In re: Oil Spill by the Oil Rig "Deepwater Horizon" in the Gulf of Mexico, on April 20, 2010

UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF LOUISIANA
MDL NO. 2179, SECTION J
JUDGE BARBIER; MAGISTRATE JUDGE SHUSHAN

Round 2 Expert Report of
Robert Cox, M.D., Ph.D

September 12, 2014

Prepared on Behalf of BP Exploration & Production Inc.

CONFIDENTIAL

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1. Purpose of Report and Qualifications

I am a board-certified Emergency Physician and board-certified Medical Toxicologist. I was retained by BP Exploration & Production Inc. ("BP")[1] to provide my opinions regarding the potential[2] health risks to individuals who were engaged in clean-up activities, remediation efforts, or other responsive actions in connection with the DWH oil spill (collectively "Clean-Up Workers"), and to residents of the Gulf Coast communities of Alabama, Florida, Louisiana, and Mississippi (collectively "Gulf Coast Residents") resulting from potential inhalation, dermal, and oral exposures to the components of MC252 crude oil, dispersants, and other compounds associated with the DWH oil spill.[3] I was also asked to provide my opinion regarding the potential public health implications, specifically with respect to mental health of members of Gulf Coast communities, as a result of the DWH oil spill. Additionally, I was asked to provide my opinion regarding efforts taken by BP to minimize health risks to both Clean-Up Workers and Gulf Coast Residents in the aftermath of the DWH oil spill. These opinions are presented in the report I submitted on August 15, 2014.

Subsequent to my August 15, 2014 Report, I was asked to review and consider the report of Dr. Richard W. Clapp filed on behalf of the United States. This report presents my opinions concerning the report of Dr. Clapp.

My full qualifications and resume are included as appendices to my August 15, 2014 Report.

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1 BP Exploration & Production Inc. was the entity named as the Responsible Party under the Oil Pollution Act ("OPA") in the DWH response. For ease of reference, I refer to "BP" throughout this report.

2 Throughout this report, when I refer to potential health risks or potential exposures, I am not referring to actual, realized health effects or actual exposures. I do not consider potential health risks or potential exposures to be probative of any actual impact of the DWH oil spill on human health.

3 As mentioned in my August 15, 2014 Report, the scope of my work did not include any assessment of the human health impact resulting from the explosion and fire on the DWH oil rig on April 20, 2010, and the resulting rig worker deaths and injuries. My work also did not include assessment of the deaths of four men not involved in response activity tasks at the times of their deaths (one death in a swimming pool; one death in a vehicular accident; one death from a firearm discharge; one death of a BP employee in an airplane incident).

2. Opinions and Conclusions

The report prepared by Dr. Clapp does not change the opinions I reached in my August 15, 2014 Report. Those opinions are summarized in Section 3 of that Report.

I have reached conclusions regarding Dr. Clapp's report. Dr. Clapp's opinions are scientifically indefensible and meritless for several reasons. First, Dr. Clapp considered no actual exposure data from the DWH oil spill in forming his opinions regarding potential human health effects of the spill. Second, Dr. Clapp failed to review the scientific literature he cited, but instead relied on a workshop summary of that literature in preparing his report. Third, Dr. Clapp did not follow standard, scientific procedures for developing a toxicological risk assessment.

3. Discussion

3.1 Dr. Clapp failed to review and does not rely on any DWH exposure data.

Dr. Clapp did not review the extensive exposure data available from the DWH oil spill and, thus, the opinions expressed in his report are of no scientific value. On pages 4 and 10 of his report, he admits that he only reviewed the documents provided to him by attorneys at the U.S. Department of Justice ("DOJ") and a summary of presentations from an Institute of Medicine ("IOM") Workshop. Dr. Clapp identifies no actual data provided by the DOJ attorneys, nor does he suggest that he otherwise obtained or analyzed exposure data. Furthermore, the IOM Summary Report reviewed by Dr. Clapp is only a summary of opinions of others and contains no direct data relating to the DWH oil spill.

As Table 6 of my August 15, 2014 Report illustrates, there were over 1 million analyses of personal breathing zone air, ambient air along the Gulf Coast, seawater, seafood, weathered oil and sediments. Any scientific analysis that completely ignores this extensive data, as well as opinions from numerous involved government agencies such as the U.S. Environmental Protection Agency ("EPA"), Centers for Disease Control and Prevention ("CDC"), Occupational Safety and Health Administration ("OSHA"), National Institute for Occupational Safety and Health ("NIOSH"), Food and Drug Administration ("FDA"), and National Oceanic and Atmospheric Administration ("NOAA"), is a superficial analysis founded on speculation that cannot be scientifically defended.

