

PROPOSED INDICATORS TO MEASURE THE ENVIRONMENTAL RESPONSIBILITY OF OIL AND GAS COMPANIES AND REGULATORY REFORMS TO IMPROVE ACCESS TO INFORMATION ABOUT OFFSHORE DRILLING

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I. EXECUTIVE SUMMARY

The Arctic presents formidable challenges for offshore drilling, including “extreme cold, varying forms and amount of sea ice, seasonal darkness, high winds, extended periods of

heavy fog, and week-long storms that approach hurricane strength.”¹ The demanding physical conditions in the Arctic can be expected to “both heighten the risk of an oil spill and limit the effectiveness of oil spill response operations.”² Compounding these challenges is the fact that the Arctic is remote and far from the critical resources, infrastructure, and supplies needed to clean up chemical spills and releases. For these reasons, before the offshore oil and gas drilling industry expands into U.S. waters off the coast of Alaska,³ more information about the companies proposing to drill in the Arctic is needed for informed decision making, meaningful public input, and effective oversight of operator performance in this particularly challenging and environmentally significant setting.⁴

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1. Nat’l Comm’n on the BP Deepwater Horizon Oil Spill & Offshore Drilling, *Offshore Drilling in the Arctic: Background and Issues for the Future Consideration of Oil and Gas Activities* 10 (Staff Working Paper No. 13, 2011) [hereinafter NATIONAL COMMISSION STAFF WORKING PAPER].

2. *Id.*

3. Current plans for drilling in the U.S. Arctic are limited and recent attempts have encountered significant obstacles. *See, e.g.*, Richard Milne et al, *Oil Companies Put Arctic Projects into Deep Freeze*, FIN. TIMES, Feb. 5, 2015 (“[A] combination of political sensitivities and unfavourable economics in the Arctic has encouraged US oil groups to focus on more attractive opportunities . . .”); McKenzie Funk, *The Wreck of the Kulluk*, N.Y. TIMES MAG., Dec. 30, 2014 (detailing problems Shell encountered during drilling activities in 2012); Guy Chazan, *Total Warns Against Oil Drilling in Arctic*, FIN. TIMES, Sept. 25, 2012 (reporting Total SA’s position that energy companies should not drill for crude in Arctic waters because “the risk of an oil spill in such an environmentally sensitive area was simply too high.”).

4. *See e.g.*, EMMETT ENVTL L. & POL’Y CLINIC, HARVARD LAW SCHOOL, RECOMMENDATIONS FOR IMPROVED OVERSIGHT OF OFFSHORE DRILLING BASED ON A REVIEW OF 40 REGULATORY (June 2012); PEW CHARITABLE TRUSTS, ARCTIC STANDARDS: RECOMMENDATIONS ON OIL SPILL PREVENTION, RESPONSE, AND SAFETY IN THE U.S. ARCTIC OCEAN (Sept. 2013) (“[T]he [Ocean Energy Safety Advisory] committee concluded that there is a need to modernize U.S. regulations to include Arctic-specific standards . . .”); Oil and Gas and Sulphur Operations on the Outer Continental Shelf— Requirements for Exploratory Drilling on the Arctic Outer Continental Shelf, 80 Fed. Reg. 9916 (Feb. 24, 2015) (proposing Arctic-specific operational standards for drilling related activities in the Beaufort Sea and Chukchi Sea Planning Areas).

This paper suggests a set of indicators to evaluate and predict the environmental performance of companies proposing to drill for oil or gas in the U.S. Arctic and recommends mechanisms for improving public access to, and intra- and inter-agency sharing of, information from companies engaged in offshore drilling. We use the term “performance indicator” to refer to an observable metric that correlates with an aspect of an operator’s performance that is either too difficult to measure directly, or too broad to be reduced to a single, precisely quantifiable metric.⁵ Performance indicators can be used to compare an operator’s performance in a particular year against its performance in previous years or against average industry performance.⁶

The performance indicators presented here are intended to provide a comprehensive portrait of an operator’s environmental performance. We selected indicators drawn from all aspects of offshore oil and gas operations, including exploration, drilling, production, and product transportation, and focused on both the risk of catastrophic accidents and environmental impacts that occur during the course of normal operations. The collection of suggested indicators, which draws from indicators that are used by other nations or industry groups, is large enough to be comprehensive, but small enough to permit effective tracking. We selected indicators for which data is available, or reasonably easy to acquire, but in doing so recognized existing limitations on access to relevant data. This paper identifies barriers to information access and recommends ways to overcome these barriers.

Much of the information that is important for evaluating—and minimizing—safety and environmental risks is already collected by various government agencies from companies participating in offshore drilling in the United States. That information, however, is not readily accessible by the public, or even routinely shared among various interested agencies.

5. See ORG. FOR ECON. COOP. & DEV., GUIDANCE ON DEVELOPING SAFETY PERFORMANCE INDICATORS RELATED TO CHEMICAL ACCIDENT PREVENTION, PREPAREDNESS AND RESPONSE 5 (2d ed. 2008) [hereinafter OECD Guidance] (“The term ‘indicators’ is used to mean observable measures that provide insight into a concept – safety – that is difficult to measure directly.”).

6. See Ian Whewell, *Performance Indicators in Major Hazard Industries—An Offshore Regulator’s Perspective* 8 (2012), available at <http://perma.law.harvard.edu/0xoqT9KTsTm> [hereinafter CHEM. SAFETY BD. PUB. HEARING].

Although various federal agencies collect a significant amount of information about offshore drilling operations, limited access to such information impairs the ability of stakeholders (such as host communities, investors, regulators, advocacy groups, academics, and members of the general public) to efficiently and effectively evaluate and influence the significant safety and environmental impacts of offshore drilling.⁷

In particular, we examined the accessibility of information currently collected by the Department of the Interior's ("DOI") Bureau of Safety and Environmental Enforcement ("BSEE") due to BSEE's central role in overseeing offshore safety and environmental protection.⁸ Despite the creation of BSEE and the adoption of the Safety and Environmental Management System ("SEMS") regulations in the wake of the Deepwater Horizon spill, stakeholders still lack adequate access to critically important information about safety and environmental performance.

This paper highlights several obstacles to public and agency access to the information reported to BSEE under its regulations (30 C.F.R. Part 250, or the "Regulations"). For instance, although the Regulations allow public access to some of the information submitted on BSEE forms (§ 250.197(a)), the forms cover only a portion of the information submitted to, and relied upon by, BSEE in considering a company's safety and environmental impacts. Information that is submitted to BSEE in formats other than an agency form should also be accessible to the public, but the time and effort it takes to access such information frustrates meaningful public oversight of safety and environmental impacts. In addition, such access may be subject to BSEE determinations of "necessity" of access, further shielding from public review information relevant to assessing safety and environmental risks.

Moreover, many documents relevant to evaluating the safety and environmental performance of offshore operators are not

7. Operators may also benefit from shared information that informs performance indicators by integrating them into their managerial control systems. See Paolo Perego & Frank Hartmann, *Aligning Performance Measurement Systems With Strategy: The Case of Environmental Strategy*, 45 ABACUS 397 (2009).

8. DOI's Bureau of Ocean Energy Management ("BOEM") collects information from offshore drillers under regulations that similarly hamper access to information. See 30 C.F.R. § 550 (2014). Thus, although this paper focuses on BSEE, many of its recommendations are equally applicable to BOEM.

available through BSEE's online Data Center. We therefore requested samples of such material through informal communications with BSEE and through formal Freedom of Information Act ("FOIA") requests. The latter resulted in referrals to nine different points of contact at BSEE and Bureau of Ocean Energy Management ("BOEM") over a six-week period, at the end of which we were informed that the plans were not "releasable" under FOIA. Our subsequent FOIA request produced inconsistent responses from BSEE's various regional officers and the total response time was more than four months. Our request for SEMS audit reports and Corrective Action Plans ("CAPs") triggered a delay for BSEE to consult with the companies that submitted the reports. After more than three months, BSEE produced documents that were so heavily redacted as to be meaningless. These experiences demonstrate unwarranted and logistical roadblocks to the public's access to information.

Agencies are not guaranteed better access than the public. Despite BSEE's mandate, the Regulations do not mandate information-sharing under the Outer Continental Shelf Lands Act (43 U.S.C. § 1334(a)) and the Regulations (§250.106(d)), to "cooperate" and "cooperate and consult" with relevant Federal agencies in enforcing safety and environmental laws and regulating lease operations. In fact, the Regulations contain only one instance of intergovernmental collaboration, involving cooperation between BSEE and the BOEM, another division within DOI. There is no explicit provision for the transfer of information from BSEE to the Environmental Protection Agency ("EPA"), United States Coast Guard ("USCG"), National Oceanic and Atmospheric Administration ("NOAA"), or any other federal agency with jurisdiction over operational aspects of offshore drilling. BSEE purports to rely on memoranda of understanding and agreement ("MOUs/MOAs") to meet its obligation to facilitate intergovernmental collaboration; however, existing interagency agreements often involve: (i) participation by only a subset of agencies involved in the oversight of offshore drilling; (ii) narrow topical coverage; (iii) a lack of clear benchmarks to assess the success of collaborations; and (iv) vague language.

To address these deficiencies in information access, we recommend several mechanisms to (i) facilitate meaningful public access to safety and environmental information BSEE collects from offshore drillers and (ii) enhance intra- and inter-

agency sharing of information about offshore drilling. These suggestions include steps that can be taken in the near-term, e.g., issuing guidance, and actions that require inter-agency coordination over a longer time frame, for example, developing a centralized reporting system that aggregates information about offshore drilling-related activities in a searchable and accessible format. In particular, BSEE should:

- Issue guidance confirming that BSEE will apply a presumption of public access to, and need for, information relevant to safety and environmental impacts of offshore drilling. More particularly, such guidance should clarify that: (i) the presumption of public access applies to all lease and permit data and information that BSEE receives outside of a BSEE form, except as specifically provided otherwise in paragraph (b) of section 250.197; and (ii) the intent of paragraph (c) of section 250.197 is to expand public access to otherwise proprietary geophysical and geological data.⁹
- Require reporting entities to provide a copy of submitted reports in a format immediately ready for public distribution (*i.e.*, information claimed to be protected should be redacted).
- Increase the scope of, and accessibility to, material posted on BSEE's public website.
- Revise its reporting forms to clarify the public's right of immediate access to a greater portion of the information submitted to BSEE.
- Create a centralized reporting system for offshore drilling-related activities to facilitate aggregation of information collected by all of the agencies with its

9. Consistent with the executive directive to federal agencies to "adopt a presumption in favor of disclosure" and "take affirmative steps to make information public," any default assumption of confidentiality needs to be shifted to a default assumption of public access. Memorandum from President Obama to Heads of Exec. Dept's & Agencies, Re: Freedom of Information Act (Jan. 23, 2009), *available at* <http://perma.cc/7CQ8-ZUPL>.

jurisdiction in a single and searchable system available to the public and all interested regulators. Shared access to streamlined information within and among agencies would benefit not only agencies with specific authority over offshore drilling, but also agencies such as the Securities and Exchange Commission (“SEC”), whose responsibilities encompass consideration of the financial relevance of the safety and environmental impacts of offshore drilling. The SEC should be included in efforts to improve oversight of offshore drilling, particularly as it relates to information disclosure and access.

These recommendations for improving access to information build on BSEE’s existing data collection processes and would not increase the amount or type of information that BSEE collects. Rather, the recommendations would streamline reporting and public access to information without creating additional substantive requirements for the regulated community and facilitate use of environmental performance indicators.

