Международный симпозиум

Выброс нефти на платформе Deepwater Horizon в Мексиканском заливе. Уроки борьбы с крупным разливом нефти – эффективность и экологические последствия

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ПРОГРАММА

International Symposium

Deepwater Horizon (DWH) Well Blowout: Spill Response Lessons Learnt – Effectiveness and Impacts

Moscow, 5-7 April, 2017
Gubkin Oil&Gas University

AGENDA

Day 1 (April 5th)	
9:00 – 10:00	Registration, welcome coffee
10:00 – 10:15	**Opening remarks, Organizing Committee welcome** V.Martynov, Gubkin Oil&Gas University Rector, A.Knizhnikov, World Wildlife Fund (WWF) Russia
10:15 – 10:45	**Offshore oil&gas in Russia, Current Status and Future Development** V.Bogoyavlensky Oil&Gas Research Institute of Russian Academy of science deputy director V.Martynov Gubkin Oil&Gas University Rector

The results of Arctic and World Ocean oil and gas resources exploration are shown. The main proved and potential oil and gas basins of five Arctic countries (Russia, Norway, Denmark, Canada and USA), their geological and geophysical state of exploration including seismic prospecting and drilling is illustrated. Information is given on natural and man-made threats for Arctic and offshore oil and gas development and ways of ecosystems threat reduction.

10:45 – 11:15	**Current Status of Oil Spill Prevention and Response System in Russia,** A.Khaustov, Marine Rescue Service, A.Knizhnikov, WWF-Russia
11:15 – 11:30	*Discussion*
11:30 – 12:15	**An Overview on Managing and Coordinating the Response of DWH** Captain Anthony Popiel, Deputy Director of Incident Management & Preparedness Policy, United States Coast Guard.

On April 20, 2010, during the final phases of drilling an exploratory well 41 miles off the coast of Louisiana in the Gulf of Mexico, an explosion occurred aboard the Mobile Offshore Drilling Unit (MODU) Deepwater Horizon (DWH). The explosion set off a chain of events that led to the sinking of the drilling unit and the spill of 4.9 million barrels of oil into the ocean. At the time of the explosion, a 70 meter offshore supply vessel was alongside DWH and subsequently rescued 115 crew members. The search for the 11 missing people lasted 68 hours and covered 5,000 square miles before the search was suspended.

Overall, the DWH rescue offers valuable lessons on how best to prepare for large scale rescue operations. The U.S. officially concluded spill response operations on February 28, 2015. The DWH incident was unprecedented in scope, scale, and duration and severely tested U.S. response capability to address an uncontrolled, sustained, deepwater oil spill in the Gulf of Mexico. The incident forced the U.S. Coast Guard to balance a coordinated response with an expansive response organization of local, state, and federal agencies with multiple levels of authorities and jurisdictions. The response relied on cooperation between the federal government and BP, especially as it related to financing the massive response effort.

The DWH spill resulted in many lessons learned and the development of several initiatives that have enhanced U.S. incident management and preparedness programs. These strategic initiatives focus on people, policy, and equipment, and have become a framework for improving incident management and preparedness functions, environmental response competencies,

research and development, and resource improvements to meet and exceed mission requirements.

12:15 – 12:30	*Discussion*

12:30 – 13:00 **Emergency Science Support for the Deepwater Horizon Oil Spill**

Amy Merten or Lisa DiPinto, National Oceanic and Atmospheric Administration, Office of Response & Restoration, Emergency Response Division

After a major oil spill there is commonly a large outpouring of interest from the scientific community including both government and non-governmental organizations, across a range of disciplines, organizations, agencies, and authorities, and with a variety of goals and time frames. Scientific studies can be generally grouped into at least four categories:

1) science to improve our general understanding of the environmental and socio-economic impacts of spills;

2) scientific and engineering investigations into the root causes of the incident, in part to establish liability, but also to better prevent future spills;

3) Natural Resource Damage Assessment (NRDA) studies to determine the amount and types of restoration and compensation required; and

4) emergency operational science to inform the planning, decisions, and actions taken during the immediate response.

The US National Oceanic and Atmospheric Administration has more than 40 years of spill response experience spanning all of these areas, but the focus of this presentation will be on emergency operational science during 2010 Deepwater Horizon oil spill. NOAA's emergency response team was on the scene within hours as a scientific advisor to the U.S. Coast Guard, and focused on tracking and forecasting movement of the oil, oil weathering and behavior, use of dispersants and burning, assessing shoreline oiling, and environmental tradeoffs of countermeasures and cleanup options.

The NOAA team was also closely involved in unique issues such as tracking subsurface oil, flowrate calculations, and long-term oil transport modeling.

