

### Planning/Programme

- Hull 801: The date for launch has been rescheduled. The shipyard could not achieve the earlier given date of the 24th August 2017, subsequent date advised by FMEL, 21st September 2017, was then changed, latest date advised by FMEL is 21st November 2017. 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.
- The Shipyard's focus is on the fabrication and erection of units on Hull 801 and the required works to be carried out before launch.
- Hull 801, as of 22nd September 2017 – 97% fabrication achieved. Original date for 100% fabrication 16th January 2017. Currently 8 months (and 3% in terms of fabrication) behind schedule.
- Hull 802, as of 22nd September 2017 - 60% fabricated achieved. Fabrication at a standstill. Less than 5% achieved in the last 6 months. Original date for 75% fabrication 16th December 2016. Currently 9 months (and 15% in terms of fabrication) behind schedule.
- Six months ago, on the 24th March 2017, FMEL advised that the new plans for Hull 802 were to construct and outfit the accommodation block at Inchgreen (starting in May 2017) and Hull 802 would be towed to Inchgreen after Launch (17th November 2017), where the accommodation block would be lifted on and the vessel completed at Inchgreen. These plans did not come to fruition, work on Hull 802 has been at a standstill for the last 6 months, with no signs of work re-commencing. FMEL have not provided new plans for Hull 802.
- FMEL have yet to advise the expected delivery dates for Hulls 801 and 802. For these types of Ships, in an experienced shipyard it would take between 8 to 12 months from the date of launch to the date of vessel delivery. Given the current levels of output at FMEL, it is highly likely timescales as such may be exceeded.

### **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 simulator suite at the City of Glasgow College on the 21<sup>st</sup>, 23<sup>rd</sup> and 24<sup>th</sup> August 2017.

The simulations demonstrate that the model reflects the required performance criteria specified in the contract technical specification with the shipyard and as required in CFL's Specification of Operational and Technical Requirements dated 08<sup>th</sup> August 2017, with required overall length of 102.4m for 2 identical Vessels to provide an increase in flexibility for CFL.

Notwithstanding, that the Vessel length of 102.4m is as required, and that model simulation demonstrates that the vessel is highly manoeuvrable, there are concerns from CFL that current arrangements at Ardrossan may not be adequate to provide a resilient service.

Information is being gathered from the Caledonian Isles, it is intended that the Caledonian Isles will be modelled.

Simulator trials were also carried out at Peel Ports facility at Greenock ocean terminal on Thursday 17<sup>th</sup> August 2017. Approaches to the harbour and berthing were achieved under varying conditions.

### **Crew Attendance at Shipyard**

CMAL have received from CFL proposed crew costing for pre-delivery activities associated with the build and operational readiness of 801 and 802. CMAL to review assumptions and activities and confirm approval.

### Photographs – Accommodation 801



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	Revised Scheduled Date See Note 5	Revised Scheduled Date See Note 6	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	16 <sup>th</sup> July 2017		16 <sup>th</sup> July 2017	Not all major equipment has been delivered/installed: Electrical Switchboards, Propellers/Shaft lines/, RoRo Equipment still to be installed.
<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	15 <sup>th</sup> Sep 2017			97% Fabricated. Original date for 100% fabrication was: 16 January 2017. Currently 8 months (and 3% 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	06 <sup>th</sup> Oct 2017			
<b>Hull Inspection Prior to Paint</b>	17 Apr 2017	26 May 2017	21 Apr 2017	24 <sup>th</sup> July 2017	tba		18 <sup>th</sup> Aug 2017	Partial area inspected only.
<b>Launch</b>	14 Aug 2017	24 Aug 2017	24 Aug 2017	24 Aug 2017	21 <sup>st</sup> Sep 2017	21 <sup>st</sup> Nov 2017		The status of the drawings, outfitting and installation several months behind schedule.
<b>Delivery</b>	25 May 2018	29 Jun 2018	25 May 2018	25 May 2018	25 <sup>th</sup> 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

Note 5: Emails Week 28/2017

Note 6: Email 04 Sep 2017

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.
<b>75% Fabrication</b>	15 Dec 2016	19 Jan 2017	05 May 2017	22 Sep 2017				60% Fabricated. Fabrication at a standstill. Less than 5% achieved in the last 6 months. Original date for 75% fabrication was: 16 December 2016. Currently 9 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				FMEL to advise new date.
<b>Berth Join Up</b>	14 Mar 2017	05 Jan 2018	14 Dec 2017	10 Nov 2017				FMEL to advise new date.
<b>Hull Inspection Prior to Paint</b>	17 Apr 2017	02 Feb 2018	24 Nov 2017	31 Oct 2017				FMEL to advise new date.
<b>Launch</b>	12 Oct 2017	20 Mar 2018	12 Jan 2018	17 Nov 2017				FMEL to advise new date.
<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

