

**Erika cargo
neutralization
15/12/1999 – 7/09/2000**

**The information days of CEDRE
P. Guyonnet – 6th October 2003**

TOTAL

Wreck of the Erika

Erika :

- ✓ Date and place of built: 1975, Japan; flag : Malta
- ✓ Deadweight: 37 000 tons
- ✓ Owner: Tevere Shipping
- ✓ Manager: Panship Management
- ✓ Classification company: RINA (Italy)

Chartered « spot » by Total Transport Corporation for ENEL (electricity):

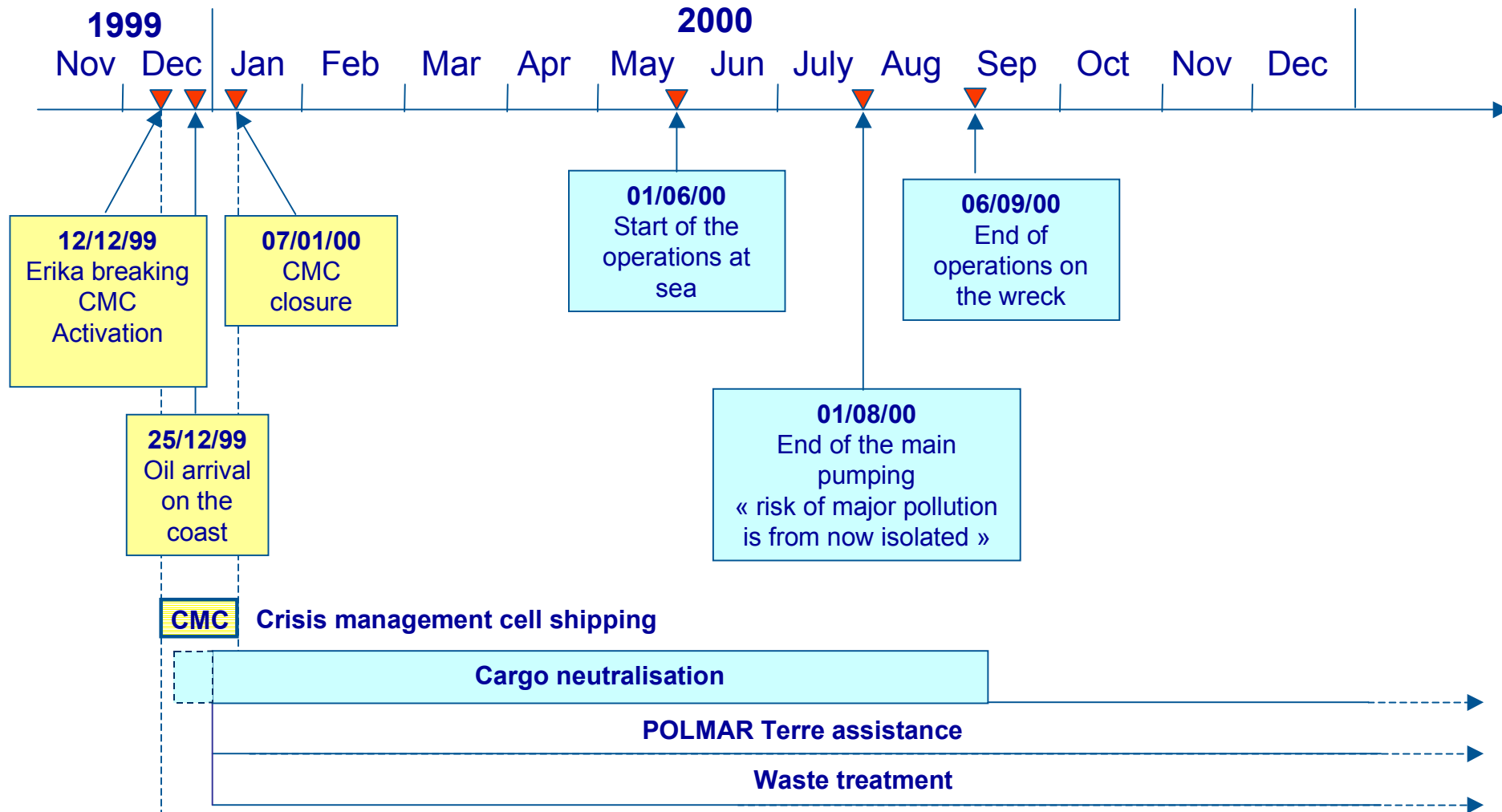
- ✓ Saling from Dunkirk to Livourno
- ✓ Loading in Dunkirk # 31,000 tons on the 08/12/99

Ship breaking on the 12/12/99 at about 60 km south of Penmarch (Britanny)

