

The *Ohmsett* Gazette

Leonardo, New Jersey

Test with oil. Train with oil.

Fall/Winter 2006

Ocean Imaging Remote Sensing System

In May 2006, Ocean Imaging (OI) Corporation of Solana Beach, CA came to Ohmsett - The National Oil Spill Response Test Facility to test the efficacy of a portable aerial remote sensing imager to map the thickness of oil slicks. Building on successful research funded by California's Office of Oil Spill Prevention and Response (OSPR) to develop an aerial sensor system for mapping the extent of an oil spill in near-real-time, OI and OSPR teamed up to add oil thickness sensing capabilities to the system with funding from Minerals Management Service (MMS).

OI developed the initial thickness detection algorithm in laboratory tests using oil samples supplied by Ohmsett, and then expanded the work to tests overflights of the natural oil seeps in the Santa Barbara Channel in California in October 2005. The next stage of this project took place in the Ohmsett test tank. The May, 2006 tests involved imaging oil-containing targets in the tank, each with a specific predetermined oil film thickness, first from OI's sensor mounted on Ohmsett's high bridge crow's nest over the tank, then using the same sen-

Continued on page 2

Ohmsett Test Basin Gets a Face Lift



Ohmsett technicians prepare the test basin for maintenance, repairs and upgrades that took place during the summer.

In June 2006, after years of testing, training and research projects taking their toll on the Ohmsett test basin, the tank was drained for maintenance, upgrades and repairs. The last time the tank was completely drained was 2003.

Before discharge of the tank could begin, the water was treated through a newly installed zinc remediation system. After the basin water was tested and Ohmsett received approval from the New Jersey Department of Environmental Protection, over two and half million gallons of saltwater from the basin was discharged into Sandy Hook Bay. Once drained, the hard work began.

Critical to the maintenance project were major concrete repairs. Salt water had pen-

etrated the concrete in some spots, corroding the rebar, which expanded and cracked the concrete. Old concrete was chipped away and molds were formed in preparation for new concrete to be poured.

To help maintain the integrity of the test basin, seven custom made seals were replaced. These seals run the width of the tank to maintain water-tightness, and expand and contract with seasonal temperature changes. The six viewing windows were also removed, cleaned, resealed and reinstalled.

The upgrades completed at Ohmsett include the installation of a new compressor on the main bridge, new pumps on the main, auxiliary, and vacuum bridges, tank farm,

Continued on page 4

What's Inside

Training page 2

Korean Visitors page 3

Ohmsett Maintenance page 4 & 5

Clean Gulf Conference page 6

Ecomex Europa Oil Spill Responder Attends Training

When Ecomex Europa decided to expand its oil spill response operations in Mexico and open a new operations center, they selected Mr. Omar Pineda, their research and development director, to be the Program Manager for researching new equipment and responder training opportunities. During his search, he came across the Ohmsett training web site.

What a better way to learn about spill response, he thought, then along-side fellow responders from the U.S. Coast Guard and companies such as ChevronTexaco, ExxonMobil, and Florida Power & Light.

In May, Mr. Pineda attended a week-long training course at Ohmsett, the first of three spill response courses scheduled for 2006, conducted by instructors from Texas A&M University National Spill Control School (NSCS).

"We needed to train our personnel for our oil spill program," explained Pineda. "We were very interested in your value added services and how it could help with our spill response center based in Villahermosa, Tabasco, Mexico."

"I wanted to know about equipment and training operations, and to train on some of the equipment in your tank," he said.

Ecomex Europa is an international firm that has spent 12 years in Mexico developing environmental protection services. They specialize in oil tank cleaning technology, wastewater treatment, contaminated soil remediation and simultaneous combustion incinerators. They partnered with Saint Martin Construcciones, a leader in the Mexican market, for the clean-up of the Prestige Tanker disaster in Galicia near the Spanish coast.

"During the Prestige spill in November 2002, we realized we needed stronger response services and [a need] to train spill responders," Pineda said. "You don't get to train personnel on a real scenario until there is a spill. That's why I have found the Ohmsett facility very useful."