Table 1: Suggested Indicators

Leading Indicators						
Indicator	Metric	Data Already Collected by Operators?	Data Already Collected by BSEE?	Authority for Data Collection (relevant agency is BSEE unless otherwise indicated)	Notes & Precedent	
SEMS Personnel Survey Indicators	Satisfactory or unsatisfactory performance on questions pertaining to clarity of SEMS goals and responsibilities, supervisory involvement, worker professionalism/empowerment, reporting, performance feedback, safety values/commitment, procedures, equipment, training	No	No	30 C.F.R. 250.1924	Clear predictive value; incentive for operators to improve their SEMS program; some administrative costs and need to comply with the Paperwork Reduction Act <i>Precedent:</i> NOPSEMA (Australia) process safety survey program	
Safety and Pollution Prevention Equipment (SPEE) Maintenance Backlog	Percentage of SPEE maintenance projects not completed on time	Yes	No	30 C.F.R. 250.1916; 250.1924	Clear predictive value; incentive for operators to increase investment in SPEE maintenance; need to issue NTL <i>Precedent:</i> Oil & Gas UK's "safety critical maintenance backlog" indicator	
Air Pollution	Metric tons of NO _x emitted per million barrels of oil produced; Metric tons of SO ₂ emitted per million barrels of oil produced; Metric tons of VOCs emitted per million barrels of oil produced; Metric tons of GHGs emitted per million barrels of oil produced	Yes	Yes for operators in the Gulf (every 3 years since 2005); No for operators in the Arctic	30 C.F.R. 550.303(k) (BOEM)	This indicator will provide information about air pollution resulting from the day-to-day operations of offshore wells and will tend to correlate with an operator's commitment to environmentally responsible performance; need to issue NTLs to begin tracking emissions in the Arctic	

Indicator	Metric	Data Already Collected by Operators?	Data Already Collected by BSJEE?	Authority for Data Collection (relevant agency is BSJEE unless otherwise indicated)	Notes & Precedent
Intermediate Indicators					
Civil and Administrative Violations	Major violation per million barrels of oil produced; significant violations per million barrels of oil produced; minor violations per million barrels of oil produced	Yes	Yes	N/A	Clear predicative value; incentive for operators to improve compliance; data already available and accessible
Kick Frequency & Kick Response Time	Kicks per year (or per 10,000 well completions); time until response to kick	Yes	Yes (well kicks), No (response time)	30 C.F.R. 250.466; 250.209	Clear predicative value; incentive for operators to improve pressure management and kick management; difficult to manipulate and not open to interpretation; need to issue NITs
Loss of Primary Containment (LOPC) Events – Tier 2	Tier 2 events per million barrels of oil produced; mass released from primary containment per year	Yes, if required by regulation	Yes, with exceptions (e.g., events involving super-threshold releases of hazardous substances that do not cause another reportable event)	30 C.F.R. 250.188	This indicator will provide information about events that cause some harm to people or the environment; data already publicly available for LOPC covered by section 250.188 (not all LOPC are covered by regulation at present)

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Indicator	Metric	Data Already Collected by Operators?	Data Already Collected by BSEE?	Authority for Data Collection (relevant agency is BSEE unless otherwise indicated)	Notes & Precedent
Lagging Indicators					
Loss of Primary Containment (LOPC) Events – Tier 1	Tier 1 events per million barrels of oil produced	Yes, if required by regulation	Yes, with exceptions (e.g., events involving super-threshold releases of hazardous substances that do not cause another reportable event)	30 C.F.R. 250.188	This indicator will provide information about events that cause significant harm to people or the environment in the form of fatalities, injuries, explosions, fires, or releases of hazardous pollutants; data already publicly available for LOPC covered by section 250.188 (not all LOPC are covered by regulation at present)
Oil Releases	Major oil spills per million barrels of oil produced; significant oil spills per million barrels of oil produced; minor spills per million barrels of oil produced	Yes	Yes	30 C.F.R. 254.46 (BSEE) 49 C.F.R. 195.50 (PHMSA) 40 C.F.R. 300.125 (Coast Guard)	This indicator will provide information about a serious failure in an operator's environmental compliance program; will track catastrophic and non-catastrophic risk; data already publicly available
Work-Related Fatalities and Reportable Injuries	Work-related fatalities and injuries requiring evacuation or that result in one or more days away from work or one or more days of restricted work or job transfer	Yes	Yes	30 C.F.R. 250.188	This indicator will provide information about the ultimate failure of an operator's safety compliance program; data already publicly available

II. THE NEED FOR PERFORMANCE INDICATORS AND IMPROVED ACCESS TO INFORMATION

In the years since the Deepwater Horizon oil spill in the Gulf of Mexico, policymakers have expressed interest in developing performance indicators for the offshore oil and gas industry.¹⁰ However, much of their focus has been on the development of process safety indicators – indicators that correlate with the risk of catastrophic accidents.¹¹ Far less consideration has been given to the development of indicators that correlate with harm to public health or the environment resulting from the routine construction, operation, and decommissioning of offshore wells (and ancillary equipment and operations). Yet, a true culture of safety cannot limit its attention to the prevention of catastrophic accidents; it must also seek to protect against the cumulative harms resulting from an operator’s day-to-day operations.¹²

The development of environment-specific indicators is thus crucial. The Arctic region is “home to a number of unique, diverse, and fragile ecosystems.”¹³ These ecosystems sustain a diverse collection of species (including many marine mammals and endangered species), as well as human communities that depend on these ecosystems for their food and way of life.¹⁴ These interests are threatened, not only by catastrophic accidents, but also by environmental impacts resulting from routine drilling activities, including, but not limited to, exploration, construction of wells and pipelines, transportation

10. See INT’L ASS’N OIL & GAS PROD., REPORT NO. 456, PROCESS SAFETY: RECOMMENDED PRACTICE ON KEY PERFORMANCE INDICATORS (2011), available at <http://perma.law.harvard.edu/0jhs3Cvbynv>; CHEM. SAFETY BD. PUB. HEARING, *supra* note 6, at 1; COMM. ON THE EFFECTIVENESS OF SAFETY & ENVTL. MGMT. SYS. FOR OUTER CONT’L SHELF OIL & GAS OPERATIONS, TRANSP. RESEARCH BD., SPECIAL REPORT NO. 309, EVALUATING THE EFFECTIVENESS OF OFFSHORE SAFETY AND ENVIRONMENTAL MANAGEMENT SYSTEMS 5 (2012) [hereinafter TRANSP. RESEARCH BD.].

11. See INT’L ASS’N OIL & GAS PROD., *supra* note 10.

12. See EMMETT ENVTL. L. & POL’Y CLINIC, HARVARD LAW SCHOOL, COMMENTS ON BUREAU OF SAFETY AND ENVIRONMENTAL ENFORCEMENT (BSEE) DRAFT SAFETY CULTURE POLICY STATEMENT 3, DOCKET ID. BSEE-2012-0017 (2013) (“While it is critical to prevent accidents of all sorts, accident prevention is not synonymous with safety. A true “culture” of “safety” is broader and protects against unintended danger and damage to persons, property and the environment.”).

13. NATIONAL COMMISSION STAFF WORKING PAPER, *supra* note 1, at 22.

14. See *id.* at 13–15.

of oil and gas, and day-to-day operation of vessels, wells, and associated structures.¹⁵ To minimize damage to and adverse impacts on valuable human and environmental interests, environment-specific indicators must be developed and applied.

The National Commission on the BP Deepwater Horizon Oil Spill and Offshore Drilling highlighted the importance of access to information about offshore drilling operations when it found that the disaster was preventable because it was the result, in large part, of a systemic breakdown of the environmental review process and a corporate culture that failed to promote safety or environmental performance.¹⁶ Improved oversight, including better collection of and public access to information, is particularly important with respect to any future offshore drilling in sensitive, complex, and controversial locations such as the Arctic.¹⁷

Successful oversight includes not only the collection and processing of relevant information, but also meaningful and timely access to and review of such material by the public and relevant government agencies. Limited access to information hampers the ability of agencies and other stakeholders to perform effective and comprehensive reviews and analyses that could contribute to improved oversight of safety and environmental impacts from offshore drilling. Missed opportunities for information sharing will increase costs and inefficiencies for regulators and the regulated community alike. Our research found that private and public stakeholders

15. See OIL IND. INT'L EXPLORATION & PROD. FORUM & UNEP, ENVIRONMENTAL MANAGEMENT IN OIL AND GAS EXPLORATION AND PRODUCTION 20 (1997) (listing environmental impacts associated with the day-to-day operation of an offshore well, including air, water, noise and light pollution).

16. NAT'L COMM'N ON THE BP DEEPWATER HORIZON OIL SPILL & OFFSHORE DRILLING, DEEPWATER: THE GULF OIL DISASTER AND THE FUTURE OF OFFSHORE DRILLING: REPORT TO THE PRESIDENT 126–27, 224–25 (2011) [hereinafter NAT'L COMM'N. REPORT TO THE PRESIDENT].

17. While changes have occurred since the Deepwater Horizon disaster, such as the creation of BSEE and the SEMS program, a recent report from the United States Chemical Safety and Hazard Investigation Board confirms that more can, and should, be done to improve the safety of offshore drilling, including via changes to the SEMS program. UNITED CHEMICAL SAFETY AND HAZARD INVESTIGATION BD., Report No. 2010-10-I-OS, EXPLOSION AND FIRE AT THE MACONDO WELL: INVESTIGATION REPORT VOLUME 2 (2014), available at <http://perma.cc/AYW2-7BEZ> (“While US offshore regulations have undergone important changes since Macondo, more can be done to ensure a focus on preventing major accident events and to drive continuous safety improvement.”).

do not have sufficient or meaningful access to safety and environment-related information submitted by industry to the DOI (via BSEE and BOEM). Facilitating access to information is a critical step toward effective oversight of offshore drilling.

III. SELECTION OF INDICATORS

The suggested performance indicators were chosen to track the environmental performance of offshore oil and gas companies operating in the U.S. Arctic. In identifying appropriate performance indicators, we sought to include a mix of leading, intermediate, and lagging indicators. Leading indicators measure the strength of a company's safeguards against future failures in environmental performance. Intermediate indicators track relatively minor failures in an operator's performance that may be predictive of more substantial performance failures. Lagging indicators track past failures in an operator's environmental performance.¹⁸ We include several leading indicators because they help industry and interested persons to focus on the need for changes in an operator's behavior before environmental harm occurs. Such a proactive approach is necessary where, as here, an operator's failure to act in an environmentally responsible manner risks degrading a precious and irreplaceable ecosystem, such as exists in the Arctic.

We offer two general suggestions regarding the use of the performance indicators. First, we suggest that indicators should be measured in normalized units to allow for meaningful comparison of the performance of different operators, facilities or projects. Thus, units such as "barrels of oil spilled per million barrels of oil produced" or "workplace injuries per hours worked" should be used instead of units that do not take into account the size of an operation, such as "barrels of oil spilled" or "workplace injuries."

Second, we suggest that indicators should track both the trend of an indicator measure and its current value. It is necessary to consider indicator trends because there may be circumstances where the current value of an indicator may

18. See OECD Guidance, *supra* note 5, at 5 (describing outcome and activities indicators).

correlate poorly with the prospective risk posed by an operator. For example, a single large hydrocarbon release is not necessarily predictive of poor future performance, especially if the operator responds to the event by implementing comprehensive changes to its safety and environmental compliance programs. At the same time, current value should be considered along with the trend, to reflect the fact that operators with consistently superior performance relative to the industry average have less opportunity to demonstrate improved performance.

Below we define each selected indicator and explain its utility for evaluating an operator's environmental performance. We then consider whether the Department of the Interior's Bureau of Safety and Environmental Enforcement (BSEE) or another federal agency currently has the raw data that is needed to establish the indicator, and if not, which agency has the authority to collect the data. Finally, we consider how interested members of the general public and the communities that are potentially affected by drilling activities will be able to access this data.

A. LEADING INDICATORS

1. *Personal Surveys Regarding Operator's Safety and Environmental Management System*

Definition

The SEMS¹⁹ and SEMS II²⁰ Rules (collectively referred to as the SEMS Rules) were adopted by BSEE in order to “focus attention on the role of human error and poor organization in accidents, drive continuous improvement in the offshore industry's safety and environmental records, encourage the use of performance-based operating practices, and encourage collaboration between industry to promote the interests of offshore worker safety and environmental protection.”²¹ The

19. Oil and Gas and Sulphur Operations in the Outer Continental Shelf—Safety and Environmental Management Systems; Final Rule, 75 Fed. Reg. 63,610 (Oct. 15, 2010) (codified at 30 C.F.R. pt. 250) [hereinafter SEMS Rule].

20. Oil and Gas and Sulphur Operations in the Outer Continental Shelf—Revisions to Safety and Environmental Management Systems; Final Rule, 78 Fed. Reg. 20,423 (Apr. 5, 2013) (codified at 30 C.F.R. pt. 250) [hereinafter SEMS II Rule].

21. 78 Fed. Reg. at 20,424.

