August 1, 2011

ADDENDUM TO PLAN TO DETERMINE POTENTIAL EXPOSURE AND INJURIES OF SEA TURTLES WEST OF THE MISSISSIPPI DELTA UTILIZING ENTANGLEMENT NETTING SURVEYS

Approval of this work plan is for the purposes of obtaining data for the Natural Resource Damage Assessment. Each party reserves its right to produce its own independent interpretation and analysis of any data collected pursuant to this work plan.

The trustees have developed a preliminary conceptual model of the DWH release, potential pathways and routes of exposure, and potential receptors. This preliminary model has informed the trustees' decision to pursue the studies outlined in the work plan. By signing this work plan and agreeing to fund the work outlined, BP is not endorsing the model articulated in the work plan.

This plan will be implemented consistent with existing trustee regulations and policies. All applicable state and federal permits must be obtained prior to conducting work. The activities to be conducted under this Addendum are covered under endangered species permit #15606 issued by the National Marine Fisheries Service.

Jessica White for Lisa DiPerito — 8/4/2011

Department of Commerce Trustee Representative — Date

FOR KOLAND GUIDRY — 8/15/2011

Louisiana Trustee Representative — Date

Aug. 5, 2011

BP Representative — Date

Mississippi Canyon 252

ADDENDUM TO PLAN TO DETERMINE POTENTIAL EXPOSURE AND INJURIES OF SEA TURTLES WEST OF THE MISSISSIPPI DELTA UTILIZING ENTANGLEMENT NETTING SURVEYS

The Plan To Determine Potential Exposure And Injuries Of Sea Turtles West Of The Mississippi Delta Utilizing Entanglement Netting Surveys was signed by trustees and BP in October 2010; however, the plan was not implemented during 2010 primarily because the National Marine Fisheries Service (NMFS) permit was not issued in time. In March, NMFS issued a permit to the Sea Turtle and Fisheries Ecology Research Laboratory (STFERL). The permit issued is to conduct entanglement netting surveys and collect samples in support of the Natural Resource Damage Assessment (NRDA) in Louisiana waters west of the Mississippi Delta. The Plan is designed to assess possible impacts of MC 252 oil and dispersants (hereafter referred to as "MC 252 oil") on sea turtles that use the nearshore and inshore waters of Louisiana. The plan is now proposed to be implemented in 2011 following the same protocols established in the original signed plan, but with an altered sampling timeline and budget, included in this Addendum. Under this Addendum, entangled turtles throughout selected beachfront, tidal pass and estuarine/bay habitats west of the Mississippi River Delta will be tissue sampled and assessed biotelemetrically as described in that Plan.

This study plan has been reviewed by NOAA protected resources staff in the NOAA NMFS Southeast Regional Office to further ensure that appropriate mitigation measures are being taken. This review resulted in the identification of additional preventive measures to help avoid marine mammal interactions during scheduled NRDA sampling. Based on this review and subsequent follow-up conference calls with NOAA NMFS staff, the principal investigators will undertake these additional measures as noted in Attachment A to this Addendum.

Other than the changes referred to explicitly in this Addendum, the terms and conditions of the Sea Turtle Entanglement Netting Plan executed in October 2010 remain in effect.

2011 Objectives:

(1) To characterize sea turtle species composition, spatial distribution, catch-per-unit effort (CPUE), size/age structure, site fidelity and habitat preferences at high energy (beachfront) and low energy (estuarine) nearshore habitats, as well as in selected oiled and lesser or non-oiled areas along the Louisiana coast, and west of the Mississippi River Delta.

(2) To utilize satellite telemetry to assess post-capture/release movements and habitat use patterns.

(3) To assess potential exposure of sea turtles to MC 252 oil and the possibility of associated injury via visual inspection of captured turtles for external (i.e., skin, carapace or plastron)

evidence of MC 252 oil as well as the observation of potential oil-related adverse effects on their overall external body condition and behavior at study areas along the Louisiana coast.

