

ONE HUNDRED ELEVENTH CONGRESS
Congress of the United States
House of Representatives

COMMITTEE ON ENERGY AND COMMERCE
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WASHINGTON, DC 20515-6115

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June 24, 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 additional information on the use of dispersants as a means to mitigate the effects of the oil that has been spewing into the Gulf of Mexico for 9 weeks. As slicks and plumes of oil and gas expand in the Gulf, the list of unknowns that surround the disaster's impact on the marine life and human health continue to grow.

Although I appreciate your May 27 response to my May 17, 2010 letter, I am concerned that your response left many questions unanswered, in part because of the timeframes required to perform necessary scientific analysis. Additionally, while the volume of dispersant BP was using following your May 26, 2010 directive was consistent with your request that the use of Corexit be greatly reduced, BP has yet to achieve the overall goal set forth by the EPA and US Coast Guard.

One of BP's primary mitigation strategies involves the application of chemical dispersants to break the oil into tiny droplets that scatter in the ocean and may be more readily consumed by microbes. These chemicals are being sprayed onto the surface of the ocean, and for the first time in U.S. history are also being applied at the source of the leak, almost one mile below sea surface. Millions of gallons of chemical dispersant have been added to the Gulf waters, contributing to a toxic stew of chemicals, oil and gas with impacts that are not well understood.

There has been much speculation that the use of dispersants has contributed to the formation of large plumes or clouds of oil that are suspended well below the ocean

surface. Many experts have raised concerns about these plumes' potential to cause significant harm to aquatic life in the Gulf of Mexico. This can occur via two mechanisms. First, the toxic constituents of oil and dispersants can poison the aquatic life exposed to them and may lead to death or non-lethal harm to species and contamination of the marine food chain. Second, as naturally-occurring bacteria consume the oil, they also use up oxygen that is critical to the survival of many marine organisms. This can in turn lead to localized depletions of oxygen levels that could cause marine life to die of asphyxiation. Oxygen depleted at the depths that these plumes have been found can take years to replenish, causing long-term damage to the deep Gulf ecosystem. On June 23, 2010, NOAA scientists re-confirmed the existence of these plumes, and additionally confirmed that their characteristics are consistent with the use of chemically-dispersed oil.

In light of environmental concerns about dispersants, on May 20, 2010 EPA and the U.S. Coast Guard directed BP to identify and start using a dispersant that is of lower toxicity and higher efficacy than Corexit, the trademarked name for the most toxic and least effective of the EPA-approved dispersants. After receiving BP's response, which defended the company's choice in selecting Corexit, EPA and the U.S. Coast Guard announced that they were not satisfied with BP's evaluation of alternatives and that EPA would undertake its own independent evaluation to determine the best dispersant available in the volumes necessary for this crisis. In the meantime, EPA and the U.S. Coast Guard directed BP to reduce the overall volume of dispersant by 75% from the maximum daily amount used (70,000 gallons per day) and to completely eliminate surface application of dispersants unless absolutely necessary.

An analysis of BP's recent dispersant use indicates that the company has not eliminated the surface application of dispersants, and although it has reduced the amount of dispersant used subsurface at the well head, it has exceeded the recommended daily level of 15,000 gallons at times. The surface application volumes, while reduced by approximately 50%, have in no way ceased, as daily volumes used hover around 10,000 gallons.

In your May 27th letter you described some technical aspects of the "Rocky Shore Test" which is a requirement for dispersant approval in the United Kingdom and was failed by the Corexit products currently being used in the Gulf. In this test, a type of snail, the common limpet, is sprayed with oil alone (which is highly lethal) or with dispersant alone, and the number of snails that lose adhesion (which for purposes of the test are considered to be dead) are counted. Your letter describes this test as being a measure of "relative harm", as compared to oil alone, and not a measure of "inherent toxicity", but when reviewing the results of the Corexit Rocky Shore test (Attachment 1), I was shocked to learn that Corexit dispersant alone was as much as twice as lethal as oil—a result that is of grave significance.

Finally, a month has passed since EPA launched its independent investigation into alternative dispersants. While I understand this type of scientific evaluation takes time to accomplish, I am writing to get an update on the progress of these studies as well as to follow up on your response to my May 17, 2010 letter. Consequently, I ask that you

respond to the following questions.

