

**UNITED STATES OF AMERICA
DEPARTMENT OF HOMELAND SECURITY
DEPARTMENT OF THE INTERIOR
JOINT INVESTIGATION CONDUCTED BY
UNITED STATES COAST GUARD AND
BUREAU OF OCEAN ENERGY MANAGEMENT, REGULATION AND
ENFORCEMENT**

**In the Matter of the Fire & Explosion on the
*Deepwater Horizon***

**RESPONSE TO COAST GUARD DRAFT REPORT BY TRANSOCEAN OFFSHORE
DEEPWATER DRILLING INC. AND TRANSOCEAN HOLDINGS LLC**

Dated: June 8, 2011

Respectfully submitted:

Sutherland Asbill & Brennan LLP

/s/ Steven Roberts

Steven Roberts (Texas Bar #17019300)
Rachel Clingman (Texas Bar #00784125)
1001 Fannin Street, Suite 3700
Houston, Texas 77002-6760
Telephone: (713) 470-6192
Facsimile: (713) 654-1301

Brad D. Brian (California Bar #79001)
Munger, Tolles & Olson LLP
355 South Grand Avenue
Los Angeles, CA 90071
Telephone: (213) 683-9280
Facsimile: (213) 683-5180

Edwin G. Preis, Jr. (Louisiana Bar #10703)
Richard J. Hymel (Louisiana Bar #20230)
Preis & Roy PLC
601 Poydras Street, Suite 1700
New Orleans, Louisiana 70130
Telephone: (504) 581-6062
Facsimile: (504) 522-9129

David G. Dickman (DC Bar #465010)
Venable LLP
575 7th Street, NW,
Washington, DC 20004
Telephone: (202) 344-8026
Facsimile: (202) 344-8300

John Kinchen (Texas Bar #00791027)
Hughes Arrell Kinchen LLP
2211 Norfolk, Suite 1110
Houston, Texas 77098
Telephone: (713) 403-2064
Facsimile: (713) 583-8877

Counsel for Transocean Offshore Deepwater Drilling Inc. and Transocean Holdings LLC

TABLE OF CONTENTS

I.	EXECUTIVE SUMMARY	1
	A. SUMMARY OF KEY FACTUAL ERRORS IN THE DRAFT REPORT	3
	1. Ignition Did Not Result From Poorly Maintained Equipment	3
	2. The BOP Was Properly Maintained	3
	3. The Engines On The Rig Did Not “Fail” To Shut Down Upon Detection of Gas	4
	4. The General Alarm Did Not “Fail” To Operate Automatically	4
	B. A COMMENT ON THE BOARD’S PROCESSES	5
II.	THE PRINCIPAL OVERT FACTUAL ERRORS IN THE DRAFT REPORT	7
	A. BP’s Risky Decisions Produced A Massive Failure Of The Well Which Made Ignition Of The Hydrocarbons Inevitable	7
	B. The BOP Was Properly Maintained	10
	C. The Engine Shutdown System Worked As It Was Supposed To Work	16
	D. The Gas And Fire Alarm System Was Fully Functioning	18
III.	POINT-BY-POINT ANALYSIS OF ERRORS AND UNSUPPORTED “FINDINGS” IN DRAFT REPORT	22
IV.	CONCLUSION.....	109

I. EXECUTIVE SUMMARY

Transocean Offshore Deepwater Drilling Inc. and Transocean Holdings LLC (“Transocean”)¹ respectfully request that Volume 1 of the Draft Report of Investigation into the Circumstances Surrounding the Explosion, Fire, Sinking and Loss of Eleven Crew Members Aboard the MOBILE OFFSHORE DRILLING UNIT DEEPWATER HORIZON In the Gulf of Mexico April 20-22, 2010 (“Draft Report”) be revised. The Marine Safety Manual provides that a Report of Investigation (“ROI”) may be revised based on the following criteria:

- There are overt errors of fact in the ROI.
- There is reason to believe that evidence was presented to the Investigating Officer (“IO”) but not evaluated in the report.
- Credible new evidence has emerged which bears directly on conclusions in the ROI.
- Credible new analysis of the existing facts has emerged which bears directly on conclusions in the ROI.
- There is reason to believe that parties in interest (PIIs) were denied their participatory rights under 46 CFR 4.07.²

Transocean shares the United States Coast Guard’s goal of determining the cause of the tragic events of April 20-22 and, through what is learned, improving safety in the industry. The Joint Investigation Team (“JIT”) obviously expended considerable effort in hearing witnesses and compiling evidence over the last year. Nevertheless, the Draft Report is replete with overt

¹ Transocean Holdings LLC, the operator of the *Deepwater Horizon*, is a subsidiary of Transocean Offshore Deepwater Drilling Inc. which employs the onshore personnel who manage operation of Transocean’s rigs operating in the Gulf of Mexico.

²USCG, MSM, Vol. V, Pt. A, Ch. 7, §B.2 at A7-2, A7-3.

errors of fact and many instances in which evidence was presented to the IO but not evaluated in the Draft Report.

Creditable governmental and industry investigative reports should be based upon a thorough review of all evidence and the complete record. Findings, conclusions, opinions and recommendations made part of the report should be peer reviewable and based upon professional probabilities. This Draft Report fails in all of these basic requirements. The word “probable” is used once, whereas “may” is used 100 times, “could” is used 105 times, “possible” 41 times and “possibly” 4 times. In other words, lacking any evidentiary support, this Draft Report resorts to rank speculation unworthy of an investigation of this magnitude.

The errors in the Draft Report concern four fundamental issues -- source of ignition, maintenance of the blowout preventer (BOP), functioning of emergency shutdown systems, and functioning of alarms. Section II of this Brief addresses these four principal factual errors in greater detail. The chart comprising Section III analyzes and refutes unsupported factual “findings” in the Draft Report.

To the extent the Draft Report addresses the causes of the blowout of the Macondo well, Transocean already has submitted a comprehensive brief to the Bureau of Ocean Energy Management, Regulation and Enforcement (BOEMRE) discussing the events leading up to the blowout. A copy of that brief is attached as Exhibit A. The attached brief submitted to the BOEMRE also discusses Transocean’s commitment to safety, including its effective safety and training programs, its exemplary safety record, and the experience of the *Deepwater Horizon*’s crew. It also addresses the Lloyd’s Register Report on the vessel’s safety management and safety culture, as well as the ModuSpec Assessment of the *Deepwater Horizon*’s material and equipment condition (the “ModuSpec Report”). In many instances, the Draft Report draws

erroneous inferences purportedly based on the Lloyd's Register Report and the ModuSpec Report. The point-by-point chart that follows this Executive Summary discusses those errors in greater detail.

Transocean's commitment to safety is reflected by its company-wide safety management programs and the intensive training regimen required of all of its rig crews. The result of these measures is a safety culture that is strong and entrenched in the daily operations of Transocean's organization and in its employees, both onshore and offshore, as well as a safety record that has been acclaimed before the blowout by both the government and the oil and gas industry. Ultimately, the Draft Report does a disservice both to Transocean and to the Coast Guard by failing to recognize Transocean's safety record and the strong Safety Management System it reflects.

A. SUMMARY OF KEY FACTUAL ERRORS IN THE DRAFT REPORT

1. **Ignition did not result from poorly maintained equipment.** As other independent investigators have already determined, the enormous volume of gas that hit the rig "like a freight train" -- as a direct result of a well blowout that was caused by BP's risky, cost-saving decisions -- made ignition inevitable from any one of hundreds of properly functioning, well-maintained electrical devices. There is no evidentiary basis for concluding that equipment maintenance played any role whatsoever in causing the ignition of the huge gas cloud that was released onto the vessel.

2. **The BOP was properly maintained.** The *Deepwater Horizon* crew performed extensive and thorough maintenance on the BOP according to established protocols documented in Transocean's Subsea Equipment Philosophy. These protocols involved systematic, preventive, inspection-based maintenance that followed a regular schedule of testing, repair,

monitoring, and maintenance designed to keep the BOP in proper operating condition. The maintenance performed on the Horizon BOP, tailored to address the manner and environment in which the BOP was used, met or exceeded the standards set out by the Minerals Management Service (“MMS”), the American Petroleum Institute (“API”), and Cameron, the original equipment manufacturer. Any suggestion that the BOP was poorly maintained or that Transocean’s maintenance of the BOP contributed to the blowout is not supported by the evidence.

3. **The engines on the rig did not “fail” to shut down upon detection of gas.** The engines were *not designed* to shut down automatically upon the ingress of gas to the engine rooms. Transocean knows of no dynamically positioned rig that uses such an automated system; immediate and automatic shutdown of the dynamic positioning engines would set a rig adrift, risking irreparable damage to the BOP and/or disconnection at the well head, creating a needless environmental disaster. The engines were properly set to *remain in operation* until shut off by human operator or, in the absence of an opportunity for such intervention, until a predetermined and undesired speed was reached, in full compliance with international standards.

4. **The general alarm did not “fail” to operate automatically.** The general alarm was sounded *by human intervention* when gas sensors on the rig detected gas, and automatically sent alarm signals to the Dynamic Positioning Officer (“DPO”) on the bridge -- precisely as required by Coast Guard Navigation and Inspection (NVIC) Circular 2-89 and by international standards, which the Draft Report fails even to cite. The Coast Guard wisely and expressly forbids the use of a system that would automatically sound the general alarm upon activation of gas or smoke detectors. Such systems generate repeated false alarms, resulting both in needless injuries and, over time, failure to take the alarm seriously. A “manual” mode system is *not* “inhibited,” it is

engaged as required; and here, it worked as required: Because of the enormous quantity of gas released from the well when it blew out, the first explosion, the detection of gas by sensors, and the alarm signals sounding at the DPO's station all occurred almost simultaneously. Personnel on the bridge sounded the general alarm promptly; the alarm awoke crew members from their sleep; the crew reported immediately to evacuation stations. Eleven crew members died in the explosion; every one of the 115 survivors was successfully evacuated. This last fact is a testament to the training, skill, professionalism and courage of the *Deepwater Horizon* crew and Transocean's commitment to manning its rigs with qualified and trained crewmembers, and is a direct reflection of the safety culture aboard the vessel.

B. A COMMENT ON THE BOARD'S PROCESSES

When a report of this importance purports to reach conclusions and makes "findings" so at odds with the evidence, questions must be raised about the fact-finding process and whether an agenda, rather than evidence, served as the Report's foundation. While this Brief focuses on factual errors rather than on process, Transocean submits that a review of the record reveals numerous procedural errors that likely contributed to the Board's factual errors. For example, the JIT refused to allow PIIs to call all of the witnesses they requested to present their positions. For one of the hearings, Transocean requested approximately thirty witnesses. Of those thirty, the JIT called only three, without any explanation.³ In many instances, the JIT's record reflects unfair restriction on cross-examination,⁴ "evidence" that consists of hearsay upon hearsay,⁵ and

³JIT Transcript, Oct. 5, 2010 (AM Session) at 120:15- 121:13 (Transocean objection on the record to failure of JIT to allow parties in interest to "present evidence they want to present and present the positions they want to present and to address issues like Captain Nguyen has brought up," and noting that Transocean had requested over 30 witnesses for the week of hearings and received three.) Contrary to the MSM, there was no explanation or ruling on whether the witnesses or the nature of their testimony were irrelevant, immaterial or unduly repetitive. The MSM states that "[w]hen evidence is proposed by Parties in Interest, the presiding officer must note on the record their decision regarding the receiving of that evidence." USCG MSM, Vol. V, Pt. A, Ch. 5, § I.5.a.at A5-25.

⁴ The right to cross-examine witnesses was undermined by the JIT's failure to produce documents to PIIs. Typically documents pertaining to a given witness were provided by the JIT either the night before the witness appeared, or

questioning by some Board members that suggest a prosecutorial rather than a fact-finding mindset.⁶ The Draft Report even went so far as to add an alleged expert report, as an appendix, which no one had ever seen before.⁷ Indeed, the very fact that the Coast Guard issued the Draft Report prior to receiving closing briefs --in contrast to the procedure used by the BOEMRE panel members who requested closing briefs to consider before publishing their findings --is a serious procedural irregularity.⁸

even at times after the witness had testified. Production of voluminous materials the night before a witness was called did not allow for reasonable review of the material, and affected the right of PII's to cross-examine the witnesses. See *United States v. Holmes*, 722 F.2d 37, 41 (4th Cir. 1983) (noting that providing materials one day before trial began did not "afford[] a reasonable opportunity to examine and digest the documents").

⁵One example is the erroneous conclusion that the DWH crew "bypassed an automatic shutdown system designed to prevent flammable gas from reaching ignition sources." See Draft Report at 26. The Draft Report concludes that "the crew had set the positive pressure feature of the BOP control panel in a continuously bypassed condition to avoid unnecessary shutdown of the system." *Id.* This conclusion is based solely on the hearsay testimony of Mike Williams, the Chief Electronics Technician on the *Deepwater Horizon*, who testified he had been told by a fellow crew member, Mark Hay, that the purge system in the BOP panel on the *Deepwater Horizon* had been in "bypass" for five years and that the entire fleet ran the BOP panels in bypass. Mike Williams JIT Testimony, Jul. 23, 2010, at 39-42. This hearsay found its way into the Draft Report as the only authoritative evidence on the topic, even though Mark Hay in his testimony categorically denied having made these statements to Williams or anyone else. Mark Hay JIT Testimony, Aug. 25, 2010, at 218-219.

⁶For example, one of the key issues concerned maintenance of the BOP and whether the incorporation by reference of API 53 creates a time-based requirement or a recommended practice that a company can satisfy with alternative maintenance practices such as condition based maintenance. In his questioning in August 2010, the Coast Guard Chairman of the JIT indicated he had already decided the question:

The regulation incorporates by reference the regulation [API RP 53]. They call it incorporation by reference, so – and that means it becomes a requirement. Unless it's saying "I recommend you do this," it's saying, "Required," – it says, "Incorporated by reference." So the API-53 becomes a regulatory requirement. So that's why you were indicating if it's – "then we are in non-compliance."

JIT Transcript, Aug. 25, 2010 at 372:1-9.

⁷Appendix L to Draft Report.

⁸Nowhere in the Draft Report is it stated that it is **not** a final report. As a consequence, the media treated the Draft Report as if the findings, conclusions and recommendations constituted final Coast Guard action. This is contrary to Coast Guard policy, which clearly states that "ROIs by Marine Boards will be considered complete and may be released when Commandant has taken action, except to the extent they contain information related to national security." USCG, MSM, Vol. V, Pt. A, Ch. 8, §A.2 at A8-1 (emphasis added).

II. THE PRINCIPAL OVERT FACTUAL ERRORS IN THE DRAFT REPORT

A. BP's Risky Decisions Produced a Massive Failure of the Well which Made Ignition of the Hydrocarbons Inevitable.

The Presidential Commission determined that the well failed as a result of a series of risky, cost-saving decisions by BP -- decisions for which Transocean was neither responsible nor consulted.⁹ Having designed and executed a cement job that it should have known had a high risk of failing, BP then insisted upon a flawed test for well integrity and declared the ambiguous results of that flawed test a success. As noted above, Transocean recently briefed these issues in detail to the BOEMRE and a copy of its brief is attached (Exhibit A). On each of these points, Transocean is supported by the findings of the Presidential Commission.¹⁰ As the Commission summarized, each of BP's risky decisions compromised the barriers that would have prevented a blowout, "steadily depriving the rig crew of safeguards until the blowout was inevitable."¹¹

The Draft Report suggests that, while BP was responsible for the failure of the well, Transocean "may" be responsible for the fact that an enormous cloud of gas found a source of ignition. The Draft Report's speculative attempts to blame Transocean are overtly false. In the words of the Presidential Commission, as "substantial volumes of hydrocarbons" entered the riser and "rapidly expand[ed] upward toward the rig," a "flammable gas cloud started accumulating on the rig."¹² That gas was exposed to numerous sources of ignition because "[m]ost of the equipment on a drilling rig is *not classified to protect against ignition.*"¹³ As the

⁹See generally Transocean BOEMRE Brief.

¹⁰While Transocean agrees with many of the findings of the Presidential Commission, it has taken issue with some of its conclusions, as indicated in the Brief submitted to the BOEMRE (Exhibit A). Some of these concern issues where new evidence has come to light after the Presidential Commission issued its report.

¹¹Report to the President, *Deep Water: The Gulf Oil Disaster and the Future of Offshore Drilling*, National Commission on the BP *Deepwater Horizon* Oil Spill and Offshore Drilling (2011) ("Presidential Commission Report"), p. 115.

¹²Chief Counsel's Report, *Macondo: The Gulf Oil Disaster*, National Commission on the BP *Deepwater Horizon* Oil Spill and Offshore Drilling (2011) ("Chief Counsel's Report"), p. 196.

¹³*Id.* at p. 197.

Presidential Commission found, flammable gas “rocketing up the riser” and “expanding rapidly” made ignition and explosion “all but inevitable.”¹⁴

The testimony of the witnesses at the hearings was entirely consistent with these conclusions: Crane Operator Micah Sandell, for example, recalled that the mud coming out of the degasser was “so strong and so loud, that it just filled up the whole back deck with gassy smoke, and it was loud enough that it was like taking an air hose and sticking it up to your ear.”¹⁵ Chief Engineer Stephen Bertone similarly testified that the sound of the gas rising “progressively got louder” and “sounded like a freight train coming through my bedroom.”¹⁶ Even in the living quarters, approximately eighty feet away from the drill floor, Bertone said he “smelled some sort of a fuel as well as tasted it” when he opened his bedroom door after the first explosion.¹⁷ The force of the gas escaping the well has been compared to “a 550-ton freight train hitting the rig floor” as “a jet engine’s worth of gas” came “out of the rotary.”¹⁸

This massive, fast traveling cloud of gas could have been ignited by any one of hundreds of functional, properly maintained electrical devices. No one has been able to identify a source of ignition, and the Draft Report makes no effort to do so. The Draft Report offers nothing but baseless speculation: “[f]lammable gas *may* have been ignited by unguarded electrical equipment”;¹⁹ “[a]nother potential ignition source *could have been* temporary electrical circuits.”²⁰ There was no evidence of the use of such equipment on the Drill Floor or in any other classified area. In fact, flammable gas *may* have been ignited by appropriate electrical

¹⁴Presidential Commission Report, p. 114. *See also* National Academy of Engineering/National Research Council Interim Report on the Causes of the Deepwater Horizon Oil Spill, p. 4 (“[g]iven the large quantity of gas released onto the MODU and the limited wind conditions, ignition was most likely”).

¹⁵ Micah Sandell JIT Testimony, May 29, 2010, p. 10:18-22.

¹⁶ Stephen Bertone JIT Testimony, July 19, 2010, p. 34:23-25.

¹⁷*Id.* at p. 35:8-10.

¹⁸Presidential Commission Report, p. 114.

¹⁹ Draft Report, p. 7.

²⁰*Id.*

equipment anywhere on the rig, as well as numerous other sources recognized in the Draft Report.²¹

Unable to identify any improper electrical equipment actually in use in hazardous areas, the Draft Report resorts to speculation and conjecture: “[t]he Drill Floor had numerous mechanical components that *if not properly maintained might* have caused circumstance[s] where *excessive friction* was developed leading to *hot spots*.”²² In other words, there *might* have been some unidentified mechanical equipment on the Drill Floor that *might* have been so poorly maintained and that some unidentified parts on that unidentified equipment *might* have rubbed together so much they *might* have gotten red hot and *maybe* that’s what ignited the gas. Transocean respectfully submits that this is not a sound way to reach an investigative “conclusion.” There was no evidence of any such equipment in use on the Drill Floor, no evidence of lack of maintenance of equipment on the Drill Floor, and no evidence that the rig crew was working in utter oblivion to red hot sources of ignition. The Draft Report’s conjecture and groundless speculation does nothing but malign the rig crew--experienced men who died battling a blowout created by BP’s risky decision-making.

²¹ The Draft Report states that other possible ignition sources include: the main engines; switchgear room electrical equipment; temporary electrical circuits (although there is no evidence that such temporary electrical circuits existed); mechanical sources; an electrostatic discharge from the well head; and, if the flammable gas cloud dispersed beyond the hazardous area on the rig (there is significant evidence in the Draft Report that it did), then there were “an untold number of ignition sources.” *Id.* at 7-8.

²²*Id.*

B. The BOP was Properly Maintained.

The Draft Report makes unsupported and unfounded statements regarding Transocean's maintenance of the BOP. The Draft Report asserts that the *Deepwater Horizon's* BOP was poorly maintained and not in compliance with the ISM Code. More specifically, the Draft Report contends that Transocean violated the ISM Code requirement that a vessel's maintenance conform to "relevant rules and regulations," which according to the Draft Report require a recertification of the BOP every three to five years.²³ Any assertion that the *Horizon* BOP was poorly maintained or in violation of any applicable regulations is flatly wrong.

As an initial matter, the Draft Report cites no evidence showing that the BOP was not functioning properly on April 20. Instead, claiming that the BOP was poorly maintained, the Draft Report ignores records showing that the *Deepwater Horizon* crew performed extensive maintenance on the BOP. Records kept in Transocean's Rig Management System ("RMS") show that before the BOP was splashed at Macondo, the crew performed full function tests on both BOP pods; checked all hoses for leaks; performed EDS drills and tested the data logger; performed a low pressure unlock test on the lower marine riser package ("LMRP") connector; cleaned the BOP with a high-pressure wand; opened and inspected the BOP rams and replaced all rubber goods; performed an operator test to 3000 psi on all bonnets, inspected the stack bore for key seating; changed the rubber elements in both annulars; inspected and changed the gaskets in the mini connectors; and a host of other maintenance and inspection tasks.²⁴ The RMS records further document thorough and systematic maintenance performed on the BOP on a

²³ Draft Report, p. 94.

²⁴ RMS records (TRN-MDL-00308270; TRN-MDL-00308273-74; TRN-MDL-00308276-77; TRN-MDL-00308281-82; TRN-MDL-00308284).

regular basis, including rebuilding the lower and upper annulars in 2007;²⁵ refurbishing the yellow and blue pods in 2008 and 2009, respectively;²⁶ replacing the LMRP accumulator in 2009;²⁷ replacing the blind shear ram bonnets in 2007;²⁸ replacing the supershear bonnets in 2009;²⁹ and replacing a variety of hoses in 2008, 2009, and 2010.³⁰ The *Deepwater Horizon* BOP also had several Cameron certificates of compliance issued between 2005 and 2009, certifying parts such as the wellhead connector, the mini choke and kill connector, the super shear bonnets, the blind shear ram bonnets, and the variable bore ram.³¹

Contrary to the Draft Report's conclusory assertions of poor maintenance, the *Deepwater Horizon's* BOP was monitored, maintained, tested, repaired, and inspected on a regular and systematic basis in accordance with Transocean's Subsea Maintenance Philosophy.³² The BOP maintenance protocols outlined in this Philosophy are comprehensive, calling for regular preventive maintenance and testing keyed to each stage in the BOP's deployment.³³ Under the standards established in the Philosophy, crews perform a wide range of preventive maintenance tasks on rig moves; full function and pressure testing before the BOP is deployed in a new location; seabed function testing whenever the stack is pulled; and auxiliary line maintenance

²⁵ Exhibit 2088 to Kris Millsap MDL Deposition (TRN-MDL-00302302, 302409); DAR Consolidation Report (TRN-USCG_MMS_00059500-59501); BP-HZN-2179MDL00331805 – 332030.

²⁶ Cameron Daily Report (CAM_CIV_0011343 - 11345).

²⁷ DAR Consolidation Report (TRN-USCG_MMS-00059345).

²⁸ Cameron Daily Report (CAM_CIV_0011289); Cameron Summary of Work Report (CAM_CIV_0011285); Cameron Daily Report (CAM_CIV_0011287); Exhibits 2094 (CAM_CIV_0013074) and 2095 (CAM_CIV_0013008) to Kris Millsap MDL Deposition.

²⁹ Exhibits 2086 (CAM_CIV_0012905) and 2087 (CAM_CIV_0012927) to Kris Millsap MDL Deposition; Cameron Certificate of Compliance (CAM_CIV_0119265 – 119266); Cameron Certificate of Compliance (CAM_CIV_0012879).

³⁰ DAR Consolidation Report (TRN-USCG_MMS-00059527; TRN-USCG_MMS-00059540; TRN-USCG_MMS-00059542; TRN-USCG_MMS-00059567).

³¹ Cameron Certificates of Compliance (Cam_Civ_0128484; Cam_Civ_012853; Cam_Civ_012854; Cam_Civ_012857; Cam_Civ_0012862; Cam_Civ_0012872; Cam_Civ_0012879; Cam_Civ_0012927; Cam_Civ_0013074; Cam_Civ_0013126; Cam_Civ_0013196).

³² Michael Fry, JIT Testimony, April 6, 2011, p. 37:9-12.

³³ *Id.* at 66:22-67:4.

before the rig is unlatched and moved to another well.³⁴ Transocean also schedules regular preventive maintenance and inspection on certain BOP parts every 90, 180, or 1080 days, as well as regular preventive maintenance on the BOP every one, three, and five years—tasks that are tracked and scheduled through RMS to ensure that nothing slips through the cracks.³⁵

Transocean systematically tests and inspects its BOP equipment to determine whether a component is outside of its operating tolerance.³⁶ If a component is found to be outside its operating tolerance, Transocean sends the component to the original equipment manufacturer (OEM) to be rebuilt and recertified to first class condition.³⁷ This practice specifically complies with Cameron's guidelines, which suggest that equipment be sent to a Cameron facility for overhaul if found to be outside its operating tolerance during field inspection tests. Based on Transocean's operating experience, if the wear limits on equipment have not changed over its operating life, there is no reason to send the component to be overhauled, regardless of how long the component has been in service.³⁸

This practice of systematic monitoring and maintenance is not unique to Transocean. Many industries, including aerospace, railroad, energy and defense, use continuous, predictive, and inspection-based maintenance.³⁹ Indeed, the Coast Guard itself has admitted that it

³⁴*Id.* at 67:9-23.

³⁵*Id.* at 23, 139-140.

³⁶Michael Fry, JIT Deposition, April 6, 2011, pp. 38:9 - 39:23.

³⁷*Id.*

³⁸*Id.*

³⁹*See* International Atomic Energy Agency, TECDOC-1551, "Implementation Strategies and Tools for Condition Based Maintenance at Nuclear Power Plants" (May 2007):<http://www.bombardier.com/en/transportation/products-services/services/fleet-maintenance> (railroad); http://www.todharvey.com/files/ALSTOM_BNSF_CBM_announcement.pdf (railroad); http://www.mobility.siemens.com/mobility/en/pub/interurban_mobility/rail_solutions/locomotives/vecatron_start/service/condition_based_maintenance.cfm (railroad); <http://www.geaviationsystems.com/News/Archive/2009/GE-and-Boe/index.asp> (aerospace); <http://www.rolls-royce.com/civil/services/corporatecare/faqs.jsp#q05> (aerospace); http://www.boeing.com/news/frontiers/archive/2006/august/ts_sf09.pdf (aerospace); http://www.rovsing-dynamics.com/news/news_single_mainportal/browse/3/article/hapag-lloyd-partners-with-rovsing-dynamics-for-condition-based-maintenance-1/?tx_ttnews%5BbackPid%5D=268&cHash=93d2b9d360 (shipping/marine)

has used technology to help perform condition-based, rather than time-based maintenance on our cutters. The idea is to maintain our machinery based on its actual condition, not on the stated lifespan of its components.

Cmdr. George E. Pellissier, USCG, Surface Transition Manager with the Deepwater Transition Management Office.⁴⁰ Transocean’s Subsea Equipment Philosophy is built around this idea that thoughtful maintenance designed to address the equipment’s actual condition is more effective than, and preferable to, rote maintenance based on standardized guidelines that do not account for the manner and environment in which the equipment is used.⁴¹

Although documents show that the *Deepwater Horizon* BOP was regularly and rigorously maintained according to well-established protocols, the Draft Report nevertheless asserts that Transocean violated the ISM Code requirement “to ensure the vessel is maintained in conformity with the relevant rules and regulations, which call for [recertification of the BOP] every three to five years.”⁴² The Draft Report does not explain the support for this contention, although it is presumably based on the MMS requirement that “BOP maintenance and inspections must meet or exceed” certain provisions of American Petroleum Institute Recommended Practice 53 (“API RP 53”), “Recommended Practices for Blowout Prevention Equipment Systems for Drilling Wells.”⁴³ API RP 53, in turn, states that “[a]fter every 3-5 years

<http://news.bric.com/articles/condition-based-maintenance-improves-ship-performance.html> (shipping/marine); International Atomic Energy Agency, TECDOC-1551, “Implementation Strategies and Tools for Condition Based Maintenance at Nuclear Power Plants” (May 2007), available at http://www-pub.iaea.org/MTCD/publications/PDF/te_1551_web.pdf (power).

⁴⁰ Hunter C. Keeler, *Engineering for Human Performance a Key Element of Deepwater NSC Platform Design*, United States Coast Guard Acquisition Directorate Newsroom (accessed June 3, 2011) <http://www.uscg.mil/acquisition/newsroom/feature/hsi.asp> (emphasis added).

