

**Testimony of
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**Before the Subcommittee on Energy and Mineral Resources
House Committee on Natural Resources
United States House of Representatives
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on

The Macondo Incident: Proposals to Split Up the Minerals Management Service

*IADC's experience in the implementation of Performance-Based Regulation
in the form of a Safety Case*

The International Association of Drilling Contractors

The International Association of Drilling Contractors (IADC) is a trade association representing the interests of oil-and-gas and geothermal drilling contractors worldwide. IADC's contract-drilling members own virtually all of the world's land and offshore drilling units and drill the vast majority of the wells that produce the planet's oil and gas. This includes all mobile offshore drilling units (MODUs) operating in areas under the jurisdiction of the United States and nearly all MODUs operated under competitively-bid contracts worldwide. IADC's membership also includes oil-and-gas producers, and manufacturers and suppliers of oilfield equipment and services.

Founded in 1940, IADC's mission is to improve industry health, safety and environmental practices; advance drilling and completion technology; and champion responsible standards, practices, legislation and regulations that provide for safe, efficient and environmentally sound drilling operations worldwide. IADC holds Accredited Observer status before two specialized agencies of the United Nations, the International Maritime Organization and the International Seabed Authority. The Association is a leader in developing standards for industry training, notably its Well Control Accreditation Program (WellCAP)[®] and rig-floor orientation program, RIG PASS[®]. IADC is headquartered in Houston and has offices in Washington D.C., the Netherlands, Thailand, and the United Arab Emirates, as well as chapters in the UK, Venezuela, Brazil, Australasia, South Central Asia, Southeast Asia, the Middle East and across the United States.

Increased Safety Measures for Energy Development on the Outer Continental Shelf

While IADC strongly opposes the blanket moratorium imposed on deepwater drilling operations, IADC recognizes value in many of the recommendations contained in the Department of Interior's "Increased Safety Measures for Energy Development on the Outer Continental Shelf" (DOI Report). IADC specifically supports the recommendations for: the development of more rigorous requirements for well design and training. IADC also supports enhanced organizational and safety management through the adoption of safety case requirements based on the 2009 IADC Health, Safety and Environmental Case Guidelines for Mobile Offshore Drilling Units; mandating Well Construction Interfacing Documents for deepwater drilling operations; and the development of regulations for Safety and Environmental Management Systems. It is on these last three, integrally-related items, that IADC will focus.

What is a Health, Safety and Environmental (HSE) Case?

The DOI Report recommends adoption of safety case requirements based on the 2009 IADC Health, Safety and Environmental Case Guidelines for Mobile Offshore Drilling Units (IADC Guidelines) through emergency rulemaking.

The IADC Guidelines recognize that a HSE Case serves three primary purposes:

1. To demonstrate in a structured way that a Drilling Contractor's risk-reducing controls can achieve the organization's established goals for health, safety, environmental and security performance;
2. To demonstrate to clients that its management system's risk reducing controls meet the client's defined expectations relating to health, safety, environment or security; and
2. To demonstrate to regulators that its management system's risk reducing controls meet the regulator's defined expectations relating to health, safety, environment or security.

Developing and maintaining a HSE Case provides continuous assurance that existing HSE risks are effectively managed and provides assurance that risks associated with changes to equipment, activities or locations, as well as systemic weaknesses identified by incident analyses and audits, will be effectively managed.

The evolution of the Safety Case as a regulatory tool

It is only possible to achieve absolute safety if as a society we do not undertake hazardous activities. However we know that the application of technology brings great benefits to us as a society. The skill comes in exploiting potentially hazardous technology while minimizing the risks – accepting that it is not possible to totally eliminate all risks.

The concept of regulatory bodies using the mechanism of a Safety Case as a tool to help manage safety risks is not new. The tool first gained widespread use in the nuclear power industry. As the use of Safety Cases became more prevalent, it became evident that the same techniques could be used to address health and environmental risks, and this expanded tool became known as a HSE Case. More recently, the tool is also being applied to security.

