



November 14, 2022

To: Bureau of Safety and Environmental Enforcement, Department of the Interior

Subject: Oil and Gas and Sulfur Operations in the Outer Continental Shelf—Blowout Preventer Systems and Well Control Revisions, 87 Fed. Reg. 56,354 (proposed Sept. 14, 2022) (BSEE–2022–0009)

The Institute for Policy Integrity at New York University School of Law¹ (Policy Integrity) respectfully submits these comments to the Bureau of Safety and Environmental Enforcement (BSEE or the Bureau) in response to its proposed rule to revise regulations for well control and blowout preventer systems (Proposed Rule).² Policy Integrity is a nonpartisan think tank dedicated to improving the quality of government decisionmaking through advocacy and scholarship in the fields of administrative law, economics, and public policy.

The Proposed Rule revises provisions of the Blowout Preventer Systems and Well Control Rule that the Bureau finalized in 2016 (2016 Rule)³ and partially rolled back in 2019.⁴ The 2016 Rule responded to the Deepwater Horizon explosion and oil spill, an unprecedented disaster caused in part by poor blowout preventer (BOP) performance. BSEE now proposes to reinstate portions of the 2016 Rule, explaining that doing so will enhance the clarity of its BOP regulations, improve BOP capabilities, and strengthen agency oversight of well operations. But while BSEE’s Initial Regulatory Impact Analysis (IRIA) extensively assesses the Proposed Rule’s costs, it engages in a less thorough analysis of the rule’s benefits. To strengthen its conclusion that “the benefits of the [Proposed Rule] . . . exceed the costs,”⁵ BSEE should:

- Quantitatively and/or qualitatively describe the full range of harms that the Bureau expects to avoid by decreasing the risk of well blowouts, which include fatalities, negative health impacts on coastal populations, and the destruction of fragile ecosystems.
- Conduct a break-even analysis to support its finding that the Proposed Rule’s benefits justify its costs. To assist BSEE, we have performed this analysis and find that the rule needs to reduce the risk of well blowouts by at least 0.24%—meaning that it would need to prevent one in approximately 400 blowout events—to justify its purported costs.

¹ These comments do not reflect the views of NYU School of Law, if any.

² Oil and Gas and Sulfur Operations in the Outer Continental Shelf—Blowout Preventer Systems and Well Control Revisions, 87 Fed. Reg. 56,534 (proposed Sept. 14, 2022) [hereinafter Proposed Rule].

³ Oil and Gas and Sulfur Operations in the Outer Continental Shelf—Blowout Preventer Systems and Well Control, 81 Fed. Reg. 25,888 (Apr. 29, 2016).

⁴ Oil and Gas and Sulfur Operations in the Outer Continental Shelf—Blowout Preventer Systems and Well Control Revisions, 84 Fed. Reg. 21,908 (May 15, 2019).

⁵ BSEE, OIL AND GAS AND SULPHUR OPERATIONS ON THE OUTER CONTINENTAL SHELF BLOWOUT PREVENTER AND WELL CONTROL REVISIONS, INITIAL REGULATORY IMPACT ANALYSIS 24 (2022) [hereinafter IRIA].

We expand on these suggestions below.

I. BSEE should account for the full range of benefits associated with decreasing the risk of well blowouts.

Under Executive Order 12,866,⁶ as reaffirmed by Executive Order 13,563,⁷ an agency should adopt a regulation “only upon a reasoned determination that the benefits of the intended regulation justify its costs.”⁸ In its Initial Regulatory Impact Analysis for the Proposed Rule, BSEE extensively explains and estimates the costs of implementing its proposed regulations, but it spends comparatively little space—less than three pages—qualitatively describing the regulation’s anticipated benefits, and it does not quantify those benefits.⁹ That the Proposed Rule’s benefits, which are comprised largely of the reduced risk of an oil spill from a well blowout, are more difficult to quantify than its costs does not merit this reduced consideration. Difficult-to-quantify benefits can be significant, sometimes substantially more so than quantified benefits.¹⁰