⁴¹ Michael Fry, JIT Testimony, April 6, 2011, p. 39:5-11, 17-23.

⁴² Draft Report, p. 93.

⁴³ 30 C.F.R. § 250.446.

of service, the BOP stack, choke manifold, and diverter components should be disassembled and inspected in accordance with the manufacturer's guidelines."⁴⁴

By glossing over the contours of the regulatory language, the Draft Report unilaterally converts API Recommended Practice 53 from an advisory guideline into a mandatory requirement. Notwithstanding the Draft Report's insistence otherwise, the API's recommendation that the BOP "should" be disassembled and inspected according to the manufacturer's guidelines is not mandatory. The API clarifies that the word "should" indicates a recommended practice for which a comparably safe alternative is available or which may be impractical or unnecessary in some conditions.⁴⁵ In contrast, to denote a recommended practice that is "advisable in all circumstances," the API uses the word "shall."⁴⁶ The API also emphasizes that "the formulation and publication of API standards is not intended in any way to inhibit anyone from using any other practices."⁴⁷ Though it recommends specific practices, API acknowledges that "equivalent alternative installations and practices may be utilized to accomplish the same objectives."⁴⁸ On its face, the language of API RP 53 makes clear that the recommendation that the BOP "should" be disassembled and inspected in accordance with the manufacturer's guidelines is a recommendation, and nothing more.

Although the MMS regulations governing BOP maintenance incorporate API RP 53 sections 17.10 and 18.10 by reference, this does not convert the API's recommendations into a mandatory requirement. As the MMS has clarified, "[t]he legal effect of incorporation by reference" is merely that "the material is treated as if it were published in the Federal Register."⁴⁹

⁴⁴API RP 53 § 17.10, 18.10.

⁴⁵API RP 53 at iii.

⁴⁶*Id.*

⁴⁷*Id.* at ii.

⁴⁸*Id.* at iii.

⁴⁹Postlease Operations Safety, 64 Fed. Reg. 72,745 (Dec. 28, 1999).

Treating API RP 53 as if it had been published in the Federal Register does not imbue its language with more regulatory significance than it had before. The API's recommendations regarding BOP maintenance—as well as the API's acknowledgement that alternative practices “may be utilized to accomplish the same objectives”—remain recommendations, not requirements.⁵⁰

In any event, Transocean's rigorous maintenance protocols do meet or exceed API RP 53's recommendation that BOP inspection, disassembly, and maintenance be performed according to the manufacturer's guidelines. A comparison of Transocean's Subsea Equipment Philosophy and Cameron's maintenance requirements shows that Transocean's maintenance requirements greatly exceed the frequency and scope of Cameron's own requirements. During a rig move, for example, Transocean requires thirty specific inspection and maintenance tasks for Cameron's “TL ram” BOP, including disassembly of the bonnets, with inspection and replacement as needed.⁵¹ Transocean also requires crews to clean out the ram cavities, reassemble the rams, install the bonnets, and run a function test.⁵² In contrast, Cameron's routine end-of-well maintenance for the TL Ram involves running a pressure test and correcting any irregularities that may be identified.⁵³

Although Transocean's maintenance protocols are not identical to Cameron's requirements, there is no doubt that they are an “equivalent alternative,” if not a superior one, as allowed under both API RP 53's guidelines and applicable MMS regulations. After months of

⁵⁰API RP 16E Foreword.

⁵¹RMS Records (TRN-MDL-0049558 - 49792; TRN-MDL-00308270; TRN-MDL-00308273-74; TRN-MDL-00308276-77; TRN-MDL-00308281-82; TRN-MDL-00308284).

⁵²RMS Records (TRN-MDL-0049558 – 49792; Transocean Subsea Team Daily Report (TRN-MDL-00308058 – 061).

⁵³RMS Records (TRN-MDL-0049558 – 49792); compare TRN-HCEC-00007962; TRN-MDL-00049699); Cameron's 18-3/4" 15, psi WP TL Blowout Preventer Operation and Maintenance Manual, p. 3-62 (CAM_CIV_0051768).

testing and analysis by multiple federal agencies and independent experts, no one has concluded that the BOP was poorly maintained, that the BOP was not functioning properly on April 20, or that Transocean's maintenance contributed to the blowout.

C. The Engine Shutdown System Worked as it was Supposed to Work.

The Draft Report also suggests that, if it was not some non-existent hazardous electrical equipment on the Drill Floor and it was not some non-existent red hot mechanical equipment on the Drill Floor and it was not any one of hundreds of other perfectly proper non-classified electrical components on the rig, then *maybe* it was the *engines* that ignited the gas.⁵⁴ *If* that is what happened, then, the Draft Report concludes, maybe Transocean can be blamed because the gas detectors “were not set to automatically activate the emergency shutdown system (ESD) for the engines or close the engine room ventilation dampers.”⁵⁵ This exercise in speculation on top of speculation suggests a basic misunderstanding of the requirements of a dynamically positioned rig.

A dynamically positioned rig is held in place over the well *solely by the engines*. If the engines shut down, currents will move the rig off position, potentially toppling or damaging the BOP or even severing the connection at the well head, creating an environmental disaster. For these very good reasons, dynamically positioned vessels like the *Deepwater Horizon* are *not* designed to automatically and immediately shut down the engines upon detection of combustible gas. A dynamically positioned vessel's emergency shutdown system is designed to require human intervention to shut down the engines and, in this absence of an opportunity for such intervention, to shut down engines with an automated function only once a predetermined and undesired speed is reached.

⁵⁴ Draft Report, p.7 (“[f]lammable gas *may* have traveled through ventilation inlets to one of the main engines”).

⁵⁵*Id.* at p. 14.

The Draft Report is equally incorrect in suggesting that the ventilation inlets should have shut down automatically. Because the engines on a dynamically positioned vehicle do *not* shut off merely because gas is detected, the ventilation inlets cannot be shut. Testimony at the hearings revealed what happens when the ventilators are shut and the engines remain on: On an earlier occasion, when the inlets were shut accidentally, the engine “sucked the fire doors off the hinges, and the engine kept running. It was looking for air, and it just literally sucked the doors off the hinges.”⁵⁶ This is not a design flaw; the inlets are not designed to close automatically, and it would not be beneficial if they were.

Thus, although the ventilation intakes to other rooms on the rig are designed to close automatically when gas is detected, the emergency shutdown system on the *Deepwater Horizon* is designed to keep at least one engine running, *even in gas-rich air*. This design is not unique to the *Deepwater Horizon*, but is characteristic of all dynamically positioned vessels. Indeed, the 2009 IMO MODU Code notes that for dynamically positioned vessels, “special consideration may be given” to the need to avoid disconnection or shutdown of dynamic positioning machinery or equipment, “in order to preserve the integrity of the well.”⁵⁷

The emergency shutdown system did not *fail*. The system worked the way it was supposed to work: Upon receiving gas detector alarm signals at the bridge (and also seeing the blowout on the rig’s CCTV), the bridge crew took action. Unfortunately, the massive failure of the well, caused by BP, resulted in a massive influx of gas onto the rig, which led in a matter of seconds to an inevitable explosion, before anyone on the bridge or anywhere else had time to activate the emergency disconnect system, which would separate the rig from the well, and then make a decision whether to use engine power to navigate away from the area, or turn off all of

⁵⁶Michael Williams JIT Testimony, July 23, 2010, p. 57:11-14.

⁵⁷2009 IMO MODU Code § 6.5.2.

the engines and be adrift. No currently known design on any other rig could have prevented the explosion resulting from the chain of events BP set in motion.

D. The Gas and Fire Alarm System Was Fully Functioning

There is no basis for the Draft Report's suggestion that the gas detection or alarm system failed. The rig exploded within seconds of the hydrocarbon influx; and numerous witnesses testified that they immediately heard the general alarm and reported to the life boats accordingly.

No witness has testified that any relevant detector was in a "bypassed" or "inhibited" mode, or was otherwise malfunctioning, at the time of the blowout. To the contrary, the only detectors that any witness has testified were actually inhibited were the two smoke detectors located in the staterooms, which were inhibited so that steam condensation from showers would not set off a false alarm.⁵⁸ That testimony was corroborated by the April 2010 ModuSpec rig audit. The ModuSpec audit, in fact, notes that the rig's 550 gas detectors for both toxic and combustible gas "were found to be well maintained and in good condition."⁵⁹

The Draft Report concludes that the alarm system was "inhibited" because the general alarm was not programmed to sound automatically and instead required human intervention. This finding is not only fundamentally misguided, it is contrary to the Coast Guard's own requirements. The Coast Guard forbids automatic activation of the general alarm and requires,

⁵⁸See, e.g., Yancy Keplinger, JIT Testimony (AM Session), October 5, 2010, p. 134:16-135:13.

⁵⁹In 2009, Transocean voluntarily commissioned ModuSpec USA, Inc. to assess and critique the physical state of several of its drilling rigs, including the *Deepwater Horizon*. JIT Exhibit (TRN-USCG_MMS-00038609). ModuSpec issued its report for the *Deepwater Horizon* on April 14, 2010. The report was based on inspections of the rig from April 1 to April 12, eight days before the blowout, and is a comprehensive assessment of all operational components of the *Deepwater Horizon*. Generally, the Report describes the *Deepwater Horizon* as being in good working condition. Section III of this brief addresses specific findings of the ModuSpec audit, as well as the Draft Report's erroneous and/or unsupported conclusions related to those findings.

instead, that “[t]he general alarm is intended to be sounded only after a deliberate decision by a member of the crew.”⁶⁰

Consistent with the Coast Guard directive, the general alarm system on the *Deepwater Horizon* was in manual mode: When any one of the hundreds of gas, fire or smoke detectors on the rig was triggered, an audible and visual alarm was automatically triggered *at a console on the bridge*.⁶¹ The console was monitored continuously by a Dynamic Positioning Officer (“DPO”).⁶² When such an alarm is sounded on the bridge, the DPO acknowledges the alarm, contacts the area from which the alarm originated to investigate and, if appropriate, tells the workers to evacuate the area.⁶³ Based on the number and location of sensors triggered or based on a call to the affected area, the DPO makes the decision whether to sound the general alarm.⁶⁴

The DPO investigates before sounding the general alarm, because detector alarms sounding on the bridge often signify nothing.⁶⁵ Smoke detectors can be set off by soot, dust, cement, steam, sand, or simple exposure to the elements; the smoke and gas detectors would trigger the general alarm on a regular basis if the alarm system were in automatic, rather than manual, mode.⁶⁶ If the general alarm sounded multiple times each day, the crew—like normal human beings—would soon discount the importance and urgency of the sound of the alarm. The requirement that a human operator sound the alarm is designed precisely to avoid alarm

⁶⁰Coast Guard NVIC No. 2-89, Guide for Electrical Installations on Merchant Vessels and Mobile Offshore Drilling Units (Aug. 14, 1989), Encl. 1 at 39. The Guide notes that operation of the general alarm in the manual mode is also entirely consistent with SOLAS requirements for operation of the general alarm. *Id.*

⁶¹ Yancy Keplinger, JIT Testimony (AM Session), October 5, 2010, p. 188:2-4; Andrea Fleytas, JIT Testimony (PM Session), October 5, 2010, p. 19:10-15, 58:1-2.

⁶² Yancy Keplinger, JIT Testimony (AM Session), October 5, 2010, p. 127:23-128:3, 139:12-15.

⁶³ Andrea Fleytas, JIT Testimony (PM Session), October 5, 2010, p. 8:23-9:4, 53:12-18; Yancy Keplinger, JIT Testimony (AM Session), October 5, 2010, p. 240:15-17.

⁶⁴ Andrea Fleytas, JIT Testimony (PM Session), October 5, 2010, p. 54:7-10.

⁶⁵ Yancy Keplinger, JIT Testimony (AM Session), October 5, 2010, p. 240:9-13.

⁶⁶ Andrea Fleytas, JIT Testimony (PM Session), October 5, 2010, p. 19:8-13.

fatigue.⁶⁷ As the Coast Guard itself recognizes, manual activation of the general alarm assures the crew that when they hear the general alarm, it is because a true “emergency situation exists which warrants mustering the crew.”⁶⁸

The Draft Report ignores this perceived wisdom and fails even to cite the Coast Guard’s own requirement that a human being must determine that “an emergency situation exists” before activating the general alarm. The Draft Report dismissively characterizes Transocean’s practices as nothing more than a means of ensuring that “false alarms would not awaken the crew.”⁶⁹ The Draft Report then claims that by requiring human intervention to sound the general alarm, Transocean placed “crew convenience ahead of emergency preparedness” -- ignoring the Coast Guard requirement and adopting instead a system that generated numerous false alarms would have resulted in *better* crew responsiveness.⁷⁰ Not only is this contrary to the Coast Guard’s own requirements and long received wisdom, it is contrary to the evidence of what happened that night.

The Draft Report asserts that DPO Andrea Fleytas “failed to follow emergency procedures and sound the general alarm after observing the gas detection alarms.”⁷¹ That is simply not true. The evidence from Fleytas and everyone else was to the contrary. Both Fleytas and senior DPO Yancy Keplinger were on the bridge that night. Keplinger testified that the first explosion occurred *before* the gas detector alarms began sounding on the bridge.⁷² He recalled that, through the closed-circuit television, he first saw “a lot of mud just coming out with--it was

⁶⁷ Yancy Keplinger, JIT Testimony (AM Session), October 5, 2010, p. 222:4-12, 240:9-14.

⁶⁸ Coast Guard NVIC No. 2-89, Guide for Electrical Installations on Merchant Vessels and Mobile Offshore Drilling Units (Aug. 14, 1989), Encl. 1 at 39.

⁶⁹ Draft Report, p. 102.

⁷⁰ *Id.*

⁷¹ *Id.*

⁷² Yancy Keplinger, JIT Testimony (AM Session), October 5, 2010, p. 167:8-13.

just a great force.”⁷³ He attempted to zoom a camera in on the mud to see what was happening; at the same time, DPO Andrea Fleytas “received a call from the drill floor, saying that we’re in a well control situation.”⁷⁴ Keplinger then “heard and felt the first explosion” and saw “flames on the camera.”⁷⁵ Up to this point -- a matter of seconds -- no gas or fire alarms had sounded on the bridge.

After the first, smaller explosion, Keplinger recalled, “[w]e started receiving gas alarms on the fire and gas system.”⁷⁶ Fleytas’ testimony corroborated this account. She stated that “[b]usiness was as usual” until she “felt a jolt,” which corresponds to the first explosion that Keplinger and others identified.⁷⁷ “When I felt that jolt,” Fleytas testified further, “there was a series of combustible gas alarms that went off.”⁷⁸ Immediately upon receiving these alarms, the DPOs followed the rig’s emergency procedures. While Fleytas acknowledged alarms on the console and spoke to someone in the Engine Control Room, Keplinger immediately called the shale shakers, where detectors indicated “there was a lot of gas,” because he “didn’t know if anybody was in there or not” and he “wanted to get that person or persons out of there.”⁷⁹ The second explosion then occurred. Fleytas sounded the general alarm, and Keplinger radioed the *Damon B. Bankston* and asked the Captain to launch his fast rescue boat.⁸⁰ The time between the first explosion (before any alarms sounded) and the second explosion, which resulted in the sounding of the general alarm, is estimated to have taken *mere seconds*.⁸¹

⁷³Yancy Keplinger JIT Testimony (AM Session), October 5, 2010, p. 150:2-5.

⁷⁴*Id.* p. 150:14-16.

⁷⁵*Id.* p. 150:18-20.

⁷⁶*Id.* p. 150:22-23.

⁷⁷ Andrea Fleytas JIT Testimony (PM Session), October 5, 2010, p. 13:89-11.

⁷⁸*Id.* p. 13:11-13.

⁷⁹Yancy Keplinger, JIT Testimony (AM Session), October 5, 2010, p. 151:1-7.

⁸⁰ Yancy Keplinger, JIT Testimony (AM Session), October 5, 2010, p. 151:15-23.

⁸¹ *Id.* at p. 213:9-17.

Fleytas and Keplinger responded immediately to the gas alarms -- notifying appropriate personnel, sounding the general alarm and commencing evacuation procedures; a process that took seconds. There was no contrary evidence. Numerous witnesses at the hearings recalled hearing, and even being woken by, the general alarm. Eleven members of the crew were killed in the explosions. Every member of the crew that survived the blasts --115 men and women -- was safely evacuated.

III. POINT-BY-POINT ANALYSIS OF ERRORS AND UNSUPPORTED“FINDINGS” IN DRAFT REPORT

The chart that follows addresses point-by-point the factual errors, unsupported “findings,” inaccuracies, misstatements and mischaracterizations that appear throughout the Draft Report. This list is not exhaustive. Although many of the same erroneous “findings” and misstatements are repeated in the Draft Report, each instance is not always repeated in the chart.⁸²

ID #	P. #	Text	Comments
001	iii	“That evening [April 20, 2010], a series of events began that would result in an explosion and fire, taking 11 lives, injuring 16 others, and ultimately causing the MODU to become severely crippled and sink.”	This statement erroneously alleges that the series of events leading to the tragedy occurred exclusively on April 20, 2010 on the Deepwater Horizon (DWH). However, there is overwhelming evidence to support the conclusion that the tragedy resulted from a series of events beginning long before that date, including BP’s failure to follow and implement sound engineering principles and to recognize and mitigate well design risks. For a comprehensive summary of these well design failures and other risks accepted by BP that led to the casualty, <i>see generally</i> Brief of Transocean Offshore Deepwater Drilling, Inc., submitted on May 13, 2011, to JIT (“Transocean

⁸² In the comments, new information is referred to that was either available at the time, but not produced, or that has been developed since the conclusion of the public portions of the investigation. For instance, there are referrals to depositions taken in the Multi-District Litigation (MDL) of individuals who either did not testify before the JIT or, if they did testify, had further relevant information that came to light in their civil depositions. Portions of this new information are attached as exhibits to this submission. Transocean will produce additional documents referenced herein upon request by the Coast Guard.

ID #	P. #	Text	Comments
			BOEMRE Brief”) (Ex. A), and is incorporated herein by reference.
002	v	“The initiating event was the well blowout, which was preceded by a number of operational decisions.”	See ID # 001.
003	ix	“Although the events leading to the sinking of DEEPWATER HORIZON were set into motion by the failure to prevent a well blowout . . . “	See ID # 001.
004	ix	“. . . the investigation revealed numerous systems deficiencies, and acts and omissions by Transocean and its DEEPWATER HORIZON crew, that had an adverse impact on the ability to prevent or limit the magnitude of the disaster.”	See ID # 001. It is unfortunate that the Draft Report chooses to second guess the decisions of the men who lost their lives performing their jobs on April 20, 2010. To consider only the alleged acts or omissions by Transocean in a vacuum ignores the substantial risks that had accumulated with the BP well design engineering decisions underpinning the procedures the crew was directed to perform that evening. Furthermore, the Coast Guard then reaches wrong conclusions as a result of its analysis. The weight of the record evidence shows that no marine safety deficiency caused or contributed to the explosion, fire, and loss of life that occurred.
005	ix	“These included poor maintenance of electrical equipment that may have ignited the explosion . . . “	See ID # 011. The Draft Report admits that the source(s) of ignition for the explosions cannot be conclusively determined. The sheer volume and force of the hydrocarbons that, in the words of the Presidential Oil Spill Commission, overran the rig “like a freight train” meant that ignition could have been caused by innumerable properly functioning and properly maintained electrical devices. Nevertheless, the Draft Report suggests that the explosion could have been caused by “poor maintenance of electrical equipment.” This is speculative. Moreover, it is speculation based on a flawed premise. The allegation appears to have arisen from the April 2010 ModuSpec Rig Condition Assessment (ModuSpec Report), TRN-HCEC-00090686; however, this would be a misconstruction of the report, which contains no evidence or suggestion that failure to maintain electrical equipment posed an ignition risk. The ModuSpec

ID #	P. #	Text	Comments
			<p>report also did not identify the presence of unsafe electrical equipment on the Drill Floor.</p>
006	ix	<p>“. . . bypassing of gas alarms and automatic shutdown systems that could prevent an explosion”</p>	<p>“Bypass” is not a formal term associated with the Kongsberg alarm system on the DWH; therefore, it is unclear what is intended or implied by this statement. Notwithstanding, there is ample evidence confirming the functionality of the fire/gas alarm system. For example, the April 2010 ModuSpec Report concluded that the fire/gas system was in “good” condition. See TRN-HCEC-00090776 & 00090778. Moreover, BP’s rig assessment representative, Angel Rodriguez, personally confirmed the full functionality of the fire/gas system on March 29, 2010. See Neil Cramond MDL Deposition Testimony, Apr. 25, 2011, at 202.</p> <p>The reference to bypassing of “automatic shutdown systems” is equally unclear, but appears to refer to testimony by Chief Electronic Technician, Michael Williams. As such, the reference is based on discredited hearsay. Furthermore, the crew <u>did not</u> bypass any shutdown systems. Rather, the record shows that there was a shutdown mechanism in the event that purge is lost on the BOP panel in the Driller’s Shack (which was itself a purged environment). The BOP panel purge needed repair, and parts to effectuate the repair were on order. See Mark Hay JIT Testimony, Aug. 25, 2010, at 46-47, 134-36. Senior Subsea Engineer Mark Hay testified that the panel was put in “bypass” until the arrival of the parts needed to fix the problem. <i>Id.</i> at 218-19. Mr. Williams offered to “trick the system to start in automatic mode,” Mike Williams JIT Testimony, July 23, 2010, at 41, but Hay declined that invitation, preferring to fix the device properly rather than tampering with it. Mark Hay JIT Testimony, Aug 25, 2010, at 307-09. Instead, the panel was left in a purge condition, and the only bypass was the automatic shutdown in the event purge was lost. Hay further explained that the BOP panel was located in another purged environment, the Driller’s Shack, so it was still protected from the infiltration of flammable vapors, rendering it an extremely unlikely ignition source. Importantly, Hay specifically denied telling Williams that the</p>

ID #	P. #	Text	Comments
			<p>panel had been in bypass for five years or that the “entire fleet” ran their panels that way. <i>Id.</i> at 219. The Draft Report thus fails to acknowledge that Hay, the person who purportedly uttered the statements about BOP panels, specifically denied ever making the statements. Also ignored by the Draft Report is that Williams himself stated to the JIT that he had <u>no personal knowledge that the BOP panel on the DWH had been in bypass for five years or</u> that the entire fleet ran the panels in bypass. He said only that he was repeating what he had been told. Mike Williams JIT Testimony, July 23, 2010, at 184-89.</p>
007	ix	<p>“ . . . and lack of training of personnel on when and how to shutdown engines and disconnect the MODU from the well to avoid a gas explosion and mitigate the damage from an explosion and fire.”</p>	<p>See ID # 013.</p> <p>The reference to lack of training regarding the shut down of the engines appears to be an indirect criticism of the bridge crew’s performance the evening of the explosion and fire. However, the criticism is unfounded because the evidence establishes that the release of gas and resultant fires and explosions occurred within a matter of seconds, which precluded any meaningful response from the crew as to the engines. See Yancy Keplinger JIT Testimony, Oct. 5, 2010 (Am Session), at 149-150; Craig Breland MDL Deposition Testimony, May 18, 2011, at 16 (testifying that only “seconds” elapsed between first and second explosion) (rough, unedited transcript). Indeed, the record evidence shows that the fire and the first of the explosions occurred even before the rig’s gas alarms were triggered. <i>Id.</i> Despite the absence of opportunity to evaluate and react, the rig safety system was designed with automatic protections relating to engine shutdowns. Evidence elicited to date reflects that the automatic engine shutdown equipment was properly maintained, tested, and functional as of April 20, 2010. See ModuSpec Report, TRN-HCEC-00090752 (finding that during testing of engine shutdowns all tested normally); Brent Mansfield MDL Deposition Testimony May 12, 2011 at 119-20 (testifying that he was not aware of any critical safety problem with any of the engines or overspeeds and that it was his job to make sure that he knew of any such issue).</p>

ID #	P. #	Text	Comments
008	ix	<p>“These deficiencies [those listed in the prior sentence in the Draft Report] indicate that Transocean’s failure to have an effective safety management system and instill a culture that emphasizes and ensures safety contributed to this disaster.”</p>	<p>The alleged “deficiencies” identified in the Draft Report are inaccurate, which undermines the conclusions that Transocean’s safety management system was purportedly ineffective and its safety system poor. See ID #s 005, 006, 007, 011, 013, 014 & 015. Transocean and the DWH have proven track records of exceptional safety performance, and have been commended for such by federal regulators and by industry. See Transocean BOEMRE Brief at 4-5.</p> <p>Moreover, the unfounded conclusions ignore substantial evidence supporting the strong safety culture within Transocean and aboard the DWH. For example, Transocean pro-actively and voluntarily retained independent third-party auditors from Lloyd’s Register to evaluate safety on the DWH. The study reported the following regarding the DWH:</p> <p>In relation to workforce influence, the findings from the LR EMEA review indicated that the overwhelming majority of participants felt empowered with regard to safety on the rig. In particular, almost everyone felt they could raise safety concerns and those issues would be acted upon if this was within the immediate control of the rig. Supervisor support for legitimate safety concerns was praised on a number of occasions, and it was clear that issues were elevated (when appropriate) via line management structures. <u>In short, individuals reported that they could confidently approach rig management with any safety concerns they may have, knowing that, if their concern was justified, they will receive full backing.</u></p> <p>Lloyd’s Register Transocean Safety Management and Safety Culture/Climate Reviews, TRN-HCEC-00090493, 00090579 (Lloyd's Review). Indeed, the “rig safety culture was deemed robust, largely fair, and inclusive...” <i>Id.</i> Among the strengths underpinning this “robust” safety culture were Transocean’s strong leadership and providing necessary resources to effect safe operations. <i>Id.</i> at 00090579-80;</p>

ID #	P. #	Text	Comments
			<p>00090500.</p> <p>Additionally, the JIT heard ample testimony from individuals who worked and lived aboard the DWH as to the strong safety culture and effectiveness of safety programs in place. See, e.g., Ronald Sepulvado JIT Testimony, July 20, 2011, at 50-51 (agreeing that no one from Transocean would ever do anything to jeopardize the safety of anyone on the rig); Ronald Sepulvado MDL Deposition Testimony, Mar. 11, 2011, at 472 (safety was “number one priority” for OIM Jimmy Harrell and Driller Dewey Revette); see also James B. Mansfield MDL Deposition Testimony, May 12, 2011, at 107-111; Transocean Submission to the Pres. Comm’n, <i>The Deepwater Horizon – Crew and Safety</i>, pp. 1-15.</p> <p>Finally, it is important to note that the following critical well design and engineering decisions had nothing whatsoever to do with Transocean’s safety management system, including by way of example: untimely finalization of the temporary abandonment plans, the long string v. liner tieback decision, the decision to forego the cement bond log, the decision to disregard the Haliburton OptiCem report’s warnings of severe gas flow potential; and the failure to confirm successful cement foam stability tests prior to proceeding with the cement job.</p>
009	x	Commentary as to “Points of Origin” and “Ignition Source”	<p>See ID # 005 & 011.</p> <p>See also National Academy of Engineering/National Research Council Interim Report on the Causes of the Deepwater Horizon Oil Spill, p. 4 (“[g]iven the large quantity of gas released onto the MODU and the limited wind conditions, ignition was most likely.”)</p>
010	xi	Commentary as to “Failure to Use Diverter Line”	<p>The Draft Report simply asserts that the crew failed to use the diverter, but because the drill crew who fought the well blowout was tragically lost in the accident, detailed information about the crew’s response is not available. Accordingly, the record is inconclusive on the specific timing of certain actions taken by the crew, including whether and when the diverter was used to</p>