About 12,000 tons of heavy fuel oil trapped in the two parts of the wreck

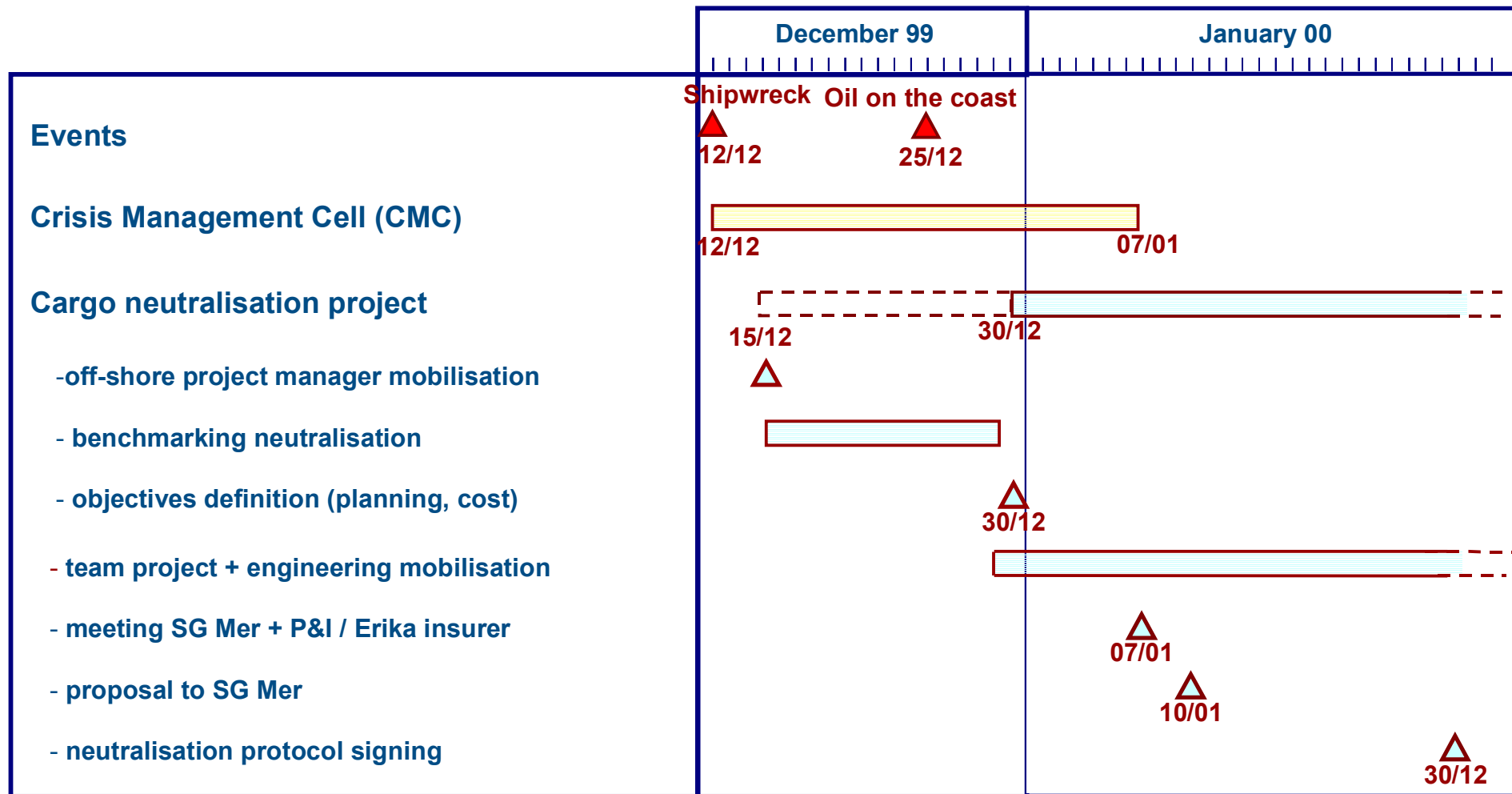
Erika cargo neutralisation

« crisis » phases



Erika cargo neutralisation

« An uncommon start »



« Neutralize the cargo »

