

### Planning/Programme

- The “War Room” has been up and running for about 4 months. In this time FMEL have produced detailed plans, which are constantly being reviewed and updated. We have seen improvements in the project management. Our main observation is that the new team are now recognising the inefficiencies and measuring the failures where the organisation of the project was falling short.
- In the 4 months there has been no signs of recovery of the programme for the overall 2 vessel project, focus is on Vessel 1, with work on Vessel 2 at a standstill for the last 3 months. The efforts of FMEL have to be acknowledged, with the new Project Manager and the setting up of the war room. However, with our previous experience of shipbuilding projects and given the current state of progress, we cannot see how Vessel 1 can be delivered 11 months from now and Vessel 2 delivered 13 months from now.
- The Shipyard’s focus at this stage is on the fabrication and erection of units for Vessel 1 and on the required works to be carried out before launch.
- Fabrication of Vessel 2 has been at a standstill for over 3 months.
- Vessel 1: As of 16<sup>th</sup> June 2017 - 88% fabrication achieved
- Vessel 2: As of 16<sup>th</sup> June 2017 - 60% fabricated achieved
- FMEL advise that they will recruit another 30 steelworkers.
- Steelwork Fabrication milestones cannot be taken in isolation as an indication of progress. The yard redevelopment, pre-outfitting of blocks, equipment deliveries and installation, design and issue of drawings is several months behind schedule. The delay in all of these parts has severely impacted on the yard’s original strategy and as such the overall progress is several months behind schedule.

### Steelwork

- Vessel 1 – 88% Fabricated. Original date for 100% fabrication was: 16 January 2017. Currently 5 months (and 12% in terms of fabrication) behind schedule.
- Vessel 2 – 60% Fabricated. Fabrication almost at a standstill. Less than 5% achieved in the last 3 months. Original date for 75% fabrication was: 16 December 2016. Currently 6 months (and 15% in terms of fabrication) behind schedule.
- Vessel 1 - Berth Join Up, i.e. Vessel completed in terms of steelwork/aluminium, originally planned for 14th March 2017. We do not have a new target date for this from FMEL.
- Vessel 2 - Berth Join Up, i.e. Vessel completed in terms of steelwork/aluminium, originally planned for 14th March 2017. We do not have a new target date for this from FMEL.
- Vessel 1: We were advised at a meeting with FMEL on the 24<sup>th</sup> March 2017, that the fabrication of the Aluminium structure would commence at the beginning of May 2017 on-site at FMEL. The aluminium work area for the accommodation units has been prepared and segregated from the mild steel areas and work has been underway since mid May 2017.
- Vessel 2: 3 months ago, on the 24th March 2017, FMEL advised that aluminium accommodation block for Vessel 2 would be constructed at Inchgreen (starting in May 2017) and the ship would be towed to Inchgreen after Launch, where the accommodation block would be lifted on and the vessel completed at Inchgreen. Work on the aluminium superstructure for Vessel 2 has not commenced. We have recently been advised that the new plan is to prepare the aluminium panels for the accommodation blocks for both vessels at Westway Renfrew, deliver the aluminium panels and aluminium blocks from Westway to FMEL for Vessel 1 and 2 and consolidate the panels/blocks at FMEL. FMEL are looking at options to use other outfit quays (not at FMEL) where vessel 2 could be completed following the launch.

### Equipment Deliveries

- Vessel 1: The LNG storage tank left Shanghai on the 09th May 2017, the port of transshipment is Antwerp, Belgium. ETA Antwerp 24th June 2017. FMEL plan to ship the LNG tank into the vessel before launch. ETA FEML 07<sup>TH</sup> July 2017.
- Vessel 1: A number of equipment deliveries have arrived in the yard, Most of the ER Pumps, Hydrophone tanks, Clam Shell door hinges, Sewage Treatment Plant for both Vessel 1 and 2, Panama Chocks, assorted valves and fittings.

### Vessel 1: Towards Launch (24th August 2017)

- Launch is in 9 weeks. It will be a huge challenge for all required works to be completed in time for the Launch Date: 24<sup>th</sup> August 2017, which FMEL recognise.
- The vessel at this stage is not far enough ahead with the completion of the structure, structural surveys, installation of underwater equipment/fittings, coatings, outfitting and shaft line installation.
- If the launch date is achieved on the original contract milestone date, on paper this could appear that the project is back on track! It should be noted that all other activities are way behind schedule.

### Vessel 2: Towards Launch (17th November 2017)

- The launch date is an ambitious target by FMEL, which they recognise.
- FMEL plan to launch Vessel 2 on the 17<sup>th</sup> November 2017. Vessel 2 will be launched on the slipway currently occupied by Vessel 1. Allowing 13 weeks to erect and consolidate all of the units, complete installation of underwater equipment/fitting, coatings, outfitting and shaft line installation.
- FMEL are looking at options to use other quays (not at FMEL) to complete the vessel when launched.