ID #	P. #	Text	Comments
			attempt to direct hydrocarbons overboard.
011	xi	<p>“At the time of the explosions, the electrical equipment installed in the ‘hazardous’ areas of the MODU (where flammable gases may be present) may not have been capable of preventing the ignition of flammable gas. Although DEEPWATER HORIZON was built to comply with IMO MODU Code standards under which such electrical equipment is required to have safeguards against possible ignition, an April 2010 audit found that DEEPWATER HORIZON lacked systems to properly track its hazardous electrical equipment, that some such equipment on board was in ‘bad condition’ and ‘severely corroded,’ and that a subcontractor’s equipment that was in ‘poor condition’ had been left in hazardous areas. Because of these deficiencies, there is no assurance that the electrical equipment was safe and could not have caused the explosions.”</p>	<p>See ID # 005.</p> <p>This passage is misleading. While it is true that a pro-active, voluntary effort by Transocean to assess the condition of the rig in April 2010 reflected a “bad” condition with some items in these areas, there is no record evidence supporting the conclusion that the electrical equipment “may not have been capable of preventing the ignition of flammable gas.” Nor is there any basis for the purely speculative statement that “there is no assurance that the electrical equipment was safe and could not have caused the explosions.” To explain, the ModuSpec Report cited by the Draft Report noted items that had no bearing on the equipment’s ability to prevent ignition. Simply put, MODUSpec’s observations that certain equipment had not been tagged or that certain equipment was muddy cannot give rise to the inference that such equipment was a possible ignition source. Indeed, for the items to which the Draft Report cites ModuSpec recommended as corrective action having a third party conduct an equipment inventory, see ModuSpec Report, TRN-HCEC-, 00090773, hardly the type of recommendation an auditor would make if the auditor found an ignition risk present.</p> <p>Moreover, the Draft Report ignores that the ModuSpec team tested the differential pressure alarms in the inspected hazardous areas and did not note any specific issues with those alarms. See <i>id.</i> That is, the hazardous areas noted were designated purged environments designed to prevent the influx of combustible gas. There is no evidence suggesting that this system was inoperable at the time of the incident.</p>
012	xi	<p>“Although gas detectors installed in the ventilation inlets and other critical locations were set to activate alarms on the bridge, they were not set to automatically activate the emergency shutdown (ESD) system for the engines or to stop the flow of outside air into the engine rooms.”</p>	<p>The suggestion that gas detectors “were not set to automatically activate the [ESD]” reflects a misunderstanding of dynamically positioned vessels (“DPVs”) such as the DWH. DPVs hold themselves in place above the well solely by their thrusters/engines. By design, and not as an operational “setting,” ventilation to the engine rooms would not automatically be halted simply upon detection of combustible</p>

ID #	P. #	Text	Comments
			<p>gas. Instead, a key priority for any DPV is to maintain location over the well to prevent damage to the riser, lower marine riser package, and wellhead, damage to any of which could cause needless environmental damage. As a result, and consistent with applicable international standards, the DWH's engines were properly set to remain in operation until deliberately shut off. For these reasons, and as the Coast Guard should be aware, the 1989 IMO MODU Code does not recommend, let alone require, automatic shutdown for DPVs such as the DWH. Additionally, the 2009 IMO MODU Code cautions that for DPVs, "special consideration may be given" to the need to avoid disconnection or shutdown of dynamic positioning machinery or equipment, "in order to preserve the integrity of the well." 2009 IMO MODU Code § 6.5.2. The design philosophy was also acknowledged by ABS on behalf of the U.S. Coast Guard at the time of rig construction and commissioning. See Kongsberg MDL Deposition Testimony, Apr. 4, 2011 at 243-45 (testifying regarding TRN-HCEC-00027279).</p>
013	xi	<p>"The bridge crew was not provided training or procedures on when conditions warranted activation of the ESD systems. Thus, when multiple gas alarms were received on the bridge, no one manually activated the ESD system to shut down the main engines. Had it been activated immediately upon the detection of gas, it is possible that the explosions in the engine room area could have been avoided or delayed."</p>	<p>See ID # 007.</p> <p>The notion that the ESD system should have been "activated immediately [and simply] upon the detection of gas" is at odds with how DPVs are designed. See ID # 012. The notion is also at odds with the sequence of events faced by the bridge crew on the night of April 20, 2010. The record evidence shows that on the night of April 20th the first of the explosions occurred before the gas alarms activated. The Senior Dynamic Positioning Officer ("DPO") testified that he heard an explosion or noise, and that he looked at the closed circuit television system that was focusing starboard aft of the bridge on the Drill Floor. He saw mud spraying out with great force. As he sought a closer look, he heard and felt an explosion and saw fire. Yancy Keplinger JIT Testimony, Oct. 5, 2010 (AM Session) at 149-150. It was not until after this explosion that the fire and gas alarms began to alert. <i>Id.</i> at 167. Furthermore, the Draft Report acknowledges that, immediately after the first explosion, the DPO called up a series of thruster menus</p>

ID #	P. #	Text	Comments
			<p>on the control console, which showed numerous alarms and that the thrusters were not available. See Draft Report at 2-3. Thus, because the fire and explosions had already occurred before the gas alarms activated, and because those explosions apparently knocked out the engines, it appears from the evidence that the activation of the ESD would not have prevented the explosions.</p> <p>Moreover, as the Draft Report acknowledges, the ignition sources cannot be identified, thus it is speculative at best to suggest that any activation of the ESD system to shut down an engine would have avoided and/or delayed any explosion.</p> <p>Even if training/procedures with regard to activating ESD systems were not a moot issue (and it is a moot issue for the reasons described above), the Draft Report is wrong to suggest that the DPOs on the bridge were not provided the proper training on the ESD systems. Rather, Senior DPO Yancy Keplinger testified that it is the onboard maintenance supervisor, not DPO, who has responsibility for the ESD system. Yancy Keplinger JIT Testimony, Oct. 5, 2010 (AM Session) at 289-292. Thus, the Draft Report is wrong to fault the DPOs for not being trained on equipment that is not even theirs to operate.</p>
014	xi	<p>“A number of gas detectors were bypassed or inoperable at the time of the explosions. According to the chief electronics technician, it was standard practice to set certain gas detectors in ‘inhibited’ mode, such that gas detection would be reported to the control panel but no alarm would sound, to prevent false alarms from awakening sleeping crew members.”</p>	<p>See ID # 006.</p> <p>This passage reflects a fundamental misunderstanding of the record evidence and fire/gas system design. First, the statement conflates the purported inhibition of individual gas detectors with the manual operational setting of the general alarm, which entailed overriding the automatic visual and audio outputs.</p> <p>As to the alleged bypassing or inhibition of gas detectors, evidence is clear that all gas detectors in operational areas on the DWH were functional and not inhibited as of April 20, 2010. The April 14, 2010 ModuSpec Audit demonstrates that one week prior to the incident <u>no</u> gas detectors either were in fault or inhibited condition, other than those being serviced at that time. ModuSpec Report, TRN-HCEC-00090776 (regarding</p>

ID #	P. #	Text	Comments
			<p>the Fire Alarm system, the audit noted that no detectors were inhibited or any in alarm, and a spot check of the detectors showed them to be secure and well-labeled, with no visible signs of damage); TRN-HCEC-00090778 (regarding the Gas Detection system, the audit noted that there were no detectors either in fault or inhibited condition other than units being serviced, and that gas detectors – both toxic and combustible – were found to be well maintained and in good condition).</p> <p>Furthermore, the head of BP's Gulf of Mexico Marine Authority, which oversees the resolution of audit items on BP-contracted vessels, testified that his subordinate had visited the DWH on March 29-30, 2010, and reviewed with the captain the position of all gas and fire switches. The fire and gas systems were fully operational at the time, and no sections were in override or bypass. Neil Cramond JIT Testimony, Aug. 23, 2010, at 97. In addition, several crew members witnessed gas detectors alerting audibly or visually on April 20. See, e.g., Douglas Brown JIT Testimony, May 26, 2010, at 93; William Stoner JIT Testimony, May 28, 2010, at 337-38; Paul Meinhart JIT Testimony, May 29, 2010, at 28; Mike Williams JIT testimony, July 23, 2010, at 201-209. Finally, the Senior DPO on duty on the evening of April 20 testified that, at the time of the casualty, there were two sensors that were inhibited in staterooms that he was aware of because they were in fault mode, but that neither had any impact on the situation as it occurred that evening. Yancy Keplinger JIT Testimony, Oct. 5, 2010 (AM Session) at 134-135.</p> <p>It is also incorrect to suggest that an inhibited detector would not produce an alarm. In fact, despite inhibition of an individual detector, an audio and visual alarm would still sound in the bridge, ECR, and Driller's Shack. The reference to preventing false alarms appears to have resulted from confusion about the manual setting of the general alarm. Consistent with U.S. Coast Guard recommended practice, the general alarm was not set to automatically sound aboard the DWH. Instead, the system was configured to</p>

ID #	P. #	Text	Comments
			<p>sound the general alarm only upon a deliberate decision by a member of the crew, who manned the bridge 24/7. See Coast Guard NVIC No. 2-89, Guide for Electrical Installations on Merchant Vessels and Mobile Offshore Drilling Units (Aug. 14, 1989), Encl. 1 at 39. The Guide notes that operation of the general alarm in the manual mode is consistent with SOLAS requirements. <i>Id.</i></p>
015	xi-xii	<p>“Similarly, the crew bypassed an automatic shutdown system designed to cut off electrical power when ventilation system safety features failed, possibly allowing flammable gas to enter an enclosed area and reach an ignition source. The chief electrician had been told that it had ‘been in bypass for five years’ and that ‘the entire fleet runs them in bypass.’”</p>	<p>See ID #006.</p> <p>Furthermore, the ventilation system in question, even when bypassed, is continuously purged with non-flammable air, as opposed to the regular operating mode of purging at regular intervals.</p>
016	xii	<p>“Crew Blast Protection: DEEPWATER HORIZON did not have barriers sufficient to provide effective blast protection for the crew. Although the barriers separating the Drill Floor from adjacent crew quarters met the standards of the IMO MODU Code, those specifications are only designed to slow the spread of fire, not to resist an explosion. They did not prevent personnel in the crew accommodations are from sustaining injuries.”</p>	<p>There is no requirement to provide such barriers. The DWH's A-Class bulkheads were in full compliance with all rules and regulations.</p>
017	xii	<p>“This command confusion [with respect to the Captain not knowing whether he had to have the OIM's authority to EDS] at a critical point in the emergency may have impacted the decision to activate the EDS.”</p>	<p>See ID # 012. This is an issue manufactured by the Draft Report where none actually exists. As acknowledged in the Draft Report, the decision to EDS was made by the on-watch subsea supervisor without the direction of either the Master or the OIM, as was fully permissible under the rig's command structure in an emergency. As the subsea supervisor had independent authority to activate the EDS without the consent or direction of either the Master or the OIM, the fact that he activated the EDS prior to either the Master or the OIM so directing him does not demonstrate any confusion as to who was in command.</p> <p>The Master also testified that he was aware that he was in charge during the emergency and, contrary to the assertion in the Draft Report, was not seeking the OIM's <u>permission</u> in asking him whether they should activate the ESD. Instead, he was</p>

ID #	P. #	Text	Comments
			<p>simply seeking the benefit of his <u>opinion</u> because the OIM, the person who had the most experience regarding well control, was on the Bridge and available for him to consult. See Captain Curt Kuchta JIT Testimony, May 27, 2010, at 228-230. Furthermore, the Coast Guard's own expert who testified on the command structure and the relationship between the Master and the OIM on a MODU stated that, despite the fact that he is used to operating as both Master/OIM, he would expect the Master to consult with the drilling experts, which in the case of the DWH was the OIM, before determining whether to activate the EDS. Captain Carl Smith JIT Testimony, Oct. 8, 2010, at 73.</p> <p>The Station Bill for the DWH, a document with which everyone on the vessel, including the U.S. Coast Guard inspectors and third-party personnel such as subcontractors, was familiar, clearly stated that the Master was in charge of the rig during an emergency. The Station Bill defines the roles of all aboard, and is part of the orientation given to all personnel when they first board the vessel. The Station Bill specifically stated that, for fire and emergency, the Master's duties were "Overall command – Co-ordinate all emergency response activities." This is supported by overwhelming crew testimony that makes it abundantly clear that the Master, the OIM and crew, and personnel on the DWH knew that the Master was in charge during the emergency that occurred on April 20, 2010; no Public Address system announcement was necessary to effectuate this reality. See, e.g., Jerry Canducci JIT Testimony, Dec. 9, 2010, at 102-03 ("The master's authority was never in question nor did the changes to the manuals as a result of the audit observation change his authority. The master has always had overriding authority. When it comes to safety of the people, vessel and environment, the captain is the man and always has been."); Andrea Fleytas JIT Testimony, Oct. 5, 2010 (PM Session) at 22-23 ("Once the explosion happened, the captain was in charge. She has been trained that chain of command goes to the captain. When the fire happened, even during drills, the captain was in charge.");</p>

ID #	P. #	Text	Comments
			<p>Jimmie Harrell JIT Testimony, May 27, 2010, at 38-39 (“Normally, it would be a driller, toolpusher or the OIM to activate the EDS. The captain has independent authority to activate the EDS if he thinks it’s appropriate without asking anybody in an emergency situation.”); David Sims JIT Testimony, Aug. 26, 2010, at 171-72 (stating that the Captain was in command and directing actions on the bridge and that there was no confusion regarding who was in charge)</p> <p>Finally, the Draft Report acknowledges that the DWH’s Operations Manual stated that “the Master has overriding authority and responsibility to make decisions with respect to safety and pollution prevention and to request all internal company assistance as necessary.” Draft Report at 28. This reflects the precise language of the ISM Code regarding the authority of the Master. International Safety Management (ISM) Code, § 5.2.</p>
018	xiii	<p>“The crew’s approach to fire drills may have influenced its lack of response to the fire. Given that drills were held at the same time and on the same day every week, that drilling personnel were excused from these exercises, and that records indicate that the crew was not treating fire drills as ‘the real deal,’ the routine, repetitive nature of the fire drills may have led to a degree of complacency among the crew members.”</p>	<p>Though the Draft Report alleges a “lack of response to the fire,” only three paragraphs prior to this claim the Draft Report observes that “[a]s alarms sounded following the explosions, personnel assigned to DEEPWATER HORIZON’s firefighting team began to assemble at the designated staging area.” The Draft Report also recognizes that “[c]rew members on the vessel’s fire brigade initially attempted to respond to the fire as assigned by the MODU’s emergency procedures,” commenting specifically as to the Chief Mate. Accordingly, the Draft Report is internally inconsistent. The record evidence shows that the crew was more than aware that the fire onboard the DWH was “the real deal,” that at least one member of the roustabout crew started to suit up before realizing that any fighting of the fire would be futile, and that others had reported to their firefighting stations, as well, before concluding the same thing. See Draft Report at 43.</p> <p>For the reasons identified above the Draft Report is also illogical in criticizing a “lack of response to the fire.” The blaze was massive and fueled by an all-but limitless stream of flammable hydrocarbons. Eleven</p>

ID #	P. #	Text	Comments
			<p>response ships applying 8,000 gallons of water a minute could not extinguish it. Any significant efforts by the crew to fight the fire would have been futile, and, furthermore, would have been potentially self-destructive, as it would have meant delaying evacuation. The crew's fire-fighting decisions were reasonable and cannot be second-guessed.</p> <p>The Draft Report is also wrong to be critical of members of the drill crew remaining at their stations during drilling operations, and not reporting to fire drills. To require on-duty drill crews to participate in fire drills would be imprudent and unsafe – during the fire drill no one would be left to monitor the well.</p> <p>Finally, the record evidence before the JIT showed that the Transocean crew was well prepared for the incident and responded well under the circumstances, demonstrating that Transocean's drills were highly effective in ensuring that all crew who survived the initial explosions were able to evacuate the rig successfully. Specifically, Ross Skidmore, a BP subcontractor, testified that he "was impressed by the way that the marine department, the Transocean employees, [took] their position in this safety seriously." He was "led around the rig . . . shown all of [his] evacuation stations [and] plans. . . . [He] believed, for somebody not having an idea of what was fixing to happen . . . , they pretty well had us schooled up." Ross Skidmore JIT Testimony, July 20, 2010 (PM Session), at 32-33. Christopher Haire of Halliburton similarly expressed "that training did contribute to getting everybody off safely" and "[f]rom the drills [he] knew where to go." Christopher Haire, JIT Testimony, May 28, 2010 (PM Session), at 13. Further, Greg Meche, an M-I Swaco employee, specifically praised Transocean's Assistant Driller Patrick Morgan for his job of managing Lifeboat No. 1 the evening of the incident. Greg Meche, JIT Testimony, May 28, 2010 (AM Session), at 188.</p>
019	xiv-xv	"The DEEPWATER HORIZON crew did not follow its own emergency procedures for notifying the crew of an emergency and taking steps to prepare for evacuation. For example, contrary to standard procedure,	First, there is no evidence that the presence of the BP and Transocean visitors may have caused the crew to fail to timely sound the general alarm. Indeed, the crew did sound the general alarm after the gas

ID #	P. #	Text	Comments
		<p>the crew failed to sound the general alarm after two gas detectors activated. This failure may be attributable to the presence of the BP and Transocean executives onboard, which had also prevented key personnel from attending to the well control issues immediately prior to the blowout. A senior drilling crew member acknowledged that if he and the master had not been conducting a tour for the company executives, he would have been on the Drill Floor while key tests were being conducted.”</p>	<p>detectors activated. In fact, witnesses testified they heard the alarms sound. See, e.g., Craig Breland MDL Deposition Testimony, May 18, 2011, at 16-17 (testifying that after first explosion fire alarm sounded, DPO made announcement over PA, and that abandon ship alarm then sounded, all within “seconds”) (rough, unedited transcript). Senior DPO Yancy Keplinger testified that the gas alarms on the bridge sounded contemporaneously with or just after the initial explosion. See Yancy Keplinger JIT Testimony, Oct. 5, 2010 (Am Session), at 149-150; see also Andrea Fleytas JIT Testimony, Oct. 5, 2010 (PM Session) at 7-22 (testifying that the alarms did not begin until after the first “jolt,” and that after this jolt, and as she was attempting to control the alarms, she received a call from the drill floor advising her of a well-control situation). Additionally, Mr. Keplinger explained to the JIT that procedures were in place to ensure continuous monitoring of the vessel safety systems during the visitors’ tour of the bridge. See <i>id.</i> at 162-63.</p> <p>Second, there is no evidence to support the premise that BP and Transocean visitors may have distracted the crew from drilling operations. Senior Toolpusher Randy Ezell reasonably left the drill floor on the evening of April 20th in the hands of Jason Anderson, who, while functioning as the Toolpusher, actually was qualified as a Senior Toolpusher, the same rank as Mr. Ezell. See Transocean BOEMRE Brief, Exh. A. Prior to the blowout, Mr. Ezell called Mr. Anderson to discuss the negative testing of the well, the “key tests” to which the Draft Report refers. Mr. Anderson informed him that the test had gone well and that he (Mr. Ezell) should to go to bed. Miles (Randy) Ezell JIT Testimony, May 28, 2010, at 279-282. Meanwhile, BP Well Site Leader Don Vidrine told the OIM that the negative test had gone well. Jimmy Harrell JIT Testimony, May 27, 2010, at 113-114. As a result, both the OIM and Senior Toolpusher had notice from the drill floor that all operations were normal and that any involvement on their part was unnecessary.</p>
020	xv	“Although DEEPWATER HORIZON conducted a number of emergency drills, it	See ID # 018. See, e.g., Craig Breland MDL Deposition Testimony, May 18, 2011,

ID #	P. #	Text	Comments
		never conducted drills on how to respond to a well blowout that leads to the need to abandon ship. In the confusion of the evacuation, no complete muster (headcount) of personnel was conducted onboard DEEPWATER HORIZON.”	at 103 (testifying that the abandon rig drill prepared him for the evacuation that occurred on the night of April 20 th) (rough, unedited transcript). Additionally, there is no need for an abandon ship drill specific to a blowout situation. In both a blowout and “standard” abandon ship scenarios, the goal is to safely evacuate the crew. Indeed, the night of the incident, all 115 persons on board who survived the blast successfully evacuated the rig.
021	xvi	“At the outset, there was little coordination of the fire fighting efforts until SMIT Salvage Americas, a contractor engaged by Transocean, began to take charge late on April 21st.”	This statement misconstrues the evidence taken by the JIT. Specifically, Doug Martin, a representative of SMIT, testified that the water being placed on and/or around the vessel could not appropriately be characterized as “fire fighting efforts.” Doug Martin JIT Testimony, Oct. 4, 2010, at 114; 195-96. Instead, from the outset, the response vessels and SMIT (as SMIT personnel became involved) recognized that water was required to cool the rig in order to prevent structural failure due to intense heat. <i>Id.</i> at 116-17; see also Daun Winslow JIT Testimony, Oct. 24, 2011, at 55 (recounting that SMIT advised to maintain cooling of the columns without trying to put water on the deck); <i>id.</i> at 81 (recounting that workboats were instructed and reminded to “do cooling water only”). Given the inability to close the fuel source of the fire, no “fire fighting efforts” were appropriate—a fact recognized in other locations in the Draft Report.
022	xvi	“With large volumes of water applied to the fire, some portion of that water likely began to accumulate inside of, and migrated within, the hull. By the morning of April 22, as more openings became submerged, DEEPWATER HORIZON began taking on increasing amounts of water until at 1026, it sank.”	This passage inaccurately implies that water migration and consequent downflooding caused the sinking of the DWH. This conclusion, is contrary to the testimony of experienced salvage experts on scene. Doug Martin JIT Testimony, Oct. 4, 2010, at 167-68 (stating that he did not believe that downflooding was the contributing factor to the sinking); 200-01 (same and citing internal shift of weight and, potentially, explosions as causing the sinking).
023	xvi	“Although the exact cause of the loss of stability and sinking of the DEEPWATER HORIZON cannot be determined based on the limited information available, possible	See ID # 022. These hypotheses are entirely speculative and not based on evidence. To the

ID #	P. #	Text	Comments
		factors include . . . (3) migration of water within the MODU through watertight barriers that were damaged, poorly maintained, or left open by crew at the time of evacuation.”	contrary, the ModuSpec Report stated that manual watertight doors were in good condition and operated well, TRN-HCEC-00090696, that preventative maintenance was being completed regularly and was up to date, TRN-HCEC-00090696, that there were no major problems with the hydraulically-operated doors, TRN-HCEC-00090776, and that the manually- and hydraulically-operated watertight hatches were in fair condition. TRN-HCEC-00090776; TRN-HCEC-00090696. In sum, the ModuSpec inspectors, aboard the DWH just over a week before the incident, did not identify any watertight integrity issues that would have permitted migration of water and/or downflooding.
024	xvi-xv	“Prior to the explosions, DEEPWATER HORIZON was not in compliance with established requirements for maintaining the watertight integrity of its internal compartments. Audits in September 2009 and April 2010 found watertight integrity issues, one of which ‘directly affect[ed] the stability of the rig.’ Faulty watertight closures could have accelerated progressive flooding on the MODU.”	See ID # 023. This is another speculative hypothesis that has no place in the Draft Report. The sentence suggests that watertight integrity issues somehow accelerated the sinking of the MODU. However, this speculation conflicts with the fact that the water applied to the “extreme heat” resulted in “catastrophic structural failure.” As the Draft Report finds, it is “not possible to conclude that the water from the firefighting vessels accelerated its sinking.” Draft Report, p. xvi. See also Draft Report, Annex L, p. L-11 (Coast Guard Marine Safety Center Report on the post-sinking analysis for the DWH stating that “The nearly infinite permutations and combinations of hull damage and compartments (sic) flooding scenarios make it impossible to determine the dominant source of added weight or lost buoyancy.”)
025	xvii	“Pursuant to its Search and Rescue Policy, the Coast Guard prioritized search and rescue efforts and thus did not take charge of, or coordinate, the marine firefighting effort. Such coordination did not occur until over 24 hours after the explosions, when Transocean’s contractor, SMIT Salvage Americas, began to actively direct the firefighting efforts and seek to minimize downflooding. As a result, massive quantities of water were directed toward DEEPWATER HORIZON without careful	See ID # 021-023. Furthermore, the concerns regarding downflooding were acknowledged but balanced with the need to preserve structural integrity by cooling the vessel with water. Doug Martin JIT Testimony, Oct. 4, 2010, at 194-96; Daun Winslow JIT Testimony, Oct. 23, 2011, at 469 (testifying that purpose of applying water was for “structural cooling” “to maintain the integrity of the vessel”); Daun Winslow JIT

ID #	P. #	Text	Comments
		consideration of the potential effects of water entering the hull.”	Testimony, Oct. 24, 2011, at 81 (recounting that workboats were instructed and reminded to “do cooling water only,” “which was part of continuously reminding people not to downflood the vessel”)
026	xvii	“Transocean never developed a salvage plan for DEEPWATER HORIZON. The only document it generated, an introductory guidance document, did not designate a specific person on scene to direct response vessels and did not warn of the possible impact of downflooding on the stability and buoyancy of the MODU. The lack of a salvage plan with such information extended the amount of time DEEPWATER HORIZON was exposed to an uncoordinated firefighting effort.”	<p>This passage reflects numerous inaccuracies. First, Transocean retained a leading salvage company, SMIT Salvage, which sent a team led by a highly trained and experienced salvage master that reported to the Transocean emergency response center within mere hours following the incident. As the Draft Report recognizes, SMIT prepared a preliminary salvage plan on April 21, 2010. See Draft Report at 81. It was not possible to have a full salvage plan created prior to an incident of this nature because of the inability to predict the nature and extent of damage resulting from a blowout and explosion. The SMIT Salvage Master testified that the salvage process does not begin until it is clear that the rig could be saved. In this case, it was never clear that the rig could be saved and indeed it sank within a matter of hours after the blowout. The Salvage Master also testified that the efforts at cooling the rig were not in fact “firefighting efforts” because there was no possibility of controlling and/or containing the fire until the well was controlled. Doug Martin JIT Testimony, Oct. 4, 2010, at 114; 195-96.</p> <p>For further clarification, see ID # 021 & 025. Thus, the Draft Report inappropriately criticizes Transocean for (1) failing to develop a full salvage plan that would never have been utilized and (2) for launching an “uncoordinated firefighting effort” that was not in fact a firefighting effort and that actually was properly organized to prevent structural failure on the rig.</p>
027	xvii	“Although Transocean had a vessel response plan for DEEPWATER HORIZON that addressed how to respond to an emergency or casualty that could result in an oil spill, Transocean personnel engaged in the response were not familiar with the plan and deviated from it without appropriate justification when they selected a salvage company different from the one identified in the plan.”	There is ample evidence in the record establishing that Transocean responded to the well blowout and resulting explosion and fire in an organized and timely manner following emergency response procedures. See Robert McKechnie JIT Testimony, Oct. 5, 2010 (PM Session), at 73. The Draft Report cites to an immaterial difference in service providers for salvage efforts, efforts that never could have been implemented because the blowout was never controlled

ID #	P. #	Text	Comments
			and the rig was totally lost. Moreover, the only salvage expert who testified before the JIT explained that the nominal time required to put an agreement in place between Transocean and SMIT did not impact the overall response timeline. See Doug Martin JIT Testimony, Oct. 4, 2010, at 108 (testifying that “to contract and move forward on an emergency basis is the business [SMIT is] in. So there is no delay.”); 215 (testifying that contracting with Transocean did not slow down SMIT in any way).
028	xvii	“During and after the casualty, Transocean did not have available loading information on DEEPWATER HORIZON at the time of the explosions. The lack of loading information prevented responders from assessing the damage to the MODU and determining the amount of time available until sinking. It also prevented investigators from determining the cause of the sinking.”	The DWH was in full compliance with all applicable rules and regulations regarding maintenance of loading information.
029	xvii	“Contrary to the IMO MODU Code and the DEEPWATER HORIZON operations manual, Transocean failed to conduct a deadweight survey within the past five years to determine the weight of DEEPWATER HORIZON. This failure made it difficult for responders and investigators to evaluate the stability of the vessel.”	This statement is inaccurate. A Deadweight Survey was conducted by Noble Denton Consultants on June 8-9, 2006. A copy of the survey is attached as Exhibit B to this submission.
030	xviii	“During day-to-day operations, Transocean (the vessel operator) had primary responsibility for ensuring the safety of DEEPWATER HORIZON and its personnel.”	Transocean acknowledges it had responsibility for the safety and safe workmanship of its rig crew. It fulfilled this responsibility commendably. See Transocean BOEM Brief at 4-6 (Exh. A). However, this statement fails to take into account the important fact that the crew’s activities were conducted pursuant to the well design and operational plan prepared by BP’s engineers. Accordingly, the responsibility for ensuring that the well design and engineering standards reflected safe and industry-accepted practices rested solely with BP.
031	xviii	“The investigation revealed that DEEPWATER HORIZON and its owner, Transocean, had serious safety management system failures and a poor safety culture.”	See ID # 008, .