Totalfina operates, under State control

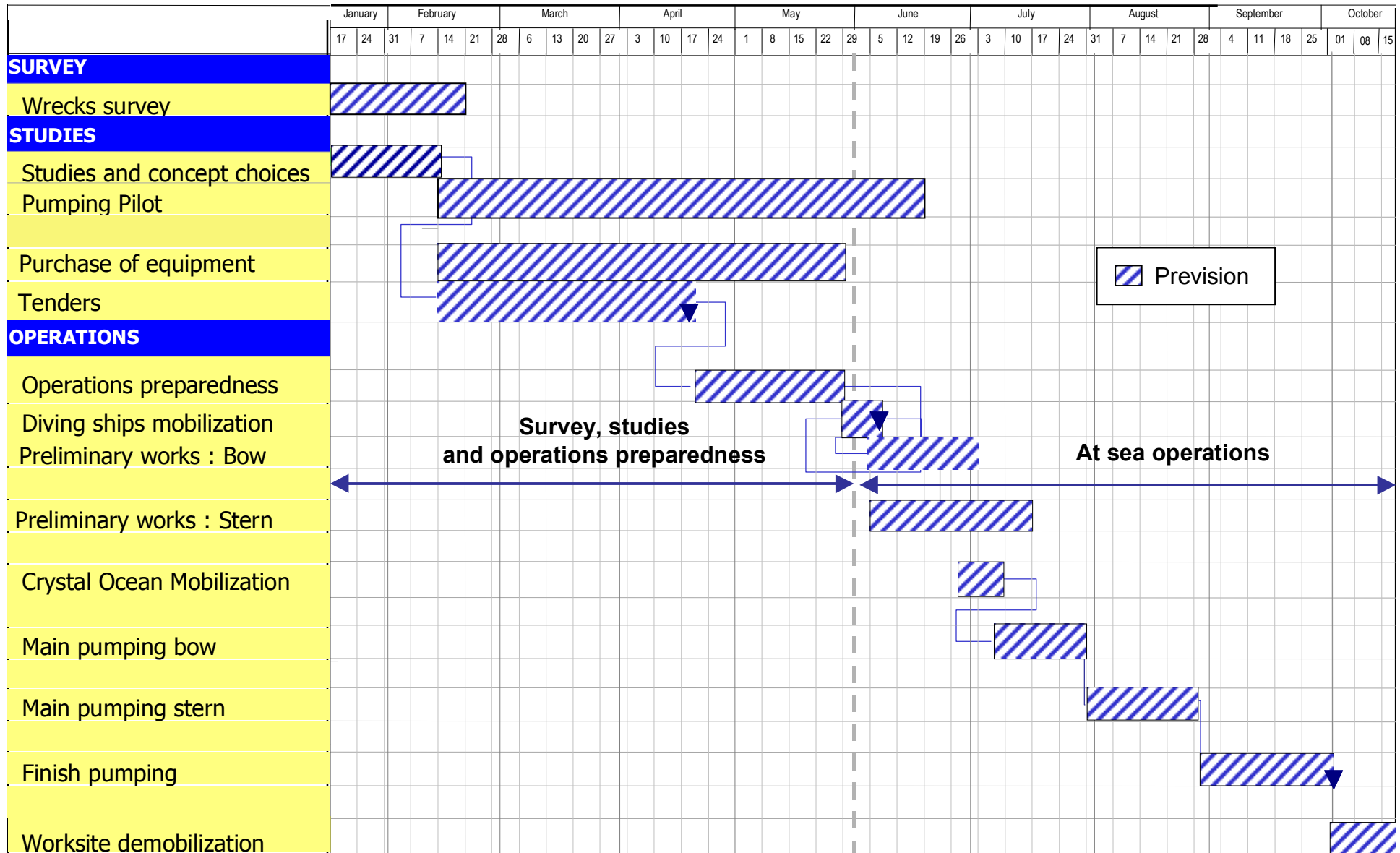
State control : Ministère de l'Équipement des transports et du Logement

- Central level (General secretariat of the sea)
 - Steering committee (12 members)
 - Experts committee (9 members)

- Local level (Préfecture maritime) : operationnal coordination

Project team gathers Totalfina offshore expertise

Pumping operations planning



Erika cargo neutralization

Comparison of technical options

		Feasibility	References	Risk	Maîtrisable	Delay	Cost
				Environment	Humain		
Containment	Burying	Yes	Pallas 1998 quelques mètres d'eau	NO			
	Concrete sarcophages	Yes	Aucune	Yes	Yes	2 Years	350 MF
	Concrete projected	Yes	Aucune Estonia en projet	NO			
Neutralisation	Polymérisation	NO sur site					
	Incineration	NO sur site					
	Biodegradation	NO Finition uniquement					
Refloating	Crane barge	Not proved	On undamaged wreck Irving Whale	Yes if empty tanks	NO		
	Parachutes	Not proved	On undamaged wreck Brigitta Monanari	Yes if empty tanks	NO		
	Additional floating	NO					
Pumping	Many methods available	Yes	Bohlen Tanio Yiul 1 Osung 3	Yes	Yes	6 months without bad weather	400MF

Pumping operations planning (previsions/realizations)