SEMS Rules require operators to develop and implement, inter alia, a facility-wide hazards analysis and a job safety analysis,²² a set of “written operating procedures . . . for conducting safe and environmentally sound activities,”²³ and “a training program” to ensure that “all personnel are trained to work safely and are aware of environmental considerations offshore.”²⁴

The SEMS Rules require operators to audit their SEMS programs at least once every three years, and to submit the audit results to BSEE.²⁵ We recommend that BSEE supplement these audits by conducting periodic surveys of an operator’s personnel (i.e., its employees and contracted workers). These surveys would ask personnel to answer questions related to the operator’s compliance with the SEMS Rules and about their own understanding of safety and environmental policies and procedures.²⁶

In developing such a survey program, BSEE could draw upon the experience of Australia’s National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA), which has recently started to administer a process safety survey to offshore workers at operations under its jurisdiction.²⁷ NOPSEMA’s worker survey includes questions on eight topics: clarity of goals and responsibilities, supervisory involvement, worker professionalism/empowerment, reporting, performance feedback, safety values/commitment, procedures and equipment, and training.²⁸ Offshore workers are asked whether they agree, tend to agree, tend to disagree, or disagree with a series of propositions, such as “[i]n my work group, process safety concerns are secondary to achieving production goals;” “I can report hazardous conditions without fear of negative consequences;” and “[m]y

22. See 30 C.F.R. § 250.1911. (2014).

23. *Id.* § 250.1913.

24. *Id.* § 250.1915.

25. See *id.* § 250.1920(b).

26. Such interviews would also advance the recommendations of the Transportation Research Board. See TRANSP. RESEARCH BD., *supra* note 10, at 5, 21.

27. See *Process Safety Surveys*, NOPSEMA, <http://perma.law.harvard.edu/0p66iLGFng3>.

28. See NOPSEMA, OFFSHORE HEALTH AND SAFETY PERFORMANCE REPORT 23 (2010) [hereinafter OFFSHORE HEALTH AND SAFETY PERFORMANCE REPORT], available at <http://perma.law.harvard.edu/0EYDfs6e52X>.

supervisor/immediate manager puts a high priority on process safety through actions and not just empty slogans.”²⁹ Once collected, an operator’s scores are compared to benchmarks provided by a professional services company to determine whether the operator’s performance is satisfactory or unsatisfactory.³⁰

At present, NOPSEMA reports the results of its surveys in aggregate,³¹ which prevents interested persons from using this data to compare the performance of different operators. We recommend rating each operator individually, so that interested persons (i.e., investors, regulators, and the public generally) can encourage underperforming companies to make improvements.

Why are such surveys useful indicators?

Survey answers concerning an operator’s compliance with the SEMS Rules would provide important information regarding the operator’s safety culture and, hence, its prospective risk. The importance of an effective safety culture in preventing catastrophic accidents cannot be overstated; indeed, the National Commission on the BP Deepwater Horizon Oil Spill and Offshore Drilling (“National Commission”) concluded that the inadequacy of the relevant companies’ safety cultures was “the clear root cause of the blowout” on the Deepwater Horizon.³² But a far more common manifestation of an inadequate safety culture will be less dramatic, less visible (but nonetheless unacceptable) harm to people and the environment resulting from daily, routine operations. Because personnel surveys will offer insight into both catastrophic and non-catastrophic risk, they are especially useful for highlighting environmentally responsible performance and risk-minimizing behaviors (and the absence thereof).

29. *Offshore Process Safety Culture Survey*, NOPSEMA, <http://perma.law.harvard.edu/OYTcfRqJG3s>.

30. See OFFSHORE HEALTH AND SAFETY PERFORMANCE REPORT, *supra* note 28, at 23.

31. See *id.*

32. See NAT’L COMM’N ON THE BP DEEPWATER HORIZON OIL SPILL & OFFSHORE DRILLING, DEEP WATER: THE GULF OIL DISASTER AND THE FUTURE OF OFFSHORE DRILLING 133 (2011); see also *id.* at 217 (calling on industry to embark on “sweeping reforms that accomplish no less than a fundamental transformation of its safety culture”).

In addition to providing information to regulators, investors, and other interested persons, regular personnel surveys would have two additional benefits: they would incentivize operators to improve their SEMS programs and raise personnel awareness of the SEMS program.

How will the necessary information be obtained?

Surveys could be conducted on paper or online and could be administered by BSEE or a reliable third party. BSEE has ample legal authority to establish such a program (though it would need to comply with the procedures set forth in the Paperwork Reduction Act before doing so).³³ Existing regulations permit BSEE to evaluate a facility to determine whether an operator's SEMS program "is in place, addresses all required elements, and is effective in protecting the safety and health of workers, the environment, and preventing incidents."³⁴ BSEE has authority to verify that personnel are following the SEMS program as part of this evaluation.³⁵ Therefore, BSEE has authority to conduct a personnel survey to verify that an operator's SEMS program addresses all required elements and that personnel are complying with the SEMS program.

Upon collecting survey data and determining whether an operator's performance on each program component is satisfactory, BSEE can and should publish the results³⁶ so that other agencies and interested members of the public can make use of this indicator.

33. See 44 U.S.C. § 3507(a) (2006) (providing that an agency must comply with certain procedures before conducting a "collection of information"); *id.* § 3502(3) (defining "collection of information" as, *inter alia*, "the obtaining . . . of facts or opinions by or for an agency, regardless of form or format" calling for "answers to identical questions posed to . . . ten or more persons"); see also Memorandum from Cass R. Sunstein, Adm'r, Office of Info. & Regulatory Affairs, to Heads of Exec. Dept's & Agencies, & Indep. Regulatory Agencies (April 7, 2010), *available at* <http://perma.law.harvard.edu/077yjb6wyq1> ("The requirements of the [Paperwork Reduction Act] apply to voluntary collections as well as to mandatory collections . . .").

34. 30 C.F.R. § 250.1924(a).

35. See *id.* at § 250.1924(e)(1).

36. See U.S. DEP'T OF JUSTICE, FREEDOM OF INFORMATION ACT GUIDE 686 (2004) (noting that agencies are generally free to make "discretionary disclosures"), *available at* <http://perma.cc/7TA6-5GK6>.

2. *Safety and Pollution Prevention Equipment Maintenance Backlog*

Definition

Safety and pollution prevention equipment (SPPE) are components of an installation the failure of which could cause or contribute substantially to a major accident or pollution incident.³⁷ The purpose of SPPE is to prevent or limit the effect of a major accident or pollution incident. SPPE maintenance is the inspection, testing, and other maintenance needed to ensure that SPPE “remain[s] in good working order and continue[s] to meet defined performance standards.”³⁸ SPPE maintenance backlog is a performance indicator that measures the percentage of SPPE inspections, tests, and other maintenance operations that are not completed on time.

We wish to emphasize that SPPE must be understood to include computer control systems and similar software. Automated systems are essential for the safety, reliability, and performance of modern offshore drilling vessels,³⁹ and the failure of these systems are among the most common causes of reported incidents on these vessels.⁴⁰ Given the importance of computer systems to process safety, it is critical that computer inspection and maintenance be included in an indicator tracking SPPE maintenance backlog.⁴¹

37. 30 C.F.R. § 250.1916 (requiring operators to establish a mechanical integrity program to ensure the integrity of “all equipment and systems used to prevent or mitigate uncontrolled releases of hydrocarbons, toxic substances, or other materials that may cause environmental or safety consequences”). Cf. OIL & GAS UK, HEALTH & SAFETY REPORT 5 (2012), available at <http://perma.law.harvard.edu/0Wo8JceiDpQ>. (defining “safety-critical elements” and noting that their failure to meet performance standards can present an “immediate risk” to personnel).

38. Bob Lauder, *Major Hazard (Asset Integrity) Key Performance Indicators in use in the UK Offshore Oil and Gas Industry*, CHEM. SAFETY BD. PUB. HEARING, *supra* note 6.

39. See Jon Espen Skogdalen & Oyvind Smogeli, *Reliability of Safety Critical Control Systems on Offshore Drilling Vessels* 1 (Univ. Cal. Berkeley, Deepwater Horizon Study Grp., Working Paper, 2011).

40. See *id.* at 7 (noting that computer issues were responsible for the majority of incidents reported to the International Marine Contractors Association in 2007).

41. Computer programs fit comfortably within the definition of “equipment and systems” that must be included in an operator’s “mechanical integrity program.” See 30 C.F.R. § 250.1916.

Why is this a useful indicator?

An operator's SPPE maintenance backlog is a useful indicator because it provides information about how consistently the operator maintains critical equipment and systems in the face of competing concerns. This indicator offers strong predictive value because equipment failure and ensuing environmental harm are more likely to occur when SPPE have not been regularly tested and maintained according to established procedures. Once the basic parameters of a SPPE maintenance indicator are established, the indicator could be further improved by assigning different weight to different equipment, such that timely inspections of comparatively more fragile, more essential equipment could be given greater weight than timely inspections of comparatively less fragile, less essential equipment.

How will the necessary information be obtained?

BSEE does not currently collect an operator's SPPE maintenance backlog, but it has ample authority to do so. Under the SEMS Rule, operators are required to document "each inspection and test that has been performed on" [all equipment and systems used to prevent or mitigate uncontrolled releases of hydrocarbons, toxic substances, or other materials that may cause environmental or safety consequence] (i.e., SPPE).⁴² The SEMS Rule also requires operators to make available to BSEE all "documents or other information" pertaining to their SEMS programs upon BSEE's request.⁴³ Thus, BSEE has authority to obtain any documents or information related to an operator's SPPE maintenance simply by requesting it. To reduce administrative costs, BSEE could issue a notice to lessees (NTL) specifying the manner,

42. 30 C.F.R. § 250.1916(d) (requires operators to document "each inspection and test that has been performed on [all equipment and systems used to prevent or mitigate uncontrolled releases of hydrocarbons, toxic substances, or other materials that may cause environmental or safety consequence]").

43. *Id.* § 250.1924(b)(5); *see also* Oil and Gas and Sulphur Operations on the Outer Continental Shelf—Requirements for Exploratory Drilling on the Arctic Outer Continental Shelf, 80 Fed. Reg. 9939, 9968 (Feb. 24, 2015) (including in the proposed operational standards for drilling in the Beaufort Sea and Chukchi Sea Planning Areas a requirement to "maintain records pertaining to testing, inspection, and maintenance of [Source Control and Containment Equipment] for at least 10 years and make the records available to any authorized BSEE representative upon request.").

timeframe, and format for submissions of requested information.⁴⁴ Operators who are compliant with the SEMS Rules should already have records of planned, deferred, and delayed maintenance work;⁴⁵ therefore, organizing this data for submission to BSEE should not be burdensome.

Upon compiling this information, BSEE should publish the results. If BSEE declines to do so, interested persons should be able to obtain the information by filing a FOIA request.⁴⁶ FOIA requests are not the preferred option.

3. *Air Pollution*

Definition

This indicator would track emissions of certain air pollutants from an operator's offshore facilities. Offshore drilling facilities and support vessels emit nitrogen oxides (NO_x), sulfur dioxide (SO₂), volatile organic compounds (VOCs), particulate matter (e.g., black carbon) and greenhouse gases (GHGs) as the result of flaring and venting of gases, combustion processes, mud degreasing, and other activities.⁴⁷ These pollutants harm the environment locally (in the case of NO_x, SO₂, VOCs and particulate matter) and globally (in the case of GHGs). NO_x and SO₂ contribute to acid precipitation, which harms "lakes, streams, and forests and the plants and animals that live in these ecosystems."⁴⁸ VOCs and NO_x contribute to the formation of ground-level ozone, which adversely "affects sensitive vegetation and ecosystems" and can cause "loss of species diversity and changes to habitat quality and water and nutrient cycles."⁴⁹ GHGs contribute to climate change, which is

44. 30 C.F.R. § 250.103 ("BSEE may issue Notices to Lessees and Operators (NTLs) that clarify, supplement, or provide more detail about certain requirements. NTLs may also outline what you must provide as required information in your various submissions to BSEE.")

45. *See id.* § 250.1916(c) (requiring operators to maintain written procedures to address the "frequency of inspections and tests"); *id.* at § 250.1916(d).

46. *See* 5 U.S.C. § 552(a)(3)(A) (2012).

47. *See* OIL IND. INT'L EXPLORATION & PROD. FORUM & UNEP, *supra* note 15, at 12; BUREAU OF OCEAN ENERGY MANAGEMENT REGULATION AND ENFORCEMENT, YEAR 2008 GULFWIDE EMISSION INVENTORY STUDY 1–2 (2010).

48. *Acid Rain*, ENV'TL PROTECTION AGENCY, <http://perma.law.harvard.edu/08LcuzGztbc>.

49. *Ground Level Ozone: Ecosystem Effects*, ENV'TL PROTECTION AGENCY,

causing fluctuations in the global water cycle, melting of Arctic sea ice, ocean warming and sea level rise, ocean acidification, and other significant environmental changes, as well as adversely affecting human communities and ecosystems worldwide.⁵⁰ Black carbon absorbs solar energy and as it settles on ice and snow causes melting, thus exacerbating environmental change and damage, particularly in the Arctic.⁵¹

Emissions of these pollutants from offshore drilling facilities and support vessels should be measured and regularly reported. This information would allow regulators to take appropriate action to protect the Arctic environment and could be used by investors and other interested persons to advocate for changes in operator behavior. Emissions should be reported in normalized units, such as “kg SO₂ per million barrels of oil produced.”