ID #	P. #	Text	Comments
032	xviii	“The investigation has shown that over a period of years and in the time leading up to the casualty, Transocean amassed numerous deficiencies in the area of safety”	See ID # 008, 202-235. The DWH was in full compliance with all rules and regulations at the time of the incident.
033	xviii	“Both Transocean and DEEPWATER HORIZON were required to have a safety management system that complied with the ISM Code, the purpose of which is to ensure safety at sea, prevent injury or loss of life, and avoid damage to the environment. The investigation, however, determined that Transocean had a history of ISM Code violations on DEEPWATER HORIZON and other vessels.”	See ID # 008, 139, 202-235. The claim is false. The DWH and other Transocean vessels have always been in compliance with the ISM Code, as evidenced by the fact that Transocean had at the time of the casualty, and currently maintains, a valid Document of Compliance, including a Document of Compliance from the United States. In addition, at the time of the casualty, the DWH had a valid Safety Management Certificate. The Draft Report purports to prove a history of ISM Code violations by assembling at its Appendix K a list of “discrepancies.” Appendix K is a fundamentally flawed exercise that contains no proof of ISM violations, or “non-conformities” as they are actually called. First, many of the items characterized by the JIT as “discrepancies” were identified and discussed by DNV, ABS, and the RMI, who actually inspected the vessels. These organizations never labeled any of these “discrepancies” as non-conformities. Only the JIT, based on its 2010/2011 desktop review, has labeled these “discrepancies” as non-conformities. Second, many of the “discrepancies” are stale, some going back to 2005, rendering them irrelevant due to remoteness in time. Third, and more troubling, is that the Draft Report ignores evidence that the “discrepancies” had been corrected in the intervening years. Finally, Appendix K in many instances misstates evidence or fails to specify where in the record the evidence allegedly supporting the statements exists. The individual items identified in Appendix K are discussed below at ID # 202-235.
034	xviii-xix	“Two recent audits of DEEPWATER HORIZON found numerous maintenance deficiencies that could impact safety, including problems with firefighting, electrical, and watertight systems. In particular, the audits found that, contrary to the manufacturer’s guidelines which called for inspection and certification of the	This statement is misleading and mischaracterizes the condition of the DWH at the time of the incident. The BP Audit was conducted in September 2009, during an out of service period. During an out-of-service period, maintenance is anticipated and scheduled

ID #	P. #	Text	Comments
		<p>blowout preventer (BOP) every three to five years, Transocean did not arrange to have the DEEPWATER HORIZON BOP recertified for over ten years. In addition, key parts had 'significantly surpassed the recommended recertification period' and needed to be replaced."</p>	<p>accordingly.</p> <p>After the audit, Transocean personnel began responding to the audit items in October 2009. See Deepwater Horizon – BP CMID Audit Work list September 2009 (Rev. Date 3/29/2010) (BP Audit Work List), BP-HZN-MBI00171071 (showing that items were completed as soon as October 5, 2010). <u>All</u> critical safety issues were immediately resolved – before the rig returned to operations. See Brett Cocales MDL Deposition Testimony, April 26, 2011, at 30-33, 38–40. BP and Transocean then established a detailed plan for resolving all remaining issues. BP repeatedly commended the crew for its prompt resolution of identified issues. See, e.g., BP-HZN-2179MDL00340255 (Oct. 5, 2009 e-mail stating that “DW Horizon has done a good job in completing the action items on this list”); BP-HZN-2179MDL01114974 (Oct. 20, 2009 e-mail stating, “As you can see the Horizon’s crew has been rigorously closing out the findings.”)</p> <p>By March 29, 2010, BP concluded that 90% (63 out of 70) of the marine audit issues had been resolved, which was, in BP’s own words, “commendable.” E-mail from Angel Rodriguez to John Guide <i>et al.</i> (March 30, 2010) (BP-HZN-2179MDL00033637). Transocean adds that at the time of the April 20th accident, there were no outstanding safety items aboard the <i>Deepwater Horizon</i>. Paul Johnson JIT Testimony, August 23, 2010 at 242-247; Paul Johnson MDL Deposition Testimony, March 28, 2011 at 45-47; MDL Deposition Exhibit 0672; Neil Cramond JIT Testimony, August 23, 2010 at 115. According to the testimony before the JIT, the vessel was “tight, staunch, strong and fit for the work that it was performing.” Neil Cramond JIT Testimony, August 23, 2010, at 115-116.</p> <p>The results of the crew's efforts were reflected in the April 2010 ModuSpec Report, which concluded that the vast majority of the rig operational equipment was in “good” condition. For instance, regarding the issue of the watertight integrity of the DWH in early April 2010, see ID # 023-24. Further, the ModuSpec Report, contrary to the statement in the</p>

ID #	P. #	Text	Comments
			<p>Draft Report, indicated that the BOP and related well control equipment were in “good” condition. See TRN-HCEC-0090736-90742 (finding that ram BOPs and other BOP equipment in “good condition” and that BOP control panels were in “fair condition”).</p> <p>Below, Transocean will address the Draft Report’s unwarranted criticisms of Transocean’s handling of the 2009 BP Audit, the 2010 ModuSpec Audit, and Transocean’s maintenance of the DWH BOP. See IDs # 054, 136, 143 & 144.</p>
035	xix	<p>“In 2008, DEEPWATER HORIZON had two significant incidents which could have seriously affected the safety of the vessel or the environment – a loss of power that jeopardized the MODU’s ability to maintain its position above the well and the flooding of a compartment resulting from a failure to close valves. Neither of these incidents was properly investigated and addressed.”</p>	<p>These incidents, which both occurred in 2008, are red herrings. The Draft Report does not cite any record evidence that suggests a causal relationship among prior incidents and the April 20th accident. Furthermore, the record evidence clearly shows that with regard to the 2008 incidents Transocean reported the incidents as required, investigated the causes of the incidents, and took appropriate corrective actions to prevent future occurrences, all as required by the ISM Code.</p> <p>The May 2008 incident involved the flooding of one of the DWH’s columns during a pipe removal operation. Transocean conducted a full investigation, found that a valve that ought to have remained closed was mistakenly opened, and that proper procedures under the permit to work program were not followed by the crewmember involved. See Transocean Deepwater Horizon Loss of Control by Flooding, TRN-USCG_MMS-00059574–583. Based on these findings, Transocean took disciplinary action against the responsible crewmember. Transocean also issued a HSE alert to its entire fleet outlining the casualty and reinforcing the need for crewmembers to adhere to the company’s permit-to-work policy. See AMU HSE Alert, Deepwater Horizon Flooding Incident, TRN-USCG_MMS-00059584-85. In addition, Transocean generated a “lessons learned” analysis of the incident and shared it with its business partner, BP. See BP Safety Sharing the Experience, Horizon Column Flooding Investigation Summary, TRN-USCG_MMS-00059586. Transocean made a full report of the casualty to the flag state, the Marshall</p>

ID #	P. #	Text	Comments
			<p>Islands, and to the class society, ABS. See RMI 00191-192; 00184-186. Finally, an ABS surveyor visited the <i>Deepwater Horizon</i>, surveyed the column affected, and reported that “repairs and requirements are progressing in a very efficient manner” and that “[t]he equipment associated with emergency and safety have been replaced and functioning [sic] properly.” RMI 00195. This response exemplifies the robust nature of Transocean’s safety management system and its commitment to investigate accidents fully whenever they occur.</p> <p>In August 2008, the <i>Deepwater Horizon</i> temporarily lost electrical power for approximately two minutes and suffered a blackout. Power was re-established quickly, and the vessel never “lost station” above the wellhead. Transocean promptly reported the matter to ABS and the flag state. Capt. Curt Kuchta JIT Testimony, May 27, 2010 at 176. See also RMI 00180-181. Transocean also promptly contacted Wartsila, the manufacturer of the generator that failed, see RMI 180-181, and to Kongsberg, which manufactured the control systems for the <i>Deepwater Horizon</i>. See Kongberg Workorder/PO 085019; Wartsila Service Report WO #10178342 (Copies of these documents are attached to this submission as Exhibits C and D respectively). Wartsila and Kongsberg service technicians assisted Transocean in investigating the causes of the blackout, and performed all necessary repairs. The mechanical problems that caused the blackout were resolved. Further, an internal investigation was conducted, and a report made to both Transocean and BP as to the findings. See Initial Findings of DWH Blackout Incident dated Aug. 7, 2008. (A copy of this PowerPoint presentation is attached to this submission as Exhibit E).</p>
036	xix	<p>“Transocean failed to ensure that its onboard management team and crew had sufficient training and knowledge to take full responsibility for the safety of the vessel. The master acknowledged that the training he received on the Safety Management System consisted of viewing a PowerPoint presentation, the content and whereabouts of which he was unable to recall. The master was not aware that he</p>	<p>These statements mischaracterize the Master’s knowledge of the Safety Management System and shows a lack of understanding of the circumstances under which the Captain was testifying. Without benefit of personal legal representation, Captain Kuchta voluntarily appeared before the JIT just over one month after the accident. As the Captain stated at the time regarding his inability to recall the types of</p>

ID #	P. #	Text	Comments
		<p>had the authority to activate the Emergency Disconnect System, a critical step to cut off the flow of flammable gases to the MODU, and the official who received gas alarms was unaware of procedures relating to the activation of the emergency shutdown system in response to such alarms, even though shutting down the engines could have averted an explosion.”</p>	<p>details identified by the Draft Report, “[i]t has been a long five weeks. At this point, I don't recall. Those types of questions, a few weeks ago would have been no problem. But as you can imagine, it's been a rather difficult few weeks. Captain Curt Kuchta JIT Testimony, May 27, 2010 at 173.</p> <p>Regarding the false allegations that the master was not aware of his authority to EDS and the issue of activation of the ESD, see ID # 007, 017. As to the issue of the Master's training on the SMS, as is readily apparent from the testimony, Captain Kuchta was not denying that he had completed the safety management system training, which he stated that he had completed, or that the training presentation was not aboard the DHW, which he stated it was. Rather, the Captain was testifying that, in the aftermath of the horrific circumstances he had just undergone, including him recently attending the Memorial Service for his 11 deceased co-workers, he could not recall these minor details.</p> <p>See ID # 007, 012 & 017.</p>
037	xix	<p>“Transocean failed to require that systems and personnel emphasize maximum emergency preparedness. As discussed above, Transocean allowed the DEEPWATER HORIZON crew to inhibit or bypass gas alarms and automatic shutdown systems, and it did not require robust emergency drills.”</p>	<p>These conclusory statements are not supported by evidence. See ID #s 006, 015, 017, and 018.</p>
038	xix	<p>“Collectively, this record raises serious questions whether Transocean's safety culture was a factor that contributed to this disaster.”</p>	<p>This statement is not supported by the evidence. See ID # 008. (relating to safety culture on the DWH). See <i>also</i> ID # 001 & 030.</p> <p>As to the safety culture within Transocean, the Lloyd's Review found the corporate culture and climate in Transocean's North America Division, which had responsibility for operations in the Gulf of Mexico and other areas offshore the United States, the Lloyd's Register report noted several strengths, including: (1) participants had a good understanding of their broad safety roles and responsibilities, and almost all participants felt that any safety concerns</p>

ID #	P. #	Text	Comments
			<p>raised would be acted upon if they were in the immediate control of the rig leadership team or Senior Supervisors; (2) the overwhelming majority felt empowered with regard to safety on the rig, and a clear belief and commitment to safety was evident in all crews; (3) rig leadership was generally praised by the workforce, and rig management and supervisors were generally seen as highly visible, approachable, and set a good example of the company commitment to safety; (4) there were levels of mutual trust within and between teams, which extended from Supervisors to senior Supervisors (rig based management) and Rig Managers based in Division; and (5) most crewmembers felt that the concept of THINK, START, TOFS (“Time Out for Safety”) and Prompt cards was sound, and that there was a belief that these were fundamentally good risk management tools. Lloyd’s Review, TRN-HCEC-00090500</p>
039	1	<p>“Shortly before 2000, both the Transocean crew and the BP well site leader on the MODU concluded that the second negative test was successful, indicating that the final cement job was satisfactory.”</p>	<p>This statement is misleading. First, the industry standard is that the Operator, here BP, carries the responsibility to interpret the negative test results. See B. Ambrose, Pres. Comm’n Testimony, Nov. 8, 2010 at 205:12-17 (“When you look at the structure of negative tests, the operator will design a negative test and we will set that negative test up to that design. And then their interpretation of that test and the experience to interpret that test resides with the operator.”); Chief Counsel’s Report, Pres. Comm’n, Chap. 4.6 at 159 (“experts and witnesses alike agree that industry practice requires the well site leader to make the final decision regarding whether the test has passed or failed”) Second, the second negative test was <i>believed</i> to have been successful and the cement at the bottom of the well was secure. Transocean states that it was not in a position to determine whether the cement job was successful because BP and Halliburton had withheld the pertinent information necessary to evaluate the cement job’s integrity and BP had canceled the only planned test (i.e. the Cement Bond Log or CBL) to determine the integrity of the cement.</p>
040	2	<p>“A series of alarms indicating the presence</p>	<p>This passage incorrectly suggests that the</p>

ID #	P. #	Text	Comments
		of flammable gas on the Drill Floor and in the Shale Shaker House appeared on the main fire and gas detection system control panel. . . . He observed drilling mud being ejected onto the Drill Floor, but was unable to determine its source.”	series of alarms preceded Mr. Keplinger's observation of the drilling mud. His testimony reflects that he saw the drilling mud being ejected prior to the alarms visually and audibly alerting on the bridge. See ID # 013; Yancy Keplinger JIT Testimony, Oct. 5, 2010 (AM Session), at 167.
041	3	“The master asked and received permission from the OIM to EDS.”	See ID # 017 (Master consulted with OIM, but did not seek his permission).
042	4	“The crew members on board DAMON B. BANKSTON also had a good view of the derrick and testified that the first explosion was on the Main Deck area aft of the derrick, on or near the Drill Floor.”	See ID # 005. The crew members reportedly saw a “green flash” aft of the drill floor; they could not definitely see that this was the ignition point for the first explosion. See Captain Alwin Landry JIT Testimony, May 11, 2010, at 137.
043	5	“16 persons reported sustaining injuries either during the initial explosions or during the evacuation process.”	This statement is misleading as only one person was airlifted due to an injury attributable to the evacuation, and that was because he chose to jump. There were minimal physical injuries during the EER phase.
044	7	“Hazardous Area Electrical Sources: Flammable gas may have been ignited by unguarded electrical equipment in hazardous areas on or near the Drill Floor.”	There is no evidence to support this speculation. See ID # 005, 011.
045	7	“Personnel located in the ECR testified conclusively that they experienced blast forces that destroyed the bulkheads, deck, overhead surfaces, and the exterior bulkhead of Switchgear Room #3. This indicates that flammable gases may have traveled through a ventilation inlet system (located on the aft Main Deck, amidships) to that switchgear room and reached unguarded electrical equipment in the 11 kV switchboard compartments, the 480V switchboard rooms (located in the adjacent ECR, port and starboard) or any of the switchgear rooms located behind each engine.”	See ID # 005, 011. This statement is purely conjecture, and is not supported by the record evidence.
046	7	“Temporary Electrical Circuits: Another potential ignition source could have been temporary electrical circuits installed in hazardous areas on the Drill Floor to support current operations.”	See ID # 005, 011. There is no record evidence to support this hypothesis.
047	8	“To the extent that the explosion may have originated on the Drill Floor, the most likely	See ID # 005, 011.

ID #	P. #	Text	Comments
		source of ignition would be electrical equipment located there.”	
048	9	“On the MODU, the use of properly maintained and certified explosion-proof, intrinsically-safe, or purged and pressurized equipment on the Drill Floor should have prevented the ignition of flammable gases by any electrical equipment installed in the hazardous area. If poorly maintained, however, such equipment could have provided an ignition source for flammable gases. If poorly maintained, however, such equipment could have provided an ignition source for flammable gases. The IMO MODU Code, however, does not contain any requirements for the continued control and maintenance of electrical equipment in hazardous areas.”	See ID # 005, 011. There is no record evidence suggesting that the explosion-proof, intrinsically-safe, or purged and pressurized equipment on the Drill Floor was poorly maintained. Transocean also points out that although the IMO MODU Code does not require continued control and maintenance of electrical equipment in hazardous areas, Transocean’s maintenance system does include such maintenance activities, which further undermines the Draft Report’s contention that the equipment was poorly maintained.
049	14	“ . . . while the ventilation inlets for Engine Room # 6 were located approximately 7.6 m (25 ft.) to 10.7 m (30 ft.) from the Drill Floor.”	This statement could refer to Engine Room #3, not Engine Room #6. The inlet for Engine Room #6 was approximately 36 meters from the rotary center and 17 meters outside the edge of the designated hazardous area. See DWH Rig General Arrangements – Main Deck. Drawing Number A-AA 1002.
050	14	“Gas detectors were installed in the ventilation inlets. Upon gas detection, they would activate an audible and visible alarm at the fire and gas detection system control panel in the CCR, but they were not set to automatically activate the emergency shutdown (ESD) system for the engines or close the engine room ventilation dampers to stop the flow of outside air into the engine rooms.”	See ID #s 012 & 013. Further, such audible and visual alarms would be displayed in the Driller’s Shack and the ECR as well as the CCR.
051	14	“If an engine were to ‘overspeed’ in this manner, it may have led to a catastrophic mechanical failure and caused the ignition of the flammable gas when it came in contact with hot metal fragments.”	See ID # 005. This statement is pure speculation. There is no record evidence to suggest that an engine overspeed resulted in mechanical failure causing the ignitions. Indeed, the Draft Report acknowledges the difficulty in determining the cause of any alleged overspeed.
052	17	“The other engines were supposed to start up to replace the lost engines, but the design of the emergency power system failed to take into account the close	Transocean disagrees that the ventilation inlets were insufficiently spaced apart. The inlets for Engine Rooms 1 and 2 were located at the port side of the main deck, 5

ID #	P. #	Text	Comments
		proximity of the engine space ventilation inlets to each other. Thus, even if the engines were sufficiently spaced apart, the presence of flammable gases near the ventilation inlets could, and likely did, immediately affect all six engine rooms.”	and 6 were located at the starboard side of the main deck, and 3 and 4 were located under the skate, aft of the drill floor. See DWH Rig General Arrangements – Main Deck. Drawing Number A-AA 1002.
053	19	“Flammable gas detectors were provided in the following locations”	The list of locations provided is substantially incomplete and, therefore, misleading. It appears that the Draft Report may have confused the H2S sensor placement with that of the flammable gas sensors.
054	20	“A September 2009 audit of DEEPWATER HORIZON on behalf of BP revealed problems with both the operability of the fire and gas detection system and the training and knowledge of personnel charged with operating it. The audit found that two flammable gas detectors and seven fire detection devices on the MODU were inoperable and required repair. In addition, at the time of the audit, the Drill Shack’s fire and gas detection system panel was displaying numerous active alarm conditions, including fire alarm, fault emergency shutdown, fault fire and gas, and fire and gas override. These fault conditions rendered the fire and gas detection system inoperable at that time. However, the driller and assistant driller on duty at the time of the audit were unaware of the fault conditions.”	<p>The September 2009 BP audit did not reveal any problems with “the training and knowledge of personnel” charged with operating the fire and gas detection system. This passage is also misleading because it neglects to inform readers that the BP audit was conducted during an out-of-service period for the rig, when aspects of the fire and gas detection system would be understandably rendered inoperable while undergoing maintenance.</p> <p>The Draft Report fails to mention that the detectors were fully operational by March 29, 2010, as was verified by BP’s Angel Rodriguez when he visited the DWH in person. BP Audit Work List, BP-HZN-MBI00171071, Item 2.4.7.</p> <p>The ModuSpec Report also states that the fire/gas system was determined overall to be in “good” condition and all detectors that were examined were working well. TRN-HCEC-00090776 (regarding the Fire Alarm system, the audit noted that no detectors were inhibited or any in alarm, and a spot check of the detectors showed them to be secure and well-labeled, with no visible signs of damage); TRN-HCEC-00090778 (regarding the Gas Detection system, the audit noted that there were no detectors either in fault or inhibited condition other than units being serviced, and that gas detectors – both toxic and combustible – were found to be well maintained and in good condition).</p>
055	20	“In addition the chief electronics technician testified that it was standard practice to have a number of detectors set in “inhibited” mode, such that the detection of gas would be reported to the control panel	See ID # 006, 014 & 015.

ID #	P. #	Text	Comments
056	20-21	<p>but no alarm would sound, to prevent false alarms from awakening sleeping crew members during the night.”</p> <p>“The gas and fire detection system was not arranged to automatically stop the engines and other machinery or close ventilation dampers if flammable gas was detected; it instead relied on personnel on watch in the CCR to manually activate the ESD systems. However, the crew was not provided with training or procedures to clarify when conditions warranted activation of the ESD systems and what actions to take in such an event. Thus, when multiple gas alarms were received in the CCR during the well control event, no personnel manually activated the ESD systems for the operating main engines.</p> <p>... When the Bridge crew began receiving the gas alarms, they did not immediately activate the ESD system to prevent ignition by the engines.”</p>	<p>See IDs # 007, 012 & 013.</p> <p>Transocean also points out that ventilation dampers on the rig do not close to engine rooms, as the statement purports. The rig is equipped with ventilation dampers that close to crew quarters.</p>
057	22	Comments referencing “Limitations of A-Class Bulkheads”	See ID # 016.
058	25	<p>“However, the April 2010 ModuSpec USA, Inc. audit found that DEEPWATER HORIZON lacked systems to properly track its hazardous electrical equipment and that the hazardous area electrical equipment on board was in “bad condition.” The audit determined that contrary to the IMO International Safety Management (ISM) Code, none of the classified electrical equipment on the Drill Floor had been tagged with an identification number, and the MODU did not have on board a hazardous area equipment registry or hazardous area drawing that would have identified both the classified electrical equipment and the boundaries of the hazardous areas. Since the crew did not have any means to clearly identify the classified electrical equipment or the extent of the hazardous areas, there can be no assurance that no unclassified fixtures were introduced into the hazardous areas during maintenance or modifications.”</p>	<p>See ID # 011.</p> <p>Further, contrary to the ModuSpec finding, the DWH did maintain a hazardous area equipment registry. Hazardous area equipment was listed within the RMS maintenance system. Also, drawings that delineated the hazardous areas were posted onboard. Transocean is not aware of any requirement that a drawing identify “both the classified electrical equipment and the boundaries of the hazardous areas,” as the comment purports. Transocean therefore objects that the crew did not have any means to identify electrical equipment or the extent of hazardous areas. Transocean also objects that there is no record evidence suggesting that unclassified fixtures were introduced into hazardous areas during maintenance or modifications.</p>
059	26	“Because of the failure properly to track and maintain the electrical equipment, there is no assurance that on the date of	See IDs # 005, 011 & 058.

ID #	P. #	Text	Comments
		the casualty, approximately one week after the audit was completed, the classified electrical equipment was safe and could not serve as an ignition source.”	
060	26	“Another such location was the Drill Shack, which housed the blowout preventer (BOP) control panel. The chief electrician testified that if the access door to the Drill Shack was held open for an extended period of time the work station would ‘lose purge.’ Because the BOP control panel was kept separate under a positive pressure, if the BOP control panel doors were opened causing it to ‘lose purge,’ it would automatically shut down electrical power, requiring the panel to be cleared and restarted. As a result, the crew had set the positive pressure feature of the BOP control panel in a continuously bypassed condition to avoid unnecessary shutdown of the system.”	See ID # 005, 006 & 015.
061	26	“The chief electrician had been told by a crew member the it had ‘been in bypass for five year’ and the ‘the entire fleet runs them in bypass’ With the positive pressure feature bypassed, any flammable gases that entered the BOP control panel could be exposed to unguarded ignition sources without an automatic power shutdown.”	See ID # 005, 006 & 015.
062	26	“Thus, during the well control efforts immediately prior to the explosion, if crew members entered and exited the Drill Shack to such a degree that it resulted in a loss of positive pressure, flammable gases could have entered and made contact with the BOP control panel or other electrical ignition sources within the area.”	See ID # 005, 006 & 015.
063	27	“When the Bridge crew began receiving the gas alarms, they did not immediately activate the ESD system to prevent ignition by the engines. This delay may be attributed to a lack of clear procedures and training.”	See ID # 005, 006, 007, 013 & 017.
064	27	“Beginning at approximately 2100 hours, the drilling crew observed abnormal pressures on the drill string and was initiating steps to shut in the well.”	The drill crew did not observe any abnormal pressures until approximately 2130, when Toolpusher Jason Anderson and Driller Dewey Revette observed and were discussing a differential pressure between the drill pipe and the kill line. See David Young JIT Testimony, May 27, 2010, at

ID #	P. #	Text	Comments
			258-59.
065	27	“Just before the initial explosion, the on-watch DPO received a call from the Drill Floor informing her of a well control situation, followed by a call from the ECR inquiring into the current circumstances on board. By this time, the on-watch DPO was aware of multiple flammable gas alarms. However, she did not inform the ECR personnel of the alarms, nor did she advise them to shut down the engines; she had not been trained to take such actions. The on-watch DPO had access to the controls for the engine room ESD system and the general alarm from the CCR, but did not activate the ESD systems after the flammable gas alarms sounded because she was not aware of any procedures requiring her to do so.”	See ID # 007, 013 & 017.
066	27	“Had the ESD system for the main engines been activated immediately upon the detection of gas in the area, it is possible that the explosions in the engine room could have been avoided or delayed.”	See ID # 013
067	27	“At the time of the casualty, there was confusion on DEEPWATER HORIZON about who was in charge of the MODU arising from the dual-command organizational structure instituted by Transocean.”	See ID # 017.
068	28	“This arrangement may have impacted the decision to activate the vessel's EDS.”	See ID # 013 & 017.
069	28	“Upon his arrival, there was no immediate transfer of responsibility between the OIM and the master and no verbal or PA announcement to indicate that the master had relieved the OIM as the person in charge. This failure to clearly delineate that the responsibility for the operation of DEEPWATER HORIZON had shifted from the OIM to the master created a situation in the CCR where it was unclear who was in charge.”	See ID # 017.
070	29	“As a contracted vessel of BP, DEEPWATER HORIZON underwent inspection audits to ensure that the vessel was in compliance with BP policies and international and U.S. regulations. Two independent audits were conducted: one	This statement is misleading and incomplete. As stated, the BP audit was done in accordance with the criteria established by BP. See BP Drilling Rig Audits and Rig Acceptance (GP 10-40), BP-HZN-MBI00190508. However, the review

ID #	P. #	Text	Comments
		audit was conducted in September 2009 by BP utilizing the International Marine Contractor's Association Common Marine Inspection Document; a second audit was initiated by Transocean and conducted by ModuSpec USA, Inc. in April 2010, a week before the casualty."	<p>conducted by ModuSpec was not required by BP nor by any third party. It was voluntarily done by Transocean as part of its ongoing effort to assess rig and equipment condition as part of its overall Safety Management System efforts.</p> <p>Moreover, this statement ignores the fact that the Coast Guard conducted a Letter of Compliance inspection on the DWH in July 2009, and the DWH was inspected by the MMS on a monthly basis during 2009-2010, to determine compliance with all applicable U.S. regulations. No deficiencies were noted during these inspections. In addition, the ABS conducted statutory inspections of the DWH in September 2009, December 2009, and February 2010 to determine compliance with international, flag state and class rules, and the DWH received all applicable certifications and classifications as a result of these inspections and surveys. See Annex O of Draft Report.</p>
071	30	"BP then conducted its audit and found several deficiencies relating to watertight integrity, fire and gas system, ventilation systems and fire doors."	BP's follow-up audit of March 29, 2010 determined that all aspects of the fire and gas system were operational. Further, the majority of the items identified were corrected by March 30, 2010, before the DWH incident. See ID # 006, 034, 054.
072	31	<p>"A. The exact location of the ignition source or sources that caused the initial and subsequent explosions and fire on DEEPWATER HORIZON cannot be conclusively identified. A number of possible ignition sources may have been present on the MODU, the most likely of which are electrical equipment on the Drill Floor, in the engine rooms, or in the switchgear rooms."</p> <p>"B. The first explosion and fire occurred on the Drill Floor in or near the mud gas separator system. The second explosion occurred in Engine Room # 3 or in one of the adjacent switchgear or electrical rooms."</p>	<p>See ID # 005 & 011.</p> <p>Transocean also points out that these two sections are inconsistent with each other. In paragraph "A" the Report says the exact location of the source of the explosions cannot be "conclusively identified," but paragraph "B" definitively states the location of the explosions.</p>
073	31-32	"The classified electrical equipment installed on DEEPWATER HORIZON at the time of the incident may not have been capable of preventing the ignition flammable gas. Previous audit finding showed a lack of control of the maintenance and repair of such equipment;	<p>See ID # 011 & 058.</p> <p>Again, the statement is contradictory in that it criticizes the condition of the equipment before promptly stating that the condition of the equipment cannot be determined.</p>

ID #	P. #	Text	Comments
		therefore, it cannot be determined whether the classified electrical equipment was in proper condition.”	
074	32	“The fire and gas detection system was not arranged to automatically activate the emergency shutdown (ESD) system if flammable gases were detected in critical areas. The system relied upon the crew on watch in the Central Control Room/Bridge to take manual actions to activate the necessary ESD systems; however, inadequate training was provided to clarify each crew member’s responsibilities in the event of fire or gas detection. As a result, the Engine Control Room was not immediately notified to shut down the operating generators following the detection of gas, nor was the ESD systems activated for these areas.”	See ID # 007, 012 & 013.
075	32	“Additionally, a number of fire and gas detectors may have been bypassed or inoperable at the time of the casualty.”	See ID # 006, 014 & 015.
076	32	“Even though the master, who was responsible for the safety of his vessel, was in the CCR at the time of the well blowout, it cannot be conclusively determined whether his questionable reaction was due to his indecisiveness, a lack of training on how to activate the EDS or the failure to properly execute an emergency transfer of authority as required by the vessel’s operations manual.”	See ID # 007, 013 & 017.
077	32	“As a result, the Engine Control Room was not immediately notified to shut down the operating generators following the detections of gas.”	See ID # 007 & 013.
078	32	“Flammable gases may have affected all six engine rooms since their air inlets were not exclusively located.”	See ID # 052.
079	32	“The Republic of the Marshall Islands’ (RMI) ‘clerical error’ in listing DEEPWATER HORIZON as a self-propelled MODU instead of a dynamic positioned vessel enabled Transocean to implement a dual-command organizational structure on board the vessel. This arrangement may have impacted the decision to activate the vessel’s emergency disconnect system (EDS).”	See ID # 013 & 017. Further, as was noted by the Marshall Islands before the JIT, “[a]t the time of the explosion that occurred on April 20, 2010, the DEEPWATER HORIZON was properly manned under national and international standards for a DPV unit despite the clerical error on the MSMC by the Maritime Administrator that the DEEPWATER