# Agenda Item 8 – Project Updates

## Project New Vessels 1 & 2 – LNG Workstream

<b>Project</b>	LNG Procurement and Supply	<b>Overall Status</b>	G
<b>Project Manager</b>	David Thomson	<b>Last Updated</b>	28/08/2017
<b>Highlights</b>	<p>CFL are leading on all aspects of the supply and supporting infrastructure for LNG.</p> <p>Further meeting held with Highland Council, CMAL and Marine Scotland. Decision reached that any LNG installation would not be included into Highland Council submission for EIA due to fear of it causing hold up to pier works. Detail of possible LNG installation is however to be acknowledged in submission for information purposes only. Highland Council have asked for additional site, on North side of Uig pier, to be considered for bunkering solution and investigation work is now underway. Furthermore Highland Council were interested to know of potential benefits to them in the event of an installation being sited at Uig. They were made aware of the financial benefits of leasing the land required for any installation.</p> <p>Meetings with Scottish Fire &amp; Rescue and SEPA are being arranged. Initial discussions with both have taken place and each are aware of CFL's proposals.</p> <p>CFL is to seek guidance on the approach to the procurement and financing of the proposed LNG solution. The length and type of contract is to be clarified. CFL is also seeking clarity on the priority of environmental benefits and cost in the event that the solution is not operational when the vessels enter service (ie. should the vessel aim to operate on LNG despite the cost and operational impacts associated with 'truck to ship' bunkering)</p> <p>Detailed risk assessment report from DNV-GL undertaken and the results have stated that, in principle, an LNG storage &amp; supply installation could be sited at both Ardrossan &amp; Uig. Mitigating measures are required to reduce the impact of the major risks most commonly associated with LNG storage. This risk assessment does not consider the civil undertakings required to site such an installation.</p>	<b>Issues / (Potential) Blockers</b>	<p><b>Value for Money - LNG Bunker Solution</b></p> <p>As described, the procurement approach we envision is to opt for a managed service, resulting in significant investment required by the successful tender. However, this may not be a viable proposition if CFL can only commit to an agreement in line with the current CHFS Contract, until 2024.</p> <p><b>LNG bunkering &amp; storage solution may not be in place by time vessel introduced in to service</b></p> <p>If the infrastructure works planned at Uig and Ardrossan are not complete or in a sufficient state to allow the bunkering and storage solution to be installed an alternative bunkering solution may be required. Possible options to ensure the vessel can still operate are as follows.</p> <ol style="list-style-type: none"> <li>1. As the vessel is dual fuel, she could initially operate on MGO until LNG bunkering solution in place. However, this would result in expected environment benefits not being achieved.</li> <li>2. Develop an intermediate solution to bunker LNG. This could involve direct bunkering from LNG truck to ship. However, this method is much slower and may take up to 2.5 hours to complete one bunkering. Therefore, the potential impacts of this approach must be fully considered. The primary impacts may include, potential changes to timetables, additional crew requirements and it may ALSO impact the vessel's ability to carry dangerous goods (802 only, if LNG tankers required to sail to Tarbert/Lochmaddy for refuelling at end of operational day).</li> </ol> <p>The duration of planning &amp; permitting processes could impact on the delivery due to the storage &amp; use of LNG as a marine fuel on this scale is a new concept to UK authorities.</p>

RAG	Milestone	Original Forecast	Re-Baselined Forecast	Current Forecast	Progress Update
A	LNG supply and supporting infrastructure in place ARDROSSAN	26/07/2018	26/07/2018	26/07/2018	
C	DNV-GL Risk Assessment Report received	24/07/2017	24/07/2017	24/07/2017	QRA received and circulated to stakeholders for information. Meetings held to discuss implications
	ECCM tender process complete	TBC			
	Detailed LNG Installation Design created	TBC			
	Planning consents & permits approved	TBC			
	Civil works for installation complete	TBC			
	Cryogenic works for installation complete	TBC			
	Installation commissioned	TBC			
	Vessel 801 bunkers LNG from shore supply installation	TBC			
G	LNG supply and supporting infrastructure in place UIG	TBC			
C	DNV-GL Risk Assessment Report received	24/07/2017	24/07/2017	24/07/2017	QRA received and circulated to stakeholders for information. Meetings held to discuss implications
	ECCM tender process complete	TBC			
	Detailed LNG Installation Design created	TBC			
	Planning consents & permits approved	TBC			
	Civil works for installation complete	TBC			
	Cryogenic works for installation complete	TBC			
	Installation commissioned	TBC			
	Vessel 802 bunkers fuel at shore supply installation	TBC			

