



U.S. Department of the Interior
Outer Continental Shelf Safety Oversight Board

Report to Secretary of the Interior Ken Salazar
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I. Introduction

A. Background

The *Deepwater Horizon* tragedy of April 20, 2010, took 11 lives, caused the destruction and sinking of an offshore drilling rig, led to the release of approximately 4.9 million barrels of oil, and significantly disrupted the Gulf of Mexico region's economy and environment. Recognizing that oil and gas remain an important part of the Nation's energy economy, the government has begun to change laws, regulations, and organizational structures in an effort to prevent such catastrophic occurrences in the future.

The accident and ensuing spill challenged 40 years of generally accepted belief that offshore operations could occur safely under existing regulation and oversight. In the new context for offshore development that became evident even in the earliest days after the rig explosion and sinking, Interior Secretary Ken Salazar ordered an immediate review of Federal offshore oil and gas programs. Among the many actions taken by Secretary Salazar in the aftermath of the accident was the creation on April 30, 2010, of an Outer Continental Shelf (OCS) Safety Oversight Board (Board), consisting of Wilma A. Lewis, Assistant Secretary for Land and Minerals Management (ASLM), Chair; Mary L. Kendall, Interior Department Acting Inspector General; and Rhea S. Suh, Assistant Secretary for Policy, Management and Budget (ASPMB).¹

In addition to other duties, the Secretary charged the Board with providing recommendations to improve and strengthen the Department's overall management, regulation, and oversight of OCS operations, including undertaking further audits or reviews, and reviewing existing authorities and procedures. This document responds to the Secretary's request for a report from the Board.

B. Context of the Report

This report is one of numerous government-initiated actions and activities intended to enhance safety in the aftermath of the *Deepwater Horizon* accident, including the following:

- On May 14, 2010, Council on Environmental Quality (CEQ) Chair Nancy Sutley and Secretary Salazar announced a review of the former Minerals Management Services' (MMS) National Environmental Policy Act (NEPA) policies, practices and procedures. The CEQ report was issued on August 16, 2010.²
- On May 19, 2010, Secretary Salazar ordered the longer-term reorganization of the former MMS into two new bureaus (the Bureau of Ocean Energy Management and the Bureau of Safety and Environmental Enforcement) under the ASLM. MMS's revenue management functions will be transferred to a new Office of Natural Resources Revenue, to be housed in the Office of the ASPMB.³ An initial report on the planned implementation of the

¹ Secretarial Order No. 3298 (April 30, 2010).

² "Report Regarding the Minerals Management Service's National Environmental Policy Act Policies, Practices, and Procedures as They Relate to Outer Continental Shelf Oil and Gas Exploration and Development" (August 16, 2010).

³ Secretarial Order No. 3299 (May 19, 2010).

reorganization was submitted to the Secretary on July 14, 2010.⁴ Implementation steps are ongoing.

- On May 21, 2010, President Obama created the National Commission on the BP *Deepwater Horizon* Oil Spill and Offshore Drilling. This Commission has begun its work and will develop findings and recommendations.
- On May 27, 2010, Secretary Salazar submitted a report to the President on immediate, short-term and long-term safety measures.⁵ The recommendations in that report are being implemented.
- On June 18, 2010, Secretary Salazar abolished MMS and transferred its functions to the new Bureau of Ocean Energy Management, Regulation and Enforcement (BOEMRE).⁶
- On July 12, 2010, Secretary Salazar ordered a suspension of deepwater drilling while immediate safety concerns are addressed.⁷ The BOEMRE Director is conducting public meetings to gather information as a precursor to preparing a report with recommendations on deepwater drilling.
- A joint United States Coast Guard (USCG)/BOEMRE Marine Board investigation of the root causes of the *Deepwater Horizon* accident is underway.
- Secretary Salazar has commissioned an independent study by the National Academy of Engineering to analyze root causes of the *Deepwater Horizon* accident and provide recommendations.
- Secretary Salazar requested that the Office of Inspector General (OIG) investigate any deficiencies in MMS policies and practices that may have contributed to the *Deepwater Horizon* accident.
- Congress is considering legislating new measures for offshore oil and gas development, including some of the reforms referenced in this report.

Some of the issues examined in this report are similar to issues identified in the context of both the BOEMRE reorganization and other initiatives aimed at enhancing the safety of OCS operations in response to the *Deepwater Horizon* accident. A combination of regulatory, structural, and statutory solutions to some of these issues is now being explored or is already moving forward.

Prior to the *Deepwater Horizon* explosion on April 20, 2010, the Department of the Interior had initiated several reforms involving the management of offshore energy resources. These new measures included: reforms to the former MMS's ethics program; termination of the Royalty in Kind program; a new approach to OCS management emphasizing scientifically grounded and environmentally sound development of oil and gas resources, together with a strategy that calls for analyzing the possible development of new areas offshore, exploring frontier areas, and protecting places that are not appropriate for drilling; development and implementation of renewable energy programs; and a review of oil and gas royalty rates. These reform measures and those initiated in the aftermath of the *Deepwater Horizon* accident are part of the Department's ongoing reform agenda.

⁴ "Implementation Report - Reorganization of the Minerals Management Service" (July 14, 2010).

⁵ "Increased Safety Measures for Energy Development on the Outer Continental Shelf" (May 27, 2010).

⁶ Secretarial Order No. 3302 (June 18, 2010).

⁷ The Secretary's decision memorandum on the offshore drilling suspension is available at <http://www.doi.gov/deepwaterhorizon/loader.cfm?csModule=security/getfile&PageID=38375>.

Offshore oil and gas development constitutes approximately 30% of domestically produced oil and 11% of the domestic natural gas supply. The vast majority of this production occurs in the Central and Western Gulf of Mexico (GOM). In achieving such levels of production, the GOM offshore oil and gas industry has, in recent decades, reached farther offshore and deeper undersea. Many of the facilities are larger, more complex, more technologically sophisticated, and more distant than ever before. Simultaneously, government oversight of the prolific energy resources of the GOM has become more complex and challenging. In view of the many lessons that can and should be learned from the *Deepwater Horizon* accident, BOEMRE has the opportunity to make systemic changes that will help create a better and more effective regulatory and oversight program.

C. Development of the Report

Secretary Salazar charged the Board with providing recommendations to improve and strengthen the Department's overall management, regulation, and oversight of OCS operations. The Secretary also separately asked the OIG to determine, among other things, whether there are deficiencies in BOEMRE policies and practices that should be addressed in order to ensure that operations on the OCS are conducted in a safe manner, and protective of human life, health, and the environment.

Since these requests by the Secretary were similar in nature, the OIG agreed to lead a Joint Team of OIG and ASLM Energy Reform Team members in collecting and analyzing information and providing the Board with proposed recommendations. As an initial step, the Board identified broad topics that it determined to be relevant to the regulation of offshore operations by BOEMRE – specifically Permitting, Inspections, Enforcement, Environment, Post-Accident Investigations, and Safety.⁸ The Board also provided the Joint Team with a series of questions related to each of the identified subject areas that served as a catalyst for the review.

The Joint Team conducted a review to address the six topic areas. The Joint Team's field work included interviews of over 140 BOEMRE employees; two online surveys sent to nearly 400 BOEMRE employees;⁹ review of over 2,000 documents, including statutes, regulations, policies, procedures, and guidance; and detailed analysis and synthesis of the information developed from this work. The Joint Team also drafted issue papers with proposed recommendations to advance the most pressing and pertinent issues that it developed in the course of nine weeks, ending July 30, 2010.

Collaterally, at the request of the Board, staff of the Office of Policy Analysis (PPA), within the Office of the ASPMB, gathered information and conducted research that compared the inspection, enforcement and post-accident review programs of regulatory systems among a variety of federal agencies of the United States government (the Nuclear Regulatory Commission, Federal Aviation Administration, Mine Safety and Health Administration, and Occupational Safety and Health Administration) as well as the oil and gas management regime

⁸ The issues reviewed under "Safety" are addressed in the Environmental Stewardship section of this report.