ID #	P. #	Text	Comments
			HORIZON was a self-propelled MODU instead of a DPV unit.” Marshall Islands letter to JIT, dated August 25, 2010 at 2. Thus, the clerical error had no impact on the command structure on the rig at the time of the incident. As such, there is no rational reason for the Draft Report to discuss this clerical error.
080	35	“There is, however, no evidence that prior to the abandonment of the MODU, there was any organized effort to determine the condition or location of crew members who may have been injured or trapped.”	The Draft Report overlooks that during the evacuation several crewmembers engaged in search and rescue efforts and/or attempted to assist injured and trapped crewmembers. See, e.g., Draft Report at 128-130; Chad Murray JIT Testimony, 2010, May 27, 2010 at 327-28 (discovering disoriented crewmember and taking him to medic, then rendering assistance to injured Transocean employee Buddy Trahan). The Draft Report also fails to acknowledge the counter-veiling principle that any additional significant effort to locate/determine the condition of crew members outside the accommodation areas would have put search and rescue personnel at risk. Crewmembers are taught in Major Emergency Management (“MEM”) training to not put those currently “safe” into risk. In light of this training, and in light of the circumstances on the night of April 20, crewmember actions during the casualty were reasonable.
081	35-36	“This section will describe the specifications of these [fire-fighting and fire safety] systems and identify specific limitations and deficiencies in these systems made apparent by the fire on the DEEPWATER HORIZON.”	This statement erroneously implies that the systems are somehow deficient; however, they all met or exceeded applicable regulatory and industry requirements.
082	43	“Although the decision to not fight the fire is considered a reasonable response in this case, post casualty review of onboard weekly fire drill records found some evidence that drills may have become routine and that the crew was not fully engaged in them.”	See ID # 018. This statement is internally inconsistent. First, the Coast Guard states that the crew’s decision not to fight the fire was reasonable. Then, the Coast Guard criticizes the fire drills, states that they may have influenced the crew’s approach to fighting the fire, notwithstanding that the Draft Report concluded it was reasonable.
083	44	“. . . there is evidence to support the view that the routine, repetitive nature of the weekly fire drills had led to a degree of complacency among the crew members	Transocean strongly disagrees, and there is no evidence in the record regarding any degree of complacency by the crew members in their initial response to the

ID #	P. #	Text	Comments
		and that personnel did not fully embrace the importance of fire brigade exercises . . .”	explosions and fire. To imply differently, as this statement does, is a disservice to the crewmembers who put their life on the line to try to undertake an initial fire-fighting effort, and also ignores the testimony of numerous crewmembers who recounted the difficulty in reaching their firefighting stations due to the severe structural damage caused by the explosions, as well as the lack of power that adversely impacted the fire-fighting system’s capabilities. See ID # 018 & 082.
084	44	“There is no evidence that any consideration was given prior to abandonment of the MODU to trying to determine the condition or location of crew members who may have been injured or trapped, except for the chief mate’s independent attempt to organize the rescue of the starboard crane operator, only to be driven back by subsequent explosions.”	This statement is clearly contradicted by testimony on the record. See ID # 080.
085	47	“At 2156, the on-watch DPO activated DEEPWATER HORIZON’s Global Maritime Distress Safety System.”	According to the Draft Report, the EDS was activated at approximately 21:56; the Global Maritime Distress Safety System was activated earlier.
086	47	“At 2310, CG-6605 arrived on scene and assumed the role of On-Scene Coordinator (OSC).”	This statement is incorrect. As the report later recognizes, the role of On-Scene-Coordinator (OCS) remained with the Bankston until April 21, 2010 at 7:30 a.m. when the USCGC ZEPHYR (WPC8) was on-scene and assumed OSC. See Draft Report at 79 (Coast Guard Cutter ZEPHYR assumed on Scene Coordinator duties at 0724 on April 21).
087	48	“The personnel were so scared that they could not provide an accurate count, so the decision was made that they would just to fill the boat to capacity, load the wounded and launch.”	See ID # 020. The claim misrepresents what actually happened. No such decision was consciously made. There were approximately 50 people in each boat, which were certified for 73 people. Thus, the boats were not filled to capacity. Transocean also points out that the majority of crewmembers mustered at the lifeboat stations and were subsequently evacuated on one of two lifeboats.
088	49	“See Figure 11 <i>infra</i> ”	The Draft Report does not contain a “Figure 11.”
089	51-52	“These procedures were not performed during the casualty. This failure may be	See ID # 019. Further, the procedures identified for Phase I and Phase II were

ID #	P. #	Text	Comments
		attributable in part to the presence of the BP and Transocean executives, also referred to as the "leadership team," on board Deepwater Horizon during the casualty. Their presence may have diverted the attention of the OIM and senior toolpusher from the ongoing well conditions and may have caused the drill crew to limit their interactions with these senior drilling crew members."	inapplicable, because the events unfolded such that the crew was in a Phase III scenario.
090	52	"In fact, leading up to the blowout, neither the OIM, senior toolpusher nor the master were actively supervising the performance of the negative test or the displacement of the mud from the drilling riser with sea water."	<p>See ID # 019.</p> <p>This statement ignores the testimony to the JIT that both Jimmie Harrell, the OIM, and Randy Ezell, the Senior Toolpusher, were on the drill floor to discuss and assist the drill crew with issues that arose during the negative test. See Jimmie Harrell JIT Testimony, May 27, 2010 at 25-26 (saying stayed behind from tour to assist crew with annular pressure issues during negative test); Randy Ezell JIT Testimony, May 28, 2010 at 278-281 (indicating that he and Jimmie Harrell discussed issues on negative test with the drilling crew); <i>id.</i> at 282 (stating later called drill floor and spoke with Toolpusher who stated that negative pressure test had been successful). It also ignores the fact that the responsibility for determining the process and the success of the negative test is with the BP on-site well leaders. See ID # 039.</p> <p>The Master plays no part in supervising normal drilling operations, of which the negative test is a part. He is responsible for normal marine operations, until such time as there is an emergency or other issue that affects the safety and/or marine environment, at which time he has overall authority and responsibility. See ID # 017..</p>
091	52	"Thus, had the BP and Transocean executives not been on board DEEPWATER HORIZON that evening, the OIM and the senior toolpusher would likely have been more aware of the existing well conditions. In turn, once the blowout occurred, there is a greater likelihood that they would have been engaged sufficiently to implement the emergency procedures outlined in the operations manual."	See ID # 019 & 089. Neither the OIM nor the Senior Toolpusher were with the VIPs at the time that the negative test was being conducted. See Jimmie Harrell JIT Testimony, May 27, 2010) at 25-26 (stating stayed on drill floor after VIPs left to assist with negative pressure test); Randy Ezell JIT Testimony, May 28, 2010 at 279-280 (stating stayed on drill floor after VIPs left to assist with negative test).
092	54	"10.3.7 At least two widely separated fixed	The DWH had four such ladders, situated

ID #	P. #	Text	Comments
		metal ladders or stairways should be provided extending from the deck to the surface of the water. The fixed metal ladders or stairways and sea areas in their vicinity should be adequately illuminated by emergency lighting.”	on all four corners of the rig.
093	54	“10.3.8 If fixed ladders cannot be installed, alternative means of escape with the sufficient capacity to permit all persons onboard to descend safely to the waterline should be provided.”	The fixed ladders were installed and the availability of the davit-launched life rafts exceeded the minimal life boat requirements.
094	55	“The normal power system failed and was not restored. If all normal power was lost, the 400kW standby generator was designed to automatically start in order to maintain lighting and other standby power. In this incident, the standby generator did not automatically start and could not be manually started despite attempts by the crew.”	The generator is designed to start after a 10 minute delay, and is primarily a backup for the DP system. Nevertheless, the backup generator’s safety system detected the presence of gas and, as designed, prevented the backup generator from starting.
095	55	“It is not clear if there was an inadequate level of battery lighting, if the battery lighting units had been damaged by the explosion, or if they were inoperable because they had not been properly maintained.”	There is no record evidence to support the allegation that the lighting was not properly maintained.
096	56	“The lifeboat arrangement complied with 1989 IMO MODU Code regulation 10.2.4 and provided availability of 200% lifeboat capacity for persons on board DEEPWATER HORIZON.”	This passage contradicts statements made on page 54 of the Draft Report.
097	59	“The liferafts on DEEPWATER HORIZON were not designed or required to provide self contained air support to protect the occupants from harmful air pollutants, occupant restraints (seat belts), means of self-propulsion, or a water spray system to protect occupants from heat and fire.”	Transocean is unaware that any of these features exist on any commercially-available liferafts.
098	62	“This result could be attributed in part to the fact that the personnel on DEEPWATER HORIZON who should have the most knowledge about coordinating a mass evacuation were its merchant marine officers listed in Table 3. Of those officers, at least two of the four senior merchant marine officers did not participate in the muster or the launching of either lifeboat, as they were fulfilling other duties and responsibilities as outlined in	See ID # 018, 019 & 087.

ID #	P. #	Text	Comments
		DEEPWATER HORIZON Station Bill 'Fire & Emergency Stations.'"	
099	62	"Third party contractors were excused from the drills."	This statement is incorrect. Third parties did participate in the drills, and third party witnesses stated that the drills contributed to him evacuating safely. See, e.g., Christopher Haire JIT Testimony, May 28, 2010 (PM Session) at 13 (stating "that training did contribute to getting everybody off safely" and "[f]rom the drills [he] knew where to go").
100	62	"According to the records of drills, the marine crew and the drill crew performed all required drills within their respective occupations, but the entire crew did not collectively participate in the fire and abandonment drills because of drilling operations."	See ID # 020.
101	64	"The damaged condition of the fixed vertical ladders, also called emergency column escape ladders, was noted during the BP Marine Audit in September 2009 and was assigned to be repaired within six months. Those repairs were not completed."	See ID # 092 & 093. This item is inaccurate. As BP was commending Transocean for having completed 63 out of the 70 audit items on March 30, 2010, BP-HZN_2179MDL00033637, BP suggested, and Transocean agreed, that this item by addressed during the 2011 SPS. BP-HZN-2179MDL00033638[3].
102	65	"However, the DEEPWATER HORIZON Station Bill require[s] more than thirty additional emergency positions including fire team leaders, person in charge of muster, and personnel to clear accommodations, to be filled by industrial and catering crews, none of whom are subject to the STCW."	Transocean is unaware of any requirement that these positions be trained to STCW.
103	66	"Had STCW special training requirements for all MODUs been the standard, the certified personnel on DEEPWATER HORIZON would have been required to acquire additional knowledge and an appreciation of the interrelationships of the industrial services and marine operations unique to MODU operations. These competencies may have assisted such personnel in better recognition of hazards and performance of crowd management techniques during the mass evacuation of DEEPWATER HORIZON."	See ID # 102.
104	69	". . . DEEPWATER HORIZON did not execute the duties and responsibilities for a	This is a discussion that is totally unrelated to the reality of the situation faced by the

ID #	P. #	Text	Comments
		<p>man overboard situation as required by its Station Bill. For example, DEEPWATER HORIZON's ship's whistle was not sounded and no instructions/orders were provided to post observers to monitor the persons in the water. Had a regulatory or Code requirement to perform man overboard drills been established, the MODU's crew may have been better prepared to respond to a man overboard."</p>	<p>crew of the DWH after the explosions and fires impaired resources and damaged the capabilities of the rig. It is important to remember that this particular incident was not purely a man overboard situation—it was a full abandonment of the rig. The attention of the bridge crew was turned to responding to the hundreds of alarms, trying to ascertain the situation regarding fire-fighting and damages, trying to obtain power, and determining the need to EDS. Using the Fast Rescue Craft (FRC) from the <i>Damon B. Bankston</i> was the best way to address this issue, rather than launching a lifeboat from the then burning vessel. This fact is recognized in the Draft Report at page 63. The conclusion that a regulatory requirement to perform MOB drills could have assisted in preparing the crew for the circumstances they faced on April 20, 2010 seems extremely remote.</p> <p>Moreover, though not imposed by regulation or statute, the fact is that it is Transocean's practice and requirement to perform MOB drills every 90 days. In a March 29, 2010 e-mail relating to Transocean's commendable progress regarding the September 2009 BP Audit items, BP acknowledged that Transocean had completed a MOB drill. See BP-HZN-2179MDL00033637, BP-HZN-2179MDL00033638[3].</p>
105	69	<p>"Once there was a loss of electrical power, the emergency lighting available in the accommodations, the muster areas, and especially the lifeboat and liferaft lowering stations was inadequate, and there was no lighting over the water into which the lifeboats/liferafts were to be launched, making safe evacuation of personnel and launching of the lifeboats/liferafts more hazardous."</p>	<p>See ID # 094. There was battery powered emergency lighting that successfully illuminated. Widespread lighting failed to come on due to the engine shutdowns and the backup generator being prevented from activating due to gas detection. (See DOC-00003604 ESD IO LIST Stand-By Gen Start.xls and DOC-00003605 F and G CAUSE and EFFECT Stand-by Gen Start.xls)</p>
106	69	<p>"The presence of the visiting BP and Transocean executives in the CCR/Bridge of the Deepwater Horizon immediately prior to the casualty may have diverted attention of the OIM and Senior Toolpusher from the developing well conditions, limited their interactions with the on-watch drilling crew, and led to their failure to follow the emergency evacuation procedures."</p>	<p>See ID # 019, 090 & 091.</p>

ID #	P. #	Text	Comments
107	70	"Transocean's failure to include on board training in the use of davit-launched liferafts, including the proper inflation and lowering of the liferafts at intervals of not more than four months as prescribed by regulations, significantly reduced the crew's competency in performing these functions in an emergency."	Every crewmember is trained to inflate the liferafts during orientation, although the liferafts are usually not inflated because once inflated, they need to be returned to shore and recertified. Liferafts on the cusp of recertification may be inflated for demonstrative purposes.
108	70	"Conducting weekly fire and abandonment drills at fixed times and on predetermined days did not adequately prepare the crew to respond to the casualty "as if the drill was an actual emergency." The crew would have been better prepared if emergency drills were staggered at different times of the day, on different days and during varying environmental conditions."	See ID # 018. It could be argued that the opposite is true. By conducting drills at a standard time, any alarm that sounds outside of that time is presumed to be a real emergency situation. Moreover, the decision to hold the drills at the same time on Sunday was done after due consideration for safety and the potential adverse effects on crewmembers were taken into account. See Captain Curt Kuchta JIT Testimony, May 27, 2010, at 178-197 (indicating that he believes that the crew can be trained better in a controlled environment at an announced time).
109	71	"Failure to require [man overboard] drills made DEEPWATER HORIZON ill-prepared to efficiently recover persons in the water with either DEEPWATER HORIZON's designated rescue boat, or other predetermined emergency response resources."	See ID # 104.
110	72	". . . Transocean's on-scene salvage master, responsible for saving the MODU . . ."	See ID # 026. It is unclear what is meant by this statement. The salvage of the DWH could not begin without the source of fuel from the well being removed, and this never occurred. Thus, no one was "responsible for saving the MODU."
111	73	"Internal damage to watertight subdivisions, poor maintenance of watertight closures, or simply having left watertight closures open prior to the evacuation may have allowed the migration of liquid loads and flooding throughout DEEPWATER HORIZON."	See ID # 021 - 024.
112	74	"Prior to the explosion on April 20, 2010, DEEPWATER HORIZON had established requirements for maintaining the watertight integrity of its internal compartments. The	See ID # 023 & 024.

ID #	P. #	Text	Comments
		investigation identified, however, that during the month of the explosion, DEEPWATER HORIZON was not in compliance with those requirements.”	
113	75	“However, reports from two separate independent materiel condition audits identified issues with the watertight integrity of DEEPWATER HORIZON relating to the maintenance and proper operation of watertight doors and dampers. The first report, issued in September 2009 by inspectors contracted by BP, reviewed watertight integrity and noted that ‘[t]here were failures observed which have raised concerns.’”	See ID # 023 & 024.
114	76	April 2010 ModuSpec audit “identified one issue 'that directly affect[s] the stability of the rig,'” - two hydraulic watertight doors out of service that must be manually opened and closed. “With regard to the ballast control system, the report found issues with all four relays for the valve controls, as they were heating up during operation and required replacement. “The major concern...’would be a flooding problem or safety issues of the watertight integrity of the rig.”	See ID # 023 & 024.
115	76	“[S]ince an MCT survey carried out in 2005/2006 it is reported that two MCTs have leaked or failed under static head pressure. Inventory survey and inspection to be conducted and documented to verify the integrity of MCTs installed in the pontoons, columns, moon pool and Main Deck areas.”	The statement is misleading in that there are hundreds of multiple cable transits (MCTs). That a mere two leaked is inconsequential. Furthermore, the survey took place five years before the date of the incident and is not a reflection of the state of the MCTs on the DWH in April 2010. In fact, the ModuSpec Report on the inspection of the DWH in April 2010 stated that the cables and cable trays were inspected throughout the vessel and all were in good condition with the exception of two at the back of the galley. ModuSpec Report, TRN-HCEC-00090697.
116	76	“Nevertheless, to the extent that the conditions identified in the audits remained uncorrected, when water from fire-fighting vessels was applied onto the MODU, those compartments with faulty watertight closures, leaking MCTs, or damage to their closures could have led to progressive flooding of multiple compartments, creating a situation well beyond the design criteria for withstanding the flooding of one	See ID # 021-25 & 115.

ID #	P. #	Text	Comments
		compartment addressed by the damage survivability requirements in the MODU Code.”	
117	78	“The parties involved in the fire-fighting and salvage efforts made two decisions that, taken together, resulted in a marine fire-fighting effort that lacked direction and coordination and paid insufficient attention to the risks of excess water destabilizing the MODU. These decisions were (1) the Coast Guard’s decision to focus priority on Search and Rescue; and (2) the Transocean salvage contractor’s decision not to develop a salvage plan.”	See ID # 021, 026 & 119.
118	79	“No one from Deepwater Horizon took charge of marine firefighting”	See ID # 021.
119	80	“However, despite having SMIT Salvage Americas in the Transocean emergency response center within about 6 hours of the initial incident, Transocean and SMIT Salvage Americas did not produce a salvage plan in the following day and a half before DEEPWATER HORIZON sank.”	See ID # 026. This statement is erroneous. A preliminary salvage plan was produced on April 21, as the Draft Report recognizes. See Draft Report at 81. It was noted that the primary goal is to control the release from the well, and then gain control of the rig. Since the first step could not be accomplished before the rig sank, the existence of a salvage plan is irrelevant to the cause of, or response to, the sinking of the rig.
120	80	“SMIT Salvage Americas was also getting conflicting reports and did not have a clear line of communication from on scene, which made it difficult to develop a salvage plan”	See ID # 026 & 119. Following the arrival of the SMIT vessel Seacor Vanguard on April 21 st , there was direct communication between the onshore and offshore salvage masters.
121	82	“The investigation has shown that Transocean failed to rely on the DEEPWATER HORIZON’S vessel response plan (VRP) in preparing for and responding to the casualty”	See ID # 027
122	83	“When a Transocean operations manager assigned as coordinator for the Transocean emergency response center was asked ‘Have you heard of what is called a vessel response plan?’ he responded, ‘I am not familiar with the term vessel response plan, no sir.’”	The Draft Report unfairly attempts to suggest that Transocean operations manager did not know what constituted a “vessel response plan.” The vessel response plan is also referred to as an Emergency Response Plan. Accordingly, the Transocean operations manager indicated his familiarity with the Emergency Response Plan document, and testified to the JIT that a copy of the plan was located

ID #	P. #	Text	Comments
			in the emergency response room with Transocean personnel. See Michael Wright JIT Testimony, Dec. 7, 2010 (PM Session), at 198.
123	83	"In the approved Vessel Response Plan, however, a different entity, Marine Response Alliance had been the designated salvage and marine fire-fighting provider."	See ID # 027.
124	84	"It is not known if Transocean ever completed the HECSALV model"	Transocean had the capability in-house of running the HECSALV model had it become necessary, and had started to develop the model at the request of the SMIT Salvage Master. See Doug Martin JIT Testimony, Oct. 4, 2010, at 125-126. Furthermore, there was nothing that could be done with the information from the HECSALV model at the time, so the absence of the model did not affect the actions of the Salvage Master. Id. at 132-133. This issue did not contribute in any way to the loss of the DWH and is therefore irrelevant to the purposes of the investigation.
125	84	"The unavailability of loading information during the response, which would have indicated the displacement, weight centers, and tank levels maintained onboard DEEPWATER HORIZON prior to the incident, prevented responders from being able to take reports from on scene and use a computer model to rapidly evaluate various damage scenarios to possibly determine how long they had until the MODU sank or capsized."	See ID # 028. As stated by the Draft Report, there is no regulatory requirement for the loading information to be relayed to shore. See Draft Report at 85. The information was maintained on the rig.
126	85	"There are no regulatory requirements for the loading conditions of a MODU to be relayed and maintained ashore. Nevertheless, this total lack of any loading information has hampered any precise forensic stability investigation and has made it impossible to verify if DEEPWATER HORIZON was operating in compliance with its stability letter at the time of the incident."	See ID # 028. There is no record evidence supporting any inference that the DWH was not in compliance with its stability letter.
127	85	"33 CFR § 155.240 ("Damage stability information for oil tankers and offshore oil barges"), . . . requires that oil tankers and offshore oil barges have prearranged, prompt access to computerized, shore-based damage stability and residual	Transocean submits that, and as the Draft Report recognizes, this regulation is irrelevant to MODUs such as the DWH.

ID #	P. #	Text	Comments
		structural strength calculations programs. . . . The Coast Guard does not have a requirement for MODUs to comply with these regulations.”	
128	86	Neither IACS nor ABS requires a deadweight survey to be conducted every five years for classification purposes.	See ID # 029.
129	86	“ABS issued a MODU Safety Certificate on behalf of the RMI, without any evidence that the deadweight survey required by the RMI Publication MI-293, was conducted . . . Without the results of a recent deadweight survey, the actual weight of DEEPWATER HORIZON may have increased in the 10 plus years since it was last evaluated, possibly allowing the crew to unknowingly overload the MODU.”	See ID # 029.
130	87	“Transocean did not follow its operations manual, specifically by not maintaining watertight integrity and by not conducting required deadweight surveys.”	See ID # 023, 024 & 029.
131	87	“DEEPWATER HORIZON did not have a deadweight survey conducted every five years as required by the applicable 1989 International Maritime Organization (IMO) Mobile Offshore Drilling Unit (MODU) Code and the Republic of the Marshall Islands’ Publication MI-293.”	See ID # 029.
132	89	However, Transocean’s view of the effectiveness of its company and DEEPWATER HORIZON’s safety management system (SMS) is not supported by the evidence of numerous instances on DEEPWATER HORIZON and other Transocean vessels of deficiencies in safety-related systems, inoperable or poorly maintained equipment with the potential to impact safety, and lack of proper personnel training on issues relating to safety.	See ID # 008, 018, 020, 033, 104, 141, 201 & 202-235.
133	89-90	“The inadequate oversight over DEEPWATER HORIZON by the RMI and its recognized organizations, along with the failure of Transocean’s SMS, created an unsafe environment that allowed the DEEPWATER HORIZON catastrophe to occur.”	See ID # 001 & 008.
134	94	“Many of the discrepancies, if identified	See ID # 008, 033 & 201.

ID #	P. #	Text	Comments
		<p>during an inspection by RMI, DNV, ABS, or the Coast Guard, would have been individually categorized as nonconformities. Collectively, they would have indicated a lack of effective and systematic implementation of the ISM Code and could or would have resulted in the assignment of a major non-conformity for the vessel.”</p>	<p>Furthermore, Transocean submits that the comment that the “discrepancies....could or would have resulted in the assignment of a major non-conformity for the vessel,” is without any evidentiary support. Captain Nguyen, in his examination of DNV’s David McKay, an ISM Code auditor who had conducted the most recent audit of the DWH, essentially “testified” that he, Nguyen, had concluded that multiple “minor” non-conformities “added up to” a major non-conformity. David McKay JIT Testimony, May 26, 2010, at 336-337. But the JIT never received such testimony from a witness, nor any documentary evidence to that effect. Thus, the only statement supporting the “major non-conformity” comment was made by Captain Nguyen in questions posed to Mr. McKay. Captain Nguyen’s pontifications do not constitute evidence.</p>
135	94	<p>“The 2009 DNV ISM audit revealed that the DEEPWATER HORIZON had never clearly stated and documented the master's (captain's) overriding authority and responsibility by the ISM Code.”</p>	<p>See ID # 017.</p>
136	94	<p>“The April 2010 audit noted that the date of the last certification of some of DEEPWATER HORIZON’S blowout preventer (BOP) components was 13 December 2000, which was ‘beyond the 5 yearly inspection, overhaul, and re-certification requirement.’ This failure to inspect and recertify the BOP within the past ten years violates the requirement of the ISM Code to ensure the vessel is maintained in conformity with the relevant rules and regulations, which call for such action every three to five years.”</p>	<p>See ID # 143 & 144. The regulations relating to BOPs are issued by the BOEMRE. In addressing the issue of BOP maintenance, the Draft Report opines in an area outside of Coast Guard jurisdiction and expertise. Furthermore, it does so on a matter that even the BOEMRE has stated that it has not yet decided.</p> <p>The BOEMRE requirements state that BOP maintenance must meet or exceed certain provisions of API RP 53. During testimony in December 2010, Captain Nguyen asserted in his questioning of a Transocean witness that Transocean was choosing to ignore the BOEMRE regulations and use a maintenance system of its own. Mr. David Dykes, the BOEMRE Co-Chair of the JIT, then stated in response to Captain Nguyen's statement as follows:</p> <p>Let me interject something. Billy Stringfield (sic) testified that in his opinion, the condition-based monitoring exceeded the manufacturer's recommendations.</p>

ID #	P. #	Text	Comments
			<p>We have subpoenaed Transocean for that maintenance program, and until we get that to do a gap analysis between what Cameron recommends and what Transocean is doing, we can't answer that question one way or the other as to whether they were in compliance or not.</p> <p>JIT Transcript, Dec. 9, 2010 (AM Session) at 46.</p> <p>As late as April 6, 2011, when the issue of maintenance of BOPs arose, Mr. Dykes stated that the issue of how the regulations regarding BOP maintenance and application of API 53 are interpreted "has been an ongoing discussion with BOEM, within BOEM, both the main and interior, with all the operators on the OCS." JIT Transcript, Apr. 6, 2010, at 76. Transocean asks how the Draft Report can assert that Transocean violated BOEMRE regulations when BOEMRE itself has not made such a determination.</p> <p>Furthermore, Transocean states that its condition-based maintenance of the BOP exceeded applicable BOEMRE rules and regulations. See Transocean BOEMRE Brief at 8-11.</p>
137	94-95	<p>"The September 2009 audit determined that "further assurance is required to demonstrate that the permit to work and energy isolation systems are working as intended and incorporate the rigor that is demanded from such a key element of the Control of Work process. . . . The fact that this safety system remained questionable in 2009 is significant, given that in May 2008, DEEPWATER HORIZON experienced a flooding incident, necessitating \$920,000 in repairs, that was deemed attributable to a 'lack of communication' regarding the opening of valves."</p>	<p>Transocean took appropriate and thorough action in response to the 2008 incident. See ID #0035. Per the MODU Spec Audit, "There was a lock-out/tag-out system in place, and this policy was adhered to by the Transocean crew." (TRN-HCEC-00090755). Additionally, IADC Common Marine Inspection Document (OI3677100203-04), used as underlying for BP September Audit, indicates that no problems were noted with electrical isolation or permit to work (only one instance of mechanical isolation was identified). For the Draft Report to categorize the entire Permit to Work (PTW) system as "questionable" based on one instance of mechanical isolation grossly overstates the significance of this single finding. Moreover, the Corrective Action spreadsheet for the BP audit shows that action to address this item was completed as of October 13, 2009, which was well before incident. Inclusion of an audit finding that had been corrected at the time of the</p>