Use of the tool by regulatory bodies continues to expand, particularly in the offshore oil and gas industries. This is evidence of the value of the concept of moving from prescriptive regulations, which due to the time and effort to produce, apply static and often outdated controls to reduce risk, to a more adaptive performance-based approach to regulation.

The offshore oil and gas industries focused on the Safety Case concept after the 1988 explosion and fire on the Piper Alpha production platform in the UK sector of the North Sea, which resulted in 167 fatalities.

The Piper Alpha investigation led to the recognition that the existing system of prescriptive regulation was unsustainable. Not only could prescriptive regulations never keep pace with changes in technology, they served to foster a mentality under which compliance with the prescriptive minimum regulatory requirements was presumed to adequately address the risks in the workplace. This led the UK Parliament to eliminate most (but not all) prescriptive safety regulations for the offshore oil and gas industry. In their place, the U.K. mandated that a Safety Case be developed by the owners and operators of offshore facilities and submitted for acceptance by the UK Health and Safety Executive. The legislation and regulations describe objectives for the control of major hazards (i.e., those with the potential to result in fatalities). Duty holders then must justify that the equipment and methods used will achieve these objectives so as to fulfill the regulatory obligations. Complementing the Safety Case legislation and regulations are Approved Codes of Practice (approved or issued by government),

government-issued guidance documents and industry standards. At this time, the U.K.'s Safety Case does not directly address environmental risks; however, the risk-reduction controls necessary to reduce safety risk are often the same as those necessary to control environmental risk.

Norway's move from a prescriptive to a performance-based approach to regulating the offshore oil and gas industries has been more evolutionary in nature. As its approach has evolved, it has moved toward an integrated scheme for controlling health, safety and environmental risks that recognizes the use of a Safety Case as a tool for managing these risks. While doing so, it has moved away from 'inspection' and has adopted an approach of 'supervision.' Approval of plans and activities has been replaced by acceptance or consent. The 'supervision' takes the form of audits, verification and investigations, to which a great deal of transparency is provided by timely posting of results on the Internet. Among regulatory agencies having similar responsibilities, the Petroleum Safety Authority (PSA) is unique in its expenditure of effort and resources to interact with the industry and the workforce in order to keep abreast of changes in technology, to understand the challenges facing offshore operations and move toward mutually acceptable solutions to those challenges.

Norway does not require the submission for acceptance of a Safety Case. It was considered, but it was concluded that the proper processing of a Safety Case by the regulator is a very resource demanding exercise which does not add to safety. Further, it is Norway's view that acceptance of a Safety Case inevitably transfers parts of the operator's responsibility to ensure compliance with statutory requirements on to the regulator. "Perhaps not really in a legal sense – but morally", according to PSA's Director General, Magne Ognedal. This said, PSA does require that operators do the same risk assessments and describe how they intend to control identified risks similarly to the way they would in a Safety Case regime. Their documented assessments and calculations (or parts of them) must be kept and handed over to PSA should PSA so require. To complement its performance based approach, PSA commissions numerous studies addressing identified areas of concern and actively participates in the development of non-mandatory guidance which it uses to influence industry in the establishment of performance goals. It also actively participates in the process of developing industry standards, both at a national and international level.

Australia is the country to most recently require a Safety Case. This change was made coincident with a (partial) federalization of health and safety responsibilities previously held by State and Territorial authorities. While Australia's National Offshore Petroleum Safety Authority (NOPSA) adopted a Safety Case approach, its underlying legislative authority did not extend to well operations. This shortcoming was highlighted by the 2009 Montara platform blowout and subsequent fire that consumed the (then unmanned) MODU, *West Atlas*. The Montara Commission of Inquiry is scheduled to release its report this month. It is expected that his report will recommend changes to the regulatory regime to expand the authority of NOPSA, but retain the Safety Case approach.

