

Guidelines: Offshore Decommissioning Waste Management



D3 Consulting Ltd



Offshore Decommissioning Waste Management

Scope of Guidelines

- ✓ All wastes and materials arising from offshore decommissioning activities
- ✓ From Cessation of Production to the “common waste stream”
- ✓ From UKCS to all destinations including TransFrontier Shipments

Guidelines Objectives

- ✓ Bring consistency to managing offshore decommissioning wastes
- ✓ Share regulatory expectations for waste management – the “5 Principles”
- ✓ Ensure that the Operators and their supply chain understand the key requirements and scope of waste management arising out of offshore decommissioning
- ✓ Tie into the new BEIS Offshore Decommissioning Guidance Notes
- ✓ Bring clarity and structure to the waste management of offshore decommissioning
- ✓ Share best practice in management of offshore decommissioning waste

Waste from Wells P&A

- Needs input and support





500m Zone

Guidelines apply from date of COP



Platform

OIM Responsible



Port



Port

Smelting Plant



Landfill Site



Recycling Plant



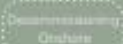
Landfill Site



Port



Smelting Plant



Decommissioning Offshore



Decommissioning Over Water



Decommissioning Inshore

12 MILE BOUNDARY

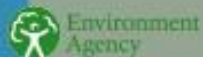
500m Zone



Subsea Installations



OIM Responsible



Developed by:



Lessons Learned

BP's own lessons learned from the decommissioning of NW Hutton in 2008 with the onshore disposal comprised:

- Not to underestimate **detailed understanding of waste** required in planning and through various project stages
- Have a **clear strategy for waste** quantification, removal, transportation and onshore management, jointly agreed by all parties
- Have **good document management and record maintenance** through installations lifetime, engineering down and cleaning phases
- Importance of **good communications and clear expectations**
 - Clear understanding and communication of regulatory requirements to all parties
 - Early and ongoing engagement with regulators
- Processes employed for waste quantification and management worked very well

From Caroline White of BP presentation titled "Waste Management for Offshore Decommissioning" presented at Decom North Sea Conference 2011.



Source: Heerema



Source: Able UK

Waste from Wells P&A

Material	Component	Potential Hazardous
Steel	Christmas Trees	Hydrocarbon, NORM and LSA
Steel Cement/Concrete	Wellheads, guidebases and over trawlable structures, with cement	None envisaged
Steel Plastic	Tubulars with potential plastic coatings	Hydrocarbon, NORM and LSA
Steel Plastics WEEE	Control Systems control fluids, lines, seals, clamps, electronic components, safety valves and ESP pumps	NORM and LSA
Steel Plastics Coatings WEEE	Completion components with electronic components, electrical cabling and thermoplastic resin coatings, rubber sealing	Hydrocarbon, NORM and LSA
Muds	Barite contaminated Oil based and Water based muds Casing swarf Drill cuttings	Hydrocarbon (Barite not considered occupational health risk)
Cement	Plug drilling	None envisaged

Not just about waste.....

Human Health Risks

Trapped gas in valves,
asbestos, residual oils and
diesel, mercury and NORM

Environmental Protection

Flora and fauna, marine and
ground contamination,
groundwater protection



Trapped gas

Valve housing blasted off during manual
cutting with flame torch

The valve had internal pressure in the bearing
housing, the main valve itself was open.

Trapped hydrocarbon gas in the housing was not
ventilated and exploded when released and ignited
by the torch.

Near miss



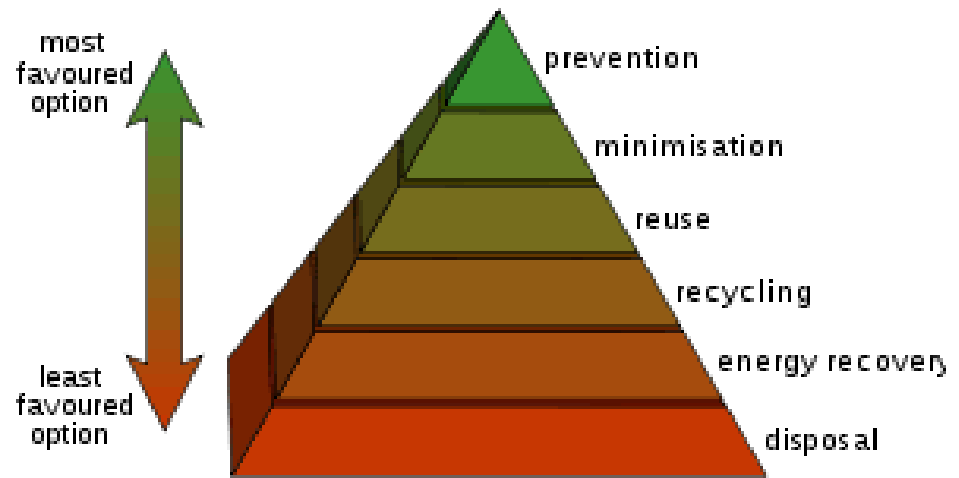
*Extract from Kjell Arne Stålevik, Kvaerner
Stord "Inventory Mapping of Hazardous
Materials" OH2016, Glasgow*

The “5” Principles by Scottish Environmental Protection Agency and the Environment Agency (England & Wales):

- Waste Framework Directive
- Duty of Care
- Early engagement with waste management industry
- Active Waste Management Plans
- Material Inventories

Being adopted in current planning of 2 CNS gas platforms by D3 Consulting Ltd.