Why is this a useful indicator?

Although offshore drilling will inevitably produce some air pollution, it is possible for operators to significantly reduce their emissions through the use of emerging technologies and best management practices, including more efficient gas turbines, improved flare design, and improved well testing procedures and technologies.⁵² Operators with a strong commitment to environmentally responsible performance and effective internal governance mechanisms should be adopting technologies and practices that minimize their emissions. By contrast, operators that lack a strong commitment to environmentally responsible performance or effective internal governance mechanisms are unlikely to adopt emission control technologies and practices voluntarily. Thus, emissions data can be helpful for ascertaining which operators place the greatest priority on environmentally responsible performance.

<http://perma.law.harvard.edu/0maBY9Dehoc>.

50. See generally INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, CLIMATE CHANGE 2013: THE PHYSICAL SCIENCE BASIS 1 (2013).

51. *Effects of Black Carbon*, ENVTL PROTECTION AGENCY, <http://www.epa.gov/blackcarbon> (last visited April 27, 2015).

52. OIL IND. INT'L EXPLORATION & PROD. FORUM & UNEP, *supra* note 15, at 13, 55.

How will the necessary information be obtained?

Since 2005, BOEM, or its predecessor, has performed a Gulfwide Emissions Inventory every three years.⁵³ To create this inventory, BOEM requires operators to “report activity information including facility, equipment, and fuel usage” over the course of a year.⁵⁴ Using this data and standardized emissions factors provided by EPA, BOEM estimates the facility’s emissions of NO_x, SO₂, VOCs, and GHGs (among other pollutants).⁵⁵ BOEM has published the activity information it used to estimate the emissions of each offshore drilling rig.⁵⁶ That information could be used to estimate and compare the emissions and emissions intensity of each operator’s operations.

In addition, BOEM has authority to collect monthly emissions data for Alaska and operations in the U.S. Arctic; indeed, BOEM already requires lessees (i.e., operators) to monitor their emissions.⁵⁷ BOEM should do so, and the information should be made public.

*B. INTERMEDIATE INDICATORS**1. Civil and Administrative Violations**Definition*

This indicator tracks the number of successful civil and administrative enforcement actions taken and incidents of noncompliance issued against an operator in response to its safety and environmental violations. At a minimum, this indicator should include actions taken by BSEE and BOEM in response to violations of 30 C.F.R. Parts 250 and 550, and

53. See BUREAU OF OCEAN ENERGY MGMT., NTL No. 2014-G01, GULFWIDE OCS EMISSIONS INVENTORY: WESTERN GULF OF MEXICO (2013).

54. See *id.*

55. See *id.*

56. See BUREAU OF OCEAN ENERGY MGMT., REGULATION AND ENFORCEMENT, YEAR 2008 GULFWIDE EMISSION INVENTORY STUDY F-6 (2010).

57. See 30 C.F.R. § 550.303(k) (“The lessee shall monitor, in a manner approved or prescribed by the Regional Supervisor, emissions from the facility” and “shall submit this information monthly in a manner and form approved or prescribed by the Regional Supervisor.”).

actions taken by EPA in response to violations of the Clean Air Act and the Clean Water Act and their implementing regulations. The indicator could thereafter be expanded to include enforcement actions taken by other agencies, such as the Department of Transportation or the USCG. Violations should be categorized based on their severity (which will typically correlate with penalty size or extensiveness of injunctive relief). This indicator should be normalized to allow for meaningful comparison of the performance of different operators (e.g., in units of “major violations per million barrels of oil”).

Why is this a useful indicator?

If an operator regularly incurs penalties for violating safety and environmental laws, it is likely that the operator has systemic problems with its compliance programs and safety culture. Conversely, if an operator has a relatively spotless record, it is likely that the operator has strong compliance programs and a strong safety culture. Therefore, an operator’s compliance record is a predictor of its future safety and environmental performance. However, it must be remembered that offshore drilling is inherently risky; hence, even operators with a relatively spotless compliance record must remain vigilant to risk at all times.⁵⁸

How will the necessary information be obtained?

BSEE has published a list of all incidents of noncompliance issued to offshore operators since 2000⁵⁹ and all civil penalties assessed against offshore operators since 1998.⁶⁰ This data could be organized by operator, categorizing violations based on their severity, and normalized to account for differences in each operator’s output.

By contrast, EPA has not routinely made information about its past enforcement actions against offshore operators publicly

58. JAMES A. BAKER ET AL., THE REPORT OF THE BP U.S. REFINERIES INDEPENDENT SAFETY REVIEW PANEL, at i (2007).

59. *Incidents of Noncompliance*, BUREAU OF SAFETY AND ENVT’L ENFORCEMENT, <http://perma.law.harvard.edu/0dn1hqNynMP>.

60. *Civil Penalties and Appeals*, BUREAU OF SAFETY AND ENVT’L ENFORCEMENT, <http://perma.law.harvard.edu/0iSR5TXq9Ay>.

accessible. EPA should establish a database similar to BSEE's database to facilitate access by BSEE, other agencies, investors, and other members of the public.⁶¹ Until EPA creates such a database, the information is available through FOIA.⁶²

2. *Kick Frequency and Kick Response Time*

Definition

This indicator would measure an operator's ability to prevent and manage well kicks (also referred to as "well control incidents"). A kick occurs when the weight of "drilling mud" (the liquid used to counterbalance upward pressure exerted by the hydrocarbon formation) is insufficient to maintain equilibrium within the formation, causing fluids to flow upwards through the well and drill pipe.⁶³ A kick can cause a blowout unless personnel promptly take the appropriate response action (i.e., closing the well's blowout-preventer valves).⁶⁴

Following safety expert Professor Andrew Hopkins of Australian National University in Canberra,⁶⁵ we suggest two indicators related to well kicks: the number of kicks per well per year (kick frequency)⁶⁶ and the average time it takes personnel to notice and respond to a well kick (kick response time).

Why are these useful indicators?

Kick frequency is a useful indicator because it is directly correlated with blowout risk (since a kick "is an immediate precursor to a blowout"⁶⁷). Moreover, because this indicator will

61. See, e.g., *Inspections and Enforcement: Incident Statistics and Summaries*, BUREAU OF SAFETY AND ENVT'L ENFORCEMENT, <http://perma.law.harvard.edu/09YDEEf31kR>.

62. See 5 U.S.C. § 552(a)(3)(A) (2012).

63. See NAT'L COMM'N REPORT TO THE PRESIDENT, *supra* note 16, at 91.

64. See *id.*; Andrew Hopkins, *Safety Indicators for Offshore Drilling* 6 and 8 (Chemical Safety Board, Working Paper, 2012) (noting that a kick is "the immediate precursor to a blowout.").

65. See Hopkins, *supra* note 64, at 6, 8.

66. If data are available, it may be preferable to measure frequency in terms of kicks per well completion.

67. Hopkins, *supra* note 64, at 6.

track a single aspect of operator performance (pressure management),⁶⁸ it should be easy for operators to modify their behavior in response to unacceptable performance (e.g., by providing additional training to relevant personnel or providing additional resources). If an operator consistently reports high kick frequency relative to others in the industry (even after adjustments are made for the fact that some wells are inherently more likely to kick⁶⁹), this may indicate that the operator undervalues safety relative to the industry.

Like kick frequency, kick response time is directly correlated with blowout risk. This is because gaseous hydrocarbons expand with ever-increasing speed as they travel up the wellbore,⁷⁰ causing the strength of the kick to increase with time. Like kick frequency, kick response time tracks a single aspect of operator performance (in this case, kick management). Thus, an operator must modify its behavior to address unacceptable performance, and its repeated failure to do so is likely indicative of a corporate culture that undervalues safety.

Kick frequency and kick response time have one additional advantage as indicators: they measure unambiguous events that are recorded in real time by the operator's computer systems.⁷¹ For this reason, they are less open to interpretation or manipulation than other indicators.⁷²

How will the necessary information be obtained?

BSEE already requires operators to report well kicks as part of their weekly (daily, in Alaska) Well Activity Report,⁷³ and reports all well control incidents on its website, along with the identity of the responsible operator.⁷⁴ This data provides a

68. See generally NAT'L COMM'N REPORT TO THE PRESIDENT, *supra* note 16, at 91 (noting that kick frequency is largely a function of the crew's ability to monitor and adjust the density of the drilling mud to maintain equilibrium).

69. These adjustments could be made by using the Dodson Mechanical Risk Index, which assigns wells to one of five categories based on its "complexity" (i.e., its propensity to kick). See Hopkins, *supra* note 64, at 6–7.

70. See NAT'L COMM'N REPORT TO THE PRESIDENT, *supra* note 16, at 109.

71. See Hopkins, *supra* note 64, at 6, 8.

72. *Id.*

73. Form BSEE-0133, available at <http://perma.law.harvard.edu/0BBrSPBpYzD>.

74. See *Loss of Well Control: Statistics and Summaries*, BUREAU OF SAFETY AND ENVT'L ENFORCEMENT, <http://perma.law.harvard.edu/0YD335ZSsgg>.

usable indicator when organized by operator and well type.⁷⁵ Thus, indicators could be reported in units such as “kicks at high complexity wells per year.” BSEE has ample authority to require the reporting of kick response time.⁷⁶ It could issue an NTL requiring operators to include this information in their Well Activity Reports.⁷⁷

C. LAGGING INDICATORS

1. Loss of Primary Containment Events

Definition

This indicator tracks the number of loss of primary containment (LOPC) events occurring at an operator’s wells, building upon the work of the American Petroleum Institute and the American National Standards Institute (API/ANSI). API/ANSI define LOPC as “[a]n unplanned or uncontrolled release of any material . . . including non-toxic and non-flammable materials” from the primary vessel or equipment intended to hold it.⁷⁸ API/ANSI has established two tiers of LOPC. Tier 1 events involve fatalities, hospital admissions, injuries causing “days away from work,” community evacuations, fires or explosions resulting in at least \$25,000 in direct cost to the company, or discharges exceeding a specified

75. See Hopkins, *supra* note 64, at 6–7 (discussing the Dodson Mechanical Risk Index, which assigns wells to one of five categories based on its propensity to kick).

76. See 30 C.F.R. § 250.469 (providing that an operator may be required to submit any record maintained pursuant to section 250.466); 30 C.F.R. § 250.466(g) (requiring operators to maintain, *inter alia*, information “required by the District Manager in the interests of resource evaluation, waste prevention, conservation of natural resources, and the protection of correlative rights, safety, and environment”).

77. Interested members of the public could request BSEE to issue such an NTL. See 5 U.S.C. § 555(b) (2012) (“[A]n interested person may appear before an agency . . . for the presentation . . . of an issue, request, or controversy . . . in connection with an agency function.”). If BSEE did not grant such a request, interested persons could file a petition for rulemaking with the agency. See 5 U.S.C. § 553(e) (2012) (“Each agency shall give an interested person the right to petition for the issuance, amendment, or repeal of a rule.”); 43 C.F.R. Part 14 (DOI regulations implementing section 553(e)). Interested persons should encourage BSEE to make this information public if it begins collecting it.

78. See AM. PETROLEUM INST. & AM. NAT’L STANDARDS INST., PROCESS SAFETY PERFORMANCE INDICATORS FOR THE REFINING AND PETROCHEMICAL INDUSTRIES: RECOMMENDED PRACTICE § 3.1.17, at 754 (1st ed. 2010); see also *id.* § 3.1.4 (defining “containment, primary”).

mass threshold over a one hour period.⁷⁹ Tier 2 events are non-Tier 1 events that involve a reportable injury to any worker, fires or explosions resulting in at least \$2,500 of direct cost to the company, or discharges exceeding a less stringent mass threshold over a one-hour period.⁸⁰ (Tier 2 events are treated as an intermediate indicator on our Table 1).

Related indicators could be established to track the mass of material released from primary containment. All indicators should be reported in normalized units (e.g., “Tier 1 events per million barrels of oil produced;” “mass of material released per million barrels of oil produced”).

Why is this a useful indicator?

