



## Agenda Item 11.1 – Project Updates

### Duel Fuel Vessels 1 and 2 – Progress Update



#### Network Strategy Programme Steering Group

Network Strategy Programme Steering Group is coordinated and Chaired by Transport Scotland.

In October 2013 Transport Scotland sponsored a project to seek advice from the Tripartite group (Transport Scotland, Caledonian Maritime Assets Ltd and CalMac Ferries Ltd) of what a programme of vessel retentions, acquisitions and disposals may look like in order that the delivery of the Ferries Plan could be fulfilled. The key project deliverable is the Vessel Replacement and Deployment Plan.

The remit of the Group is to determine and develop clear roles and responsibilities for the operator (CFL) and the asset owner (CMAL) in the retention, acquisition and disposal strategy of the Clyde and Hebrides Ferry Service (CHFS) fleet. In addition, port infrastructure maintenance and improvement strategy plans within the CHFS network are also discussed and developed within the Group.

This strategic approach is intended to enable optimal delivery of the Ferries Plan and to ensure that the on-going delivery of lifeline ferry services on the CHFS network will continue to be fit for purpose and benefit from investment decisions which are transparent and well informed.

#### Network Strategy / Programme Steering Group membership

The membership of the Group will consist of representatives from:

- Transport Scotland (TS)
- Caledonian Maritime Assets (CMAL)
- CalMac Ferries Ltd (CFL)

The following is an update from CMAL of 17/1/19 to the PSG on Vessels 801 and 802:

#### Planning/Programme

Hull 802 milestone “Hull inspection prior to paint”. The FMEL planned date to achieve this milestone is 05<sup>th</sup> February 2019; **14 working days from date of this meeting**. As is currently observed this milestone will not be achieved in this financial year.

FMEL issued a new revised cardinal date programmes almost 7 months ago on the 27<sup>th</sup> June 2018, all the commissioning activities in this new programme which FMEL planned to achieve in 2018 for Hull 801 have yet to be achieved with no sign when they will be achieved. CMAL have requested new dates, which FMEL have not provided.

FMEL target delivery date for 801 is 21<sup>st</sup> June 2019; **22 weeks** from date of this report. With all the other numerous activities to be undertaken in the design, construction and commissioning of the vessel; in our professional opinion there is no possibility that the rest of the schedule can be compressed to achieve the target delivery date 21<sup>st</sup> June 2019. If design, construction and commissioning activities continue as is currently and previously observed, **it is impossible to estimate at this stage when both ships will be delivered**. Our professional opinion is that **Hull 801 will not be delivered in 2019**.

Installation of electrical cables in Hull 801 has now commenced (wk48/2018), local cabling between the machinery control room and the transformer space below.



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The target delivery date for Hull 802 is 10<sup>th</sup> March 2020 (14 months from date of this report), see latest picture below of Hull 802. Comparing 801 with 802; 801 was launched in November 2017 and as stated above our professional opinion is that Hull 801 will not be delivered in 2019 (over 2 years after launch). On the assumption that 802 is launched in July 2019 (which is unlikely given progress) and given that 801 will not be delivered at least 2 years after she was launched, **with current rate of progress 802 will not be delivered until well into 2021.**

FMEL have stated in their 2016 accounts that there is an assumption that there will be a 14% productivity improvement in labour hours from Hull 801 to Hull 802. **As is currently observed there are no signs of productivity improvements from Hull 801 to Hull 802 and in our professional opinion a far greater productivity improvement in labour hours is required not just on Hull 802 but on Hull 801.**

We understand that the contract for the overseas sub-contractor steelworkers ended Wk51/2018, we are not aware if the contract will be extended for the sub-contractor to return in January 2019.

FMEL announced on 21<sup>st</sup> December 2018 that they have been successful in securing further contracts for two Aquaculture Support Vessels: a 21m workboat due to be completed by May 2019 and a 26m multi-role treatment vessel to be completed 2019. This is great news for shipbuilding, these contracts and the contract for the air cushioned barge (project completion scheduled for 2019) are likely to have an impact on Hulls 801 and 802, both resource and construction space in the shipyard.