Ohmsett training is unlike other training sites that use popcorn or other substitutes for oil. The NSCS program taught at Ohmsett is divided into two parts: classroom and tank training. Classroom instruction was taught using the National Incident Management



Spill response students receive hands-on training with real oil during the week-long training course at Ohmsett.

System which was broken down into three modules: management and safety, GIS/GPS documentation, and planning.

Students put their classroom skills to the test during a Table Top drill by incorporating an oil spill response contingency plan, assigning staff roles, identifying environmental and economic resources at risk, and developing a demobilization plan.

During the tank training students experienced the challenges of removing real oil spilled in currents and waves. They were also able to practice collecting and measuring recovered oil while using several skimmer systems. During these exercises, the students test their ability to handle the skimming equipment and measure how much oil they are able to skim.

"The program is excellent," Pineda said. "It covers the different aspects of an event, especially programming, operations, cost, insurance, dealing with the media - all the

things that may actually appear during an event."

Remote Sensing System

Continued from page 1

sor mounted aboard a helicopter hovering one thousand feet over the tank. The data are being used to fine-tune the oil detection thickness algorithm.

In addition to imaging the sample targets of known oil thicknesses, several different types of oil were free-released and imaged in the Ohmsett tank under various wave conditions generated by the tank's wave maker. This allowed OI to study the behavior and spectral properties of different oil products as they would appear immediately after an at-sea accident.

The final report to MMS summarizing the results of the project, including the Ohmsett tests, is available at www.mms.gov/tarprojects/544.html.

USCG National Strike Force Trains at Ohmsett

In June 2006 six members from each of the U.S. Coast Guard National Strike Force teams (USCGNSF) came to Ohmsett for Oil Spill Responder Technician Training (OSRT). The week long course covered classroom topics as well as hands-on training in the Ohmsett tank using USCG oil spill recovery equipment in realistic conditions.

The USCG Strike Teams provide rapid response support in incident management, site safety, contractor performance monitoring, resource documentation, response strategies, hazard assessment, oil spill dispersant and operational effectiveness monitoring, and high capacity lightering and offshore skimming capabilities.

Students started with classroom training

which focused on general Coast Guard oil spill response, a safety briefing, and specific SORS/VOSS oil spill response equipment systems. Afterwards, students were divided into groups and rotated through "engineering" and "deck" equipment stations.

Ohmsett's half-hull ship model, set up in the Ohmsett facility lot, was the site for instruction on how to rig equipment with the USCG's VOSS.

Other stations for engineering and ancillary system operations included pumping/skimming in a Fast Tank, boom deployment and temporary storage device.

In the tank, NSF personnel experienced recovery operations in calm water conditions, harbor chop and waves using USCG

oil spill response equipment stored at Ohmsett.

"We want them to learn what we teach in the OSRT course," said USCG Trainer Dale Hemenway. "We include an additional run on the tank - harbor chop - to really hone their skills because they are the experts at sea with the VOSS, SORS, and skimming equipment."

This was the second of four OSRT training sessions the USCG conducts each year at Ohmsett, where personnel train using oil spill response equipment systems onboard JUNIPER Class WLB's (SORS) and District DRAT/NSF Strike Team (VOSS) equipment.

Korean Coast Guard Tours Ohmsett

On September 13, members of the Korean Coast Guard Pollution Response Division visited Ohmsett. Deputy Director Dr. Seung-Hwan Lee, Mr. Jong-Wook Choi, and interpreter Ami Kang, were accompanied by Ed Levine from the National Oceanic and Atmospheric Administration (NOAA).

"Our intention of the trip [to the U.S.] was to understand the U.S. national and regional operations and management systems [so we can] build new marine response systems

against chemical spill incidents," Dr. Seung-Hwan Lee said.

The group viewed the Ohmsett video in the training room, followed by a question and answer session. Afterwards they were given a tour of the facility. The group was very interested in how the Ohmsett test tank operates, including how waves are generated, how the moveable bridges work, and to gain knowledge about Ohmsett's unique combination of classroom and hands-on training.

"We observed the realistic tests and education programs for oil spills at Ohmsett. We also learned the practical facilities and in-situ operation mechanisms for maritime accidents at U.S. Coast Guard (USCG) Atlantic Strike team visiting," said Dr. Lee.