ID #	P. #	Text	Comments
			incident lacks relevance, and one isolated audit finding does not undermine the appropriate disciplinary and corrective actions Transocean took in response to the May 2008 incident. Transocean's PTW system was robust and functioned well.
138	95	Commentary regarding "Section E. Transocean's Non-Compliance with the ISM Code"	See ID # 008, 033 & 202-35.
139	95	<p>"Despite having a valid DOC, Transocean and some of its other vessels operating throughout the world had a history of non-compliance with the ISM Code as documented in Appendix K. Some noteworthy examples include:</p> <p>In April 2010, TRANSOCEAN DISCOVERER DEEP SEAS operated with an invalid SMC.</p> <p>In March 2009, TRANSOCEAN DRILLER received a major non-conformity for failing to correct previously observed non-conformities. The ISM Code states that the Company should establish procedures for the implementation of corrective action.</p> <p>In April 2009, a review of Transocean's SMS program had significant difficulty in determining the Transocean fleet's ISM certification status, internal/external audits status, and Master Review status."</p>	<p>See ID # 033 & 202-35.</p> <p>The more frequently a vessel is audited the more "findings" that likely will be documented. Transocean voluntarily audited its fleet on a frequent basis. Thus, the important question is whether Transocean has in place a system to track audit findings and to ensure corrective action was developed and implemented in a timely fashion. The overwhelming evidence in the record shows that Transocean has just that.</p> <p>Moreover, the three purportedly "noteworthy" examples of alleged non-compliance with the ISM Code by other vessels in the Transocean fleet are all without merit.</p> <p>First, the <i>Discoverer Deep Seas</i> operated with a valid SMC at all times. The vessel did receive a major non-conformity that was later downgraded for failing to carry out the intermediate audit between the second and third anniversary dates as required by the ISM Code. See § 13.8. This resulted from a misunderstanding by the Master, who thought that the required audit had been completed in conjunction with a number of other surveys and audits done just prior to the expiration of the window for the required audit. Accordingly, the intermediate audit was technically late. This error in no way presented a safety issue. Det Norske Veritas ("DNV"), the recognized organization acting on behalf of the flag state, informed Transocean that the verification audit was overdue. Transocean arranged to have the audit done as soon as it could be arranged, and the mid-period audit was completed promptly. See <i>generally</i> Jerry Canducci JIT Testimony, Dec. 9, 2010 (AM Session) at 33-40. Thus,</p>

ID #	P. #	Text	Comments
			<p>while the vessel was technically not in compliance with the ISM Code audit requirements for a very short period of time, neither the flag state nor the recognized organization acting on its behalf deemed the issue sufficient to invalidate the SMC. Captain Nguyen asserted on several occasions during the testimony of Jerry Canducci that the <i>Discoverer Deep Seas</i> operated with an invalid SMC. <i>Id.</i> Captain Nguyen's statements were immediately challenged and refuted. Captain Nguyen's erroneous and unsupported statements nonetheless were included in the Draft Report.</p> <p>Second, the purported "major nonconformity" for failing to correct previously observed non-conformities onboard the <i>Transocean Driller</i> cited in the Draft Report was down-graded to a non-conformity after the corrective action was discussed. Transocean had in place at the time corrective action procedures in accordance with ISM Code requirements. On the basis of this incident, these procedures, which had formerly allowed corrective actions to be closed by rig managers, were modified to allow corrective actions to be closed only by shore-based management. The corrective action was verified by DNV. See TRN-USCG_MMS-00043662-63; TRN-USCG_MMS-00059316.</p> <p>Third, the Draft Report incorrectly states that in April 2009, a review of Transocean's SMS program had significant difficulty in determining the Transocean's fleet's ISM certification status, internal/external audits status, and Master Review status." See Draft Report at 95. This audit finding was made in April 2008, two years before the casualty onboard the <i>Deepwater Horizon</i>. Moreover, the next Document of Compliance audit for Transocean in April 2009 stated that Transocean had made progress in implementing an audit compliance monitoring tool designed to address the issues, and that Transocean had committed to implementing the system by the third quarter of 2009. See TRN-USCG-00043664. The April 2010 audit noted that continual improvement was evident, and that FOCUS reporting into an</p>

ID #	P. #	Text	Comments
			online Global Management System provided easily and readily available access to personnel online. TRN-USCG_MMS-00059316.
140	95	<p>“Despite Transocean’s record of non-compliance with the ISM Code, DNV failed to connect the dots and endorsed Transocean’s DOC in Houston, Texas on April 21, 2010, at the same time that DEEPWATER HORIZON was engulfed in flames a couple hundred miles away in the Gulf of Mexico. DNV has since sought to explain this decision by stating, ‘ISM Code audits are management system audits and not accident investigations. At the time of the incident, there was no objective evidence available to DNV that this incident was caused by the failures in the safety management system related to compliance with applicable IMO and Flag State requirements.’ If DNV had withheld the endorsement of the DOC, DNV would have essentially restricted operation of all of Transocean’s fleet globally. Instead, DNV validated Transocean’s standards of management for the safe operation on the day after the explosions.”</p>	<p>See ID # 008, 033, 139 & 202-235.</p> <p>The Coast Guard’s criticism of the fact that DNV endorsed Transocean’s DOC in Houston on April 21, 2010, is also unwarranted. The Coast Guard members apparently are second-guessing DNV’s decision and arguing that it should have withheld Transocean’s DOC. This criticism ignores the reality that these audits are scheduled long in advance of the actual date. Neither DNV nor Transocean knew that the <i>Deepwater Horizon</i> incident would occur on the day of the audit. Further, while dismissed in the Draft Report, DNV’s position is correct, that the audit is not an investigation, and that they had no basis to either postpone the audit or determine that the mere fact of the occurrence of the accident was sufficient to withhold the DOC. See Draft Report at 95.</p> <p>Transocean adds that the 2009 and 2010 audits referred to by the Draft Report were also carried out on behalf of the Coast Guard, and that at the time of issuance the Coast Guard did not believe that withholding of the certificates based on the noted observations was appropriate. See TRN-USCG_MMS-00043662; TRN-USCG_MMS-00059316. This tends to undercut the Draft Report’s contention that if the Coast Guard had known, they would have taken more stringent action than that of the flag state or the recognized organization acting on their behalf.</p>
141	96	<p>B. Transocean had a history of poor maintenance on DEEPWATER HORIZON and other vessels.</p> <p>The April 2010 third-party inspection on DEEPWATER HORIZON, just two weeks before the explosion, revealed maintenance deficiencies that could impact safety. For example, it found that:</p> <ul style="list-style-type: none"> •All eight propulsion thrusters had leaking seals, allowing seawater and oil to mix; •Fresh and salt water and fixed fire-fighting 	<p>See ID # 139 & 202-235. These alleged deficiencies are inaccurate. Further, it is apparent from the ModuSpec audit itself that the listed items <u>did not</u> impact safety onboard the <i>Deepwater Horizon</i>, and played no role in the tragic accident on April 20. Moreover, examination of the ModuSpec Report shows that the descriptions of the findings are either erroneous or misleading.</p> <p><u>Thrusters:</u></p>

ID #	P. #	Text	Comments
		<p> piping was corroded and had seized valves; •Watertight doors were inoperable; •Watertight hatches needed replacement; •Navigation lights were extinguished; and, •Electrical power relays were overheating. </p>	<p> Thrusters have a specific safety function. They must be able to perform according to their specifications, or else maintaining station will be impossible. The ModuSpec audit noted that the <i>Deepwater Horizon's</i> thrusters were <u>performing well</u>. The audit also noted that the thrusters overall were in fair condition and that all preventative maintenance was up to date. The leaking seals identified by the Draft Report were shaft seals that permitted water only to enter and to mix with oil in the gear units. The leaks had no impact on performance. The audit's only recommendation with respect to the leaks was to replace the seals at the earliest opportunity, hardly the type of recommendation that would have been made had they presented a significant safety issue. See ModuSpec Report at TRN-HCEC-00090698 (emphasis added). </p> <p> <u>Firefighting Systems:</u> </p> <p> The Draft Report is simply wrong with respect to any alleged problem with the fire-fighting piping. The ModuSpec audit specifically noted that the <u>fire main lines, piping and equipment were in good condition, as were the valves for the fire main line</u>. See id. at TRN-HCEC-00090778 (emphasis added). Other fresh and saltwater pipes unrelated to fire-fighting did require replacement, but this did not constitute a safety issue. </p> <p> <u>Watertight Doors & Hatches:</u> </p> <p> See ID #023. </p> <p> <u>Navigation Lights:</u> </p> <p> The <u>audit determined that navigation lights and their controller were in good condition and that all lamps were functional</u>. See id. at TRN-HCEC-00090697 (emphasis added). </p> <p> <u>Electrical Power Relays:</u> </p> <p> The audit notes that the electrical components in the power systems were in good condition and all preventative maintenance had been completed regularly and was up-to-date. Transocean cannot find in the Audit any mention of overheating </p>

ID #	P. #	Text	Comments
			electrical power relays.
142	96	As discussed in Chapter 1, this same audit found that Transocean had failed to properly track and maintain its hazardous electrical equipment on the Drill Floor, that the equipment was in “bad condition,” and that contractors had been allowed to leave equipment in poor condition on the Drill Floor. As a result, there is no assurance that such equipment did not ignite flammable gas to cause the explosions on April 20.	See ID # 005, 011 & 058.
143	96	One of the more serious maintenance issues identified during this April 2010 audit related to Transocean’s BOP, manufactured by Cameron. The report stated that “upon review of certification documentation it was noted that the date of last manufacturer’s certification was 13December 2000” and “this is beyond the 5 yearly inspection, overhaul, and re-certification requirement.” Rather than follow the American Petroleum Institute Recommended Procedure (API RP) 53, which called for inspection and certification every three to five years, Transocean had decided to use what it called a “condition-based” maintenance program, which did not require inspections on any particular schedule. Transocean also failed to properly document the existence and terms of its BOP “condition-based” maintenance program. Although Transocean claimed that its program was better than API RP 53, because Cameron does not release its maintenance guidelines to external parties, a true comparison between the two programs is not possible. Notably, there is no evidence that Transocean consulted with Cameron before deciding to deviate from Cameron’s established maintenance program.	See ID # 136. Transocean further states that contrary to the allegations in the Draft Report, the evidence shows that Transocean systematically tests and inspects its BOPs with significantly greater frequency than the 3-5 year interval that the Coast Guard states is required. Michael Fry JIT Testimony, April 6, 2011, at 39, 61–62.
144	97	“In addition, the 2009 BP inspection team recommended that for the BOP, Transocean should ‘expedite overhaul of the test, middle and upper pipe ram bonnets which are original and have significantly surpassed the recommended recertification period. Otherwise expedite replacements.’ The audit team advised completion of this overhaul of key BOP parts ‘by end of 2009.’ There is no	See ID # 136 & 143. This is a red herring. The Report bases its statement on a finding from the BP September 2009 Audit. But the finding did not state that the BOP was not in good condition. Additionally, the Draft Report fails to mention that ModuSpec specifically noted that that the rams were in good condition and operating correctly. See ModuSpec Report at TRN-HCEC-00090736.

ID #	P. #	Text	Comments
		evidence that Transocean completed this work before the casualty in April 2010.”	Furthermore, as part of the investigation into the <i>Deepwater Horizon</i> casualty, the BOP was the focus of more than eight months of forensic analysis and testing by multiple federal agencies and independent experts. After this analysis, the examiners stated that a lack of maintenance and deferral of necessary repairs were not either primary causes or contributing causes to the failure of the BOP to stop the well flow of hydrocarbons that enveloped the <i>Deepwater Horizon</i> and the led to the explosions and fire on April 20, 2010. Dr. Gary Kenney JIT Testimony, Apr. 4, 2010 (PM Session) at 676.
145	97	<p>“As this example illustrates, not only did Transocean have maintenance problems on DEEPWATER HORIZON, but once it identified such issues it did not address them in a timely fashion. The September 2009 audit concluded that Transocean’s maintenance of the MODU was inadequate:</p> <p>‘[There were] significant overdue planned maintenance routines in excess of thirty days; these totaled 390 routines which corresponded to 3545 man hours. Many of the jobs were high priority designation, and it is unclear why Transocean did not plan some of these for the service period.’”</p>	<p>See ID # 054. Transocean timely corrected the September 2009 BP Audit items.</p> <p>Transocean also must point out that the Draft Report overlooks the first-hand testimony to the JIT by Chief Engineer for the <i>Deepwater Horizon</i> Steven Bertone, who testified that the figures cited by the Draft Report were over-inflated and did not consist of high priority items. Mr. Bertone testified that when the audit was finished, Transocean had just changed its preventative maintenance system from a system called EMPAC to one called RMS. As a result of changeover in systems, at the time of the BP audit, there were many duplicates and multiple maintenance items appearing that did not relate to the DWH that were among the 390 maintenance routines identified. Steven Bertone JIT Testimony, Jul. 19, 2010, at 70-71; 212-213. Importantly, Mr. Bertone also testified that in the list of overdue planned maintenance routines “there were <u>no</u> major [preventative maintenance] items overdue. There was more moderate to minor.” <i>Id.</i> at 70-71.</p>
146	97	“[W]hen the same auditors conducted an updated status report on March 29, 2010, they found numerous items still awaiting resolution approximately six months after the initial findings. Most were originally given advised completion dates of no more than two months. The extensive list of deferred maintenance on some vital systems documented in Appendix J and Appendix N indicated that the system in	See ID # 034, 201 & 202-235.

ID #	P. #	Text	Comments
		place for the safe management and operation of the MODU was not working.”	
147	97	“This same tendency not to correct deficiencies extended to the company overall.”	See ID # 033 & 230.
148	98	<p>“DEEPWATER HORIZON had two incidents in 2008 that jeopardized the safety of the MODU, but did not result in investigation. In August 2008, DEEPWATER HORIZON lost electrical power and ‘blacked out,’ which resulted in the vessel losing the ability to actively maintain its position for a period of two minutes. When DEEPWATER HORIZON was on station engaged in drilling, it relied upon the proper operation of a dynamic positioning system, consisting of a complex system of shipboard sensors and eight electric motor-powered thrusters, to keep the vessel in one location over the well in various sea states. If power was lost, DEEPWATER HORIZON would not be able to counteract the environmental forces acting on it and could drift off station. Because the riser, the only connection between DEEPWATER HORIZON and the sea floor, is not designed to be an anchor, such drift could impose enough force to break the MODU free from the well head. Although the environmental conditions were calm on April 20, under certain conditions such a power outage could have catastrophic consequences.” “Transocean never conducted an investigation sufficient to determine the precise cause of the blackout. Although the crew planned to change out an actuator and a governor, or a speed limiter on one of the diesel generators, to address the problem, according to ABS’s assistant chief surveyor for offshore, ‘one governor failure on a DP-3 Class rig should not cause any blackout at all.’” “Although not required by law or regulation, neither RMI nor ABS conducted a third-party investigation of this incident. When asked why ABS did not investigate the loss of power, ABS’s assistant chief surveyor for offshore stated, ‘I can only assume that the guy talking with the people onboard understood the situation and decided it wasn’t a Class issue.’ Moreover, ABS did not notify DNV of this event, even though it involved a deficiency that could</p>	See ID # 035.

ID #	P. #	Text	Comments
		<p>seriously affect the safety of ship and personnel. The reason for ABS's failure to notify DNV is not specifically known, but the master of <i>DEEPWATER HORIZON</i> reported to RMI by email that when notified of the event, ABS told the chief engineer onboard that ABS 'did not need to get involved with the situation.'</p>	
149	98	<p>In May 2008, <i>DEEPWATER HORIZON</i> suffered flooding in its starboard forward column. ABS conducted an inspection to verify repairs to the damaged equipment. According to the RMI Report of Vessel Casualty or Accident submitted by the Master:</p> <p>'The preliminary cause is during the early morning of 26 May 08 a 12 inch pipe approximately 5 feet long had been removed from the seawater line, which can be crossed over to the ballast system. The pump was electrically isolated, but the valves that protect the pump room from water ingress were not mechanically isolated. Due to lack of communication a valve in the system was opened causing an ingress of water.'</p> <p>In other words, someone opened a valve that should have remained closed, with an effect similar to cutting a 12 inch hole in the bottom of the MODU. This action most probably resulted from a failure to follow the established procedures for tagging out or securing equipment during maintenance, created a flooding and stability issue that required the evacuation of non-essential personnel to a standby vessel.</p> <p>Although this flooding likely constituted a deficiency 'which may seriously affect the safety of ship, personnel, or the environment' that warranted notification to DNV, there is no evidence that ABS notified DNV of this event. In fact, ABS noted in its Damage Repair Survey on June 3, 2008 that 'This Vessel is not subject to IACS PR 17 (Only when it is NOT required to have an ISM SMC Certificate)' indicating that the surveyor may have incorrectly believed that the ISM Code was not applicable to <i>DEEPWATER HORIZON</i>. Thus, following this incident, DNV did not take any corrective action</p>	See ID # 035.

ID #	P. #	Text	Comments
150	99-100	<p>regarding the SMS onboard <i>DEEPWATER HORIZON</i>.”</p> <p>"Had the bridge crew managed the vessel's "permit to work" (PTW) program, they "likely would have warned [workers in the Mud Room on the day of the casualty] of the emergency."</p>	<p>This statement is speculative and unsupported by any record evidence. First, under the circumstances of the explosions and fires of the magnitude that were experienced on April 20th, it is highly unlikely that anyone would have had time to review the current permits and contact the crew in their various locations during the emergency. Sounding the general alarm was the fastest and most efficient means of alerting all crewmembers of an emergency. Attempting to locate crewmembers engaged in the PTW program would only have distracted the DPO from other more important functions. Second, the on-watch Senior DPO testified that the first explosion, and indeed the fire, had occurred before gas alarms were received on the bridge. Those alarms indicated that there was gas in the shaker room, so he called there to warn people in the vicinity of the gas, just as he was trained. Yancy Keplinger JIT Testimony, Oct. 5, 2010 (AM Session) at 151. In addition, within seconds, another, greater explosion occurred. The Senior DPO testified that the general alarm was sounded, which would have warned everyone on the rig of the emergency. <i>Id.</i> at 151-152.</p>
151	100-101	<p>"During the Joint Investigation Team hearing, Transocean's ISM Designated Person for the North American Division demonstrated very little knowledge of the ISM Code and could not explain the company's program for compliance."</p> <p>"When asked what training key personnel received relating to ISM, he did not know."</p>	<p>The unfairly mischaracterizes the testimony of Transocean's ISM Designated Person for the North American Division, Mr. Jerry Canducci'. Mr. Canducci, in his day-long testimony, spoke in significant detail about Transocean's SMS and ISM compliance program. See, e.g., Jerry Canducci JIT Testimony, Dec. 9, 2010 (PM Session) at 15-17 (explaining in detail the training program for rig-based personnel regarding the Safety Management System); <i>id.</i> at 40-49 (explaining Transocean's ISM management structure and how communications with the flag state are handled within Transocean). This testimony is ignored in Draft Report. The "questions" by Captain Nguyen all implied that, as the DPA, Mr. Canducci was required to have the ISM Code committed to memory. This is unfair. If Mr. Canducci or any other person needs to determine what the Code requires, they would simply</p>

ID #	P. #	Text	Comments
			<p>consult the Code directly. This point was made several times to the JIT. See, e.g., JIT Transcript, Dec. 9, 2010 (AM Session) at 21-22 (Objection by Mr. Johnson (counsel for Mr. Canducci) stating “If I may, Captain. The problem is as the question has been posed to Mr. Canducci, [ISM Code section] 13.9 speaks for itself. . . . If we are being asked to read what is in 13.9, it is very clear what is in 13.9.”); see also <i>id.</i> at 19 (Objection by Mr. Fanning (counsel for PII Jimmie Harrell) stating “Judge, if the witness was called to act on this in his official capacity at Transocean, he would get the code, look at it, talk to his attorneys and talk to other experts and have more opportunity to make a decision.”). Transocean also points out that as purported support for the Draft Report’s assertion that Mr. Canducci’s knowledge was deficient, the Draft Report cites to 143 pages of testimony by Mr. Canducci, making no effort to provide the reader with specific instances of Mr. Canducci’s purportedly deficient knowledge. See Draft Report at 100 & n. 398.</p> <p>The Draft Report’s comment about Mr. Canducci not knowing what ISM-related training key personnel had undergone also distorts the testimony. Mr. Canducci was barraged with unreasonable questions such as what training specific individuals, such as Steve Newman, the CEO of Transocean, had received, and how many vessel masters in the entire Transocean fleet had ISM training. See Jerry Canducci JIT Testimony, Dec. 9, 2010 (AM Session) at 25-26. Understandably, Mr. Canducci did not have an answer off the top of his head to these questions. If the JIT were truly interested in exploring this issue, it could have requested or subpoenaed the records that would accurately reflect this information.</p>
152	100	<p>“Because the ‘lock-out/tag out log’ which tracked work in progress was not controlled by the bridge personnel, the SDPO did not know there were people working in the Mud Pump Room when the combustible gas alarms activated, so he did not call the Mud Pump Room to warn personnel.”</p>	<p>See ID # 150.</p> <p>The Senior DPO testified that the general alarm was sounded, which would have warned everyone on the rig of the emergency, including those within the Mud Pump Room. Yancy Keplinger JIT Testimony, Oct. 5, 2010 (AM Session) at 151-152.</p>

ID #	P. #	Text	Comments
153	100	<p>“ . . . Transocean witnesses and corporate executives consistently maintained that it was BP’s drilling plan and procedures that caused the casualty and that Transocean did not have any input regarding the safety of DEEPWATER HORIZON.”</p>	<p>See ID # 30. This misstates the testimony of Transocean witnesses and corporate executives, making it appear as if they are trying to evade responsibility for the safety of their employees. Every Transocean employee called by the JIT to testify stated under oath that they are responsible for safety, both to the organization and to each other, for every offshore unit that they operate. See, e.g., Adrian Rose JIT Testimony, May 26, 2010, at 450:14-24.</p> <p>Time and again, the JIT heard testimony on Transocean’s “input” on safety onboard the <i>Deepwater Horizon</i>, from pre-operation safety planning to the Transocean-imposed duty on every employee to stop any operation if an unsafe condition was observed. Transocean has implemented several company-wide safety programs designed to empower employees to ensure operations are conducted safely. Three of these safety programs are THINK, START, and Timeout for Safety (TOFS). For more information on these important safety programs, see the Transocean BOEMRE Brief at 2-4 (Exh. A).</p> <p>It is unsupported, in light of the above evidence and testimony, for the Draft Report to suggest that Transocean had no safety “input” onboard the Horizon. This is a prime example of a situation where “[t]here is reason to believe that evidence was presented to the IO but not evaluated in the report.” See USCG, MSM, Vol. V, Pt. A, Ch. 7, §B.2 at A7-2, A7-3.</p>
154	101	<p>The on-watch DPO did not activate the ESD systems because “she was unaware of procedures relating to the activation of the emergency shutdown (ESD) system under such circumstances, even though shutting down engines is a means to avert an explosion.”</p>	<p>See ID # 007, 012, 013 & 036.</p>
155	102	<p>“The investigation has identified weaknesses in Transocean’s emergency preparedness systems that may have reduced the crew’s effectiveness in responding to the well control issue. First, Transocean allowed the crew to bypass emergency safety mechanisms. As noted during the September 2009 audit, ‘control</p>	<p>See ID # 006, 014 & 015.</p> <p>There is no evidence on the record to support this allegation. Transocean did not permit the crew to bypass emergency safety mechanisms. Transocean also did not permit the routine bypass of an automatic shutdown system on the BOP</p>

ID #	P. #	Text	Comments
		<p>of alarms and defeats and bypasses was not well managed, in fact no single person could account for which alarms, etc. were overridden or indeed for what reason.' As discussed in Chapter 1, the crew routinely bypassed an automatic shutdown system designed to turn off electrical power to prevent flammable gas from reaching ignition sources, in order to avoid restarting the system whenever the system activated. It also routinely put gas alarms in 'inhibited' mode, so that any false alarms would not awaken the crew. The fact that Transocean permitted this pattern of bypassing safety mechanisms in a manner that placed crew convenience ahead of emergency preparedness raises questions about its commitment to safety."</p>	<p>panel. Transocean also did not routinely put gas alarms in inhibited mode.</p>
156	102	<p>"Second, the investigation has revealed that DEEPWATER HORIZON emergency drill procedures were not robust. Although Transocean held drills every week to address emergency situations such as fire and abandon ship, they were always held at the same time, which rendered them less realistic and effective than drills held at random times. Transocean required well control drills, but they were limited to just 16 personnel, and the drills never addressed a situation in which a well control issue might lead to a fire and need to abandon ship. Although DEEPWATER HORIZON crew responded to fire drills prior to the casualty in a timely manner, reports from the fire drills onboard identified needed improvement, including: 'Drills need to be treated as the real deal and all life saving equipment needs to be utilized,' 'continue training personnel in the use of life saving equipment,' and 'Still having Third Party Personnel show up at life boats without gloves.' Beyond DEEPWATER HORIZON, several ISM audits revealed deficiencies in the emergency preparedness programs onboard other Transocean vessels."</p>	<p>See ID # 018 & 020.</p>
157	102	<p>"The on-watch dynamic positioning officer failed to follow emergency procedures and sound the general alarm after observing the gas detection alarms, failed to notify the watchstanders in the ECR of the alarms so they could shut down the engines, and did not activate the</p>	<p>See ID # 007 & 013.</p> <p>Additionally, the ECR was aware of the gas alarms. Personnel in the ECR observed the alarms on the panel and called the bridge to inquire as to status, at which time they were informed that the rig was in a well control</p>

ID #	P. #	Text	Comments
		emergency shutdown system for ventilation during a high gas alarm.”	situation. See, e.g., Andrea Fleytas JIT Testimony, Oct. 5, 2010 (PM Session), at 13-14.
158	103	“One report indicated that the original announcement was ‘fire, fire, fire, report to your secondary muster station do not go outside,’ but the crew should have been notified, and already known, that in the response to a well control event leading to a fire they should report directly to the primary muster station at the lifeboats.”	Transocean submits that instructing crew to move outside in a well control/gas situation is not the correct procedure, as it would expose crew to hydrocarbons and/or fire. The Senior DPO made the correct call at the time. When he became aware of the substantial damage to the rig he then instructed personnel to evacuate to the boats.
159	103	<p>“G. Transocean did not instruct <i>DEEPWATER HORIZON</i> onboard management team to conduct proper risk assessment.</p> <p>The numerous maintenance deficiencies, training and knowledge deficiencies, and limited emergency preparedness described above demonstrate that <i>DEEPWATER HORIZON</i> faced clear safety risks that were not confronted in the time period leading up to the casualty. For example, given the important role a BOP plays during an emergency to protect the crew members, who essentially live and work directly above the well, the failure of the onboard management team to demand that the BOP be maintained in accordance with the manufacture’s recommendations is difficult to understand.”</p>	See ID # 008, 013, 018, 020, 136, 143 & 144.
160	103-104	<p>“Under these conditions, a risk assessment tool, such as the one created during the course of this investigation (Appendix M, Operational Risk Assessment), could have been employed to identify the possible consequences of operating <i>DEEPWATER HORIZON</i> in its condition with numerous documented deficiencies. If warranted by the results of the assessment, the onboard management or crew could have exercised their Transocean stop work authority, known as a ‘Time Out for Safety’ (TOFS), which ‘occurs when an observation made by personnel requires the task be stopped for the purpose of addressing an unplanned hazard or a change in expected results.’ According to the Transocean Health and Safety Policy Statement, ‘Each employee has the obligation to interrupt an operation to prevent an incident from</p>	<p>The Draft Report is wrong that Transocean lacks a risk assessment tool. The tool is called “THINK.” As noted in the Lloyd’s Register Survey for all rigs in the North American Division that were surveyed:</p> <p>THINK is a key risk management and planning process on the rigs, and is fundamental to identifying and controlling risk prior to undertaking a task in the workplace. Overwhelming feedback suggests that the workforce supports the [THINK concept] as [a] risk management tool[.]</p> <p>Lloyd’s Review at TRN-HCEC-00090501; see also Adrian Rose JIT Testimony, May 26, 2010 at 44-45.</p>

ID #	P. #	Text	Comments
		<p>occurring.’</p> <p>Transocean, however, did not provide onboard management with a risk assessment tool or other means by which to assess the risks arising from abnormal well conditions and the safety related deficiencies onboard <i>DEEPWATER HORIZON</i>. Not surprisingly, prior to April 20, no crew members took action to institute a safety time out....”</p>	<p>In relation specifically to the Deepwater Horizon, Lloyd’s Register stated:</p> <p>It was clear that there was a belief that the concept of the THINK process was sound and contributed to safe working practices. This was further aided by the fact that the THINK hierarchies were generally understood by the interviewees and were seen as useful and appropriate.</p> <p>Lloyd’s Review at TRN-HCEC-00090587.</p> <p>Thus, the evidence clearly shows that a risk assessment tool exists, and that the workforce within Transocean’s North American Division and particularly on the Deepwater Horizon understood it, supported it and used it.</p> <p>The statement that no crewmembers on the <i>Deepwater Horizon</i> instituted a timeout for safety prior to April 20 is also wrong. Numerous crewmembers from the DWH testified that they had either called a timeout for safety, or were aware of instances in which a timeout had been called on the vessel. See Transocean Submission to the Pres. Comm’n, <i>The Deepwater Horizon – Crew and Safety</i>, p. 12 (noting that Shane Roshto, one of the deceased, called a TOFS in 2008 and was recognized in Transocean’s “I Made A Difference” campaign as a result).</p> <p>This activity was consistent with the Lloyd’s Register survey, which stated that “Deepwater Horizon crew members felt empowered in relation to safety onboard the rig,” and “[m]ost participants . . . felt they would be comfortable calling a [Timeout for Safety].” Lloyd’s Review at TRN-HCEC-00090597.</p>
161	104	<p>Transocean also did not create a climate conducive to such analysis and reporting of safety concerns. In March 2010, Transocean hired Lloyd’s Register, a classification society, to conduct a SMS Culture/Climate Review which included auditors conducting surveys at Transocean offices and vessels over a two week period. The results indicated that “a</p>	<p>See ID # 160. Transocean further submits that the Draft Report takes out of context two sentences extracted from the Lloyd’s 143-page review and twists them to arrive at a conclusion wholly at odds with its overall findings. In fact, the Lloyd’s review determined that:</p> <p>[i]n relation to workforce influence, the</p>