#### Glen Sannox Hull 801

Original Contract delivery date: 25<sup>th</sup> May 2018

New Target Delivery Date: 21<sup>st</sup> June 2019, 13 months later than the contract date, 44 months from contract signing.

24 to 30 months is typical period from contract signing to delivery for a ferry of this size. Example MV Hebrides built by Ferguson Shipbuilders Limited, contract signing 18<sup>th</sup> February 1999, delivery 02<sup>nd</sup> March 2001.

New Target delivery date is **22 weeks** from date of this report. For a vessel this size, the vessel should be at an almost complete state 4 weeks before the date of delivery, the final 4 weeks for snagging, certification, final inspections etc. Taking this in to consideration, allows **18 weeks** to complete the vessel. The vessel will also dry dock at a facility external to the shipyard facility for 4 weeks (FMEL planning target dates 21<sup>st</sup> Feb to 23<sup>rd</sup> March 2019), where in our experience there will be a reduction in production efficiency, with logistics and with staff working away from their normal place of work.

Activity Name	Start Date	No of Weeks to Start Date	Notes
Trials & Delivery	30/07/2018	-24.43	Still to achieve. 24 weeks overdue at date of this report
Shore Supply Available	30/07/2018	-24.43	Still to achieve. 24 weeks overdue at date of this report
First Run Auxiliary Engine	09/11/2018	-9.86	Still to achieve. 10 weeks overdue at date of this report
Commission Systems	09/11/2018	-9.86	Still to achieve. 10 weeks overdue at date of this report
First Run Main Engine	21/11/2018	-8.14	Still to achieve. 8 weeks overdue at date of this report
Generator Load Test	07/12/2018	-5.86	Still to achieve. 6 weeks overdue at date of this report
PMS Set Up	03/01/2019	-2.00	Still to achieve. 2 weeks overdue at date of this report
Dock Trial	13/02/2019	3.86	Still to achieve, dependant on above activities.



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Dry-Dock	21/02/2019	5.00	The vessel will dry dock at a facility outside the shipyard. There will be a reduction in production efficiency, when staff are working away from their normal place of work.
Inclining	24/03/2019	9.43	
Builders Sea Trials	27/04/2019	14.29	
Owners Sea Trials	04/05/2019	15.29	
LNG Tank Commissioning	09/05/2019	16.00	
LNG Bunkering	27/05/2019	18.57	
LNG Dock Trial	08/06/2019	20.29	
LNG Sea Trials	11/06/2019	20.71	
Delivery	21/06/2019	22.14	

#### 802

Original Contract Delivery Date: 26<sup>th</sup> July 2018.

New Target Delivery Date: 10<sup>th</sup> March 2020, 20 months later than the contract date, 53 months from contract signing. 24 to 30 months is typical period from contract signing to delivery for a ferry of this size.

New Target Delivery Date: 60 weeks from date of this report.

Hull 802 Launch 05<sup>th</sup> July 2019.

If Hull 801 is not delivered on 21<sup>st</sup> June 2019, this may influence the launch date of Hull 802, as space is tight at the FMEL quayside for 2 vessels this size to be alongside at the same time. **See also paragraph below regarding FMEL's "Kaiser Principle" on the number of hours to complete a task when ship is at the quayside compared to in the module hall or slipway.**

New Target Launch date: 24 weeks from date of this report.

**Comparing 801 with 802; with current rate of progress 802 will not be delivered until well into 2021.**

Next fabrication milestone is 100% fabrication, which was originally planned to be achieved on 16<sup>th</sup> January 2017; **2 years overdue and not yet achieved, currently at 76% Fabrication**, new planned date 07<sup>th</sup> June 2019. In FMEL's recently published 2016 accounts, FMEL have stated "the Kaiser Principle also known as the 1/3/8 rule, states that if a task is carried out Module Hall and takes one hour, that the same task would take 3 hours on the slipway and 8 hours at the quayside". There has been no significant work carried out on 802 for over 12 months whilst in the Module Hall and the slipway.

