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# 093 – Recommended guidelines for waste management in the offshore industry

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## PREFACE

This guideline is recommended by the Norwegian Oil and Gas Association's Committee for the Environment as well as their technical network for environmental issues and waste management. Norwegian Oil and Gas Association = Norsk olje og gass, Norog.

The work group has had the following members:

Axel Kelly, Lundin  
Eirik Haugan, Shell  
Gro Gingstad, ConocoPhillips  
Knut Inge Andersen, Equinor  
Kristin Ravnås, AkerBP  
Natalia Belkina, Lundin  
Ståle Teigen, Equinor  
Håvard Solheim Nateland, SAR  
Egil Dragsund, Offshore Norge

During the work process, draft versions were communicated and discussed with The Norwegian Environmental Agency, The Norwegian Association for Hazardous Waste (NFFA) and Dangerous Goods Management Norway (DGM).

Subject responsibility lies with the head of the Norwegian Oil and Gas Association's Committee for the Environment, who can be reached via Offshore Norge: +47 51 84 65 00.

This Norwegian Oil and Gas Association guideline is prepared with collaboration from a broad range of participants from the Norwegian oil and gas industry. The guideline is the property of the Norwegian oil and gas industry, represented by Offshore Norge, who are also administrating the guideline.

Norwegian Oil and Gas Association  
Vassbotnen 1, 4313 Sandnes  
Postbox 8065  
N - 4068 Stavanger  
Telephone: + 47 51 84 65 00  
Telefax: + 47 51 84 65 01  
Website: [www.norskoljeoggass.no](http://www.norskoljeoggass.no)  
E-mail: [firmapost@norog.no](mailto:firmapost@norog.no)

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## 1 INTRODUCTION

### 1.1 Objectives

This guideline is prepared to meet the industry's need for a shared waste management standard. The guideline is an update of "Recommended guidelines for waste management in the offshore industry", published 12 March 2014.

Main objectives have been to:

- incorporate a shared interpretation of regulations and definitions; understanding of waste prevention and use of waste categories to enable effective waste management; raise the quality of external and internal reports; and enable comparisons between member companies of Norwegian Oil and Gas Association as well as with other domestic industries
- adapt for an improved and chemically more precise classification of hazardous waste from the offshore sector

This guideline applies to activities associated with exploration and production offshore. It excludes:

- Refineries
- Discarded offshore installations
- Health and work environment aspects when handling radioactive waste
- Discharge to sea, as that is covered by the operators' discharge permits
- Waste management after oil spill preparedness exercises

### 1.2 Terminology, definitions and abbreviations

Waste	The term waste means objects or substances that someone has discarded, intends to discard or is obliged to discard. Waste water and exhaust gases are not considered to be waste. (The Pollution Control Act)
Hazardous Waste	Waste is classified as hazardous based on the Waste Regulation's Chapter 11, Appendix 1 and 2; with reference to EWL codes marked with an asterisk (Appdx 1) or where the hazardous substance concentration exceeds limit values given in a separate Attachment to Appendix 2.
Dangerous goods	Dangerous goods is <ul style="list-style-type: none"><li>• according to ADR those substances and articles the carriage of which is prohibited by ADR, or authorized only under the conditions prescribed therein (ADR Ch 1.2.1); and</li><li>• according to IMDG "the substances, materials and articles covered by the IMDG Code" (IMDG, 1.1.2.1, with reference to SOLAS, CH VII, Regulation 1 Definitions)</li></ul>
Radioactive waste	"Waste as described in § 2 letter c in regulations 1 Nov 2010 no. 1394 concerning the Pollution Control Act's application for radioactive pollution and radioactive waste." (Waste Regulations)
Waste management	Collective term for reception, interim storage, treatment and other handling of waste
Waste control	All activities related to handling, managing and administration of waste
BAT	Best Available Technique
BEP	Best Environmental Practice
Bq	Becquerel: unit describing the activity of radioactive material, in which one nucleus decays per second
EWL	European Waste List
EEE	Electric and Eelectronic Equipment (WEEE – Waste of EEE)
Energy utilization rate	Utilizing the waste's energy through incineration, pyrolysis or similar
Recovery	Collective term for various types of waste disposal where the waste is replacing new materials or resources, such as reuse, material recovery or energy recovery

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Degree of recovery	Amount of recovered waste, as compared to the amount of delivered waste
G-OMO	Guidelines for Offshore Marine Operations
GDP	Gross Domestic Product
HSE	Health, safety and environment
NFFA	Norsk forening for farleg avfall - The Norwegian Association for Hazardous Waste (trade organization for hazardous waste companies)
NPD/OD	Norwegian Petroleum Directorate (Norwegian: Oljedirektoratet, OD)
Operator	Licensee in a production licence
PL	Petroleum license (production license)
PSA/Ptil	Petroleum Safety Authority Norway (Norwegian: Petroleumstilsynet, Ptil) (coordinating authority for offshore HSE regulations)
Degree of sorting	Amount of sorted waste, as compared to the amount of delivered waste
NRPA	Norwegian Radiation Protection Authority (Norwegian: Statens strålevern)
MARPOL	International Convention for the Prevention of Pollution from Ships
IBC-code	International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk
CoF/INLS	Certificate of Fitness/International Pollution Prevention Certificate for the Carriage of Noxious Liquid Substances in Bulk
IMDG	International Marine Dangerous Goods (applies to sea transport of dangerous goods)
IMO	International Maritime Organization
ADR	European Agreement Concerning the International Carriage of Dangerous Goods by Road
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
UN	United Nations

### 1.3 References

- Pollution Control Act: Act Concerning Protection Against Pollution and Concerning Waste (LOV-1981-03-136)
- Product Control Act: Act Relating to the Control of Products and Consumer Services (LOV-1976-06-11-79)
- Pollution Regulations: Regulations relating to pollution control (FOR-2004-06-01-931)
- Waste Regulations: Regulations relating to the recycling of waste (FOR 2004-06-01 nr 930)
- Activities Regulations: Regulations relating to conducting petroleum activities (FOR 2010-04-29 nr 613)
- Radioactive Pollution and Waste Regulation: Regulations on the application of the Pollution Control Act to radioactive pollution and radioactive waste (FOR-2010-11-01 nr 1394).
- Regulation on unloading, loading etc. of hazardous substances in the municipality's sea area (FOR-2009-12-15-1543)
- Radiation Protection Regulations: Regulations on Radiation Protection and Use of Radiation (FOR 2010-10-29 nr 1380)
- Regulations on handling explosive material (FOR-2002-06-26 nr 922)
- Regulations on infectious waste from human and animal health services (FOR-2005-10-11 nr 1196)
- Regulations on land transport of dangerous goods (FOR-2009-04-01-384) and the ADR book
- International Maritime Dangerous Goods Code (IMDG-code)
- European chemicals agency (ECHA), C&L Inventory
- Norwegian Radiation Protection Authority Guideline 13: Guideline for radioactive pollution and radioactive waste from oil and gas industry
- The Norwegian Environmental Agency's TA2684 - Norwegian action plan for reducing mercury releases - 2010
- Guide to characterization and recipient control of waste for disposal (Waste Management Norway, Federation of Norwegian Industries, Norwegian Association of Heavy Equipment Contractors - MEF)
- Norsas guide: An introduction to the handling and declaration of hazardous waste

- NFFA guide: Guidance on hazardous waste management
- NFFA guide: "Hva gjør avfall farleg?» Guide for classification of waste as hazardous waste
- G-OMO: Guidelines for Offshore Marine Operation
- NOROG Guideline 132: Recommended guidelines for mercury handling
- NORSOK S-003: Environmental care
- Norwegian Standard NS 9431:2011 - Classification of waste

Some reference documents may only have a Norwegian version.

