



CHARLIE CRIST
Governor

SECRETARY MICHAEL W. SOLE
Florida Department of Environmental Protection

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State Coordinating Officer

M E M O R A N D U M

DATE: June 4, 2010
TO: Interested Media
FROM: Sterling Ivey, Governor's Press Secretary
RE: Governor Charlie Crist's Letter to Lamar McKay

Please see the attached letter from Governor Charlie Crist to Lamar McKay, president of BP America, requesting \$100 million to cover the costs of the critical and time sensitive response to threats from the Deepwater Horizon oil spill to Florida's seabed, water column, surface and shoreline. The funds would support the efforts of the Florida Institute of Oceanography, a partnership of 21 universities and other marine science organizations throughout Florida.

If you have any questions or need additional information, please call Governor Crist's press office at (850) 488-5394.

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CHARLIE CRIST
GOVERNOR

June 3, 2010

Mr. Lamar McKay
President, BP America
501 West Lake Park Blvd.
Houston, TX 77079

Dear Mr. McKay:

The Sunshine State has over 1,260 miles of coastline along the Gulf of Mexico. Our coastal areas host our tourist destinations, fishing industry, and many natural areas. Collectively, they generate \$526 billion for Florida's economy. Importantly, they are home to some of the most sensitive and precious ecosystems in the world. The destructive spill is already having an impact on Gulf of Mexico coastal areas, and the threat to our state is real and imminent. If we are to adequately protect Florida's economy and environment, we must act in a swift and organized manner to monitor, evaluate, and respond to the constantly changing conditions.

I have counseled with Florida's many research, scientific, and private organizations who are presently involved in monitoring and responding to the evolving conditions in the Gulf. In order to assure that Florida is highly involved in the process of dealing with this threat, I have directed these organizations to prepare a plan that outlines critical and immediate response needs and specifies action steps to be taken.

An important step in this response is described in the attached Florida Institute of Oceanography (FIO) Response Proposal. A critical component of this effort is the need to maintain an independent, real-time monitoring capability, and documentation of the evolving conditions in order to respond to the threats to Florida's seabed, water column, surface, and shoreline. The proposal also provides for the development of technologies that improve the ability to detect and remediate oil spills in the Gulf, before they cause irreparable harm. This event has attracted an array of suggested technologies that must be evaluated and enhanced. Clearly, it is important with respect to both the existing spill and potential future incidents, that we improve our ability to quickly capture and mitigate the hazard's threat to the environment and economy.

You recently announced a pledge of \$500 million for an independent research and evaluation of the effects of oil spillage. The FIO Response Proposal will be the first step for the state of Florida in accomplishing the mutual goals that were stated. Although I understand your desire to appoint an independent advisory group to evaluate research proposals, the immediacy of the need described in the enclosed proposal requires that Florida join in the initial steps of the monitoring and mitigation program.

Florida's interests are urgent and unique. Our state represents a substantial portion of the marine recreational fishing in America. Our wide Gulf shelf supports a multi-billion dollar fishing industry, and the Florida Keys are a national marine sanctuary. The potential impact of the spill on our economy, habitat, and coastal communities demands that our state have a leadership role in the response.

Mr. Lamar McKay
June 3, 2010
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As you can see from the enclosed summary, the federal, state, and private partners involved in the FIO Response Proposal is an impressive assembly of expertise and dedication to this issue. In order to implement the activities described in the proposal, I am asking BP to immediately commit \$100 million to be spent in this critical and time sensitive effort. The FIO team has advised me that they can begin deployment of the monitoring system immediately.

Thank you in advance for your continued responsiveness to the challenges resulting from the Deepwater Horizon incident.

Sincerely,

A handwritten signature in blue ink, appearing to read "Charlie Crist", with a stylized flourish at the end.

Charlie Crist

**Florida Institute of Oceanography (FIO)
Response Proposal
Executive Summary**

I. Implications of the Oil Industry in the Gulf of Mexico.

- A. Vulnerability of Florida's Economy. The Gulf of Mexico is a substantial economic asset to the state of Florida. From beach tourism to the fishing industry, this vital natural resource generates almost \$526B annually. With over 1800 miles of coastline along the Gulf of Mexico, more than 3800 oil drilling rigs in the Gulf, and 11,000 tankers traversing the State's adjacent waters annually, the state of Florida is exposed to substantial oil-spill risk. It is crucial to mitigate such risk to protect: 1) Florida's economy; 2) Florida's environmentally sensitive coastal habitats, and 3) Florida's coastal communities.
- B. Response Needs. The Deepwater Horizon incident has made clear the need for a robust system of monitoring Gulf oil spills and their unique impacts on Florida. FIO is responding to address these urgent needs; and respond to the questions identified in a May 24, 2010 press release from BP.