Other countries that already mandate use of a Safety Case or HSE Case for offshore oil and gas activities include: Cuba, Denmark, Faeroe Islands, Germany, Ireland, Italy, the Netherlands, and New Zealand. Countries that are reportedly considering implementation of a Safety Case or HSE Case approach include: Angola, Brazil, Canada (independently in provincial and Federal jurisdictions), India, Malaysia, Oman, Qatar, Senegal, South Africa and Trinidad and Tobago.

Each of the jurisdictions that have adopted a Safety Case or HSE Case approach has done so within the context of its own culture, and often within the constraints of legislative boundaries or competing legislation. This has resulted in considerable contrasts:

- Some jurisdictions require a Safety Case, but do not explicitly mandate that there be an auditable safety management system in place to implement the controls necessary to reduce the risk associated with those hazards.

- Some jurisdictions look for the Safety Case to integrate concerns of occupational health, safety, and environment at all potential risk levels, while others only explicitly require analysis of hazards capable of producing multiple fatalities.
- Some jurisdictions attempt to quantitatively set acceptable risk thresholds in terms of exposure rate, while others seek to assure that risk is ‘as low as reasonably practicable.’
- In some jurisdictions the regulators actively and cooperatively work across the jurisdictional boundaries of their individual regulatory agencies to holistically address health, safety and environmental risk associated with all activities, while in other jurisdictions the regulator’s view is narrowly constrained to its underlying regulatory authority, even though its regulations may demand a Safety Case addressing all hazards.

Some oil companies require contractors to provide a Safety Case as part of the bidding process and/or prior to commencing operations.

Development of the IADC Guidelines

In response to the UK’s implementation of Safety Case regulations following the Piper Alpha, IADC commissioned the development of a workbook to assist drilling contractors in the preparation of a Safety Case in accordance with the UK requirements. While this workbook served to improve understanding of the requirements of the new regulations, its attempt to rely on quantitative risk assessment for extremely low probability but high consequence events was not seen as leading to control measures that would lead to residual risk (risk after the application of control measures) that met the regulatory objective of being “as low as reasonably practicable.” Further, while the workbook output addressed the regulatory mandate, it was cumbersome and the results were not easily communicated to the workforce. IADC members saw the need for improvement.

As additional countries in the North Sea region began implementing their own (differing) Safety Case requirements (or in the case of those also addressing environmental concerns, HSE Case requirements) IADC members sought an approach to the development of a HSE Case that would overcome the shortcomings of the workbook and could be used to satisfy regulatory mandates in multiple regulatory jurisdictions as their MODUs moved among countries in response to market conditions. Because MODUs are also subject to maritime requirements imposed by both flag-State authorities and the maritime authorities of the coastal State in which they operate, IADC members saw value in assuring that the management system embodied in a Safety Case would meet the requirements of the International Maritime Organization’s (IMO’s) International Management Code for the Safe Operation of Ships and for Pollution Prevention (ISM Code). Further, as several of the large integrated oil companies that employ IADC-member MODUs impose contractual requirements for a HSE Case, IADC has attempted to assure that the IADC guidance would produce a HSE Case meeting their expectations.

In fulfillment of these demands, in February 2003, IADC issued the first edition of the IADC Health, Safety and Environmental Case Guidelines for Mobile Offshore Drilling Units. These Guidelines have been structured to provide reasonable assurance that, by following the Guidelines, a rig owner, can produce a HSE Case that will satisfy the Safety Case or HSE Case requirements of those co-operating countries for which a cross-reference between their regulatory requirements and the Guidelines has been developed, *i.e.*, Australia, Denmark, Germany, Italy, Netherlands, Norway and the United Kingdom. These Guidelines remain under continuous review.