Tier 1 events are classified as lagging indicators because they cause significant harm to people or the environment in the form of fatalities, injuries, explosions, fires, or releases of chemicals and pollutants. For this reason, the number of Tier 1 events that occur on an offshore rig can serve as an important lagging indicator of the operator’s safety and environmental performance. Repeated Tier 1 events indicate that an operator’s process safety and environmental compliance programs are ineffective, and that the operator is ill-equipped to prevent future process safety or environmental incidents. By contrast, a relatively spotless history should inspire confidence that an operator has strong process safety and environmental compliance programs. However, it must be remembered that “[t]he passing of time without a process accident is not necessarily an indication that all is well;”⁸¹ hence, operators and regulators must remain vigilant to risk at all times.

Tier 2 events can be considered lagging or intermediate indicators.⁸² These events are typically associated with some harm to people or the environment, and although this harm is not as significant as that associated with a Tier 1 event, it is an important indicator in its own right. Moreover, because Tier 1

79. See *id.* § 5.2; see also *id.* at 10 Table 1 (listing mass thresholds for Tier 1 events).

80. See *id.* § 6.2; see also *id.* at 12 Table 2 (listing mass thresholds for Tier 2 events).

81. BAKER ET AL., *supra* note 58, at 3.

82. See INT’L ASS’N OIL & GAS PROD., *supra* note 10, at 3 (“[M]ost LOPC events will have no actual consequences but are still failures and therefore lagging outcomes, but low consequence LOPC events also provide leading information when predicting the likelihood of major incidents with serious consequences.”).

and Tier 2 events typically have a common etiology, the number of Tier 2 events that have occurred at an operator's facilities can be expected to correlate with the likelihood that the operator will experience a Tier 1 event in the future. Hence, Tier 2 events serve an important predictive function as well.

How will the necessary information be obtained?

Operators are already required to report certain LOPC to BSEE, including all reportable releases of H₂S, all gas releases that initiate equipment or process shutdown, and all LOPC that cause fatalities, injuries, fires, or explosions, or that require personnel to muster for evacuation or that cause property or equipment damage greater than \$25,000.⁸³ BSEE includes information about these events on its website.⁸⁴ This information can be organized by operator and normalized to account for differences in each operator's output. To determine whether an event listed on these databases involved LOPC, reference should be made to the "incident description" provided for the event to confirm that the incident involved "[a]n unplanned or uncontrolled release of any material" and not, for example, a fire caused by an engine malfunction.

BSEE's existing reporting requirements cover many, but not all, Tier 1 events and some Tier 2 events (e.g., operators are not currently required to report LOPC events involving super-threshold releases of hazardous substances unless the release caused another reportable event⁸⁵). BSEE has authority to require operators to include information about otherwise non-reportable LOPC in their Well Activity Reports.⁸⁶ BSEE could

83. See 30 C.F.R. § 250.188. (2014).

84. See *Inspections and Enforcement: Incident Statistics and Summaries*, BUREAU OF SAFETY AND ENVTL ENFORCEMENT, <http://perma.law.harvard.edu/09YDEEf31kR>.

85. These releases would probably also be exempted from the reporting requirements of the Emergency Planning and Community Right-to-Know Act (EPCRA). 42 U.S.C. §§ 11001–11050. (2012). Although EPCRA generally requires facility owners to report releases of "extremely hazardous substance[s]," there is an exception for releases that result in exposure to persons solely within the site where the facility is located. 42 U.S.C. § 11004(a)(1), (4).

86. See 30 C.F.R. § 250.469 (providing that an operator may be required to submit any record maintained pursuant to section 250.466); *id.* § 250.466(g) (requiring operators to maintain, *inter alia*, information "required by the District Manager in the interests of resource evaluation, waste prevention, conservation of natural resources, and the protection of correlative rights, safety, and environment").

issue an NTL on its own initiative or in response to a request. Similarly, interested persons could encourage BSEE to issue an NTL requiring operators to report the mass of material released from primary containment and include LOPC data in Well Activity Reports.

2. *Oil Releases*

Definition

This indicator would track the number of oil releases that occur at an operator's offshore facilities or during product transport (i.e., from oil pipelines or tankers). Following the system adopted by the U.K. Health and Safety Executive, releases could be classified as major, significant, or minor, depending upon the mass of oil released and the potential of the release to cause a major accident upon ignition.⁸⁷

Why is this a useful indicator?

Oil releases can cause major environmental impacts and threaten public and personnel safety; hence, an operator that is unable to prevent oil releases will be at a higher risk of both forms of harm. Large-scale releases can cause severe habitat destruction and widespread plant and animal mortality,⁸⁸ and even small releases can cause unacceptable environmental harm (e.g., marine mammal mortality as the result of oil inhalation or ingestion).⁸⁹ Thus, responsible operators minimize if not eliminate the number of oil releases that occur at their facilities.

How will the necessary information be obtained?

Releases within BSEE's Jurisdiction. Operators are already required to report to BSEE all oil releases at their offshore facilities.⁹⁰ Pursuant to BSEE regulations and a Memorandum

87. See *Hydrocarbon Releases System: Internet Help File*, HEALTH & SAFETY EXEC., <http://perma.law.harvard.edu/Uh8KNh6jMZ> (listing mass and mass flow rate thresholds for "major" and "significant" releases).

88. See generally *Guidelines on Biological Impacts of Oil Pollution* INT'L PETROLEUM INDUS. ENVTL. CONSERVATION ASS'N (IPIECA)], (Jan. 1991).

89. See NOAA MARINE FISHERIES SERV., *IMPACTS OF OIL ON MARINE MAMMALS AND SEA TURTLES*, available at <http://perma.law.harvard.edu/0uiAJ7jC6e5>.

90. See 30 C.F.R. § 254.46 (2011) (BSEE's reporting requirements for oil spills).

of Understanding between the Department of the Interior (DOI) and the Department of Transportation (DOT), pipeline facilities that are under the control of a “producing operator” are covered by this rule.⁹¹ Operators are required to report spills of one barrel or more immediately,⁹² and to submit a written follow up report within fifteen days of the end of the spill. The follow up report must include the cause of the release, its location and volume, and the response action taken.⁹³ Releases of less than one barrel must be reported to BSEE as part of the Performance Measures Data included in Form BSEE-0131.⁹⁴

BSEE publishes annual data for oil spills of fifty barrels or more and identifies the operator responsible for each spill.⁹⁵ BSEE does not distinguish between releases from pipelines and releases from other offshore facilities; data for both types of releases can be found in the same report. This data could be organized by operator and normalized by reference to the number of releases per million barrels of oil produced in order to account for differences in each operator’s output.

BSEE also publishes annual data for spills of one barrel or greater, but does not identify the responsible operator.⁹⁶ Without the identity of the responsible operator, the data on smaller spills is not useful for comparing operators’ performance. BSEE can and should identify the operators responsible for each recorded spill in future reports.

Releases within PHMSA’s Jurisdiction. Pursuant to a Memorandum of Understanding between DOI and DOT,

91. See 30 C.F.R. § 254.6 (defining “facility” to include pipelines not covered by the Deepwater Port Act of 1974); Memorandum of Understanding Between the Department of Transportation and the Department of the Interior Regarding Outer Continental Shelf Pipelines 2 (Dec. 10, 1996) (“DOT will [have jurisdiction over] all OCS transportation pipelines beginning downstream of the point at which operating responsibility transfers from a producing operator to a transporting operator.”).

92. See 30 C.F.R. § 254.46(b).

93. See *id.* at § 254.46(b)(2).

94. See *id.* at § 254.46(b)(2).

95. See BUREAU OF SAFETY AND ENVIRONMENTAL ENFORCEMENT, SUMMARY OCS SPILLS OF 50 BARRELS (2,100 GALLONS) AND GREATER, CALENDAR YEAR 1964–2012, <http://perma.law.harvard.edu/OtDEzCH8gsJ>.

96. See BUREAU OF SAFETY AND ENVIRONMENTAL ENFORCEMENT, *All Petroleum Spills ≥ 1 Barrel from OCS Oil & Gas Activities by Size Category and Year, 1964 to 2013*, http://www.bsee.gov/uploadedFiles/BSEE/Enforcement/Accidents_and_Incidents/All%20Spills%201964-2011.pdf (last visited April 27, 2015).

pipeline facilities that are under the control of a “transporting operator” are under the jurisdiction of DOT’s Pipeline and Hazardous Materials Safety Administration (PHMSA).⁹⁷

PHMSA requires pipeline owners to report all spills of five barrels or more.⁹⁸ PHMSA publishes these incidents on its website,⁹⁹ and provides a page for each operator that lists the offshore incidents for which the operator is responsible.¹⁰⁰ Hence, interested persons already have access to most of the information necessary to track offshore spills that occur within PHMSA’s jurisdiction; additional data (e.g., release mass) could be obtained by filing a FOIA request.

Releases from Tankers. It is expected that oil produced offshore in the Arctic will be transported to shore by pipeline.¹⁰¹ However, in the event that operators begin transporting oil by tanker, releases from these vessels should also be tracked. Existing regulations require responsible persons to notify the Coast Guard immediately in the event of an oil release from a vessel.¹⁰² The Coast Guard makes available on the National Response Center website annual data regarding incidents to which it responds.¹⁰³ Interested persons should refer to this data in the event that operators begin

97. See Memorandum of Understanding Between the Department of Transportation and the Department of the Interior Regarding Outer Continental Shelf Pipelines, *supra* note 91, at 2-3.

98. See 49 C.F.R. § 195.50(b) (2012).

99. See *Significant Pipeline Incidents: Hazardous Liquids (Offshore)*, PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION, <https://hip.phmsa.dot.gov/analytics/SOAP/saw.dll?Portalpages> (last visited April 27, 2015) (To determine the identity of the responsible operator, click on the number of incidents that occurred during a given year. This brings up a page with a table listing incidents by their cause. Clicking on the incident number total brings up a third page that identifies the operator responsible for each release and the amount of property damage that resulted.).

100. See *e.g.*, *Operator Information* PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION, (Mar. 6, 2015, 9:17 PM), http://primis.phmsa.dot.gov/comm/reports/operator/OperatorReport_opid_31759.html.

101. See BUREAU OF OCEAN ENERGY MANAGEMENT, OUTER CONTINENTAL SHELF OIL AND GAS LEASING PROGRAM 2012–2017: FINAL PROGRAMMATIC ENVIRONMENTAL IMPACT STATEMENT 2–7 (2012) (“Oil from the Beaufort Sea and Chukchi Sea Planning Areas would be transported by new subsea and overland pipelines to the TAPS [Trans-Alaska Pipeline System] and delivered to the marine terminal facilities in Valdez, where it would be loaded on tankers and shipped primarily to West Coast ports.”).

102. See 40 C.F.R. § 300.120(a)(1) (2010).

103. See NAT’L RESPONSE CTR., DOWNLOAD NRC DATA, <http://www.nrc.uscg.mil/Default.aspx>.

using tankers to transport oil from offshore facilities in the Arctic.

3. *Work-Related Fatalities and Reportable Injuries*

Definition

This indicator tracks the number of work-related fatalities and reportable injuries that occur at an operator's offshore facilities. Tracking BSEE's regulations, we use the term reportable injury to refer to injuries that either require the evacuation of the injured person from the offshore facility or result in one or more days away from work or one or more days of restricted work or job transfer.¹⁰⁴

Why are these useful indicators?

A work-related fatality or reportable injury is the ultimate failure of an operator's safety compliance program. An operator that consistently fails to protect its workers from on-the-job harm is unlikely to be effectively addressing other safety and environmental concerns. Such an operator should not be permitted to operate in a sensitive area such as the Arctic until it is able to show that it has made significant improvements to its compliance programs.

How will the necessary information be obtained?

BSEE already requires operators to report all fatalities and reportable injuries that occur at their offshore facilities.¹⁰⁵ BSEE publishes annual fatality and reportable injury data on its website, along with identification of the responsible operator.¹⁰⁶

104. See 30 C.F.R. § 250.188(a)(2), (b)(1) (2012).

105. See 30 C.F.R. §§ 250.188(a)(1), (a)(2), (b)(1).

106. BSEE, FATALITIES – STATISTICS AND SUMMARIES 2007–2014, <http://www.bsee.gov/Inspection-and-Enforcement/Accidents-and-Incidents/Fatalities/>; BSEE, INJURIES – STATISTICS AND SUMMARIES 2007–2014, <http://www.bsee.gov/Inspection-and-Enforcement/Accidents-and-Incidents/Injuries/> (last visited April 27, 2015).

IV. SUMMARY OF PERFORMANCE INDICATORS

Performance indicators are crucial to the ability of regulators, affected communities, and the public to determine which drilling companies should be entrusted with access to the nation's most sensitive and pristine resource areas, including the Arctic. Regulators and the public need meaningful access to information in order to assess a company's environmental performance and effectively exercise oversight of drilling activities. Accordingly, we now turn to ways to improve information access.

