

THE OILECLEAR CONSORTIUM CONSISTS OF THE FOLLOWING BENEFICIARIES

- Westmatic i Arvika AB - SME Coordinator
- IMU-TEC OY - SME
- Naval Consulting and Management AS (NaCoM) - SME
- Stena Line - OTHER
- Teknologisk Institutt - RTD
- Fraunhofer Institute for Interfacial Engineering and Biotechnology - RTD



CONTACT INFORMATION

Coordinator of the Project -
Westmatic i Arvika Ab



Carl Olov Persson
Mobile:
+46 570 727 603
E-post:

Carl-Olov.Persson@westmatic.com

More information about OileClear
including progress of the project is
available on the project website:

www.oileclear.com



Photo by Tétine

OileClear

Development of a safe, compact,
highly efficient, economic and fully
automatic electrolytic treatment system
for separation of emulsified oil
from wastewater of ships (bilge)
and oil rigs (slop)

OileClear has received funding from the European Union's
7th Framework program managed by REA - Research and
Executive Agency (<http://ec.europa.eu/research/rea>
(FP7/2007-2013)) under grant agreement no 314958.

Official start date of project was November 15th, 2012.
Project duration is 24 months.



INTRODUCTION

The aim of the OileClear project is to enable ship owners and offshore oil & gas rigs meet requirements of current and expected national regulations and international conventions regarding discharge of oil containing water to the sea. Today, bilge water and slops discharged overboard without proper treatment is a major factor of environmental stress.

The MARPOL regulations state that bilge water that contains more than 15 ppm of oil is not allowed to be pumped directly into the sea, whereas OSPAR has set the discharge limit to 30 ppm oil in slop water in the North Sea. Moreover, a number of national regulations have already set a limit of 5 ppm, as sensitive area standard of oil content before discharging into the sea. This requirement applies also to discharge of slop water in sensitive waters of the United States and Australia by rigs operating near shore. It is highly anticipated that IMO will follow suit soon, but currently the equipment market lacks technology that can manage reduction of oil in water and total hydrocarbon (THC) down to 5ppm.



OBJECTIVE OF THE PROJECT

The OileClear project is developing a novel treatment technology for meeting the requirement of a 5 ppm THC standard. The treatment system, which also removes organics and toxic metals and other environmentally hazardous substances, separates emulsified oil from water using multiphase separator design. Effluent data is to be monitored online and operation processes are controlled by an intelligent process control system. OileClear is also to be integrated with a safety enclosure for safeguarding from potential gases generated in the treatment process.

The main features of the OileClear system include:

- self-rinsing and adjustable electrolysis cell
- oil separation unit
- explosion proof design
- all-enclosed gas phase design
- total hydrocarbon monitor and alarm which cuts the effluent if the effluent level is too high



End user for OileClear - Machine room on-board ship

PROGRESS AND RESULTS

The scientific investigations and design of the main components of the pilot plant are completed and the prototype is under manufacturing. The integrated pilot plant will be installed onboard a Stena Line vessel in the near future for final functionality tests. The preliminary tests of the separation process have given oil content of 1-5 ppm in treated bilge water. Similar tests are scheduled to be run with slop water before the end of the project period. With modifications to be included in the pilot plant, the consortium expects oil/THC content far lower than the 5 ppm level attained in the preliminary trials.



Raw bilge water



Oil content of < 5ppm after treatment with OileClear