II. FIO Response Proposal.

- A. FIO Response Resources Required. FIO proposes that BP allocate \$100 million of the \$500 million that they have proposed for research relating to the Deepwater Horizon incident, directly to Florida to enable FIO to begin implementation of the FIO Response Proposal. The initial \$100 million for Florida would be allocated as recommended by FIO's governing board in order to implement the tasks identified on *Schedule A* to this Proposal. FIO will interface with existing Florida businesses that may provide services and products for the response operations; and may participate in the commercialization of developed technologies.
- A. FIO Response. FIO is a partnership of twenty-one universities and other marine science organizations throughout Florida. FIO will address the needs described above as follows:
1. Florida Coastal Sentinels Program. The Florida Coastal Sentinels Program is a monitoring system for the Florida's coastal waters. FIO will immediately deploy and maintain the system of coastal, surface, subsurface and deep water monitors in order to: a) continually evaluate the impacts of the Deepwater Horizon oil spill; b) monitor the recovery of impacted areas; and c) establish a permanent capability to monitor the impacts of any future oil spills. Impacted areas include fisheries, beaches, habitats, coral reefs, marine life, and many others. FIO's Florida Coastal Sentinels Program is outlined in *Schedule B* attached to this Proposal.
 2. Oil Spill Mitigation. FIO will coordinate the evaluation and further development of current and emerging technologies that improve the ability to capture and mitigate oil spills in the open Gulf and coastal area. BP has indicated that it has received thousands of suggestions on ideas to

contain the spill. There is a real-time need for an independent, science-based clearinghouse to review and test all available technologies, and recommend action relating to the current and future spills.

III. FIO Partnership.

- A. FIO. FIO will serve as the coordinator for the FIO Response, partnering with universities and other marine research organizations throughout Florida. FIO was established by the State University System to support Florida's coastal marine science, oceanography and management programs through education, research, and public outreach. FIO facilitates the activities of educators, scientists, and agencies responding to state, regional, national, and international issues through provision of centralized facilities and research vessels.

- B. FIO Base of Operations. FIO is based at the Gulf Research Port in St. Petersburg, which is home to the largest marine science cluster in the southeast United States. Many of these institutes represented are currently responding to the Deepwater Horizon spill: FIO; USF College of Marine Science; SRI International's Marine Technology Program; Florida Fish and Wildlife Conservation Fish and Wildlife Research Institute; International Ocean Institute – USA; Tampa Bay Estuary Program; and the Port of St. Petersburg. Also present at the Gulf Research Report are multiple state and federal agencies that are aligned with this initiative and the mission of FIO, but are not a party to this Proposal. These include the United States Coast Guard Sector St Petersburg; the National Oceanic and Atmospheric Administration's National Marine Fisheries Service; and the U.S. Geological Survey Center for Coastal and Wetland Studies. Additionally, the region hosts substantial other private industry, public, and non-profit marine science resources (Florida Aquarium, WRS Compass, Mote Marine Laboratory, and many others).

Schedule A: FIO Response Resources Required

Schedule B: Florida Coastal Sentinels Program

**Schedule A
FIO Response
Resources Required**

RESEARCH INTO THE IMPACT OF OIL SPILL ON MARINE ENVIRONMENT

by Florida's Academic Research Institutions (FIO)

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**Where are the oil, the dispersed oil, and the dispersant going under the action of ocean currents?
How do they behave on the seabed, in the water column, on the surface, and on the shoreline?**

A. Automated Platforms for Coastal Ocean Observing:

Moorings and autonomous observing platforms with oil-detecting and biological, chemical, physical sensors:

8 moorings with current meters, meteorological sensors, bio-optical/acoustic biological sensors, chemical sensors (oil, oxygen, nutrients)

Integrate with seakeys and ICON system

10 autonomous gliders; instrumentation; refurbishment & integration center

100 met/SST drifting buoys

XBT and AXBT (1000)

20 autonomous landers, with time-lapse still image capture, CTD, current meter, petroleum fluorimeter, DO probe, pH ORP sensor

