

Model for better handling of oil spills

Chennai-based directorate designs this state-of-the-art model

Special Correspondent

NEW DELHI: Union Minister for Earth Sciences Kapil Sibal on Saturday unveiled a state-of-the-art mathematical model that would make the Coast Guard, the ports and other authorities more effective in handling oil spill disasters in the seas around the country.

The model, developed by the Ministry's Chennai-based Directorate of Integrated Coastal Marine Area Management Project, would help the authorities assess better the likely movement of oil spills. It has been developed as part of the oil spill management programme of the Central Government. The model assumes importance as India faced a high risk of oil spills particularly as the western part of the Indian exclusive economic zone, and the Lakshadweep and Nicobar Islands lie close to one of the major oil tanker routes originating from the Gulf countries and going to South East Asia. Nearly 3,500 tankers pass through the route every year carrying a total of 500 million tonnes of crude oil.

In addition, Indian ports annually handle 112 million

tonnes of oil, including the 22 million that is transported through pipelines from offshore platforms to refineries and storage tanks on land. Consequently, there is always a potential threat of oil spills because of operational reasons.

There have been 10 instances of major oil spills (1,000 tonnes or more) in the Indian waters over the past 12 years. The largest spills occurred in 1991 and 1993, when 40,000 tonnes of crude got spilt into the sea. While the 1991 spill occurred in the Mumbai High region, the 1993 spill occurred in the Nicobar-Sumatra region. Most recent oil spill occurred in August this year after a Japanese tanker collided with an Indian cargo vessel about 500 km west of Indira point in Andaman and Nicobar Island. About 4,500 tonnes of crude oil had spilt on to the sea following the accident. Mr. Sibal said it would be able to provide a real-time assessment of the likely movement of any oil spill in the Indian waters. The Ministry's Hyderabad-based Indian National Centre for Ocean Information Services (INCOIS), which would

operate the system, would be able to provide a prediction of the likely trajectory of the spill along with recommendations to the Coast Guard, the Disaster Management Office and other senior functionaries in the Government within a few minutes of receiving information on the location, quantity and other such parameters.

The path of the spill and the areas likely to be affected would be refined every three hours or as required based on the latest data on wind speed and direction. The Centre would also track the movement of the spills with the help of satellite and be in constant touch with the coast Guard and other authorities.

The Directorate of the IC-MAM project, he said, was also in the process of developing area and habitat specific oil spill models for 41 locations along the eastern and western coasts, which are sensitive from the point of ecology, environment and historical importance.

Risk perception

The models are being developed in phases according to risk perception. To begin

with, they are being developed for 20 locations, which are considered to have the highest risk potential: Marina and other beaches around Chennai, Pulicat Lake, Kanyakumari, and the Gulf of Mannar in Tamil Nadu, the entire coastline of Kerala, Mangalore in Karnataka, the beaches of Goa, the beaches of Mumbai, the coringa mangroves off Kakinada, and beaches of Vizag in Andhra Pradesh, Sundarbans and Hooghly in West Bengal, and Gulf of Kutch in Gujarat, besides the Andaman and Nicobar Islands and Lakshadweep. Such a model has already been developed for the Gulf of Kutch. The models for the remaining 19 locations would be ready within two years.

The models, Mr. Sibal said, would particularly be useful for timely deployment of booms and for taking other measures to prevent the spills from reaching the coast, and to provide information to industries and power plants that used seawater for cooling and other purposes. It will also help estimate loss of resources better for claiming compensations.