V. ANALYSIS OF ACCESS TO INFORMATION

The Outer Continental Shelf Lands Act (43 U.S.C. § 1331 et seq.) and the Regulations establish a regime under which industry transfers to BSEE significant amounts of information, including material relevant to evaluating safety and environmental impacts of offshore drilling activities. These information submission requirements apply across the life of a project. For instance, operators must submit certain reports for approval by BSEE before altering drilling procedures, thereby providing BSEE with information to assess environmental risks while the underlying operations are still in the planning stages.¹⁰⁷ Operators are also required to provide or make available to BSEE periodic updates as well as event-triggered reports, thus giving BSEE information for continually monitoring compliance through the life of a project.¹⁰⁸ In addition, BSEE may inspect drill sites, with or without prior notice to the operator.¹⁰⁹

107. *See, e.g.*, 30 C.F.R. §§ 250.286-295 (2012) (regarding Deepwater Operations Plans and Conceptual Plans), 250.410-18 (regarding permits to drill wells). BOEM also collects information from operators prior to the commencement of exploration and/or development and production activities. *See, e.g.*, 30 C.F.R. § 550.201 (regarding timing for submitting Exploration Plans, Development and Production Plans, Development Operations Coordination Documents and Conservation Information Documents).

108. *See, e.g.*, 30 C.F.R. §§ 250.187-190 (regarding incident reporting), 250.192 (regarding reporting relating to hurricanes and other natural occurrences), 250.516 (regarding blowout prevention system testing).

109. *See, e.g.*, 30 C.F.R. §§ 250.130-132, 301 (regarding inspections).

The breadth of information available to and collected by BSEE ranges from general plans to the technical minutia of individual site operations, including, but not limited to: H₂S contingency plans; Blowout Protection procedures; Deepwater Operations Plans; SEMS plans, audited reports and records; equipment design and performance specifications; maintenance test results; maps and schematic drawings of proposed drill sites; geological and geophysical data; and incident reports related to events such as workplace injuries and evacuations. Despite the scope of information available to BSEE, public access to the information is limited.

A. *UNNECESSARILY RESTRICTED PUBLIC ACCESS TO INFORMATION ESSENTIAL TO EVALUATING SAFETY AND ENVIRONMENTAL RISKS*

A 2009 Presidential Memorandum directs federal agencies to “take affirmative steps to make information public” and adopt “a presumption of disclosure” in processing requests for information under FOIA.¹¹⁰ In this vein, BSEE’s objectives, articulated in an agency manual, include “mak[ing] information available to the public even before a request is made” and “[a]dminister[ing] the FOIA with a clear presumption in favor of disclosure.”¹¹¹ However, these goals are not reflected in BSEE’s Regulations or in its actions, particularly as they relate to information relevant to safety and environmental concerns. In particular, the Regulations themselves lack a clear statement adopting a presumption in favor of disclosure and contain confusing language regarding the public availability of information used by BSEE to “promote operational safety” or “protect the environment.”¹¹² In addition, as discussed below, the agency makes subjective decisions as to when and to whom certain information should be available.

1. *Restrictions Arising from Unclear Regulations*

The catchall provision governing public access to information

110. Memorandum from President Obama, *supra* note 9.

111. DEPARTMENT OF INTERIOR, *BSEE Manual*, Version No. 001, Administrative Series, Part 383, Chapter 15 (Nov. 1, 2011), available at <http://perma.cc/P5B2-FZDH>.

112. 30 C.F.R. § 250.197(c) (2012).

reported to BSEE, 30 C.F.R. section 250.197,¹¹³ neither definitively gives the public access to information BSEE uses to assess threats to safety and the environment nor does it provide for a presumption of public access. Section 250.197 is divided into three parts:

“Paragraphs (a) and (b). . . describe what data and information will be made available to the public without the consent of the lessee, under what circumstances, and in what time period. Paragraph (c). . . describes what data and information will be made available for limited inspection without the consent of the lessee, and under what circumstances.”¹¹⁴

Paragraph (a) of section 250.197 provides that information submitted on BSEE forms will be available to the public upon submission, with the exception of enumerated entries on seven forms that may be withheld for a specified period of time. While paragraph (a) creates a mechanism by which most of the information submitted on BSEE forms is to be immediately made available to the public, it covers only a portion of the information that BSEE receives from offshore operators and relies upon analysis and decision-making.¹¹⁵ For instance, SEMS audit results and resulting Corrective Action Plans (“CAPs”) are not reported on BSEE forms. Thus, access to BSEE forms does not provide sufficient information to evaluate safety and environmental risks posed by offshore drilling.

Paragraph (b) of section 250.197 addresses public access to lease and permit data and information that is submitted to BSEE in a format other than on a BSEE form. Such information is accessible according to a table identifying nine scenarios, each of which stipulates specific categories of information BSEE may release and the amount of time BSEE may delay access to the information. With respect to the scope of information at issue, in all but two of the scenarios the

113. BSEE’s authority to ask reporting entities for additional copies of reports “for public information” is subject to the exemptions from public disclosure articulated in section 250.197. *See* 30 C.F.R. § 250.186(b).

114. 30 C.F.R. § 250.197.

115. *Compare, e.g.,* BSEE OCS OPERATION FORMS, available at <http://www.bsee.gov/About-BSEE/Doing-Business-with-BSEE/OCS-Operation-Forms/index/> (last visited April 30, 2015) (BSEE’s list of Outer Continental Shelf Operation Forms), with 30 C.F.R. 250, Subpart S (requirements for SEMS-related records.).

enumerated information that BSEE will release is limited to geophysical and geological data or information.¹¹⁶ Non-geophysical and geological data outside of a BSEE form, such as the information in SEMS audit reports and CAPs, is not declared by the Regulations to be within the scope of material available to the public. However, a blanket withholding of documents that is not tied to a specific FOIA exemption would be a violation of the statute.¹¹⁷ Any limitation on public access to information should apply only to material that BSEE determines is subject to a FOIA exemption from disclosure, such as: (i) the rarely used exemption for geological and geophysical information and data, including maps, concerning wells; or (ii) the protection for trademarks and confidential business information.

Even when information should be released under paragraph (b), in some scenarios the Regulations allow BSEE to curtail public access to information for two, ten, or even fifty years after submission or issuance of a permit.¹¹⁸ In other instances, the timing of access is even less clear as the availability of some information related to safety and environmental protection is contingent on determinations by BSEE as to whether public access is “necessary.”¹¹⁹ The Regulations,

116. The other categories of information addressed in paragraph (b) are: (i) “[d]escriptions of downhole locations, operations, and equipment” related to well operations; and (ii) any data or information obtained from beneath unleased land as a result of a well deviation that has not been approved by BSEE. 30 C.F.R. § 250.197(b)(7), (8).

117. *See, e.g., Dep’t of Interior v. Klamath Water Users Protective Ass’n*, 532 U.S. 1, 7-8 (2001) (“Upon request, FOIA mandates disclosure of records held by a federal agency unless the documents fall within enumerated exemptions. ‘[T]hese limited exemptions do not obscure the basic policy that disclosure, not secrecy, is the dominant objective of the Act, [c]onsistent with the Act’s goal of broad disclosure, these exemptions have been consistently given a narrow compass.’”) (internal citations omitted); *U.S. Dep’t of Justice v. Julian*, 486 U.S. 1, 8 (1988) (“[t]he mandate of the FOIA calls for broad disclosure of Government records,’ and for this reason we have consistently stated that FOIA exemptions are to be narrowly construed.”) (internal citations omitted).

118. *See, e.g.*, 30 C.F.R. § 250.197(b)(6) (making geological data and analyzed geological information for leases in effect beyond the primary term specified in the lease available two years after the required submittal date); *id.* at § 250.197(b)(4) (making geophysical data, processed geophysical information and interpreted G&G information for leases still in effect available ten years after submission); *id.* at § 250.197(b)(9) (making certain geophysical data available fifty years after BOEM issues a permit).

119. *See, e.g.*, 30 C.F.R. § 250.197(b)(2) (providing that certain information “collected with high-resolution systems . . . to comply with safety or environmental protection requirements” may be released 60 days after BSEE receives the information if a

however, do not contain criteria for determining whether public access to information is “necessary.”

Finally, paragraph (c) of section 250.197 provides limited public access to “G&G data and information” that BSEE uses to “[p]romote operational safety” or “[p]rotect the environment.” Such information is only available for “limited inspection. . . by persons with a direct interest in related BSEE decisions and issues in specific geographic areas, and who agree in writing” to keep the information reviewed confidential.¹²⁰ The Regulations neither define “G&G data and information” nor provide guidance as to what constitutes a “direct interest” in a BSEE decision or issue. The regulatory history of paragraph (c) suggests that the provision is intended to relate to otherwise proprietary geological and geophysical data that is relevant to parties who are “directly affected by [BSEE] decisions regarding units, reservoirs, operations, environmental protection, field determinations, and royalty relief. . .”¹²¹ However, in the absence of a clear mandate establishing a public disclosure default, this provision could be misinterpreted to restrict public access to non-protected information used by BSEE to protect safety and the environment.

These types of delays and absence of standards governing decisions by BSEE personnel as to whether there is a “need” for or “direct interest” in information that warrants disclosure diminish the value of access provided by section 250.197 and frustrate meaningful public oversight of safety and environmental impacts.

2. *Restrictions Arising from Logistical Issues*

Even when information is required to be accessible by 30 C.F.R. Part 250, there are roadblocks to retrieving it from BSEE. Despite BSEE’s creation of an on-line Data Center,¹²² information is missing from BSEE’s website or difficult to find. For example:

- SEMS audit reports and CAPs (examples of

regional supervisor from the division deems it “necessary”).

120. 30 C.F.R. § 250.197(c).

121. 67 Fed. Reg. 46,942, 46,943 (Jul. 17, 2002).

122. Data Center, BSEE, *available at* http://www.data.bsee.gov/homepg/data_center/index.asp (last visited April 27, 2015).

documents relevant to evaluating the safety and environmental performance of offshore operators) are not posted in the Data Center, and some categories of information in the Data Center are available only from a particular BSEE office (e.g., the Gulf of Mexico OCS Region);

- In some instances, documents that must now be filed with BSEE, such as H₂S contingency plans, are part of BOEM's electronic dataset rather than BSEE's.¹²³ A division of material between BSEE's and BOEM's websites is not, in and of itself, problematic, nor perhaps unexpected given the fact that the two agencies used to be a single entity. But the lack of notice to this effect hinders public access; and
- Even if one knows which agency website to search, reports like H₂S contingency plans are often not available as stand-alone documents, but only as appendices to other lengthy documents. Without a more refined search tool or index, retrieving information from BSEE's Data Center is hit-or-miss and time-consuming.

The type of searchable database that aggregates operating information submitted to multiple agencies discussed later in this paper would address these issues. However, such a system would take time to develop, so in the interim we recommend that BSEE expand and improve its online Data Center. For example, enhancing the aggregation of information and search capabilities, because making material available online avoids both the time lag in response associated with FOIA requests and the administrative burden such requests place on BSEE. Until the system is upgraded, however, it is essential for the public to be able to receive material directly from BSEE. To evaluate the ease of access to environment and safety-related information, we requested copies of H₂S contingency plans

123. 30 C.F.R. § 250.490(f) (2012) (requiring H₂S Contingency Plans to be submitted to and approved by BSEE District Managers prior to beginning operations). Prior to October 2011, BSEE and BOEM were a single federal agency under the regulatory umbrella of the Bureau of Ocean Energy Management, Regulation and Enforcement ("BOEMRE"), and H₂S Contingency Plans were submitted to BOEMRE.

submitted by offshore operators to BSEE, first through a series of informal oral and written communications with BSEE and then through a formal FOIA request.¹²⁴

We initiated outreach to BSEE on October 24, 2013 by calling BSEE's Gulf Coast OCS Regional Office to request copies of H₂S contingency plans filed pursuant to the Regulations within the last two years. BSEE representatives referred us to different specialists within their offices and BOEM, at times transferring the caller to defunct telephone extensions and channeling most written communication to generic email accounts such as *GulfPublicInfo@bsee.gov* and *Foiaofficegulfofmexicoocsregion@boem.gov*. In all, we requested the H₂S contingency plans in communications with nine individuals as well as through the aforementioned email accounts to no avail.

