

POLLUTION FIGHTING: TRAINING IN FRANCE

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ABSTRACT: France provides various forms of training or information in the field of oil pollution prevention and combat. Some to date have been directed only to French nationals; others are open to international participation.

Every effort is made to fully train French nationals involved in pollution intervention. Handbooks are available and regularly updated; practical exercises allow them to keep pace with the evolution of equipment, and audio-visual aids complete the picture.

For international participation, several types of actions are carried out. A 2½-week session called Infopol is directed to decision makers and other senior officials involved in contingency planning. They become acquainted with the knowledge acquired in France both by actual pollution fighting after accidents and through various practical exercises. This includes organization, storage of equipment, and its behavior and capabilities.

Other sessions on more specific topics are organized either by the Port of Marseille authority, which may propose à la carte or set training programs at various levels, or by CEDRE (Centre de Documentation, de Recherche et d'Expérimentations sur les pollutions accidentelles des eaux), which also offers à la carte training courses for pollution control center managers as well as for field work coordinators and technicians from any background and level. All French centers already have extensive training experience and could help other countries develop their own training organizations or train their personnel.

Because of its geographical position near the busiest maritime route, France has suffered a number of pollution accidents, among them the *Amoco Cadiz* in 1978 and the *Tanio* in 1980. Furthermore, currents in the English Channel are such that even an oil spill on the English shore will drift toward the French coast, as the *Torrey Canyon* accident showed in 1967.

We shall not describe here all the decisions made in the wake of these accidents as they have been presented in previous oil spill conferences. One, however, was that French personnel should always be ready to fight a new pollution incident, even if many measures have been taken to reduce the risk (among them, traffic organization and ship control in ports). Another was to give other nationals the benefit of the French experience in pollution fighting, as well as the lessons drawn from it and the studies that were carried out as a follow-up to this experience.

Infopol

For many years France has organized a yearly session called Infopol directed to decision makers and other senior officials involved in oil pollution contingency planning. This session now lasts 2½ weeks. In such a session, various subjects are tackled either in a rather theoretical way or with a more practical approach.

A general description of the French administrative organization is presented. Of course, France does not consider its own organization the best one; we think that in each country a pragmatic approach should be taken, depending on the existing bodies. However, the description of the French organization draws attention to the many aspects one must consider when deciding on any administrative organization.

A country has to consider so many aspects when preparing to prevent or fight oil pollution that it was thought useful to present them within Infopol in an organized way. The French system provides a skeleton for a clear presentation. Of major importance in this context of transfer of experience is the exploration within Infopol of the French preventive policy in equipment acquisition. This is the subject of a lecture as well as the reason for visits of stocks.

Fighting pollution is, of course, essential, but prevention should come first. Therefore, the French policy is described in the context of both international conventions, which are reviewed for participants, and the national organization. This section includes lectures on legal and practical aspects of pollution prevention, including that from discharges at sea, and also field visits, for example to CROSS (the operational regional center for security and rescue). CROSS combines pollution surveillance and traffic surveillance, including compliance with traffic separation schemes because these are considered an essential feature of navigation safety and, therefore, a way to avoid accidents that might cause pollution.

CEDRE (Center for Studies, Documentation, Research and Testing) has a large role in the Infopol organization. It hosts a part of it and, more important, presents participants with many aspects of its research and knowledge, including that on the behavior of pollutants at sea and of the products to fight them, booms and how to use them for shore protection, and recovery of oil on the water. This presentation combines the results of studies with the experience gained while fighting major pollution incidents at sea, and cleaning and restoring polluted sites to their former condition. Participants also are informed of the follow-up studies of the impact of a major pollution incident on both the environment and bottom sediments.

Another part of the session takes place in the Port Autonome de Marseille. There, participants can carry out a case study of pollution, and see how a major port is organized both to protect and clean its own waters and to receive residues from ships. They see demonstrations of equipment developed by the French industry in close cooperation with those who will have to use it in their task, either every day or under exceptional circumstances. This illustrates the synergy this cooperation has achieved.

Other training activities

Although perhaps the oldest of the systematic actions, Infopol is not the only one. An important role is played by CEDRE, as noted previously.

Among CEDRE's assignments is training of French personnel in charge of fighting accidental pollution. These personnel belong to the French Navy; the Direction Départementale de l'Équipement, which is the local service in charge of roads, ports, seashore and so on, and the Sécurité Civile, the service within the Home Department that deals with prevention of accidents such as fires and combating their consequences. These pollution teams organize preventive measures at sea or on land, fight against pollution, and eventually restore sites polluted by oil spills.

During the sessions it organizes, CEDRE transmits its knowledge on the methods and means to fight accidental pollution at sea or on the shore. Many sessions are organized each year. Their programs are established *à la carte*, as a function of the level of participants and their responsibilities for directing or implementing pollution control actions.

The training is divided into three areas: fighting pollution at sea, on shore, or in inland waters. The last session has not yet been organized, while the others have been repeated many times.

