



Ministry  
of Defence



# Recycling of **Type 42s**

Manchester and Liverpool

Disposal Services Authority



Defence Equipment & Support

# Contents

Executive Summary

Background

Introduction

Competition

Recycling of the Former Type 42 Destroyers Liverpool & Manchester

Photographic Evidence

Final Outturn

Conclusion

# Executive Summary

In 2013 an open competition for the disposal of Type 42 Destroyers HMS Manchester and HMS Liverpool 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 both these vessels at their dedicated ship dismantling facility in Aliaga Turkey.

The vessels were towed independently and the first vessel Ex-HMS Liverpool left HMNB Portsmouth under tow on the 22nd October 2014 followed by Ex-HMS Manchester on the 14th November 2014.

Ex-HMS Liverpool was the first vessel to arrive at LEYAL Ship Recycling Ltd on the 12th November 2014 and she was fully recycled on the 3rd February 2015.

Ex-HMS Manchester arrived in Aliaga Turkey on the 8th December 2015 and was fully recycled on the 3rd July 2015.



22 Oct 2014 –Ex-HMS Liverpool departed under tow from HMNB Portsmouth.



14 Nov 2014 –Ex-HMS Manchester departed under tow from HMNB Portsmouth.

# Background

## General Particulars

### EX-HMS Liverpool



Date and Place of Build	1978 Cammell Laird, Birkenhead UK (launched 1980, commissioned 1982)
IMO No.	4907062
Date ceased service	24 May 2012
Type of Vessel: Ex Pennant No.	Formerly a Warship - Type 42 ("batch 2") Destroyer D92
Summary of condition	Considered sound for Towing, not in running condition, certain equipments, having been removed by MoD for further use.
Displacements and tonnages	Current displacement estimate: 3744 tonnes Lightship: estimate 3126 tonnes
Draughts in feet (meters)	Current: Fwd 12ft. Mid 13ft. Aft 14ft Prop Sweep 18ft
Lengths in feet (meters)	Overall 412ft 6ins (125.7m) Waterline 392ft (119.5m)
Breadth in feet (meters)	Extreme: 47ft (14.3m) waterline 46ft (14m)
OA height Mast-head to keel	103ft (31.4m)
Last Docking	2009 Plymouth
Last Refit	2009 Plymouth

<p>Historical Interest</p> <p>Liverpool D92</p>	<p>HMS Liverpool D92 was the seventh HMS Liverpool and was the last survivor of the original Type 42 Batch 2 destroyers built in the 1970s and early 1980s.</p> <p>The first HMS Liverpool was built in the city after which she was named and was launched in 1741.</p> <p>During her career D92 took part in the 2003 Iraq war and in 2005 was sent to the Caribbean, where her duties included patrols to crack down on drug smuggling.</p> <p>In 2010, Liverpool acted as an escort to fleet flagship Ark Royal's task group during a four-month deployment to the United States and Canada as part of Exercise Auriga and in 2011 in NATO's blockade of Libya during the civil war.</p> <p>In March 2012 Liverpool took part in Exercise 'Cold Response', a NATO winter war games exercise being conducted in northern Norway, where she acted as an escort to the helicopter carrier HMS Illustrious and the amphibious assault ship HMS Bulwark.</p> <p>The ship sometimes known as the Crazy Red Chicken courtesy of the red Liver Bird on the ship's badge made her final visit to the city of Liverpool on 29 February 2012 where on Saturday 3 March and Sunday 4 March 2012, the general public were invited on deck to look around the ship.</p> <p>Her bell is preserved in Our Lady &amp; St Nicholas' sailors' church, Chapel Street, Liverpool.</p> <p>She was formally decommissioned on 30 March 2012.</p>
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## EX-HMS Manchester



Date and Place of Build	1978 Vickers Ship building Barrow in Furness UK (launched 1980, commissioned 1982)
IMO No.	N/A
Date ceased service	11 April 2011
Type of Vessel:	Formerly a Warship - Type 42 ("stretched, batch 3") Destroyer
Ex Pennant No.	D95
Summary of condition	Considered sound for Towing, not in running condition, certain equipments, having been removed by MoD for further use.
Displacements and tonnages	Current displacement estimate: 4181 tonnes Lightship: estimate 3616 tonnes
Draughts in feet	Current: Fwd 12ft. Mid 13ft. Aft 13.5 Prop Sweep 18ft
Lengths in feet (meters)	Overall 463ft (141.1m) Mean light-waterline 434ft (132.2m)
Breadth in feet (meters)	Extreme: 49ft 1in (15m) waterline (frame 34) 48ft (14.6m)
OA height Mast-head to keel	114ft (35m)
Last Docking	2006 Portsmouth
Last Refit	2006 Portsmouth