⁹ Surveys were sent to 199 personnel involved in the inspections, enforcement, post-accident, and investigations processes, 126 of whom responded (63%). Separately, a different survey was sent to 193 personnel involved in the conduct, oversight, and support of environmental review and compliance activities, as well as leasing staff who reported to the same regional supervisors; 108 responded (53%).

of the United Kingdom, which oversees development of offshore oil and gas resources in the North Sea. The result was a comparative analysis of these regulatory models for the Board's consideration.

The Board engaged in a detailed review of the PPA and Joint Team work products, in consultation with the PPA Team, the Joint Team, ASLM senior staff, BOEMRE senior staff, and two consulting subject-matter experts who had been senior officials of the former MMS. As a result of this combined effort, a draft report was prepared. The draft was provided to senior officials within the Department, including the BOEMRE Director, for any comments. Following a review and discussion of the comments received, the Board finalized its report, which is presented in this document.

This report contains the results of a programmatic review of select BOEMRE functions. The resulting recommendations address both short-term and long-term efforts that BOEMRE should consider as it continues with its reforms. This report is intended to compliment, not duplicate, other reviews and work products, particularly the Secretary's May 27 Report to the President. Thus, although there is some overlap among issues discussed in this report and in other contexts, the Board seeks through this report to add value to the reform agenda by focusing on certain areas that are not the primary focus of other efforts.

The OIG will continue its analysis of the information collected during this effort and will issue a supplemental report containing additional supporting information and analysis. The OIG may also continue to pursue a number of issue areas it has determined worthy of additional review.

D. Analysis and Recommendations

Overall, the Joint Team found the BOEMRE employees it interviewed to be a dedicated, enthusiastic cadre of professionals who want nothing more than to do their jobs effectively and efficiently and to see their Bureau reorganize into a robust, high-performing and respected organization. However, BOEMRE employees also provided ample information about the weaknesses of the program and operations, and how they might be addressed. This report contains many of their observations, and the Board's recommendations that emanated from those observations.

In the following pages the Board presents a suite of issues and recommendations (restated in the Appendix). By their nature, and consistent with the Board's mandate, the report is focused on change and improvement. In the aggregate, the findings and recommendations can be considered by BOEMRE management and staff as a framework for improvement that would create more accountability, efficiency, and effectiveness in a bureau charged with significant responsibilities.

Some of the recommendations in this report and the actions identified to address them are reliant on an infusion of funding and staffing. Those needs will be addressed by the Department and the Administration through a FY 2011 budget amendment, realignment of resources in the existing budget, and the annual budget process.

The recommendations range from improved consistency and communication of BOEMRE's operational policies to technology improvements and day-to-day management in the field. Inspections and enforcement—from personnel training to the deterrent effect of fines and civil penalties—also need attention. In addition, BOEMRE must be diligent to achieve the stewardship balance between development and environmental responsibilities envisioned in its statutes.

One of the major cross-cutting themes of the Board's recommendations is providing more support for BOEMRE personnel, in the form of training and education, management commitment, and professional growth and development. BOEMRE responsibilities have expanded in scope and complexity to such an extent that BOEMRE must increase and develop its staff to meet new challenges.

Above all, through each of the topics addressed in this report runs a single theme: BOEMRE must pursue, and industry must engage in, a new culture of safety in which protecting human life and preventing environmental disasters are the highest priority, with the goal of making leasing and production safer and more sustainable. The purpose of a broad safety culture program is to create and maintain industry, worker, and regulator awareness of, and commitment to, measures that will achieve human safety and environmental protection, and to make sure that where industry fails, BOEMRE will respond with strong enforcement authorities.

Forging a new safety culture cannot be achieved by government alone. The Board recognizes that the federal agency for offshore management must carry the flag for safety culture, through its own actions, through its rules and enforcement, and through its establishment of priorities. However, the Board believes that industry, as the lead player in offshore oil and gas development, has a pivotal role to play as well. Indeed, industry must make a widespread, forceful and long-term commitment to cultivating a serious approach to safety that sets the highest safety standards and consistently meets them. Ultimately, for a new and robust safety culture to take root, industry must not only follow rules, it must assume a meaningful leadership role.

II. Permitting: Resources and Protocol for Permit Review

Issue

Gulf of Mexico (GOM) district offices are challenged by the volume and complexity of permit applications and the lack of a standardized engineering review protocol. In addition, the Pacific Region's permitting staff is facing significant succession issues.

Background

The volume of production activity in the GOM has increased significantly in the last several years. However, the workforce associated with regulating the day-to-day activities of the oil and gas industry (particularly the review of Applications for Permits to Modify (APMs)) has not increased proportionally to the work demands. In addition, the sheer volume of requests creates a high pressure work environment that can lead to challenges in balancing the need to conduct an adequate analysis for each modification decision or permit with the need to be responsive to requests from industry. Further, there are succession issues in the Pacific Region that may also apply to BOEMRE's other regions.

The oil and gas industry works around the clock. After regular work hours, GOM District office staff maintain their coverage by requiring an engineer to be available on-call. The New Orleans District office, for example, receives approximately 15 to 20 after-hour calls per week. The on-call responsibility is rotated among the various senior engineers (GS-13) at each district office. On-call engineers are provided with office-issued cell phones and government laptops, but they are not allowed to access the permit database from off-site locations.

Analysis/Discussion

- With increasing workloads, GOM district offices do not have a sufficient number of engineers to efficiently and effectively conduct permit reviews. For example, APMs have increased by 71% from 1,246 in 2005 to 2,136 in 2009 in the New Orleans District.
- In the Pacific Region, staffing will be an issue because 8 of the 10 current permitting employees will be eligible for retirement within the next 2 ½ years.
- GOM district offices do not have a standard practice to address operators who “shop around” for regulatory approval for their oil and gas operations and who contact district offices outside the appropriate jurisdictional area. Engineers stated that some operators call various district offices to find an engineer who will eventually give approval. For example, during the current drilling suspension, an operator contacted one district office for a special drilling departure, but was told to wait. The operator then contacted another district office and received approval. The operator was eventually told not to drill, but this example illustrates the lack of coordination and standardization among the district offices.
- GOM on-call engineers are handicapped because they are not allowed to access the permit database from off-site due to security concerns. This permit database provides the

application forms and background data on operational activities in the GOM that assist engineers in making informed permit decisions.

Recommendations

1. Review permit staffing needs in the GOM district and regional offices to ensure that staffing levels are commensurate with increasing workloads.
2. Develop a succession plan for BOEMRE staff in all regions.
3. Develop a comprehensive and current handbook to compile and standardize policies and practices designed to assist permit reviewers in carrying out their responsibilities.
4. Review and revise the permit review protocols to ensure that: (a) permit requests from operators and district responses are documented promptly and properly; (b) BOEMRE engineers have appropriate access to permit databases after hours; and (c) procedures are established that prevent “engineer shopping” by operators.
5. Reexamine after-hours permit review services; the means by which any such services should be provided (*e.g.*, on-call or in-office staffing); and the feasibility of limiting its use by requiring operators to submit non-emergency requests and requests that could be reasonably anticipated during normal business hours.

Note: Recommendations that address deficiencies in the permitting regulations are discussed in the “Environmental Stewardship: Regulatory Framework” section.

III. Inspections: Program Structure, Training, Personnel and Resources, Management Support

Issue

Inspectors are an important line of defense for promoting safety and environmental protection in offshore oil and gas development. Currently, however, certain challenges affect the overall effectiveness of the inspection program. Specifically, inspectors (a) are part of a program structure that is ineffective in facilitating the elevation of issues or concerns up the management chain; (b) begin and continue their jobs with no standardized training, testing, or certification; (c) operate with minimal resources; and (d) sometimes operate without strong management support.

A. Inspections: Program Structure and Effectiveness

Background

Inspectors work out of district offices in the three agency regions (the GOM Region, the Pacific Region, and the Alaska Region), with most of the inspectors in the Gulf. Every GOM district office has a Lead Inspector and Supervisory Inspector. The program structure through which concerns or issues encountered in a district office can be elevated to the regional offices, or up the management chain to the headquarters office for review and resolution, is not effective. For example, if an Incident of Noncompliance (INC) is rescinded by the district manager and the inspector disagrees with that decision, there is no viable avenue available for inspectors to raise their concerns. There appear to be few established channels of communication among inspectors to share professional and technical information and concerns, vet common issues and develop solutions, and make recommendations to management. Inspectors have little opportunity to work with other program specialists on a routine basis, even when they share common concerns. As a result, policies and enforcement mechanisms vary among the GOM districts and the regions, and there is no formal process to promote standardization, consistency, and operational efficiency.