3.2 Dr. Clapp failed to perform a valid, scientific, toxicological risk assessment.

The Executive Summary of Dr. Clapp's report draws conclusions about exposures and health effects. However, Dr. Clapp neither cited to nor reviewed any exposure data regarding the DWH oil spill and did not perform a proper risk assessment. The standard, scientifically-accepted approach to risk assessment is described on page 6 of my August 15, 2014 Report.[4] Without performing a full risk assessment, it is impossible to link any potential exposures to health effects. Since Dr. Clapp omitted a risk assessment, he lacks information as to what exposures did or did not occur, and therefore cannot draw scientifically-defensible conclusions about the causes of any reported health symptoms or about any prospect of potential future human health effects.

3.3 Dr. Clapp failed to review scientific literature, and "workshop summaries" fail as bases for credible scientific opinions.

3.3.1 The IOM Summary Report only summarizes presentations and does not contain the underlying scientific literature.

In forming his opinions, Dr. Clapp relied on the summary report from the IOM workshop, "Assessing the Effects of the Gulf of Mexico Oil Spill on Human Health", held in June 2010.[5] This report only summarizes the comments of the IOM presenters and comments made regarding the presentations at

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4 *See also* Medical Toxicology, 3rd ed. RC Dart Ed. Lippincott Williams & Wilkins, Philadelphia, PA, 2004.

5 McCoy, M. A. & Salerno, J.A. McCoy, M. A. & Salerno, J.A. Assessing The Effects Of The Gulf Of Mexico Oil Spill On Human Health: A Summary Of The June 2010 Workshop, Institute of Medicine, Nat'l Academies. June 2010.

the workshop. No exposure data or information specific to the DWH oil spill is contained in the IOM Summary Report. Importantly, the intention of the IOM Workshop was not to review data pertaining to the DWH incident and perform any specific risk assessments, but only to discuss the general framework of oil spills and possible health implications.[6] It appears that Dr. Clapp did not review any of the original literature and only relied on summaries.

3.3.2 Dr. Clapp offers opinions concerning human health effects of the DWH oil spill by comparing it to summaries of the effects of other oil spills — but only surface spills — and ignores important differences in spill depth and location.

Dr. Clapp offers opinions concerning human health effects of the DWH oil spill by relying on IOM presenter Dr. Nalini Sathiakumar's summarized findings associated with surface oil spills. None of the studies that were summarized were of strictly deep water spills. Dr. Clapp fails to recognize the differences between these other spills and the DWH oil spill with respect to the potential for human exposures and the weathering of the oil. He also does not consider that these spills involved vastly different types of oils. Sections 4.2 and 8.2 of my August 15, 2014 Report cover the weathering process of the oil and the resulting changes in the oil's chemical composition.[7]

3.3.3 Dr. Clapp relies on the IOM Summary Report to offer opinions on toxic effects of the DWH oil, but his opinions are flawed because he did not read the source literature for the IOM Summary Report and therefore lacks important qualitative information.

In discussing the effects of other oil spills, Dr. Clapp refers to "toxic effects"[8]; however, he is unable to qualify these "toxic effects" because he did not read the original literature. Further, the IOM Workshop did not present any data or risk assessment specific to the DWH oil spill. Since most of the studies cited involved spills on or close to the shore and populations,[9] strong smells were present and workers

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6 *Id.* at 3.

7 Operational Science Advisory Team (OSAT) Unified Area Command. Summary Report for Sub-Sea and Sub-Surface Oil and Dispersant Detection: Sampling and Monitoring. Prepared for Paul F. Zukunft, RADM, U.S. Coast Guard Federal On-Scene Coordinator Deepwater Horizon MC252. December 17, 2010; Operational Science Advisory Team (OSAT-2) Gulf Coast Management Team. Summary Report for Fate and Effects of Remnant Oil in the Beach Environment. Prepared for Lincoln D. Stroh, CAPT, U.S. Coast Guard Federal On-Scene Coordinator. February 10, 2011, at 19-20. Available at: http://www.restorethegulf.gov/sites/default/files/u316/OSAT-2%20Report%20no%20ltr.pdf. The oil spills that were discussed by Dr. Sathiakumar and cited by Dr. Clapp were all surface spills that occurred near shore, not 50-100 miles away. Only the Prestige spill involved some off shore spilling, but it involved a much more dense oil, and the weather was cold, so it likely would not have undergone the degree of weathering that occurred during the DWH oil spill. The oil from the Prestige appeared on shore within 3 days of the distress call, not one month later as the oil from the DWH spill. For these spills, clean-up workers and residents would have been exposed to fresh oils of types different than DWH oil and therefore any potential symptoms in these situations would not be expected to be the same as those that may have occurred following the DWH oil spill.

