

# Recycling of Ex-RFA Brambleleaf Fleet Replenishment Tanker



DSA



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# Executive Summary

Ex-RFA Brambleleaf ceased active service with UK MOD on the 30 September 2007 following a long and distinguished service as a fleet support tanker she was consigned to a recycling and recovery operation and in June 2009 an invitation to tender competition was issued.

The successful winning bidder was the Ghent based company Van Heyghen Recycling (part of the international Galloo Recycling Group) and Ex – RFA Brambleleaf left HMNB Portsmouth under tow for Belgium on the 18th August 2009.

In Feb 2011 Van Heyghen Recycling reported that Ex-RFA Brambleleaf had been completely dismantled and recycled in accordance with all relevant EU Waste Management Legislation and the UK's Ship Recycling Strategy.

Out of all the materials that are required to build a ship of this type over 98% of the material was recovered and recycled, thereby significantly reducing its impact on the environment at the end of its life.

RFA Brambleleaf



To equip and support our Armed Forces for operations now and in the future

# Background

## General Particulars

Date and Place of Build	1976 Cammell Laird Shipbuilders Ltd, Birkenhead Entered RFA Service 1980
Date ceased service	30 September 2007 (after 6 month lay up)
Type of Vessel Official No.	Fleet Replenishment Tanker 388293
Summary of condition	Sound for Towing, not in running condition.
Displacements in Tonnes	Current: 19220 Loaded:40870 Gross Register: 18880 Nett Register: 9043 Deadweight: 33257
Draughts	Current 4.8m fwd. 7.1m aft
Length OA	Extreme: 170.69m
Breadth	Extreme: 25.94m
OA height Mast-head to keel	42.9m
Estimated metal weight	7000 tonnes
Estimated metal %	80% mild steel
Historical Interest	<p>RFA Brambleleaf (A81) was originally named 'Hudson Deep'. In February of 1983 RFA Brambleleaf was purchased by the MOD (Navy) for the Royal Fleet Auxiliary.</p> <p>In November 1983 RFA Brambleleaf supported British troops in the multi-national force in the Lebanon.</p> <p>In January of 1986 RFA Brambleleaf was involved in the evacuation of British and foreign nationals from Aden, following the civil war in the Peoples republic of Yemen.</p> <p>As well as their primary role of replenishing warships at sea, fleet support tankers are used for the bulk movement of fuels between MOD (N) depots. The Brambleleaf has three Leaf Class sisters - RFA Orangeleaf, RFA Oakleaf and RFA Bayleaf. All four were originally designed as commercial tankers and underwent major conversions to bring them up to RFA standards and equip them for naval support. This involved adding a considerable amount of electronics, both in communications and navigational aids, fitting two replenishment rigs and increasing the amount of accommodation.</p>

# Background on the Disposal Services Authority (DSA)

- The DSA has delegated authority to dispose of all UK MOD surplus equipment in the UK and overseas.
- The DSA's role is to dispose of surplus assets identified by the owner for release into the commercial market.
- The DSA is the only Government Organisation offering a completely managed service for the Re-use, Recycling and ultimately disposal of surplus government assets.

The DSA's primary aim is to sell surplus ships for further use but where this is not possible (for instance, when ships are no longer seaworthy and only suitable for recycling) its objectives are to ensure that the vessel is recycled in a safe and environmentally sound manner, and in compliance with its legal responsibilities as a producer of waste.

## Introduction

The DSA conducted a tender exercise for the sale and recycling of Ex-RFA Brambleleaf in June 2009.

The vessel was sold on an 'as seen as lying' basis for recycling within the organisation for Economic Co-Operation (OECD) and in full compliance with

the principles of the Basel Convention and all other associated EU & UK legislation including Regulation (EC) No 1013/2006 of the European Parliament and the Council of 14th June 2006 on Shipments of Waste.



RFA Brambleleaf

# Competition

## Information and Requirements

The preparation of the vessel by the MOD's Disposal Reserve Ship Organisation (DRSO) played a vital part in the process and an inventory of hazardous materials and a 'Green Passport', highlighting the hazardous material on board was produced, along with a Type 2 Asbestos survey. Both of which were included as part of the tender documents. The activity conducted by DRSO demonstrated to ship owners the value in investing in the preparation of vessels for disposal which is of enormous benefit to the UK MOD as it continues to set standards for the dismantling of Government owned vessels. Tenders were limited to bidders from within the Organisation for Economic Co-Operation and Development (OECD) – as recommended by the UK Ship Recycling Strategy (SRS). Two compliant bids were received.

