

**“Hearing to receive testimony on the Well Control Rule and other regulations
related to offshore oil and gas production”**

U.S. Senate Committee on Energy and Natural Resources

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Good morning Chairman Murkowski, Ranking Member Cantwell, and members of the committee.

My name is Erik Milito, and I am the Director of Upstream and Industry Operations for the American Petroleum Institute. My responsibilities include advocating for and advancing offshore safety. Following the Macondo incident, I helped to organize several industry task forces to work collaboratively with the government to improve safety in the offshore in a sensible way. The fruits of those labors are evident in the changes that have already occurred in offshore safety over the past five plus years. I am also extensively engaged in the development of API standards that promote safe and responsible development of the nation’s offshore oil and natural gas resources.

API has more than 625 member companies, which represent all sectors of America’s oil and gas industry. Our industry supports 9.8 million American jobs and 8 percent of the U.S. economy. We appreciate the opportunity to participate in today’s hearing.

I’d like to take a moment to remember the 11 workers who lost their lives on April 20, 2010, as well as their families. Those workers are a constant reminder that we must continue to improve safety in our industry. The industry is committed to a goal of zero fatalities, zero injuries and zero incidents, and our industry takes any safety or environmental incident as a call to learn and to improve technology, training, operational procedures, and industry standards and best practices.

Immediately after the Macondo incident in the Gulf of Mexico (GOM), the U.S. oil and natural gas industry (Industry) launched a comprehensive review of offshore safety to identify potential improvements in spill prevention and intervention and

response capabilities. Four Joint Industry Task Forces (JITFs) were assembled to focus on critical areas of GOM offshore activity: the Joint Industry Offshore Operating Procedures Task Force (Procedures JITF), the Joint Industry Offshore Equipment Task Force (Equipment JITF), the Joint Industry Subsea Well Control and Containment Task Force (Subsea JITF), and the Joint Industry Oil Spill Preparedness and Response Task Force (OSPR JITF). Teams were composed of industry expert members of the American Petroleum Institute (API), International Association of Drilling Contractors (IADC), Independent Petroleum Association of America (IPAA), National Ocean Industries Association (NOIA), and the United States Oil and Gas Association (USOGA). Sessions began in early spring of 2010 to provide recommendations to the U.S. Department of the Interior (DOI) in the areas of prevention, intervention and oil spill response.

The JITFs were not involved in the review of the incident; rather they brought together Industry experts to identify best practices in offshore drilling operations and oil spill response, with the definitive aim of enhancing safety and environmental protection. The Procedures, Equipment, and Subsea JITFs, as they are called, all issued final reports in March of 2012 while the OSPR JITF released a progress report in November of 2011, with projects still ongoing. The ultimate goal for these JITFs is to improve Industry drilling standards to form comprehensive safe drilling operations, well containment and intervention capability, and oil spill response capability; not only through evaluation and revision of Industry guidelines and procedures, but also active engagement with regulatory processes.

The JITFs worked with trade associations, DOI's Bureau of Safety and Environmental Enforcement (BSEE) and Bureau of Ocean Energy Management (BOEM) and their predecessor organizations, U.S. Coast Guard (USCG), U.S. Environmental Protection Agency (EPA), National Oceanic and Atmospheric Administration (NOAA), National Response Team (NRT), the independent presidential commission (National Commission on the *Deepwater Horizon* Oil Spill and Offshore Drilling), the Chemical Safety Board (CSB), the National Academy of Engineering (NAE), members of Congress, and others as they considered the Macondo incident and potential changes in Industry regulation.

The work of the JITFs was, and is, instrumental in creating enhanced safety in offshore oil and gas operations in each of the key areas: prevention, intervention

and containment, and response. The work is reflected in the revised regulatory framework and in the development of new and revised, world class, industry technical standards. In addition to the work of the JITFs, industry established the Center for Offshore Safety (COS) to foster safety culture and share lessons learned across industry, and the Marine Well Containment Company (MWCC) and HWCG in 2010 to provide containment technology and response capabilities for the unique challenge of capping a subsea well. Please see Appendix A for a full summary of the work of the JITFs, as well as a summary of industry standards development related to offshore safety that has been instrumental in advancing offshore safety. Please also see attached a brochure entitled “Improvements to Offshore Safety by Industry and Government,” which describes the concrete actions taken by both industry and government to elevate safety over the past several years.

Based upon the above, it is undeniable that the environment for U.S. OCS oil and natural gas operations is safer today than it has ever been for both the Gulf of Mexico and Alaska, as well as for the Atlantic and Pacific regions. However, we are greatly concerned that a new rule proposed by the Bureau of Safety and Environmental Enforcement on April 17, 2015, entitled “Oil and Gas and Sulphur Operations in the Outer Continental Shelf - Blowout Preventer Systems and Well Control”, could actually increase risk and decrease safety in offshore operations. While much of the proposed rule is sensible and effective for addressing risk, there are various, significant elements of the rule that could do the opposite – increase risk. We are also very concerned that the Alaska specific rules that were proposed jointly by BSEE and BOEM will likewise not appreciably enhance safety. We are committed to working with the government to achieve the mutually desired objective of safety. We are encouraged by the opportunity to meet with BSEE on December 7 to further discuss concerns with the proposed Well Control Rule and request a similar opportunity to work with BSEE and BOEM regarding our concerns with the proposed Arctic regulation. We want to get these rules right, but we all should ensure that artificial deadlines do not take precedence over the substance of safety.