Ohmsett was one of many stops for the group as they sought an understanding of the Incident Command System regarding national disasters and to gain general ideas of response programs to incorporate with their new program for preventing and responding to ocean chemical spills.

"We also had a chance to investigate the in-situ operational responsive system against marine spills from USCG sector in Seattle. [The] Environmental Protection Agency (EPA) Headquarters explained their perspective on the National Response Systems, the roles of EPA, and National/ Regional Response Teams of USCG," said Dr. Lee.

"[The] EPA in Edison gave us the chance to see the field responsive operations and related facilities dealing with land-based hazardous chemical spill incidents. USCG sector New York showed us the pollution prevention operations."

"We will apply what we have gained from this trip, as much as we can, to build our new national programs for ocean chemical spills. All the information provided us will have a large effect on our new systems."



Pictured from left: Ed Levine from NOAA, Interpreter Ami Kang, Dr. Seung-Hwan Lee, Mr. Jong-Wook Choi.

Maintenance at Ohmsett.... Test Tank Discharge,

Before...



Ohmsett Test Basin Gets

Continued from page 1

and south end of the tank. In addition, the sacrificial anodes were replaced. Also installed in the past year was a state-of-the-art oil/water laboratory, and a 50 ton hydraulic deck crane.

In the final steps, all three movable bridges were repaired, the beaches were repaired, a non-slip coating was applied to the concrete, and the concrete surface washed and repainted.

By mid-September the upgrades, repairs and cleaning were complete. Coast Guard working around the clock for four days, the basin was filled with the tank water to open ocean salinity, 200 tons of salt were added to bring it back to crystal clear visibility and the tank was inspected by the Coast Guard, Texas A&M National Spill Control and Assessment Team (IMAT).



Repairs, and Cleaning

as a Face Lift

ificial zinc anodes used for corrosion protection were
of-the art computerized bridge drive system, a perma-
k crane with an extendable boom.

e bead blasted and repainted, several sections of the
ed to the east deck, and the whole test basin was pres-

ning were completed. With help from the U.S. Coast
asin was refilled with sea water from the bay. To bring
t was added. The water was filtered for two weeks to
s ready for the next round of oil response training with
l School Spill, and ConocoPhillips Incident Manage-

After...



Ohmsett Exhibits at the New Orleans Clean Gulf Conference

In October 2006, Ohmsett staff members attended the 16th Annual Clean Gulf Conference and Exhibition. This year, the conference was held in the city of New Orleans, known for its food, French Quarter, and of course, Mardi Gras.

Clean Gulf is devoted to bringing the best, and most up-to-date information to the oil and hazardous material spill prevention, response and technology industry in the Gulf Coast region. This was the best year ever for the conference with over 2,000 attendees visiting the 170 exhibitors showcasing the top spill prevention, emergency response, security, clean-up, fire and salvage firms serving the Energy Industry.

Ohmsett Program Manager Bill Schmidt, Mechanical Engineer Paul Meyer, and Marketing Specialist Jane Delgado greeted visitors at the Ohmsett booth, where they exhibited the latest full-scale dispersant effectiveness testing and research conducted at the facility, as well as the current oil spill responder training courses.

The keynote speaker was Admiral Thad Allen, Commandant, United States Coast Guard. He spoke on the experience and perspectives of the 2005 hurricane season. He is most well-known for his widely-praised performance directing the federal response to Hurricanes Katrina and Rita in the Gulf Coast region.

Admiral Allen noted that what transpired during Hurricane Katrina was a significant event, both personally and professionally and that no pictures can describe the devastation that took place from Alabama to Texas.

He also described a recent shift in the U.S. Coast Guard's organization and its place within the Department of Homeland Security (DHS). This shift has resulted in the USCG's movement to the Sector structure, Admiral Allen explained, and represents a fundamental change in USCG policy. The move will combine existing Group and Marine Safety Offices into one unified command required by the Incident Command System.

Conference sessions of special interest included a track on Science and Technology. Focusing on the research and development in the spill response industry, session speakers discussed new technologies, tactics and tools that are available to address spill re-



Top: Bill Schmidt, Ohmsett Program Manager greets visitors at Clean Gulf 2006. Bottom: Bill Schmidt with MMS's Sharon Buffington and Matthew Quinney.

sponse solutions and preparing for natural disasters.