This information was provided to all bidders to enable them to identify key environmental issues and cost drivers in their tender responses. The DSA secured additional provisions from the bidders in the form of a substantial financial bond, acting as security to ensure that the vessel was recycled in the destination stated and not reflagged and taken to a non-compliant yard outside the OECD.

The recycling of ships is covered by a range of UK and EU legislation for which Department for Environment, Food and Rural Affairs (DEFRA) is the lead department in the UK. This Legislation includes but is not limited to:

- The Waste Shipments Regulation (EC) No 1013/2006 of the European Parliament and of the Council of 14 June 2006
- Parts of the Radioactive Substances Act 1993
- Environmental Protection (Duty of Care) Regulations 1991 SI 2839
- Hazardous Waste (England and Wales) Regulations 2005 SI 894
- Health & Safety at Work etc 1974
- Control of Asbestos at Work Regulations 2006

## Ship Recycling Evaluation

Following the recommendations of the SRS, the DSA once more convened a Ship Recycling Evaluation Committee, involving representatives from Defra, Maritime Coastal Agency (MCA), DRSO and the DSA to assess the tender responses against set criteria called for in the Strategy. Prospective purchasers were required to produce a detailed Ship Recycling Plan, demonstrating their understanding of all the requirements involved in Ship Dismantling against each of the following:

- Facilities & dismantling methodology
- Health & Safety
- Environmental plans
- Operations, sub-contractors
- Licences & permits
- Media, and Trans-Frontier Shipment of Waste (TFS)

The Ship Recycling Plan is paramount to the consideration of offers to purchase and should provide evidence to enable the Evaluation Committee to score against.

## Award of Preferred Bidder Status

The DSA awarded preferred bidder status to Van Heyghen Ship Recycling and a formal contract was awarded in June 2009 once the appropriate consents were obtained, in accordance with the provision of the EC Waste Shipments Regulation 10313/2006.

On the 18th August 2009 Ex – RFA Bayleaf was transferred from MOD ownership and Naval Base Commander (Portsmouth) custody to Van Heyghen Ship Recycling.

## Recycling of Ex- RFA Brambleleaf

Van Heyghen Ship Recycling was required to provide a monthly breakdown of the outturn of metals and waste during the recycling programme. Audits were conducted by DSA staff during the life of the project which involved a physical inspection of the yard in Ghent, Belgium, together with an audit of weighbridge tickets, licences and consignment notes which were checked against the reported outturn.

Photographic evidence was also provided at key stages of the dismantling process, which ensured that the DSA could be confident on the method and manner in which the Vessel was dismantled and completed in accordance with the aims of the SRS.

## Photographic Evidence



Early stages of Dismantling



3 photos showing superstructure completely removed, the Engine room opened up and the first "layer" of the ballast/diesel tanks almost all removed

## Photographic Evidence



showing the stages of pre-cutting, ready for the hull to be towed up the slipway



Brambleleaf on the quayside awaiting the opening of the slipway to start her final voyage



Brambleleaf on the Slipway



Remains of the engine room



## Final Outturn

At the start of the project DRSO produce a 'Green Passport', the purpose of this is to identify what hazards are contained in the vessel which is then

compared with the final outturn figures reported by Van Heyghen Recycling.

(All figures in Tonnes)	Green Passport Estimates	Actual	Destination
Steel (Ferrous)	6900	6392,34	Sale
Aluminium	25	7,19	Sale
Copper	50	37,35	Sale
Stainless Steel	25	4,62	Sale
Wood	-	6,94	Recycled
Remnant Waste	755	623,54	Recycled
Oil	50	155,02	Recycled
Asbestos	4	22,23	Landfill
<b>Total</b>	<b>7809,00</b>	<b>7249,23</b>	

Final Destination	Tonnes	%age of Total
Re-use/Sale	6441,50	88.90%
Recycling	785,500	10.8%
Waste (Landfill)	22,23	0.30%
<b>Totals</b>	<b>7249,23</b>	<b>100%</b>

Van Heyghen Recycling reported an Asbestos Outturn of 22, 23 Tonnes against the estimate of 4 Tonnes given in the Asbestos Report prior to disposal.