(4) To provide blood and other tissue samples for chemical, toxicological and sex ratio analyses (to be conducted by other investigators under an addendum to this plan), which may provide evidence related to the potential exposure of nearshore sea turtle populations along the Louisiana coast, and west of the Mississippi River Delta to MC 252 oil.

The sample analyses to be conducted will be described in a separate addendum. The Trustees shall provide a draft of the cooperative analytical addendum to BP no later than September 1, 2011. BP and the Trustees agree to work together in good faith to cooperatively develop this addendum, and agree that the addendum will include analyses for Polycyclic Aromatic Hydrocarbons (PAHs) and fingerprinting of oil samples and external swabs that may be collected. However, if BP and the Trustees are unable to reach consensus on any individual element(s) of the analytical addendum, the Trustees reserve the right to proceed independently on those elements on which no agreement was reached. Regardless, for PAH analyses and MC 252 oil fingerprinting of samples collected as part of this Addendum and requested by BP, the laboratory data sharing language below will apply. With the expectation that the total number of samples will not exceed 100, the Trustees agree to prioritize the analysis of external swabs from any turtles that were visibly oiled. BP agrees to fund the costs of laboratory results for PAH analyses and fingerprinting for MC252 oil requested and received by BP outside of a cooperative analytical plan.

Timeline:

This Addendum authorizes two sampling periods that must occur in 2011. Field work is anticipated to occur in July-August 2011 and August-September 2011. This plan will no longer use a two-phase approach, and any language in the original plan referring to "Phase I" or "Phase II" activities does not apply to the new sampling regime. Warmer seasonal periods have been selected for entanglement netting surveys due to peak recruitment and foraging activity occurring during late spring to early fall, thus placing the sea turtles in habitats sampled by this capture methodology (Renaud 1995, Landry and Costa 1999). The revised budget contained in this Addendum reflects the new timeline and covers expenses for both sampling periods.

Participation by BP:

BP or its representative will be provided an opportunity to participate in all sampling events described in this plan.

Sample & Data Handling:

MC 252 NRDA chain-of-custody procedures will be observed at all times for all samples. All samples will be transferred with appropriate chain-of-custody forms. All samples that will undergo chemical analysis will be shipped to the appropriate laboratory for processing and analysis. Camera memory cards (to include GPS locations) will be handled under Chain-of-Custody after a card is full or after the study is completed pursuant to the NRDA Field Sampler

Data Management Protocol, which includes the protocol for transferring and uploading digital photos.

All field and laboratory data will be collected, managed and stored in a secure facility under trustee control in accordance with written SOPs. The appropriate training on particular equipment or in the conduct of specific field studies for all personnel involved with the project shall be documented and those records shall be kept on file for the duration of this project.

All materials associated with the collection or analysis of samples under these protocols or pursuant to any approved work plan, except those consumed as a consequence of the applicable sampling or analytical process, must be retained unless and until approval is given for their disposal in accordance with the retention requirements set forth in paragraph 14 of Pretrial Order # 1 (issued August 10, 2010) and any other applicable Court Orders governing tangible items that are or may be issued in MDL No. 2179 IN RE: Oil Spill by the Oil Rig "DEEPWATER HORIZON" (E.D. LA 2010). Such approval to dispose must be given in writing and by a person authorized to direct such action on behalf of the state or federal agency whose employees or contractors are in possession or control of such materials.

Data Sharing:

Copies of all field data collected in accordance with this plan, including raw data, field sheets, and field notes, will be transferred to the NOAA NRDA Sample Intake Team following NRDA data management protocols. An identical copy of all documentation will be provided to BP and/or its designated representative and the Louisiana Oil Spill Coordinator's Office (LOSCO) within a reasonable timeframe once data intake, QA analyses and data entry procedures are complete, but no later than 45 days after the non-analytical data are collected. *Non-analytical* data include field sheets, photos, photo logger forms and GPS files. All non-analytical data generated from this Addendum will be provided by November 30, 2011, with the exception of the telemetry data. Telemetry data will be made publicly available on www.seaturtle.org after a 7 day delay for QA/QC review and will be provided until such time as the telemetry devices cease to operate. Raw telemetry data and metadata will be provided to BP or other trustees on request.