## 2 AMENDMENTS

### 2.1 Summary

In 2012 an extensive revision of the entire guideline, including all appendixes, was conducted. Some minor changes were made in January 2014.

A new revision was conducted in 2018. The background for the latest revision was implementation of an electronic system for declaration of hazardous waste. However the revision also resulted in the following changes in the guideline and its appendixes:

- Guideline:
  - Update on section on governmental targets (3.1)
  - Requirements on waste management and waste handling plan (3.8)
  - Requirement on producer responsibility – membership in certain recycling companies (3.9)
  - Chapter 5 about classification and labelling. In addition to section about electronic declaration of waste (5.4.2) the chapter is also updated on the following:
    - Update on definitions (5.1)
    - Specifications on requirements for delivery of waste (5.4)
    - Classification of hazardous waste (5.4.1)
    - Export of waste (5.4.4)
  - A new section related to choice of cargo carrier (5.7.4)
  - Update on description of non-conformity and corrections (5.10)
  - Update related to reporting, especially related to tank cleaning waste (6.3)
- Appendix 1
  - Update on description and tables with limit values for hazardous waste
  - New section on demolition waste
  - Update on section about waste from sand blasting
  - Update on section about drilling waste
  - New section on waste releasing gas, and waste from offshore treatment of slop
  - Update on section about tank cleaning waste
  - Some minor adjustments and clarifications
- Appendix 2, Table for classification of waste is split into two appendixes, 2a (table for classification of hazardous and radioactive waste) and 2b (table for classification of tank cleaning waste)
  - Classification of waste from tank cleaning is moved to separate appendix and some lines are added
  - Lines for non-hazardous waste has been removed from the table
  - Classification of waterbased waste is changed
  - Some lines for drillingwaste has been added
  - Some lines for waste from P&A operations has been added
  - Some lines for waste from laboratory has been added, as well as som other lines
  - Some EWL codes has been substituted to ensure all EWL codes for hazardous waste are ones with an asterix (defines hazardous waste)
  - For some waste fractions changes were made on suggested transport classification
- Appendix 3
  - A full revision of the document after implementation of electronic system for declaration of hazardous and radioactive waste
- Appendix 4
  - Layout of example declaration changed
- Appendix 5
  - No changes

Appendix 2 is devided into two tables since ther will be different personnel groups that use the content.



## 3 OFFICIAL GOALS AND FRAMEWORK CONDITIONS

### 3.1 Authority objectives

Authority objectives and expectations to waste management are expressed in Storting White Papers: "Stortingsmelding no. 45 (2016/2017)". The strategic national goals for waste management and recycling are formulated as: "*Waste shall cause as least possible harm and inconvenience to humans and the natural environment*". The document is emphasizing waste in general as a resource, but less on subjects of hazardous waste and radioactive waste, where safe handling is the most important issue. The Norwegian policy related to waste has principally focused on a proper handling of waste, but has lately changed more towards waste prevention. In addition to the focus on waste reduction and resource utilization, a strategy has also been established against marine plastic littering and the spread of microplastics. The following goals have been stipulated regarding waste and recovery:

Performance measure 1.

The development of generated waste shall be considerably lower than the economic growth, according to GDP.

Performance measure 2.

It is a goal that 80 per cent of the waste should be ensured good resource utilization through material recycling and energy utilization.

Performance measure 3.

Volumes of hazardous waste shall be reduced and hazardous waste shall be handled in a proper and safe manner.

Utilization of the resources represented by the waste has received increasing attention, especially in connection with the development of a circular economy. There are also increasingly ambitious goals in this area through the EU's waste regulations. This distortion from recycling in general to material recovery in particular, is not currently reflected in the national objectives in the area. The Government will therefore investigate the consequences of supplementing the national objective for recycling with its own targets for material recovery, which reflects objectives in the EU's waste regulations. The investigation shall include evaluation with environmental considerations versus resource considerations and financial conditions, including costs.

### 3.2 Statutory basis

The Pollution Control Act give all offshore activities a steer concerning storing/keeping, handling, classification, labelling and transportation of waste, including hazardous waste and radioactive waste. HSE regulations also give a steer on how the offshore sector shall comply with regulatory requirements associated with safety, work environment and protection of the external environment.

The Norwegian Environment Agency uses the Norwegian term "levere med befriende virkning" ("deliver with liberating effect") for hazardous waste deliveries. This means that the waste producer is no longer responsible for the waste, provided the waste producer has fulfilled the compulsory waste declaration (according to the Waste Regulations § 11-12) and delivered the waste to a licenced waste facility (according to the Waste Regulations § 11-6 and 11-7). Compliance with the declaration obligation is deemed to be fulfilled when waste producers have provided sufficient information on the origin, content and properties of the waste, so that the further handling of the waste can take place in a proper manner. Upon inspection, documentation must be presented. Relevant documentation is declaration, manifest, annual report.

Non-hazardous waste shall also be delivered to licenced waste facilities unless it is recovered or reused in accordance with the Pollution Control Act § 32. Non-hazardous waste facilities are licenced according to the Pollution Control Act § 29. The term discussed above applies to non-hazardous waste, provided the waste delivery has been done in accordance with prevailing regulations.

The operator is required to make sure that all waste handling, including that of hazardous waste, is done in compliance with prevailing regulations as stipulated in or in accordance to the Pollution Control Act, including the Waste Regulations.

The Waste Regulations' chapter 11 regarding hazardous waste and chapter 16 regarding radioactive waste concerns delivery requirements, handling, storage, declaration and labelling etc. of hazardous waste and radioactive waste.

The Activities Regulations § 72 refers to the prohibition of discarding solid waste overboard. It also refers to the possibility of adding [waste oil](#) to the production flow, as well as permit requirements for doing this (see the Pollution Control Act's chapter 3). Such disposal must be recorded in accordance with existing permits.