Estimating asbestos tonnage is notoriously difficult since the thickness and density of the material varies dramatically throughout the ship and this was exacerbated in Brambleleaf by the age of the ship and the large number of inaccessible areas.

This is very much an estimate for it is only at the breakers yard that the true state of Asbestos on board the vessel can be found when the vessel is being dismantled.

Van Heyghen Recycling handles all the materials with which they are confronted during the dismantling process of end of life vessels.

### For example:

Wood is recycled for the fibreboard industry.

Paper recycled for the paper industry.

Concrete is broken up and recycled in order to make fresh concrete.

Remnant waste is sorted and incinerated for energy-recuperation.

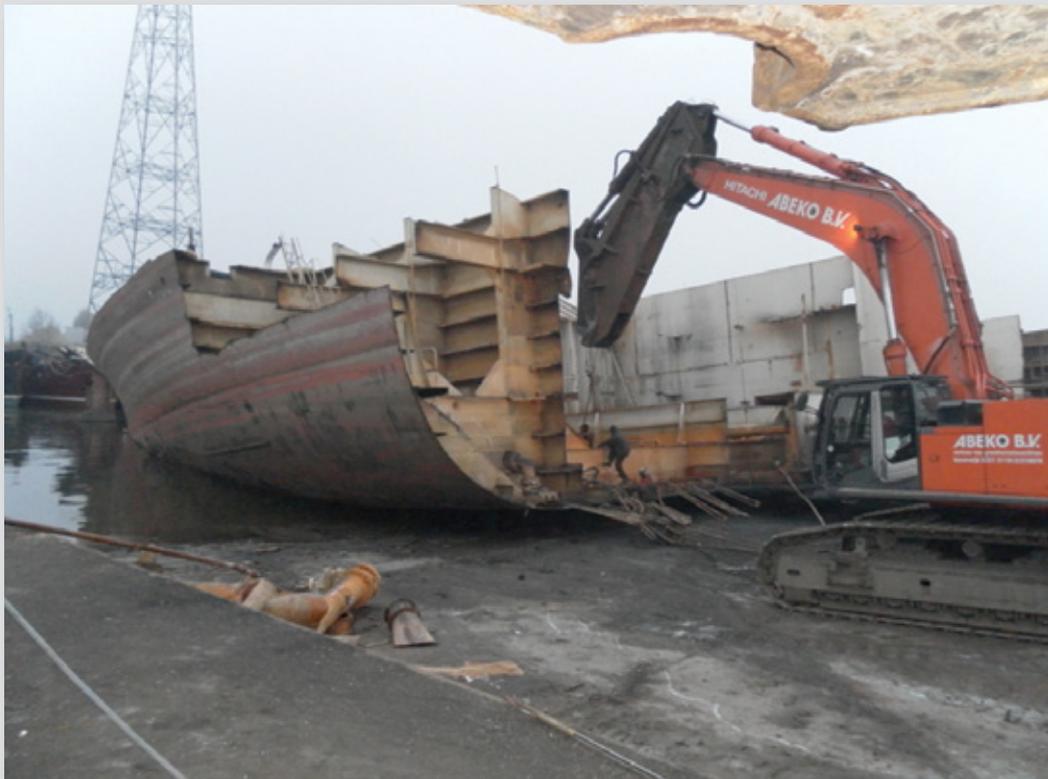
All cabling containing PCB-coatings are removed separately and sold to a specialised company which shreds the cables and recuperates the copper.

## Conclusion

Ex-RFA Brambleleaf was completely recycled by end February 2011, with less than 1% going to landfill.

This is the eighth ship successfully exported for recycling by the DSA in line with full Transfrontier Shipment of Waste Regulations and is the third vessel consigned to Van Heyghen Ship

Recycling, all of which have complied with all international agreements and principles concerning environmentally sound management of waste. Van Heyghen Recycling successfully dismantled ex-HMS Fearless in 2009 and Ex-Auxiliary Support Vessel Rame Head in 2010.



Final stages of dismantling with just the engine room left



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