BSEE recognizes that the Proposed Rule would “reduce the likelihood of an oil or gas blowout, which can lead to the loss of life, serious injuries, and harm to the environment.”¹¹ To understand the full range of benefits that a preventive regulation like the Proposed Rule provides, BSEE could more thoroughly analyze what potential future costs the regulation will help avoid; the larger the costs of a loss-of-well-control (LWC) event, the less the Proposed Rule must enhance well safety to justify its costs. In the Proposed Rule and IRIA, however, BSEE offers little quantitative or qualitative information about the various costs that blowouts impose on private parties and society at large. To further justify the Proposed Rule, BSEE should qualitatively describe and—to the extent feasible—quantify these costs, which can be significant. Since the Deepwater Horizon spill, for example, BP has paid around \$65 billion in related cleanup and compensation costs.¹²

BSEE’s own analysis of the 2016 Rule quantifies many of the accident costs stemming from poor BOP performance. These include costs associated with natural resource loss, loss of oil and gas resources, spill cleanup and containment, loss of recreational opportunities, losses to the

⁶ Exec. Order No. 12,866, 58 Fed. Reg. 51,735 (Oct. 4, 1993).

⁷ Exec. Order No. 13,563, 76 Fed. Reg. 3821 (Jan. 21, 2011).

⁸ Exec. Order No. 12,866 § 1(b)(6).

⁹ See generally IRIA, *supra* note 5.

¹⁰ See Richard L. Revesz, *Quantifying Environmental Benefits*, 102 CALIF. L. REV. 1423, 1436 (2014) (describing how some of the most substantial categories of monetized benefits of environmental regulation were once considered unquantifiable).

¹¹ Proposed Rule, 87 Fed. Reg. at 56,359–60.

¹² Ron Bousso, *BP Deepwater Horizon Costs Balloon to \$65 Billion*, REUTERS (Jan. 16, 2018), <https://perma.cc/FX29-HQM8>; see BP, ANNUAL REPORT AND FORM 20-F 2018, at 151 (2019), <https://perma.cc/CNM8-EAL7> (explaining that this number includes “spill response costs arising in the aftermath of the [oil spill], amounts charged for the 2012 agreement with the US government to resolve all federal criminal claims arising from the incident, amounts charged for the 2016 consent decree and settlement agreement with the United States and the five Gulf coast states including amounts payable for natural resource damages, state claims and Clean Water Act penalties, operating costs, amounts charged upon initial recognition of the trust obligation, other litigation, claims, environmental and legal costs and estimated obligations for future costs, net of settlements agreed with the co-owners of the Macondo well and other third parties”).

commercial fishing industry, and fatalities directly resulting from LWC events. BSEE itself quantified all these costs in its economic analysis of the 2016 Rule;¹³ the Bureau should recalculate them for the Proposed Rule and appropriately weigh them in its rulemaking process.

BSEE should also account for several other types of avoided costs that it did not account for in its 2016 Rule, either quantitatively or, if that is not feasible, through a qualitative analysis.¹⁴ For example, although BSEE calculated the cost of fatalities directly resulting from LWC events, it did not attempt to calculate the costs of (1) non-lethal injuries directly attributable to LWC events and (2) deaths and negative health impacts that result from, but do not occur in the immediate aftermath of, an LWC event. In the wake of the Deepwater Horizon oil spill, for instance, those impacts were severe.