NATIONAL IMPORTANCE OF ALASKA OIL AND NATURAL GAS RESOURCES

Alaska is home to some of the most prolific oil and natural gas reserves in the United States. Production in the state’s North Slope once supplied about a

quarter of total U.S. oil production.¹ An estimated 30 percent of the nation's known recoverable offshore resources are in Alaska's waters.² However, 61 percent of Alaska's land is controlled by the federal government, which has erected one obstacle after another to energy development.³ Even promising areas specifically established under federal policy as energy development zones remain largely off limits.

Oil and natural gas development is the backbone of Alaska's economy, supporting one-third of all state jobs and contributing more than \$6 billion in labor income.⁴ Alaska oil and natural gas production has been a lifeline for the U.S. energy supply, offsetting much of the mid-1980s production declines experienced in the Lower 48 and transporting 17 billion barrels of oil through the Trans-Alaska Pipeline south to the Pacific coast.⁵ Virtually all of that production took place on state and native lands. Yet the available geologic information strongly suggests that the resource potential in federal areas may far exceed the potential of state lands. Expanding access in resource-rich areas like National Petroleum Reserve Alaska (NPR-A), designated areas in the Arctic National Wildlife Refuge (ANWR) and offshore is vital not just for Alaska's economy but for the nation's long-term energy security.

Failure to harness the energy potential in the Arctic Ocean today could have significant consequences for the nation's long-term energy security. The world's largest remaining conventional, undiscovered oil and natural gas reserves -- estimated at 13 percent of recoverable oil and 30 percent of recoverable natural gas resources -- await development in the Arctic.

Estimates indicate the Arctic's Beaufort and Chukchi seas have more technically recoverable oil and natural gas than the Atlantic and Pacific coasts combined -- with the Chukchi Sea alone home to 29.04 billion barrels of oil equivalent,

¹ API, "Alaska: A State of Energy -- A History of Energy," <http://www.energyandalaska.com/#/?section=astate-of-energy>

² Alaska Oil and Gas Association, "Facts and Figures," <http://www.aoga.org/facts-and-figures>

³ www.murkowski.senate.gov, "Landlocked: Murkowski Explains Alaskans' Access Frustrations," March 2015 http://www.murkowski.senate.gov/public/index.cfm/pressreleases?ContentRecord_id=B07565EF-7CE7-415E-8079-24F94F91831F

⁴ Alaska Oil and Gas Association, "The Role of the Oil and Gas Industry in Alaska's Economy," May 2014 http://www.aoga.org/sites/default/files/news/aoga_final_report_5_28_14_0.pdf

⁵ API, "Alaska: A State of Energy -- Energy and Infrastructure, TAPS," <http://www.energyandalaska.com/#/?section=astate-of-energy>

according to government estimates. A 2011 study by the Anchorage firm Northern Economics projects that developing resources in the Beaufort and Chukchi Seas could generate as many as 50,000 jobs.⁶

Although about 700 leases have sold for offshore oil and natural gas exploration in Alaska since 2005 – generating billions in revenue for the federal government⁷ – only one well has been drilled to production depth due largely to delays and continually evolving restrictions imposed by the federal government. Seven years of repeated federal obstacles elapsed before Royal Dutch Shell was allowed to proceed with drilling an exploratory well in 2015. The company’s decision to discontinue the project was based partly on the well’s output, but Shell also cited the “challenging and unpredictable federal regulatory environment in offshore Alaska” in its decision.⁸

Interior Secretary Sally Jewell has stated, “The Arctic is an important component of the administration’s national energy strategy, and we remain committed to taking a thoughtful and balanced approach to oil and gas leasing and exploration offshore Alaska.”⁹

Recent history does not demonstrate the balanced, forward-looking approach necessary to fulfill the potential of Arctic energy. Four Chukchi and Beaufort Sea lease sales that were included in the 2007-2012 Leasing Program and proposed to take place between 2009 and 2012 were cancelled. Only three lease sales are included in the current 2012-2017 Leasing Program, and the Interior Department announced in October 2015 that it would cancel those and deny lease extension requests.¹⁰ Only one lease sale for each of the Beaufort and Chukchi seas has been proposed for the 2017-2022 Leasing Program. Collectively, these decisions

⁶ Northern Economics, “Economic Analysis of Future Offshore Oil and Gas Development: Beaufort Sea, Chukchi Sea, and North Aleutian Basin,” March 2009 <http://northerneconomics.com/wp-content/uploads/2015/04/Shell-OCS-report-final-web.pdf>

⁷ API, “Alaska: A State of Energy – Federal Policies of Limitation, Onshore,” <http://www.energyandalaska.com/#/?section=astate-of-energy>

⁸ www.shell.com, “Shell updates on Alaska exploration,” September 2015 <http://www.shell.com/global/aboutshell/media/news-and-media-releases/2015/shell-updates-on-alaska-exploration.html>

⁹ www.interior.gov, “Department of Interior Affirms 2008 Chukchi Sea Lease Sale,” <http://interior.gov/news/pressreleases/department-of-the-interior-affirms-2008-chukchi-sea-lease-sale.cfm>

¹⁰ API, “API statement regarding Obama administration decision to cancel 2016 and 2017 Arctic oil lease sales,” October 2015 <http://www.api.org/News-and-Media/News/NewsItems/2015/October-2015/API-statement-on-admin-cancellation-of-arctic-lease-sales>

represent a system of regulatory and permitting unpredictability and uncertainty that continues to undermine investment decisions. Regulatory certainty combined with routine opportunities for leasing are necessary to secure the promise of Alaskan oil and natural gas production in federally controlled areas.