The Pacific Region has a more structured program than the GOM, with consolidated policies and practices for the inspectors. The Pacific Region's "Offshore Inspection Program Policies and Procedures Document," dated February 2010, provides the framework for the Region's program.

Analysis/Discussion

- BOEMRE does not have a formal, bureau-wide compilation of rules, regulations, policies, or practices pertinent to inspections, nor does it have a comprehensive handbook addressing inspector roles and responsibilities. For example, although the informally acknowledged policy of GOM is to inspect drill rigs once a month, none of those interviewed could provide a written directive to support this policy.
- Inspectors meet once every two years and consider these meetings valuable forums for sharing information and assessing program needs. Yet, during interviews, inspectors in some districts expressed the need for more regular local office meetings to discuss

current work-related issues, such as new management directives and technical issues. In addition, a number of inspectors expressed the desire to work with other districts to learn how they operate.

- Several inspectors reported that a lack of adequate advance planning leads to inefficient scheduling of personnel and resources. For example, inspectors may travel to one facility more often than needed due to helicopter schedules because it is difficult to coordinate air transportation to a deepwater facility when traveling with others who are inspecting facilities closer to shore.
- Ninety percent of inspectors responding to the survey identified a critical need for more unannounced inspections. However, unannounced inspections are rarely performed. In the GOM, such inspections are limited by United States Coast Guard (USCG) security restrictions on facilities that are required to maintain a Maritime Security plan (MARSEC facilities). District offices are required to give 24 hours notice prior to conducting an inspection on these facilities. A 2007 GOM directive also states that a 20-minute followed by a 5-minute notification should be given to all other facilities. A 2005 GOM directive required only a 5-minute notification. The definition of what constitutes an unannounced inspection and the conditions under which it could be conducted also varied from office to office. For example, one district office indicated that inspectors could land on some platforms without any notification, while another district office stated that a 20-minute advance notice would be given. Others interviewed stated that the requirements for helicopter pilots to call ahead before landing precluded unannounced inspections. Finally, documents, including the 2007 GOM directive, indicate the existence of special notification arrangements between BOEMRE and certain companies.
- BOEMRE inspectors are not required to witness operations, although they will do so when operations are in progress during an inspection. Several inspectors reported that operators would close down work in certain areas when the inspectors were on the facility.
- In 2009, 41% of inspections were conducted by single inspectors. Most inspectors interviewed said that two-person teams would increase efficiencies, eliminate reliance on an operator representative for observations on safety tests, improve the thoroughness of the inspection, and reduce the ability of operators to successfully pressure an inspector not to issue an INC.
- A comparative analysis of regulatory agencies revealed that both the Nuclear Regulatory Commission (NRC) and the Mine Safety and Health Administration (MSHA) rotate inspectors among facilities to help maintain their independence.

Recommendations

1. Develop an inspection program with strong representation at all levels of the agency. The program should facilitate good intra-agency communication in order to promote consistency, effectiveness, and efficiency and provide strong support to the front-line inspectors.
2. Compile a comprehensive and current handbook of all policies and practices designed to assist inspectors in carrying out their responsibilities.
3. Clarify the criteria for what constitutes unannounced inspections. Review and clarify the current policies under which unannounced inspections can be performed, including the USCG MARSEC restrictions, and special notification arrangements with certain companies, so that unannounced inspections can be conducted to the greatest extent practicable.
4. Identify critical operations conducted on all BOEMRE regulated facilities, and require that operators notify the agency about the timing of these operations so that inspectors can view operations first hand to the greatest extent practicable.
5. Evaluate the advantages of conducting inspections in two-person teams instead of individually.
6. Analyze the benefits of obtaining electronic access to real-time data transmitted from offshore platforms/drilling rigs, such as operators' surveillance cameras, blow-out preventer monitoring systems, and/or other automated control and monitoring systems, to provide BOEMRE with additional oversight tools.
7. Examine the viability of performing multi-day inspections of critical operations on rigs and platforms.
8. Evaluate the advantages of rotating inspectors among districts and regions.

B. Inspections: Training and Professional Development

Background

BOEMRE does not have a formal training and certification program for its inspectors. Further, BOEMRE's policy and organizational structure leave little opportunity for higher education opportunities and career advancement for inspectors.

New BOEMRE inspectors are inducted into the inspection program through on-the-job training provided by more experienced inspectors. The amount of time and the structure of this training vary from office to office and from inspector to inspector. While hands-on experience is important, it does not address the need for substantive, consistent training in all aspects of the job, including regulations, standards, policies, technical updates and other information. In addition, there is no formal process for testing and certification; an inspector is allowed to work on his own based on office policy and/or the recommendation of the training inspector. Since BOEMRE has no formal training, testing, and certification process, the agency tends to look for new inspectors who already have experience, usually through prior work in the oil and gas industry.

Analysis/Discussion

- Almost half of the inspectors surveyed do not believe that they have received sufficient training.
- BOEMRE does not have an oil and gas inspection certification program. By contrast, the Bureau of Land Management (BLM) has a certification program that combines classroom instruction and on-the-job experience. A formal technical review (an exam) is required of each inspector in order to be certified. The program takes over one year to complete.
- BOEMRE does not provide formal training specific to the inspections process, and training does not keep up with changing technology. Some inspectors noted that they rely on industry representatives to explain the technology at a facility.
- Inspectors do not receive Student Loan Repayment Program benefits. Participation in this program could provide inspectors an incentive to obtain higher education and improve their skill sets, as well as increase their opportunities for promotion.
- Inspectors do not receive a salary differential for their work under hazardous conditions, although their jobs include exposure to conditions that could be considered hazardous.
- Previously, inspectors specialized in drilling or production facilities and were assigned accordingly, and the district offices had supervisory and lead inspectors in each discipline. For the past 15 years, however, the bureau's emphasis has been to cross-train inspectors on all inspection disciplines. Many inspectors said that receiving training in all inspection disciplines was beneficial and provided back-up within field offices, but that having experts in each of the various types of inspections was practical and efficient, and led to more effective inspections.
- Discussions with inspectors indicate that inspectors who identify their own training needs often are denied that training. To the extent training is provided, it is not always deemed particularly valuable, such as training offered on complex equipment that is geared to engineers, rather than to inspectors.

- BOEMRE does not have a formal program for recruiting and retaining the most qualified inspectors, nor is there a well-defined career ladder for inspectors. Currently, full performance for an inspector is at the GS-11 grade within a district office. GOM district offices have one lead and one supervisory inspector each, with performance grades of GS-12 and GS-13, respectively. There is no promotion potential above the district office for inspectors, nor are there opportunities to cross-train and move into related positions at higher grades or levels of the organization.

Recommendations

1. Implement a bureau-wide certification or accreditation program for inspectors. Consider partnering with BLM and its National Training Center to establish a DOI oil and gas inspection certification program, with training modules appropriate to the offshore environment as needed.
2. Develop a standardized training program similar to other Interior bureaus to ensure that inspectors are knowledgeable in all pertinent regulations, policies, and procedures. Ensure that annual training keeps inspectors up-to-date on new technology, policies, and procedures.
3. Develop Individual Development Plans for inspectors designed to achieve career advancement strategies. Such strategies should promote sound succession planning and foster employee development and satisfaction.
4. Expand, to the greatest extent practicable, the sources from which BOEMRE draws inspector applicants, and identify incentives to recruit and retain inspectors. Reevaluate whether inspectors can participate in the Student Loan Repayment Program and are eligible for hazard pay.
5. Consider developing more subject matter experts in each of the various types of inspections within district offices.

C. Inspections: Personnel and Resources

Background

Over the years, as BOEMRE downsized and industry activity increased, BOEMRE was left vulnerable to staffing issues. According to a 2007 management report submitted to MMS by management consultant LMI: “Since 1982, OCS leasing has increased by 200% and oil production has increased by 185%. Despite the recent and projected increase in leasing activities and oil and natural gas production, [minerals management] staffing resources have decreased by 36% since 1983.”¹⁰

A robust inspection program needs to be sufficiently staffed and possess the tools necessary to do the job effectively. Wide disparities exist between the Pacific and the GOM regions, with the Pacific more fully staffed and equipped. However, interviews with Pacific inspections staff also revealed staff concerns regarding a perceived emphasis on the quantity, rather than quality, of inspections.