IADC makes these Guidelines freely available for downloading from the internet at:
<http://www.iadc.org/hsecase/index.html>

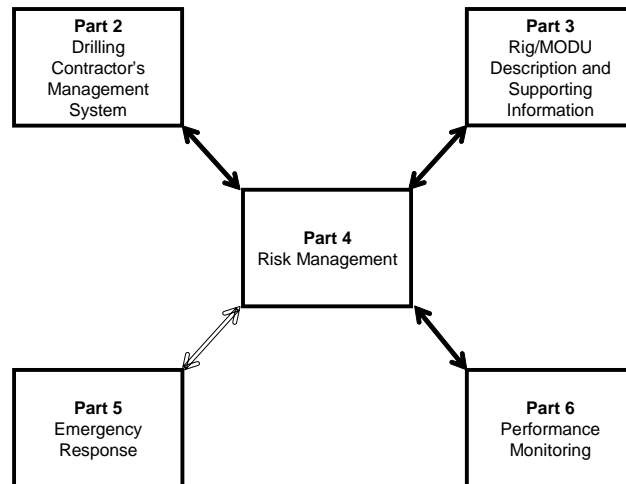
IADC would welcome the opportunity to work with the Department of Interior's newly-established Bureau of Safety and Environmental Enforcement* towards including the United States in the list of countries for which a HSE Case produced following the Guidelines will satisfy their regulatory requirements. We believe this would be of benefit both to our members, their clients and to the United States. IADC sees some challenges in this regard; however, we do not believe they are insurmountable.

Principles of the IADC Guidelines

The IADC Guidelines consist of six parts and a series of supporting appendices.

Part 1 - Introductions consists of an introduction and a description of typical internal (i.e., self-imposed by the drilling contractor) and external (e.g., client and regulatory body) expectations. Importantly, appendix 4 of the Guidelines contains a series of cross-references between the relevant regulations of the cooperating regulatory bodies, and the ISM Code, in order to provide assurance to these stakeholders that their expectations will be met by a HSE Case produced following the Guidelines.

The remaining five parts are interrelated, and centered on risk management, as shown in the following diagram.



Part 2 - Drilling Contractor's Management System describes the Drilling Contractor's management system and presents objectives that must be met to demonstrate assurance that HSE risks are reduced to a tolerable level. For purposes of regulatory compliance, the elements of the management system in the Guideline have been carefully selected for consistency with the ISM Code. This does not demand that a specific format be utilized; rather, the company should be able to demonstrate, through cross-reference, that any mandatory elements are being met. Regulatory bodies attempting to audit management systems must have specialized skills and training to do so effectively. There are applicable industry standards for such auditors (e.g., ISO 10011).

Recognizing that many of the risks associated with the operation of MODUs are associated with the specific activities to be performed under the drilling contract the Guidelines include provisions

* Throughout this testimony, references to the Minerals Management Service (MMS) should be understood to be references to the Bureau of Safety and Environmental Enforcement.

addressing alignment of the Drilling Contractor's management system with that of the client through the creation of bridging documents.

Because of the breadth of references consulted in the development of the management system guidance within the Guidelines, it is IADC's view that this portion of the HSE Case will satisfy the requirements that will be proposed for Safety and Environmental Management Systems in fulfillment of the DOI Report.

The methods of achieving the objectives of the management system are considered in the risk management undertaken in accordance with the process for risk management described in Part 4 of the Guidelines. However, it is important to recognize that only through an effective management system can the implementation and functionality of the risk controls be assured.

Part 3 – MODU/Rig Description and Supporting Information describes the equipment and systems necessary to meet the objectives described in the management system and to fulfill the requirements of the Contractor's Scope of Operations. In developing this section, and the Scope of Operations, it is necessary to compile detailed information about the MODU and its equipment.

Critical operating limits for a broad range of equipment and primary structure, as established by the design criteria (or risk tolerance, if lower) must be documented. Limits for items ranging from the primary hull structure of the MODU to switches used to assure shut-down of machinery must be considered. Thus, it is far easier to complete this part during the design and construction of a new MODU than it is to assemble the required information for an existing unit.