#### Photographs

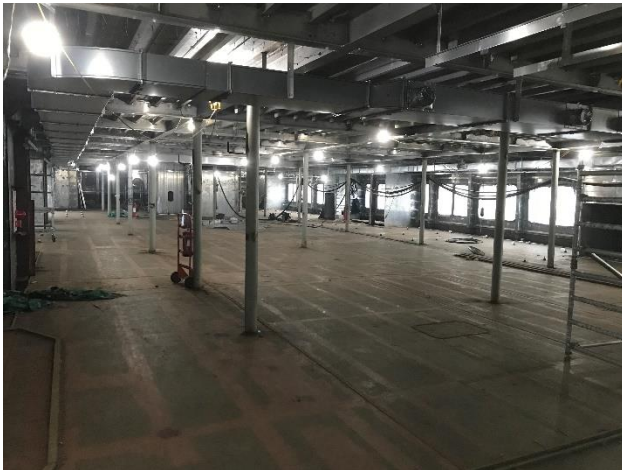
801 – At Quayside	801 – Bulbous Bow Nose
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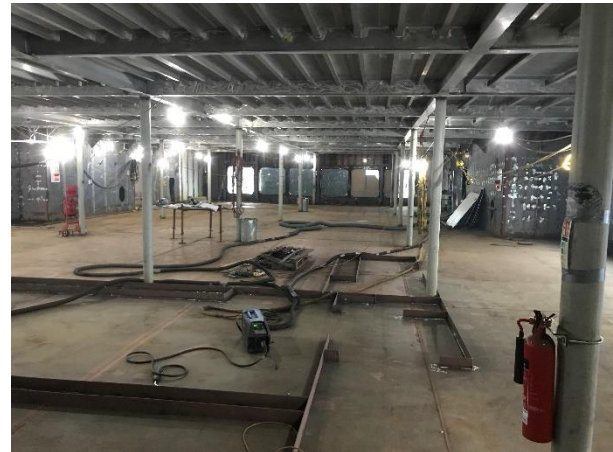
801 Passenger Lounge Forward Deck 5