13:00 – 13:15	*Discussion*
13:15– 14:30	Press conference. Lunch Break

14:15 – 14:25 **Arctic ecosystems cumulative damage liquidation**

V. Pushkarev, committee for North and Far East of Russian State Duma deputy chairman

14:30 – 15:15 **An Overview of Response Tools: ERMA®.**

Amy Merten, PhD., National Oceanic and Atmospheric Administration, Office of Response & Restoration, Spatial Data Team

This presentation will focus on the Environmental Response Management Application (ERMA) data and capabilities. DWH will be used as an example of lessons learned for data management and data sharing, particularly with the public. There will also be a focus on Arctic ERMA and its use in the Arctic Council's Emergency Prevention, Preparedness and Response Working Group which may be very relevant for Russia. An example of an Arctic Spill exercise conducted in June

2016 in which all of the Arctic Council States participated will be offered.

15:15 – 15:30 *Discussion*

15:30 – 15:45 **Russian Experience on Oil Spill Modeling**

S.Zatsepa, GOIN (State Institute of Oceanography)

Presentation is devoted to major tasks for project development, planning and management of oil spill response (Environmental Impact Assessment, oil spill response plans, Assessment of Aggregated Environmental Benefit, operational forecast). Also a range of models and data management system SpillMod is presented. Practical application of the above in marine environment of Russia including ice-covered seas is described.

15:45 – 16:15 **In-site Burning. DWH Lesson Leant, Effectiveness and Impact**

Amy Merten, PhD., National Oceanic and Atmospheric Administration, Office of Response & Restoration, Spatial Data Team

In-situ burning (ISB) can be an efficient response method for oil spills on open water, in marshes and in ice conditions. The presentation will focus on case studies from a marsh burn during the Hurricane Katrina response (2005), the Deepwater Horizon ISB operations, and field experiments in Norway. The presenter will discuss windows of opportunity, pros and cons, and other considerations, including environmental sensitivities, public concerns and safety.

16:15 – 16:30 *Discussion*

16:30 – 17:00 Coffee break

17:00 – 17:45 **State-of-Science for Dispersant Use**

Nancy Kinner, PhD., Center for Spills and Environmental Hazards, University of New Hampshire.

Use of dispersants was very limited in the U.S. prior to the Deepwater Horizon oil spill. For that spill, the volume of dispersants applied, as well as the subsea injection, was unprecedented. It has been suggested that dispersants could be a response option to a large oil spill in the Arctic, particularly because of the remoteness and harsh environmental conditions.

One of the outcomes of a 2014 Arctic oil spill drill for senior U.S. agency leadership identified the need of a definitive evaluation of the state-of-science of dispersants and dispersed oil (DDO), particularly as it applies to Arctic waters. The Center convened five panels of governmental, academic, NGO, and private sector experts to determine the state of DDO science, specifically the knowns and uncertainties. The panels focused on the following five topics: Efficacy and Effectiveness, Physical Transport and Chemical Behavior, Degradation and Fate, Public Heal and Food Safety, and Eco-Toxicity and Sublethal Impacts.

Activities conducted by the Center included: collating and constructing a database of the existing scientific literature, and facilitating the discussions of each panel of scientists who formulated its document regarding the state-of-science (i.e., knowns and uncertainties) regarding DDO, particularly as it applies to Arctic waters.

17:45 – 18:00 *Discussion*

18:00 – 18:15 **Final remarks**

18:30 – 20:30 Dinner (by invitation)

Day 2 (April 6th)

9:30 – 10:15 **The Effects and Science from the Deepwater Horizon Spill**

Lisa, DiPinto, PhD., Chief Scientist, National Oceanic and Atmospheric Administration, Office of Response & Restoration, Assessment & Restoration Division.

The Deepwater Horizon oil spill was the largest accidental offshore accidental oil spill in US history, resulting in the largest civil settlement with a single entity. In the aftermath of the incident, State and Federal 'Trustees', acting under the legal authorities of the Oil Pollution Act conducted a Natural Resource Damage Assessment (NRDA) to:

1) assess natural resource injuries and

2) develop and implement a plan for restoration of injured resources to compensate for the loss resource services.

The Trustees concluded that the entire Northern Gulf of Mexico ecosystem was affected by the oil spill and associated response actions, and have developed a comprehensive year plan to restore for the lost resources. Assessment methods and some key findings from the six years of injury assessment science on oil toxicity, fate, transport and natural resource exposure, injury to water column resources, turtles, marine mammals, Sargassum, nearshore resources and human use losses will be described. Information that is expected to shape response, assessment and restoration planning on future incidents will be highlighted.

10:15 – 10:30 *Discussion*

10:30 – 11:00 **Addressing Public Concerns During Spill Response**

Nancy Kinner, PhD., Center for Spills and Environmental Hazards, University of New Hampshire.

Oil spills can have a range of impacts but the majority of oil spill research has historically focused on environmental and ecological impacts. Economic impacts, including effects on tourism, commercial fishing, industrial activities and marine transportation are sometimes studied and documented as part of third-party claims and natural resource damages, but broader social, community, public health, cultural, and political effects are rarely investigated except in the largest incidents.

Gaps in our understanding of these broader human dimensions of spills can result in their omission in contingency and incident response plans. But ample evidence from past spills and other environmental incidents have shown that inadvertent disregard of these human dimensions may increase community complaints and result in unnecessary social disruption.