ID #	P. #	Text	Comments
		<p>significant proportion (43.6%) of the personnel participating in the perception survey reported that they worked with a fear of reprisal if a casualty or near miss occurred. This issue is strongly related to the company's casualty investigation process, which nearly 40% of the participants believed was applied to apportion blame." (Reference: Lloyd's Register SMS Climate/Cultural Review 3/9 – 26/2010, TRN-HCEC-00090503). At a company where employees fear reprisal for whatever reason and when there are significant costs associated with any unscheduled shutdown or delay of drilling activities, it is unlikely that the crew would report safety issues even if it identified risks.</p>	<p>findings from the LR EMEA review indicated that the overwhelming majority of participants felt empowered with regard to safety on the rig. In particular, almost everyone felt they could raise safety concerns and those issues would be acted upon if this was within the immediate control of the rig. Supervisor support for legitimate safety concerns was praised on a number of occasions, and it was clear that issues were elevated (when appropriate) via line management structures. <u>In short, individuals reported that they could confidently approach rig management with any safety concerns they may have, knowing that, if their concern was justified, they will receive full backing.</u></p> <p>Lloyd's Review at 00090579. Transocean submits that the Lloyd's Register review stands as strong evidence of Transocean's commitment to and culture of safety onboard its rigs, including the DWH.</p>
162	105	<p>" . . . Transocean was permitted under international regulations to implement a dual-command organizational structure, which reduced the master's awareness of potential threats and his effectiveness in ensuring the safety of his MODU. As discussed in Chapter 1, the dual-command organizational structure may have delayed the activation of the vessel's emergency disconnect system and increased the likelihood of the subsequent events (explosion, fire, loss of life, injury, and sinking)."</p>	<p>See ID # 001, 007 & 017.</p>
163	105	<p>"[D]uring a 2009 audit, Transocean DRILLER was found to have previously identified non-conformities still unresolved. Instead of raising a red flag and issuing a major non-conformity for this failure of the SMS system, DNV unacceptably decided to classify the problem as a simple non-conformity."</p>	<p>See ID # 139.</p>
164	105	<p>"Neither this report or the previous annual safety inspection reports identified: the failure of the vessel to adequately maintain electrical equipment installed in hazardous areas as discussed in chapter 1 and</p>	<p>See ID # 006, 011, 014, 015, 023, 024, 141 & 201.</p>

ID #	P. #	Text	Comments
		Appendix J; the practice of inhibiting gas detection alarms and emergency shut downs identified in chapter 1; and the failure to maintain proper operation of watertight doors also discussed in chapter 1 and appendix J.”	
165	106	“DEEPWATER HORIZON had multiple deficiencies documented in its two audits, including failures of the essential bilge system -- three of the four bilge pumps were tested, and all three bilge pumps failed to function properly.”	See ID # 054 & 141. The bilge pumps were all working at the time of the April 20 th accident. The “failure” the report mentions may be in reference to leaking seals. Regardless of leaking seals, the pumps would have still pumped an adequate amount of liquid out of the bilge. In any event, at the time of the incident, they had been repaired. See BP-HZN-2179MDL00033638[3] (noting that all electrical bilges were fully operational as of Oct. 5, 2009 and confirmed by BP Mar. 29, 2010).
166	110	“Although alcohol use is not thought to be a contributing cause in this incident it cannot be proved.”	There is no record evidence that alcohol played any role in the casualty. The DWH maintains a strict alcohol-free policy. One cannot bring alcohol on the vessel; crewmembers are typically flown to the vessel by helicopter and are prohibited from bringing alcohol in cargo or luggage. To even raise this issue, much less indicate that alcohol could be a contributing cause because every person who managed to evacuate the vessel could not be tested, is harmful to the reputation of the crewmembers of the <i>Deepwater Horizon</i> .
167	111	“Many well-known gaps in the ‘Maritime Safety Net’ for foreign-flagged MODUs aligned and tragically failed to prevent the deaths of eleven people and the largest oil spill in U.S. history.”	See ID # 001, 004 & 008.
168	111	“Transocean’s safety management system had significant deficiencies that rendered it ineffective in preventing this casualty. The company leaders’ failure to commit to compliance with the International Safety Management Code created a safety culture throughout its fleet that could be described as: “running it until it breaks,” “only if it’s convenient,” and “going through the motions.” This is best illustrated by the condition based maintenance of the BOP, the deferral of recertification and required maintenance, the bypassing of alarms and emergency shutdown devices, and the	See IDs #.006, 008, 014, 015, 018, 020, 104, 136, 143, 144 & 202-235.

ID #	P. #	Text	Comments
		conduct of emergency drills. This culture resulted in poor materiel conditions, ineffective decision making, and inadequate emergency preparedness for responding to catastrophic events.”	
169	111	“The crew onboard DEEPWATER HORIZON and Transocean employees failed to identify the potential consequences of their decisions regarding deferred maintenance and the loss of situational awareness regarding the overall safety of the MODU.”	See ID # 001, 004 & 008. There is no record evidence supporting this conclusion. Additionally, there is no record evidence supporting a causal connection between deferred maintenance and the incident.
170	113	“Systematic failures in the Safety Management System of Transocean and DEEPWATER HORIZON rendered the system ineffective in preventing or responding to the flow of hydrocarbons in the riser and the subsequent explosion and fire. The Safety Management System failed to provide proper risk assessment, adequate maintenance and materiel condition, and process safety adherence. The Flag State and USCG did not identify these system failures in time to ensure the safety of the vessel.”	See ID # 001, 008, 160 & 202-235.
171	113	The exact location of the ignition source or sources that caused the initial and subsequent explosions and fire on DEEPWATER HORIZON cannot be conclusively identified. . . . The first explosion and fire occurred on the Drill Floor in or near the mud gas separator system.”	See ID # 005, 011 & 042.
172	113-114	“The classified electrical equipment installed on DEEPWATER HORIZON at the time of the incident may not have been capable of preventing the ignition of flammable gas. Previous audit findings showed a lack of control over the maintenance and repair of such equipment; therefore, it cannot be determined whether the classified electrical equipment was in proper condition. The 1989 International Maritime Organization (IMO) Mobile Offshore Drilling Unit (MODU) Code is insufficient because it does not have clear requirements for the long term labeling and control of classified electrical equipment, nor does it establish requirements or guidance for the continued inspection, repair and maintenance of such equipment.	See ID # 005, 011 & 058.

ID #	P. #	Text	Comments
		The 2009 IMO MODU Code includes criteria for the identification of classified electrical equipment, but does not require an on board maintenance program.”	
173	114	“The fire and gas detection system was not arranged to automatically activate the emergency shutdown (ESD) system if flammable gases were detected in critical areas. The system relied upon the crew on watch in the Central Control Room/Bridge to take manual actions to activate the necessary ESD systems; however, inadequate training was provided to clarify each crew member’s responsibilities in the event of fire or gas detection. As a result, the Engine Control Room was not immediately notified to shut down the operating generators following the detection of gas, nor was the ESD systems activated for these areas. Additionally, a number of fire and gas detectors may have been bypassed or inoperable at the time of the casualty. The 1989 IMO MODU Code is insufficient because it does not include specific requirements for the design and arrangement of gas detection and alarm systems. This concern has not been corrected in the 2009 IMO MODU Code.”	See ID # 006, 007, 012, 013, 014 & 015.
174	114	“Separation of the Drill Floor from the adjacent occupied areas by A-class bulkheads, as specified by the 1989 IMO MODU Code, did not provide effective blast protection for the crew. The majority of injuries occurred in the accommodations areas separated from the Drill Floor by A-class bulkheads. The 1989 MODU Code is insufficient because it does not include minimum standards for the blast resistance of occupied structures. The 2009 IMO MODU Code is also insufficient because it only requires an evaluation to ensure the level of blast resistance of accommodation areas adjacent to hazardous areas is adequate, and fails to address structures housing vital safety equipment.”	See ID # 016.
175	114	“Flammable gases may have affected all six engine rooms since their air inlets were not exclusively located.”	See ID # 052.
176	114	“The Republic of the Marshall Islands’ (RMI) ‘clerical error’ in listing DEEPWATER HORIZON as a self propelled MODU	See ID # 017.

ID #	P. #	Text	Comments
		instead of a dynamic positioned vessel enabled Transocean to implement a dual command organizational structure on board the vessel.”	
177	115	“The guidance circulars used by Coast Guard MODU inspectors and the offshore industry are inadequate.”	As recognized by the Draft Report (see page 30 at footnote 110), the Coast Guard issues circulars to help guide industry towards non-exclusive methods and best practices for compliance. Guidance documents such as circulars are widely used by regulators to enhance compliance by regulated industries. That the Draft Report concludes, without explanation, that “draft circulars” are “inadequate” is misguided and, Transocean submits, incorrect.
178	115	“The fire brigade members quickly decided that the fire was not controllable and did not begin active fire-fighting efforts. Although that was a reasonable response in this case, there is evidence to support the view that the routine, repetitive nature of the weekly fire drills had led to a degree of complacency among the crew members and that personnel did not fully embrace the importance of fire brigade exercises.”	See ID # 018.
179	115	“The fire main system was not capable of operation after all electrical power was lost, because only electric motor driven fire pumps were provided. The 1989 IMO MODU Code as amended in 2009 is insufficient because it does not require a portion of the pumping capability to be supplied by diesel pumps or similar independent sources.”	The DWH was in full compliance with all existing rules and regulations at the time of the incident.
180	115	“The A-class fire barriers surrounding the Drill Floor were not effective in preventing the spread of the fire. A-class bulkheads are not tested for exposure to hydrocarbon fire sources. The 1989 IMO MODU Code as amended in 2009 is insufficient because it does not require fire separations between the drilling area and adjacent accommodation spaces or spaces housing vital safety equipment to withstand such exposures.”	See ID # 016.
181	116	“A fixed deluge system for the protection of these areas would not place the fire brigade members in jeopardy and could be rapidly activated upon gas detection to	This is pure speculation, particularly in light of the fact that the fire-fighting system was not available to the crew on the DWH after the explosions and loss of power..

ID #	P. #	Text	Comments
		mitigate the effects of a possible explosion.”	
182	116	“The prescriptive standards in the IMO MODU Code do not provide an adequate level of fire protection when considering fires of the magnitude experienced on the Drill Floor and adjacent areas of DEEPWATER HORIZON. The 1989 MODU Code is insufficient because it does not require a supplemental performance-based risk analysis to calculate the necessary levels of protection for the unique design, arrangement and operation of each MODU. The 2009 amendments to the IMO MODU Code now require an engineering evaluation to determine the level of fire protection needed for occupied areas that are located adjacent to the hazardous areas on the Drill Floor, but it does not provide guidance on the method for performing the engineering evaluation or defining acceptance criteria.”	The DWH was in full compliance with all rules and regulations at the time of the incident, and had no obligation to exceed those requirements, as this suggests.
183	116	“The presence of the visiting BP and Transocean executives in the Central Control Room/Bridge of DEEPWATER HORIZON immediately prior to the casualty may have diverted the attention of the offshore installation manager and senior toolpusher from the developing well conditions, limited their interactions with the on-watch drilling crew, and lead to their failure to follow the emergency evacuation procedures.”	See ID # 019.
184	116	“The International Convention on Standards for Training, Certification and Watchstanding (STCW) does not currently identify a MODU as a ‘Special Ship,’ for which marine personnel would be required to undergo specialized training prior to certification.”	See ID # 102.
185	117	“Transocean’s failure to include on board training in the use of davit-launched liferafts, including the proper inflation and lowering of the liferafts at intervals of not more than four months as prescribed by regulations, significantly reduced the crew’s competency in performing these functions in an emergency.”	See ID # 107.
186	117	“The crew would have been better prepared if emergency drills were	See ID # 018 & 108.

ID #	P. #	Text	Comments
		staggered at different times of the day, on different days and during varying environmental conditions.”	
187	117	“The failure to integrate weekly well control and evacuation drills limited the crew’s ability to demonstrate knowledge and understanding of their duties and responsibilities as outlined in DEEPWATER HORIZON’s operations manual and the emergency response manual.”	See ID # 019 & 020.
188	117	“The storage location of the knife in DEEPWATER HORIZON’s liferaft was not easily identifiable to the occupants. Had reflective tape and standard IMO symbols been used, the occupants likely could have found the knife and freed the raft from the painter line on their own.”	Transocean’s liferafts are manufactured to meet regulatory requirements and serviced by certified inspectors.
189	118	“There currently are no IMO MODU Code standards or Coast Guard regulations to require quarterly drills for a man overboard on MODUs. Failure to require these drills made DEEPWATER HORIZON ill-prepared to efficiently recover persons in the water with either DEEPWATER HORIZON’s designated rescue boat, or other predetermined emergency response resources.”	See ID # 104.
190	119	“The lack of a salvage plan that identified a leader of the fire-fighting effort extended the amount of time DEEPWATER HORIZON was exposed to an uncoordinated fire-fighting effort.”	See ID # 021 % 026.
191	119	“Transocean did not follow its operations manual, specifically by not maintaining watertight integrity and by not conducting required deadweight surveys.”	See ID # 023, 024 & 029.
192	119	“DEEPWATER HORIZON did not have a deadweight survey conducted every five years as required by the applicable 1989 International Maritime Organization (IMO) Mobile Offshore Drilling Unit (MODU) Code and the Republic of the Marshall Islands’ Publication MI-293.”	See ID # 029.
193	119	“DEEPWATER HORIZON and its owner, Transocean, have had serious safety management system failures and a poor safety culture manifested in continued	See ID # 001, 004 & 008.

ID #	P. #	Text	Comments
		maintenance deficiencies, training and knowledge gaps, and emergency preparedness weaknesses discussed above, which culminated in the casualty at the Macondo well on April 20, 2010. Many well-known gaps in the 'Maritime Safety Net' for foreign-flagged MODUs aligned and tragically failed to prevent the deaths of eleven people and the largest oil spill in U.S. history."	
194	119	"DEEPWATER HORIZON's safety management system had significant deficiencies that rendered it ineffective in preventing this casualty. It failed to support proper risk assessment and decision making by DEEPWATER HORIZON leadership, to provide adequate maintenance of safety critical equipment, and to ensure the crew was trained and ready to respond to emergencies."	See ID # 001, 004, 008 018, 020 & 160.
195	120	"Transocean's safety management system had significant deficiencies that rendered it ineffective in preventing this casualty. The company leaders' failure to commit to compliance with the International Safety Management Code created a safety culture throughout its fleet that could be described as: 'running it until it breaks,' 'only if it's convenient,' and 'going through the motions.' This is best illustrated by the condition based maintenance of the BOP, and the deferral of recertification and required maintenance, the bypassing of alarms and emergency shutdown devices, and the conduct of emergency drills. This culture resulted in poor materiel conditions, ineffective decision making, and inadequate emergency preparedness for responding to catastrophic events."	See ID # 006, 008, 014, 015, 018, 020, 104, 136, 143 & 144, 201 & 202-235.
196	120	"The crew onboard DEEPWATER HORIZON and Transocean employees failed to identify the potential consequences of their decisions regarding deferred maintenance and the loss of situational awareness regarding the overall safety of the MODU."	See ID # 001, 004 & 008.
197	H-1	Commentary regarding "Appendix H: Critical Events Timeline"	The timeline omits many of the most "critical events" such as the internal decisions being made at BP of which Transocean had no knowledge, the failed cement testing in the lab at Halliburton, and the dramatic

ID #	P. #	Text	Comments
			changes to the temporary abandonment procedure that unnecessarily significantly increased the possibility for a blowout to occur.
198	H-11	"Mr. Kaluza had no prior experience as the well site leader on DEEPWATER HORIZON."	The Draft Report is incorrect. Mr. Ezell recently testified that Mr. Kaluza had actually been aboard the <i>Deepwater Horizon</i> in 2001. See Randy Ezell MDL Deposition Testimony, Apr. 28, 2011, at 615.
199	H-12	Events Referenced at 1700	<p>Transocean submits that the correct time should be closer to 1730.</p> <p>Transocean submits that the problem with the annular was that it was not completely sealing off spacer from leaking below it during the first line-up of the negative pressure test, which is not unusual because annulars are not specifically designed to hold differential pressure from above the annular.</p>
200	H-14	Events Referenced at 2150	The call from the Assistant Driller to Mr. Ezell occurred several minutes earlier, as did the call from Mr. Anderson to Mr. Vidrine.
201	J-1 - J-6	Synopsis of Audits and Surveys	<p>This Appendix is completely irrelevant to the causes, or even potential causes, of the marine casualty on the <i>Deepwater Horizon</i>, and for this reason should be completely deleted from the Draft Report .</p> <p>Moreover, many of the items that are listed in the Appendix are inaccurate. It is documented that the condition of the vast majority of others on April 20, 2010 was not as listed in the chart, despite the attempt on the part of the Draft Report to imply that they were. These errors, inaccuracies and misstatements are addressed in more detail in other parts of this chart, and are too numerous to provide cross-references.</p> <p>Transocean objects to the conclusions made in the chart for many reasons, including the following:</p> <p>(1) The sources of the items listed are the 2009 BP Marine Assurance Audit and the April 2010 MODUSpec Audit. Regarding the BP Audit, it is documented that the deficiencies found in the BP audit were 90%</p>

ID #	P. #	Text	Comments
			<p>resolved by March 29, 2010, and cleared off by BP auditors. See ID # 034. Further, the remaining items had corrective actions in place that were being monitored by Transocean and BP. Regarding the MODUSpec Audit, it has been noted earlier the lack of accuracy on the part of the JIT in stating the findings of the Audit, and in some cases the items as stated imply conditions were worse than reflected in the actual audit. See ID # 141.</p> <p>(2) The Appendix implies that the <i>Deepwater Horizon</i> was not in compliance with applicable Coast Guard, flag state and international standards. This is false as stated in para. (3). This Appendix also implies that the Coast Guard requirements are more stringent than international and flag state requirements. This ignores the fact that U.S. flag MODU's can choose to comply with the MODU Code and class society standards under the Coast Guard's alternative compliance program, and to have compliance verified by class society surveyors, including the ABS. See Coast Guard NVIC 02-95, Change 2. In other words, for all intents and purposes, the <i>Deepwater Horizon</i> met the same standards as a U.S. flag MODU.</p> <p>(3) Coast Guard inspectors conducted a Letter of Compliance inspection on the <i>Deepwater Horizon</i> in July 2009 and found no deficiencies. The <i>Deepwater Horizon</i> had a valid Letter of Compliance indicating compliance with all applicable Coast Guard regulations on April 20, 2010. In addition, the ABS conducted statutory inspections for compliance with the MODU Code and other international standards in September 2009, see RMI 00222-232, and again in December 2009, see RMI 00211-219, which included a Marshall Islands annual flag inspection. Some discrepancies were found, and they were followed up on by ABS in February 2010, see RMI 00205-210. At no time did either the Coast Guard or the ABS on behalf of the flag state determine that the vessel needed to cease operations. In fact, the <i>Deepwater Horizon</i> was determined to be in compliance with the MODU Code by ABS surveyors and had a valid Letter of Compliance from the Coast Guard showing compliance with all</p>

ID #	P. #	Text	Comments
			<p>applicable Coast Guard regulations.</p> <p>(4) The vast majority of items in Appendix J are deemed to be violations of the ISM Code. It should be noted that Transocean as the vessel owner/operator had been audited by DNV on behalf of various flag states, including in 2009 and 2010 on behalf of the United States, and had a valid Document of Compliance from all flag states under which their MODUs operated continuously since July 2002 when the ISM Code became applicable to self-propelled MODUs. In addition, the <i>Deepwater Horizon</i> had been audited as required under the ISM Code and had maintained a valid Safety Management Certificate since July 2002.</p> <p>(5) The majority of the items listed are maintenance-related. Under the ISM Code, Part 10, a Company is required to establish procedures to ensure the ship is maintained in accordance with all relevant rules and regulations. In doing so, the Company is required to ensure inspections are conducted at appropriate intervals, that non-conformities are reported with their causes, that appropriate corrective action is taken and that records of these activities are maintained. The evidence shows that Transocean met all of these requirements for a maintenance system. In fact, the information in Appendix J would not have been available if Transocean did not meet the requirements of Part 10 of the ISM Code. What Appendix J chooses to ignore with regard to the 2009 BP Marine Assurance Audit items is the fact that corrective actions were identified as required by the ISM Code, and for 90% of the items, completed before April 20, 2010. (There was insufficient time between the completion of the MODUSpec audit and the loss of the rig to input the findings of the audit into a tracking system for corrective action.)</p> <p>(6) There are six items that Appendix J alleges would have been required to have been reported to the Coast Guard and/or would have resulted in a requirement to cease operations had the <i>Deepwater Horizon</i> been a U.S.-flag vessel. The actual facts do not support these</p>

ID #	P. #	Text	Comments
			<p>contentions for any of the items listed. :</p> <ul style="list-style-type: none"> <li data-bbox="954 296 1469 751">• Heli-foam system inhibited (J-2) – The item implies that this finding constituted a violation of 46 C.F.R. § 108.487. The issue was that there was an ESD fault on the bridge control system due to the system being inhibited,. 46 C.F.R. § 108.487 does not address this issue in any way. The situation was immediately corrected, and procedures were put in place to ensure that a check list for pre-arrival of helicopters included an item to ensure all critical systems were operational. See Deepwater Horizon BP Audit Correction List (Rev. Date 1-10-10). <li data-bbox="954 793 1469 1881">• Driller's cabin fire/gas panel displaying alarms/faulty (J-5) – The Coast Guard regulation cited states that before making any repairs or alterations, except for routine maintenance, minor repairs, or emergency repairs or alterations, the nature of the repairs or alterations must be reported to the Coast Guard OCMI. If emergency repairs or alterations are made, they are required to be reported to Coast Guard. The MODU Code provision cited requires that an automatic fire detection and alarm system that meets SOLAS requirements be installed in service areas. The item as reported in the BP Audit was that there were some faults in the driller's panel fire and gas system, which is a slave to the main bridge system. There was no violation of the MODU Code requirements as the applicable SOLAS requirement the MODU Code provision cites requires that the control panel be located on the navigating bridge. SOLAS II-2/13. Thus, the system was neither in violation of the MODU Code, nor would the repair need to be reported to the Coast Guard for U.S. flag MODUs under the clear terms of the cited regulation. Moreover, a Simrad service technician was sent to the vessel and repairs were made to the driller's panel by December 2, 2009. See Deepwater Horizon BP Audit Correction List (Rev. Date 1-10-10).

ID #	P. #	Text	Comments
			<ul style="list-style-type: none"> <li data-bbox="954 268 1469 1270"> <p>Main Engine # 1 Inoperable (J-5) – The BP Audit indicates that the # 1 engine was inoperable. This was because the rig was awaiting the arrival of a common rail type fuel pump that was on order. Appendix J implies that this would have been a reportable marine casualty for a U.S. flag MODU. This is wrong. The Deepwater Horizon was equipped with six Wartsila engines, which meant that at any one time, an engine could be down for maintenance or repair. Common operating condition was to have one main engine in operation, and one in standby, with the other engines not being used. 46 C.F.R. § 4.05-1 defines a reportable marine casualty as including "a loss of main propulsion, primary steering, or any associated component or control system <u>that reduces the maneuverability of the vessel.</u>" (Emphasis added). At no time did the inoperability of Main Engine #1 affect the maneuverability of the vessel such as to meet the definition of a reportable marine casualty. There were, at the time, five other engines working. Further, the fuel pump was received and installed by October 1, 2010, and this item was closed. See Deepwater Horizon BP Audit Correction List (Rev. Date 1-10-10).</p> <li data-bbox="954 1312 1469 1881"> <p>Saltwater and freshwater pipes corroded and damage/inoperable valves (J-6) – Appendix J implies that this is a reportable marine casualty; it clearly is not as it does not meet the definition of a reportable marine casualty (46 C.F.R. § 4.05-1). The MODU Code provision cited relates to bilge pumping arrangements (IMO MODU Code (89) § 4.8). The cited provisions have nothing to do with the saltwater and freshwater systems, as is implied in Appendix J. In fact, the MODUSpec audit noted that the bilge system was in fair condition, and that all of the preventative maintenance items for the system were up to date and being completed on a regular basis. The items as identified in the</p>

ID #	P. #	Text	Comments
			<p>MODUSpec Audit indicated that the saltwater and freshwater lines were corroded and leaking, and needed to be replaced. It also noted that the crew was patching and replacing sections of the pipe until new piping could be installed, and was keeping up with preventative maintenance. Moreover, in the Rig Hardware Assessment, all of these systems were noted to be status B-2, meaning that they were major equipment items that were getting close to OEM limits or nearing the end of useful life; they were not deemed critical safety items. The recommendation for all the piping and valves was to replace them as needed. The conclusion that the rig would need to cease operations because of this condition is not supported by the facts.</p> <ul style="list-style-type: none"> • 2 hydraulic watertight doors inoperable (J-6) – Appendix J states that 46 C.F.R. § 109.419 requires this condition that was identified in the MODUSpec Audit to be reported for U.S. flag MODUs. This is wrong. The section requires that a report of unsafe equipment be made to the Coast Guard if "a boiler, unfired pressure vessel, or other machinery on the unit is unsafe to operate." The MODUSpec audit states that there were two hydraulic doors that were not working correctly and that they had to be manually opened with a pump, but that overall the hydraulic doors and hatches were in fair condition. The doors at issue were clearly not "unsafe to operate," and therefore do not meet the criteria for reporting under 46 C.F.R. § 109.419 even for U.S. flag MODUs. Further, they were closed, and did not impact the watertight integrity of the vessel. The MODU Code provision cited only states that where penetrations of the bulkhead are necessary, arrangements to maintain the watertight integrity of the vessel should be made. The vessel clearly met this criteria at the time of the Audit. Again, the conclusion that the rig would need to cease operations because of this condition is not supported by the

ID #	P. #	Text	Comments
			<p>facts.</p> <ul style="list-style-type: none"> Escape routes in columns in bad condition and in need of repairs/replacement (J-6) – Appendix J cites to a requirement in the Coast Guard regulations for U.S. flag MODUs that requires that there be two means of escape from weather deck areas where personnel may normally be employed, and for interior spaces that are continuously manned or used on a regular basis. The MODU Code provision cited has requirements for means of escape from accommodation spaces, service spaces, control stations and machinery spaces. The MODUSpec item noted that the walkways "going down the forward and aft columns of the rig were in bad condition due to being in the water most of the time when on location," and recommended that "the ladders and walkways on the lower part of all four columns of the rig" be replaced as needed. The ladders at issue were on the outside of the columns, and were not in areas that were normally manned or used. Therefore, the regulations and standards cited did not apply to them. Again, the conclusion that the rig would need to cease operations because of this condition is not supported by the facts. <p>The facts as stated for these items, which according to Appendix J are the ones that would require reporting to the Coast Guard and/or cessation of operations, clearly show that the conclusions in Appendix J are based on misstatements regarding the nature of the items, and misstatements or misapplication of the regulations and standards cited. It is likely that many of the other items cited in this Appendix suffer from the same faults. The entire Appendix should be removed from the Report.</p>
202	K-1, K-6	September 2009 - BP Maritime Assurance Audit of Deepwater Horizon identified numerous discrepancies that violated USCG regulations and international standards, and if known by USCG, it would have resulted in ceasing of vessel	It is pure speculation as to whether the Coast Guard would have ordered the cessation of vessel operations based on any of the items in the BP Marine Assurance Audit. Further, it is unclear what is meant by "violated USCG regulations."

