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May 17, 2010

The Honorable Lisa Jackson
Administrator
U.S. Environmental Protection Agency
Ariel Rios Building
1200 Pennsylvania Avenue, N.W.
Washington, DC 20460

Dear Administrator Jackson,

I write to request information regarding the use of dispersants to mitigate the effects of the catastrophic release of millions of gallons of crude oil into the Gulf of Mexico following the explosion aboard the Deepwater Horizon drilling rig. While the estimates of the amount of oil released daily has increased significantly since the explosion and remains under question, what is certain is that the inability of BP to quickly stop the leak is leading to an environmental catastrophe, placing fragile ecosystems, wildlife and the region's economy in peril. The release of hundreds of thousands of gallons of chemicals into the Gulf of Mexico could be an unprecedented, large and aggressive experiment on our oceans. It requires careful oversight by the Environmental Protection Agency (EPA) and other appropriate federal agencies.

As a measure to mitigate the impact of the oil spill, the EPA recently granted BP authorization to use chemical dispersants, which are a detergent-like brew of solvents, surfactants and other compounds that break down oil into tiny particles that then scatter and sink into the sea. To date, over half a million gallons of dispersants have been used in the Gulf of Mexico. Just two days ago, the EPA and US Coast Guard authorized BP to apply these dispersants at the site of the leak, over one mile below the ocean surface, a practice that has never been authorized before.

The information regarding the chemical composition, efficacy and toxicity of the dispersants currently being used is scarce. Additionally, recent articles[1] have raised questions regarding both the relative safety and efficacy of the dispersant selected for use by BP, suggesting that other

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[1] Less Toxic Dispersants Lose Out in BP Oil Spill Cleanup, Greenwire, May 13, 2010, Spills Ills Could be Found Under the Water, Wall Street Journal (online), May 17, 2010

formulations may have been more suited for use in the Gulf of Mexico. In light of the volume of oil that has spewed into the Gulf of Mexico and the apparent inability of BP to quickly stop its flow, I understand that other mitigating options must be explored in order to keep as much oil as possible from reaching land. However, I am concerned about the risks and consequences, and in order to understand better what actions the EPA is taking in this area, I ask that you respond to the following questions:

1. It is my understanding that the main dispersants applied so far are from a product line called Corexit, some of which had their approval rescinded in Britain more than a decade ago[2], because laboratory tests found them harmful to sea life that inhabits rocky shores.

    a. How did EPA ensure that this dispersant's toxicity to aquatic life was evaluated?
    b. Was its toxicity to mollusks and other sea life that inhabit the Gulf of Mexico coast evaluated, and if so, what were the results? If not, why not?
    c. If EPA relied on toxicity studies for coastal morphologies different from that of the Gulf Coast, what was done to evaluate the applicability of those studies for the use of the dispersants in the Gulf of Mexico environment?
    d. Was the toxicity to other subsurface aquatic life evaluated? If so, please provide details, and if not, why not?

2. How is EPA tracking the volume of dispersants being used both in both surface and subsurface applications? How does EPA plan to determine whether their use causes harm to the aquatic ecosystem they come into contact with?

3. Is EPA fully aware of all chemical constituents contained within the two formulations of Corexit dispersants currently being used? If so, please provide a list of each such constituent.

4. Did EPA ensure that tests were conducted to evaluate the efficacy and toxicity of the 18 dispersants it has approved for use? What were the results of the tests?

    a. Did EPA rank the dispersants in terms of efficacy (in dispersing the sort of crude oil that is spewing into the Gulf of Mexico) and toxicity (to the sort of aquatic life contained in the Gulf of Mexico), as was asserted by the May 13 2010 article in Greenwire?[3] If so, please provide this ranking. If not, why not?
    b. Does EPA instruct entities who wish to use dispersants to use the most effective and least toxic dispersants in a particular operation? If so, then did EPA instruct BP to use Corexit? If not, does EPA lack the authority to prescribe the use of specific formulations?
    c. Does EPA expect users of dispersants to themselves examine the safety and efficacy data that is applicable to the conditions of intended use and select the least toxic and most effective approved formulation?

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[2] http://www.marinemanagement.org.uk/protecting/pollution/documents/approval_approved_products.pdf
[3] Less Toxic Dispersants Lose Out in BP Oil Spill Cleanup, Greenwire, May 13, 2010

d. Please provide copies of all documents, emails and other correspondence related to BP's use of dispersants in response to the Deepwater Horizon catastrophe.

5. How do water temperature and pressure effect the degradation of dispersants?
   a. Will the fact that the water temperature at the Deepwater Horizon leak is just above freezing affect the time it takes for the molecules to be degraded? If so, please elaborate.
   b. Have studies been performed to assess the efficacy or toxicity of the compounds at freezing temperatures? What are the results of these studies?
   c. How does the high pressure at the depth of the leaking wellhead affect where chemical dispersants and oil molecules spread in the water column? Does high pressure also affect the rate of degradation of oil and chemical molecules, and if so, how?

6. What information has EPA collected about the long-term effects of dispersants accumulating in sediment at the bottom of the ocean floor? Please provide these materials to me. If no such information has been collected, then why did EPA approve their use at the ocean floor? What effect could the accumulation of large volumes of dispersants on the ocean floor have on bottom-feeding organisms such as shrimp?

7. Has EPA determined whether chemical dispersants can accumulate in the tissue of fish and other aquatic life (including plants and un-hatched eggs) in the same or similar manner as other toxic materials such as mercury? If so, please provide documentation regarding what accumulations are likely, including materials regarding the implications for human health if the fish are consumed. If not, why not?

8. Did EPA consider a variety of scenarios for the interaction of the dispersants with the oil plume when applied at the depth of the Deepwater Horizon leak? If not, why not? Did any scenarios considered include the formation of large underwater plumes at various depths, as appears to have occurred based on a preliminary scientific investigation as reported Sunday?[4] If so, please provide all related documents. How does EPA plan on monitoring the long-term effect that these chemical dispersants have on aquatic life in the Gulf of Mexico?

9. Is EPA aware of the ecological impacts of simultaneously using different formulations of dispersants during the mitigation efforts? Does the combination of chemicals change the toxicity or efficacy of the dispersant? If so, please provide documentation.

10. Given the start of the Atlantic hurricane season on June 1, did EPA consider the impact of the dispersants on marine life in a rapidly mixed water column should a hurricane develop in the Gulf of Mexico? If so, what did EPA determine? If not, why not?

11. EPA has stated that although it has approved the use of chemical dispersants on surface and subsurface applications it "reserves the right to halt the use of chemical dispersants at

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[4] Giant Plumes of Oil Forming Under the Gulf, The New York Times, May 16, 2010

any time if new data show more serious environmental harm is occurring." How is EPA monitoring environmental harm? What metrics or other problems does EPA consider to be cause for halting use of chemical dispersants?

Thank you for your assistance and cooperation in responding to this request. Should you have any questions, please have your staff contact Dr. Michal Freedhoff of the Subcommittee staff or Dr. Avenel Joseph of my staff at 202-225-2836.

Sincerely,

Edward J. Markey

Edward J. Markey
Chairman
Subcommittee on Energy and Environment

cc: The Honorable Henry A. Waxman
Chairman, House Energy and Commerce Committee

The Honorable Joe Barton
Ranking Member, House Energy and Commerce Committee

The Honorable Fred Upton
Ranking Member
Subcommittee on Energy and Environment