### 3.3 Authority

The entire offshore industry is subject to conditions that are to ensure the protection of the external environment of the offshore sector. These conditions are either contained in regulations, consents granted by the Norwegian Petroleum Directorate (NPD/Ptil), discharge permits from the Norwegian Environment Agency or permits from the Norwegian Radiation Protection Authority (NRPA). Companies handling this waste shall have the relevant permits to carry out services such as receipt, storage and treatment. It is no longer required to hold a permit for transportation of hazardous waste, but there are requirements for competence for the carrier. The Norwegian Environment Agency is the supervisory authority concerning waste and hazardous waste, when such waste is aboard installations. The county governor or the Norwegian Environment Agency is generally responsible for the supervision of activities carried out onshore. The municipal medical officer is the supervisory authority for infectious waste when such is handled onshore. NRPA is the supervisory authority for all waste with activity exceeding the radioactive waste limit values (see chapter 5.5), both on offshore installations and handling such waste onshore.

### 3.4 IMO requirements

IMO's waste management requirements are expressed in [MARPOL 73/78 annex V](#) (Regulations for the prevention of pollution by garbage from ships) which applies to all ships, as well as mobile and fixed installations (including supply vessels, platforms, flotels, anchored drilling rigs etc.). IMO-requirements relating to waste sorting categories are deemed to be a minimum requirement for mobile units and do not come into conflict with Norwegian Oil and Gas Association recommended guidelines.

IMO requires that waste shipped to shore and discharged waste is recorded in a Garbage Record Book. The rules allow for granting dispensations from the recording requirements for fixed or mobile platforms performing sea bed exploration or production (MARPOL, appendix V, Rule 10, point 4 (ii)).

Regardless of the above, waste facilities which receive waste from a shipping company or a supply base operator, will record and account for received and handled waste in accordance with requirements stipulated in the contract between the client and service provider.

Extended IMO waste control requirements came into effect 1 Jan 2013, including decisions for updated waste plans and posters. Waste posters shall, as a minimum, describe discharge requirements as in Rule 5 in appendix V (food waste, excluding cooking oil, may be discharged to sea provided it is ground down to less than 25 mm). Waste plans shall, as a minimum, include procedures for waste reduction, collection and handling, storage, disposing of waste, responsibilities and equipment use.

For periods when installations are docked for upgrading or repairs, or when not under contract, the installation owner (rig or shipping company) is responsible for waste control (administration and handling). If waste generated during such a period is left aboard the installation at the start of the next commission, that waste is still the installation owner's responsibility. For installations that are not commissioned by any Norwegian Oil and Gas Association member companies (operators), only IMO requirements and possibly domestic coastal waste requirements apply.

## 3.5 IMDG Code requirements

IMDG Code requirements apply for transport of hazardous goods between offshore installations and onshore bases. IMDG is similar to ADR in that both require the documentation to include UN number, hazard class, hazard symbol and packing group. IMDG also requires the inclusion of proper shipping name, shipper's declaration, EmS number and information about whether the goods contain any marine pollutants.

Transport documentation requirements are covered by the multimodal dangerous goods form.

## 3.6 IBC Code requirements

Transport of hazardous liquid bulk from offshore installations to onshore bases shall be performed in accordance with IBC Code requirements, with reference to the IBC Code chapter 20. All OSV vessels certified to transport hazardous chemicals in bulk (INLS/CoF certificate) are subject to IMO resolution A.673 (16): Guidelines for the Transport and Handling of Limited Amounts of Hazardous and Noxious Liquid Substances in Bulk on Offshore Support Vessels.

## 3.7 G-OMO – common guidelines for transport of polluted cargo

Offshore Norge has cooperated with several parties to create a joint "best practice" document for safe managing of offshore supply and rig move operations (Guidelines for Offshore Marine Operations, G-OMO). A section of the document (appendix 10 F) has information which may be useful for operators who need to describe wet backload sent to shore for treatment (using slop tanks on offshore service ships). The document further discusses relevant problems and solutions, including tests and documentation needed to prevent unwanted incidents for wet backloads.

A brief summary of the G-OMO guidelines is given here in chapter 5.4.3. G-OMO's chapter 10, describing bulk cargo operations, is not included in the summary.

## 3.8 Local Waste Plan

§ 72 in the "The Activities Regulations" require that the operator prepares a waste plan. A waste plan should be prepared as early as possible in the installation design process to allow for necessary adjustments, ref. the Installation Regulations § 67.

It is recommended to prepare a procedure or process that describes in general how hazardous, radioactive and industrial waste is to be handled by the company. This should include description on reduction of waste, source segregation, reuse, material and energy recovery, as well as selected KPIs.

In addition, field or installation specific overviews of waste fractions should be prepared and where different waste stations are available.

## 3.9 Other requirements – producer responsibility

### 3.9.1 Required to be a member of a take-back company for WEEE

Importers and manufacturers of Electrical and Electronic Equipment (EEE) are obliged according to the Waste Regulation (Section 1-10) to finance the collection and handling of Waste of Electrical and Electronic Equipment (WEEE) and this shall be done by being a member of an approved take-back company for WEEE. The membership shall cover the EEE that the manufacturer imports or manufactures in Norway, but the membership need not be with the take-back company that handles the WEEE directly from the operator. Fee paid to the take-back companies shall cover the collection and treatment of EE waste that is taking place today. The costs associated with membership in take-

back companies are usually linked to the amount of EEE that are supplied to the Norwegian market by import and/or production. No fixed rates have been set for remuneration/environmental fees by the authorities or the EE register.

The provisions of this chapter do not include EEE that are fixed on installations that can be registered in the Petroleum Register pursuant to the Act of 29 November 1996 No. 72 on petroleum activities.

### **3.9.2 Required to be a member of a take-back company for packaging**

Importers and manufacturers of packaging (> 1000 kg) are, according to the Waste Regulation (Section 7-5), obliged to finance the collection, sorting, material recycling and other treatment of used packaging and packaging waste. This must be done by being a member of a take-back company that is approved by the Environment Agency.

In this context, a manufacturer is anyone who, in terms of commercial interests to Norway imports or in Norway produces packaging or packaged products for the Norwegian market (cf. Section 7-3 of the Waste Regulation, point d).

### **3.9.3 Required to be a member of a take-back company for discarded batteries**

According to the Waste Regulation (Section 3-7), importers and manufacturers of batteries are obliged to fulfill their producer responsibility through membership in an approved take-back company for discarded batteries. In this context, a manufacturer is anyone who, in terms of commercial interests to Norway imports or in Norway produces batteries for the Norwegian market, including batteries that are built into other products.

The membership shall cover the battery category or categories that the manufacturer imports to or manufactures in Norway. Manufacturers of batteries built into Electrical and Electronic Equipment that are members of an approved take-back company for WEEE do not need to be a member of a battery take-back company for these batteries.

## 4 WASTE PREVENTION ACTIONS

Waste prevention is designed to prevent waste being generated at all. Waste prevention is not primarily a question of waste. It has to do with resources, and how better to utilize resources. The waste triangle (Figure 1) illustrates that by preventing waste from arising, costs are usually reduced. It also illustrates how low cost and increased environmental benefits are linked.

