Revision to Captain Mark VanHaverbeke Expert Reports Based on Court's Phase Two Ruling

After becoming aware of an error concerning certain calculations related to a paragraph on page 5 of my September 12, 2014 expert report, I updated the calculations. In performing this update, I used the values found on page 5 of the United States' Third Supplemental Response to Defendants' First Set of Discovery Requests to the United States of America Relating to the Clean Water Act Penalty Phase ("U.S. Disc. Resp."). The values resulting from the update were presented in errata first submitted on December 5, 2014. A signed copy of these errata is included as an appendix to this revision. These errata did not alter any of the opinions or conclusions offered in my report.

I now revise my reports to conform to the Court's Phase Two Findings of Fact and Conclusions of Law (Rec. Doc. 14021), issued January 15, 2015 ("Phase Two Findings").

Both my original reports and errata presented calculations of the shares of oil skimmed, burned, chemically dispersed, and deemed unrecoverable. The shares skimmed and burned presented in my errata were calculated by dividing the values for those categories found on page 5 of the U.S. Disc. Resp. by 4,190,000 (the total volume of oil estimated by the U.S. to have been released into the environment). For oil burned and skimmed, these values can be updated by simply substituting the value given by the Court on page 44 of the Phase Two Findings in place of the U.S. estimate for total spill volume. I present these calculations below, rounded to one decimal place:

Category	Calculation	Share of Total Oil
Share of oil burned	260,000/3,190,000	8.2%
Share of oil skimmed	160,000/3,190,000	5.0%

The values for oil deemed unrecoverable and chemically dispersed presented in my errata were also calculated using values taken from the U.S. Disc. Resp. Because the values for these categories in the U.S. Disc. Resp. were derived from calculations based on assumed daily flow rates as presented in the Oil Budget Calculator (TREX-9182), I don't know that they can be accurately updated in light of the Court's ruling.[1]

These revisions do not alter any of the opinions or conclusions offered in my report.

Mark G. VanHaverbeke

January 19, 2015

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[1] In our reports, both Captain Paskewich and I relied on the values found in the U.S. Disc. Resp. in performing our calculations of the shares of oil dispersed, burned, skimmed, and available for recovery.

Appendix to Revision to Captain Mark VanHaverbeke Expert Reports
Based on Court's Phase Two Ruling

After becoming aware of an error concerning certain calculations related to a paragraph on page 5 of my September 12, 2014 Expert Report, I updated the calculations. In performing this update, I used the values found on page 5 of the United States' Third Supplemental Response to Defendants' First Set of Discovery Requests to the United States of America Relating to the Clean Water Act Penalty Phase. Below, I have reproduced the relevant paragraph from my report and produced a table showing the correct values. This update does not alter any of the opinions or conclusions offered in my report.

Text of the relevant Paragraph from my September 21, 2014 Expert Report:

> *Third, measuring against "Oil Available for Recovery" ignores the 67 percent of the oil discharged and deemed unrecoverable. In situ burning and chemically dispersing oil accounted for thirteen percent of the total oil discharged, while direct recovery (skimming) only amounted to an unremarkable three percent of the 4.9 million barrels of oil discharged. This rate is on par or below rates Captain Paskewich cites for other spills in Figure 7 of his report. During the Exxon Valdez response, during which responders' use of dispersants and in situ burning was severely limited, Captain Paskewich shows an eight percent recovery rate.*

Listed in the table below are the correct values based on my updated calculation. To obtain the percentage shares of oil dispersed, burned and skimmed, I began by subtracting 810,000 barrels (RITT and Top Hat Recovery) from 5,000,000 barrels (cumulative discharge based on US estimate). Then, I calculated the percentage share for each category based on the amount discharged into the environment and rounded my results to the nearest decimal point:

Oil deemed unrecoverable	43.9%
Share of oil chemically dispersed	18.4%
Share of oil burned	6.2%
Share of oil skimmed	3.8%

Mark G. VanHaverbeke