An extensive literature details the health impacts of the spill on cleanup workers and populations living on the nearby shore. In the first months after the spill, benzene and particulate concentrations along the coast were measured to be 2 to 19 times higher and 10 to 45 times higher than normal, respectively.¹⁵ During that time, cleanup workers and people living in coastal Louisiana reported symptoms including “headaches, dizziness, nausea, vomiting, cough, respiratory distress, and chest pain.”¹⁶ Follow-up studies years later found that several of these adverse health effects persisted, and in some cases, had gotten worse; doctors observed hematic, cardiac, respiratory, hepatic, renal, and neurological symptoms.¹⁷ Research has also shown that the Deepwater Horizon oil spill caused an increase in mental health problems¹⁸ and lower birth weights in the surrounding community.¹⁹

BSEE should also account for certain nonmarket harms to natural resources damaged by oil spills. Although BSEE previously applied a natural resource damages figure from the Bureau of Ocean Energy Management that purported to represent the value of the resources destroyed due to the spill and cleanup activities,²⁰ that figure does not include the value of potentially irreversible harm to the marine ecosystem, biodiversity, and endangered species.²¹ That figure also does not account for the fact that the costs of oil spills may be increasing. One study finds that although the number of oil spill incidents has decreased over the past sixty years, the spills

¹³ BSEE, OIL AND GAS AND SULPHUR OPERATIONS IN THE OUTER CONTINENTAL SHELF—BLOWOUT PREVENTER SYSTEMS AND WELL CONTROL REGULATORY IMPACT ANALYSIS 58 (2016), <https://perma.cc/WZ6P-YTT3> [hereinafter 2016 RIA].

¹⁴ OFF. OF MGMT. & BUDGET, CIRCULAR A-4, at 26–27 (2003), <https://perma.cc/PJ7V-ALZ7> [hereinafter CIRCULAR A-4].

¹⁵ Paul A. Sandifer et al., *Human Health and Socioeconomic Effects of the Deepwater Horizon Oil Spill in the Gulf of Mexico*, 34 OCEANOGRAPHY 174, 177 (2021).

¹⁶ Gina M. Solomon & Sarah Janssen, *Health Effects of the Gulf Oil Spill*, 304 J. AM. MED. ASSOC. 1118, 1118 (2010).

¹⁷ E.g., Mark A. D’Andrea & G. Kesava Reddy, *The Development of Long-Term Adverse Health Effects in Oil Spill Cleanup Workers of the Deepwater Horizon Offshore Drilling Rig Disaster*, 6 FRONTIERS PUB. HEALTH 1, 4–5 (2018); Sandifer et al., *supra* note 15, at 177–78.

¹⁸ E.g., Howard J. Osofsky et al., *Deepwater Horizon Oil Spill: Mental Health Effects on Residents in Heavily Affected Areas*, 5 DISASTER MED. PUB. HEALTH PREPAREDNESS 280 (2011).

¹⁹ E.g., Louis-Philippe Beland & Sara Oloomi, *Environmental Disaster, Pollution and Infant Health: Evidence from the Deepwater Horizon Oil Spill*, 98 J. ENV’T ECON. & MGMT., at 12–13 (2019).

²⁰ 2016 RIA, *supra* note 13, at 64 n.55.

²¹ PETER HOWARD ET AL., THE REAL COSTS OF OFFSHORE OIL AND GAS LEASING 40 (2022), <https://perma.cc/CK6Q-95RA>.

that have occurred tended to be greater in size and damage.²² Potential explanations for this trend include the increase in oil tanker size, drilling depth, and/or scarcity of environmental resources.²³

Additionally, BSEE should account for the distributional impacts of oil spills. For many years, executive orders and related guidance documents have directed agencies to consider distributional impacts in regulatory decisionmaking. Since 1993, Executive Order 12,866 has required agencies to consider distributional impacts and equity in their regulatory decisionmaking.²⁴ Executive Order 12,898, issued around the same time, requires agencies to identify and seek to address the adverse environmental and human-health impacts of all federal administrative programs (including regulations) on minority and low-income populations.²⁵ The Office of Management and Budget's Circular A-4, the executive branch's principal guidance on cost-benefit analysis, advises agencies to describe an action's distributional effects, or "how both benefits and costs are distributed among sub-populations of particular concern."²⁶ Furthermore, President Biden has repeatedly stated that advancing environmental justice is a priority for his administration.²⁷

Like many types of environmental disasters, the BP oil spill impacted historically overburdened populations more acutely. After the spill, low-income coastal residents were more likely to report having lost income and observing physical and mental health effects among their children,²⁸ and Black and Hispanic infants and children were more likely to experience physical and/or mental health effects than white infants and children.²⁹ The Bureau should explain the negative distributional impacts that result from oil spills, describe the wide range of harms that oil spills cause, and quantify those harms when possible.

