KISH P&I CLUB

KPI Information Update IU-47-2013
(EMSA guidelines on the Use of Dispersants-DUET)

Following the recent upgrade to the **Dispersant Usage Evaluation Tool (DUET**), 17 participants from across the EU attended a training session during September.

DUET is the result of a tender launched by EMSA in 2008 and contains a software programme that provides a numeric model to simulate oil spills and dispersant applications.

The model estimates the trajectory and fate of the oil, including water concentrations of naturally - and chemically- dispersed oil and dissolved hydrocarbons, as well as the surface area impacted by floating oil.

These measures maybe compared for scenarios with and without dispersant use, in such a way that informed guidance may be provided to decision-makers.

DUET, if not an emergency response tool itself, is intended for contingency planning in member states. Several countries have included it in their contingency plan and EMSA has used it on several occasions during exercises

Oil Spill Dispersants Characteristics:

Oil spill dispersants are liquids that are sprayed onto spilled oil on the sea with the intention of causing the oil to be dispersed into the water column. Whether or not this is a valid oil spill response method depends on the particular circumstances of the oil spill. The oil spill dispersants are blends of surfactants in solvents.

How Oil Spill Dispersant Work:

The purpose of using oil spill dispersants is to transfer spilled oil from the surface of the sea into the water column in the form of very small oil droplets. An overview of the process is shown in the images below:

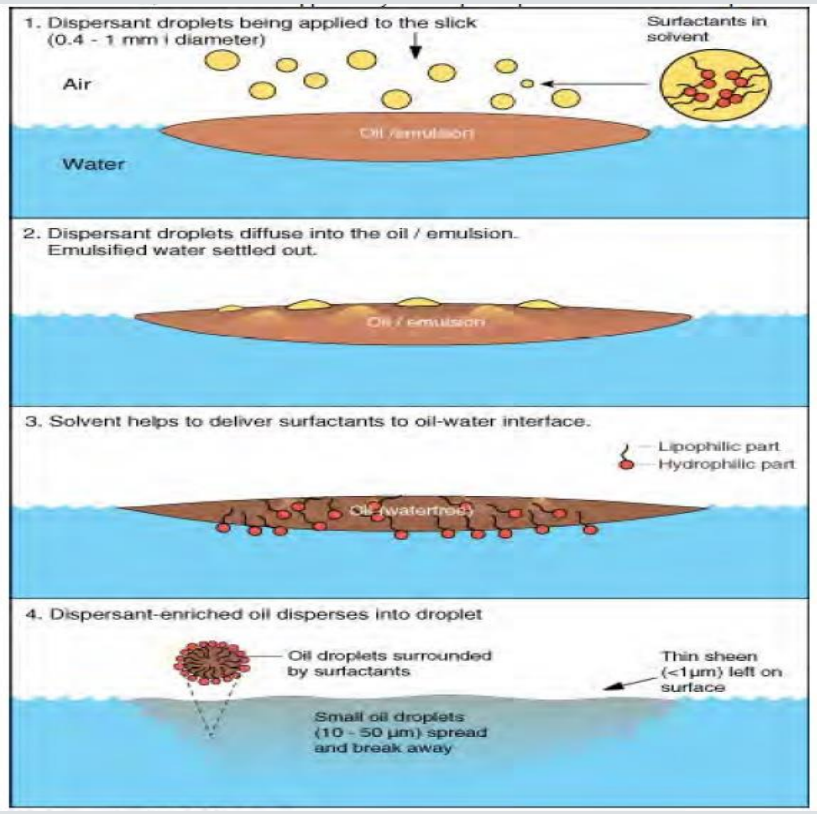

Image Credit: EMSA - Manual on the Applicability of Oil Spill Dispersants

Experience from extensive research and the use of dispersants at actual oil spill incidents, plus long term ecological monitoring following incidents such as the Braer incident in 1993 (where dispersant were prevented from being used effectively by the prevailing weather) and the Sea Empress incident in 1996 (where dispersants were responsible for preventing extensive shoreline oiling) indicates that:

1. The concerns that elevated dispersed oil in water concentrations have the potential to cause harmful effects are often overstated because the dispersed oil concentrations are rapidly diminished by natural dilution processes.
2. Dispersant use - in appropriate circumstances - can produce a demonstrable Net Environmental Benefit.

There is therefore a need to examine the individual circumstances of a particular oil spill to determine whether the use of dispersants is appropriate.

I. The first step is to consider whether dispersants would 'work' on the spilled oil; i.e. will cause the oil to be dispersed in the prevailing weather conditions and sea state. This can be achieved by considering the type of oil spilled and the dispersant available. Software tool DUET (Dispersant Use Evaluation Tool) provides guidance in this step of the decision-making about the use of dispersants.
II. The second step is to consider whether there is a possibility that the elevated dispersed oil in water concentrations created by dispersant use have the potential to cause significant harm to marine organisms.

The Manual on the Applicability of Oil Spill Dispersants, issued by the EMSA, contains information that summarises the dispersants and dispersant spraying equipment available in EU and EFTA member states and general guidelines.