During the session, Matthew Quinney, Mineral Management Service (MMS) Contracting Officer and Technical Representative (COTR), presented Ohmsett's capabilities and systems upgrades that have taken place over the last year; changes that will make oil spill response research and testing more repeatable with computerized equipment.

In addition, Sharon Buffington, MMS

Chief of the Engineering and Research Branch, shared the results of the Hurricane Ivan research. She spoke about the projects MMS has commissioned that have assessed the actual wind, wave and current forces that were present in Hurricane Ivan, analyzed and assessed the consequential damage to structures and pipelines, determined the effectiveness of current design standards and pollution-prevention systems, and developed recommendations for changes to industry standards and MMS regulations.

News Briefs

ConocoPhillips Hold IMAT Training at Ohmsett

ConocoPhillips Corporate Oil Spill Incident Management Assessment Team (IMAT) Training was held at Ohmsett on October 2 through October 4, 2006. The training consisted of classroom discussion presented by Dennis McCarthy of Clean Harbors Cooperative (CHC) and hands-on training exercises in the test tank using an assortment of skimmers and pumps provided by CHC.

The objective was to provide ConocoPhillips Corporate Oil Spill School with management training and experience, or refresher exercises on the set-up, operation, recovery, maintenance, and decontamination of recovery equipment using real oil.



ConocoPhillips Corporate Oil Spill School receives hands-on training at Ohmsett.

The Ohmsett Gazette is published by Ohmsett--The National Oil Spill Response Test Facility--to update our readers on activities at the facility.

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Dispersant Effectiveness in Cold Water & Ice

ExxonMobil, in conjunction with S. L. Ross Environmental Research, Ltd., conducted large-scale testing on dispersant effectiveness in cold water and ice conditions at Ohmsett in mid-March 2006.

Dispersant effectiveness testing and research has been conducted at Ohmsett, during the past year using the dispersant protocol developed by S.L. Ross and Ohmsett engineers. In the winter of 2006 several MMS-sponsored dispersant studies included using Alaskan crude oils in cold water.

Taking advantage of the available ice fields, test basin chiller, and ice storages capabilities that were on hand at Ohmsett, the objective of the ExxonMobil test was to determine the level of energy need to initiate dispersion and the difference in effectiveness between premixed dispersant in oil and dispersant sprayed over the slick in cold weather and ice conditions.

PetroCanada Joins Dispersant Effectiveness Tests

In March 2006, PetroCanada, in conjunction with S.L. Ross Environmental Research, Ltd., performed large-scale effectiveness testing of chemical dispersants in cold weather conditions at Ohmsett.

Over the past year, dispersant effectiveness testing and research involving several cold water/ice research and investigations sponsored by Minerals Management Service (MMS) have taken place at Ohmsett. PetroCanada joined the test scenario by evaluating dispersants in somewhat the same conditions taking advantage of the available test basin chiller system that was on hand for the other tests.

Using the dispersant effectiveness protocol developed by S.L. Ross and Ohmsett engineers, the test objective was to determine the level of energy needed to initiate dispersion and the difference in effectiveness between premixed dispersant in oil and dispersant sprayed over the slick, using White Rose crude oil, in cold water conditions.

Community Relations

Cub Scouts Visit Ohmsett

Port Monmouth Cub Scout Pack #88 visited Ohmsett on June 14, 2006. The troop consisted of 16 scouts from the ages of six to 12 and were accompanied by eight adult leaders. Paul Meyer, mechanical engineer, showed them a ten minute video of the facility before taking their questions about Ohmsett. Afterward, he guided the group on a walk along the deck of the tank basin so they could view the size of the test tank. Meyer also brought them up to the top of building R-26 for the spectacular view of the test basin, Sandy Hook Bay and the New York City skyline. ~Joyce Rosenberg



Members of the Port Monmouth Cub Scout Pack #88 tour the Ohmsett facility during a field trip.

Would You Like to Visit Ohmsett?

If you're in the area and would to visit the Ohmsett facility, please call Joyce Rosenberg at 732-866-7183 ext. 10 or e-mail jrosenberg@ohmsettnj.com to make arrangements.



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