In understanding and setting the operating boundaries there is heavy reliance on applicable standards such as those developed and maintained by classification societies (e.g., the American Bureau of Shipping or Det Norske Veritas) and standards developing organizations such as the International Organization for Standardization (ISO) and the American Petroleum Institute (API). Prescriptive regulations, where applicable, may also dictate the operational boundaries that are established. This reliance on standards demands that the persons developing this portion of the HSE Case understand the standards that are cited, their applicability and their limitations. To function effectively, regulatory bodies assessing the HSE Case must have a cadre of personnel that are similarly competent.

Again, the residual risks associated with the MODUs equipment and systems, after the application of any applicable design standards, must be assessed in the risk management under Part 4.

Part 4 – Risk Management describes the Risk Management Process for assuring that the risks associated with a Contractor's Scope of Operations are reduced to a level that is tolerable to the Drilling Contractor and other stakeholders.

As illustrated in the above graphic, the Risk Management Process is at the heart of the HSE Case. The process must consider the management objectives (Part 2) and the systems and equipment (Part 3). Any gaps related to the objectives in Parts 2 and 3 that are identified in Part 4 must be addressed through the Contractor's management system. The Risk Management Process described in the Guidelines has been developed to comply with requirements of:

- The cooperating regulatory bodies in Australia, Denmark, Germany, Italy, Netherlands and the United Kingdom; and
- The ISM Code.

As earlier noted, regulatory bodies requiring the production of either a Safety Case or a HSE Case have differing requirements for the hazards that they require to be assessed, and their risk tolerability

limits. The Guidelines attempt to identify these differences so as to facilitate regulatory compliance and generally suggest that an “all hazards” approach be undertaken.

In no operating area or condition is a HSE Case developed *de novo*. There is always some empirical evidence of the major hazards, and there have often been prescriptive regulatory requirements, or industry guidance and standards developed to address these hazards. The Guidelines contain a list of major hazards that are commonly encountered. There are often multiple regulatory bodies that exercise jurisdiction over the hazard and/or associated risk control measures.

The following table lists these hazards and, for typical MODU operations in the U.S., identifies the regulatory agencies having jurisdiction over associated risk control measures. (This list is intended as illustrative, not exhaustive.)

Hazard	Agencies exercising some jurisdiction over preventive control measures **
Attack or terrorist activity	FAA, FBI, FS, TSA, USCG
Blowout (loss of well control)	EPA, MMS, USCG
Explosion	FS, MMS, USCG
Events from adjacent installations	MMS
Epidemic or Pandemic	CDC, USCG
Fire	FS, MMS, USCG
Diving operations	MMS, USCG
Dropped objects	FS, MMS, USCG
Helicopter crash	FAA, USCG
Loss of stability	FS, USCG
Major mechanical failure	FS, USCG
Mooring or Station keeping failure	FS, MMS, USCG
Seismic activity	FS, MMS, USCG
Ship collision	FS, USCG
Structural failure	FS, MMS, USCG
Toxic release	EPA, FAA, FS, MMS, USCG
Weather and storms	FS, MMS, NOAA, USCG

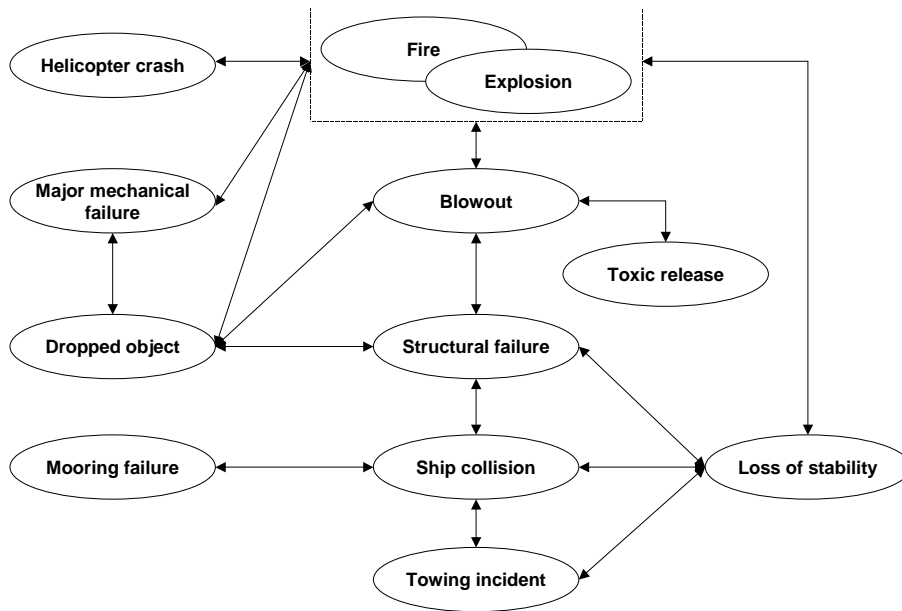
** Does not include possible jurisdiction to conduct an investigation following incident