The Outer Continental Shelf Lands Act (OCSLA) requires annual scheduled inspections and periodic unannounced inspections of OCS oil and gas operations. In 2009, there were 97 operators producing oil and 106 operators producing gas in the GOM, and 6 operators producing oil and gas in the Pacific. In the GOM there are about 3,000 facilities. In addition to its own legal mandates, BOEMRE conducts inspections for the EPA on air quality and point-source discharges, for the USCG on safety, and for the Department of Transportation on pipelines—all without reimbursement.

Analysis/Discussion

- The Pacific Region employs 5 inspectors to inspect 23 production facilities—a ratio of 1 inspector for every 5 facilities. By contrast, the GOM employs 55 inspectors to inspect about 3,000 facilities—a ratio of 1 inspector for every 54 facilities.
- Inspectors also have collateral duties, such as conducting accident investigations, but sometimes lack the necessary experience, training, or time to fulfill these duties in addition to their inspection responsibilities.
- A substantial amount of on-site inspection time is used for conducting reviews of operator reports to ensure the operator has conducted and documented the required safety tests. Some production inspections may require up to 34 report reviews. Some operators are providing access to these reports online, which enables the inspectors to conduct their inspection work more efficiently.
- Pacific Region inspectors have laptop computers for easy access to regulations and standards, inspection forms, and the ability to enter and track data while in the field. GOM inspectors do not have this capacity.
- Many of the inspectors who were interviewed stated that the information system used to track inspection and enforcement data (Technical Information Management System

¹⁰ Offshore Minerals Management Business Assessment and Alignment Report (May 2007).

(TIMS)) is not user friendly and requires manual processes. They further stated that the information is sometimes difficult to access, and some of the data are unreliable.

Recommendations

1. BOEMRE should undertake a comprehensive workforce and workload analysis of the inspection program, including succession planning, anticipated workload needs, and increased capacity, and implement appropriate recommendations.
2. Analyze ways to perform inspection activities more efficiently by using current technological tools, such as online review of reports and records and by using mobile technology in the field.
3. IT systems should be considered within the context of the BOEMRE reorganization. Specifically, BOEMRE should examine whether TIMS can be upgraded to meet business requirements and address user performance concerns by leveraging more current, web-based, user-friendly technologies together with existing tools already within the Department. BOEMRE should carefully consider factors such as speed, performance requirements, and cost-effectiveness.

Note: Recommendations that would reduce or eliminate inspectors' roles in post-accident investigations are addressed in the "Post-Accident Investigations" section.

D. Inspections: Management Support

Background

Some BOEMRE inspectors expressed concern that management did not consistently provide the strong leadership and support necessary to do their jobs effectively. Inspectors also expressed a need for clearer rules of engagement, particularly with regard to pressure exerted on them by industry in the field.

Analysis/Discussion

- Most inspectors interviewed stated that industry often exerted pressure on them to minimize reporting violations during inspections. For example, personnel on a facility may make comments such as “there goes my bonus,” or “my wife is sick and I’ll lose my job.” Inspectors also reported that if they issued INCs, operators would sometimes call BOEMRE managers and complain about inspector behavior. For example, one inspector, new to the job, reported that on his first day on a platform he issued several INCs, and the company called to complain about his “rude and unprofessional behavior” before he returned to the office.
- During interviews, inspectors expressed the need for more effective leadership in daily operations and for greater management support when faced with pressure from industry. For example, 42% of inspectors surveyed believe that headquarters management does not provide sufficient direction and support, 35% surveyed felt that regional management does not provide sufficient support, and 33% surveyed felt that district management does not provide sufficient support.
- Operators that receive INCs may appeal to the District Manager to have the INC rescinded. A number of inspectors felt they were not sufficiently supported by their management and that in some cases management would give the benefit of the doubt to industry. Inspectors do not always have the tools necessary, such as sufficient training and adequate equipment (*e.g.*, laptops), to effectively support the issuance of INCs.
- Inspectors who issue many INCs reported that they are especially subject to industry pressure, often without sufficient management support.
- A majority of the inspectors reported receiving ethics training. However, unique circumstances exist in the GOM, where many people are part of the oil and gas community and inspectors are likely to have worked in industry and to have family members in the business. For example, one inspector reported arriving at a facility to find that his brother, who worked for the operator elsewhere, had been flown to the facility to act as the compliance officer. The inspector informed the company that he could not conduct the inspection with his brother present. Another company representative worked with the inspector during that day.

Recommendations

1. Ensure that managers and inspectors have proper training, with emphasis on the importance of a strong safety culture.
2. Ensure that inspectors have appropriate technology, resources and management support for the issuance and defense of INCs.
3. Develop and implement clear rules of engagement for operations that are transparent to all entities, including both BOEMRE and industry personnel, particularly relating to industry exerting pressure on inspectors.
4. Further develop ethics rules and training that reflect the unique circumstances of working in the GOM, with opportunities for questions and discussions.
5. Ensure that BOEMRE managers support and enforce established rules of engagement and ethics rules.

IV. Enforcement: Financial Penalties and Incentives for Safety Compliance

Issue

The current level of civil penalty fines and incentives, as well as the processing time afforded, do not make them an effective deterrent to violations of OCS regulations.

Background

To enforce compliance with BOEMRE's regulatory requirements for safe operations in the OCS, BOEMRE is authorized to issue INCs and assess civil penalties. The three types of enforcement actions for INCs are: 1) warnings; 2) component shut-ins; and 3) facility shut-ins. Warnings are issued for infractions that pose no immediate danger to personnel or equipment (such as failure to properly maintain certain records), and require the operator to report to BOEMRE the plan for corrective action, or the corrective action taken, within 14 days. Component shut-ins are ordered for malfunctioning equipment that poses an immediate danger to personnel or other equipment without affecting the overall safety of the facility. Facility shut-ins are ordered when malfunctioning equipment cannot be shut in without affecting the overall safety of the facility. Both component shut-ins and facility shut-ins are effective immediately, and remain in effect until the operator reports that the violations have been corrected and BOEMRE personnel authorize the return to operation.

Civil penalties may be assessed for violations that: cause injury, death or environmental damage; pose a threat to human life or the environment; or are not corrected after notice and expiration of a specified period. Violations for certain malfunctioning safety devices are automatically referred by the inspector for a civil penalty; other violations may be referred by the inspector or reviewing supervisor. As required by statute, BOEMRE reviews the cap on civil penalty fines for proposed adjustment at least every three years, and must adjust the cap based on increases in the consumer price index. After the most recent review, which took place in 2009, civil penalty levels remained unchanged. Civil penalties are presently capped at \$35,000 per violation per day.

Analysis/Discussion

- Inspectors can cite offshore oil and gas operators for over 800 types of infractions or Potential Incidents of Noncompliance (PINC). INC violations do not have fines associated with them unless they qualify for and are processed as civil penalties.
- A successful civil penalty charge occurs only after a BOEMRE district office gathers documentation, for which up to 60 days are allowed, then determines whether to move forward, for which up to another 60 days are allowed. BOEMRE allows up to another 90 days for the regional reviewing officer to consider the charges. It then gives the company notification, which results in payment or a scheduled meeting within 30 days. Following the meeting, BOEMRE reviews any additional information provided by the company then makes a final decision. Once this occurs, the company then has up to 60 days to pay or to appeal. Overall, the process may take almost one year, which may be extended should the company appeal.

