



Ministry
of Defence



Recycling of **Ex-RFA Bayleaf**

Fleet Replenishment Tanker

Disposal Services Authority



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Executive Summary

In 2012 an open competition for the disposal of Ex-RFA Bayleaf was undertaken and the Disposal Services Authority awarded preferred bidder status to the Turkish company LEYAL Ship Recycling Ltd whose formal proposal was to conduct the recycling of Ex-RFA Bayleaf at their dedicated ship dismantling facility in Aliaga Turkey. LEYAL is a registered and licensed ship recycling company who have been involved in ship dismantling since the early 1980s and who operate in compliance with the relevant international, national, and local regulatory requirements.

Ex-RFA Bayleaf left HMNB Portsmouth under tow on the 2nd August 2012 and on the 22nd August 2012 LEYAL reported that Ex-RFA Bayleaf had arrived in Aliaga after a successful 3 week tow passing the Straits of Gibraltar on route. On the 10th December 2012 Ex-RFA Bayleaf had been completely dismantled and recycled in accordance with the relevant EU Waste Management Legislation and the UK's Ship Recycling Strategy in just 4 months.

Out of all the materials that are required to build ships of this type 98% of the material was recovered and recycled.

RFA Bayleaf



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

Background

General Particulars

Date and Place of Build	1981 Cammell Laird Shipbuilders Ltd, Birkenhead. (laid down 1975, in service 1982)
Date ceased operational service	8 June 2011
Type of Vessel	Fleet Replenishment Tanker
Summary of condition	Sound for Towing, not in running condition.
Displacements and tonnage in Tonnes	Current: 22237 Loaded: 37747 Lightship: 8005 (4 August 2006)
Draughts	Current: 6.9m fwd. 6.7m aft.
Length OA	Extreme: 170.7m
Breadth	Extreme: 25.94m
OA height Mast-head to keel	43.85m
Last Docking	2009 Birkenhead
Last Refit	2009
Historical Interest	<p>Bayleaf was a Leaf-Class Support Tanker of the RFA and was a workhorse for the Royal Navy fleet for 30 years, supplying and refuelling ships all over the world.</p> <p>She was involved in the Falklands War in 1982, the Gulf War in 1991, and from January 2003 to April 2003 she was deployed for "Operation Telic" – the Second Gulf War.</p> <p>The other three Leaf-class sisters include – Oakleaf, Brambleleaf & Orangeleaf of which only Orangeleaf remains in service. 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> <p>While the ships can provide some food and stores support, their main cargoes are diesel and aviation fuel.</p>



Ex-RFA Bayleaf arrives in Aliaga 22/08/12. To the left of Bayleaf is a general cargo vessel to be dismantled prior to commencing with the dismantling works on Bayleaf.

As soon as the vessel arrives under tow she is moored and secured at LEYAL's recycling facility.

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 recycling of the Ex-RFA Bayleaf in February 2012 and 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.

Competition

Information and Requirements

The preparation of the vessels by the MOD's Disposal Reserve Ship Organisation (DRSO) as always plays a vital part in the process and an inventory of Hazardous Materials (IHM) 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.

DRSO played an important part in supporting the towing preparations on deck and contributed to the successful sale and departure of this vessel whose disposal preparations can take many months of hard work to complete.

Once all preparations are completed including all relevant export formalities, including the TFS notification procedure, LEYAL charter a suitable ocean going tug in order to tow the vessel from Portsmouth to Aliaga for dismantling and recycling.

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). The DSA received 5 compliant bids from companies proposing to recycle the vessel in a range of countries including Turkey, Denmark and the UK.

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 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 LEYAL Ship Recycling Ltd and a formal contract was awarded in May 2012 once the appropriate consents were obtained, in accordance with the provision of the EC Waste Shipments Regulation 10313/2006.

Recycling of Ex-RFA Bayleaf

LEYAL Ship Recycling was required to provide the DSA with a monthly report which showed the 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 Aliaga Turkey, together with an audit of weighbridge tickets, licences and consignment notes which were checked against the reported outturn.