The news and social media may amplify community outrage, feed negative perceptions, and increase the mistrust of response decision-making, ultimately increasing the social impacts of a spill. Just as with ecological impacts, responders should be aware of and plan for the human dimension of spills and seek to minimize both ecological and social impacts.

11:00 – 11:15 *Discussion*

11:15 – 11:30 Coffee break

11:30 – 12:15 **Seafood Safety Concerns During Oil Spill Response**

Robert W. Dickey, Ph.D., Director, University of Texas Marine Science Institute, Chairman, Department of Marine Science

Petrochemical spills in the marine environment provoke valid concerns about hazards to human health and degradation of the environment. Such concerns include the safety of oil-exposed seafood harvested for human consumption. Sampling and analysis of fish, crustaceans and shellfish in the aftermath of the 2010 Deepwater Horizon oil spill indicated that public health risks from exposure to harmful crude oil residues in seafood returned to pre-spill levels soon after the oil spill had dissipated.

However, speculative reporting, which competed with communications of factual, technically accurate information prolonged public mistrust and socioeconomic recovery. Implementation and communication of official response strategies and health risk assessments also raised concerns about uncertainties in toxicological knowledge, related risk information and vulnerability of special populations.

From a public health protection perspective the Deepwater Horizon response revealed deficiencies in communication strategies, local-scale demographic and baseline human health data; benchmark environmental contaminants data; toxicology of crude oil components, and integration of human and environmental health status and trends. The science underpinning disaster response is conditional, and communicating uncertainties in the midst of definitive information can undermine risk messaging if not well prepared and expertly performed. The development of such knowledge and communication skills will help improve responses and outcomes for future large-scale oil spill events.

12:15 – 12:30 *Discussion*

12:30 – 13:15 **Marine Mammal Response during Oil Spills**

Lynne Barre, Marine Biologist, National Oceanic and Atmospheric Administration, National Marine Fisheries Service, Protected Resources Division

Recent events in the USA including the Deepwater Horizon spill have shown that oil spills not only have the potential to impact large numbers of seabirds, but also affect marine mammals. To support marine mammal response during oil spills NOAA's National Marine Fisheries Service (NMFS) has provided operational guidance within the Wildlife Branch of the Incident Command Structure for oil spill response.

This participation has included enhancing the operations of the local pre-existing marine mammal stranding networks and minimizing impacts to marine species from response activities. NMFS has updated and published National Guidelines for Oiled Marine Mammal Response based on experience during recent spills.

These Guidelines help focus marine mammal collection and care activities both in the field and at established rehabilitation facilities and also address collection of samples and data for impact assessment of the spill and response-related activities.

This presentation will review the risks to marine mammals from oil spills and highlight:

1) protocols to deter marine mammals from oiled areas,
2) marine mammal response guidelines, and
3) best practices for minimizing impacts to marine species from response activities.

13:15 – 13:30	*Discussion*
13:30 – 15:00	Lunch break

15:00 – 15:45 **Developing a Comprehensive Restoration Plan**

Lisa DiPinto, PhD, Chief Scientist, National Oceanic and Atmospheric Administration, Office of Response & Restoration, Assessment & Restoration Division.

After 6 years of studying fate, transport and natural resource effects of Deepwater Horizon oil spill in the Natural Resource Damage Assessment (NRDA), the Natural Resource Trustees concluded that the entire Northern Gulf of Mexico Ecosystem was affected. Injuries of this scope and scale will require large scale, integrated ecosystem level restoration implemented over time. An overview of Trustee plans to restore the environment based on the framework described in the Programmatic Damage Assessment and Restoration Plan, which was the basis of the $8.8 billion NRDA settlement will be presented and discussed.

15:45 – 16:00 *Discussion*

16:00 – 16:30 **Oiled Wildlife Response During DWH**

Barry Forsythe, Ph.D., U.S. Fish and Wildlife Service, National Spill Response Coordinator

In the days immediately following the tragedy on the Deepwater Horizon platform, one of the largest oiled wildlife response efforts was initiated. Hundreds of biologists descended upon the Gulf of Mexico preparing for the pending wildlife disaster, with many unknowns. As oil reports and modeled trajectories came in, biologists were staged in areas to observe possible wildlife and shoreline oiling.

Concurrently, oiled wildlife rehabilitation centers were set up across the gulf in anticipation of thousands of oiled birds, turtles, and marine mammals.

Communication of oiled wildlife observations, transport of captured animals, their rehabilitation and ultimate release was an enormous challenge; considering the areal extent of operations. The size and complexity of the wildlife operations proved to be an experience that informed planning for future events.

16:30 – 16:45	*Discussion*
16:45 – 17:00	Coffee break

17:00 – 17:30 **Proposals for Increasing Safety During Activities on Continental Shelf, Following Analysis of the Macondo Well Oil Spill**

M. Mansurov, E. Bogatyriova, Gazprom VNIIGAZ, Gubkin Oil&Gas University

17:30 – 17:45 **Final remarks, conclusion**

18:00 – 18:45 *Study tour for US experts around Gubkin University*