CDC=Center for Disease Control & Prevention, EPA=Environmental Protection Agency, FAA=Federal Aviation Administration, FBI=Federal Bureau of Investigation, FS=Flag-State maritime authority, MMS=Minerals Management Service, NOAA=National Oceanic and Atmospheric Administration, TSA=Transportation Security Administration, USCG=United States Coast Guard

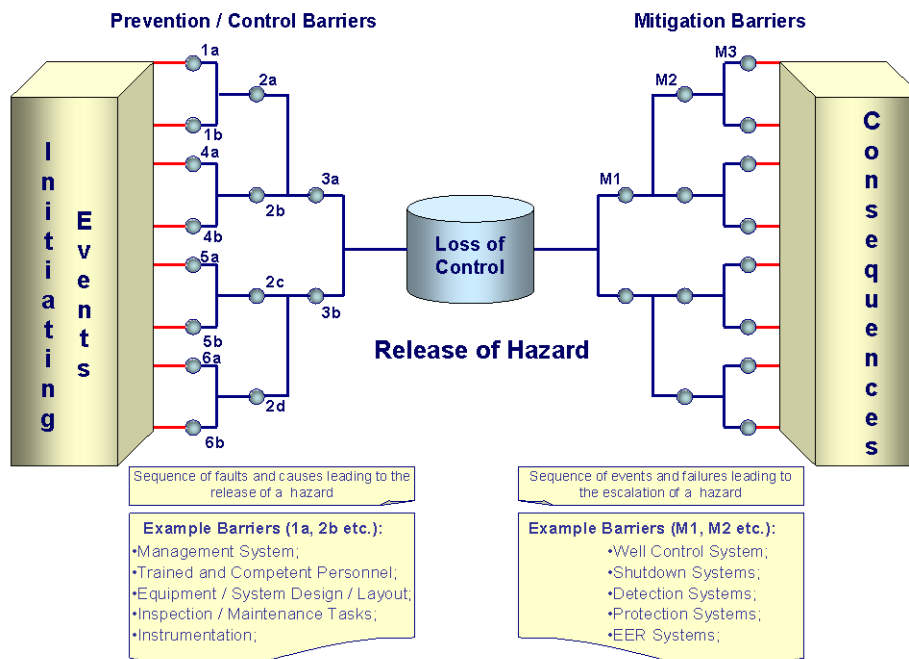
As illustrated above, in the U.S., there are a number of regulatory agencies whose activities affect MODU operations and whose exercise of jurisdiction, often with prescriptive regulatory requirements, must be considered in developing a HSE Case.

A similar situation exists internationally. This can be a particular frustration to MODU owners when, for example, a regulatory body demanding that risk reduction measures be introduced to control a particular hazard does not acknowledge that the application of that measure may be constrained by another agency.

To further complicate matters, there may be complex interrelationships between these hazards. This is illustrated in the following graphic.



A key element of risk management is a structured hazard identification and control process. The Guidelines recommend that this process be based upon international standards (ISO 17776). The following diagram provides an example representation of a hazard scenario evaluation, with the identification of the associated risk management barriers.