<b>Project</b>	Introduction of New LNG Ships 1 & 2	<b>Overall Status</b>	G
<b>Project Manager</b>	Lauren McEwan	<b>Last Updated</b>	19/08/2017
<b>Highlights</b>	<p>Overall status is GREEN however this is dependent on achieving the forecasted vessel build delivery date.</p> <p><b>Plan Approvals</b> Engagement in plan approval process ongoing.</p> <p><b>Vessel Launches</b> Vessel 1 (MV Glen Sannox) – Launch date: TBC (proposed dates 21st September) Vessel 2 – Launch date: TBC (proposed date 17th November 2017 considered unachievable) - Proposed Vessel Names: Pioneer, Columba.</p> <p><b>Current Project Priorities</b></p> <ul style="list-style-type: none"> <li>- Agree vessel crewing requirements</li> <li>- Development of full training plan, ensuring sufficient resilience within the fleet</li> <li>- Agreement and sign-off of operational readiness project plan, including requirements for crew attendance at the shipyard pre delivery of the vessels</li> <li>- Continue to engage with the unions to share info on progress of project</li> <li>- Development of post-delivery activities, including considering timetable options for introducing vessels into service</li> <li>- The training tender document for STCW Tanker Fire Fighting, Basic and Advanced training as outlined by the IGF code due out late August 2017.</li> <li>- Input into the design of the passenger areas of the vessel</li> </ul> <p><b>Passenger Accommodation Walkthrough</b></p> <ul style="list-style-type: none"> <li>- CMAL are planning to present the accommodation layouts and 3D models to the Arran Ferry Committee next month.</li> <li>- They have invited the CFL project team and key CFL members to a walkthrough of the 3D renders and models in advance.</li> </ul>	<b>Issues / (Potential) Blockers</b>	<p><b>Newness of LNG</b> As CFL are the first ferry operator within UK to adopt LNG as a fuel and are leading the way in terms of consents and approvals. Any delays in obtaining approvals could impact the introduction into service date of the vessels. We will continue to engage with MCA and Lloyds throughout the project to ensure compliance with LNG legislative requirements.</p> <p><b>Availability of Crew</b> CFL are required to recruit circa 150 crew for new vessels (or to backfill existing fleet). The recruitment of available and qualified crew may present a challenge, particularly considering the volume of recruitment. To mitigate this risk the project team will ensure sufficient time is built in to project schedule and that there is early engagement with market.</p> <p><b>Sea Time Requirements</b> CFL discussed the requirement for seetime for crew on LNG vessels with the local Glasgow MCA and proposed our intentions regarding training and familiarisation. We have been formally advised that we have agreement in principle with MCA that our alternative training scheme can go ahead for 801, meaning that initial crew on 801 will not be required to obtain sea time on an LNG vessel.</p> <p><b>Uig, Tarbert, Lochmaddy Infrastructure Works to accommodate new vessels</b> Some, if not all of the ports, will require a Harbour Revision Order (HRO) and an Environmental Impact Assessment (EIA), both of which take between 12-18 month Therefore there is potential that the critical pier improvement works may not start until Oct/Nov 2018. We are awaiting receipt of the Masterplans for the works at all three ports outlining the planned works and the intended timelines and phasing. This will allow CFL to consider how we continue to provide a resilient service while the works are underway.</p> <p><b>Ardrossan Infrastructure Works to accommodate new vessels</b> Project raised formal risk that the new vessel may only be able to operate to Ardrossan in favourable conditions if required infrastructure works are not completed. Whilst simulations will provide indications as to potential future operational parameters, these cannot be considered in isolation. Paper exercise due to be carried out by Peel Ports to identify and assess all options for infrastructure works to enable informed decision to be made as to best way forward to ensure a resilient service is maintained.</p> <p><b>Lack of Available Plan</b> FMEL are unable to provide accurate schedule information to CFL. Therefore, CFL cannot forecast resource requirements and schedules. Resulting in resource unavailability.</p>

RAG	Milestone	Original Forecast	Re-Baselined Forecast	Current Forecast	Progress Update
G	<b>Introduction into Service 801</b>	25/06/2018	29/07/2018	29/07/2018	Minimum 4 week shakedown period currently being assumed however this may change once the detailed scope of works is known
G	Crew recruited, trained and inducted	25/05/2018		25/05/2018	
G	Retail & Commercial activities complete and ready for service	25/05/2018		25/05/2018	
G	Equipment, supplies and spares ordered ready for loading onto vessel	25/05/2018		25/05/2018	
G	IT hardware procured, delivered and installed	25/05/2018		25/05/2018	
G	Vessel berthing trial schedule agreed and communicated	25/05/2018		25/05/2018	
G	Vessel certification and compliance requirements identified and delivered	25/05/2018		25/05/2018	
G	LNG Fuel Supply agreed & in place	25/05/2018		25/05/2018	
G	Vessel introduced into service	25/07/2018		25/07/2018	
G	<b>Introduction into Service 802</b>	26/08/2018	29/09/2018	29/09/2018	Minimum 4 week shakedown period currently being assumed however this may change once the detailed scope of works is known