



15<sup>th</sup> Cedre Information Day  
Spill response equipment stockpiles

# Different types of stockpiles: background and difficulties

Georges Peigné

*Cedre*

715, rue Alain Colas - CS 41836 - 29218 BREST CEDEX 2 -  
FRANCE

Tel: +33 2 98 33 10 10 - Fax: +33 2 98 44 91 38  
contact@cedre.fr

<http://www.cedre.fr>



# Different types of stockpiles: background and difficulties

- Current situation
  - Different types of stockpiles
  - Background
  - Stockpile complementarity
  - Right-sizing stockpiles
  - Location and vocation
  - Composition and evolution
  - Funding
- Questions for the future:
  - Requirement adequacy
  - Management optimisation
  - Scope enlargement
  - Rules of usage
  - Formation and renewal

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# Different types of stockpiles

- Public / private
- Local / regional / national / international
- For marine waters / inland waters
- Supply stores (*e.g. PAJ; manufacturers*) / tool kits

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# A history shaped by spills

- Recent [in France, post Torrey Canyon (1967) and more significantly post Amoco Cadiz (1978); in the UK, BP stockpile since 1973 which became OSRL stockpile in 1985]
- Marked by a number of major events [Torrey Canyon, Amoco Cadiz, Exxon Valdez, Erika, Prestige,...] and the repetition of minor events
- For spills from fixed installations or related to shipping
- Different needs and obligations between "polluters" and "polluted", evolution of these needs and obligations [*Exxon Valdez shift: from obligation to need + reinforcement of obligations (OPA 90; oil field operation conditioned by the existence of appropriate solutions - cf. Hiwax-)*]
- Emergence of specialised response companies and organisations [assistance to ships in distress (towing and salvage companies), intervention on wrecks, shoreline clean-up,...] and in parallel, gradual disappearance of internal capacities within oil companies, and even public services

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# A history shaped by technical development and new means

- and by the evolution of the role of the different stakeholders in their development:
  - manufacturers (stimulated by large markets or supported)
  - service providers or "not-for-profit" private organisations
  - public authorities, users or otherwise (promotion of research, innovation, industrial development)
  - site managers (ports,...)
  - oil companies (from BP to OSRL)
- and also by the evolution in deployment logistics (e.g: OSRVs; Canadair, Super-Frelon,...)

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# The concept of tiered response and stock complementarity (1/2)

- national stockpiles obtained by addition of local stockpiles (in particular belonging to ports): rare (Italy?); more often national stockpiles called upon for small-scale local response (hence absence of local stocks where national stockpile exists)
- international stockpiles obtained by addition of national stockpiles (e.g. CIS, regional agreements)  
*approach favoured by the consideration of transboundary pollution risks*
- encouragement by OPRC 90 of government-industry cooperation for consultancy and response means

# The concept of tiered response and stock complementarity (2/2)

- worldwide cover by Tier 3 Centres [AMOSC, CCA, OSR, FOST] as a complement to national and local means, or to reduce the need for national stockpiles
- extra layer added by a supranational entity (e.g. EMSA and its chartered vessels) or a private stockpile (e.g. OSR and aerial dispersant spreading) or through international private stockpile networks (GRN) or agreements (e.g. OSR-AMOSC)
- but little marine waters/inland waters complementarity
- recurring questions on equipment compatibility, or even standardisation of certain elements (especially boom sections)

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# Right-sizing and evolution of stockpiles

- originally very ambitious (near to worst case scenario) and often an optimistic vision of expected performance of stocked means [in France, after the Amoco Cadiz: objective 30,000 t oil -> 30 km boom and 30 skimmers]
- questioning through exercises and more importantly real spills
- movement towards optimised quantities, according to:
  - the risk
  - the deployment means (human and material)
  - the maintenance capacities

taking advantage of:

- the complementarity of stockpiles and the principle of tiered response
- but risk of conflict if multiple requirements (*e.g. from different areas during Erika spill*) ... and favoured inquirers (*e.g: stockpile manager and user*)

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# Stockpile location and vocation

- near potential spill locations (*e.g. PAJ stockpiles near straits on shipping routes to Japan*)
- near deployment logistics (*in France: military ports, beacon stations*)
- near rapid transport (*e.g. OSR; FOST 1*)
  - but beware of access constraints due to location
- packing for aerial transport and choice of equipment suitable for this transport (*counter example: EGMOPOL barges for Exxon Valdez*)
- stockpiles intended, or reserved, for (co)financers of equipment in stockpiles; access sometimes possible for third parties but not guaranteed if no prior agreement (and financial support)