On November 6, 2013, a representative from BSEE's Gulf Coast OCS Regional Office informed us that the requested H₂S contingency "[p]lans are not releasable even under FOIA."¹²⁵ When asked to specify the FOIA exemption(s) being invoked, the BSEE representative referred us to BOEM's FOIA request email account without answering the question.¹²⁶ BOEM responded to our inquiry by suggesting that we submit a FOIA request.¹²⁷

Because BSEE referred us to BOEM, we filed FOIA requests for H₂S contingency plans with both bureaus, asking for copies of plans filed with either bureau, or its predecessor.¹²⁸ BOEM responded that the documents requested "are not located in BOEM."¹²⁹ The regional offices of BSEE each responded

124. H₂S contingency plans, which are relevant from a safety and environmental perspective because releases of H₂S can be fatal to humans and marine species, are neither submitted on a BSEE form nor explicitly excluded from public access by the Regulations.

125. Email from Roberta S. McMahon, Government Information Specialist (FOIA), Gulf of Mexico OCS Region, BSEE, to Daniel Becker, student, Emmett Environmental Law & Policy Clinic (EELPC), Harvard Law School (Nov. 6, 2013) (on file with author).

126. Email from Roberta S. McMahon, Government Information Specialist (FOIA), Gulf of Mexico OCS Region, BSEE, to Daniel Becker, student, EELPC, Harvard Law School (Nov. 8, 2013) (on file with author).

127. Email from Jeremy Williams, BOEM, to Daniel Becker, student, EELPC, Harvard Law School (Dec. 2, 2013) (on file with author).

128. This time, the request focused on plans filed more than two years before the date of the request to avoid any risk of the request being denied based on opportunities for delayed disclosure in 30 C.F.R. § 250.197(b) (2013).

129. Letter from Steven K. Waddell, Chief, FOIA/Records Office, Gulf of Mexico OCS

somewhat differently to the identical FOIA request: (i) the Alaska region referred us to an H₂S contingency plan available on BOEM's website; (ii) the Pacific Region forwarded copies of several H₂S contingency plans; and (iii) the Gulf of Mexico Region claimed that the request for H₂S contingency plans sought commercial or financial information that triggered a "requirement" for BSEE to consult with the submitter prior to responding to the FOIA request. In total, the response from BSEE took over four months.¹³⁰

We filed a separate FOIA request with BSEE asking for specific SEMS audit reports, CAPs, and completed BSEE Forms 0131 (on which operators submit Performance Measures Data). BSEE acknowledged receipt of the FOIA request and, in response to an inquiry two months later, informed us that (i) the request was still in the FOIA office queue for processing and, (ii) because it determined that the requested documents included commercial confidential information, the agency had notified the submitters of the reports of the request and was awaiting their response.¹³¹ The documents that BSEE sent us approximately six weeks later were so heavily redacted that they were largely meaningless. In redacting information, BSEE broadly invoked exemptions from FOIA relating to "trade secrets and commercial or financial information, obtained from a person, which is privileged or confidential" and "personnel and medical files and similar files, the disclosure of which would constitute a clearly unwarranted invasion of personal privacy."¹³²

These experiences demonstrate unnecessary roadblocks to the public's timely access to information submitted to BSEE. The delays we experienced in receiving information exceed the

Region, BOEM, to Jean Tanis, student, EELPC, Harvard Law School (Feb. 26, 2014) (on file with author).

130. Letter from Brendan Henry, Government Information Specialist, FOIA, Alaska OCS Region, BSEE, to Jean Tanis, student, EELPC, Harvard Law School (Mar. 3, 2014) (on file with author); Letter from Janice R. Hall, FOIA Officer, Pacific OCS Region, BSEE, to Jean Tanis, student, EELPC Harvard Law School (Mar. 25, 2014) (on file with author); Letter from Karen M. Miller, FOIA Officer, Gulf of Mexico OCS Region, BSEE, to Jean Tanis, student, EELPC, Harvard Law School (June 17, 2014) (on file with author).

131. Email from Dorothy Tinker, BSEE FOIA Office, to Aladdine Joroff, Staff Attorney, EELPC, Harvard Law School (May 1, 2014) (on file with author).

132. Letter from Dorothy Tinker, BSEE FOIA Office, to Aladdine Joroff, Staff Attorney, EELPC, Harvard Law School (June 12, 2014) (on file with author).

typical thirty to ninety-day comment periods on draft regulations, illustrating the practical impact on stakeholders using FOIA requests to enhance their ability to contribute to discussions relevant to ensuring safe and environmentally sound offshore drilling. Responses from BSEE are further slowed by the need to go back-and-forth with industry regarding material claimed to be business confidential. If BSEE required industry to submit redacted versions of reports, such as SEMS audit reports, along with original submissions, those redacted materials could be promptly forwarded as a placeholder in response to public inquiries while BSEE prepares a formal response to FOIA requests. The quality of responses is further impaired by inappropriately broad applications of FOIA exemptions.

B. BSEE'S REGULATIONS REQUIRE COLLABORATION AMONG AGENCIES BUT DO NOT MANDATE INFORMATION-SHARING

Numerous federal agencies play a role in offshore drilling oversight, but greater coordination of efforts is needed.¹³³ Entities with a significant role include BSEE, BOEM, EPA, and the USCG. Other agencies also play a role, albeit a more limited one, including DOT and NOAA. While the stated goals of many of these agencies include transparency and improved information management to ensure environmental protection,¹³⁴ the accessibility of the vast amounts of information reported to these and other agencies remains limited, not only to the public but also within and between agencies. For instance, BSEE's Regulations include only one

133. See, e.g., Exec. Order No. 13,689, 80 Fed. Reg. 4,189 (Jan. 21, 2015) (establishing an Arctic Executive Steering Committee tasked, in part, with enhancing "coordination of Federal Arctic policies across agencies and offices, and, where applicable, with State, local, and Alaska Native tribal governmental and similar Alaska Native organizations, academic and research institutions, and the private and nonprofit sectors.").

134. See, e.g., *BSEE FY 2012-2015 Strategic Goals at a Glance*, BUREAU OF SAFETY AND ENVIRONMENTAL ENFORCEMENT, <http://perma.cc/BFG4-XG8J> (including in BSEE's strategic goals "[t]echnology and information management investment: revamp data systems, knowledge management, and innovation"); *EPA's Themes—Meeting the Challenge Ahead*, ENVIRONMENTAL PROTECTION AGENCY, <http://perma.cc/EMX9-VT5J> ("Integrating efforts with a new commitment to innovation, the high-level use of data and information, partnerships, incentives, new and expanded constituencies, and environmental education will build momentum.").

explicit example of intergovernmental collaboration, and it relates to cooperation between BSEE and BOEM, its sister division within DOI.¹³⁵ No provision within the Regulations explicitly provides for sharing information with EPA, USCG, NOAA or other agencies despite the directive to BSEE, both in the Outer Continental Shelf Lands Act and the Regulations, to cooperate and consult with “relevant federal agencies.”

BSEE relies on interagency agreements, e.g., MOUs and MOAs, to facilitate intergovernmental collaboration and information sharing. Examples include: (i) a 2012 MOU with the USCG regarding the Outer Continental Shelf and a subsequent MOA regarding SEMS and Safety Management, both of which include information sharing provisions;¹³⁶ and (ii) an interagency agreement with the Bureau of Transportation Statistics to develop a voluntary confidential near-miss reporting system for use on the Outer Continental Shelf.¹³⁷

Such interagency agreements for sharing information are hampered by limited participation, narrow coverage, lack of benchmarks, and vague language. Existing interagency agreements are often between only two agencies at a time and/or address discrete issues. Achieving seamless information sharing, however, requires a comprehensive solution that accounts for all of the information reported to all agencies involved in offshore drilling oversight, as well as making all of that information accessible to other interested parties.¹³⁸ By

135. 30 C.F.R. § 250.135 (“BSEE will refer a determination of unacceptable performance to BOEM”) (2012).

136. *See, e.g.*, Memorandum of Understanding between BSEE and USCG re: Building a Partnership to Improve Safety and Environmental Protection, at § F (Nov. 27, 2012) (requiring the participating agencies to “promote electronic information sharing,” “endeavor to synchronize information” and “exchange or otherwise make available . . . graphical representations depicting the geographical boundaries of each agency’s regional offices and commands”); Memorandum of Agreement between BSEE and USCG re: Safety and Environmental Management Systems and Safety Management Systems (BSEE/USCG MOA: OCS-07), at § C.5 (April 30, 2013) (providing for sharing of information related to the agencies respective “safety management efforts,” including “[a]ny significant finding relevant to OCS safety and environmental management”). Both of these documents, as well as other examples of collaboration between BSEE and USCG, are *available at* BSEE, *Cooperative and Interagency Agreements*, <http://perma.cc/X8JY-28E9>.

137. *BTS and BSEE to Develop Confidential Near-Miss Reporting System*, U.S. DEPT. OF TRANSPORTATION, <http://perma.cc/883F-W6MC>.

138. *See generally* U.S. GOVERNMENT ACCOUNTABILITY OFFICE (GAO), GAO-14-220, *MANAGING FOR RESULTS: IMPLEMENTATION APPROACHES USED TO ENHANCE*

their very nature, bilateral agreements cannot achieve these goals. Progress is further hampered by agreements that do not clearly state the obligations they impose or provide mechanisms for determining whether goals are being met. For instance, although BSEE's MOA with the USCG regarding SEMS programs directs the agencies to share information about their "safety management efforts," and gives two examples of specific information to be shared, including "[a]ny significant finding relevant to OCS safety and environmental management," the information sharing obligations are still subject to subjective agency decision-making as to which information is "significant" enough to share. Agreements with provisions that outline specific requirements and mandate evaluations of the collaborations' effectiveness are likely to produce more effective results.

Existing inefficiencies in information sharing can be illustrated by the reports that are required in the event of an "incident" related to offshore drilling activities. The USCG, EPA, and BSEE each require a report that asks for similar, if not duplicative, and potentially complementary information in the event of an incident related to offshore drilling activities.¹³⁹ However, these agencies do not have formal agreements or mechanisms to coordinate or streamline the information collected upon the occurrence of an incident. Formally coordinating the sharing of the information in these reports would benefit the public, industry, and the agencies themselves by ensuring that the reported information is consolidated. This in turn would enable the publication of integrated information through a single source that would be easy to find and access by interested agencies and other parties.

One such interested agency that is often missing from the discussion of oversight of offshore drilling is the Securities and Exchange Commission ("SEC"). Although the SEC does not directly regulate offshore drilling activities, it should be included in efforts to improve offshore drilling oversight, particularly as relates to information disclosure. The SEC

COLLABORATION IN INTERAGENCY GROUPS (2014) (identifying as key practices in collaborative interagency mechanisms, among other factors, tools to monitor, evaluate and report on results and inclusion of all relevant participants).

139. See, e.g., United States Coast Guard, Form CG-2692, Report of Marine Casualty; 40 C.F.R. § 112.4(a)(7) (2013); 30 C.F.R. § 250.189(h) (2014).

regulates all publicly-traded companies,¹⁴⁰ including those engaged in offshore drilling activities. A basic principle of the SEC's reporting requirements is that companies must report any information that is "material" to a reasonable investor in deciding whether to buy, sell, or hold a company's securities. While the definition of what is "material" for SEC purposes is itself a complex and debated issue, one can reasonably assume that much of the information reported under the offshore drilling regulatory scheme concerning safety, environmental protection and incidents, especially when considered in the aggregate, amounts to what many investors would consider material information.

The concept of providing the SEC better access to information relating to environmental impacts is not new. In a 2004 study, the U.S. Government Accountability Office ("GAO") recommended that the SEC improve the tracking and transparency of company filings, particularly in the realm of environmental disclosures.¹⁴¹ The SEC concurred with the GAO's findings.¹⁴² Providing the SEC with access to information reported by offshore drillers to other federal agencies would be consistent with the GAO's recommendations and with the SEC's previous efforts to improve its consideration of environmental issues. For instance, in 1990 the SEC and EPA had an agreement under which EPA provided the SEC with quarterly enforcement-related data.¹⁴³ According to the SEC, the value of this attempt at information sharing was limited due, at least in part, to the SEC's inability to analyze the great volume of complex data it received from EPA.¹⁴⁴ This type of problem could be addressed by integrating the SEC's data needs into information collection processes so that material is submitted and shared in a format that matches the

140. Securities Act of 1933, 15 U.S.C. §§ 77a – 77mm; (2012); Securities Exchange Act of 1934, 15 U.S.C. §§ 78a – 78kk. (2012).

141. GAO, GAO-04-808, ENVIRONMENTAL DISCLOSURE: SEC SHOULD EXPLORE WAYS TO IMPROVE TRACKING AND TRANSPARENCY OF INFORMATION, 1 (2004), *available at* <http://perma.cc/JD7A-N763> ("Environmental risks and liabilities are among the conditions that, if undisclosed, could impair the public's ability to make sound investment decisions").