To boost American energy security in the coming decades, development in the Arctic must begin right away. According to a report from the National Petroleum Council, “Given the resource potential, and long timelines required to bring Arctic resources to market, Arctic exploration today may provide a material impact to U.S. oil production in the future, potentially averting decline, improving U.S. energy security, and benefitting the local and overall U.S. economy.”¹¹

Decades of experience operating in Arctic environments demonstrates the oil and natural gas industry has the technology and expertise to safely develop Arctic offshore resources.

Canada, Russia and Norway are already active in Arctic offshore exploration. A consistent, forward-thinking regulatory framework that prioritizes regularly scheduled lease sales is necessary to enhance U.S. energy security and maintain America’s position as a global energy superpower.

The regulatory framework raises many concerns for the industry, given the new requirements proposed jointly by BSEE and BOEM for exploratory drilling and related operations on the Outer Continental Shelf (OCS) seaward of the State of Alaska (Alaska OCS). The proposed regulations were published in the Federal Register February 24, 2015 at 80 FR 9915 (Volume 80, Number 36, Pages 9915–9971). A copy of the API, U.S. Chamber of Commerce and National Association of Ocean Industries comments is attached for the record.

As stated above, the search for energy resources in the Arctic is not new. Nearly a century of industry operations in the region demonstrates that exploration and development of oil and natural gas resources in the Alaska OCS can take place in a safe and environmentally responsible manner; can enable the protection of habitat, wildlife, communities and subsistence lifestyles. Currently, Arctic production accounts for 25 percent of the world’s natural gas and 10 percent of its oil.

¹¹ National Petroleum Council, “Arctic Potential: Realizing the Promise of U.S. Arctic Oil and Gas Resources,” March 2015 http://npcarcticpotentialreport.org/pdf/AR-Executive_Summary-Final.pdf

Unfortunately, the BSEE-BOEM Arctic rules package imposes prescriptive requirements which presume that one set of assumptions will universally apply to any given location. Performance-based rules, on the other hand, would allow an operator to minimize risks by designing a well program specific to the landscape, ecosystem, ice conditions, water depths and weather of that particular well. Some of the specific concerns with the proposed Alaska regulations:

- The rule requires a relief well and doesn't consider other barrier technologies. Instead, API urges the adoption of a regulatory approach that focuses on prevention and that considers fit-for-purpose response planning alternatives to respond to potential loss of well control.
- The rule shifts responsibility for operational decisions away from the rig to company personnel or even agency personnel not working onsite. Onsite personnel have the best understanding and most complete picture of the current operation, key risks and critical considerations. In addition, their experience in active operations provides them with the judgment to make effective real-time decisions within the bounds specified by the Operators governing procedures and operations integrity guidelines. This responsibility includes full control of the operations and the full authority to stop activities at any time. Instead, API urges that in the event BSEE seeks to direct active drilling operations, further clarification is required on the associated responsibility, accountability and liability that would be assumed in the event of any incidents that occur as a direct result of those actions.
- The proposed rules do not consider alternatives to floating rigs, even though floating rigs are not the only means to drill a well, which is yet another example of the rules using prescriptive rules that require particular equipment to the exclusion of other approaches that could be safely and effectively used. If the regulatory focus is on floating rigs, then the rules should be applicable only to floating rigs. Alternatively, the rules could adopt a broader, more flexible and performance-based approach such as found in rules applicable to other areas of the OCS which do not prejudice the choice of drilling platforms.

- The proposed rules introduce an additional and redundant layer of regulation for cuttings discharge, which are already regulated by the EPA under the Clean Water Act. The proposed rules add provisions requiring the operator to capture all petroleum-based mud and associated cuttings to prevent their discharge into the marine environment during exploratory drilling operations on the Arctic OCS, and grant discretionary authority to BSEE's regional supervisor to restrict discharge of water-based muds and cuttings. The Clean Water Act grants EPA jurisdiction over all facilities which discharge pollutants from any point source into waters of the United States. This includes drill cuttings discharged from a rig into waters of the U.S. in Arctic regions. Under EPA regulations, control is already established to ensure that when cuttings discharge is permitted the associated impact to the environment is reduced to acceptable levels.
- BSEE and BOEM underestimate the cost of the proposed rules and the economic analysis put forward significantly and systematically underestimates the potential impact to industry. The assessed ~\$1 billion cost to industry over 10 years fails to address the impacts of shortening the effective drilling season (driven primarily by a same-season relief well requirement) and imposing specific design, logistics and operating requirements. The estimated cost to industry is at least \$10 - 20 billion, and it could potentially be higher. Such a cost burden would not just deny the nation energy security from developing its oil and gas resources, but it would also prevent economic development in Alaska and across the country from an estimated 145 billion in new payroll for U.S. workers and \$193 billion or more in new local, state, and federal government revenue. In addition to the Arctic rules proposed, on April 13, 2015, BSEE proposed new rules for all OCS areas, including the Arctic OCS, that are focused on Blowout Preventer Systems and Well Control. The proposed rules significantly alter the current regulations in both content and structure and overlap in numerous areas with the proposed Arctic OCS rules. The heightened requirements that will result with the final publication of the BOP and Well Control rules will impact considerations for the Arctic OCS rules. Because of this, API requests that the comment period of the Arctic OCS rules be re-opened after the BOP and Well Control final rules are published. This will ensure all parties fully understand the base regulatory

regime for OCS areas and enable more informed decisions to be made regarding incremental Arctic OCS requirements.

UNINTENDED SAFETY CONSEQUENCES OF BSEE’S PROPOSED WELL CONTROL RULE

As previously stated, BSEE proposed regulatory changes to Blowout Prevention Systems and Well Control requirements in 30 C.F.R. part 250 on April 17, 2015, in a 264 page notice of proposed rulemaking entitled, “Oil and Gas and Sulphur Operations in the Outer Continental Shelf—Blowout Preventer Systems and Well Control.” The original notice allowed 60 days for public comment, after dozens of letters requesting an extension of an additional 120 days, BSEE granted a 30 day extension for comments until July 16, 2015.