8 Richard W. Clapp, Expert Report, August 15, 2014, at 6.

9 *See* Campbell D, Cox D, Crum J, et al. Initial effects of the grounding of the tanker *Braer* on health in Shetland. *BMJ* 1993;13:1251-1255; Morita A, Kusaka Y, Deguchi Y, et al. Acute Health Problems among the People Engaged in the Cleanup of the Nakhoda Oil Spill. *Environ Res Sect A* 1999;81:185-194; Suarez B, Lope V, Perez-

reported upper respiratory symptoms. The studies cited involved questionnaires of symptoms reported by those living or working in the vicinity of spills. Irritant symptoms including burning of the mouth, nose, and eyes and watering of the eyes are common and expected in those exposed to many substances with strong odors and are not specific to oil spills. The "neurological" symptoms discussed from these study findings are headaches that are also common when people are exposed to strong odors. These are all short-term effects that abate when the irritant is removed. Dr. Clapp confuses irritant symptoms reported in post-incident questionnaires with medical toxicologic diagnoses.

3.4 Dr. Clapp mischaracterizes NIOSH Human Hazard Evaluation ("HHE") Interim Report #6.

3.4.1 Dr. Clapp over-relies on a convenience questionnaire study.

On page 8 of his report, Dr. Clapp discusses the results reported in NIOSH HHE Interim Report #6 of a NIOSH questionnaire of a convenience sample of a small number of response workers attending a U.S. Coast Guard meeting. Dr. Clapp quotes information regarding the prevalence of symptoms reported on the questionnaires and attempts to link these symptoms to exposures to oil or dispersants. He makes no mention of any of the serious limitations of the NIOSH data, which are discussed by NIOSH in the Interim Report.[10]

The NIOSH Interim Report makes no effort to determine whether the reported symptoms occurred when the reported exposure occurred. While Dr. Clapp seems to assume that the symptoms were due to exposures to oil or dispersants, he fails to consider multiple factors can all produce the same symptoms. The NIOSH Interim Report acknowledges as much, stating "possibilities of exposure to road and gravel dust at the marina and docks, tobacco smoke (personal smoking and second hand exposure), and upper respiratory infections resulting from crowded work and living conditions" could all cause these types of symptoms and that "[t]he NIOSH survey did not account for these factors."[11]

NIOSH also noted that "only a small number of respondents reported these symptoms and exposure to oil or dispersant."[12] There were no questions reported concerning the severity or duration of any of these symptoms. Given these severe limitations and the number of other common factors that can cause these symptoms, it is impossible to draw any causal associations from this limited convenience

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Gomez B, et al. Acute health problems among subjects involved in the cleanup operation following the Prestige oil spill in Asturias and Cantabria (Spain). Environment Res 2005;99:413-424; Lee CH, Kang KJ, Kim CH, et al. Acute Health Effects of the Hebei Oil Spill on the Residents of Taean, Korea, Abstract. J. Preventive Medicine and Public Health 2010; 43:166-173; Lee CH, Kang KJ, Kim CH, et al. Acute Health Effects of the Hebei Oil Spill on the Residents of Taean, Korea. J. Preventive Medicine and Public Health 2010; 43:166-173; 3; Lyons RA, Temple MF, Evans D, et al. Acute health effects of the Sea Empress oil spill. J Epidemiol Community Health 1999;53:306-310.

[10] CDC. National Institute for Occupational Safety and Health. Health Hazard Evaluation of Deepwater Horizon Response Workers. Interim Report 6, at 6A-1-6A-5.

[11] *Id.* at 6A-2. Similarly, there are numerous things in sea water that can induce skin irritation. The fact that an individual states that he or she was exposed to oil or dispersant at some time during the response and also had skin irritation or throat irritation at some time during the response, does not prove a cause and effect.

