



Sampling of OSW in glass container for analysis (Source: ITOFF)

3 Minimization, sorting at source, temporary storage & transport

3.1 Minimization

Historical data shows that oil spills impacting the shoreline can in extreme cases produce up to 30 times more waste than the volume originally spilled, although small spills have also sometimes created large amounts of waste. However, this varies depending on the characteristics and behaviour of the oil, response techniques and management. It is essential to reduce the amount of waste, thus limiting the difficult problem of dealing with the quantity of waste generated in a very short period, and limiting environmental and economical impacts (Source: IPIECA guidelines).

Waste minimization must be a **permanent objective** during the clean-up operations and in situ handling of OSW. Expert advice should be obtained for the selection of the best technical choices for clean-up. Emphasis should be put on methodical management of clean-up sites to avoid spreading and secondary contamination of unaffected sites and also by choosing the recycling options for the oiled equipment.

- ↳ Waste minimization must start with the first response operations on the site and remain a permanent effort. Information and control of the personnel and companies working on site is essential.
- ↳ Use appropriate clean-up techniques to minimise the volume of sediments collected.
- ↳ Prefer in situ washing techniques instead of the removal of oiled sediment (e.g. surf washing, sand flushing, etc.).
- ↳ Avoid additional contamination:
 - Prevent soil contamination by using liners under drums, tanks and at bottom of storage pits, and
 - Control the accesses to the clean-up sites and protect them using lining and/ or geotextiles.

Proposed content of this Sub -section of the Plan

→ **Recommendations on oil spill waste minimization.**

Recommendations to develop this Sub-section

Refer to the Questionnaire of REMPEC, Section 1, Question 1-2.

■ **Refer to TG n°3** “Waste minimization during recovery”, p.49, with explanation of some techniques for selective collect and in situ handling of oily material. Operational instructions should be included in the OSWMP.



Re-use equipment, e.g. draining of Pom Pom on site for re-use (Source: Le Floch Depollution)



Avoid removing lightly polluted sand/pebbles. Prefer in-situ clean-up techniques (Source: OTRA)



Avoid additional contamination by using the adequate equipment (Source: Cedre)

3.2 Sorting at source

Segregating the waste at the source allows choosing specific and best suited methods for each type of waste, ensuring cost effective and ecologically sound treatment (and diminishes the cost related to pre-treatment). Contaminated material should be segregated into liquid, solid, non biodegradable (oiled plastics, contaminated clean-up equipment...), biodegradable (oiled seaweed, fauna) types. The OSW classification should be used for this purpose.

Taking into account that waste will not be “pure” but already more or less mixed, the need for the best waste segregation must be emphasized, as early as possible, on the working sites by appropriate management of waste collection and temporary storage. This will require the immediate use of different waste containers for the different types of waste and clear labelling and identification to avoid mixing of containers during the rest of the management process.

Segregation efforts on site, up to individual waste streams, can be adapted to the:

- ↳ volume of oil spilled and related waste amount expected, and
- ↳ final disposal and treatment options available previously identified.

Response personnel need to be trained and informed about the importance of segregating the waste and about the related consequences and costs of an inappropriate mixing of OSW.

Proposed content of this Sub-section of the Plan

→ **Recommendations for sorting at source.**

→ **Operational instructions for sorting** (refer to the OSW classification), **storage on site and list of suppliers** (What container for what type of OSW?).

Recommendations to develop this Sub-section

Refer to the Questionnaire of REMPEC, Section 1, Question 1-2.

 **Refer to TG n°4** “Waste sorting at source during recovery”, p.51.

With reference to the waste categories previously identified, and to comply with this objective of sorting at source, recommendations on possible storage material should be included in the OSWMP. It is recommended to identify the adequate containers (bins, bucket etc...) available in the country, and the suppliers, quantities immediately available, costs etc. This can allow reducing the time required to organise the collection of the polluted material.

3.3 Temporary storage on site

Because oil spills can occur in isolated and inaccessible locations on the coast, or when large volumes of polluted material are generated or if processing is required before disposal, it may be difficult and expensive to transport material directly to the disposal or treatment site and therefore, temporary storage facilities are needed. Advantages of temporary storage are:

- ↳ optimising response team efficiency, and
- ↳ allowing greater flexibility in the OSW management of flow (buffer role).

It is difficult to pre-designate areas for emergency storage on working sites, therefore it is an issue that need to be addressed as the need arises. Thus it will be important to include in the OSWMP pre-established criteria for site selection and recommendations to comply with.

A temporary storage is:

- ↳ an emergency staging area for the immediate deposit of the waste collected and before its transfer to an intermediate, long term storage or if possible directly to a treatment facility,
- ↳ a key moment in waste management process for sorting, labelling and quantifying the natures and volumes of waste collected and when possible reducing volumes to be transported by pre-treatment implementation.

Size, number and location of sites will depend on the amount and nature of material collected, on the distribution of the pollution along the shore, and on the number of working sites:

- ↳ oily mixtures collected at sea will need port facilities to be unloaded;
- ↳ oily wastes from shoreline clean-up will require a staging area near shore.

Site selection will meet some criteria:

- ↳ in port facilities: adequate mooring, unloading facilities and enough space in the port, and
- ↳ on shore sites: access to road with a distance as short as possible from the clean-up site and a flat area with enough space away from environmentally-sensitive areas (vegetation, groundwater) and out of reach of the sea, tides and waves.

Temporary storage sites require protection to avoid pollution spreading and environmental contamination, i.e. soil of staging area or pit needs to be protected by watertight plastic liners, rain water or effluent needs to be managed, decontamination area must be organized to avoid the spreading of the pollution due to workers or contaminated vehicles' wheels.

The duration of a temporary storage site depends on the clean-up operations. The complete removal of oil and restoration of the site at the end of the operations is required to truly end the clean-up operations.

Proposed content of this Sub-section of the Plan

→ Recommendations on the temporary storage of oil spill waste (on working site).

Recommendations to develop this Sub-section

Refer to Questionnaire of REMPEC, Section 4, Question 4-1.

 Refer to TG n°5 "Criteria and basic rules for temporary storage", p.52.

 See Appendix n°5 "Watertight protection of storage sites", p.79.

 See Appendix n°6 "Examples of equipment for the storage of oil", p.80.