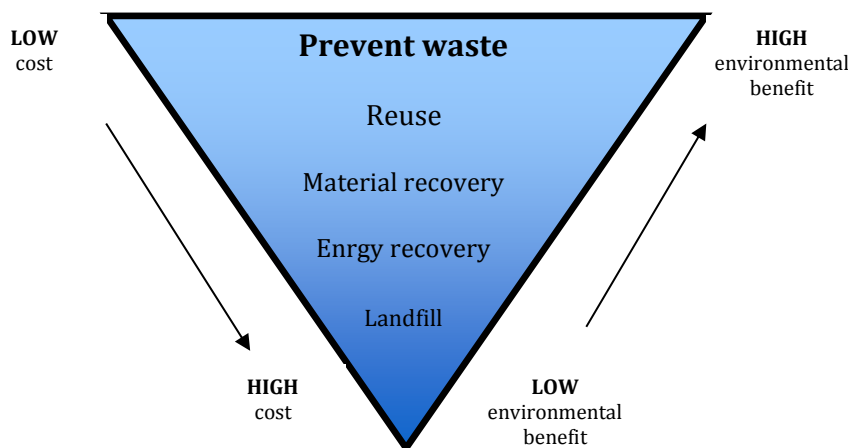


Figure 1. The waste triangle

For improved environmental and economic results, waste reduction should be a focal point during purchase processes. Important considerations are as follows:

- **Reduce** the consumption of **resource intensive** products
- Choose products with a **long lifetime**
- Choose products that can be **recovered**
- Choose products made of **recovered materials**
- Choose products with minimal, but still adequate, packaging
- **Reduce** waste with **hazardous substances** by selecting alternative products that are less harmful for health and environment

Waste prevention involves being alert to waste that can be generated in the entire value chain. This is not only a question of reduced consumption but must include a change in the pattern of consumption.

Improved utilization of resources calls for reduced waste amounts and increased recovery. The industry could contribute towards this by finding common solutions to prevent waste being produced, e.g. by using standardized reusable plastic pallets. Further examples are:

- Require the implementation of BAT/BEP (ref. IPPC Directive: Council Directive 2010/75/EU concerning industrial emissions)
- Being conscious of waste reduction requirements and the establishment of waste reducing processes in the design or engineering phase (e.g. cuttings, drilling and well fluids)
- Reduce waste volumes by treating material flows and discharge to sea rather than collecting and discharging as waste
- Change to chemicals with less environmental impact, evaluate amounts and degree of danger (ref. substitution requirements in the Product Control Act § 3a)
- Preventive maintenance
- Start-up, shutdown and maintenance procedures that consider waste reduction
- Avoid corrosion which will lead to waste production
- Proper emptying of packaging such as cans, barrels, bottles, sacks, etc.
- Proper labelling of packaging such as cans, barrels, bottles, sacks, etc.
- For supplier contracts, make contractual demands of return schemes
- For supplier contracts, make contractual demands of suitable reusable packaging

- Avoid small/single packaging, give preference to larger units
- Reduce the use of disposable items such as plastic cups, polyester cups, plastic utensils, cardboard boxes etc.
- Separate food left-overs (remove food waste from packaging. etc. after mess hall meals)

The following examples will reduce the amount of waste sent to final disposition/landfill:

- Reclamation of waste (by-product) to a process or product, e.g. reuse of drilling fluids or used oils to the production flow
- Evaluate pros (possibility of pumping) and cons (increased waste) for slurrification of drill cuttings. Maybe also evaluate new technology for transfer of cuttings from installations to ships to both avoid slurrification and minimize lifting operations
- Reinjection
- Evaluate well design for exploration, e.g. use of "slimhole" drilling to reduce the amount of cuttings and use of drilling fluids
- Make contractual demands of disposition of treated drilling waste (in accordance with BAT and BEP)
- Improved sorting/categorizing of waste that can be recovered to prevent landfilling and the environmental impact of such

Compacting and/or grinding waste will reduce transport needs and the number of lifting operations both offshore and onshore. Such volume reduction is also favourable regarding storage, handling and general logistics. Waste disposal costs are normally based on weight. Consider personnel safety offshore and onshore when compressing certain waste categories.

## 5 CLASSIFICATION AND LABELLING

Correct classification of products and waste is vital for good waste prevention and control. It is the operator's responsibility to evaluate what is a product and what is waste. It is furthermore the operator's/waste producer's responsibility to assess whether the waste is hazardous waste and as such compromised by the Waste Regulations' hazardous waste chapter. The authorities can help decide whether the waste is hazardous or not.

### 5.1 Waste definition

The Pollution Control Act § 27's waste definition states that the term waste means objects, goods or substances that someone has discarded, intends to discard or is obliged to discard. Waste water and exhaust gases are not considered to be waste.

Commonly used English waste terms are hazardous waste and non-hazardous waste. Norwegian Oil and Gas Association's members and their service providers normally use the Norwegian term "næringsavfall" (industrial waste) for non-hazardous waste.

Radioactive waste is defined in chapter 5.5.

Non-hazardous waste is discussed in chapter 5.3, hazardous waste in chapter 5.4.

### 5.2 Waste or product

Any item/matter/fluid that is considered neither waste, waste water nor a waste gas, is to be regarded as a product. All products must meet the Product Control Act and its regulations, where one requirement is that all products must be accompanied by a Material Safety Data Sheet (MSDS). It may be difficult to determine when a used product (e.g. drilling fluids) no longer fulfil the product specifications and thus must be discarded. Material which is not meant to be recovered should be considered as waste.

The person responsible for evaluating a product is also responsible for ensuring correct product/waste determination. In the offshore industry this classification will also affect the reporting routines and which contractual regimes apply.

### 5.3 Non-hazardous waste

In order to obtain suitable recoverable waste it is important to focus on the quality of the delivery and to consider that a raw material is being delivered, and not waste. This is important to be able to achieve national and internal company goals relating to increased waste recovery.

Appendix 1 contains examples of suggested waste categories and waste groups. It is recommended to use non-hazardous waste codes as given in the Norwegian Standard "Classification of waste (NS-9431:2011)". Appendix 1 also contains an example of a waste information poster. While the waste category classification applies to waste receiving facilities and recovery systems at the time of this guideline's revision date, these categories are subject to change. They may also vary in accordance with the capacity of local onshore recovery systems or other practical issues. Limited storage space or the amount of generated waste may be such a practical issue, but lack of storage space is normally not a valid argument for sorting waste into fewer categories. Contractual issues may also influence the number of waste categories. The examples given in appendix 1 are suggestions, not requirements.

## 5.4 Hazardous waste

Hazardous waste is waste containing substances that are hazardous for health and/or to the environment, thus requiring separate handling to prevent pollution, personal injuries, etc. Main requirements for handling hazardous waste are:

- Identification
- Proper storage, packaging and labelling
- Prohibition of mixing with other waste, also other types of hazardous waste

Thereafter:

- Hazardous waste declaration
- Transport
- Delivery to licenced waste facility

The delivery obligation requires that the waste be delivered to the waste contractor at least once a year. In practice, this means that a hazardous waste cannot be stored for more than 12 months. After arrival at the supply base, the hazardous waste must be transported to the waste recipient (according to Section 11-14 of the Waste Regulation) within 24 hours; or longer if permission has been granted for such storage.