API and 6 of our fellow trades, IADC, the Independent Petroleum Association of America (IPAA), NOIA, the Offshore Operators Committee (OOC), the Petroleum Equipment & Services Association (PESA), and the USOGA drew on the expertise of over 300 subject matter experts from more than 70 companies who expended tens of thousands of person hours to provide BSEE a technically-based set of comments to aid in its efforts to create a robust and effective well control rule. Our comments are provided for the record. Even after all these resources were spent, we still believe additional time to review and comment on this lengthy and complex rulemaking was needed and, had it been provided, would have further contributed to the proposal’s development. In the absence of additional time to review and comment on this complicated and lengthy rulemaking, Industry has repeatedly asked for substantial industry-regulator engagement to generate and implement a workable and effective set of rules. A small number of meetings occurred in mid-September but they were extremely limited in time and scope. However, we remain optimistic that technical discussions with BSEE and Industry on December 7 will serve to improve the final rule.

Our members recognize that offshore operations must be conducted safely and in a manner that protects the environment. The U.S. offshore industry has advanced the energy security of our nation, and contributed significantly to our nation’s economy. Our goal is for operations integrity and fit-for-risk designs, and we are concerned that many of the requirements in the proposed rule would increase environmental and safety risk in drilling operations rather than improve safety. In addition, we are concerned that the proposed rule would materially impair the

ability to maintain current production operations, reduce future development and production or result in taking of leases and stranding of valuable reserves. To avoid these negative unintended consequences it is imperative that BSEE and industry collaborate to develop rules that are more workable and effective.

Some of the specific concerns with the proposed Well Control regulations:

- A one-size-fits-all approach does not recognize the variability of operations and engineering specific to each well. Industry currently uses a risk management process and designs and operates wells according to the needs of the particular well, all in consultation with BSEE.
- The proposal has strict requirements on the “drilling margin” used for all wells regardless of any specific well characteristics.
 - The “drilling margin” is the difference between the weight of drilling mud present in the well to keep fluids and hydrocarbons from flowing into the well and reaching the surface and the weight that would cause the rock formations being drilled through to break down. In short, this strict, prescriptive requirement denies the driller the ability to make risk-based decisions, in consultation with BSEE, and may create wellbore stability problems that add unnecessary risk to personnel, the environment and facilities.
- A number of the proposal’s prescriptive requirements will only serve to stifle innovation and delay implementation of new technologies that could improve safety and operations.
- Under the proposed rule, BSEE staff who are not on the drilling rig are given an increased role in day-to-day operations and critical decision making processes. Their role supplants that of the offshore rig personnel who have the most complete picture of the current operation and the key risks and critical considerations needed to take appropriate actions. The use of real-time monitoring must not supplant the ability of the rig personnel to make effective real-time decisions using their experience in active operations which is critical to maintaining safe operations and responding to emergency operations.
- Strict adherence to the Overbalanced Packer Fluid provisions could prevent the production of many wells that are safely produced today or require reduced flow capacity.
- Increasing mud weight during cement operations increases the risk of lost circulation and may result in failing to attain the required “top of cement’

depth. Although the higher applied pressure increases the critical gel strength, this pressure is not transmitted through the cement slurry during the slurry's Critical Gel Strength Period. Prohibiting the judicious use of un-weighted pre-flushes as a tool to reduce equivalent circulating density and to improve the chance of a successful cement job is not justified.

- Industry fully supports the incorporation by reference of API Standard 53 Blowout Prevention Equipment Systems for Drilling Wells (API 53), but does not support those requirements that exceed those found in API 53. API 53 was developed and published post-Macondo through a comprehensive, accredited process to address blowout prevention equipment systems for drilling wells and should be the basis of the new rule. Any deviations from API 53 are a concern. A copy of API 53 is available on API's website for online review.
- Requiring that the BOP and every associated system and component be completely disassembled and a detailed physical inspection be performed all at one time, every five years for BOP inspection and certification is unnecessary, BSEE provides no evidence to suggest that this would increase safety.
- The additional accumulator requirements are both confusing and unrealistic. API 53, proposed for incorporation by reference, dictates the sizes of the surface tanks and pumps systems relative to accumulator capacity. The increase in capacity, proposed by this rule, will force associated increases in other components which are already generally constrained by available space. The resulting sprawling, piecemeal systems would likely be less safe and inefficient.
- Expanded subsea testing of the Deadman/Autoshear beyond current practices and what is defined in API 53, could:
 - increase risk of harm to personnel;
 - negatively impact the environment; and
 - cause unrecoverable damage to the rig or well.

Every time you operate the device you introduce the risk of limiting the vessel's capability to actually disconnect. To meet the proposed requirement on some systems, both pods would need to be powered down thus exposing the vessel to drift/drive-off damage.

- Prescriptive proposed requirements for ram configuration and installation of blind-shear rams could lead to the loss of additional pipe rams which in

some cases may be preferential. A risk assessment should be conducted and is the correct tool to determine the placement of all rams.