1. As you know, both Corexit 9500 and 9527 were removed from the UK list of approved dispersants for near-shore use over a decade ago, because they failed to pass the required “Rocky Shore Test” since use of the Corexit products alone were more lethally toxic to a common sea snail than oil.
 - a. Has EPA explored the effect Corexit 9500, the dispersant currently being used in the Gulf of Mexico, may have on similar grazing organisms, such as sea slugs and squids that are present in the Gulf of Mexico? If, so which species did you evaluate and what were the results of these tests? If not, why not?
 - b. Has EPA evaluated the potential for dispersants mixed into underwater plumes to travel to areas of Florida that have shores that may be similar to a “rocky shore”? If so, has EPA determined what effect these chemicals may have on rocky shore organisms?
2. What types of tests is EPA performing on dispersants other than Corexit to determine if there are any less toxic and more effective alternatives to aid in the mitigation efforts? Is EPA evaluating BP’s claim that some other dispersant ingredients break down into chemicals that may have endocrine disrupting properties? Please provide all results of this evaluation.
3. As EPA moves forward, what type of revisions does it plan on making to the way in which dispersants are evaluated for addition to the National Contingency Plan (NCP) Product Schedule?
4. In its May 26, 2010 directive¹ EPA and the U.S. Coast Guard instructed BP to eliminate surface application of dispersants, except in rare cases. While in the few days following the directive, the amount of surface application was reduced significantly, BP has not ceased surface application of dispersant. In fact for the last few days, more than 10,000 gallons of dispersants have been applied daily to the surface waters of the Gulf of Mexico. While this is a 50% reduction from the pre-directive daily average of approximately 20,000 gallons, the average daily volumes are certainly not zero.
 - a. The May 26, 2010 directive explicitly stated that if BP wanted to use surface dispersant it needed to make a request in writing to the Federal on Scene Coordinator for approval by the United States Coast Guard. Please provide me with copies of the BP requests to the United States Coast Guard, and any EPA feedback provided to the Coast Guard as these requests were considered.
 - b. The directive also instructed BP to use no more than 15,000 gallons per day of dispersant subsurface at the site of the well head. Since the directive was issued, BP has exceeded this daily maximum on four

¹ <http://www.epa.gov/bpspill/dispersants/directive-addendum3.pdf>

occasions (May 28, May 30, June 6, and June 20). Please provide me with copies of the BP requests to the United States Coast Guard, and any EPA feedback provided to the Coast Guard as these requests were considered.

5. On May 20, 2010 the Department of Homeland Security (DHS) and EPA wrote a letter to BP CEO, Tony Hayward, urging that the company make publically available all information and data related to the Deepwater Horizon oil spill on a website to be updated by BP daily. BP responded to this request committing to make every effort to collect and upload relevant data to BP's website. At a hearing held by the Oversight and Investigations Subcommittee of the Energy and Commerce Committee on June 17, in response to one of my questions, Mr. Hayward testified that all data and information made by BP is "being published, as we make them, on a variety of web sites." It is my understanding that EPA is publishing only a portion of the data submitted by BP.
 - a. Has EPA confirmed that all the data submitted by BP is in fact being published? If so, where? If not, what steps will EPA take to ensure that BP is being transparent with all data and information relating to the Deepwater Horizon oil spill and related clean up efforts?

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
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

B100

Rocky Shore test

(6 hours exposure and 72 hours recovery)

08/06/98

Reference: Fresh Kuwait Crude Oil, 4/96 :

Tank no.	no. dead	no. alive	no. in tank	%Mortality
1	8	12	20	40.0
2	6	14	20	30.0
3	17	3	20	85.0
4	8	12	20	40.0
5	10	10	20	50.0
Total	49	51	100	49.00

Chi-squared 14.566
 d.f. 4
 p-value for chi-squared test 0.012

Testing at 5% significance level,
Reference tanks are NOT HOMOGENEOUS

Test Treatment: Corexit EC9500 (495) :
 2/3 , 10 %

Tank no.	no. dead	no. alive	no. in tank	%Mortality
6	17	3	20	85.0
7	15	5	20	75.0
8	18	2	20	90.0
9	17	3	20	85.0
10	17	3	20	85.0
Total	84	16	100	84.00

Chi-squared 1.786
 d.f. 4
 p-value for chi-squared test 0.775

Testing at 5% significance level,
Treatment tanks are HOMOGENEOUS

COMPARISON OF MORTALITY RATES

Reference %mortality 49.00
 Treatment %mortality 84.00

D, Treatment %mortality - Reference %mortality **35.00**

Standard error of D 6.20

95% Confidence interval for D 22.8 to 47.2

H0: treatment mort. = reference mort. , H1: treatment mort. > reference mort.