If flammable packaged hazardous goods shall be stored at the supply base for longer than 8 hours, notification shall (according to § 8-3 of "Regulations on unloading, loading, etc. of hazardous substances in the municipality's sea area") be given to the local fire protection authorities. This applies if there is no general permission to store such goods.

### 5.4.1 Classification of hazardous waste

Authorities require hazardous waste classification to be done in accordance with both the EU system for EWL codes and the prevailing Norwegian waste code list (ref. Norwegian Standard NS-9431:2011).

- The EWL code classification prepare for source specific classification. Certain EWL codes are specific for waste shipped to shore from offshore oil drilling and production.
- The Norwegian waste code list is based upon the various chemical properties of different types of waste. This classification will thus be determinative for further waste treatment and disposal.

Waste is classified as hazardous waste if the EWL code that describes the waste is marked with an asterisk (\*), as listed in Chapter 11 of the Waste Regulation, Appendix 1, or if the concentration of hazardous substances exceeds the limit values given in the Waste Regulation's chapter 11, Appendix 2. Relevant limit values are given in Table 1 and Table 2 in Guideline Appendix 1 - Discussion of selected waste fractions.

Offshore Norge has prepared a classification key for hazardous waste based up common practice identified for various types of waste from the offshore industry (see appendix 2, Table for Classification of Hazardous Waste in the Offshore Industry). The Environment Agency has advised that only waste directly related to oil drilling or oil production shall use the EWL codes specific for the offshore industry. Other waste from the offshore industry shall use the other, existing EWL codes. For questions about hazardous waste classification the company's hazardous waste advisor should be consulted. Should there be discrepancies between the waste information given in the MSDS (Material Safety Data Sheet) and the classification given in appendix 2, the latter shall prevail.

It is not allowed to dilute hazardous waste with the intention of meeting the limit values for hazardous waste. There may, however, be other legitimate reasons for dilution, e.g. slurrification, provided that the waste will still be handled as hazardous waste.

Waste facilities may be contacted for advice regarding classification and handling. It is important to ensure proper downstream waste systems, as there may be incidents where the waste is not handled by a waste facility.



#### 5.4.2 Declaration forms

All hazardous waste shall be declared using the electronic solution for declaration of hazardous waste and radioactive waste, [www.avfallsdeklarering.no](http://www.avfallsdeklarering.no). The declaration must be prepared electronically, signed and sent to the recipient. A declaration shall be completed for each waste fraction for each load shipped to shore;

- When transporting hazardous waste in general cargo/load carriers, a printed copy of the document must physically follow the actual waste from the installation to shore and on to the recipient of the waste. Thus, the risk of the waste going astray will be reduced
- When shipping bulk cargoes to shore, the declaration is signed and sent electronically after the bulk transfer has been completed. This allows you to specify the actual transferred volume on the declaration

It is advised that a dedicated person or job position, e.g. the storekeeper or other personnel with hazardous waste and ADR/IMDG knowledge, fills in the declaration form and sign it on behalf of the operator.

Waste produced by the supply ship shall not be mixed with the installation's waste, but shall be declared on separate forms, declared and signed by the ship or shipping company.

NB! The declaration form's declaration number is a serial number that functions as a tracking ID for the waste, and shall therefore, according to the Waste Regulation be written on the associated waste packaging. Weight and volume shall be added to the declaration form when offshore. Weight and volume may be difficult to decide, especially for large items that can only be measured as the item is offloaded from installation to ship. Weight and volume will always be remeasured by onshore waste recipients, and the updated information added to the declaration form. Information on all corrections is available for each declaration in the electronic solution.

See appendix 2 and 3 for waste codes and how to fill in the declaration form. Be especially aware of the fact that there are different Norwegian waste codes for radioactive waste for disposal and radioactive waste not for disposal. For transport in bulk, a G-OMO analysis form (see below) shall be filled in, as well as the declaration form.

For transport of fluids in transportation tanks, it is recommended to perform gas metering (H<sub>2</sub>S and LEL) and add the gas test results to the declaration form, and maybe also the G-OMO analysis form (see chapter 5.4.3).

Do not fill in a declaration form for waste to be reinjected by the same or other installations. Reinjection shall be a part of the installation's permit issued by the Norwegian Environment Agency, and shall be recorded as stipulated in the permit.

Oil and chemical containing water that is not directly related to the well stream is hazardous waste if it is sent back to an onshore facility through a pipeline. The onshore facility must have a separate receiving and treatment permit for hazardous waste in order to receive and process this.

For some types of waste, such as drilling waste, it will often be a third party that is responsible for declaring the waste on behalf of the operator. For example, personnel from rig owners may declare hazardous waste that arises in connection with drilling and well operations. In such cases, it is particularly important that the actors involved contribute with the necessary information about the waste fractions.

The operator, being responsible for the waste, should make formal demands and establish good routines (e.g. contractual demands and procedures) to ensure the information flow mentioned above.

### 5.4.3 Other documentation

#### G-OMO:

Membership in Offshore Norge requires operators to comply with "Guidelines for Offshore Marine Operations" (G-OMO). The G-OMO document's appendix 10-F contains a recommendation of how to ensure "good practice for the carriage of oil contaminated cargoes for transportation by offshore supply vessel". Those guidelines are prepared to make sure that transport of waste fluids are carried out safely, especially regarding fire hazards and gas development. This implies that the waste fluid must be tested for flash point, LEL, H<sub>2</sub>S, pH, etc. on the installation, prior to transport. The G-OMO analysis form shall, together with the hazardous waste declaration form, be made available for the supply ship captain before the waste fluid is transferred to the ship. The captain shall reject waste that does not have sufficient documentation, or waste that is unsuitable for the ship's tanks. A copy of the declaration form and the G-OMO analysis form may be sent electronically in advance, to cut down on the approval waiting time. Original documents shall be transferred as before. The guidelines also stipulate that backload documentation copies shall be made available for onshore recipients.

The waste fluid's H<sub>2</sub>S level shall be zero before transfer from installation to ship. Onshore recipients shall test the fluids for LEL and H<sub>2</sub>S prior to offloading from the ship. If any H<sub>2</sub>S gas has developed during transport, this shall be removed before offloading starts. The fluid's upper layers should also be flash point tested. Fluids with a flash point less than 60 °C, or fluids that may contain crude oil or condensate, shall under no circumstances be transported by other ships than those especially classified for such fluids. Should the LEL test (LEL = lower explosive limit) detect flammable gases, the test should be repeated after the fluids have settled for a while. It is important to ensure that the test, which as a minimum shall contain the upper layer, is representative for the backload fluid. Pre-defined recipients shall receive reports of any non-conformances.