- In an environment where many operators pay between \$500,000 and \$1 million daily to run a facility, 41% of BOEMRE employees who responded to the survey do not believe that a potential fine of no more than \$35,000 per violation per day is an effective tool to deter violations.
- In 2009, out of the 2,298 INCs issued, only 87 were referred to the civil penalty process. Also in 2009, BOEMRE collected a total of \$919,000 in civil penalties, an amount that is comparable to the cost of only a one-day shut-in for a larger facility.
- The civil penalty fines may not appropriately reflect the severity of the violations. One inspector noted that a company received an \$800,000 fine for an infraction where the threat of serious harm had extended over multiple days. On the other hand, if a death were to occur in a single day event, it would warrant penalties of no more than \$35,000 per violation, demonstrating the inequities of the current civil penalty fine matrix.
- Currently, shut-ins are often the most effective tool available to reduce violations because lost operating costs may be significantly greater than the maximum civil penalty amount. Out of the 2,298 INCs issued in the GOM in 2009, a total of 121 facility shut-ins occurred. Further analysis would be necessary to determine whether additional shut-ins may have been appropriate.
- BOEMRE employees reported that some operators regarded the issuance of an INC as an effective tool to alter behavior, given that INCs blemish a company's overall operations record. INCs also have the potential to affect insurance levels for operator activity and the public's perception of a company's operations.
- Financial penalties for noncompliance are used as an enforcement tool by FAA, OSHA, MSHA, and NRC. FAA is willing to waive penalties in some cases for self-disclosure of problems. Financial penalties are typically supplemented with requirements for liability insurance or other financial guarantees which also provide an incentive for entities to operate in a safe manner because the cost of the insurance may be related to safety practices.
- Industry employees have limited whistleblower protection for disclosing safety violations.
- Of the 2,298 INCs issued in 2009, only 50 follow-up inspections were conducted to ensure compliance. Further analysis would be necessary to determine the number of INCs evaluated in those follow-up inspections.
- Although some INCs are corrected at the time of the inspection, 48% of the INCs issued did not have a correction date identified in BOEMRE's tracking system.
- When an INC is issued, a copy is returned to BOEMRE once the violation is corrected. For a facility or component shut-in, the operator must notify the issuing BOEMRE office before returning to operation. Some operators send in additional information, although there is no requirement to do so. To return a component or facility to service, the operator must contact the Supervisory Inspector or the District Manager. If neither is available, any of the engineering staff can act on behalf of the District Manager to grant approval. During interviews of BOEMRE personnel, one inspector noted that some operators will call BOEMRE offices multiple times until they reach someone at the agency who is willing to grant the operator permission to bring the component online.

Recommendations

1. Reevaluate the full range of enforcement actions, including INCs, civil penalties, and lease suspensions and cancellations to determine whether the enforcement actions deter violations. For example, BOEMRE should consider sanctions for repeat offenders, including those who repeatedly engage in violations that do not trigger civil penalties under the current standards.
2. Consider evaluating INCs to determine which, if any, may be appropriate for an automatic assessment of a fine and how much the fine should be. BOEMRE's evaluation could be informed by a review of the penalty structure of other regulatory agencies.
3. Review the civil penalty process to determine whether a civil penalty case can be completed effectively in less than the nearly one-year time period now afforded to assess a civil penalty.
4. Evaluate the rates and the structure of the civil penalty program and, if necessary, initiate the legislative or rulemaking process to ensure that penalties are appropriately tied to the severity of the violation.
5. Evaluate the use of facility shut-in authority to ensure its appropriate and effective utilization.
6. Develop a transparent process and public notification policy for workplace safety incidents, offshore oil spill incidents, corrective actions, and proceedings related to INCs.
7. Require on-site follow-up inspections, or other forms of evidence, to document that operators have made the required corrections to INCs.
8. Improve the INC documenting and tracking system so the status and resolution of INCs are fully documented, properly tracked and corrected.
9. Consider updating the INC form and other operational reporting documents to require operators to certify under penalty of perjury that all information submitted to the agency is accurate.
10. Consider reevaluating and making appropriate recommendations regarding: financial guarantees required from operators in case of catastrophic spills; linking the required level of financial guarantee to risk, past safety performance, and potential natural resource and economic damages.
11. Consider developing a voluntary self-disclosure policy as an incentive for companies that notify BOEMRE of safety concerns.
12. Consider working with Congress to establish whistleblower protections specifically for individuals employed in private sector oil and gas companies who disclose safety and environmental violations.
13. Consider changing the approval process for returning a facility or component to operation by limiting who has approval authority; creating a system for tracking approvals and disapprovals; and ensuring that all staff who have approval authority have access to and properly use the tracking system.

V. Environment: Environmental and Cultural Resources Protection

Issue

An apparent emphasis on lease sales and permitting may create an imbalance in how BOEMRE fulfills its dual mandate to responsibly develop OCS resources while protecting the environment and cultural resources.

Background

OCSLA provides that “the outer Continental Shelf is a vital natural resource reserve held by the Federal Government for the public, which should be made available for expeditious and orderly development, subject to environmental safeguards, in a manner which is consistent with the maintenance of competition and other national needs.”¹¹ BOEMRE environmental and socio-cultural specialists review and assess environmental impacts of oil and gas drilling and develop recommendations to keep resources safe and mitigate damages. Operators submit plans to the Office of Field Operations (OFO). After determining that the documents on the checklist are present, the plan coordinator will submit the plans to the appropriate BOEMRE section or office.

Analysis/Discussion

- Some environmental staff reported that OFO and leasing coordinators and managers have described the analysis and recommendations prepared by the environmental staff as too burdensome for industry to implement, thus causing unnecessary delays for operators. Some environmental staff also reported that environmental assessments for smaller operators may be minimized if the OFO manager determines that implementing the recommendation may be too costly.
- Some environmental staff members noted that several BOEMRE managers have changed or minimized the scientists’ potential environmental impact findings in National Environmental Policy Act (NEPA) documents to expedite plan approvals. Several individuals stated that their managers believed the result of NEPA evaluations should always be a “green light” to proceed.
- Employee performance plans and monetary awards are reported, in some cases, to be based on meeting deadlines for leasing or development approvals—financial incentives that could distort balanced decision-making.

¹¹ Outer Continental Shelf Lands Act, 43 U.S.C. § 1331(3).

Recommendations

1. In future institutional structures implemented through the ongoing BOEMRE reorganization, separate the management of environmental functions from those of leasing and development to ensure that environmental concerns are given appropriate weight and consideration.
2. Consider creating a review panel within BOEMRE to resolve issues that arise during environmental and socio-cultural reviews.
3. Explore and encourage other processes, policies and incentives that promote a culture of balanced stewardship and evaluate existing policies and practices that may impede the ability to achieve this balance.

VI. Post-Accident Investigations

Issue

BOEMRE's accident investigation program lacks adequate protocol for basic investigation techniques; sufficient full-time accident investigation personnel; a well defined management chain staffed with experienced leadership at the highest levels; and an effective system for ensuring that safety and other recommendations resulting from accident investigations are implemented. In addition, accident reports submitted by operators often lack sufficient detail to allow meaningful analysis by investigators.

Background

Under the current BOEMRE manual governing accident investigations, BOEMRE conducts two types of investigations: (a) "District" investigations conducted by a team appointed by the District Manager; and (b) "Panel" investigations conducted by a team appointed by the Regional Director. According to the manual, panel investigations are usually conducted when a "more in-depth investigation is needed and may involve more comprehensive investigation techniques such as formal hearings."¹² Supplemental guidelines were issued in 2009, and an Accident Investigation Handbook was issued in March 2010. While the Handbook provides more detailed guidance, it does not significantly change the basic protocol or management responsibilities outlined in the existing manual.

Investigation responsibilities for all managers and appointed investigators under BOEMRE's accident investigation program are typically collateral duties. In the GOM regional office, there are two full time accident investigators whose primary responsibilities are panel investigations. Accidents are reported to a district office, which makes the initial decision on whether to refer operator reported incidents to the regional office. The primary responsibility for initiating and managing those investigations (*i.e.*, panel investigations) lies with the Regional Director, whose authority includes determining which accidents are investigated and how the investigation will be conducted. Absent from this decision making process is any required input, guidance, or direction from headquarters on what accidents should receive a higher level review.

BOEMRE's accident investigation manual does not provide special procedures for conducting catastrophic or serious accident investigations, and does not contain adequate protocol for conducting basic investigative and evidence gathering activities.

BOEMRE regulations require self-reporting by operators of certain enumerated incidents to BOEMRE District Managers, such as fatalities, certain injuries, fires and explosions, gas releases, and losses of well control. Investigations may be initiated by evaluating the significance of accident details, usually based on the information reported by operators. Investigation reports are made publicly available and contain recommendations that could address changes to BOEMRE policies, procedures, or regulations, and can also result in the issuance of industry safety alerts. Safety alerts notify industry operators of accident causes and recommend preventive measures.

¹² BOEMRE Service Manual, Part 640, Chapter 3.

For comparison, we examined the post-accident investigation protocol of the NRC, FAA, OSHA, MSHA, and the NTSB, which revealed that, like BOEMRE, these agencies have authority to mount post-accident investigations under their jurisdiction. However, these agencies also have specific guidelines for investigative protocol and evidence gathering activities. The extent to which these investigations are conducted by independent entities varies. The NTSB is an example of a free-standing organization with the sole mission of independently investigating accidents.

Analysis and Discussion

- According to the manual governing BOEMRE's accident investigation program, accident investigations are typically conducted as a collateral duty by managers and appointed investigators and are managed at the district and regional levels. As a result, inspectors sometimes lack the necessary experience, training, and time to perform adequate investigations. For the most serious accidents, Regional Directors have broad discretion in determining which accidents warrant investigations and how those investigations will be conducted.
- Because BOEMRE's investigation manual does not contain adequate standardized protocol for conducting basic investigative and evidence gathering activities, the conduct of investigations lacks consistency and may be inadequate for investigating serious or catastrophic accidents.
- According to BOEMRE's reorganization plan, accountability for accident investigations at the headquarters level is contemplated under a new Investigations Review Unit.
- Operator incident reporting is sometimes insufficient to determine if an accident investigation is necessary. For example, operators are not required to provide site photographs and descriptions of the probable cause of the accident.
- BOEMRE lacks an independence policy for accident investigators to ensure there are no conflicts of interest with industry.
- BOEMRE lacks an independent peer review option for panel investigations. For example, the NTSB, which investigates aviation accidents and involving other transportation modes, utilized the Sandia National Laboratories to Peer Review NTSB's analysis of the I-35 Bridge Collapse (SAND2008-6206).
- BOEMRE has no system of accountability to verify if internal recommendations or safety alerts have been implemented or to track the progress of implementation. BOEMRE internal recommendations are not always implemented.

Recommendations

1. Consider restructuring the accident investigation program to dedicate additional full-time staff with appropriate training in accident investigations. Establish a supervisory chain, with investigative expertise, that includes responsibility and accountability in BOEMRE headquarters for the overall management of the accident investigations program.
2. Require operators to provide detailed descriptions of certain types of accidents (*e.g.*, gas releases), to determine whether accident investigations or other corrective actions are necessary.
3. Develop and implement internal procedures to fully conduct and document accident investigations, including basic investigation and evidence gathering protocol.
4. To supplement existing ethics requirements and recusal policy, create an independence policy for all accident investigation personnel that includes certifications signed by investigation personnel, prior to commencing work on a particular investigation, affirming the absence of any conflicts of interest.
5. Explore the utility of an independent peer review process for panel investigations.
6. Establish a system to track investigation recommendations and verify that they have been considered and implemented, as appropriate, and documented accordingly.

VII. Environmental Stewardship: Regulatory Framework, OSRP Review, OSRP Content

Issue

BOEMRE must serve a pivotal role in fostering a new culture of safety and environmental stewardship where the importance of protecting human life and the environment is woven into the process for developing and implementing its regulations. One challenge facing BOEMRE is that promulgating regulations may lag behind the development of new and emerging offshore technologies. In addition, BOEMRE's review of Oil Spill Response Plans (OSRP) does not ensure that critical data are correct or that other relevant agencies are involved in the review process. Also, OSRPs do not adequately address the calculation for worst-case discharge scenarios and fail to include measures for containing and controlling hydrocarbon discharges.

A. Environmental Stewardship: Regulatory Framework

Background

Proposals for new regulations or modifications to current regulations for emerging technologies are generally driven by regional or district personnel based on activities observed in the field and by research conducted by BOEMRE's Technology Assessment & Research (TA&R) program. The TA&R program was established to ensure that industry operations on the OCS incorporate the use of Best Available and Safest Technologies (BAST). It supports research for operational safety, pollution prevention and oil spill response. Although studies conducted through the TA&R program are readily available online for review, BOEMRE does not provide a summary of actions taken as a result of the recommendations from each study. While BOEMRE has implemented the recommendations from some of the studies, there is no current mechanism for tracking outputs resulting from studies.

BOEMRE personnel raise regulatory needs to the national office, where concept papers are developed for senior management review and approval. Once the concept is approved, regulations are drafted through collaboration between BOEMRE national and regional subject matter experts. They are reviewed and approved by regional and national management before initiation of the formal rulemaking publication process.

Analysis and Discussion

- Regulations that specifically address deepwater activities exist, but are scattered throughout BOEMRE regulation subparts and are not comprehensive, resulting in gaps and inconsistencies in interpretation.
- Apart from the rulemaking process, the other means available to clarify the use of emerging technologies are NTLs, safety alerts, approvals for alternative technologies or procedures, and departures. Questions have been raised in interviews and otherwise as to the use of NTLs and safety alerts and whether new regulations would be more suitable.

- Regulations typically take years to promulgate. For example, BOEMRE has a proposed rule change to incorporate a Safety and Environmental Management System (SEMS) Regulation that has been under consideration by BOEMRE for many years. The SEMS Rule is now under active consideration for publication this year.
- Because BOEMRE permitting employees conduct reviews of industry requests for use of new technology or standards under the regulations governing “alternative procedures or equipment” and “departures” (30 CFR §§ 250.141 and 142, respectively), the protracted timeframes for promulgating regulations that address emerging technologies has significant implications for the permitting process.
- BOEMRE may not have sufficient staff with the requisite expertise to review and vet standards that have been developed by industry group subject matter experts, such as the American Petroleum Institute (API), to determine the extent to which those standards should be used in developing regulations. BOEMRE references less than 80 of the approximately 240 API standards related to exploration and development in its current regulations.
- It is unclear the extent to which recommendations from TA&R studies result in new or updated regulations because BOEMRE does not have an established mechanism to track implementation of these recommendations.
- BOEMRE and API have conducted limited research to review the effects of deep water on equipment and operations. With the exception of requirements for drilling and platform design in varying depths, BOEMRE regulations do not distinguish between operations in deep water and shallow water. Studies related to the effect of water depth on equipment and operations provide conflicting viewpoints that are inconclusive.

Recommendations

1. Develop a dynamic regulatory framework that promotes efficiency in the development and promulgation of regulations; provides for interim and continuing guidance to operators; provides clear guidance and ensures the appropriate use of NTLs and safety alerts; addresses gaps, inconsistencies, comprehensiveness and organization within BOEMRE regulations; and facilitates working with other agencies to reconcile related regulations.
2. Ensure that BOEMRE has sufficient staff with the expertise needed to review and vet standards developed by industry group subject matter experts to determine the extent to which those standards should be used in developing regulations.
3. Identify actionable items from the TA&R studies, track concurrence and implementation of those items, document rejected recommendations, and consider broader opportunities for the TA&R program.
4. Consulting with technical experts, conduct further analysis of the effects of water depth on equipment and operations, and determine the adequacy of current regulations.

B. Environmental Stewardship: OSRP Review

Background

After initial submission and approval, OSRPs are reviewed every two years. OSRPs are lengthy documents, many exceeding 500 pages. Many details within the OSRPs may not be reviewed to verify that important information is correct. For example, BOEMRE's review process was described by some oil spill coordinators as being designed to check for the inclusion of required sections rather than to verify the accuracy of information in those sections. Further, it appears that BOEMRE does not regularly verify the calculation for worst-case discharge scenarios. This calculation is a driver for the response requirements for the plan. BOEMRE reviews approximately 170 federal OSRPs in the GOM Region and 11 OSRPs in the Pacific Region (consisting of six federal plans and five state plans under an MOU with the State of California).