- The ROV panel requirements of this proposed rule would require the installation of more than 20 new receptacles in addition to the 23 existing panels installed on a typical system in use today. Enabling these additional ROV functions would require additional shuttle valves, hoses, tubing, and receptacles. This would introduce more potential leak paths, trip hazards, and viewing obstructions along with the associated additional maintenance for these components. Industry believes that the operational risks introduced outweigh the rewards of this additional emergency functionality.
- The requirement to test BOPs under the most extreme conditions is neither practical nor safe to perform. This raises concern with BSEE's focus on worst case events rather than early detection and prevention.
- The Mechanical Integrity Assessment Report is an unnecessary administrative burden with no tangible risk reducing impact since the same requirements exist in the regulations that require an APD and a SEMS.
- In cases where provisions in the proposed rule could realistically be implemented, the timeframe provided is unrealistic, effectively creating a drilling moratorium in the interim. This is because the proposed compliance timeframe of three months after publication of the final rule includes requirements for new equipment that cannot feasibly be manufactured, procured and installed in so short a time. In addition, operators and contractors may need to re-engineer drilling rigs to accommodate new equipment.
- The proposed regulation would place additional administrative burdens on BSEE while the agency is already struggling with tight budgets and limited resources resulting in a "just-in-time" permitting environment.

In addition to the topics listed above, the vast difference between the BSEE economic analysis of this proposed rule and the third party and Industry analyses must be resolved. BSEE estimated the 10-year incremental cost of the rule at approximately \$883 million. An independent cost assessment performed by Blade Energy Partners (Blade) and Quest Offshore (Quest) estimated cumulative 10-year costs at approximately \$32 billion. The Quest/Blade economic assessment of the proposed rule on Gulf of Mexico development projected:

- a reduction of the number of wells drilled per year by an average of 26%;
- a reduction of capital investment in the Gulf by an average of 10% per year;
- reduced Gulf of Mexico oil and natural gas production of 0.5 million barrels of oil equivalent by 2030;
- a reduction of the total employment supported by Gulf development of over 50 thousand jobs by as early as 2027;
- a ten-year cumulative reduction of US GDP by \$27 billion; and
- a ten-year cumulative loss of government revenue of \$10 billion.

We also encourage BSEE to closely examine the use of absolute language used throughout the proposed rule such as the use of words like “any” and “all” which can create unintended burden and confusion during implementation due to varying interpretations.

The Industry appreciates the opportunity to continue to discuss our concerns with BSEE. Further engagement should be the most efficient method of developing final regulations and address the existing fundamental technical and economic flaws in the proposed rule, and allow constructive development of rules that promote safety and protection of the environment, as well as, economic growth, innovation, competitiveness and job creation.

ADDITIONAL REGULATIONS RELATED TO OFFSHORE OIL and GAS PRODUCITON

In addition to the well control rule, there are other regulations and policy matters that BOEM and BSEE are contemplating that could impact companies’ OCS operations. In particular, pending changes to air quality regulations and to the criteria used to assess a company’s financial capability to meet its OCS lease obligations have the potential to impose potentially unnecessary additional burdens on industry.

Regarding the pending changes to OCS air regulations, the authority provided to DOI via the OCS Lands Act to implement air quality regulations has limited focus and the proposed rule should be consistent with the limited authority provided to DOI by Congress. While it may be appropriate to revise the current BOEM air quality regulatory program to reflect current NAAQS promulgated by USEPA for onshore areas, an expanded air quality regulation (e.g., new monitoring/reporting

requirements, lower exemption thresholds, grouping of emission sources, etc.) is not warranted to assure offshore sources do not have a significant impact on onshore air quality. BOEM is proceeding with this rulemaking prior to the conclusion of ongoing modeling studies intended to better understand whether any additional emission control for offshore operations are warranted. BOEM should delay any regulatory amendments to reflect the conclusions from these studies

In terms of the proposed changes to criteria to determine the financial ability of companies to carry out their obligations on leases, rights-of-way (ROWs), and rights-of-way and easements (RUEs) issued on the Outer Continental Shelf (OCS), BOEM and industry have been working closely on these changes and BOEM has embraced many of industry's recommendations. However, we remain concerned that BOEM has not provided a clear definition of the problem that the agency is trying to solve nor has there been justification provided as to the need for major changes the existing regulatory framework. Any changes should be designed so as not to undermine the current framework that encourages prudent operations or to introduce unintended and unnecessary consequences. Some of the changes BOEM is contemplating provide another example of BOEM's practice of creating new binding requirements outside the rulemaking procedures of the Administrative Procedure Act (APA). In addition, BOEM has failed to recognize the tremendous burden the changes being contemplated will have on the offshore oil and natural gas and surety industries. One company estimates that the proposed changes could increase their compliance costs by up to \$20 million annually. We believe that under Executive Order 12866, any NTL including the proposed criteria would be an "economically significant regulatory action" that the Office of Information and Regulatory Affairs (OIRA) is required to review and that BOEM must provide OIRA with an assessment of benefits, costs, and alternatives. Also, given the potential that BOEM's implementation of the criteria could disrupt current production levels should lessees fail to timely comply with the new BOEM guidance, under Executive Order 13211, any NTL containing the criteria could be considered a "significant energy action," therefore triggering BOEM's obligation to also provide OIRA with a statement regarding adverse effects on energy supply and alternatives.

The DOI's Office of Natural Resource Revenue has also published a proposed Royalty Valuation Rule entitled "Consolidated Federal Oil & Gas and Federal &

Indian Coal Valuation Reform” which redefines “gathering” for offshore operations. The new definition reverses historical treatment of all subsea movement of bulk production as “transportation” (an allowable deduction) and now considers it “gathering” (not an allowable deduction), ignoring relevant facts such as the long distances traveled and the relative paucity of deepwater surface facilities. It could potentially promote more deepwater structures at significant wasted cost and accompanying risk.

CONCLUSION

Safety is a core value for the oil and natural gas industry. We are committed to safe operations and support effective regulations related to offshore oil and natural gas exploration and production, working together we can develop practical final rules that are ultimately both feasible and effective.