II. BSEE should conduct a break-even analysis to support its finding that the Proposed Rule's benefits justify its costs.

When it is difficult for an agency to quantify a rule's benefits and those benefits are important, the Office of Management and Budget recommends that the agency conduct a "break-even

²² Maria Alló & Maria L. Loureiro, *Estimating a Meta-Damage Regression Model for Large Accidental Oil Spills*, 86 ECOLOGICAL ECON. 167 (2013).

²³ HOWARD ET AL., *supra* note 21, at 38–39 (first citing Lucija Muehlenbachs et al., *The Impact of Water Depth on Safety and Environmental Performance in Offshore Oil and Gas Production*, 55 ENERGY POL'Y 699 (2013); and then citing Thomas Sterner & U. Martin Persson, *An Even Sterner Review: Introducing Relative Prices into the Discounting Debate*, 2 REV. ENV'T ECON. & POL'Y 61 (2008)).

²⁴ Exec. Order No. 12,866 §§ 1(a), 1(b)(5), 58 Fed. Reg. 51,735, 51,735 (Oct. 4, 1993).

²⁵ Exec. Order No. 12,898 § 1-101, 59 Fed. Reg. 7629, 7629 (Feb. 16, 1994).

²⁶ CIRCULAR A-4, *supra* note 14, at 14.

²⁷ See Exec. Order No. 13,990 § 1, 86 Fed. Reg. 7037, 7037 (Jan. 25, 2021) (stating the Biden administration's policy to "prioritize . . . environmental justice"); Exec. Order No. 14,008 § 219, 86 Fed. Reg. 7619, 7629 (Feb. 1, 2021) (stating that it is the Biden administration's policy to "secure environmental justice and spur economic opportunity for disadvantaged communities that have been historically marginalized and overburdened by pollution and underinvestment in housing, transportation, water and wastewater infrastructure, and health care").

²⁸ DAVID ABRAMSON ET AL., NAT'L CTR. FOR DISASTER PREPAREDNESS, IMPACT ON CHILDREN AND FAMILIES OF THE DEEPWATER HORIZON OIL SPILL 4–5 (2010), <https://perma.cc/ELX5-M3DS>.

²⁹ *Id.* at 8; Beland & Oloomi, *supra* note 19, at 14.

analysis.”³⁰ A break-even analysis, sometimes referred to as a “threshold” analysis, essentially asks how high unquantified benefits would need to be to justify a rule’s costs.³¹ Using break-even analysis can help avoid the anti-regulatory bias that results if agencies decide not to regulate because costs are more easily quantified than benefits.³² Agencies often use this tool when evaluating rules that are intended to reduce the risk of low-probability, high-cost events whose benefits are difficult to quantify. For example, in its recently proposed rule designed to reduce the risk of chemical accidents,³³ the Environmental Protection Agency (EPA) conducted a break-even analysis to determine how much damage from chemical accidents the rule would need to prevent each year to justify its costs.³⁴ The Department of Homeland Security and the Transportation Security Administration routinely conduct break-even analyses for rules intended to reduce the risk of terrorist attacks.³⁵