Analysis/Discussion

- GOM Regional oil spill coordinators conduct minimal reviews and analyses of OSRPs, leaving worst-case discharge calculations and contact information unverified, among other things.
- GOM reviewing officials may not have the qualifications necessary to conduct a proper review of OSRPs.
- BOEMRE is responsible for reviewing OSRPs, while the USCG is responsible for the execution of the plans. USCG officials often do not review OSRPs and are not notified when new OSRPs come in for review. EPA is not involved in the OSRP review process.
- There is a current Memorandum of Agreement between BOEMRE and the USCG that establishes jurisdiction and clarifies responsibilities between BOEMRE and USCG regarding oil discharge planning, preparedness, and response.
- OSRPs require that facilities be classified with a worst-case discharge volume rating. Worst-case discharges, however, are often not classified and rated as required.
- Inspectors do not verify the availability and presence of third-party equipment listed in the OSRP prior to conducting equipment inspections.

Recommendations

1. Draft a new Memorandum of Agreement with the USCG, EPA, and other interested agencies, requiring appropriate participation of all parties in the review of OSRPs, and any related drills or exercises.
2. Develop a review process for OSRPs that incorporates risk-based and other strategies to ensure that all critical information and spill scenarios are included in the OSRP by operators, and are comprehensively reviewed and verified by BOEMRE and/or other appropriate officials.
3. Determine and ensure technical expertise necessary for staff to conduct comprehensive reviews of OSRPs.
4. Ensure that inspectors verify the availability and presence of all equipment, including third-party equipment, listed in OSRPs prior to conducting inspections.

C. Environmental Stewardship: OSRP Content

Background

According to BOEMRE staff assigned to the Oil Spill program, containing and controlling the source of the spill is not the emphasis of the OSRP. In their view, plans are instead based largely on recovering oil from the spill. Thus, recovering oil from a worst-case discharge scenario is a major driver for the plan's response requirements. Currently, the regulatory formula for calculation of the worst-case discharge scenario anticipates a spill flow of no more than 30 days. According to BOEMRE staff, given the duration of flow from the *Deepwater Horizon* accident, the worst-case discharge calculation is currently being reconsidered.

Analysis and Discussion

- As directed in 30 CFR § 254.47, a worst-case discharge is calculated for a period of only 30 days.
- OSRPs are designed to deal with surface oil cleanup, not containment and control of wells at the spill's source.
- There may be other areas within BOEMRE's oil development process, such as exploratory permitting, that provide more detail on the containment and control of spills.

Recommendations

1. Develop policies and procedures to require detailed descriptions of containment and control measures for the source of possible spills and determine where to incorporate these measures, either in the OSRP or elsewhere in the permitting process.
2. Review calculations for worst-case discharges, with input from the United States Geological Survey, and make recommendations for changes to 30 CFR § 254.47 as appropriate.
3. Conduct additional research on containment and control measures to determine appropriate requirements for containing oil discharge at the source.

APPENDIX: SUMMARY OF RECOMMENDATIONS

Permitting: Resources and Protocol for Permit Review

Issue: Gulf of Mexico (GOM) district offices are challenged by the volume and complexity of permit applications and the lack of a standardized engineering review protocol. In addition, the Pacific Region's permitting staff is facing significant succession issues.

Recommendations

1. Review permit staffing needs in the GOM district and regional offices to ensure that staffing levels are commensurate with increasing workloads.
2. Develop a succession plan for BOEMRE staff in all regions.
3. Develop a comprehensive and current handbook to compile and standardize policies and practices designed to assist permit reviewers in carrying out their responsibilities.
4. Review and revise the permit review protocols to ensure that: (a) permit requests from operators and district responses are documented promptly and properly; (b) BOEMRE engineers have appropriate access to permit databases after hours; and (c) procedures are established that prevent "engineer shopping" by operators.
5. Reexamine after-hours permit review services; the means by which any such services should be provided (*e.g.*, on-call or in-office staffing); and the feasibility of limiting its use by requiring operators to submit non-emergency requests and requests that could be reasonably anticipated during normal business hours.

Inspections: Program Structure, Training, Personnel and Resources, Management Support

Issue: Inspectors are an important line of defense for promoting safety and environmental protection in offshore oil and gas development. Currently, however, certain challenges affect the overall effectiveness of the inspection program. Specifically, inspectors (a) are part of a program structure that is ineffective in facilitating the elevation of issues or concerns up the management chain; (b) begin and continue their jobs with no standardized training, testing, or certification; (c) operate with minimal resources; and (d) sometimes operate without strong management support.

A. Inspections: Program Structure and Effectiveness

Recommendations

1. Develop an inspection program with strong representation at all levels of the agency. The program should facilitate good intra-agency communication in order to promote consistency, effectiveness, and efficiency and provide strong support to the front-line inspectors.

2. Compile a comprehensive and current handbook of all policies and practices designed to assist inspectors in carrying out their responsibilities.
3. Clarify the criteria for what constitutes unannounced inspections. Review and clarify the current policies under which unannounced inspections can be performed, including the USCG MARSEC restrictions, and special notification arrangements with certain companies, so that unannounced inspections can be conducted to the greatest extent practicable.
4. Identify critical operations conducted on all BOEMRE regulated facilities, and require that operators notify the agency about the timing of these operations so that inspectors can view operations first hand to the greatest extent practicable.
5. Evaluate the advantages of conducting inspections in two-person teams instead of individually.
6. Analyze the benefits of obtaining electronic access to real-time data transmitted from offshore platforms/drilling rigs, such as operators' surveillance cameras, blow-out preventer monitoring systems, and/or other automated control and monitoring systems, to provide BOEMRE with additional oversight tools.
7. Examine the viability of performing multi-day inspections of critical operations on rigs and platforms.
8. Evaluate the advantages of rotating inspectors among districts and regions.

B. Inspections: Training and Professional Development

Recommendations

1. Implement a bureau-wide certification or accreditation program for inspectors. Consider partnering with BLM and its National Training Center to establish a DOI oil and gas inspection certification program, with training modules appropriate to the offshore environment as needed.
2. Develop a standardized training program similar to other Interior bureaus to ensure that inspectors are knowledgeable in all pertinent regulations, policies, and procedures. Ensure that annual training keeps inspectors up-to-date on new technology, policies, and procedures.
3. Develop Individual Development Plans for inspectors designed to achieve career advancement strategies. Such strategies should promote sound succession planning and foster employee development and satisfaction.
4. Expand, to the greatest extent practicable, the sources from which BOEMRE draws inspector applicants, and identify incentives to recruit and retain inspectors. Reevaluate whether inspectors can participate in the Student Loan Repayment Program and are eligible for hazard pay.
5. Consider developing more subject matter experts in each of the various types of inspections within district offices.

C. Inspections: Personnel and Resources

Recommendations

1. BOEMRE should undertake a comprehensive workforce and workload analysis of the inspection program, including succession planning, anticipated workload needs, and increased capacity, and implement appropriate recommendations.
2. Analyze ways to perform inspection activities more efficiently by using current technological tools, such as online review of reports and records and by using mobile technology in the field.
3. IT systems should be considered within the context of the BOEMRE reorganization. Specifically, BOEMRE should examine whether TIMS can be upgraded to meet business requirements and address user performance concerns by leveraging more current, web-based, user-friendly technologies together with existing tools already within the Department. BOEMRE should carefully consider factors such as speed, performance requirements, and cost-effectiveness.

D. Inspections: Management Support

Recommendations

1. Ensure that managers and inspectors have proper training, with emphasis on the importance of a strong safety culture.
2. Ensure that inspectors have appropriate technology, resources and management support for the issuance and defense of INCs.
3. Develop and implement clear rules of engagement for operations that are transparent to all entities, including both BOEMRE and industry personnel, particularly relating to industry exerting pressure on inspectors.
4. Further develop ethics rules and training that reflect the unique circumstances of working in the GOM, with opportunities for questions and discussions.
5. Ensure that BOEMRE managers support and enforce established rules of engagement and ethics rules.

Enforcement: Financial Penalties and Incentives for Safety Compliance

Issue: The current level of civil penalty fines and incentives, as well as the processing time afforded, do not make them an effective deterrent to violations of OCS regulations.

