unambiguously directs the [Bureau] to specify the location of leasing activity 'as precisely as possible.'").

<sup>81</sup> National Commission on the BP Deepwater Horizon Oil Spill and Offshore Drilling, *Deep Water: The Gulf Oil Disaster and the Future of Offshore Drilling*, Jan. 2011, at 261, available at <http://www.gpo.gov/fdsys/pkg/GPO-OILCOMMISSION/pdf/GPO-OILCOMMISSION.pdf>.

<sup>82</sup> Draft EIS at 2-5.

<sup>83</sup> *Ctr. For Biological Diversity v. U.S. Dept. of the Interior*, 563 F.3d 466, 488 (D.C. Cir. 2009)

<sup>84</sup> See *Watt* 668 F.2d at 1304 (stating that while "a leasing program consisting of a schedule of proposed lease sales designated as merely ... 'Gulf of Mexico' ... may... place the entire nation on notice; they hardly satisfy the requirement that the location of leasing activity be specified 'as precisely as possible.'")

<sup>85</sup> *Quechan Indian Tribe of the Fort Yuma Indian Reservation v. U.S. Dept. of Interior*, 547 F.Supp.2d 1033, 1043 (D. Ariz., 2008) (citations omitted).

<sup>86</sup> *Id.*

In *Quechan*, the court found the NEPA process adequately fulfilled in the analysis of a land transfer for a refinery where the public would be given the opportunity to comment on later stages of construction of the refinery.<sup>87</sup> However, BOEM provides no avenue to fulfill the second purpose of NEPA—public participation—in regards to oil spill response plans (“OSRPs”).

OSRPs provide the “mitigation” which BOEM uses to claim that the environmental risk of a blowout resulting in a large oil spill has been reduced to an insignificant level. The public cannot meaningfully participate in an environmental review of a lease sale where the basis for the minimization of risk associated with the activities that are reasonably foreseeable pursuant to that sale have not been exposed to public scrutiny and comment.

### **IX. BOEM Failed to Adequately Consider Environmental Justice Issues and Failed to Quantify the Social and Environmental Costs of its Proposal**

BOEM’s proposal raises significant environmental justice issues. But BOEM fails to adequately address these significant impacts, or adequately analyze the social and environmental costs of continuing oil and gas development contemplated under the proposed lease sales.

As BOEM is well aware, on February 11, 1994, President Clinton issued Executive Order 12898, “Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations.” The Executive Order makes it the responsibility of each federal agency to “make achieving environmental justice part of its mission in identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations.” Accompanying this order was a Presidential Memorandum stating that “each Federal agency shall analyze the environmental effects, including human health, economic and social effects, of Federal actions, including effects on minority communities and low-income communities, when such analysis is required by [NEPA].”

States bordering the Gulf of Mexico are home to a variety of onshore oil and gas infrastructure that support offshore oil and gas drilling activities, including oil refineries. Toxic pollution from these refineries and petrochemical facilities disproportionately impact low-income neighborhoods and communities of color.

Moreover, many of these communities are at ground zero for the impacts of climate change, with sea level rise and wetlands loss already some of the earliest climate migration in the U.S. Scientists estimate that, if current rates of coastal wetlands loss and sea level rise continue, nearly all of southeast Louisiana will be under water by 2100, leading to the displacement of even more communities.

The proposed lease sales, or any option that supports the continuing sale of leases in federal waters, will exacerbate all these impacts by leading to more oil drilling, which will lead to more oil refining, toxic air pollution and greenhouse gas emissions. While BOEM quantifies the

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<sup>87</sup> *Id.* at 1044.

purported economic benefits of its proposal, such as job creation and value added impacts, BOEM wholly fails to quantify the negative impacts that would result, such as the quantity of air pollutants from refining and consuming the oil and gas to be extracted and the attendant societal and environmental costs of such emissions. This is despite BOEM's prior quantification of harm caused by air emissions from oil and gas activities represented by dollars per ton for certain pollutants,<sup>88</sup> and a readily available tool to analyze the costs of the greenhouse gas emissions generated by BOEM's proposal—the social cost of carbon.