Each session consists of two components: a theoretical component with lectures delivered at CEDRE by experienced engineers, and a practical component, which takes place either at sea on a vessel provided by the French Navy or on land in the experimental zone belonging to CEDRE. In this zone, an artificial beach and a pond allow for full-scale experiments (Figure 1). Each session lasts an average of one week but may be longer depending on the program.

CEDRE now may allow foreign countries to benefit from the training experience it acquired in France. A number of such training sessions already had been carried out, as CEDRE received participants from India, from Indonesia, from Mediterranean countries, and from various other countries, including European Economic Community (EEC) members.

In such cases programs are established as described above, but adapted to take into account the specific characteristics of the shoreline in the country of the participants. For a more concrete and



Figure 1. A 1984 oil recovery exercise in CEDRE's experimental zone

adapted program, the session is based on scenarios related to the participants' country. Recently, for example, scenarios concerning Indonesian, Portuguese, or Greek coasts were studied.

The program established for Indonesians (Figure 2) included the following items, after a general presentation by CEDRE: a lecture on oil recovery in offshore areas, in estuaries, and in rivers; field training using a towed skimmer (Sirene) and a floating storage tank (Pollu-tank), with simulation of oil recovery; lectures on dispersants, followed by field training on their application; lectures on booms, followed by field training on oil confinement and recovery in a harbor area; a debriefing on the preceding training; case studies; lectures on fighting oil pollution on shore and on land, followed by training with pumps in shallow water, a lecture and training on beach-cleaning techniques; a lecture and field training on cleaning of rock and pebble beaches; and a lecture on and visit to waste treatment facilities.

Sessions organized by CEDRE for foreign participants have been requested by oil companies, by the EEC, and the International Maritime Organization (IMO) and Regional Oil Combating Center (ROCC).

In addition to organizing and directing its own sessions, CEDRE participates in sessions organized by other authorities, such as Infopol, Medipol, a Mediterranean program organized by the Regional Oil Combating Center (ROCC); and SOGESTA, organized in Italy by the EEC. CEDRE also plays a role in training students from the World Maritime University in Malmö. CEDRE eventually participates in sessions organized for French nationals. Such sessions are organized by the responsible departments mentioned above for the role of their personnel, the French Navy, the Sécurité Civile, or the DDE. Additional details on the DDE training are given below.

There are eight storage centers along the French shore, corresponding to three "departments" (France is divided into about 90 departments, of which about 25 border the sea). It was decided to have roughly one exercise per year and per zone covered by a center. The exercise is organized by the DDE, assisted by the storage center, the Service Technique des Phares et Balises (a central branch of the lighthouse authority, which has competence in the design, laying, and anchoring of booms), and with credits coming from the Secrétariat d'Etat à la Mer, the ministerial department in charge of civilian sea affairs.

The person in charge of the project designs a plan for the protection of a site, and asks for additional measurements of current. He has documents that help him to know how to install booms as a function of current. He prepares a precise time schedule for the pollution intervention teams so that they in turn can perform various tasks, as the objective of the exercise is pedagogical.

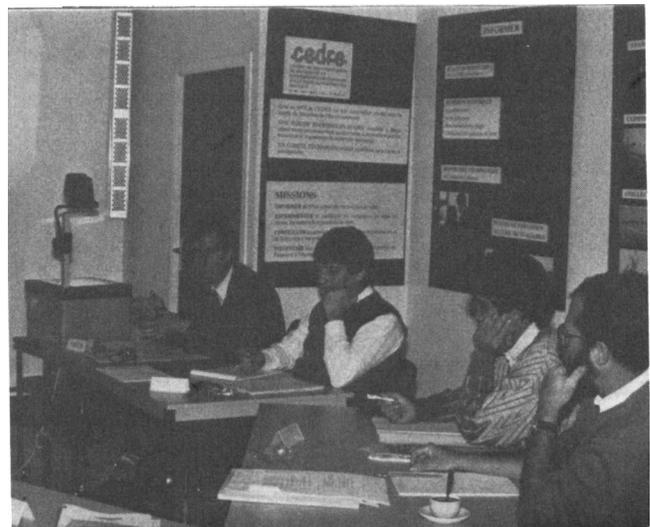


Figure 2. CEDRE's 1986 pollution response training session for Indonesians

Twenty-eight such exercises were organized during 1982–1985. The experience gained allowed an evolution of the exercise from a simple boom-laying operation to one that included protection, skimming, and cleaning.

Each exercise allows for supplementary information on combating techniques. Specific tools were developed, including audio-visual aids and models. Forms describing how to use equipment are tested and improved by the personnel who intervene in the field, and future training may thus be improved (as well as the equipment in relation with the industry).

In addition to these exercises, special sessions are organized on the practical use of some antipollution equipment, to familiarize participants with techniques for combating pollution, especially in case of a major oil spill.

The above description of training in France is of necessity not exhaustive. We also could have described how other ministerial departments train their personnel, and mentioned the sessions organized by the Port Autonome de Marseille or by IFREMER (previously CNEXO) on many of the various aspects of pollution prevention, combat or cleanup at sea, on the shore, or in ports.

Conclusion

The major oil spills affecting French coasts have demonstrated the necessity for extensive training. Training sessions are conducted for French nationals and for foreign participants, in English or in French.