142. *Id.*

143. *Id.* at 28.

144. *Id.* For example, EPA provided facility-specific information without identifying the facility owner, but the SEC required the ownership information in order to make use of the data.

SEC's role as the securities market regulator (e.g., ensuring that information on a spill or chemical storage is linked to the level of corporate identification that the SEC tracks).

VI. RECOMMENDATIONS FOR IMPROVING ACCESS TO INFORMATION

A. *ISSUE GUIDANCE CLARIFYING THAT BSEE ADOPTS A PRESUMPTION IN FAVOR OF DISCLOSURE*

Although the Regulations are arguably consistent with a public disclosure default, they do not clearly incorporate such a presumption and at times contain confusing language that leads to inappropriate limitations on public access to non-confidential information submitted to BSEE. To address these shortcomings, BSEE should issue guidance for internal and external purposes that confirms and clarifies how it intends to meet its, and the administration's, goals of making information available to the public and responding to FOIA requests with a presumption in favor of disclosure.

Examples of clarifications and directions that should be provided in such guidance include:

- Clarify that BSEE (i) interprets its Regulations as providing a presumption of public access to information related to safety and the environment, and (ii) presumes that disclosure of such information is "necessary" unless demonstrated otherwise (i.e., BSEE employees should assume a rebuttable presumption of public need for information submitted to BSEE);
- Confirm that, pursuant to paragraph (b) of section 250.197, BSEE will release all lease and permit data and information not on BSEE forms except as specifically enumerated in that paragraph;
- Confirm that the purpose of paragraph (c) of section 250.197 is to expand public access to otherwise proprietary geophysical and geological data;
- Direct BSEE employees to consistently exercise the agency's authority to request that reporting entities

provide an additional “public-ready” copy of reports submitted to BSEE allegedly containing business confidential information (30 C.F.R. section 250.186(b));¹⁴⁵ and

- Direct BSEE employees to increase the scope and magnitude of discretionary releases of non-confidential material on BSEE.gov and other appropriate electronic sources.

These suggestions are consistent with federal guidance that directs agencies to “exercise their discretion to make a broad range of records available beyond the minimum required by [FOIA],” and highlights their ability to make discretionary disclosures of information, even if it falls under a FOIA exemption, if not otherwise prohibited.¹⁴⁶

B. FACILITATE PUBLIC ACCESS TO INFORMATION THROUGH 30 C.F.R. PART 250 BY AMENDING BSEE FORMS

BSEE’s Regulations are supposed to be interpreted so as to make information the agency collects available to the public unless specifically exempted from disclosure. As written, however, the Regulations provide for expedited access to only a portion of the information submitted to BSEE, namely, data and information submitted on BSEE forms is supposed to be publicly available upon submission, subject to enumerated exceptions. Notably, the forms represent only a subset of the information collected and used by BSEE in assessing safety and environmental impacts. BSEE should expand the scope of material subject to the immediate public disclosure requirement in paragraph (a) of section 250.197 by instructing operators to attach additional safety and environment-related information to existing BSEE forms. Given the routine use of electronic submissions, attaching additional documents to a form would not be burdensome.

145. BSEE should conduct periodic, random inspections of “public-ready” submissions to ensure that claims of protected information have a legal basis and that redactions are not inappropriately broad.

146. U.S. DEP’T OF JUSTICE, FREEDOM OF INFORMATION ACT GUIDE 11–12, 686 (2004).

Where, however, electronic submissions are not available or the norm, referenced documents could be deemed incorporated by the submitter's signature if not physically or electronically attached to the relevant BSEE form. Although amending BSEE forms in this manner is not required for public access to information currently submitted in other formats, it would be a means of implementing the directive, recommended above, to expand the scope of material that should be promptly made available to the public, including via BSEE's public website.

Examples of BSEE forms that could be modified include Well Activity Reports (BSEE-0133), Applications for Permits to Modify (BSEE-0124), and End of Operations Reports (BSEE-0125). For instance, Well Activity Reports, which operators must submit weekly or daily depending on where they are drilling,¹⁴⁷ could be amended by adding a line item asking operators to list information related to safety and environmental protection otherwise submitted to BSEE prior to or in the relevant reporting period. With respect to daily or weekly reports, operators would only need to attach new information in the first applicable reporting period; information would not need to be re-submitted on a weekly or daily basis. This direction would be accompanied by a non-inclusive list of responsive information, which would then be attached to or incorporated as part of form BSEE-0133 itself.

Amending BSEE forms in this manner would not increase the amount or type of information collected by BSEE, but would merely change the submission process and, potentially, the categories of information readily available for public access. Because there would be no "substantive or material modification" to BSEE's previously-approved collection of information, the agency could proceed by issuing a Notice to Lessees ("NTL") without triggering obligations under the Paperwork Reduction Act.¹⁴⁸ BSEE issues NTLs as guidance documents to "clarify, supplement, or provide more detail" about requirements in the Regulations and to "outline what

147. 30 C.F.R. § 250.468 (2014) (requiring operators drilling in the (i) Gulf of Mexico OCS Region or (ii) Pacific or Alaska OCS Regions to submit Well Activity Reports on a weekly and daily basis respectively).

148. 44 U.S.C. §§ 3501, 3507(h)(3) (2012) (providing that, once the Office of Management and Budget ("OMB") has approved a collection of information, an agency may not make a "substantive or material" modification to the collection without OMB approval.)

[reporters] must provide as required information in [their] various submissions.”¹⁴⁹ Historically, BSEE has determined that many of its NTLs, including ones that designate the format and timing of submissions of information, do not impose additional information collection requirements subject to the Paperwork Reduction Act.¹⁵⁰

C. DEVELOP A SEARCHABLE ONLINE DATABASE THAT AGGREGATES OPERATOR SUBMITTED INFORMATION

The information collected by the various federal agencies that oversee offshore drilling is fragmented, hindering efficient information management and effective analysis of the impacts of offshore drilling. A searchable, shared database would reduce reporting burdens on industry and improve oversight. Access to shared data can lead to more informed and innovative analysis and ideas; as noted in the context of scientific data, “[t]he power of digital information to catalyze progress is limited only by the power of the human mind.”¹⁵¹ Even agencies that do not directly regulate offshore drilling, such as the SEC, would benefit from greater access to streamlined data relevant to the safety and environmental impacts of offshore drilling. Pursuant to its mandate to “cooperate and consult with . . . relevant Federal agencies” in the regulation of offshore oil and gas operations, BSEE and BOEM should take action to facilitate information sharing within and among agencies with a role or interest in the oversight of offshore drilling.

To address the current deficiencies in agency information sharing, BSEE and BOEM should reach out to and collaborate with other relevant agencies to establish a centralized electronic reporting system capable of aggregating operator-submitted information in a searchable online database. (This outreach should include the SEC, which should participate with other federal agencies in devising the mechanisms for sharing information so that it can specify its information

149. 30 C.F.R. § 250.103. (2014).

150. See BSEE Notices to Lessees and Operators, <http://perma.cc/56NR-ARR4> (listing active BSEE NTLs issued from 1998-2014).

151. INTERAGENCY WORKING GROUP ON DIGITAL DATA, HARNESING THE POWER OF DIGITAL DATA FOR SCIENCE AND SOCIETY 4 (2009).

needs.) The database should aggregate all information submitted by offshore operators that is relevant to safety and environmental performance and be made accessible to all federal regulators and, except for information that is confidential, the general public.¹⁵² BSEE could use a multi-agency MOA to develop such a centralized, electronic system for collecting and processing information from regulated offshore drilling entities.

A multi-agency MOA could build on current, often bilateral, information-sharing efforts between agencies by expanding the scope of existing agreements and establishing deadlines for facilitating improved information sharing and access. In particular, the signatories to the MOA could:

- (i) Compile a list of information reportable by offshore drilling entities, organize such data by searchable parameters,¹⁵³ and identify and address any gaps or overlaps in reporting requirements.¹⁵⁴ In compiling this list of information, the agencies should identify which material is confidential and specify that the rest is accessible to the public. Such an exercise would help address ambiguities in BSEE's regulations as to which information it intends to withhold from public access and for how long;
- (ii) Develop a computer application that provides a streamlined method by which offshore facilities can

152. The Mine Safety and Health Administration ("MSHA") and the Pipeline and Hazardous Material Safety Administration ("PHMSA") maintain searchable online databases that could serve as models. See *Mine Data Retrieval System*, MINE SAFETY AND HEALTH ADMINISTRATION, <http://perma.cc/KA6J-BDEC> (containing information gathered from various MSHA systems); *Pipeline Operator Information*, PIPELINE AND HAZARDOUS MATERIAL SAFETY ADMINISTRATION, <http://perma.cc/KKE4-3YKV> (collecting operator information from multiple sources including operator reported and internal PHMSA data).

153. Possible search parameters might include collection agency, date of submission, type of disclosure (voluntary or mandatory), and circumstance of disclosure (periodic or incident based).

154. The identification of reporting gaps and overlaps may be informed by the work of the recently established Arctic Executive Steering Committee, which was tasked with establishing a working group to "identify potential areas of overlap between and within agencies with respect to implementation of Arctic policy and strategic priorities and provide recommendations to increase coordination and reduce any duplication of effort . . .". Exec. Order No. 13689, 80 Fed. Reg. 4189 (Jan. 21, 2015).

submit all required information electronically. This system could include a graphical user interface that would allow users to enter information for multiple reports simultaneously. The system could also allow facilities to submit confidential information separately. (Figure 1 below presents a conceptualized model for a graphical user interface screen that, while not intended to be a final product, provides an illustration of the idea); and

Figure 1: Conceptualized GUI Model

The same or similar information may be required by the following legal authorities. Please select reports to which you would like to add this information:

USCG
Form: CG-2692
Authorities

New	Cont'd	
<input type="checkbox"/>	<input type="checkbox"/>	BSEE, 30 CFR 250.189(h)
<input type="checkbox"/>	<input type="checkbox"/>	EPA, 40 CFR part 112.4(7)

Related reports:

SEC, 10K, Item 103

Item 44: Describe how accident occurred, damage, information on alcohol/drug involvement, and recommendations for corrective safety measures. (See *instructions* if necessary.)

Information entered into this field will be available to the PUBLIC. Do not enter confidential information into this field. Please enter confidential information in field below marked "Confidential".

Confidential. Please enter confidential information in this field only.

N/A

- (iii) Create a searchable database that includes all reported information for use by all interested regulators and, with respect to non-confidential information, all other stakeholders and members of the public.

While conceptual and design input from all relevant agencies should be obtained early in the process, the computer application and database could be developed in stages, beginning with a pilot project to test the system and incorporate stakeholder feedback. A possible funding mechanism for the development and maintenance of such a system would be license and permit fees.

VII. CONCLUSION

Regulators, investors, affected communities and other members of the general public who are interested in evaluating the environmental performance of different operators have some but not enough useful information at their disposal. Data regarding an operator's civil and administrative violations and the well control incidents, explosions, fires, oil releases, reportable injuries, and fatalities that occur at its facilities are already publicly available on BSEE's website. This information provides important insights into an operator's past safety and environmental performance and the prospective risk its operations pose.

Although existing information can provide important insights, the implementation of robust environmental and safety indicators requires improved access to information generated by operators. For example, BSEE should require operators to report their SPPE maintenance backlog, average kick response time, and certain LOPC events that are currently not reported. BSEE should also conduct periodic surveys of an operator's personnel to determine the strength of the operator's safety culture. This additional information will provide important new insights into the safety and environmental performance of offshore operators.

BSEE should also take steps to improve public access to, and inter- and intra-agency sharing of, information that the agency already collects from entities involved in offshore drilling. Facilitating access to information is a critical step toward effective oversight of offshore drilling and protection of human health and the environment. Much can be done to achieve this goal without creating additional substantive requirements for or burdens on the regulated community, and would represent a significant step by BSEE towards meeting its mandates to proactively make information public and to cooperate and coordinate with other federal agencies in the regulation and oversight of offshore oil and gas operations.

Alleviating the need for the public to proceed under the often lengthy FOIA process, and providing regulators immediate access to information collected by other agencies, would improve the ability of stakeholder and regulators alike to monitor and assess the safety and environmental performance of offshore operators. Such increased and timely access to information is needed to help displace the "culture of

complacency” that the National Commission identified in the wake of the Deepwater Horizon tragedy.¹⁵⁵

155. NATIONAL COMMISSION REPORT TO THE PRESIDENT, *supra* note 16, at ix, 293.