Having been so identified, the barriers can then be assessed for their criticality and effectiveness, responsibility assigned for their maintenance, and arrangements made for their verification, as appropriate. It can be appreciated that in a complex facility, such as an operating MODU, there will be thousands of barriers identified.

Regulatory bodies often impose prescriptive requirements with regard to certain barriers, for example, certified training of key personnel, testing of alarm systems, periodic inspections, etc.

Part 5 – Emergency Response describes the objectives for emergency response of incidents - to mitigate the consequences (severity) identified as part of the risk management process in Part 4 and the measures to recover.

Topics addressed in the Guideline include emergency response management for all contingencies, command and communication, training and evacuation and escape.

Many of the risk controls associated with emergency response, particularly with respect to incidents that cannot be controlled entirely on the MODU, rely on external resources. These are often provided by the client under the terms of the contract, and must be specific to the jurisdiction in which the operations are to take place. These are addressed in the bridging arrangements.

Once again, the residual risks associated with emergency response must be assessed in the risk management process under Part 4.

Part 6 – Performance Monitoring describes arrangements for monitoring to ensure that the risk management measures identified (Part 4) are implemented, maintained and effective at the workplace.

Topics addressed in the Guideline include: performance monitoring, incident reporting and analysis, behavior-based observation systems, health and environmental monitoring and measurement, audit and compliance, verification of critical activities and equipment, and the role of certification. The Guidelines generally encourage feedback into the management process in order to foster continuous improvement.

The Guidelines recognize that regulatory bodies have differing expectations with regard to performance monitoring and may impose specific requirements by prescriptive regulations, e.g., requirements for equipment certification, third-party verifications, or workplace drug testing.

Lessons from Past Experiences

In developing the Guidelines, and observing their implementation in several jurisdictions, IADC has learned several lessons:

Starting out:

- Start the discussion (and it must be a discussion, not a debate) with the risks, not the rules;
- Ensure that the regulatory body is truly empowered to implement the approach;
- Beware of other regulatory policies which may contradict or hinder the adoption of a risk-based approach; and
- Effectively communicate the goal of creating an effective risk-based dialog between industry and regulators, leading to improved safety and environmental performance.

During implementation:

- It will take time;
- There will be significant challenges; and
- Focus beyond the risk-assessment to the goal – It is achievable.

In the longer term:

- Be prepared to make adjustments;

- There will be a continual need for effective communication between industry and the regulator, both on a one-on-one basis addressing individual HSE Cases, and through workshops, conferences, etc.

Well Construction Interface Document

While the DOI Report indicates that there will be a requirement to produce a Well Construction Interfacing Document there is currently no guidance – either from industry or government regarding the appropriate content for such a document.

In IADC’s view, the development of such a document would begin within the operating oil company’s organization during the project development phase and would need to anticipate the project needs for overall management of project health, safety and environmental management. As project needs are finalized, and services and equipment are contracted, the finalized document would establish a basis for mutual understanding among project participants of individual and mutual roles and responsibilities to manage project-associated risks to personnel health, safety and environment, particularly with regard to equipment suitability and interface, standards for personnel competence and training, reporting responsibilities, the provision of logistical support and emergency response.

IADC is committed to working with other stakeholders to develop a mutual understanding of expectations with regard to the development of the Well Construction Interface Document and seeing that this understanding is reflected in industry guidance.

Challenges associated with implementation of a HSE Case in the United States

Jurisdictional Issues for MMS

Examining the provisions of the OCS Lands Act, IADC is concerned that inappropriate interpretation of the Act might hinder the effective development and implementation of the HSE Case.

(1) 43 USC 1347(c) provides:

The Secretary of the Department in which the Coast Guard is operating shall promulgate regulations or standards applying to unregulated hazardous working conditions related to activities on the outer Continental Shelf when he determines such regulations or standards are necessary. The Secretary of the Department in which the Coast Guard is operating may from time to time modify any regulations, interim or final, dealing with hazardous working conditions on the outer Continental Shelf.