The G-OMO guideline is available on the Norwegian Oil and Gas Association's website with reference to [www.g-omo.info](http://www.g-omo.info). Norwegian Oil and Gas Association members are advised to implement this guideline in their governing documentation and ensure that it is always used when transporting liquid waste in vessel bulk tanks. The G-OMO documentation requirement does not apply to skips, mobile transport tanks and iso tanks (including pneumatic blowing of drill cuttings). There may still be situations when waste transported on such mobile units must be tested and documented in accordance to G-OMO.

#### Multimodal dangerous goods form:

Sea transport of hazardous waste which is also defined as dangerous goods shall be accompanied by a multimodal dangerous goods form (see appendix 4). The IMDG Code does not stipulate how the information shall be presented, only which information is required. Still, Offshore Norge recommend using the set multimodal dangerous goods form for easy recognition and common practice.

### 5.4.4 Hazardous waste export

Operators who chose waste facilities abroad must comply with the Waste Regulations' chapter 13 regarding transport across borders. This applies to both non-hazardous and hazardous waste.

The operator will be responsible for the export, including applying for an export permit in their own name. The export regulations are complex and require permits issued by the exporting, transiting and importing countries' environmental authorities. The permits shall specify the type of waste, importing country and chosen transport company. It is prohibited to export hazardous waste to non-OECD member countries.

Oil containing water that is transferred to transport tankers for crude oil and which is then transported directly from offshore installation to foreign port will, according to Norwegian authorities, be encompassed only by the waste regulation chapter 13 on cross-border transport (not Section 11-

12) and hence shall not be declared in *avfallsdeklarering.no*.

If a waste contractor performs the paper work and is listed in the export documents as the exporter, the waste does not need to be declared prior to export, if the the waste is not physically delivered to the waste contractors plant on shore.

If an operator performs the paper work and is listed as exporter in the export documents, but the waste must be stored on an onshore facility before transport to a foreign port, the waste must be declared to an actor who holds a permit for intermediate storage of that type of waste.

#### 5.4.5 Refundable waste oil, quality requirements

There are the reimbursement/refund systems in place in Norway which can be used for waste oil in given cases and with given criteria.

#### 5.4.6 Waste containing mercury

Mercury from oil reservoirs may pollute production material and equipment. To prevent mercury from becoming an added environmental issue when handling and recovering waste, each waste producing installation must evaluate whether mercury content may represent an environmental impact for further waste handling.

Metallic mercury or mercury from scale, e.g. on process equipment, may represent an environmental problem for recycling of metals, even when the waste's total mercury content is less than the limit values for hazardous waste. Unless the waste producer can verify that the process steel waste is not mercury contaminated, all the process steel waste shall be handled as being mercury contaminated. Chosen mercury cleaning methods must be applicable for the relevant mercury stage. Handling of mercury contaminated waste must be done according to the Waste Regulations and in a way that prevents formation of dangerous mercury compounds. Steel recycling should be done at smelting plants that cleans the exhaust for mercury.

## 5.5 Radioactive waste

### 5.5.1 Definition and classification of radioactive waste

The Regulations on the application of the Pollution Control Act to radioactive pollution and radioactive waste defines what should be managed as radioactive waste. Nuclide specific value limits are given in the regulations' appendix 1a) Waste that is over the limit values, describing radioactive waste.

Nuclide specific limit values are also given for specific and total activity for radioactive waste for disposal. Radioactive waste where both the specific and total activity exceeds the limit values must be sent to landfills specifically designated for that kind of waste. Reinjection of the radioactive waste may be an alternative, provided the issued discharge permit allows for that.

The table values below show limit values for when to consider waste as radioactive waste, and when that waste is considered radioactive waste for disposal. The values shall be calculated as the sum of the three nuclides: Pb-210, Ra-226 and Ra-228. Radioactive waste for disposal shall be sent to specially licenced waste facilities for final disposal.

Radionuclide	Limit values for radioactive waste	Limit values for radioactive waste for disposal	
	Specific activity (Bq/g)	Total activity (Bq/year)	Specific activity (Bq/g)
Pb-210	1	10 000	10
Ra-226	1	10 000	10
Ra-228	1	100 000	10

Radioactive waste with activity over 10 Bq/g is classified as Category 1 (e.g. 3035-1). Radioactive waste with activity between 1 Bq/g and 10 Bq/g is classified as Category 2 (e.g. 3035-2). For waste that is deposited in the national NORM landfill there are requirements for gamma spectrometry analysis. If gamma spectrometry analysis has been carried out and the sum of individual nuclides shows below 1 Bq/g, the waste is to be regarded as finally classified as free of radioactivity. In this case, the final handling must be based on the other chemical/environmental properties of the waste.

### 5.5.2 Principles for testing and identifying radioactive waste

Tests of radioactivity should be performed when opening production and drain systems, for pipelines and tripping out of well tools to determine the existence of radioactive waste. Performing personnel shall be informed of potential dangers and protective measures. A suitable instrument (Geiger counter with probe) shall be made available.

Activity identification (identification of Bq/g levels) shall be performed using methods that have undergone proper quality assurance: screening of storage containers; representative samples taken using calibrated handheld test equipment; or laboratory analyses of representative samples. The test results shall be used when filling in the waste declaration form. Specific activity for each nuclide, determined by gamma spectrometry, as well as oil content analysis of each package/barrel, is required for radioactive waste for disposal.

The Pb-210 nuclide content cannot be determined using handheld test equipment. The normal levels of radioactive lead are approx. 10-20 % of the radium level. It is usually well known if a certain installation has abnormally high levels of radioactive lead.

### 5.5.3 Principles for handling radioactive waste

Radioactive waste shall not be mixed with other types of waste. Different types of radioactivity shall not be mixed if that may cause a pollution risk or create problems for further waste handling. It is not allowed to dilute radioactive waste with the intention of meeting the limit values for radioactive waste.

The radioactive waste handler (as in receipt, interim storage, treatment and other handling of radioactive waste) shall have an issued licence from the Norwegian Radiation Protection Authority (NRPA). Facilities without hazardous waste permits, that still handle radioactive waste not for disposal, must have a permit issued by the NRPA. Every company handling radioactive waste must have a designated and trained radiation protection supervisor, as stipulated in the Radiation Protection Regulations § 16.

Radioactive waste for disposal shall only be delivered to facilities with specific permits for receiving such waste. Radioactive waste shall be delivered to a waste facility at least once a year. The waste producer must provide sufficient information regarding the waste's origin, content and properties to ensure proper waste handling. The declaration form must be filled in when delivering the waste. The packaging shall be clearly marked with the declaration number. The labelling must be transport proof.

The radioactive waste handler shall make sure that waste has been properly declared, and see to that the declaration form accompanies the waste for all further transport.