ID #	P. #	Text	Comments
		operations.	<p>See ID # 201 (regarding most recent Coast Guard and ABS statutory inspections).</p> <p>This statement also ignores the fact that the deficiencies found in the BP audit were 90% resolved by March 29, 2010, and cleared off by BP auditors. See ID # 034. Further, the remaining items had corrective actions in place that were being monitored by Transocean and BP.</p>
203	K-1	April 2010- Transocean intentionally used its "condition-based" maintenance program instead of complying with 30 CFR § 250.446 for maintenance and inspection of Deepwater Horizon's blowout preventer.	See ID # 136, 143 & 144.
204	K-1, K-6	April 2010 – MODUSpec audit identified several discrepancies that violated USCG regulations and international standards, and if known by USCG, it would have resulted in ceasing of vessel operations.	See generally ID # 201 & 202.
205	K-1	April 2005 – Transocean Offshore Deepwater Drilling Inc. – Currently, engineering work carried out within Transocean does not go through a formal approval process by a third party (e.g. class, flag administration, coast state administration, etc.) is not formally verified by (sic) within the Company. Company should review their practices and introduce a minimum level of formal verification of work specified above.	This audit finding was addressed before the casualty, could not have contributed to the casualty, and is therefore irrelevant. It was noted as an observation for improvement. The Company was audited in 2006, 2007, 2008, and 2009 by the same DNV auditor who conducted the 2005 audit, David McKay. In the 2006 audit, this observation was not listed again. See TRN-USCG_MMS-00059341. This means that in the intervening year, it was adequately addressed to the satisfaction of the auditor who originally noted it. See <i>id.</i> at 00059342 (noting that "Corrective actions from previous audits were verified"); see also David McKay MDL Deposition Testimony at 234–236.
206	K-1	January 2007 – Transocean Offshore Deepwater Drilling Inc. – There is currently no formal means to ensure that design engineers have access to the correct revisions of relevant codes, standards, and regulations.	<p>See generally, ID # 205.</p> <p>This audit finding was addressed before the casualty, could not have contributed to the casualty, and is therefore irrelevant. See TRN-USCG_MMS-00059291 (noting that "Corrective actions from previous audits were verified"); see also David McKay MDL Deposition Testimony at 234-236.</p>
207	K-1	March 2009 – Transocean Driller received a major non-conformity for not correcting non-conformities as indicated in the	<p>See generally, ID # 139 & 205.</p> <p>This audit finding was addressed before the</p>

ID #	P. #	Text	Comments
		vessel's maintenance tracking system and as was reported to the flag state.	casualty, could not have contributed to the casualty, and is therefore irrelevant.
208	K-1	April 2005 – Transocean Offshore Deepwater Drilling Inc. – The corporate Designated Person and Designated Persons in the regional office should have an overview of all ISM audit results relevant to their jurisdiction/operations	<p>See <i>generally</i>, ID # 205.</p> <p>This audit finding was addressed before the casualty, could not have contributed to the casualty, and is therefore irrelevant.</p> <p>Further, it is apparent that progress on this item was followed by the DNV auditor in subsequent audits of the Company in following years. See for example Transocean 2009 Annual ISM DOC Audit, TRN-USCG_MMS-00059325, 00059327 (dated 2009-04-16) (stating "Progress on the development of the tool (Audit Compliance Monitoring System) to manage overview of Fleet ISM certification, Internal/external audit status, and Master Review status was noted."); Transocean ISM Code DOC Annual Audit dated 2010-04-21, TRN-USCG_MMS-00043662-63 (stating "Continual improvement was clearly evident as noted in addition of FOCUS, SMART and SQA reporting into the online Global Management System (GMS) reporting system, as well as the re-categorizing and online formatting of the eDocs SMS Manuals online, <u>providing easy and readily available access to all personnel online . . .</u>") (emphasis added).</p>
209	K-2	<p>20 April 2010 – Deepwater Horizon's safety management system was designed to operate similar to a fixed platform with the OIM in charge.</p> <p>20 April 2010 – "The function of the vessel and performance of personnel are the responsibility of the offshore installation manager (OIM)."</p> <p>The master was not in the charge (sic) of Transocean drilling personnel, BP representatives or BP contractors while the MODU was latched up.</p> <p>In response to uncontrolled escape of hydrocarbons, the Transocean OIM had to consult with the BP's (sic) drilling representative before requesting the master to proceed with procedures to move off location.</p>	<p>These statements are cited as discrepancies involving compliance with ISM Code §§ 5.1 and 6.1.3. The statements do not reflect the reality of the situation on the <i>Deepwater Horizon</i> on April 20, 2010.</p> <p>See <i>generally</i> ID #017.</p> <p>In making these allegations, the testimony to the JIT regarding the actual policies in place on board the <i>Deepwater Horizon</i> on April 20, 2010 have been ignored. For instance, the <i>Deepwater Horizon</i> Operations Manual and <i>Deepwater Horizon</i> Organization Chart is cited. In questioning by the JIT regarding the effect of these documents, Jerry Canducci, the DPA for Transocean North American Division stated regarding the Ops Manual that "[t]his is an operations manual, and the operations manual was developed to help those on</p>

ID #	P. #	Text	Comments
			board run the machine. . . . This is not part of how you – nor would you call it part of our company's management system and Safety Management System. . . . This is not a Safety Management System-specific manual. . . . I think you are trying to suggest that this has more import than it really does. . . . It says right up here, 'In accordance with the ISM Code, the master has overriding authority . . . when it comes to the safety of the vessel, the people and the environment.'" Jerry Canducci JIT Testimony, Dec. 9, 2010 (AM Session) at 77:16-78:24. As Mr. Canducci further noted, the master's authority within the Transocean management system has never been in question. The master has "always had overriding authority. . . . [W]hen it comes to safety of the people, vessel and the environment, the captain is the man and always has been." Jerry Canducci JIT Testimony, December 9, 2010 (PM Session) at 102:19-103:3.
210	K-2	<p>March 2009 – "As previously observed the statement of master's Authority is not clearly and completely stated within the Company's Safety Management System." (No reference cited).</p> <p>April 2009 – Transocean Offshore Deepwater Drilling Inc. – As previously observed, the statement of master's authority is still not clearly and completely stated within the Company Safety Management System. Although there are various statements of the master's authority, there is no clear and absolute indication of the master's overriding authority and responsibility.</p>	There is no reference provided for the March 2009 quoted language, but it appears to be the same as the April 2009 referenced statement. The language in the April 2009 statement is from the Transocean 2009 Annual ISM DOC Audit, TRN-USCG_MMS-00059325, 00059333 (dated 2009-04-16). It was categorized as an observation. The Company was audited in 2010 and the observation was not repeated, meaning that it was cleared by the DNV auditor. Transocean ISM Code DOC Annual Audit dated 2010-04-21, TRN-USCG_MMS-00043662 noting that "Corrective actions from previous audits were verified).
211	K-2, K-4	In his testimony, the master was not able to recall much about the Deepwater Horizon's safety management system.	See ID # 036.
212	K-3	Transocean procedures for uncontrolled escape of hydrocarbons did not clearly document the change of command from the OIM to master.	See ID # 017.
213	K-3	September 2009 – No competence assurance program	There is no reference for this statement, but it appears that the item is from the September 2009 BP Marine Assurance audit. This statement is untrue, and was challenged by Transocean, which noted at

ID #	P. #	Text	Comments
			the time that all training records and letters of competency were available for personnel. This item was closed out on January 13, 2010. See BP Marine Assurance Item Status Spreadsheet (Rev. Date 1-10-10).
214	K-3	<p>"Numerous personnel changes had occurred in the eighteen months since our last audit. These were seen at all levels and disciplines. . . . <u>Any further dilution of experienced personnel may be detrimental to performance of the rig.</u>"</p> <p>January 2007 – Transocean Offshore Deepwater Drilling, Inc. – It was stated that manning <u>was becoming an issue in the current economic climate</u> for the drilling industry, and that there is a potential 'knowledge gap' between senior personnel nearing retirement age and new personnel coming into the industry. It is recommended the Owner prepare and execute a plan to maintain sufficient numbers of trained, qualified and suitable experienced personnel in the organization both onshore and offshore to ensure safe operations.</p>	<p>There is no reference for the first statement. Neither statement indicates a discrepancy. They are only observations regarding the challenge of maintaining a trained, qualified workforce in the future. It is apparent from the highlighted language that neither statement was indicating a current lack of qualified, certificated and medically fit seafarers as is implied by the reference to ISM Code § 6.2.</p> <p>The observation from the January 2007 Company audit, it was followed up in the 2008 Company audit by the same DNV auditor who did the 2007 audit. He noted that a "Succession Program" was being developed by the Transocean HR Department for onshore staff positions, and that there was a Career Connect Program (internal career opportunities) intended to allow personal career development and change of career path if desired, which he noted was a good practice in the industry and for which he commended the Company. See ISM CODE/ISO CERTIFICATION/OTHER (Observation) dated 2008-04-10, TRN-USCG_MMS-00059293.</p>
215	K-3	20 April 2010 – While Mr. ____ was showing BP & Transocean VIPs the DP simulator, the navigational watch may not be in compliance with STCW requirements.	There is no reference to any evidence in the record for this speculation. The navigational watch was at all times on April 20, 2010, in compliance with STCW requirements, having on the bridge a licensed Third Mate, who functioned as a DPO, and a Senior DPO. Both of these persons were licensed, certificated and trained in accordance with the STCW requirements.
216	K-3	There was no written procedures for relieving of key crewmembers.	This statement is erroneous. Transocean requires each installation to have an effective system in place to ensure that critical information is communicated in writing, including a requirement that there be a formal shift hand-over report/logbook for all supervisors, issued at each shift change. Transocean Health and Safety

ID #	P. #	Text	Comments
			<p>Policies and Procedures Manual, HQS-HSE-PP-01 at Sec. 4, subsec. 4.1, para. 4.10. A Shift Hand-Over Report form is provided. <i>Id.</i> Figure E. The Marine Compliance Procedures Manual also requires each installation to develop a specific hand-over check list for all DPO reliefs, and requires that once the on-coming DPO is satisfied with the hand-over, he or she must state verbally "I HAVE CONTROL." TRN-USCG_MMS-00042881-42882. Likewise, the Well Control Manual requires that "[p]rior to any well being entered or worked on, a full formal handover status of the well must have been received and reviewed." Information to be included in the handover document is specifically delineated. TRN-USCG_MMS-00044071.</p> <p>Finally, in testimony, the on-coming Master of the DWH stated that his relief included extensive written handover notes. See Captain Curt Kuchta JIT Testimony, May 26, 2010 at 206.</p>
217	K-3	"It is a requirement that all staff and contractor personnel be knowledgeable of the Drilling and Well Operations Practice and associated Engineering Technical Practices. The audit highlighted that this still needed to be communicated to relevant Transocean personnel on the rig."	It appears that this language is from the September 2009 BP Marine Assurance audit, although no reference is provided in Appendix K. Transocean corrected the item by requiring that all supervisors review the Drilling and Well Operations Manual. This item was closed out on January 13, 2010. See BP Marine Assurance Item Status Spreadsheet (Rev. Date 1-10-10).
218	K-3	"With many new personnel, continuous rigor is required to ensure that that (sic) there is the expected consistency in the application of the risk management tools including Permit to Work & Energy Isolation."	It appears that this language is from the September 2009 BP Marine Assurance audit, although no reference is provided in Appendix K. This is not a discrepancy, but only an observation. See ID # 150 regarding status of Permit to Work and Energy Isolation programs on the DWH.
219	K-3, K-4	<p>March 2009 – GSF C.R. Luigs – It was noted that a number of personnel onboard require training as defined by the Company training matrix.</p> <p>April 2009 – GSF Development Driller I- It was noted that a number of personnel onboard require training defined by the Company training matrix (overall compliance 63%).</p>	These were all observations, not non-conformities, meaning that the DNV auditors at the time determined that the personnel on board met the requirements of ISM Code Part 6, and specifically § 6.3, in that the rig personnel had all essential training necessary to perform their duties prior to sailing, as compliance with this requirement would have been documented as per § 6.3. The DNV auditors also verified compliance with all international

ID #	P. #	Text	Comments
		<p>April 2009 - GSF Development Driller II- It was noted that a number of personnel onboard require training as defined by the Company training matrix.</p> <p>September 2009 – Discoverer Clear Leader - It was noted that a number of personnel onboard require training as defined by the Company training matrix. (overall compliance approximately 85%).</p> <p>May 2007 – Discover Spirit - It was noted that a number of personnel onboard require training as defined by the Company training matrix.</p> <p>July 2007 – Transocean Marianas – It was noted during the audit that while the crew are very familiar with the Company's Safety management documents and procedures, some crewmembers are somewhat unfamiliar with the ISM Code itself.</p> <p>April 2009 – GSF Development Driller I – It was noted that some crewmembers are new to the unit and, although familiar with the general requirements of the Code, they require further exposure/training to the Company Safety Management System.</p> <p>January 2010 – Discoverer America – GMS (Global Management System) Records of Personnel Training – The GMS data/reports retrieved on board were found to be missing or inaccurate, and used of previous tracking programs GRS has been phased out.</p> <p>March 2010 – Discoverer Inspiration – Gallery service was provided by third party and there is no systemic way to train the gallery staff using the fire fighting system and equipment.</p>	<p>and flag state manning and training requirements, as they were auditing these vessels on behalf of the flag state.</p> <p>The requirements of Transocean's training matrix go beyond the ISM code. See Jerry Canducci JIT Testimony, Dec. 9, 2010 (PM Session) at 15:5- 17:12 (discussing training program in general).</p> <p>The BP September 2009 Audit further notes that a review of the Training Matrix was done and "[m]ost of the percentages given for training required against training completed were high indicating that most personnel onboard were nearing completion of both On the Job Training (OJT) and external training requirements." 2009 BP Marine Assurance Audit, BP-HZN-0008871, 0008878.</p>
220	K-4	"Control of work issues identified specifically with isolation permit process & integrity of mechanical isolations.	See ID # 150
221	K-5	"Control of alarms and defeats and bypasses was not well managed, in fact no single person could account for which alarm etc. were overridden or indeed for what reason."	It appears that this language is from the September 2009 BP Marine Assurance audit, although no reference is provided in Appendix K. This item was addressed by establishing a system on the bridge and in the Engine Control Room for logging and tracking these items. The item was

ID #	P. #	Text	Comments
			completed on January 11, 2010, and approved on January 13, 2010. See BP Marine Assurance Item Status Spreadsheet (Rev. Date 1-10-10).
222	K-5	<p>20 April 2010 – There was no bridging document for BP and Transocean Management of Change processes.</p> <p>20 April 2010 – There was no Management of Change for implementing the Rig Maintenance System.</p>	<p>These conclusory statements do not have references to support them in Appendix K. Moreover, they are incorrect.</p> <p>A bridging document was completed between Transocean and BP for the Safety Management System. BP GOM/TODD1 NAM HSE Management System Bridging Document, BP-HZN-MBI00002651. Management of Change (MOC) is a part of the Safety Management System. See Transocean Health and Safety Policies and Procedures Manual, Sec. 1, Subsec. 4. Per the Bridging Document, except for items specifically addressed in the Bridging Document for which the BP SMS would control, all other SMS policies, processes and procedures on the Deepwater Horizon would be based on the Transocean SMS. Thus, it is incorrect to state that there was no bridging document for BP and Transocean MOC processes.</p> <p>In addition, the evidence on the record contradicts the statement that there was no MOC for implementing the RMS. Transocean witnesses testified that a MOC process was followed to implement the RMS within Transocean. See Jerry Canducci JIT Testimony, Dec. 9, 2010 (AM Session) at 107:6-13 (Q. Yes, sir, was there a Management of Change implemented [for the RMS]? A. Yes. That process was – they managed that change well. They established a group that was specifically brought together to do that process. It didn't just happen in the North America division, it was in all divisions.)</p>
223	K-5	20 April 2010 – Transocean's safety management system promoted a culture of complacency: (1) general alarm was inhibited, (2) drills were conducted at same time & on the same weekday; and (3) conduct and documentation of drills was unsatisfactory.	These conclusory statements are false. See ID # 014, 018 & 020.
224	K-5	"The Incident Report Log was reviewed for the past year . . . The status of actions arising from these incidents should be	Neither statement has anything to do with an ISM Code § 9.1 requirement.

ID #	P. #	Text	Comments
		<p>periodically monitored by BP to ensure proper close out . . ."</p> <p>April 2008 – Transocean Offshore Deepwater Drilling, Inc. – It was noted that a number of REAs for update of the Operations Manuals are outstanding due to workload within the Marine Department.</p>	<p>The first statement, although there is no reference to support it, is apparently from the September 2009 BP Marine Assurance Audit. The issue is not one indicating a weakness or discrepancy in the Transocean system, but a statement indicating a weakness in the BP monitoring system. The item notes that Transocean has an Incident Report Log, which therefore shows compliance with the ISM Code § 9.1 requirement.</p> <p>Regarding the second item, the auditor observed that amendments to the Operations Manuals had not been done because of manpower shortages in the Marine Department. Citing to a 2008 Corporate audit is irrelevant to the <i>Deepwater Horizon</i> casualty. The item was noted as an observation for improvement. The Company was audited in 2009 by the same DNV auditor who conducted the 2008 audit, David McKay. In the 2009 audit, this observation was not listed again. See Transocean 2009 Annual ISM DOC Audit, TRN-USCG_MMS-00059325. Meaning that, in the intervening year, it was adequately addressed. See <i>id.</i> (noting that "Corrective actions from previous audits were verified"); see <i>also</i> David McKay MDL Deposition Testimony at 234-236.</p>
225	K-5	<p>April 2010 – Operations Manager Performance did not actively distribute the Operations Advisory or the revised well control (sic) published after the loss of well control during displacement of riser in the North Sea, despite being onboard during similar operations.</p>	<p>There is no reference to any evidence in the record to support this statement in Appendix K.</p> <p>This item is listed in the context of the ISM Code § 9.2 requirement that there be procedures in place within the SMS for implementation of corrective action. The Presidential Commission Report indicates that Transocean conducted an internal investigation of the North Sea blowout, and in fact identified corrective actions. This included preparation of an "Operations Advisory." <i>Id.</i> at 124. Included in the "Operations Advisory" was an indication that the Well Control Manual would be amended to reflect the lessons learned. TRN-USCG_MMS-00042595. The Operations Advisory, which was dated April 14, 2010, had not been sent to the <i>Deepwater Horizon</i> at the time of the casualty on April 20. Neither had there been time to effect the changes to the Well</p>

ID #	P. #	Text	Comments
			Control Manual by the time of the casualty on April 20. However, contrary to the implication in the statement, Transocean had in fact conducted an internal investigation, and determined and implemented corrective action as required by ISM Code § 9.2.
226	K-5, K-6	<p>"Many of the recommendations concerning the toe boards and safety slings as per API recommended practices made during our 2008 audit remain outstanding with no action taken . . ., not only is this an NOV requirement, but also a lesson learned from industry incidents, including one on this rig, . . ."</p> <p>"NOV inspection reports dated August 2006 and May 2007 highlighted that both PRS' had worn pins and bushes, it was highlighted during our last audit in January 2008 that although this work was necessary to improve PRS reliability it had not been completed."</p> <p>"As reported during our 2008 audit, comprehensive checks to verify proper operation of the anti-collision system (ACS) were still not being periodically undertaken. Clearly, lessons learned from the equipment collisions on this rig have not been fully implemented.</p> <p>"Despite previous recommendations it could not be demonstrated that all critical digital and analogue drilling instrumentation is being calibrated."</p> <p>"There is an issue with the dead man lever associated with the watertight door. . . The culture onboard is to start the open/close cycle then release the handle. . . This difference in operating philosophy also presents a risk to personnel and watertight door operation familiarization should be taken on an urgent basis."</p>	<p>It appears that this language is from the September 2009 BP Marine Assurance audit, although no reference is provided in Appendix K.</p> <p>Evidence shows that, with the exception of the ACS item, all of these items were corrected and cleared off by March 29, 2010, before the casualty.</p> <p>With regard to the ACS item, the tracking system in place for corrective action shows that, as of Jan. 10, 2010, the corrective action had been identified and was 75% implemented. See BP Marine Assurance Item Status Spreadsheet (Rev. Date 1-10-10).</p> <p>These items are listed in the context of the ISM Code § 9.2 requirement that there be procedures in place within the SMS for implementation of corrective action. The fact that these items were tracked and either corrected or in the process of correction, and that their status could be ascertained, shows that the requirements of ISM Code § 9.2 were being met.</p>
227	K-6	"Test, middle and upper BOP ram bonnets are original and out with (sic) OEM and API five year recommended recertification period.	<p>It appears that this language is from the September 2009 BP Marine Assurance audit, although no reference is provided in Appendix K.</p> <p>Transocean disputes that the BOP was out of compliance with OEM and API standards. See ID # 136, 143 & 144.</p>

ID #	P. #	Text	Comments
228	K-6, K-7	<p>16 May 2007 – "During the period 20-23 March 2007, the Petroleum Safety Authority Norway (PSA) conducted an audit of maintenance management in Transocean Offshore Ltd (TO). TO does not meet the regulatory requirements for maintenance management, nor does the company meet the requirements for handling of nonconformities. We found the conditions to be so serious that we issued a notification of order in a letter dated 23 March 2007, followed by an order in a letter dated 3 April 2007.</p>	<p>Citing to a 2007 audit conducted by an entity regulating rigs that were not managed by the Transocean North American Division, which is responsible for operations in the Gulf of Mexico, is irrelevant to the <i>Deepwater Horizon</i> casualty.</p> <p>Since 2007, Transocean has undergone significant management and operational changes, including merging with another MODU operator, Global Santa Fe. The Transocean of today is a different company than the one that was cited.</p>
229	K-7	<p>The Maintenance Management System, RMS II, was not effectively implemented. RMS II replaced Transocean's Empack system after the corporate merger of Global Santa Fe, RMS II database listing redundant maintenance procedures, and required performance of maintenance of equipment not onboard the MODU resulting in significant overdue planned maintenance routines in excess of 30 days and totaled 390 routines corresponding to 3545 man hours.</p> <p>Engine #1 and #4 were overdue for overhaul by 24k hrs. while Thruster #2 was non-operational.</p>	<p>It appears that this language is from the September 2009 BP Marine Assurance audit, although no reference is provided in Appendix K.</p> <p>Regarding the implementation of the RMS II system, like any new system being implemented throughout a large fleet of vessels, there were "shakedown" issues. See ID # 145.</p> <p>Regarding the items related to the engines, the evidence shows that corrective action had been taken to fix the engines and the thruster. As of March 29, 2010, the overhauls of the #1 and #4 engines were 100% complete. As to Thruster #2, a service technician tried to service the unit, but it could not be repaired aboard the rig and had to be sent to a repair facility ashore. <i>Deepwater Horizon</i> – BP CMID Audit Work list September 2009 (Rev Date 3/29/2010).</p>
230	K-7	<p>May 2007 – Discoverer Spirit – Overdue planned maintenance tasks were noted in the unit's planned maintenance system database, including five overdue items for equipment deemed safety critical.</p> <p>July 2007 – Transocean Marianas – A number of planned maintenance tasks were noted in the unit's planned maintenance system database, including some overdue items for equipment deemed safety critical.</p> <p>March 2009 – GSF C.R. Luigs – A small number of overdue planned maintenance tasks were noted in the unit's planned</p>	<p>The listed items do not support the contention that the Company was in violation of the requirements of ISM Code § 10.1, which requires the vessel to be maintained in accordance with applicable rules and regulations. Each overdue maintenance item was an observation, not a non-conformity. According to the ISM Code, an observation is a statement of fact, but unlike a non-conformity, does not involve the non-fulfillment of a specified requirement. See ISM Code § 1.1.8. Further, except for the Discoverer Clear Leader, the overdue maintenance items were a small number.</p> <p>Regarding the Discoverer Clear Leader, it is</p>

ID #	P. #	Text	Comments
		<p>maintenance system database, including some overdue items for equipment deemed critical, dating back up to one month.</p> <p>April 2009 – GSF Development Driller I – A small number of overdue planned maintenance tasks were noted in the unit's planned maintenance system database, including some overdue items for equipment deemed critical.</p> <p>April 2009 – GSF Development Driller II – A number of overdue planned maintenance tasks were noted in the units planned maintenance system database, including 20 items six months overdue for equipment deemed critical.</p> <p>September 2009 – Discoverer Clear Leader – A large number of overdue planned maintenance tasks (approximately 650) were noted in the unit's planned maintenance system database, including some overdue items for equipment deemed critical.</p>	<p>made clear in the observation that the unit was new, and was undergoing "teething" issues that required the maintenance department being tied up with addressing non-routine maintenance. TRN-USCG_MMS-00059201, 59202.</p>
231	K-8	<p>"All too frequently maintenance history was substandard with missing information and poor quality reports that lacked sufficient detail to convince the reader that the task had been performed in accordance with the procedure."</p> <p>"Closing out of the last audit recommendations had no apparent verification by BP. Consequently, a number of recommendations that Transocean had indicated as closed out had either deteriorated or not been suitably addressed in the first instance."</p>	<p>It appears that this language is from the September 2009 BP Marine Assurance audit, although no reference is provided in Appendix K.</p> <p>Corrective action was implemented to inform all departments that these situations would not be tolerated. Implementation of these corrective actions was completed by October 13, 2009, and the items were approved on January 13, 2010 for close out action.</p>
232	K-8	<p>April 2008 – Transocean Offshore Deepwater Drilling Inc. – Currently, an overview of the Fleet ISM certification, internal/external audit status, and Master's Review status is not easily obtained.</p>	<p>Citing to a 2008 Company audit is irrelevant to the <i>Deepwater Horizon</i> casualty. The item was noted as an observation for improvement. In the 2009 Company ISM Audit, the same DNV auditor who conducted the 2008 audit noted that progress on the development of the Audit Compliance Monitoring System was progressing. 2009 Annual ISM DOC Audit, TRN-USCG_MMS-00059325, 59327 (Observation 3). In the 2010 Company Audit, it was noted that the FOCUS, SMART and SQA reporting into the online</p>

ID #	P. #	Text	Comments
			Global Management System had been completed, and that this made the items noted in the 2008 audit readily available to all personnel. ISM Code DOC Annual Audit (Observation 3).
233	K-8	October 2009 – After almost 8 years after the implementation of the ISM Code for MODU, Transocean senior executives failed to ensure the company's full compliance with the ISM Code.	As the sole support for this outrageous statement, Appendix K cites to the minutes of a QSHE Steering Committee meeting conducted on October 19, 2009 that provides absolutely no basis or evidence for this conclusion. Transocean Offshore Deepwater Drilling Inc. has maintained a current and valid Document of Compliance from the various flag states under which its self-propelled MODUs have operated since the ISM Code became effective in July 2002. This includes a valid DOC from the United States since April 2009.
234	K-8	11 April 2010 – "Last external audit of this office was 2006-12-11, and external Company audit plan not found available."	We have been unable to locate the referenced document and to the best of our knowledge, it is not part of the evidence on the record for this investigation.
235	K-8	April 2010 – Transocean Discoverer Deep Seas operated with an invalid Safety Management Certificate.	This is a false statement. See ID # 139.
236	L-1 – L-11	Appendix L – Post Sinking Analysis for Deepwater Horizon	<p>The Draft Report relies on elements of this analysis to conclude that it appears "that some of the fire-fighting water had accumulated within the MODU's structure, and may have contributed to the sinking." Draft Report at 81-81.</p> <p>However, this entire analysis should be stricken from the record of the Investigation because the Parties-in-Interest were never provided (1) a copy of the analysis report, (2) an opportunity to cross-examine witnesses involved in the preparation of the analysis and explore the facts and assumptions used in preparing the analysis, or (3) an opportunity to call witnesses regarding the issues addressed within the analysis. Additionally, this document was never authenticated by any witness on the record. These defects constituted violations of Coast Guard regulations and procedures made applicable to the JIT by the Convening Order.</p>
237	M-1 - M-4	Appendix M – Operational Risk Assessment	Inclusion of Appendix M is wholly inappropriate. As the Draft Report

ID #	P. #	Text	Comments
			<p>concedes, it "does not have Coast Guard Headquarters approval," and should not be approved by the Commandant. The Draft Report fails to provide any meaningful explanation of the science used to create the model. In this regard, it is, like Annex L, the product of procedural defects – an analytical document that the parties-in-interest were not provided, were not given an opportunity for cross-examination concerning its underlying facts and assumptions, and were not given an opportunity to call witnesses to address.</p> <p>Most importantly, however, the majority of the data points upon which Appendix M relies are seriously flawed and/or inaccurate, as is addressed in detail throughout this Brief. Because the model is based upon flawed and erroneous data, its results are without merit. As such, Appendix M should be removed in its entirety.</p>

II. CONCLUSION

Given the overt errors of fact in the ROI, the IO’s failure to evaluate the evidence presented to it, the credible new evidence and analysis that bear directly on the conclusions in the ROI, and the lack of due process afforded the parties in interest, Transocean respectfully requests the Draft Report be revised. In making this request, Transocean re-emphasizes that it shares the Coast Guard’s goal of determining the cause of the tragic events of April 20-22 and, through what is learned, improving safety in the industry. Certainly, there are lessons to be learned from this experience—among them being that the cumulative risks of well design and cementing decisions must be considered by the Operator and that the Operator should alert the rig crew to the potential consequences of those decisions. However, it is the very importance of such lessons that make the credibility and fairness of government investigations so critical.

Unfortunately, with conclusions and findings that are at odds with the evidence in the record, the Draft Report runs the risk of undermining the Coast Guard's credibility on a very important part of its marine safety mission.