Waste Framework Directive 2008/98/EC








- ✓ Legislative framework for the collection, transport, recovery and disposal of waste, and includes a common definition of waste.
- ✓ Focussed on protecting the Environment and Human Health.
- ✓ The “Waste Hierarchy” must be followed unless sound environmental reasons
- ✓ Offshore waste for reuse has to have certainty of reuse, not just possibility
- ✓ The Waste (Scotland) Regulations 2012 impose a legal requirement for high quality recycling

Note: Duty of care includes proving the waste hierarchy has been followed unless the best environmental option is to depart from it..

Offshore Decommissioning: WASTE DUTY OF CARE

WASTE PRODUCERS: have a responsibility to take all reasonable steps to ensure that the waste is managed correctly throughout its complete journey to disposal or recovery

YOU must take all reasonable steps to:

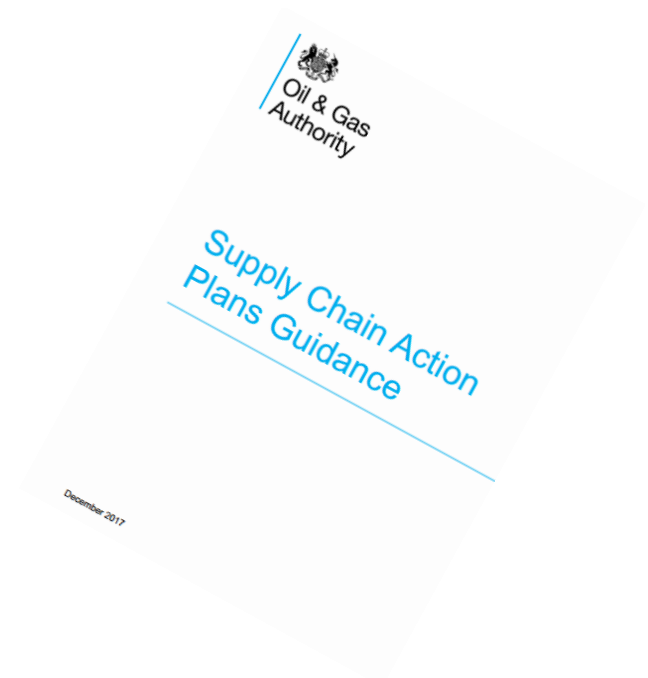
- ➔  Accurately describe and classify the waste
- ➔  Check authorisation of the next waste holder
- ➔  Ask the next waste holder where they are taking it
- ➔  Carry out detailed checks if you suspect non-compliance
- ➔  Prevent the escape of waste from your control



FAILURE TO COMPLY
WITH THE DUTY OF CARE
REQUIREMENTS IS A CRIMINAL
OFFENCE AND COULD LEAD TO
PROSECUTION

Early Engagement with Waste Management Industry

- ✓ Surety in market capacity to deal with the wastes and materials arising
- ✓ Confidence in the capability and competence of the waste industry to manage the wastes and materials
- ✓ Integration of lessons learned and knowledge of the waste industry
- ✓ Support innovation by early prospects
- ✓ Enable campaigning and cooperation



ASSET RESALE RE-USE & RECYCLE

Underpin potential resale of plant
and equipment for re-use & recycling

WHY A MATERIALS INVENTORY?

REGULATORY

BEIS Decommissioning Programme
Feed into Energy & Emissions
calculations & Comparative Assessments
TransFrontier Shipments
EEMS Waste Reporting



ONSHORE WORKS

Quantities and waste characterisation
for onshore regulatory compliance
(permits can specify limits)