Do not use the declaration form for scrap metal and steel (pipes, valves, tubes) with proven radioactive scale/contamination, as the weight of the radioactive waste will be very low compared to the total metal weight. Such metal should only be considered waste after it has been through a decontamination process (rinsing, mechanical/chemical cleansing), from which point the declaration form requirement sets in. Still, for transport such metal waste should be marked as potentially radioactive waste. The waste must also be secured with, for example, sealing to prevent the spread of radioactive substances. Radioactive waste that occurs after the metal decontamination process shall be declared with the operator put down as the waste producer.

### 5.5.4 Dangerous goods regulations' labelling and declaration requirements

The dangerous goods regulations (ADR/IMDG) require dangerous goods documentation for equipment contaminated with a radioactive layer where the specific activity is over 10 Bq/g for the nuclides Ra-226, Ra-228 or Pb-210. This applies regardless of what the relevant hazardous waste regulations stipulate.

The same dangerous goods documentation demand applies for bulk transport of radioactive waste for disposal, with activity over 10 Bq/g for the same nuclides. Such bulk waste deliveries will require both the dangerous goods documentation and the common declaration form for hazardous waste and radioactive waste.

## 5.6 Other types of waste

### 5.6.1 Infectious waste

Infectious waste is, according to the regulations on infectious waste from human and animal health services, defined as “waste from medical treatment or veterinary treatment and/or corresponding education, research and diagnostics involving microorganisms capable of living or their toxins which may cause diseases among humans or other living organisms”. Infectious waste will, *as far as Offshore Norge is concerned*, be waste from medical offices containing infectious sharps such as syringes and scalpels, or blood-stained bandages or other wound cleaning waste.

Infectious waste must be collected and shipped in suitable containers. Infectious waste is not subjected to the Waste Regulations’ chapter 11 concerning hazardous waste. Due to this, the declaration form for hazardous waste shall not be used, but shipped infectious waste must still comply with the dangerous goods regulations (ADR/IMDG), and have the appropriate transport documents.

Waste facilities are normally not licenced to receive infectious waste. Waste facilities may still be contacted for advice about transport and local handling of infectious waste. See the Infection Regulations § 8 for requirements regarding documentation and records of infectious waste.

### 5.6.2 Explosives

Explosives, such as detonating charges, emergency flares and distress rockets, are subjected to the Waste Regulations’ chapter 11 concerning hazardous waste, but not Section 11-12. Due to this, the declaration form shall not be filled in, but shipped explosives waste must still comply with the dangerous goods regulations (ADR/IMDG), and have the appropriate transport documents. Discarded explosives must have proper packaging (preferably original), be placed in clearly labelled boxes and shipped ashore to be returned to the supplier.

Those who produce, import or distribute explosive products or goods with any explosive content, are required to accept the return of similar discarded products. Explosive goods and products shall be delivered to a licenced return/disposal facility (see Regulations on handling explosive material § 16-2). Waste facilities are normally not licenced to receive explosives of any kind. Waste facilities may be contacted for advice about transport and local handling of discarded explosives, but the general rule is that explosives shall be returned to the supplier.

### 5.6.3 Radioactive isotopes

Discarded radioactive sources, other than naturally occurring radioactive material, are delivered to the radiation waste plant at Kjeller, Institutt for Energiteknikk, IFE (“Department of Energy Technology”). Radioactive sources for destruction are classified as radioactive waste with waste code 3911-1. When radioactive sources are delivered IFE, this must be documented through a declaration using [www.avfallsdeklarering.no](http://www.avfallsdeklarering.no). When transported, the IMDG/ADR regulations apply to dangerous goods (class 7).

Radioactive sources that do not need to be disposed of are returned to the supplier in an agreed return arrangement.

## 5.7 Packaging

### 5.7.1 Use of packaging

All waste that is also considered dangerous goods according to ADR and IMDG must be packed in UN approved packaging. It is expected that requirements for packaging given in the aforementioned regulations are satisfied. Additional general comments:

- The packaging shall not be filled to more than 90 % of the total capacity.
- A rule of thumb is that all corrosive waste, e.g. acids or bases within the ADR/IMDG class 8, should have plastic packaging.
- A main rule for using barrels is to use open top barrels with clamp tops for solid waste, and tight head barrels with bung holes for fluid waste.
- Do not use big bags for transporting fluids, due to the spill risk. Drill cuttings and oily rags/absorbents may contain fluids, and should not be transported using big bags.

### 5.7.2 Labelling of packaging

All hazardous waste packaging shall always be labelled with:

- Declaration number

Hazardous waste that is also classified as dangerous goods shall have the additional labelling of:

- UN number
- Hazard label
- Proper shipping name (IMDG)

The packaging must be imprinted with markings showing that it is UN approved packaging. There may also be requirements for labelling as environmental hazard and orientation arrows. It is also recommended to number serial items (e.g. item 1/10, item 2/10 etc.)

### 5.7.3 Empty packaging

Empty, un-cleaned packaging from classified substances shall be handled as hazardous waste; packaging with residue of hazardous substances, with Norwegian waste code and EWL code as stated in appendix 2. See appendix 1 for more information.

Empty, clean and dry packaging, unless the previous content was labelled "poisonous", may be handled as plastic/metal waste, dependent of the packaging material.

### 5.7.4 Choosing load carrier

When choosing a load carrier, it must be taken into account that the waste is to be transported without the risk of spills and discharges on the supply vessel and also in further logistics chain on land. It must also be taken into account that the waste can be emptied in a proper manner.

- Liquid waste should preferably be transported in bulk or alternatively transported in units designed and approved for this. For example, slop should not be transported in mud skips
- Waste must be sent in separate cargo carriers (ref. NOROG 116, chapter 5.3). This means that waste and products should not be sent in the same cargo carrier

## 5.8 Basic characteristics of waste destined for landfilling

Specific guidelines apply for waste sent directly from the operator to landfill disposal, without further handling or treatment. See [Guide to characterization and recipient control of waste for disposal](#) (Norwegian version only). All waste to be disposed of at landfill must undergo characterization for certain properties, and in some cases the requirement for leaching tests also applies. Operator must follow up on how the waste contractor performs this. Relevant types of waste include blowing sand, concrete, plaster, insulation etc.

## 5.9 Dangerous goods safety officer

Any enterprises with activities that include transportation of dangerous goods, or related packaging, loading or off-loading, shall have one or more designated safety officers for dangerous goods transportation. As such, operators handling, packaging or transporting dangerous goods, should have their own, or an associated, dangerous goods officer.

## 5.10 Non-conformances and corrections

The waste producer shall be informed if the waste facility receives waste that is not in accordance to regulations, contracts, governing documentation, etc. Incorrect waste handling that may represent a danger to occupational health and the environment shall be reported to the operator as a non-conformance.

If a declaration is missing on a hazardous waste, non-conformance shall be recorded. An authorization can be used if a declaration is missing. Declarations that are created on such an authorization will show on the work space in [avfallsdeklarering.no](http://avfallsdeklarering.no).

All changes in a waste declaration are shown in the solution as corrected declarations. It is therefore not necessary to register a non-conformance as long as this cannot have consequences to occupational health or the environmental.