Recommendations

1. Reevaluate the full range of enforcement actions, including INCs, civil penalties, and lease suspensions and cancellations to determine whether the enforcement actions deter violations. For example, BOEMRE should consider sanctions for repeat offenders, including those who repeatedly engage in violations that do not trigger civil penalties under the current standards.
2. Consider evaluating INCs to determine which, if any, may be appropriate for an automatic assessment of a fine and how much the fine should be. BOEMRE's evaluation could be informed by a review of the penalty structure of other regulatory agencies.
3. Review the civil penalty process to determine whether a civil penalty case can be completed effectively in less than the nearly one-year time period now afforded to assess a civil penalty.
4. Evaluate the rates and the structure of the civil penalty program and, if necessary, initiate the legislative or rulemaking process to ensure that penalties are appropriately tied to the severity of the violation.
5. Evaluate the use of facility shut-in authority to ensure its appropriate and effective utilization.
6. Develop a transparent process and public notification policy for workplace safety incidents, offshore oil spill incidents, corrective actions, and proceedings related to INCs.
7. Require on-site follow-up inspections, or other forms of evidence, to document that operators have made the required corrections to INCs.
8. Improve the INC documenting and tracking system so the status and resolution of INCs are fully documented, properly tracked and corrected.
9. Consider updating the INC form and other operational reporting documents to require operators to certify under penalty of perjury that all information submitted to the agency is accurate.
10. Consider reevaluating and making appropriate recommendations regarding: financial guarantees required from operators in case of catastrophic spills; linking the required level of financial guarantee to risk, past safety performance, and potential natural resource and economic damages.
11. Consider developing a voluntary self-disclosure policy as an incentive for companies that notify BOEMRE of safety concerns.
12. Consider working with Congress to establish whistleblower protections specifically for individuals employed in private sector oil and gas companies who disclose safety and environmental violations.

13. Consider changing the approval process for returning a facility or component to operation by limiting who has approval authority; creating a system for tracking approvals and disapprovals; and ensuring that all staff who have approval authority have access to and properly use the tracking system.

Environment: Environmental and Cultural Resources Protection

Issue: An apparent emphasis on lease sales and permitting may create an imbalance in how BOEMRE fulfills its dual mandate to responsibly develop OCS resources while protecting the environment and cultural resources.

Recommendations

1. In future institutional structures implemented through the ongoing BOEMRE reorganization, separate the management of environmental functions from those of leasing and development to ensure that environmental concerns are given appropriate weight and consideration.
2. Consider creating a review panel within BOEMRE to resolve issues that arise during environmental and socio-cultural reviews.
3. Explore and encourage other processes, policies and incentives that promote a culture of balanced stewardship and evaluate existing policies and practices that may impede the ability to achieve this balance.

Post-Accident Investigations

Issue: BOEMRE's accident investigation program lacks adequate protocol for basic investigation techniques; sufficient full-time accident investigation personnel; a well defined management chain staffed with experienced leadership at the highest levels; and an effective system for ensuring that safety and other recommendations resulting from accident investigations are implemented. In addition, accident reports submitted by operators often lack sufficient detail to allow meaningful analysis by investigators.

Recommendations

1. Consider restructuring the accident investigation program to dedicate additional full-time staff with appropriate training in accident investigations. Establish a supervisory chain, with investigative expertise, that includes responsibility and accountability in BOEMRE headquarters for the overall management of the accident investigations program.
2. Require operators to provide detailed descriptions of certain types of accidents (*e.g.*, gas releases), to determine whether accident investigations or other corrective actions are necessary.
3. Develop and implement internal procedures to fully conduct and document accident investigations, including basic investigation and evidence gathering protocol.

4. To supplement existing ethics requirements and recusal policy, create an independence policy for all accident investigation personnel that includes certifications signed by investigation personnel, prior to commencing work on a particular investigation, affirming the absence of any conflicts of interest.
5. Explore the utility of an independent peer review process for panel investigations.
6. Establish a system to track investigation recommendations and verify that they have been considered and implemented, as appropriate, and documented accordingly.

Environmental Stewardship: Regulatory Framework, OSRP Review, OSRP Content

Issue: BOEMRE must serve a pivotal role in fostering a new culture of safety and environmental stewardship where the importance of protecting human life and the environment is woven into the process for developing and implementing its regulations. One challenge facing BOEMRE is that promulgating regulations may lag behind the development of new and emerging offshore technologies. In addition, BOEMRE's review of Oil Spill Response Plans (OSRP) does not ensure that critical data are correct or that other relevant agencies are involved in the review process. Also, OSRPs do not adequately address the calculation for worst-case discharge scenarios and fail to include measures for containing and controlling hydrocarbon discharges.

A. Environmental Stewardship: Regulatory Framework

Recommendations

1. Develop a dynamic regulatory framework that promotes efficiency in the development and promulgation of regulations; provides for interim and continuing guidance to operators; provides clear guidance and ensures the appropriate use of NTLs and safety alerts; addresses gaps, inconsistencies, comprehensiveness and organization within BOEMRE regulations; and facilitates working with other agencies to reconcile related regulations.
2. Ensure that BOEMRE has sufficient staff with the expertise needed to review and vet standards developed by industry group subject matter experts to determine the extent to which those standards should be used in developing regulations.
3. Identify actionable items from the TA&R studies, track concurrence and implementation of those items, document rejected recommendations, and consider broader opportunities for the TA&R program.
4. Consulting with technical experts, conduct further analysis of the effects of water depth on equipment and operations, and determine the adequacy of current regulations.

B. Environmental Stewardship: OSRP Review

Recommendations

1. Draft a new Memorandum of Agreement with the USCG, EPA, and other interested agencies, requiring appropriate participation of all parties in the review of OSRPs, and any related drills or exercises.
2. Develop a review process for OSRPs that incorporates risk-based and other strategies to ensure that all critical information and spill scenarios are included in the OSRP by operators, and are comprehensively reviewed and verified by BOEMRE and/or other appropriate officials.
3. Determine and ensure technical expertise necessary for staff to conduct comprehensive reviews of OSRPs.
4. Ensure that inspectors verify the availability and presence of all equipment, including third-party equipment, listed in OSRPs prior to conducting inspections.

C. Environmental Stewardship: OSRP Content

Recommendations

1. Develop policies and procedures to require detailed descriptions of containment and control measures for the source of possible spills and determine where to incorporate these measures, either in the OSRP or elsewhere in the permitting process.
2. Review calculations for worst-case discharges, with input from the United States Geological Survey, and make recommendations for changes to 30 CFR § 254.47 as appropriate.
3. Conduct additional research on containment and control measures to determine appropriate requirements for containing oil discharge at the source.

ACRONYMS

APM	APPLICATION FOR PERMIT TO MODIFY
ASLM	ASSISTANT SECRETARY, LAND AND MINERALS MANAGEMENT
ASPMB	ASSISTANT SECRETARY, POLICY, MANAGEMENT AND BUDGET
BAST	BEST AVAILABLE AND SAFEST TECHNOLOGIES
BLM	BUREAU OF LAND MANAGEMENT
BOEMRE	BUREAU OF OCEAN ENERGY MANAGEMENT, REGULATION AND ENFORCEMENT
FAA	FEDERAL AVIATION ADMINISTRATION
GOM	GULF OF MEXICO
INC	INCIDENT OF NONCOMPLIANCE
MARSEC	MARITIME SECURITY PLAN
MMS	MINERALS MANAGEMENT SERVICE
MSHA	MINE SAFETY AND HEALTH ADMINISTRATION
NEPA	NATIONAL ENVIRONMENTAL POLICY ACT
NRC	NUCLEAR REGULATORY COMMISSION
NTL	NOTICE TO LESSEES
NTSB	NATIONAL TRANSPORTATION SAFETY BOARD
OCS	OUTER CONTINENTAL SHELF
OCSLA	OUTER CONTINENTAL SHELF LANDS ACT
OFO	OFFICE OF FIELD OPERATIONS
OIG	OFFICE OF THE INSPECTOR GENERAL
OPM	OFFICE OF PERSONNEL MANAGEMENT
OSHA	OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
OSRP	OIL SPILL RESPONSE PLAN

PINC	POTENTIAL INCIDENT OF NONCOMPLIANCE
PPA	OFFICE OF POLICY ANALYSIS
TA&R	TECHNOLOGY ASSESSMENT AND RESEARCH
TIMS	TECHNICAL INFORMATION MANAGEMENT SYSTEM
USCG	UNITED STATES COAST GUARD