

**Oral Testimony by Nancy E. Kinner, PhD.,  
University of New Hampshire's Coastal Response Research Center  
to the  
National Commission on the BP Deepwater Horizon Oil Spill and Offshore Drilling  
September 27, 2010**

Chairman Graham, Chairman Riley, and distinguished members of the Commission, thank you for giving me the opportunity to appear before you today. The Coastal Response Research Center, a partnership between NOAA's Office of Response and Restoration and the University, acts as an independent, honest broker to oversee research on oil spill response and restoration and serves as a hub for the spill response community.

The majority of research conducted on dispersants and dispersed oil has focused on the efficacy and effectiveness of selected dispersants, with little research conducted on the long term fate and behavior and effects. In addition, much of the older research has not been peer-reviewed nor used standard protocols. As a result, dispersants issues have been one of the foci of the Coastal Response Research Center's efforts. In September 2005, the Center convened a workshop in response to the NRC report on the dispersants. The participants included government, academic, industry and NGO scientists and practitioners from the U.S. and abroad. The workshop report was a detailed R&D plan for dispersants and dispersed oil. Concurrently, the Center founded the Dispersants Working Group that consists of government, industry and NGO organizations that fund or oversee R&D. The Group coordinates their research funding and findings in order to avoid duplication of effort, update the R&D plan, and maximize the effectiveness of the limited funds available. Unfortunately, due to lack of funding, only 25% of the ~\$40M of the research identified in the 2005 R&D plan has been conducted.

During the Deepwater Horizon spill, the response community was at a disadvantage with respect to the use of dispersants. Little was known about the novel application of deep-sea dispersant injection with thousand –fold greater pressures and 80 degree higher temperatures than those used during most research. In addition, little research had been done on long-term dispersant use, and very little is known about chronic toxicity, biodegradability and bioaccumulation of dispersants and dispersed oil.

Approximately one month into the spill, the Center was asked to host a workshop to address the use of dispersants as part of the response. The group of 50 experts representing a diverse spectrum of views regarding dispersants arrived at conclusions that are worth reviewing today.

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1. No combination of response actions can fully contain oil or mitigate impacts from a spill the size and complexity of the DWH incident.
2. Mechanical recovery, *in situ* burning and chemical dispersants are components of an effective response to surface oil pollution.
3. Mechanical recovery is the preferred method of on-water oil spill response because it removes the oil from the environment, but it is not always effective due to environmental conditions (e.g., wind, waves) [which I should note were high enough during much of the DWH response to often prevent use of mechanical methods and favor mixing of chemical dispersants into the oil].
4. It was the consensus of the group that use of dispersants and the effects of dispersing oil into the water column were generally less environmentally harmful than allowing the oil to migrate on the surface into the sensitive wetlands and near-shore coastal habitats.

The group went on to conclude that there should be a continual re-evaluation of the tradeoff options during a spill via means of a consensus ecological risk assessment or the equivalent, and that detection, tracking, monitoring and modeling are essential. I believe that these observations are valid for future spills. In addition, there is a pressing need for independent, peer-reviewed R&D, funded through a rigorous competitive grants process, to address the long- and short-term fate and behavior of dispersants and dispersed oil, especially in deep offshore environments and Arctic waters. We must also study the effects of dispersants and dispersed oil, on a variety of relevant species and life stages with realistic exposure scenarios, especially in light of our increased ability to detect impacts at the molecular level.

The Deepwater Horizon spill has reminded us that dispersants can have a role in response to a prolonged, massive off-shore release of oil when sea conditions prevent the use of mechanical recovery. We must not fall short in formulating, funding, and conducting a rigorous R&D program on dispersant use to be ready for future spills.

Thank you for giving me this opportunity to speak before the Commission today. I would be happy to answer any questions you may have.