Waste registration, waste invoicing and waste reports are based on information from the hazardous waste declaration form (and its corrections, if any). This is normally operator's data input for environmental reporting.

Non-conformances related to in-house guidelines for waste management shall be reported internally in the company, the same way as other non-conformances.

In case of nonconformities that may have a health consequence, the operator should provide feedback to the parties involved, including the waste contractor, on measures implemented.

## 5.11 Recovery

Recovery is a common term for all types of waste disposition that utilizes waste as a replacement for new materials or resources, such as:

- reuse/recycling
- material/energy recovery
- incineration/destruction with energy utilization

Recovery does not include the following ways of disposition:

- incineration without energy utilization
- landfilling (landfills with or without gas capturing)
- sea discharge after cleaning/treatment \*

Use the following when calculating the degree of recovery:

- material recovery is considered 100 % recovery unless otherwise specified
- the incineration with energy utilization percentage should be based upon last year's mean degree of energy utilization
- water discharged to sea after cleaning/treatment shall be excluded from the total amount \*

\* It is recommended that water discharged to sea is reported separately as a recipient, e.g. described as "discharge of water to sea after treatment".

## 5.12 Colour coded labelling

Based on onshore and offshore experience and research, it is recommended to use a colour labelling system based on the following three colours:

- red for hazardous waste (colour code PMS 032)
- grey for remaining waste
- green for all other types of non-hazardous waste (colour code PMS 350)

It is advisable to use posters and labels with symbols and Norwegian/English text. Additional information may be given in info posters such as the example in appendix 1.



## 6 TARGET FIGURES, WASTE REPORTS AND ENVIRONMENTAL REPORTS

### 6.1 Target figures

Target figures/performance measures for waste amounts and waste control should be established to give the company a tool to measure waste reduction. Such target figures should be chosen according to the type of activity, see examples below:

#### Waste fluids and other waste related to drilling

Amount of waste per drilled meter  
Amount of waste per section or well  
Degree of recovery for drilling fluid  
Degree of recovery for drill cuttings  
Degree of recovery for fluid drilling waste

The last two will give an indication of how much oil is recovered from cuttings and fluid drilling waste. Dry solids used as a top cover, or in another way that substitutes new resources, may also be considered recovery.

#### Other types of waste

Degree of sorting  
Degree of recovery for non-hazardous and/or hazardous waste  
Non-conformances  
Amount of waste per day

Suggestions of various ways of calculating the degree of sorting is shown in appendix 5.

#### Economic:

Waste handling costs  
Costs related to non-conformances  
Costs per drilled meter or drilled well  
Costs per day  
Costs for each ton/kilo of waste per produced barrel of oil

It is recommended to prepare a waste report (preferably monthly) for each waste producing unit; such as offshore installations, supply bases, ships, office building etc. Regular waste reports will allow for monitoring of the unit's waste results, feedback and comments, and should be actively used for follow-up and motivation, e.g. during HSE meetings. The waste report should present the results both as number statistics and graphs, as well as showing trends, future focus areas etc. A proper educational presentation of the results will improve understanding and motivation.

Performance measures for installation/waste producing units:

- Non-conformances
- Degree of sorting
- Amount/waste amount frequency

Performance measures for operators:

- Degree of recovery – total of all waste categories
- Costs

## 6.2 Environmental accounts

Environmental accounting is an important tool to gain an overview of a company's discharges and waste. It will also enable monitoring of on-going development, e.g. the effect of implemented improving actions.

Environmental accounts provide a historic database of knowledge that can be used for evaluating the company's state of the environment and for choosing the best environmental actions.

Environmental accounts shall, as a minimum, fulfil the demands of external environmental reports (e.g. the Norwegian Environment Agency's annual report) and any in-house demands and requirements. Environmental accounting shall cover waste shipped to shore, injected waste and all discharges.

It is recommended to register all waste in the company's environmental account. Such accounting should use databases, such as Excel, TEAMS or NemsAccounter. The databases should include all the company's offshore installations, flotels, ships and land facilities (process plants, offices, bases). An agreement with the waste contractor should define which periodification to be used for reporting/registration, whether it should be based on invoiced quantities or quantities of completed declaration (period when quarantine time has passed). Furthermore, it is recommended that the waste contractor be requested for quantity reports at the declaration level to ensure 1-1 ratio between declared and reported quantities.

## 6.3 Reports

Only reported waste produced by offshore installations performing drilling, well activity and/or production shall be included in the Norwegian Environment Agency's annual report. This also includes installation-related flotel activity.

In addition, waste that is produced as a result of cleaning of tanks that the operator disposes on supply vessels (ref. Waste Regulations Section 11-8) must also be reported since it occurs as a direct consequence of operation on the installation. This applies both to tank cleaning at the quay and when vessels used automatic tank cleaning en route. Classification according to Appendix 2b helps to identify waste that has arisen in this process. This only applies for tanks that the operator has at its disposal.

Waste produced from pipe laying activities and related support activity (supply and stand-by services from ships or shore) shall not be included in the Norwegian Environment Agency's annual report.

Report requirements are sanctioned by the Act of 13 March 1981 No.6 Concerning Protection Against Pollution and Concerning Waste (the Pollution Control Act). Operators shall prepare discharge reports where all operational discharges and all acute spills are reported. Oil fields where several installations are covered by a common discharge permit shall prepare individual reports for each installation. Radioactive waste is not to be included in the Norwegian Environment Agency's annual report. However, it shall be included in the annual report to the Norwegian Radiation Protection Authority (NRPA).

Operators shall record all discharge data and necessary accompanying text into the discharge database "Epim Environment Hub" (EEH) within March 15<sup>th</sup> in the year following the reporting year.

Norwegian Environment Agency's M-107 «[Retningslinjer for rapportering fra petroleumsvirksomhet til havs](#)» (guidelines for reporting from petroleum activities at sea) and Norwegian Radiation Protection Authority's «[Retningslinjer for rapportering av radioaktive stoffer fra petroleumsvirksomheten](#)» (guidelines for reporting of radioactive substances from petroleum activities) must be followed.

## 7 CONTRACTUAL REQUIREMENTS

Most companies have standard contractual HSE clauses regulating contractor requirements to governing systems (e.g. ISO-14001), Achilles pre-qualification (including NORSOK standard S-006), HSE target goals, etc., which will be sufficient for most contracts.

It could be practical if the waste contract had the added option of third party participation to enable the operator to include other operators, e.g. during exploration (short term regional activity) or field production where shorter/longer term regional services will be needed.

This should be done in collaboration with the service providers to ensure satisfactory capacities. It should, however, be stipulated in the contract that the waste producer must give the waste facility advance notice of larger waste shipments sent ashore to allow for proper logistic planning (tank capacity, personnel, etc.).

There should be a requirement for traceability of the waste.

It is recommended that the operator acquires an overview of utilized waste facilities and makes sure that these hold the requisite licences.