Assuming the parties execute a cooperative analytical addendum for laboratory testing, laboratory results will be provided consistent with the laboratory data sharing language in the following paragraph. Swabs will be transported to Alpha Analytical laboratory under NOAA NRDA chain of custody for analysis. Blood samples will be transported under NOAA NRDA chain of custody to laboratories that are operated in a manner that is consistent with the guidelines of the Analytical Quality Assurance Plan for the Mississippi Canyon (Deepwater Horizon) Natural Resource Damage Assessment (version 2.2). The Trustees will provide BP with an initial inventory of samples collected 45 days after the last sample is collected.

Each laboratory shall simultaneously deliver raw data, including all necessary metadata, generated as part of this work plan as a Laboratory Analytical Data Package (LADP) to the trustee Data Management Team (DMT), the Louisiana Oil Spill Coordinator's Office (LOSCO) on behalf of the State of Louisiana, and to BP (or CardnoENTRIX on behalf of BP). The

electronic data deliverable (EDD) spreadsheet with pre-validated analytical results, which is a component of the complete LADP, will also be delivered to the secure FTP drop box maintained by the trustees' Data Management Team (DMT). Any preliminary data distributed to the DMT shall also be distributed to LOSCO and to BP (or CardnoENTRIX on behalf of BP). Thereafter, the DMT will validate and perform quality assurance/quality control (QA/QC) procedures on the LADP consistent with the authorized Analytical Quality Assurance Plan, after which time the validated/QA/QC'd data shall be made available simultaneously to all trustees and BP (or CardnoENTRIX on behalf of BP). Any questions raised on the validated/QA/QC results shall be handled per the procedures in the Analytical Quality Assurance Plan and the issue and results shall be distributed to all parties. In the interest of maintaining one consistent data set for use by all parties, only the validated/QA/QC'd data set released by the DMT shall be considered the consensus data set. In order to ensure reliability of the consensus data and full review by the parties, no party shall publish consensus data until 7 days after such data has been made available to the parties. Also, the LADP shall not be released by the DMT, LOSCO, BP or CardnoENTRIX prior to validation/QA/QC absent a showing of critical operational need. Should any party show a critical operational need for data prior to validation/QA/QC, any released data will be clearly marked "preliminary/unvalidated" and will be made available equally to all trustees and to BP (or CardnoENTRIX on behalf of BP).

Laboratory data sharing provisions in this Addendum pertain to and are contingent upon a cooperative analytical addendum being developed as discussed in the Objectives section above. The laboratory data sharing provisions do not apply to laboratory data generated independently, except for PAH and fingerprinting MC252 oil as previously referred to in this Addendum.

SUMMARY OF ESTIMATED BUDGET AND REQUESTED RESOURCES

NEARSHORE ENTANGLEMENT NETTING SURVEYS – WESTERN GULF OF MEXICO

Salaries	
Tasha Metz - Principal Investigator ([redacted])	15,007
Research Assistant ([redacted])	8,340
Research Assistant ([redacted])	8,340
Student Workers ($[redacted])	22,400
Total Salaries and Wages	54,087
Fringe Benefits	11,798
Total Personnel Costs	65,885
Materials & Supplies	
Entanglement Nets (for 2 sampling trips)	48,400
Buoys and Net clips	500
Sea Turtle Tagging and Measuring supplies	2,000

Ropes and Anchor Lines	1,000
Personal protective equipment supplies	1,500
Travel	
Truck rental 3 @ $1250/month x 2 month	7,500
Galveston - Calcasieu and Grand Isle (driving)	3,000
Lodging and Per Diem - Calcasieu/Cameron Parish	14,760
Lodging and Per Diem - Grand Isle/Jefferson Parish	20,800
Meals - Calcasieu/Cameron Parish	10,980
Meals - Grand Isle/Jefferson Parish	14,200
Other Costs	
Vessel Usage Fee 3 boats @ $400/day	28,800
Fuel	4,000
Misc. Equipment/Maintenance	20,000
24-hour HAZWOPER Training	8,000
Satellite Phone and airtime	4,000
Fastloc Satellite Tag Time ([redacted] at [redacted] for ARGOS contract + [redacted] data management)	48,000
Modified Total Direct Costs (MTDC)	303,325
Total Direct Costs	303,325
INDIRECT COSTS	
Indirect Costs [redacted]	[redacted]
TOTAL PROJECT COSTS	$382,190
Fastloc Satellite Tags (30 at $5,000 previously purchased by BP)	150,000
TOTAL COST INCLUDING FASTLOC SATELLITE TAGS PREVIOUSLY PURCHASED	$532,190