### **Delivery Dates**

Contract dates for Vessel 1 and 2 are 25th May 2018 and 26th July 2018 respectively. The Contract allows the dates to be exceeded by 120 days, giving a delivery date of 22nd September 2018 for Vessel 1 and 23rd November 2018 for Vessel 2, and can be further extended for specific events.

### **Manoeuvring and Berthing Simulation Tests**

Further Simulation trials were carried out at the state of the art simulator suite at the City of Glasgow College on the 27th March 2017. The latest tests were to include the correct vessel dynamic responses. Unfortunately, the correct dynamic responses had not been fed in to the simulator model. The college themselves cannot change the software (the model is built and updated using an external company), as such the tests were not completed.

Further tests will be carried out on 31<sup>st</sup> July 2017.

Technical Requirements for Ardrossan to be discussed.

### **Launch and Vessel Names**

MV GLEN SANNOX has been chosen as the name for Vessel 1. MV GLEN SANNOX was a landslide winner among a shortlist of four names, receiving nearly 50% of the votes in a competition organised by CMAL to select the new vessel's name.

### **Crew Attendance at Shipyard**

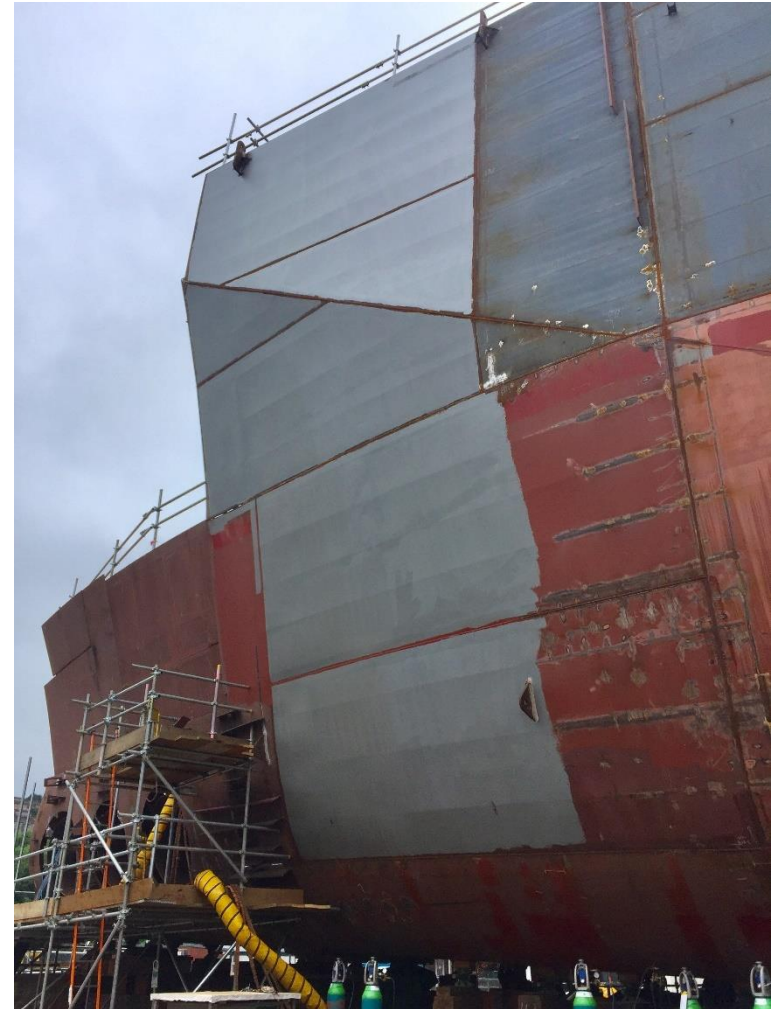
Requirements for crew attendance at shipyard pre-delivery of vessels to be determined and budgets agreed.

