



U. S. Chemical Safety and Hazard Investigation Board RECOMMENDATION STATUS CHANGE SUMMARY

Report:	Macondo Blowout and Explosion
Recommendation Number:	2010-10-I-OS-R5
Date Issued:	April 17, 2016
Recipient:	American Petroleum Institute (API)
New Status:	Open – Acceptable Response or Alternative Response
Date of Status Change:	July 27, 2022

Recommendation Text:

Based on the analysis presented in the CSB Macondo investigation report, Volumes 3 and 4, and the requirements listed in R11, revise Recommended Practice 75, Development of a Safety and Environmental Management Program for Offshore Operations and Facilities, 3rd ed., May 2004 (reaffirmed May 2008), to require a specific focus on major accident prevention and address the following issues:

- a) *Incorporate the following listed safety management system issues as explicit program elements and include language throughout API 75 regarding each element's explicit and defined applicability to all of the other existing program elements:*
 - 1) *Human factors program requirements for the design, planning, execution, management, assessment, and decommissioning of well operations for the prevention of major accidents, as well as in the investigation of accidents and near-misses;*
 - 2) *Corporate governance and Board of Director responsibilities for major accident risk management;*
 - 3) *Workforce involvement and engagement in all aspects of the SEMS program;*
 - 4) *Contractor oversight and effective coordination for major accident prevention; and*
 - 5) *Leading and lagging key performance indicators that drive major accident prevention*
- b) *Define and expand the roles and responsibilities for major accident prevention among the primary parties engaged in offshore drilling and production (i.e., the leaseholder/operator and owner/drilling contractor) by expanding applicability of this standard to the parties with primary control over major hazard operations and day-to-day activities and thus best positioned to implement and oversee a safety and environmental management system (SEMS) program to control major accident hazards*
- c) *Incorporate into the Principles section of the document, as well as within the Setting Objectives and Goals section, as overarching provisions for the overall successful implementation and execution of a SEMS program:*
 - 1) *Management of major accident risk to As Low As Reasonably Practicable, or similar risk reduction target;*
 - 2) *Use the hierarchy of controls for identifying, establishing, and implementing barriers meant to prevent or mitigate major accident hazards*

Board Status Change Decision:

A. Rationale for Recommendation

On April 20, 2010, a multiple-fatality incident occurred at the Macondo oil well approximately 50 miles off the coast of Louisiana in the Gulf of Mexico during temporary well-abandonment activities on the Deepwater Horizon (DWH) drilling rig. Control of the well was lost, resulting in a blowout; the uncontrolled release of oil and gas (hydrocarbons) from the well. On the rig, the hydrocarbons found an ignition source. The resulting explosions and fire led to the deaths of 11 individuals; serious physical injuries to 17 others¹; the evacuation of 115 individuals from the rig; the sinking of the Deepwater Horizon; and massive marine and coastal damage from approximately 4 million barrels of released hydrocarbons.

As a part of its investigation, the U.S. Chemical Safety and Hazard Investigation Board (CSB) examined in detail the provisions contained in the American Petroleum Institute (API) *Recommended Practice for Development of a Safety and Environmental Management Program for Offshore Operations and Facilities* (API 75), which was reaffirmed in 2008 and 2013 but has not been updated since 2004. API 75 is incorporated by reference in the U.S. Department of Interior, Bureau of Safety and Environmental Enforcement's (BSEE) Safety and Environmental Management System (SEMS) regulation. CSB's analysis of API 75 revealed that it lacked sufficient guidance in the following areas:

- Human factors program requirements for the design, planning, execution, management, assessment, and decommissioning of well operations for the prevention of major accidents, as well as in the investigation of accidents and near-misses
- Incorporation of the hierarchy-of-controls principle for identifying, establishing and implementing barriers meant to prevent or mitigate major accident hazards
- Corporate governance and Board of Director responsibilities for major accident risk management
- Workforce involvement and engagement in all aspects of the SEMS program
- Leading and lagging key performance indicators that drive major accident prevention
- Contractor oversight and effective coordination for major accident prevention
- Expanded and defined roles and responsibilities for major accident prevention among the primary parties engaged in offshore drilling and production (i.e., the leaseholder/operator and owner/drilling contractor) who, depending on the well operations, will have primary control over major hazard operations and day-to-day activities and thus best positioned to implement and oversee a SEMS program to control major accident hazards

¹ The injury numbers presented here match those reported to the US Coast Guard as required by 33 C.F.R. § 146.30 on form CG-2692 Report of Marine Accident, Injury or Death. The 17 physical injuries represented here reflect the individuals that received immediate hospitalization as a result of the incident.

The actual number of injured from the Macondo incident is somewhat ambiguous, as a number of additional individuals sought medical treatments in the weeks following the blowout. In December 2014, Transocean noted 63 bodily injury claims pending in the state and federal courts in Louisiana and Texas. [Form 10-K Annual Report, 2014, pp 100, <http://phx.corporateir.net/External.File?item=UGFyZW50SUQ9NTcxMDc3fENoaWxkSUQ9MjcyMzk1fFR5cGU9MQ==&t=1> (accessed March 26, 2016)]

- Incorporation of an over-arching principle of managing major accident risk to as low as reasonably practical (ALARP or a similar) for all elements of a SEMS program

As API is actively engaged in developing industry standards for the offshore industry in the United States, the Board voted to issue the above recommendation to API.

B. Response to the Recommendation

In February of 2020, API informed the CSB that in December 2019 API published the 4th edition of RP 75, *Recommended Practice for a Safety and Environmental Management System for Offshore Operations and Assets*. In its response, API explained how the fourth edition of API 75 attempted to satisfy the elements of the CSB recommendation

CSB obtained and reviewed the fourth edition of API 75 to verify the information provided in API's response.

C. Board Analysis and Decision

The Board determined that the fourth edition of API 75 satisfied three of the recommendation's elements: (a)(3) workforce involvement; (a)(4) contractor oversight; and (b) roles and responsibilities. The Board recognized the enormous undertaking to revise API 75 and noted that it in a relatively short time it was significantly improved, however the following five elements did not meet the intent of the CSB recommendation: (a)(1) human factors; (a)(2) corporate governance; (a)(5) leading and lagging indicators; (c)(1) ALARP/risk reduction target; and (c)(2) hierarchy of controls for barriers;

Consequently, the Board voted to change the status of CSB Recommendation No. 2010-10-I-OS-R5 to "Open-Acceptable Response/Alternative Response" and directed the Office of Recommendations to communicate to API the additional actions that need to be taken that will result in the acceptable closure of this recommendation by the Board.