TRIOX Environmental Emergencies

GIWACAF

Waste Management in Case of an Oil Spill

Part 1: General Principles

Emergency preparedness, training and response services for oil and chemical spills

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A big challenge!

- Varied waste types
- Volume of waste can be larger than the original spill! (approx. 10X)
- Large logistical operation
- Can be very expensive
- International and National regulations must be followed

The key is to be prepared!

Waste management problems can seriously affect the response efficiency

Waste Management Planning

- Important throughout the response, *not just at the end*
- It needs to be integrated into your incident management structure
- Clean-up choices will affect volumes and available disposal options

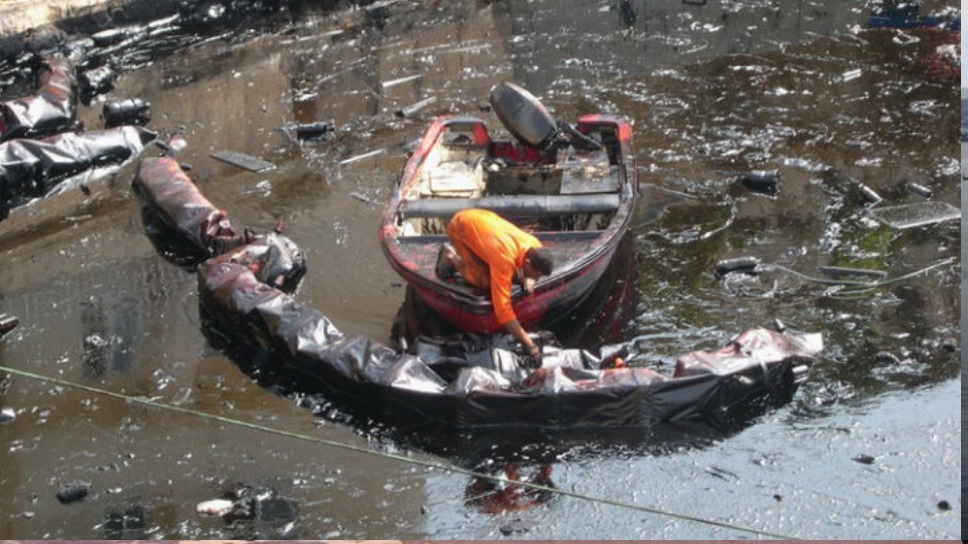
Types of Waste

Liquid:

- Oil
- Oil/water mixture
- Emulsion
- Dirty water
  - Ex. decon/toilets
- Some debris

Solid:

- Oiled sediment
- Oiled debris
- Wildlife
- Cleaning materials
  - Sorbent materials
  - PPE
- Domestic wastes

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EQUIPES
Tyvek

Two key principles

1) Minimise wastes as much as possible!

- Everything in contact with oil will become a hazardous waste

2) Segregate according to waste types!

- If wastes are not segregated, final disposal will be challenging

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Tip no. 1: Remove debris/boats/tools from the shore before oil arrives

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Tip no. 2: Select clean-up techniques that will generate less waste

Ex. Use oleophilic skimmer instead of vacuum

Tip no. 2: Select clean-up techniques that will generate less waste

Ex. Use of manual recovery instead of mechanical

Important factors

- Training of personnel
- Selection of response strategies
- Careful with absorbents and PPE!

Table 8.3 *Operational Issues*

Technique	Logistics Support and Labour	Relative Operational Rate	Waste Volumes (Types)
Natural Recovery	**VERY LOW** – monitoring teams	**n/a**	**NONE**
Wash and Recover	**VERY HIGH** – pumps, hoses, sorbents, boom, skimmers, storage – labour-intensive	**SLOW**	**HIGH** (liquids)
Removal (Manual)	**VERY HIGH** – shovels, rakes, sorbents and vacuums – labour-intensive	**SLOW**	**MODERATE** (solids or liquids)
Removal (Vacuum)	**LOW** – vacuum trucks	**RAPID**	**HIGH** (liquids)
Removal (Mechanical)	**LOW** – earth-moving or agricultural equipment	**RAPID**	**HIGH** (solids)
In Situ Treatment	**VERY LOW** – mechanical support, earth-moving or agricultural equipment	**RAPID**	**VERY LOW** (some solid logistics waste, possible burn residues)

From Environment and Climate Change Canada (ECCC) SCAT Manual Third Edition, 2018

Tip no. 3: Segregate!

- Waste segregation according to waste types
- Clear identification of containers

NO!

Legislation

Your waste management plan must respect all National and International legislation

- National legislation typically deals with storage, transportation, final disposal, and certification of facilities
  - What permits/authorizations do you need?
  - How long does it take?

- Basle Convention: Control of Transboundary Movement of Hazardous Wastes and their Disposal (1989)
  - Exporting state must notify receiving and transit states
  - http://www.basel.int

Quiz time!

What is your biggest challenge for the implementation of these key principles (minimization and segregation)?

- Training?
- Equipment?
- Planning?
- Legislation?

Quiz time!

What is your advice?

A) Remove everything from the shore and store in a single container

B) Collect all debris and try to separate material into categories such as oily wood/vegetation, other oily material, non-oiled material