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

In addition to these checks, LEYAL Ship Recycling were also subjected to audits and inspections from the UK Environmental Agency, ensuring that LEYAL Ship Recycling were adhering to all current H&S and Environmental Legislation and the terms of their waste management permit.

Ship recycling in Turkey is a well regulated and supported industry. LEYAL is a registered and licensed ship recycling company who have been involved in ship dismantling since the early 1980s, who operate in compliance with the relevant international, national, and local regulatory requirements.

Photographic Evidence

The photographic evidence shows the dismantling progress and this coincides with the monthly reports, Demo Schedule and the sales progress of the vessel.



**Progress of dismantling of works at the (Beg Oct)
To the left of Ex-RFA Bayleaf is Ex-HMSTrials Barge Longbow
which was also sold to LEYAL in Aug 2012**



Progress of works (Mid Oct) the ship is now on the Slipway
The vessels superstructure and equipment is dismantled while the vessel is afloat, reducing its weight. The vessel is then brought on a dry-land slipway where the keel is dismantled.



Progress of works 30/10/12 Dismantling of bow,
fore peak, deep tanks

Photographic Evidence



Progress of works 06/11/2012
The vessel is dismantled from "top-to-bottom" while afloat and from
"bow-to-stern" on the dry slipway



Progress of works 08/11/2012
Dismantling of Top Deck & Accommodation

The final recycling of the hull takes place completely on dry land, where the remaining part of the keel is winched on to the landing area.

The large blocks removed from the vessel are placed with the use of heavy-lift cranes on to the concrete-paved area where secondary cutting and further processing and material separation takes place.



Ex-RFA Bayleaf 28/11/2012
Final dismantling of Pump and Engine Room

Final Outturn

At the start of the project DRSO produce an Inventory of Hazardous Materials (IHM), the purpose of this was to identify what hazards were contained in the vessel which is then compared with the final outturn figures reported to the DSA by LEYAL Ship Recycling.

A detailed outturn of materials (ferrous, non-ferrous, plastics, asbestos, oils, etc) is recorded

by the company. The flow of materials from the recycling facility is done on a truck-by-truck basis, with weighbridge tickets and receipts kept for all loads transported. This detailed information is communicated to the DSA on a regular basis, with hard copies available for inspection during the regular visits by DSA personnel.

(All figures in Tonnes)	Expected	Actual	Destination
Ferrous Metals	7,000	7,133.38	Recycled
Non-Ferrous Metals	50	73.48	Recycled
Cables	25	29.18	Recycled
Other Products	50	37.96	Sale/Recycled
Waste	50	184.56	Disposed
Total	7,175.00	7,458.56	

Final Destination	Tonnes	%age of Total
Sold or Recycled	7,274.00	98%
Disposed	184.56	2%
Totals	7,458.56	100%

Sister Ship Ex- RFA Brambleleaf was fully dismantled in 2009 by Van Heyghen Recycling (part of the international Galloo Recycling Group) 98% of the material was recovered and recycled from the ship and less than 2% went to landfill; a total of 7,249.23 Tonnes was recycled.

Conclusion

Ex-RFA Bayleaf was completely recycled in December 2012.

The DSA have now successfully conducted the sale of 18 vessels in which all have complied with all international agreements and principles concerning environmentally sound management of waste. Since 2008 LEYAL Ship Recycling has won Nine Recycling projects including the Type 42 Destroyers Cardiff, Glasgow and Newcastle, Exeter, Southampton & Nottingham, Royal Fleet Auxiliary Tanker Ex-RFA Oakleaf and the high profile ship Ex-HMS Invincible successfully recycled in January 2012, completed on time and to the satisfaction of all involved.

The report will be sent out to senior internal stakeholders and a growing number of other foreign Governments as they view the UK MOD as the lead when it comes to recycling warships.

The report will be up loaded on to the DSA website:

<https://www.gov.uk/government/organisations/ministry-of-defence/about/procurement#disposals-services-authority>

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