<p>Historical Interest Manchester D95</p>	<p>During the mid-1980s Manchester participated in the Royal Navy's Global 86 tour where a task group, led by Illustrious, was detached to fly the flag in a round the world cruise and series of port visits.</p> <p>In 1991, during the First Gulf War, she participated in numerous operations in the Persian Gulf, aimed at primarily upholding the trade blockade imposed on Iraq during Saddam Hussein's invasion of Kuwait.</p> <p>In 2010 Manchester was on a seven-month deployment to the Caribbean, mainly on counter-drug operations.</p> <p>On 15 November 2010, Manchester became the first British warship to visit Havana, Cuba, since Bigbury Bay in 1957.</p> <p>On 2 February 2011, Manchester berthed at Liverpool, England, as the city was the nearest to Manchester, the city of her affiliation. The crew hosted a civic reception onboard before parading through the city for their final freedom of the city parade.</p>
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## 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 HMS Manchester and Liverpool in February 2014 and the vessels were 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 for HM Vessels is carried out by the MOD's Disposal Reserve Ship Organisation (DRSO) in Portsmouth who play a vital part in the process producing an Inventory of hazardous materials (IHM) highlighting the hazardous material on board along with an independent Asbestos Management Survey provided by Lucion Environmental Ltd, 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 these vessels whose disposal preparations can take many months of hard work to complete.

Tenders were limited to bidders from within the EU and the OECD – as recommended by the UK Ship Recycling Strategy (SRS).

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 the 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 August 2014 once the appropriate consents were obtained, in accordance with the provision of the EC Waste Shipments Regulation 10313/2006.



22 Oct 2014 - Ex-HMS Liverpool departing under tow from HMNB Portsmouth.



14 Nov 2014 - Ex-HMS Manchester departing under tow from HMNB Portsmouth.



14 Nov 2014 - Ex-HMS Manchester towed by Tug Hellas.

## Recycling of Ex - HMS Manchester & Liverpool

LEYAL Ship Recycling Ltd 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 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.

# Photographic Evidence

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



12 Nov 2014 - Ex-HMS Liverpool arriving at Aliaga.

15 Dec 2014 - Liverpool partly dismantled,  
Ex-HMS Manchester waiting in the background.





30 Dec 2014 - Liverpool in the foreground showing the start of the superstructure being removed.



15 Jan 2015- Liverpool on the slipway in the final stages of dismantling.



26 Jan 2015- Liverpool in the foreground in her final stages of dismantling. She was fully dismantled on the 3 Feb 2015.



19 March 2015 - Ex-HMS Manchester in the early stages of dismantling.

22 April 2015 - Ex-HMS Manchester cutting afloat.  
Radar & Superstructure being removed.





5 May 2015 - Ex-HMS Manchester on the slipway during the midpoint of dismantling.



20 May 2015 - Manchester on the slipway.



29 June 2015 - Manchester in her final stages of dismantling.

# 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 vessels which is then compared with the final outturn figures reported to the DSA by LEYAL Ship Recycling Ltd.

A detailed outturn of materials (ferrous, non-ferrous, plastics, asbestos, oils etc) is recorded by the company and this information is communicated to the DSA on a monthly basis, with hard copies available for inspection during the regular visits by DSA personnel.

<b>(All figures in Tonnes)</b>	<b>Expected</b>	<b>Actual</b>	<b>Destination</b>
<b>Ferrous Metals</b>	<b>5,500</b>	<b>5,886.060</b>	<b>Recycled</b>
<b>Non-Ferrous Metals</b>	<b>300</b>	<b>314.300</b>	<b>Recycled</b>
<b>Cables</b>	<b>50</b>	<b>57.240</b>	<b>Recycled</b>
<b>Other Products</b>	<b>100</b>	<b>359.360</b>	<b>Sale/Recycled</b>
<b>Waste</b>	<b>750</b>	<b>272.870</b>	<b>Disposed</b>
<b>Total</b>	<b>6,700</b>	<b>6,889.830</b>	

<b>Final Destination</b>	<b>Tonnes</b>	<b>Percentage of Total</b>
<b>Sold or Recycled</b>	<b>6,616.96</b>	<b>96%</b>
<b>Disposed</b>	<b>272.870</b>	<b>4%</b>
<b>Totals</b>	<b>6,889.830</b>	<b>100%</b>

# Conclusion

Ex-HMS Liverpool was completely recycled on the 3rd February 2015 and Ex-HMS Manchester was completely recycled on the 3rd July 2015. Both vessels collectively were fully dismantled with 96% of the vessels being sold or recycled.

The whole process from start to finish took 18 months with the Transfrontier Shipment (TFS) process alone taking 6 weeks and with three audits conducted throughout the dismantling process.

The DSA have now successfully conducted the sale of 24 vessels in which all have complied with all international agreements and principles concerning environmentally sound management of waste. Since 2008 LEYAL Ship Recycling Ltd has won 10 Recycling projects which included 2 Aircraft Carriers Ark Royal & Invincible, 3 RFA Tankers Oakleaf, Bayleaf & Fort George and Type 22 Frigates Cumberland, Campbeltown & Chatham.

Other Type 42's successfully recycled by LEYAL Ship Recycling Ltd include Cardiff, Newcastle, Glasgow, Exeter, Southampton & Nottingham.

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 the recycling of warships.

**The report can be found on the DSA website**

**<https://www.gov.uk/government/collections/dsa-ship-recycling>**



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