Appendix A

SUMMARY OF JITFs

Joint Industry Offshore Operating Procedures Task Force

The Procedures JITF reviewed critical processes associated with drilling and completing deepwater wells to identify gaps between existing practices and regulations and Industry best practices. Their recommendations focused on the following five areas: cementing; loads and resistance; fluid displacement and negative testing; abandonment and barriers; and safety case. Their recommendations were intended to move Industry standards to a higher level of safety and operational performance and resulted in either revision or new development of API guidelines, which are considered Industry best practices for global oil and gas operations.

Joint Industry Offshore Equipment Taskforce

The Equipment JITF reviewed current BOP equipment designs, testing protocols and documentation. Their recommendations were designed to close any gaps or capture improvements in these areas and focused on: safety case regime; a robust management of change (MOC) process; accessing shear data; remotely operated vehicle (ROV) interface; and acoustic reliability. After submitting its recommendations, the Equipment JITF formed three subgroups to evaluate information regarding BOP shearing capabilities, BOP acoustics systems, and BOP/ROV interface. These subgroups each produced white papers regarding their topics in January of 2011.

Joint Industry Subsea Well Control and Containment Task Force

The Subsea JITF reviewed technologies and practices for controlling the release of oil from the source of a subsea well where there has been a loss of control. These include equipment designs, testing protocols, research and development (R&D), regulations and documentation to determine if enhancements were needed. The JITF identified five key areas of focus for GOM deepwater operations:

- Well containment at the seafloor;
- Intervention and containment within the subsea well;
- Subsea collection and surface processing and storage;
- Continuing R&D; and
- Relief wells.

The Subsea JITF focused primarily on potential operational scenarios after a well blowout has occurred. Consideration was also given to containment of hydrocarbons that may leak from subsea production system equipment (e.g. subsea production well) and casing stubs at the seafloor. The task force did not review blowout preventers (BOPs), Emergency Disconnect Systems (EDS), autoshear systems, deadman systems, or ROV/BOP interfaces (pumps and hot stab). These items were reviewed under the Equipment JITF.

The Subsea JITF developed 29 recommendations on specific steps to enhance the Industry's subsea control and containment capability, including 15 immediate action items.

One of the first recommendations implemented was to provide near-term response capability for well containment. This was achieved through the establishment of collaborative containment companies such as Marine Well Containment Company (MWCC) and HWCG, LLC founded in 2010 to provide containment technology and response for the unique challenges of capping a well. These companies develop and operate quickly deployed systems that are able to stem the uncontrolled flow from a well either by sealing it or directing it into storage vessels on the surface. More information on these companies can be found at <http://www.marinewellcontainment.com> and <http://www.hwcg.org>.

Joint Industry Oil Spill Preparedness and Response Task Force

<http://oilspillprevention.org/oil-spill-research-and-development-cente>

The OSPR JITF was formed to review the industry's ability and capacity to respond to an oil spill of national significance. The task force addressed both the preparedness for response and the actual response to crude oil or related oil products after they have escaped containment during Exploration & Production activities and entered into the surrounding environments (e.g. sub-sea, surface, shoreline, etc.).

Following the September 3, 2010, OSPR JITF preliminary recommendations report, the API Oil Spill Preparedness and Response Subcommittee (OSPRS) convened to address the recommendations made by the JITF. The OSPRS was tasked with leading Industry efforts to develop and implement plans that

addressed the report recommendations while staying abreast of related initiatives. The OSPRS has maintained and enhanced collaboration with international organizations (e.g., International Association of Oil and Gas Producers-Global Industry Response Group (IOGP-GIRG) and the Arctic Response Technology Joint Industry Program (JIP)), well containment companies, Oil Spill Response Organizations (OSROs), and academic institutions such as Coastal Response Research Center (CRRRC) and the Gulf of Mexico Research Initiative (GOMRI). The subcommittee also reviewed and commented on emerging materials related to oil spill response, such as the Presidential Commission Findings, Incident Specific Preparedness Review, draft NRT subsea dispersant guidance, BOEM/BSEE planning guidance, and a number of scientific reports (e.g., Operational Science Advisory Team Report).

The OSPRS spent several months developing and prioritizing project plans to address each preliminary recommendation, and subsequently received approval and Industry funding commitment for a multi-year work program. The OSPRS divided the recommendations into seven categories, or work streams, as outlined in the original report, specifically:

- Planning
- Dispersants
- Shoreline Protection and Cleanup
- Oil Sensing and Tracking
- In-Situ Burning
- Mechanical Recovery
- Alternative Technologies

Within each category there are a number of projects being worked by individual project teams. These individual project teams are led by a member of the OSPRS. The teams have developed scoping documents and project plans complete with milestones and are in the process of implementation. In some cases projects have endorsed budgets for one or more years to allow access to contractors/consultants or other support services to complete studies, research, workshops, etc.

These projects involved collaboration among Industry, government, and academia. Some project teams are carrying out large-scale research studies while

other teams have assumed a monitoring and engagement role if similar initiatives are being conducted by other entities (such as the Federal government).

API and the oil and natural gas industry have established a robust oil spill response research and development program that oversees more than 25 projects in the eight areas previously outlined (planning, mechanical recovery, dispersants, in situ burning, remote sensing, shoreline protection, alternative technologies). While a great deal of attention continues to be given to offshore incidents, further focus is also being directed towards near-shore and inland spill response, and industry continues to engage with Federal stakeholders, science and the academic community on these areas of focus.