[12] *Id.*

questionnaire study.[13] NIOSH Director Dr. John Howard noted that he had no knowledge of any DWH workers being exposed to any chemicals of concern at levels that could potentially cause harm.[14]

3.4.2 Dr. Clapp fails to mention the result of a NIOSH investigation into worker hospitalizations.

On page 8, Dr. Clapp discusses five response workers who were exposed to oil, hydrocarbons or dispersants and hospitalized for one to three nights. Dr. Clapp fails to address the investigations of these hospitalizations by NIOSH evaluators. NIOSH noted, "Their medical records did not include information to identify specific chemicals, indicate how they came into contact with those chemicals, or how long they were exposed."[15] All of this would be critical information in evaluating any chemical exposure. The further evaluation of these five cases by NIOSH did not indicate that any of them suffered any degree of serious health problems resulting from potential toxic exposures. Ultimately, NIOSH was unable to conclude that any of these cases were related to chemical exposures.

3.5 Dr. Clapp's speculation as to other "potential" health effects is unfounded as it is based on a sensational, factually-incorrect article.

On page 10 of his report, Dr. Clapp relies on an article by Diaz in the American Journal of Disaster Medicine to support speculation as to other "potential" health effects of the DWH oil spill. This article suffers from the same systematic deficiencies as Dr. Clapp's opinions. There is no discussion of actual exposure monitoring or data. The Diaz article compares the DWH oil spill to other oil spills without consideration of the extreme differences in the types of spills, the types of oils involved, the locations to populations, and the weathering processes that occurred during the DWH spill. The article contains pictures of individuals with conditions that were not involved with the DWH oil spill or any other oil spill, but were downloaded from an OSHA website for physician training.[16] This article contains numerous

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[13] Dr. Clapp completely ignores the difference between exposures during a fresh surface oil spill and the DWH oil spill. He attempts to draw a parallel between the prevalence of reported headaches in the NIOSH study and the prevalence of headaches in residents of a heavily oil-contaminated area in South Korea following an oil spill. CH Lee, et al. Acute Health Effects of the Hebei Oil Spill on the Residents of Taean, Korea. Journal of Preventive Medicine and Public Health, March 2010, Vol. 43, No. 2, 166-73. Although Dr. Clapp states that the prevalence of reported headaches in exposed populations was consistent with findings in other studies, his citation on that spill gives a much larger prevalence of headaches than reported during the NIOSH questionnaire study. This misinterpretation of the literature again demonstrates his lack of evaluation of the actual literature.

[14] Tr. of John Howard Dep. at 130. NIOSH acknowledged the importance of a detailed study and thorough analysis in attempting to draw conclusions regarding any potential human health effects related to the DWH oil spill. In a letter to the editor criticizing a study by D'Andrea and Reddy purporting to identify worker health effects, NIOSH noted, "Understanding the health effects of participating in disaster mitigation is important for workers, their families, and the affected communities. Greater attention to study design, exposure history, and laboratory analysis are necessary before differences in blood profiles between workers involved in Gulf oil spill cleanup and another cohort of interest can be attributed to cleanup work." John Piacentino, et al., Study Methodology Prevents Interpretation of Findings in Workers Involved in Gulf Oil Spill Cleanup Activities, Vol 127, No 9, The American Journal of Medicine at e25 (Sept. 2014).

[15] CDC. National Institute for Occupational Safety and Health. Health Hazard Evaluation of Deepwater Horizon Response Workers. Interim Report 6, at 6B-2.

[16] J. Diaz, The legacy of the Gulf oil spill: Analyzing acute public health effects and predicting chronic ones in Louisiana, at 9. American Journal of Disaster Medicine, Vol. 6, No. 1, Jan/Feb 2011.

factual errors concerning air and seafood surveillance levels and FDA Levels of Concern. None of the volatile screening values listed in the Diaz article actually match up with EPA's screening values. Dr. Clapp uses the Diaz article to suggest that there are populations of workers or segments of the general population that might be susceptible to long-term health effects from exposures to dispersant chemicals, without reviewing the toxicity literature on the examples cited or how exposure doses compared to the DWH incident, resulting in baseless accusations.[17] Given the inaccurate and poor quality of this article, it does not add any useful information to the evaluation of actual health effects or risks.

3.6 Dr. Clapp's report fails for additional reasons.

3.6.1 Dr. Clapp misplaces reliance on a rat study.

On page 9 of his report, Dr. Clapp states that a "[m]echanistic understanding of biological effects of [exposures to weathered oil and dispersants] in laboratory animals has advanced and provides plausible support for similar effects in exposed humans." As support, he cites a study by Roberts[18] on the pulmonary effects in rats after acute exposure to dispersants. Again, Dr. Clapp's reliance on Roberts suggests that he has not read the actual study. The exposure doses used in the Roberts rat study were 19,300-87,100 times the upper 95th percentile dose measured in the breathing zones for DWH Clean-Up Workers. An effect in the subject rats was found only after liquid COREXIT solution was directly applied to strips of trachea cut out of the rats. The Roberts study demonstrated that even at an extremely high respiratory exposure, COREXIT EC9500A had no effect on breathing or respiratory function.