The Parties acknowledge that this budget is an estimate, and that actual costs may prove to be higher. BP's commitment to fund the costs of this work includes any additional reasonable costs within the scope of this approved work plan that may arise. The trustees will make a good faith effort to notify BP in advance of any such increased costs.

Durable Equipment - All durable equipment (such as cameras, GPS, etc.) purchased by BP for this study will be returned to BP or their designated representatives at the conclusion of its use for this study, unless otherwise agreed. Satellite tags that are recovered or are not deployed will also be returned to BP or its designated contractor at the end of this study, unless otherwise agreed.

Some equipment needed for this study may be in BP's existing inventory. BP-owned equipment will be used if available, and when appropriate to the needs of the proposed work.

ATTACHMENT A

Marine Mammal Mitigation Measures for NRDA Sampling Plan to Determine Potential Exposure and Injuries of Sea Turtles West of the Mississippi Delta Utilizing Entanglement Netting Surveys

NOAA NMFS, Southeast Regional Office
May 4, 2011

The following are preventative measures to help avoid marine mammal interactions during scheduled NRDA sampling, as well as recommendations on what to do in the event of a marine mammal interaction. Bottlenose dolphin (*Tursiops truncatus*) interactions resulting in injury or death are known to occur with turtle entanglement netting projects. Therefore, NMFS recommends the following preventative measures to help researchers avoid potential capture/entanglement with marine mammals; although, use of these measures cannot guarantee this will not occur. Please make sure the entire crew and field team have read and understand these measures. Following these preventative measures does not constitute compliance with the Marine Mammal Protection Act Incidental Take Authorization requirements.

Preventative Interaction Mitigation Measures

1. **Establish a dedicated crew member in a dedicated vessel to visually monitor the net continuously before and during netting operations.** a. Prior to setting a net, the peripheral area shall be visually scanned for the presence of marine mammals for at least 30 minutes. If marine mammals are observed in the vicinity of the vessel, deployment of sampling gear should not occur until the animal(s) are verified to be clear of the area, or if not resighted, 30 minutes after the initial sighting.
   b. During sampling, this crew member shall continuously monitor the net and float buoys for potential signs of a marine mammal entanglement, which can be done by visually scanning the net floats. Continuous monitoring ensures any animal potentially entering the net is quickly observed, allowing for a prompt response should a marine mammal become entangled.

2. **If marine mammals are sighted in the peripheral sampling area during active netting,** raise and lower the net leadline; if marine mammals do not **immediately** depart the area, immediately haul the gear onto the vessel and avoid resetting the net until the area is clear of marine mammals, as described above.

3. **Immediately respond to any net disturbance during deployment, active netting, and haul back.** Bottlenose dolphins quickly become stressed in an entanglement event. An immediate response, within 60 seconds, is imperative to ensure the best chance of releasing the animal alive. Indications that an animal(s) is entangled in the net include loud splashing and raucous, whistling, buoys sinking below the waterline, and/or other notable disturbance in the net.

4. **Hand-check entire net once per 20 minutes to ensure marine mammals are not entangled in the net.** This may be achieved while the net remains in the water by

pulling the net up from the buoy line and dropping it back in, or hauling the net back into the vessel and re-deploying.

5. **Reduce slack in line and/or excess floating/trailing line.** Dolphins are known to become entangled in a variety of lines/ropes; therefore, reducing any slack in lines connecting the pair of sampling nets will help reduce interaction potential. Ensuring the net float line has adequate buoys (i.e. in number and size) to properly float the top line will also help reduce entanglement potential. This also maximizes visibility of net activity, increasing the ability to detect if a marine mammal becomes entangled in the net.