Based on the assessment conducted immediately after the Macondo incident, a number of publically available reports and guidance documents have also been created, including:

- Spill Response Planning:
 - API Training and Exercise Guidelines
 - Guidelines for Offshore Oil Spill Response Plans
 - Personal Protective Equipment Selection for Oil Spill Responders
 - Net Environmental Benefit Analysis (NEBA) Graphical Briefing
- Oil Sensing & Tracking
- Remote Sensing Planning Guidance
- Dispersants:
 - Dispersants Fact Sheet 1 - Introduction to Dispersants
 - Dispersants Fact Sheet 2 - Dispersants and Human Health and Safety
 - Dispersants Fact Sheet 3 - Fate of Oil and Weathering
 - Dispersants Fact Sheet 4 - Toxicity and Dispersants
 - Dispersants Fact Sheet 5 - Dispersant Use Approvals in the United States
 - Dispersants Fact Sheet 6 - Trade Offs
 - Dispersants Fact Sheet 7 - Aerial Vessel
 - Dispersants Fact Sheet 8 – Subsea and Point Source Dispersant Operations
 - Dispersant Fact Sheet 9 – Dispersant Use & Regulation Timeline
 - Dispersant Fact Sheet 10 – Dispersant Use in the Arctic Environment
 - Industry Recommended Subsea Dispersant Monitoring Plan
 - API JITF Subsea Dispersants Injection Newsletters

- The Role of Dispersants in Oil Spill Response
- SINTEF Dispersants Effectiveness Report – Phase I
- SINTEF Dispersants Effectiveness Report – Phase II
- Aerial and Vessel Dispersant Preparedness and Operations Guide, API Technical Report 1148
- In-Situ Burning
 - Field Operations Guide for In-situ Burning of Inland Oil Spills, API Technical Report 1251
 - Field Operations Guide for In-situ Burning of On-Water Oil Spills, API Technical Report 1252
- Mechanical Recovery
- Deepwater Horizon Mechanical Recovery System Evaluation Technical Report 1143
- Shoreline Protection:
 - Oil Spills in Marshes
 - Subsurface Oil Detection Report
 - Subsurface Oil Detection Field Guide
 - Subsurface Oil Detection and Delineation in Shoreline Sediments Phase 2 — Final Report
 - Shoreline Protection on Sand Beaches (aka Berms and Barriers) Report
 - Shoreline Protection on Sand Beaches (aka Berms and Barriers) Guide
 - Mechanized Cleanup of Sand Beaches Report
 - Tidal Inlet Protection Strategies (TIPS) Report
 - Biodegradation & Bioremediation on Sand Beaches Report
- Alternative Response Technologies
- Evaluation of Alternative Response Technology Evaluation (ARTES) Technical Report 1142
- Educational Media: Dispersants Role in Biodegradation Video; Net Environmental Benefit Analysis Instructional Video; Principles of Oil Spill Prevention and Response Instructional Video
- Spill Prevention YouTube Channel
- OilSpillPrevention.org Website
- Guidance on the creation of offshore oil spill response plans
- An evaluation of the mechanical recovery systems used at sea during the Macondo incident

- A report (and associated field guide) for spills on sand beaches and shoreline sediments, including protection techniques and detection and response capabilities
- An evaluation of the process by which alternative technologies are reviewed for use during an oil spill

The industry has also invested in two international oil spill preparedness and response programs focused on improving industry operational capabilities in all parts of the world including the Arctic. These two programs are coordinated with API's activities, and together, they represent a comprehensive, global approach to continued advancements in oil spill preparedness and response. A newsletter providing periodic updates on these activities can be found at <http://www.api.org/environment-health-and-safety/clean-water/oil-spill-prevention-and-response/api-jitf-subsea-dispersant-injection-newsletter>

The full suite of industry reports and recommendations are available at <http://www.api.org/oil-and-natural-gas-overview/exploration-and-production/offshore/api-joint-industry-task-force-reports>.

PREVENTION: INDUSTRY STANDARDS

Reviewing and improving industry standards has always been a top priority. Since 1924, API has been the leader in developing industry standards that promote reliability and safety through the use of proven engineering practices. The API standards process is accredited by the American National Standards Institute (ANSI), which is the standards authority here in the United States and accredits similar programs at several national laboratories. As part of API's accredited process all API standards are reviewed on a regular basis to ensure they remain current. API standards are developed in an open and transparent process which includes subject matter experts from Academia, Government and Industry and are the most widely cited oil industry standards by Federal, State, and International Regulators.

API has approximately 275 exploration and production standards that address offshore operations, covering everything from blowout preventers to comprehensive guidelines for offshore safety programs, and more than 100 have been incorporated into federal regulation. Since 2010 API has published over 100

new and revised exploration and production standards; key standards include the following:

New Documents:

- RP 96, *Deepwater Well Design and Construction*, 1st Edition, March 2013
In June 2010, an API work team held a kick-off meeting to outline initial content for the new API RP 96. This document provides well design and operational considerations to safely design and construct deepwater wells with maximum reliability. There was coordination with the Subsea JITF and the API Standard 53 workgroup to ensure their recommendations were addressed in the document as well.
- Bulletin 97, *Well Construction Interface Guidelines*, 1st Edition, April 2011
In July 2010, the Procedures JITF held a kick-off meeting to outline initial content for Bulletin 97. Bulletin 97 provides guidance on information that is to be shared regarding well construction and rig-specific operating guidelines. It is intended to align the lease operator's safety and environmental management system (SEMS) with drilling contractor's safe work practices (CSWP). The WCID-SEMS is a bridging document that includes the elements identified in API 75 within the context of well construction activities. It is understood that work processes vary between operators and contractors, which should be honored in the development of the WCID document.
- Specification Q2, *Quality Management System Requirements for Service Supply Organizations for the Petroleum and Natural Gas Industries*, 1st Edition, December 2011
- RP 17W, *Subsea Capping Stacks*, 1st Edition, July 2014
In August 2011 a workgroup was formed to create a new document on subsea capping stack recommended practices for design, manufacture, and use. The document applies to the construction of new subsea capping stacks and can be used to improve existing subsea capping stacks. The document can aid in generating a basis of design (BOD) document as well as preservation, transportation, maintenance, testing documents, and operating instructions.
- TR 17TR8, *High-temperature, High-pressure Design Guidelines*, 1st Edition, February 2015

This technical report is to provide design guidelines for oil and natural gas subsea equipment utilized in high-pressure high-temperature (HPHT) environments.