3.6.2 Dr. Clapp misplaces reliance on a summary of Exxon Valdez mental health effects.

On page 6 of his report, Dr. Clapp mentions the IOM Workshop's brief discussion of mental health effects from the Exxon Valdez spill. He does not state that he independently conducted any analysis as to potential mental health effects related to the DWH oil spill, nor does he reference any of the studies on mental health conducted during or after the DWH oil spill or studies on mental effects of any disaster, which are discussed in Sections 9.2 and 11 of my August 15, 2014 Report. Dr. Clapp further ignores the extensive financial assistance, discussed in Section 11 of my August 15 Report, provided by BP to a variety of groups and mental health facilities along the Gulf Coast, and how this financial assistance may have impacted potential mental health effects. Dr. Clapp does not review any literature on the potential causes of mental health effects.

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[17] See Polygenis, D Wharton S, Malberg C, et al. Moderate Alcohol Consumption during Pregnancy and the Incidence of Fetal Malformations: A Meta-Analysis. *Neurotoxicol Teralol* 1998; 20: 61–67; Medical Toxicology, 3rd ed. RC Dart Ed. Lippincott Williams & Wilkins, Philadelphia, PA, 2004; EPA. Toxicological Review of Ethylene Glycol Monobutyl Ether (EGBE). EPA/635/R-08/006F; ATSDR. Toxicological Profile for 2-Butoxyethanol and 2-Butoxyethanol Acetate. Agency for Toxic Substances and Disease Registry, U.S. Department of Health and Human Services, Atlanta, GA, 1998.

[18] J. Roberts, et al., Roberts J, Reynolds J, Thompson J, et al. Pulmonary Effects after Acute Inhalation of Oil Dispersant (Corexit EC9500A) in Rats. 2011. J Toxicol Environ Health Part A, 74:1381-96.

3.6.3 Dr. Clapp misinterprets data on dispersants.

On page 7 of his report, Dr. Clapp quotes portions of the Material Safety Data Sheets ("MSDS") for Corexit EC9500A and EC 9527A to suggest certain human health effects from exposure to dispersants. The MSDS is intended as a warning device in the case of contact with the pure substance. The effects listed in the Corexit MSDS refer to exposure to *undiluted* dispersants. Dr. Clapp does not assert that Clean-Up Workers were exposed to undiluted dispersants or, even if they were, that they failed to wear personal protective equipment ("PPE") at the time of the exposure.[19]

Dr. Clapp also suggests that "the effects of exposure to the combination of oil and dispersants were largely unknown."[20] The EPA, however, performed toxicity studies on the combination of oil and dispersants and found the combination to be no more toxic than oil alone.[21]

3.6.4 Dr. Clapp lacks scientific basis for assertions regarding the toxicity of benzene at low levels.

On page 9 of his report, Dr. Clapp states that "it is impossible to identify a safe level of exposure to low concentrations of carcinogens such as benzene, naphthalene and fine particulate air pollution, in principle any exposure to carcinogens greater than zero increases the risk of cancer in the exposed population." This statement is not scientific fact, as scientific organizations and agencies, including the EPA, have studied potential consequences of exposures to benzene at low doses and have not concluded that low doses cause or are associated with cancer.[22] According to the CDC, agencies sampled the air for volatile organic compounds ("VOCs"), including benzene, and concluded that "the levels [of VOCs] that were found were very low and are not likely to result in any increase in cancer risk or long term health effects."[23]

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[19] As discussed in Section 12.3.2 of my August 15, 2014 Report, the manner in which dispersants were applied and the use of PPE both suggest that neither Clean-Up Workers nor Gulf Coast Residents were exposed to dispersants at levels sufficient to cause significant human health effects.

[20] Richard W. Clapp, Expert Report, August 15, 2014, at 7.

[21] EPA. EPA Response to BP Spill in the Gulf of Mexico: EPA's Toxicity Testing of Dispersants, available at http://www.epa.gov/bpspill/dispersants-testing.html.