Here, the Proposed Rule’s primary benefit is the lower risk of an oil spill due to LWC. A break-even analysis can help conceptualize whether that lower risk is likely to justify the regulation’s costs; the analysis’s result represents the risk reduction that the Proposed Rule would need to accomplish to justify its costs. BSEE already possesses the basic data it needs to conduct a robust break-even analysis for the Proposed Rule: (1) the cost of the regulation³⁶ and (2) many of the costs of the event that the regulation is designed to avoid—oil spills.³⁷ To demonstrate, we calculate that value ourselves using the following steps; for simplicity’s sake, we use a methodology similar to the one that BSEE itself used in its 2016 Regulatory Impact Analysis (2016 RIA).³⁸ (Note that we use the same cost estimates that BSEE used in its 2016 RIA, which it gave in 2014 dollars.) We find that the Proposed Rule would need to reduce the risk of blowouts by at least **0.24%** to justify its purported costs. This represents a high-end probability estimate, since, as noted above, the Bureau’s 2016 analysis omitted certain key oil-spill costs.

³⁰ CIRCULAR A-4, *supra* note 14, at 2.

³¹ *Id.* An agency could also use break-even analysis to analyze unquantified costs.

³² Revesz, *Quantifying Regulatory Benefits*, *supra* note 10, at 1425.

³³ Accidental Release Prevention Requirements: Risk Management Programs Under the Clean Air Act; Safer Communities by Chemical Accident Prevention, 87 Fed. Reg. 53,556 (Aug. 31, 2022).

³⁴ ENV’T PROT. AGENCY, SAFER COMMUNITIES BY CHEMICAL ACCIDENT PREVENTION PROPOSED RULE REGULATORY IMPACT ANALYSIS 59–61 (2022), <https://perma.cc/8GRN-WCBY>.

³⁵ DEP’T OF HOMELAND SEC., FY 2022–2026 LEARNING AGENDA 54 (2022), <https://perma.cc/5QC2-DMBM>; TRANSP. SEC. ADMIN., PASSENGER SCREENING USING ADVANCED IMAGING TECHNOLOGY REGULATORY IMPACT ANALYSIS AND FINAL REGULATORY FLEXIBILITY ANALYSIS 131–38 (2016), <https://perma.cc/QK5T-X565>; Transp. Sec. Admin., Air Cargo Screening, 76 Fed. Reg. 51,848, 51,865–66 (Aug. 18, 2011); Dep’t of Homeland Sec., Ammonium Nitrate Security Program, 76 Fed. Reg. 46,908, 46,937 (Aug. 3, 2011).

³⁶ BSEE estimates the cost to be \$236,981 per year on an undiscounted, annualized basis. IRIA, *supra* note 5, at 20.

³⁷ BSEE estimated this cost in its 2016 RIA. While it considered several cost scenarios, its primary estimate led to an annualized cost of almost \$265 million. *See* 2016 RIA, *supra* note 13, at 62–64.

³⁸ *Id.* at 58–64, 69–73. BSEE may use this methodology or a different one of its choosing consistent with best economic practices.

1. Calculate the annualized cost of LWC events stemming from natural resource loss, the loss of hydrocarbons, and spill cleanup and containment:
 - A. 222.39 [*barrels of oil spilled per new well drilled*]³⁹ x 90 [*new wells drilled on the Outer Continental Shelf each year*]⁴⁰ = **20,015 barrels of oil spilled each year**
 - B. $20,015$ [*barrels of oil spilled each year*] x $\$3,658$ [*cost of a spilled barrel of oil*]⁴¹ = **\\$73,215,236**
2. Add the additional annualized one-time cost of catastrophic oil spills, which encompasses the loss of recreational opportunities and losses to the commercial fishing industry:
 - A. $\$73,215,236$ [*annualized cost of spilled barrels*] + $\$4,656,376$ [*annualized cost associated with catastrophic oil spills*]⁴² = **\\$77,871,612**
3. Add the annualized cost of fatalities directly resulting from LWC events:
 - A. 0.320 [*annualized number of fatalities*]⁴³ x $\$8,685,329$ [*value of a statistical life used by EPA*]⁴⁴ = **\\$2,779,305**
 - B. $\$77,871,612$ [*annualized cost of oil spills from Step 2*] + $\$2,779,305$ [*annualized cost of fatalities directly resulting from oil spills*] = **\\$80,650,917**
4. Convert to 2022 dollars:
 - A. $\$80,650,917$ [*annualized cost of oil spills*] x 1.218 [*adjustment for inflation from 2014 to the first half of 2022*]⁴⁵ = **\\$98,232,817**
5. Divide the cost of the Proposed Rule by the annualized cost of an oil spill to get the break-even value:
 - A. $\$236,981$ [*purported annualized cost of the Proposed Rule*]⁴⁶ / $\$98,232,817$ [*annualized cost of oil spills*] = **0.24%**