801 Passenger Lounge Aft Deck 5

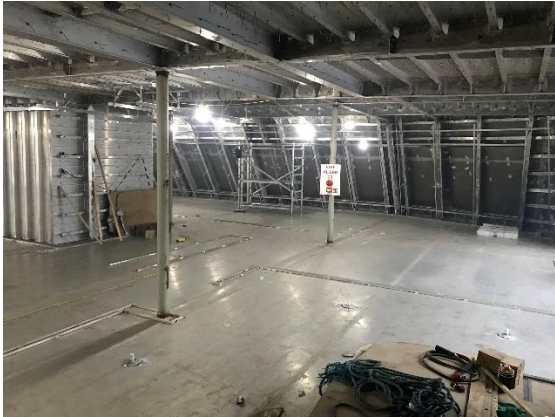


801 Passenger Observation Lounge



801 Deck 6 Crew Cabins Area





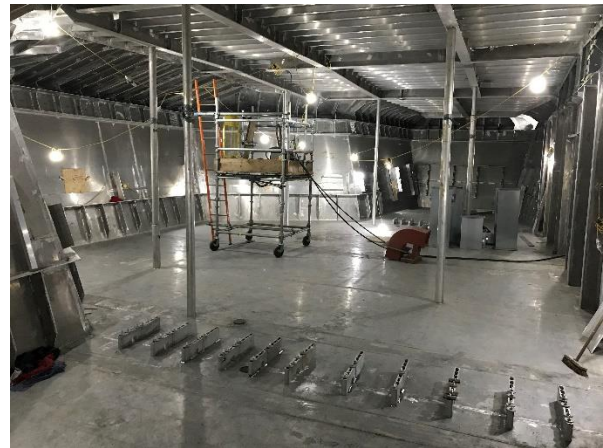
801 Deck 7 Officer's Cabins Area



801 Deck 7 Wheelhouse



801 Generator Room High Level



801 Engine Room Low Level



801 Engine Control Room



801 Engine Room High Level





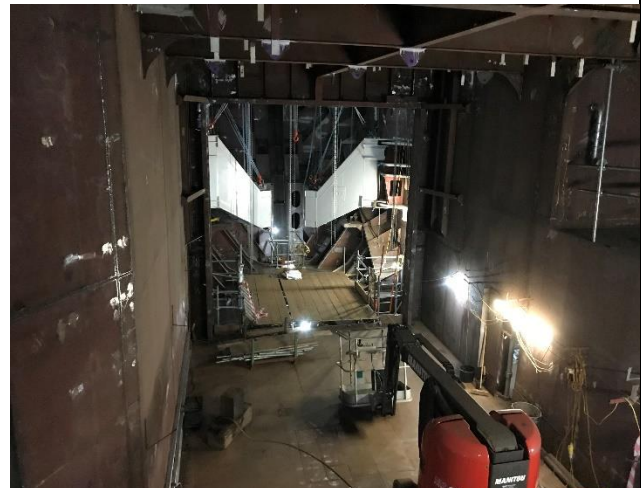
801 – Hoistable Car Decks



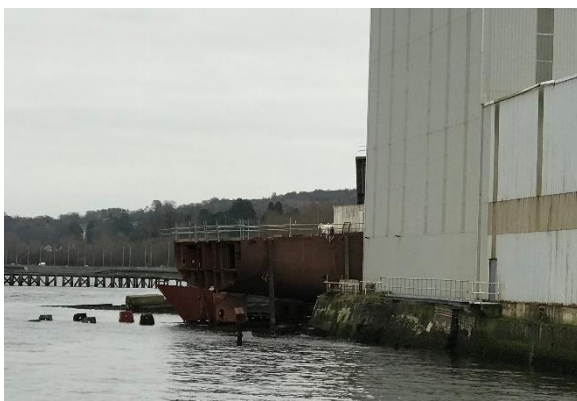
801- Vehicle Deck Looking Fwd



802 – On Slip



802 – On Slip





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801 Milestones	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	Revised Scheduled Date See Note 7	Revised Scheduled Date See Note 8	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 orig 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	All main equipment delivered.
<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				21 <sup>st</sup> March 2018	Achieved 14 months later than orig schedule Rev 01
<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				17 <sup>th</sup> Nov 2017	Achieved 8 months later than original schedule
<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			21 <sup>st</sup> Nov 2017	Achieved 21 <sup>st</sup> November 2017.
<b>Delivery</b>	25 May 2018	29 Jun 2018	25 May 2018	25 May 2018	25 <sup>th</sup> May 2018		28 <sup>th</sup> Oct 2018	21 <sup>st</sup> June 2019		New target date: 13 months later than original planned date, 44 months from contract signing

802 Milestones	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 8	Actual Date	Comments
<b>Cutting of Steel</b>	15 Dec 2015	15 Dec 2015	-						15 Dec 2015	Achieved on original scheduled date Rev 01



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<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 orig 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					15 June 2018	“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					21 March 2018	Aluminium Panels stored at Westway facility. Achieved 15 months later than originally scheduled.
<b>100% Fabrication</b>	16 Jan 2017	20 Feb 2017	20 Oct 2017	13 Oct 2017				07 June 2019		Currently 2 years weeks behind original schedule and approx. 24% behind in fabrication.
<b>Berth Join Up</b>	14 Mar 2017	05 Jan 2018	14 Dec 2017	10 Nov 2017					19 Jul 2019	
<b>Hull Inspection Prior to Paint</b>	17 Apr 2017	02 Feb 2018	24 Nov 2017	31 Oct 2017					05 Feb 2019	As is currently observed there is a real risk that this milestone will not be achieved in this financial year.
<b>Launch</b>	12 Oct 2017	20 Mar 2018	12 Jan 2018	17 Nov 2017					05 July 2019	
<b>Delivery</b>	26 Jul 2018	29 Aug 2018	26 Jul 2018	26 Jul 2018					10 March 2020	New planned date: 20 months later than original planned date, 53 months from contract signing.

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: 12th May 2017

Note 5: Emails Week 28/2017  
 Note 6: Email 04 Sep 2017  
 Note 7: Meeting FMEL 03 Nov 2017  
 Note 8: Announced by FMEL August 2018