The social cost of carbon was developed by the Interagency Working Group on Social Cost of Carbon, which was convened by the Council of Economic Advisers and the Office of Management and Budget. As explained in the Working Group's (hereinafter Working Group) report:

The purpose of the "social cost of carbon" (SCC) estimates presented here is to allow agencies to incorporate the social benefits of reducing carbon dioxide (CO<sub>2</sub>) emissions into cost-benefit analyses of regulatory actions that impact cumulative global emissions. The SCC is an estimate of the monetized damages associated with an incremental increase in carbon emissions in a given year. It is intended to include (but is not limited to) changes in net agricultural productivity, human health, property damages from increased flood risk, and the value of ecosystem services due to climate change.<sup>89</sup>

The Working Group presents values for social costs from 2015 to 2050, ranging from \$11 to \$212 (in 2007 dollars per metric ton of CO<sub>2</sub>).<sup>90</sup> The SCC demonstrates that the benefits of reducing carbon pollution are significant. However, recent studies have demonstrated that their numeric value assigned to the social cost of carbon vastly underestimates the true cost.<sup>91</sup>

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<sup>88</sup> See e.g., Draft Proposed Five Year Plan at B-8 (referencing OEMC which quantifies the economic cost of air pollutants, including NO<sub>x</sub>, SO<sub>x</sub>, PM<sub>10</sub> and PM<sub>2.5</sub>, carbon monoxide, and VOCs); Industrial Economics, Inc.; Applied Science Associates, Inc.; Northern Economics; and Dr. Nicholas Z. Muller. 2012. Forecasting Environmental and Social Externalities Associated with OCS Oil and Gas Development: The Revised Offshore Environmental Cost Model (OECM) (BOEM 2012-025).

<sup>89</sup> Interagency Working Group on Social Cost of Carbon, United States Government, Technical Support Document: *Technical Update of the Social Cost of Carbon for Regulatory Impact Analysis - Under Executive Order 12866*, May 2013, available at [https://www.whitehouse.gov/sites/default/files/omb/inforeg/social\\_cost\\_of\\_carbon\\_for\\_ria\\_2013\\_update.pdf](https://www.whitehouse.gov/sites/default/files/omb/inforeg/social_cost_of_carbon_for_ria_2013_update.pdf).

<sup>90</sup> Interagency Working Group on Social Cost of Carbon, United States Government, Technical Support Document: *Technical Update of the Social Cost of Carbon for Regulatory Impact Analysis - Under Executive Order 12866* at 2-3 (July 2015 revision), available at <https://www.whitehouse.gov/sites/default/files/omb/inforeg/scc-tsd-final-july-2015.pdf>.

<sup>91</sup> F. Ackerman & E. Stanton, *Climate Risks and Carbon Prices: Revising the Social Cost of Carbon*, in *Economics*, vol. 6 (Apr. 4, 2012) (the social cost of carbon could be almost \$900/tCO<sub>2</sub> in 2010, rising to \$1,500/tCO<sub>2</sub> in 2050).

BOEM's analysis of the cumulative impacts of its proposal on environmental justice communities is inadequate. In particular, its failure to adequately describe and quantify these negative impacts does not comply with its duty to disclose environmental justice implications. BOEM's quantification of the purported economic benefits of its proposal while assigning zero value to the social and environmental costs is disingenuous and unlawful. Indeed, BOEM seems to dismiss the import of the additional air pollution that could result from its proposal on Gulf communities because there is already significant OCS-related infrastructure in the Gulf states. This approach undercuts the entire purpose of a cumulative impacts analysis and efforts to inform and engage environmental justice communities.

## **X. Conclusion**

Sierra Club appreciates the opportunity to comment on the Draft EIS for Outer Continental Shelf Oil and Gas Leases in the Gulf of Mexico from 2017 – 2022. For the reasons stated above, BOEM must correct flaws in its analysis to accurately assess the risks and impacts of drilling in the sensitive ultra-deepwater ecosystems encompassed in the proposed lease sale areas. BOEM also must rectify the shortcomings of its assumptions and flawed information it relies on in establishing the purported need for the proposed action and to create a reasonable range of alternatives, including analysis of a true "no action" alternative that permanently cancels leases.

BOEM's statutory duty demands that it select an alternative that balances offshore oil and gas development with protection of the human, marine, and coastal environment. Given that oil and gas market projections demonstrate that new offshore sources of oil and gas production aren't needed, BOEM's preferred alternative, to lease all remaining unleased blocks of the Gulf of Mexico for long-term oil and gas production, violates NEPA and OCSLA.

Thank you for your consideration.

Respectfully,



Devorah Ancel  
Staff Attorney  
Sierra Club  
2101 Webster Street, Suite 1300  
Oakland, CA 94612  
(415)-977-5721  
devorah.ancel@sierraclub.org