6. **Repair damaged nets.** Damaged or ragged nets increase entanglement potential of bottlenose dolphins. Therefore, inspect and repair nets between deployments as indicated in the study plan.

7. **Do not use active acoustic pingers or other deterrents, such as enticing bow-riding, for mitigation**. Research shows use of pingers for deterrence of bottlenose dolphins from gillnet gear is not effective and likely causes the "dinner-bell" effect (i.e., attracts animals to the net). Therefore, do not use pinger as indicated in the work plan because this may increase the potential for entanglement. All animals must be allowed to leave the sampling area under their own volition.

Marine Mammal Capture/Entanglement Response Protocols

If a marine mammal take/interaction occurs, the following measures must be conducted:

1. **Report any entanglement immediately and cease research.** a. Marine mammal entanglements (live or dead) must be reported immediately to the stranding network at 1-877-WHALE HELP (1-877-942-5343). Research activities should cease immediately for any marine mammal takes until further discussions on the nature of capture/entanglement and outcomes can be discussed.

2. **For a live entanglement:** a. For human safety, do not try to stop or prevent the animal from further wrapping in the gear nor jump in the water to attempt disentangling the animal(s).
   b. Work from the vessel as quickly and carefully as possible to pull the marine mammal(s) toward the vessel while cradling the animal(s) in the net. This can be accomplished by simultaneously pulling the leaded and float lines while keeping the net under the animal(s).
   c. Ensure the dolphin's blowhole is kept at the surface when the net is pulled alongside the vessel, ensuring it can continue to breathe while disentangling.
   d. While continuing to cradle the animal(s), work to cut the net away from the animal. Ensure all net is cut away from the animal(s) before release. For your safety, stay clear of the flukes (tail) when releasing a live animal.

      i. Keep marine mammals in the water as much as possible while working to disentangle them, as this increases chances of survival and ensures human safety. Mother/calf pairs of dolphins will often hit a net and become entangled together making the disentanglement quite difficult. Training on

marine mammal disentanglement techniques may be provided upon request to ensure safety of crew and animals.

e. Once the animal is free from gear, prior to its release: (1) photograph the animal if possible; (2) note condition upon release and any injuries (i.e. swam away vigorously with no obvious injuries; did not swim away vigorously; surfaced to breathe; etc); and (3) note pertinent details on the nature of the entanglement, such as gear characteristics, where in the net the animal was entangled, etc.

3. **In the event of mortality**, the animal should be hauled aboard the vessel and retained for pickup by a Stranding Network member. a. Call the marine mammal stranding hotline at 1-877-WHALE HELP (1-877-942-5343) for guidance on what to do with the carcass (i.e. where to bring for necropsy, etc.). Photos, measurements, and entanglement information should also be documented per "NMFS' Protocol For Dead Entangled Small Cetaceans" (Appendix A below), as well as mitigation measures followed or not followed and why.

Appendix A. NMFS' PROTOCOL FOR DEAD ENTANGLED SMALL CETECEANS

In the event of mortality of a small cetacean that is incidentally captured, please document the following items:

1. Latitude and longitude of entanglement.
2. Photograph entire animal before removing from gear (with a scale bar if possible).
3. Photograph lateral view of dorsal fin (for photo-identification) with no gear (with a scale bar if possible).
4. Measure standard length (from tip of upper jaw to notch in the tail).
5. Photograph ventrum, including genital slits so sex can be determined (with a scale bar if possible).
6. After removal of gear, photograph any obvious signs of net impressions/lacerations or rope wounds (with a scale bar if possible).
7. Document where in the gear the animal was entangled/caught and how gear was wrapped around animal.

Please return this form to:
Stacey Horstman
NOAA NMFS
Southeast Regional Office
263 13th Avenue South
St. Petersburg, FL 33701
Compiled by: Barbie L. Byrd, NNFS/SEFSC, Beaufort, NC and Stacey Horstman, NMFS/SERO, St. Petersburg, FL.