³⁹ *Id.* at 62. Ideally, we would use an updated value, as this number only accounts for oil spills through 2010. However, BSEE has not published consistent up-to-date data on oil spills or new wells drilled that would allow us to account for spills through the present day. Should BSEE ultimately conduct a break-even analysis, it should use the most up-to-date data possible.

⁴⁰ BSEE provides this drilling projection in the Proposed Rule's IRIA when calculating the regulation's anticipated costs. IRIA, *supra* note 5, at 7. This value represents BSEE's middle-case projection; should it conduct its own break-even analysis, the Bureau can conduct sensitivity analyses using its low- and high-case projections. *Id.* at 6.

⁴¹ This figure came from the Bureau of Ocean Energy Management. 2016 RIA, *supra* note 13, at 63.

⁴² *Id.* at 64.

⁴³ *Id.* at 70–72.

⁴⁴ *Id.* at 71.

⁴⁵ *Databases, Tables & Calculators by Subject*, BUREAU OF LAB. STAT., <https://perma.cc/8N6R-LCCX>.

⁴⁶ IRIA, *supra* note 5, at 21.

Thus, according to this illustrative analysis, the Proposed Rule would need to reduce the risk of LWC events by 0.24%, or less than 1 in 400, to justify its purported costs. And this is a conservative estimate because, as noted above, it includes only the oil-spill costs that BSEE monetized in its 2016 analysis and does not account for an oil spill's considerable non-monetized costs. Although BSEE is unlikely to be able to estimate with certainty by how much it expects the Proposed Rule to reduce the risk of blowouts, it could more readily evaluate whether the rule is likely to reduce blowouts by more or less than 0.24%, like it has in the past.⁴⁷

Alternatively, BSEE could conduct a similar type of analysis by comparing the Proposed Rule's costs to the costs of a catastrophic oil spill. The Proposed Rule's purported cost is 274,284 times less than the \$65 billion BP has paid in cleanup and compensation costs stemming from the Deepwater Horizon spill.⁴⁸ Performing either this analysis or the break-even analysis conducted above demonstrates how small the purported cost of the Proposed Rule is in light of the significant benefits from reducing the risk of oil spills, and can therefore strengthen BSEE's conclusion that "the benefits of the [Proposed Rule] . . . exceed the costs."⁴⁹

Conclusion

In light of the enormous societal costs and undesirable distributional effects imposed by well blowouts, it is sensible for BSEE to require additional safety measures and reporting requirements. BSEE can take simple steps to bolster its justification for the rule. Specifically, the Bureau should more thoroughly explain the wide range of harms associated with major blowout events and conduct a break-even analysis to support its conclusion that the Proposed Rule's benefits justify its costs.

Sincerely,

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⁴⁷ See, e.g., 2016 RIA, *supra* note 13, at 62 n.51 (citing studies that BSEE used to estimate by what percentage the 2016 Rule would reduce the risk of oil spills due to well blowouts).

⁴⁸ Bousso, *supra* note 12. This is also likely a conservative estimate, as these costs do not include unremedied harms to human health and wildlife.

⁴⁹ IRIA, *supra* note 5, at 24.