- RP 17V, Recommended Practice for Analysis, Design, Installation, and Testing of Safety Systems for Subsea Applications, 1st Edition, February 2015
- RP 98, Personal Protective Equipment Selection for Oil Spill Responders, 1st Edition, August 2013

This RP was developed from a recommendation of the OSPRS and provides general information and guidance for the development of oil spill responder personal protective equipment (PPE) control measures. Although an extensive amount of information has been developed on the topic of PPE for emergency responders, this document focuses on the PPE selection process as well as its technical evaluation based on the hazards present.

- TR 1PER15K-1, Protocol for Verification and Validation of High-Pressure and High-Temperature Equipment, 1st Edition, March 2013

This report focuses on an evaluation process for HPHT equipment in the petroleum and natural gas industries which includes design verification analysis, design validation, material selection considerations, and manufacturing process controls necessary to ensure the equipment is fit-for-service in the applicable HPHT environment.

- RP 2SIM, Structural Integrity Management of Fixed Offshore Structures, 1st Edition, June 2013

Revised documents:

- Standard 53, Blowout Prevention Equipment Systems for Drilling Wells, 4th Edition, November 2012

Based on the Equipment task force's recommendations, an API work team began development on the fourth edition of API RP 53. The purpose of the document is to provide requirements on the installation and testing of blowout prevention equipment systems on land and marine drilling rigs (barge, platform, bottom-supported, and floating). The fourth edition was updated to a Standard.

- Standard 65-2, Isolating Potential Flow Zones During Well Construction, 2nd Edition, December 2010

API Recommended Practice (RP) 65—Part 2 was first published in May 2010. API then revised the document based on 1) lessons learned from

the Macondo incident; and 2) alignment with the planned Deepwater Well Design and Construction RP (discussed below). The revisions resulted in the API RP becoming API Standard 65-Part 2, second edition. The document contains best practices for zone isolation in wells to prevent annular pressure and/or flow through or past pressure-containment barriers that are installed and verified during well construction. Well construction practices that may affect barrier sealing performance are mentioned along with methods to help ensure positive effects or to minimize any negative ones.

- RP 17H, Remotely Operated Tools and Interfaces on Subsea Production Systems, 2nd Edition, November 2014

Based on recommendations from the Equipment JITF the first edition of API 17H was revised. The second edition provides recommendations for development and design of remotely operated subsea tools and interfaces on subsea production systems in order to maximize the potential of standardizing equipment and design principles.

- Specification Q1, Quality Management System Requirements for Manufacturing Organizations for the Petroleum and Natural Gas Industry, 9th Edition, June 2013
- Specification 14A, Subsurface Safety Valve Equipment, 12th Edition, January 2015
- Specification 16C, Choke and Kill Systems, 2nd Edition, March 2015

Standards under development:

- Specification 16A, Specification for Drill-through Equipment , 4th Edition
- Standard 16AR, Repair and Remanufacture of Blowout Prevention Equipment, 1st Edition
- Specification 16D, Control Systems for Drilling Well Control Equipment and Control Systems for Diverter Equipment, 3rd Edition
- Specification 16F, Specification for Marine Drilling Riser Equipment, 2nd Edition
- Recommended Practice 16Q, Design, Selection, Operation and Maintenance of Marine Drilling Riser Systems, 2nd Edition
- Specification 16R, Marine Drilling Riser Couplings, 2nd Edition
- Specification 16RCD, Drill Through Equipment - Rotating Control Devices, 2nd Edition
- Recommended Practice 16ST, Coiled Tubing Well Control Equipment Systems, 2nd

- Recommended Practice 64, Recommended Practice for Diverter Systems Equipment and Operations, 3rd Edition
- Recommended Practice 75, Recommended Practice for Development of a Safety and Environmental Management Program for Offshore Operations and Facilities, 4th Edition
- 18 Life Cycle Management, 1st Edition

Government-referenced and safety-related standards may be freely viewed online at <http://publications.api.org>.

SUMMARY

The Macondo incident was a tragedy that cost eleven lives, and as a result, was a call to action to industry to identify and develop multiple improvements in offshore equipment, operations, well design, well control equipment targeted at prevention and containment and new procedures and tools for responding to oil spills. These activities have created a model safety program in the GOM and beyond for well operations crews and the environment. Active participation from and coordination with the public sector, academia, and other stakeholders has been fundamental to turning initial recommendations into genuine plans of action and enhanced safety guidelines. As always, standards and best practices will continue to be reviewed on an ongoing basis in order to protect the environment and promote the safe and responsible development of energy sources that help fuel the American economy.

The oil and natural gas industry and the federal government have together taken great strides to protect workers and the environment and to improve the safety of offshore drilling operations. As the co-chairs of the President's spill commission said in 2014, offshore drilling is safer than it was five years ago. The industry has placed a particular focus on increasing its ability to 1) prevent spills from occurring, 2) intervene to halt any spill that does occur, and 3) respond to spills with the most effective mitigation measures possible.

The industry stands committed to safe and environmentally responsible development.