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# Stockpile composition and evolution (1/3)

- adaptation to most probable risks and/or to response to last major spill (*e.g. focus on very viscous fuel oils after the Erika and Prestige, including use of trawl nets*)
- specific spill response equipment, not easily mobilised elsewhere
- first line emergency equipment (until means from suppliers or other stockpiles arrive)
- preventatively acquired equipment or equipment acquired for a particular spill
  
- "reliable, easy-to-use equipment rather than cutting edge technical solutions" (USCG)
- previously assessed, or even certified, equipment and products

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# Stockpile composition and evolution (2/3)

- Lightering vessels in difficulty: important place in the history of Polmar Land stockpiles (including response on chemical tankers), infrequently (never?) used on accidents
- Response to wrecks: mainly from service providers
- Dispersants:
  - Spraying equipment by boat, helicopter, plane
  - Products (*quality control; cost of disposal; sharing protocols to reduce volumes stored*)
- Containment - recovery:
  - Equipment compliant with available or accessible deployment logistics (*e.g. French Navy OSRVs*), or even available via these logistics (*e.g. vessel chartered by EMSA*)
  - large quantities of boom in stockpiles to protect sensitive sites: Polmar Land stockpiles: 20 km in 1980, 35 km in 1988 (*compliant with actual requirements and deployment capacity?*)
- Storage of recovered products:
  - Floating (flexible tanks) or on land
  - In addition to non-specialised means

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# Stockpile composition and evolution (3/3)

- Sorbents:
  - Limited stockpiles, possible recourse to suppliers for rapid supply
- Shoreline clean-up: in national stockpiles
  - Mechanical: sand screeners (?) and pressure washers (limited numbers)
  - Manual: basic stock until new supplies arrive
- Cleaning birds:
  - FOST, OSR in connection with Sea Alarm
- Communications means
  - only for initial emergency

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# Stockpile funding

- Government investment encouraged by spills (experienced or followed)
- Imposed upon operators of high risk sites
- focus on use of OSRO or service provider stockpiles

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# Questions for the future

- specific to certain types of stockpiles, but whose answers can have a wider effect (stockpile complementarity)
- or more universal

# Adequacy of existing stockpiles with requirements?

- insufficient or excessive quantities in stock in relation to potential requirements  
- encouragement to maintain the quantity and condition of these stocks?
- means suited to actual requirements? [risk analysis; real feedback from mobilisations and deployment of equipment from stockpiles for real spills, especially in relation to use of non-specialised means or observed efficiency (e.g. problem of protecting exposed sensitive zones); adequacy of contingency plans]
- consideration of the evolution of requirements:
  - evolution of pollution risk [type (HNS spills?), location (arctic zones)] and public expectations
  - evolution of human capacities (specialised, trained personnel) and deployment and support logistics (e.g. aerial guidance of response operations at sea)?
- optimised distribution and location of stockpiles? (near deployment or dispatch locations?)

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# Optimal stockpile management?

- (stock managers and users, assessors, trainers...)
- encourage management by service providers or OSRO?  
To promote the maintenance of specialised, trained teams and the use and therefore renewal of equipment by widening the panel of potential users?
- but conserve ownership or at least a say in the choice of equipment stocks?

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# More universal stockpiles?

- public / private
- marine and fresh water spills
- at sea and on land response
- oil and chemicals... and litter

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# Relax or tighten stockpile rules of usage?

- avoid overly diminishing stocks or promote the use and renewal of equipment? (*e.g. Exxon Valdez: Egmopol/pressure washers; Lebanon*)
- promote decentralisation of decision-making on the use of stockpiles?
- allow, or even promote, the use of certain means for requirements other than spill response? By users other than those for whom the stockpiles were originally intended? (*e.g. service providers / national stockpile; non-members / associative stockpile*)

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# Regulating the formation and renewal of stockpiles

- conserve equipment acquired for specific spills? (Amoco Cadiz / Exxon Valdez)
- conserve equipment never used outside of exercises and which experience shows reluctance to use? (*e.g. floating flexible tanks*)
- when to remove old equipment (problems of maintenance, spare parts and therefore reliability in the case of further use)?
- replace with more efficient equipment? (including to encourage technological research and development)
- encourage the dispatch on site of older equipment?
- ensure ongoing funding of stockpiles to guarantee upkeep (equipment maintenance and renewal; staff training)

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