It could be argued that responsibility for HSE Case regulations, as they address hazardous working conditions, should rest with the Coast Guard rather than the MMS.

While IADC does not subscribe to this view, IADC believes that it is imperative that the MMS work with the Coast Guard to develop an understanding of the numerous provisions of a HSE Case that are affected by Coast Guard regulations and the related maritime regulatory bodies of the various MODU flag-States. This is particularly critical with respect to risk management barriers which are prescribed by such regulations and subject to verification under those regulations – these are likely to be those with which the MMS has no prior experience, e.g., alarms required by maritime regulations for maritime risks.

(2) 43 USC 1348(c) provides:

The Secretary and the Secretary of the Department in which the Coast Guard is operating shall individually, or jointly if they so agree, promulgate regulations to provide for - (1)

scheduled onsite inspection, at least once a year, of each facility on the outer Continental Shelf which is subject to any environmental or safety regulation promulgated pursuant to this subchapter, which inspection shall include all safety equipment designed to prevent or ameliorate blowouts, fires, spillages, or other major accidents;

In the past, the Coast Guard and the MMS have taken divergent views of this provision, with the Coast Guard conducting a general inspection of a facility and the MMS undertaking a ‘component inspection’ looking at each control. If the MMS adopts an approach to verification of HSE Case risk control barriers that requires examination or inspection of each such control, it will be overwhelmed. Its inspectors would also require extensive education and training in order to effectively assess the numerous controls that are already subject to examination and verification by maritime regulatory bodies, e.g., controls on fire extinguishing systems on MODUs.

IADC would urge MMS to clearly articulate the scope of its interest in the HSE Case, particularly with regard to:

- Does it extend to areas under Coast Guard jurisdiction?
- Will it adopt a “major hazards” approach or an “all hazards” approach? If the former, what are the thresholds?
- Will it prescribe verification of risk control barriers? If so, by what criteria?

Resource Issues for Industry

While many of the MODUs operating in the deepwater regions of the US OCS have HSE Cases to satisfy their managements’ internal needs, these will need to be reassessed against any risk thresholds that MMS may impose through the emergency rule and modified as necessary. This, combined with the very high resource needs of developing the HSE Cases for those existing MODUs and floating facilities with drilling activity that do not already have HSE Cases will create a high demand for resources with the appropriate professional expertise.

Resource Issues for MMS

It is IADC’s experience from other jurisdictions that it takes considerable time and effort for the regulator and the HSE Case developer to reach a mutual understanding of risk terminology and risk tolerance thresholds. MMS and those exercising oversight over MMS must understand that this will be a resource-intensive and time-consuming process.

MMS presently has few staff with the requisite competence to facilitate the necessary discussions. With the imposition of the HSE Case requirement by emergency rule, MMS will be directly competing for staff and/or consultants with the requisite specialized knowledge of MODUs, their safety equipment, and their operational procedures. There is also the potential for other jurisdictions that have not yet imposed Safety Case requirements to do so, creating further competition for these resources. MMS will need to be adequately staffed by persons with the requisite competence to both communicate its expectations to industry and review (if they are to be subject to review) the HSE Cases.

Similar concerns exist with the development of mandatory Safety and Environmental Management Systems (SEMS); however, this could be somewhat ameliorated if the MMS rulemaking process allows comments on its HSE Case regulations to be fully considered and prior to the SEMS final rule.

There will be a critical need for MMS to announce its expectations with regard to the content of the Well Construction Interfacing Document and to hold regulatory workshops or stakeholder

meetings in order to move quickly toward mutual understanding with industry regarding the ultimate content of this essential document. This must be done in the very near term.

There are numerous other provisions of the DOI Report that require clarification before industry can fully mobilize to address the concerns. Industry is currently developing a list of these concerns for submission to DOI/MMS. A near term response will be urgently needed to sustain this industry's presence and viability in the United States.