Feed into contractor's waste
tracking and assurance system

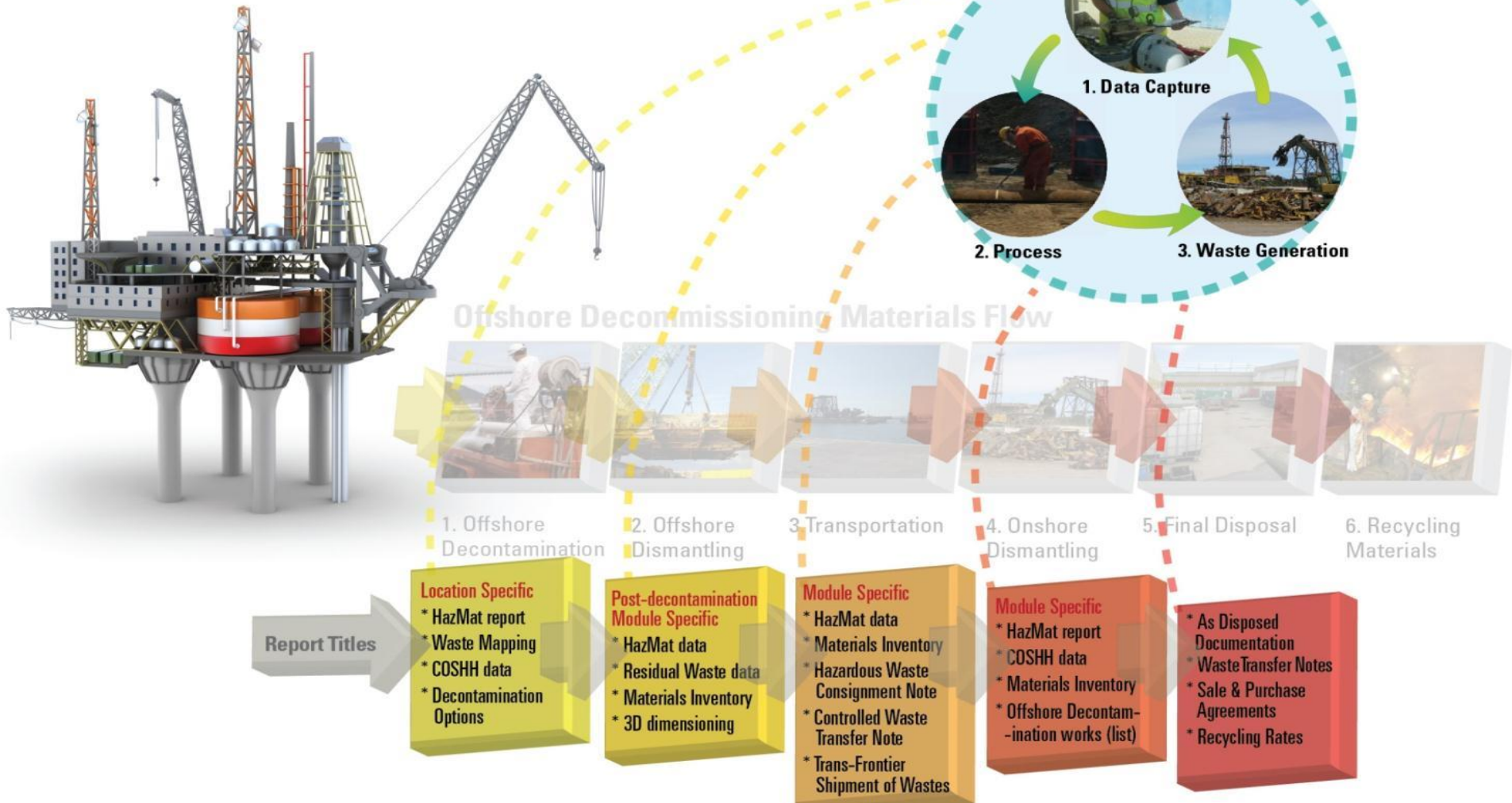
CONTRACTUAL

Quantities for tendering
Lump-sum clarity for hazardous and risk items

ENGINEERING DESIGN

Need to know what is present
...and where it is ?

Active Waste Management Plan



Current Issues Arising from Industry

- How clean is clean: To what level of cleanliness is necessary offshore?
- What is hazardous: The more we look and sample, the more we find
- Duty of Care: Need clarity on Duty of Care through the Supply Chain
- Health & Safety: Impact of waste management on H&S of personnel, human health risks and decommissioning approaches (i.e. moving into unmanned)
- How does waste management tie into new BEIS Guidance Notes, SCAP and other deliverables
- Better clarity on legal definitions of waste and the waste hierarchy options

Current Issues Arising from Industry

- Clarity on the TransFrontier Shipment process with what waste documentation and information is required and when
- NORM: difficult to assess quantities and readings offshore and often not until onshore during decontamination will we know
- Radioactive waste must be returned to the UK for disposal
- Operators want to know who to engage with early at SEPA and EA during the Decommissioning Programme process
- A roadmap with timeline would be useful

Guidelines Development

- Kick off January 2018
- Regulatory meetings (Jan, March, onwards)
- 1st Industry workshop with DNS members (March)
- 1st Draft of Guidelines issued at “Decom Offshore 2018” Conference 23rd May 2018
- 2nd Industry Workshops planned for June and July 2018
- Finalise Guidelines September 2018
- Guidelines remain live and updated....



Download from the Decom North Sea website



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