Salaries for Human Capacity

Subsurface Neutral Density Floats/Receivers

Sampling of Estuaries, GPS Drifters, Acoustic Identification

RAFOS/Deep Circulation Field Studies

B. Numerical modeling/forecasting infrastructure/Knowledge Synthesis

Integration of modeling capabilities with Navy, USF, U.Miami

Human Capacity

Develop Earth System Prediction System

Oil Spill trajectory modeling longterm

Uncertainty Approaches to develop future risk assessments under changing climate

Computer and Data Visualization Infrastructure

C. FIO Ship Needs

Replacement rosette components: Niskin, CTD, oxygen, bio-optical

Gas chromatography

Fisheries research ecosounder and integration

Winch Monitoring system/new blks

Mini VSAT e-mail, broadband internet

38kHz digital sonar/hydrocarbon detection

Onboard Communications system

Hydrocarbon fluorometer

Additional wire for deep deployments

Fluorescence lifetime instrumentation and/or EEM

Technical Assistance

New SUS research vessel

Scientifically capable HOV for both Gulf and Atlantic deployment

HOV time (90 days @ 12K per day)

ROV time (90 days @ avg of \$15K/day)

D. Satellite Imagery

Update satellite ground stations-X,L-band antennas; computing infrastructure, data archive and distribution - USF/IMaRS; UofMiami/CSTARS

Aircraft and airborne sensors

Multispectral scanner

Fluorescence LiDAR

Computer and Data Visualization infrastructure

Human Capacity

E. Acoustics/Sonar to Find Oil in Water Column

F. Laboratory analyses (microbes, fish, particulate and dissolved mater, hydrocarbon....

G. Environmental Engineering/Computer Vision/Pattern Recognition

What are the impacts of the oil, the dispersed oil, and the dispersant on the biota of the seabed, the water column, the surface, and the shoreline?

H. Fisheries and Tourism Industry Cooperative Research -

Support for fishermen to deploy automated sensors/buoys, etc.

Support for dive industry professionals to conduct field sampling/participate in restoration

I. Corals, Wetlands, and Seagrasses Rapid Response Surveys

Florida Coral reef rapid response and CREMP integrations

Mangrove Sampling and monitoring

Wetland Sampling and monitoring

Beach health assessment, sublittoral sediments, groundwater

Deep and mesophotic reefs and hard bottom assessments

Seagrass sampling and monitoring

J. Benthos

Seafloor Benthic Habitat Mapping

Benthic Video Survey

Monitor Benthic Habitats/Sediment Geochemistry

Multi-Sensor Core Logger for Sediment Analysis

K. Marine Mammals

Habitat Utilization & Feeding Habits/ Prey Sampling

Quantify Changes in Distribution/Composition

I. Fisheries, including Pelagics (BlueFin Tuna, sharks, etc.)

Pelagic Fish Tropic Dynamics Assessment/Contaminant Tracing

Longterm Effect at Population Dynamics and Genetics Levels

Assess short and long-term impacts using sharks as an integrative observational model

J. Entire Ecosystem Assessment/monitoring/restoration

Impacts along SW Florida Shelf, Dry Tortugas, Keys, Florida Current/Gulf Stream

K Toxicity Studies

Microbial Degradation Analysis

Lethal, sub-lethal effects on key flora/fauna

What Can be Done to Improve Technology to detect oil, dispersed oil, and dispersant on the seabed....

Tracking the plume from dissolved phase to sediments using vanadium & nickel geochem

Sediment textural and compositional analysis using short-lived radioisotope Be-&

Geo-spatial analysis of dispersion

Hydro-meteorological aspects of dispersion

Sensor Development

Technology & algorithm development for better detection and quantification

Shiptime to Support Research Projects (3 ships@300 days each@\$6.5K per day each)

* *Priorities to be set by FIO*

Schedule B
FIO Response
Florida Coastal Sentinels Program

FLORIDA COASTAL SENTINELS: ACTIVE MONITORING OF THE FATE OF THE Deepwater Horizon (DWH) DISASTER OIL AND CHEMICAL DISPERSANTS TO PROTECT FLORIDA'S COASTAL ECOSYSTEMS

Project Summary

The coasts of Florida, including the Panhandle and West Florida Shelf (WFL), southern Florida, the Keys, and the East Coast are an interconnected ecosystem of high biological productivity, including high benthic and pelagic fisheries, and large areas of wetlands of great ecological importance, as well as coral reefs, beaches and fisheries of economic importance for the State's tourism and fisheries industries. For example, the Florida Keys National Marine Sanctuary alone annually attracts 3 million tourists who spend over \$1.2 billion. The West Florida Shelf has been defined as an "Area of Biological Concern" by the Environmental Protection Agency (EPA). Only with knowledge about the current condition of the coastal ocean and our resources in this ecosystem can the impact of the present disaster caused by the BP DWH disaster and any other present and future oil and gas operations in the Gulf of Mexico region be assessed.