Test statistic 5.65 p-value = 0.000

Treatment mortality > reference mortality
 and INCREASE IS SIGNIFICANT at 5% significance level

TEST INVALID: Reference tanks are not homogeneous

Notes:
 Reference notes appear here

Data entered by:
 Date:

Checked by:
 Date:

B100 Rocky Shore test (6 hours exposure and 72 hours recovery) 08/06/98

Reference: Fresh Kuwait Crude Oil, 4/96 :

Tank no.	no. dead	no. alive	no. in tank	%Mortality
1	8	12	20	40.0
2	6	14	20	30.0
3	17	3	20	85.0
4	8	12	20	40.0
5	10	10	20	50.0
Total	49	51	100	49.00

Chi-squared 14.566
d.f. 4
p-value for chi-squared test 0.012
Testing at 5% significance level,
Reference tanks are NOT HOMOGENEOUS

Test Treatment: Corexit EC9527 (496) :
2/3 , 10 %

Tank no.	no. dead	no. alive	no. in tank	%Mortality
11	15	5	20	75.0
12	11	9	20	55.0
13	15	5	20	75.0
14	12	8	20	60.0
15	11	9	20	55.0
Total	64	36	100	64.00

Chi-squared 3.646
d.f. 4
p-value for chi-squared test 0.456
Testing at 5% significance level,
Treatment tanks are HOMOGENEOUS

COMPARISON OF MORTALITY RATES

Reference %mortality 49.00
Treatment %mortality 64.00

D, Treatment %mortality - Reference %mortality 15.00

Standard error of D 6.93

95% Confidence interval for D 1.4 to 28.6

H0: treatment mort. = reference mort. , H1: treatment mort. > reference mort.

Test statistic 2.16 p-value = 0.015

Treatment mortality > reference mortality
and INCREASE IS SIGNIFICANT at 5% significance level

TEST INVALID: Reference tanks are not homogeneous

Notes:
Reference notes appear here
Treatment notes appear here

Data entered by: _____ Checked by: _____
Date: _____ Date: _____

B104

Rocky Shore test

(6 hours exposure and 72 hours recovery)

19/06/98

Reference: Fresh Kuwait Crude Oil, 4/96 :

Tank no.	no. dead	no. alive	no. in tank	%Mortality
1	6	14	20	30.0
2	7	12	19	36.8
3	5	15	20	25.0
4	6	13	19	31.6
5	12	8	20	60.0
Total	36	62	98	36.73

Chi-squared 6.451
d.f. 4
p-value for chi-squared test 0.265

Testing at 5% significance level,
Reference tanks are HOMOGENEOUS

Test Treatment: Corexit EC9500 (495) :
2/3 , 10 %

Tank no.	no. dead	no. alive	no. in tank	%Mortality
11	14	6	20	70.0
12	19	1	20	95.0
13	16	4	20	80.0
14	15	5	20	75.0
15	14	6	20	70.0
Total	78	22	100	78.00

Chi-squared 5.012
d.f. 4
p-value for chi-squared test 0.286

Testing at 5% significance level,
Treatment tanks are HOMOGENEOUS

COMPARISON OF MORTALITY RATES

Reference %mortality 36.73
Treatment %mortality 78.00

D, Treatment %mortality - Reference %mortality 41.27

Standard error of D 6.39

95% Confidence interval for D 28.7 to 53.8

H0: treatment mort. = reference mort. , H1: treatment mort. > reference mort.

Test statistic 6.45 p-value = 0.000

Treatment mortality > reference mortality
and INCREASE IS SIGNIFICANT at 5% significance level

Notes:

Reference notes appear here

Treatment notes appear here

Data entered by:

Checked by:

Date:

Date:

B100

Rocky Shore test

(6 hours exposure and 72 hours recovery)

19/06/98

Reference: Fresh Kuwait Crude Oil, 4/96 :

Tank no.	no. dead	no. alive	no. in tank	%Mortality
1	6	14	20	30.0
2	7	12	19	36.8
3	5	15	20	25.0
4	6	13	19	31.6
5	12	8	20	60.0
Total	36	62	98	36.73

Chi-squared 6.451
 d.f. 4
 p-value for chi-squared test 0.265
 Testing at 5% significance level,
Reference tanks are HOMOGENEOUS

Test Treatment: Corexit EC9527 (496) :
 2/3 , 10 %

Tank no.	no. dead	no. alive	no. in tank	%Mortality
11	11	9	20	55.0
12	11	9	20	55.0
13	12	8	20	60.0
14	15	5	20	75.0
15	7	13	20	35.0
Total	56	44	100	56.00

Chi-squared 6.656
 d.f. 4
 p-value for chi-squared test 0.155
 Testing at 5% significance level,
Treatment tanks are HOMOGENEOUS

COMPARISON OF MORTALITY RATES

Reference %mortality 36.73
 Treatment %mortality 56.00

D, Treatment %mortality - Reference %mortality 19.27

Standard error of D 6.95

95% Confidence interval for D 5.6 to 32.9

H0: treatment mort. = reference mort. , H1: treatment mort. > reference mort.

Test statistic 2.77 p-value = 0.003

Treatment mortality > reference mortality
and INCREASE IS SIGNIFICANT at 5% significance level

Notes:

Reference notes appear here

Treatment notes appear here

Data entered by:

Checked by:

Date:

Date: