



# API JITF Subsea Dispersant Injection Newsletter

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**Subsea Dispersant  
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Houston, TX  
October 3-5, 2012

**Clean Gulf**  
New Orleans, LA  
November 13-15, 2012

**Gulf of Mexico Oil Spill  
& Ecosystem Science  
Conference**  
New Orleans, LA  
January 21-23, 2013

[▶ Learn more at API.org](http://API.org)

## Welcome

Subsea dispersant injection was a key response tool initiated during the Macondo incident. The API believes that this technique played an important role in not only protecting the environment but also the health and safety of workers in vessels attempting to contain the well. This was accomplished by keeping fresh oil slicks from surfacing near the well site and releasing volatile organic compounds into the air.

The novelty of the concept did not allow it to be fully evaluated prior to the spill. For this reason, API initiated the subsea dispersant injection program to conduct controlled experiments to study:

- The effectiveness of subsea injection over a range of conditions;
- The effects of dispersed oil on deepwater marine environments;
- Numerical modeling upgrade needs that are necessary to better predict the fate of oil treated with dispersant and released from a deepwater well; and
- Monitoring tools that could be used to determine the effectiveness of subsea injection during an event.



API and the subsea dispersant injection program are conducting this research transparently. Each of the research areas described above has formed technical advisory committees comprised of external Federal agency and academic experts to help guide study planning, development of test protocols, and evaluation of study results. This first newsletter is another method we are using to promote study transparency. Newsletters will be regularly produced to provide updates as the projects progress.

## OSPR JITF Releases Progress Report

On September 3, 2010, the Oil Spill Preparedness and Response (OSPR) Joint Industry Task Force (JITF) released [Industry Recommendations to Improve Oil Spill Preparedness and Response Report](#). The OSPR JITF is comprised of member companies and affiliates of the American Petroleum Institute (API). It was formed to review all aspects of oil spill response efforts and make recommendations for areas of further study or improvement. Since the report, the JITF has organized projects to evaluate and implement the initial recommendations, including the Subsea Dispersant Injection Program. In November 2011, the JITF released an update on their organization and projects. These projects envision collaboration among industry, government, academia, and other stakeholders. Some project teams will carry out large-scale research studies while other teams will assume a monitoring and engagement role if similar initiatives are being conducted by other entities (such as the Federal government).



For the full progress report, complete with the original recommendations as well as an update of each project, please see [The Joint Industry Oil Spill Preparedness and Response Task Force Progress Report on Industry Recommendations to Improve Oil Spill Preparedness and Response](#).



### Subsea Dispersant Injection Program

Subsea dispersant injection is a novel technique that was used during the Macondo deepwater well oil spill response effort. Industry plans to incorporate this tool in response strategies for deepwater wells. To support its use, API and its industry companies have developed a large-scale, multiple-year Subsea Dispersant Program to address subsea dispersant JITF recommendations. Project scoping has been completed with the project work plan organized into five project teams. The teams are: Effectiveness, Fate and Effects, Modeling, Monitoring, and Communications. A Steering Committee oversees each team's progress, and ensures coordination between teams. The program is anticipated to continue through 2014. Currently, research supporting Effectiveness, Fate and Effects, Modeling, and Monitoring initiatives has commenced. Steering Committee members have initiated contact with well containment companies regarding dispersant injection capabilities and will work closely with the International Association of Oil and Gas Producers-Oil Spill Response Joint Industry Project (OGP-OSR JIP) dispersant project team, which is also investigating subsea injection from an international perspective.

As teams move forward with their tasks, members will continuously engage with scientists and regulators. The program has formed a Technical Advisory Committee composed of various government agencies, academia, and international organizations to provide input and oversight to the program. Steering Committee members attended a National Response Team conference in May to present an overview of the Program. Members also attended the Clean Pacific conference to track technical and regulatory discussions relevant to subsea dispersant issues. This was also an opportunity to discuss the Program with various stakeholders, and inform them of API activities.

### Technical Advisory Committee

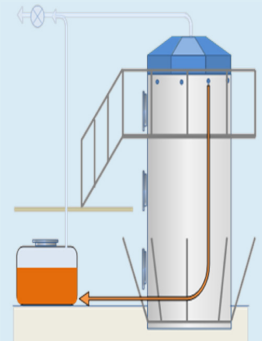
As mentioned by the Steering Committee Lead, in addition to extensive industry membership, Technical Advisory Committee (TAC) members from various government agencies, international organizations, and academia are providing oversight and input to the program project teams. This coordination is imperative for the promotion of transparency in the Program's research initiatives as well as the improving spill response standards in both the public and private sector. Below is a list of TAC membership organizations.

Government Agencies	Non-Governmental Organizations	Academic Institutions
<a href="#">Bureau of Ocean Energy Management</a>	<a href="#">Clean Gulf Associates</a>	<a href="#">Georgia Tech University</a>
<a href="#">US Environmental Protection Agency</a>	<a href="#">Helix Well Containment Group</a>	<a href="#">Louisiana State University</a>
<a href="#">National Oceanic and Atmospheric Administration</a>		<a href="#">Oregon State University</a>
<a href="#">United States Coast Guard</a>		<a href="#">Texas A&amp;M University</a>



### Effectiveness Team Project

The Subsea Dispersant Injection Program's Effectiveness Team's focus is to develop recommended dispersant injection methods that can be utilized during a spill response. A contract with [SINTEF](#) (a Norwegian research group with world experts on oil spill response) was awarded in January of 2012 to research efficacy of subsea dispersant injection. SINTEF finalized the first phase of scaled testing in June and is now developing a report of the findings. The first phase of research had three goals: 1) evaluate effects on oil droplet size of dispersant injection into a subsea oil release; 2) identify the appropriate dispersant-to-oil ratio that will result in rapid formation of very small dispersed oil droplets; and 3) evaluate various subsea dispersant injection systems. To achieve these goals, SINTEF used a large water tank to first inject oil, and then inject dispersants in various scenarios for evaluation.



Schematic of SINTEF tank

The Effectiveness Team is currently developing plans for the next phase of testing, which will expand on phase I findings.

### Modeling Team Project

The goal of the Subsea Injection Program's Modeling Project is to enhance existing numerical tools to track dispersed oil plumes resulting from subsea dispersant injection. Subsea plume models exist but may need additional enhancements and validation. On behalf of the Modeling Team, API is in contract negotiations with a research team that has over 35 years combined experience in oil plume modeling and over 10 years of experience in droplet size sub-modeling. The research has been divided into two phases. The first phase will focus on developing oil droplet size sub-models and evaluating current models used by industry. A workshop to discuss findings with modelers will take place at the end of the evaluation. The second phase will include developing a plan to update models as necessary and validate models using results of field and/or scaled testing. These models will predict the fate of oil and dispersed oil plumes. The first phase of research is expected to begin in the early fall.

### Monitoring Team Project

The Monitoring Team's focus under the Subsea Injection Program is to evaluate, develop and recommend current plans and technologies for subsea dispersant injection monitoring. The team is aware of U.S. Federal agency development for subsea dispersant monitoring guidelines. The [National Response Team's](#) (NRT) is holding a workshop to develop a single approach for both surface and subsea dispersant applications and a member from the the Subsea Injection Program will be in attendance to provide industry input. The team is also developing a white paper on current and emerging monitoring technologies to ensure the best use of technology for future oil spill response.



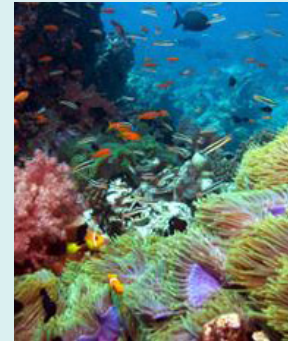
A CTD Rosette, a tool for monitoring water quality, being lowered to collect samples at various depths.



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### Fate and Effects Team Project

The Fate and Effects Team's focus is to evaluate the biodegradation, bioaccumulation, and toxicity of dispersants and dispersed oil on deepwater communities. A contract has been awarded to [NewFields](#) (an international environmental consulting firm with experts in marine biology and toxicology) to identify test protocols and specimens supporting the teams research goals. To achieve this, NewFields will first amass and summarize peer-reviewed scientific literature and technical papers on biodegradation, bioaccumulation, and toxicity of dispersants and dispersed oil on deepwater communities. These summaries will inform a workshop led by NewFields that is scheduled for October 3-5 in Houston, TX. The workshop will bring together U.S. and international technical experts to explore best practices for test protocols and specimens. NewFields will prepare and publish a report summarizing the findings of the workshop and will also prepare a peer-reviewed publication of best practices identified during the workshop.



Coral Reef Courtesy of NOAA.gov

The team will use the results of the workshop to help develop plans and methods for conducting representative biodegradation, toxicity, and bioaccumulation studies of dispersed oil and dispersant.

### Communications Team Project

As the four projects—Effectiveness, Fate and Effects, Modeling, and Monitoring—produce new findings, the Communications project team will use this newsletter and other mechanisms to communicate developments to the Technical Advisory Committees and others. The team is currently developing program factsheets that will give an overview of the Subsea Dispersant Program and its five teams, and will serve to inform stakeholders at workshops, conferences, etc. As they are developed, newsletters and factsheets will be posted to the API oil spill response informational website, [oilspillresponse.org](http://oilspillresponse.org).

### Spotlight on Other OSPR JITF Projects: Develop Improved Communications Tools

There are several dispersant projects other than the Subsea Dispersant Injection Program within the OSPR JITF. One of these projects, Develop Improved Communications Tools, focuses on using dispersant information to conduct outreach with the intent of promoting transparency and informing stakeholders and the public on both subsea and aerial dispersant application. Tasks for this project include evaluation of currently available information, workshops, and development of outreach materials (i.e., factsheets, social media, and internet sources). An early task for this project included [The Eastern Shore Oil Spill Dispersants Workshop](#), which was conducted at Wallops Island, Virginia, on February 16, 2012. The goal of the one-day workshop was to establish trusted relationships with local stakeholders in this ecologically sensitive area and to strengthen the relationships among oil spill technical specialists. Stakeholders in attendance included, but were not limited to, members from local government, environmental groups, the fishing community, academia, the oil and gas industry, and Federal and state regulatory agencies. The workshop reviewed topics such as spilled oil behavior, offshore response options, decision making challenges during an oil spill, and dispersant application and use. In addition to presentations and a discussion of a simulated passing tanker spill, participants had ample opportunity for one-on-one discussions with a variety of oil spill response subject matter experts. Feedback was quite positive, and it was felt that the workshop could serve as a template to foster discussion in other regions. This project team works closely with the API Subsea Dispersant Injection Communications team. The next workshop is currently in development and is planned to take place later this fall in the state of Washington.



## International Initiatives

Oil spill response research and safety enhancement projects are underway around the world. The OSPR JTF is coordinating efforts with the following international oil spill response initiatives where possible.



### OGP OSR JIP

The International Association of Oil & Gas Producers (OGP) formed the Oil Spill Response Joint Industry Project (OSR JIP) to progress recommendations made by the OGP Global Industry Response Group (GIRG).



### Arctic JIP

The Joint Industry Program (JIP) for Arctic Oil Spill Response Technologies formed in 2009 to evaluate and improve upon oil spill response efforts in Arctic and Sub Arctic regions.



### GRN

The Global Response Network (GRN) is a coalition of major oil spill response companies from around the world.

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