At this point, it is imperative to coordinate the State's human capacity that can deploy an observing infrastructure and to conduct a broad-scale ecosystem level assessment of our coasts, and also conduct social and economic analyses of the disaster on the State of Florida. The infrastructure will serve to monitor the dispersal of the BP DWH oil and the chemical dispersants used to treat the oil spill and to assess the short and long-term impacts of these toxic materials on the Florida coastal ecosystem

We have assembled a highly qualified technical team composed of government, academic research, and industry experts in the State to conduct a comprehensive, long-term ecosystem monitoring and scientific research effort in the eastern Gulf of Mexico, the Florida Keys, the Caribbean and the Atlantic coasts of Florida. This program directly addresses the requirements for ecosystem-based management of the sensitive marine areas that underpin the economy of Florida and of our neighboring states. It also addresses the sustainability mandates of the federal government, and protects the interests of other countries that surround the Gulf of Mexico. The observing system is necessary to assess, model, predict, and mitigate the impacts from the catastrophic failure of the BP Deepwater Horizon oil drilling exploration platform. The program focuses broadly on establishing the ecological baseline and on detecting ecosystem shifts, and will be applicable to understanding how this disaster will be compounded by natural changes, including severe storms and a changing climate, as well as by human pressures. It will assist with fisheries management efforts, navigation, cleanup, and search and rescue efforts in the Gulf of Mexico. It will provide information that various segments of Florida's economy can use in planning their own response to the as yet unknown impacts of the accident. The activities will provide sufficient information to allow intelligent policy decisions.

The program initiates a core set of activities to be conducted by marine initiatives of the Florida Institute of Oceanography (FIO) to establish ecological baseline data to quantify short- and long-term impacts from the DWH oil spill as well as from other human activities and climate change. FIO will coordinate and integrate these studies with efforts conducted in the region by the Florida Fish and Wildlife Research Institute (FWRI), the DOI U.S. Geological Survey's Center for Coastal & Watershed Studies and Biological Resource Division (BRD), the NOAA National Marine Fisheries Service, EPA, and the Integrated Ocean Observing System (IOOS) to ensure effective use of federal resources and mutual support of ongoing mid-shelf reef trophodynamics studies. The strategy of the management team is to include all program members in an ongoing synthesis phase to generate knowledge in real time.

Core Project Objectives

The core objectives of this study pertain to the natural resources along the coasts and shelves of Florida and are as follow:

- A. Integrate the scientific and engineering capacity within academic institutions in the State of Florida to address major disasters that impact the coast, and coastal and marine waters of the State;
 - B. Develop field and laboratory sensors/instruments and algorithms to improve existing technology for rapid detection and assessment of hydrocarbon floating on the surface and submerged in water. Assess storage and degradation of oil and associated chemicals in Florida ecosystems.
 - C. Develop the observations and decision-support infrastructure to implement an ecosystem-based management paradigm for the protection of the Florida coast, and coastal and shelf waters;
 - D. Measure and quantify the concentration and extent of fluxes of contaminating materials derived from the DWH disaster, including oil, chemical dispersants, and other materials such as smoke or airborne contaminants;
 - E. Make estimates of any impacts of contaminants on living marine resources, including pelagic and benthic fisheries resources, coral reefs, wetlands, beaches, and coastal properties;
 - F. Provide defining parameters for a mitigation strategy;
 - G. Integrate natural and social sciences and engineering into comprehensive social and economic impact studies; and,
 - H. Leverage the interests and activities of state and federal agencies, including FWRI, NOAA NMFS, the DOI USGS Center for Coastal & Watershed Studies and BRD, EPA and the coastal elements of the Integrated Ocean Observing System (IOOS).
 - I. Inform the public and policy makers on oil impact, ongoing monitoring efforts and monitoring results.
- The attached proposed studies and budget reflect responses to BP's announcement and therefore, do not include studies related to mitigation, socio-economic impacts, or citizen involvement, or outreach and education?

Immediate Requirements

The only feasible way to quantify what controls the contaminants dispersing in the Gulf of Mexico and how they may impact all of Florida is through systematic collection and analysis of time series of scientific data. This requires technologies that can collect measurements frequently and simultaneously over large areas. It requires coordinated employment of human capacity, coordinated deployment of technological and physical assets, and coordination of data processing, integration, archival, and information dissemination strategies.