### Photographs

Vessel 1 – Port Side looking aft



Vessel 1 – Port Side Looking Fwd



### Photographs

Vessel 1 – Stern Unit Under Construction



Vessel 1 – Stern Units Under Construction



### Photographs

Vessel 1 – Pumps Arrived



Vessel 1 – Flap Rudders Delivered to Store



### Vessel 1 - Production milestones - Actual progress compared with schedule

YARD NO. 801						
Milestone	Original Scheduled Date See Note 1	Revised Scheduled Date See Note 2	Revised Scheduled Date See Note 3	Revised Scheduled Date See Note 4	Actual Date	Comments
<b>Cutting of Steel</b>	15 Dec 2015	15 Dec 2015	-		15 Dec 2015	Achieved on original scheduled date Rev 01
<b>10% Fabrication</b>	18 Apr 2016	13 Jun 2016	-		10 Jun 2016	Achieved 2 months later than original schedule Rev 01 Achieved in line with revised schedule Rev 03
<b>25% Fabrication</b>	14 Jun 2016	26 Jul 2016	-		04 Aug 2016	Achieved 2 months later than original schedule Rev 01 Achieved in line with revised schedule date rev 03
<b>35% Fabrication</b>	15 Aug 2016	12 Sep 2016	-		06 Oct 2016	Achieved 8 weeks later than original schedule Rev 01 Achieved 4 weeks later than revised schedule Rev 03
<b>50% Fabrication</b>	14 Oct 2016	14 Oct 2016			09 Dec 2016	Achieved 2 months later than original and revised schedules
<b>Major Equipment and Lock Out Items Installations</b>	14 Nov 2016	13 Mar 2017 to 18 Jan 2018	-	14 <sup>th</sup> June 2017		“Installation” of all the “Major Equipment” has not been commenced on the 14th November 2016 as per original plan. Major items of Main Propulsion were delivered (not installed) on the 19th December 2016; these are the Main Engines, Auxiliary Engines and Shaft Alternators.
<b>75% Fabrication</b>	15 Dec 2016	15 Dec 2016	10 Feb 2017		31 <sup>st</sup> March 2017	Achieved 3 and a half months later than originally scheduled.
<b>100% Fabrication</b>	16 Jan 2017	16 Jan 2017	16 June 2017	10 <sup>th</sup> July 2017		88% Fabricated. Original date for 100% fabrication was: 16 January 2017. Currently 5 months (and 12% in terms of fabrication) behind schedule.
<b>Berth Join Up</b>	14 Mar 2017	28 Apr 2017	14 Jul 2017	15 <sup>th</sup> Aug 2017		
<b>Hull Inspection Prior to Paint</b>	17 Apr 2017	26 May 2017	21 Apr 2017	24 <sup>th</sup> July 2017		.
<b>Launch</b>	14 Aug 2017	24 Aug 2017	24 Aug 2017	24 Aug 2017		We expect that the vessel will be ready to launch by this date. However the status of the drawings, outfitting and installation will be several months behind schedule.
<b>Delivery</b>	25 May 2018	29 Jun 2018	25 May 2018	25 May 2018		The Contract allows for a delivery date of 22nd September and can be extended for specific events.

Note 1: From Cardinal Programme Rev 01 dated 14 Dec 2015

Note 2: From Cardinal Programme Rev 03 dated 16 May 2016

Note 3: Email from FMEL 09 Dec 2016

Note 4: 12<sup>th</sup> May 2017



### Vessel 2 - Production milestones - Actual progress compared with schedule

YARD NO. 802						
Milestone	Original Scheduled Date See Note 1	Revised Scheduled Date See Note 2	Revised Scheduled Date See Note 3	Revised Scheduled Date See Note 4	Actual Date	Comments
<b>Cutting of Steel</b>	15 Dec 2015	15 Dec 2015	-		15 Dec 2015	Achieved on original scheduled date Rev 01
<b>10% Fabrication</b>	18 Apr 2016	13 Jun 2016	-		10 Jun 2016	Achieved 2 months later than original schedule Rev 01 Achieved in line with revised schedule Rev 03
<b>25% Fabrication</b>	14 Jun 2016	02 Aug 2016	-		04 Aug 2016	Achieved 2 months later than original schedule Rev 01 Achieved in line with revised schedule date rev 03
<b>35% Fabrication</b>	15 Aug 2016	26 Sep 2016	-		06 Oct 2016	Achieved 8 weeks later than original schedule Rev 01 Achieved 2 weeks later than revised schedule Rev 03
<b>50% Fabrication</b>	14 Oct 2016	18 Nov 2016	20 Jan 2017		13 Jan 2017	Achieved 3 months later than original schedule Rev 01
<b>Major Equipment and Lock Out Items Installations</b>	14 Nov 2016		TBA	16 Oct 2017		“Installation” of all the “Major Equipment” has not been commenced on the 14th November 2016 as per original plan. Major items of Main Propulsion were delivered (not installed) on the 19th December 2016; these are the Main Engines, Auxiliary Engines and Shaft Alternators.
<b>75% Fabrication</b>	15 Dec 2016	19 Jan 2017	05 May 2017	22 Sep 2017		60% Fabricated. Fabrication almost at a standstill. Less than 5% achieved in the last 3 months. Original date for 75% fabrication was: 16 December 2016. Currently 6 months (and 15% in terms of fabrication) behind schedule.
<b>100% Fabrication</b>	16 Jan 2017	20 Feb 2017	20 Oct 2017	13 Oct 2017		
<b>Berth Join Up</b>	14 Mar 2017	05 Jan 2018	14 Dec 2017	10 Nov 2017		
<b>Hull Inspection Prior to Paint</b>	17 Apr 2017	02 Feb 2018	24 Nov 2017	31 Oct 2017		
<b>Launch</b>	12 Oct 2017	20 Mar 2018	12 Jan 2018	17 Nov 2017		The launch date is an ambitious target by FMEL. Work on 802 is a standstill.
<b>Delivery</b>	26 Jul 2018	29 Aug 2018	26 Jul 2018	26 Jul 2018		The Contract allows for a delivery date of 23rd November 2018 and can be extended for specific events.

Note 1: From Cardinal Programme Rev 01 dated 14 Dec 2015  
 Note 2: From Cardinal Programme Rev 03 dated 16 May 2016  
 Note 3: Email from FMEL 09 Dec 2016  
 Note 4: 12 May 2017