[22] D.J. Paustenbach, R.D. bass, & P. Price, Benzene Toxicity and Risk Assessment, 1972-1992: Implications for Future Regulation, at 195, Environmental Health Perspectives Supplements 101 (Suppl. 6): 177-200 (1993); *see also* Lou C, Zhao Y, Ricci P. Systems cancer biology and the controlling mechanisms for the J-shaped cancer dose response: Towards relaxing the LNT hypothesis. *Dose Response* 2013; 11:301-318; EPA. Carcinogenic Effects of Benzene. EPA/600/P-97/001F, April 1998. (BP-HZN-2179MDL09237892- BP-HZN-2179MDL09237960); ATSDR. Public Health Assessment Guidance Manual (2005 Update). Appendix F: Derivation of Comparison Values. Available at: http://www.atsdr.cdc.gov/hac/PHAManual/toc.html, Accessed on 8/31/14.

[23] CDC. Community Fact Sheet: Volatile Organic Compounds and Your Health, available at emergency.cdc.gov/gulfoilspill2010/pdf/Resident_VOC_FactSheet.pdf.

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Appendix A - Materials Considered

This response report incorporates the list of materials considered contained in Appendix A of my August 15, 2014 Report. In addition to those documents and my August 15, 2014 Report, the following materials are added to the list of materials that I have considered in forming my opinions in this matter:

1. Campbell D, Cox D, Crum J, et al. Initial effects of the grounding of the tanker *Braer* on health in Shetland. *BMJ* 1993; 13:1251-1255.
2. Morita A, Kusaka Y, Deguchi Y, et al. Acute Health Problems among the People Engaged in the Cleanup of the Nakhoda Oil Spill. *Environ Res Sect A* 1999; 81:185-194.
3. Suarez B, Lope V, Perez-Gomez B, et al. Acute health problems among subjects involved in the cleanup operation following the Prestige oil spill in Asturias and Cantabria (Spain). Environment Res 2005; 99:413-424.
4. Lee CH, Kang KJ, Kim CH, et al. Acute health effects of the Hebei Oil spill on the residents of Taean, Korea, Abstract. J. Preventive Medicine and Public Health 2010; 43:166-173.
5. Lee CH, Kang KJ, Kim CH, et al. Acute health effects of the Hebei Oil spill on the residents of Taean, Korea. J. Preventive Medicine and Public Health 2010; 43:166-173.
6. Paustenbach DJ, Bass RD, Price P. Benzene Toxicity and Risk Assessment, 1972-1992: Implications for Future Regulation. *Environ Health Perspect Supp* 1993; 6:177-200.
7. Lou C, Zhao Y, Ricci P. Systems cancer biology and the controlling mechanisms for the J-shaped cancer dose response: Towards relaxing the LNT hypothesis. *Dose Response* 2013; 11:301-318.
8. EPA. Carcinogenic Effects of Benzene. EPA/600/P-97/001F, April 1998. (BP-HZN-2179MDL09237892- BP-HZN-2179MDL09237960).
9. ATSDR. Public Health Assessment Guidance Manual (2005 Update). Appendix F: Derivation of Comparison Values. Available at: http://www.atsdr.cdc.gov/hac/PHAManual/toc.html, Accessed on 8/31/14.
10. Polygenis, D Wharton S, Malberg C, et al. Moderate Alcohol Consumption during Pregnancy and the Incidence of Fetal Malformations: A Meta-Analysis. *Neurotoxicol Teralol* 1998; 20: 61–67.
11. Medical Toxicology, 3rd ed. RC Dart Ed. Lippincott Williams & Wilkins, Philadelphia, PA, 2004.
12. Roberts J, Reynolds J, Thompson J, et al. Pulmonary Effects after Acute Inhalation of Oil Dispersant (Corexit EC9500A) in Rats. 2011. *J Toxicol Environ Health Part A*, 2011; 74:1381-96.
13. J. Diaz, The legacy of the Gulf oil spill: Analyzing acute public health effects and predicting chronic ones in Louisiana. Am J of Disaster Medicine, Vol. 6, No. 1, Jan/Feb 2011. (US-_PP_RC005373-US_PP_RC005390).
14. McCoy, M. A. & Salerno, J.A. McCoy, M. A. & Salerno, J.A. Assessing The Effects Of The Gulf Of Mexico Oil Spill On Human Health: A Summary Of The June 2010 Workshop, Institute of Medicine, Nat'l Academies. June 2010. (US_PP_RC005407-US_PP_RC005613).
15. John Piacentino, et al., Study Methodology Prevents Interpretation of Findings in Workers Involved in Gulf Oil Spill Cleanup Activities, Vol 127, No 9, The American Journal of Medicine at e25 (Sept. 2014).