



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 30/5/19 to the PSG on Vessels 801 and 802:

Planning/Programme

It is impossible with the current situation to estimate the delivery dates for both ships. FMEL cannot provide updated programmes with vessel delivery dates. FMEL have advised that there are currently 312 persons employed by FMEL and 58 sub-contractors on site. With that level of resource there should be some level of progress on at least 801.

According to the latest Cardinal Date Programmes received almost one year ago on 27 June 2018. Hull 801 was due to be **delivered** in 3 weeks from date of this report and Hull 802 was due to be **launched** in 5 weeks. **Both vessels are years away from being delivered. The problem is not only of finance, the shipyard management has failed since the outset of the project and continues to fail.**

Work on both vessels has all but come to a halt, with no signs of when the projects will be adequately resourced and managed.

Personnel on 801:

- [Redacted] 9 Electricians and 6 steelworkers
- 2 Shipwrights
- 5 painters



Agenda Item 11.1 – Project Updates

Duel Fuel Vessels 1 and 2 – Progress Update



- 11 pipefitters and one apprentice
- 2 joiners
- 2 fitters
- 1 cleaner
- 4 Blue-Marine (sub-contractor outfitting)

Vessel 801, there are no more than 43 persons on the vessel.

Vessel 802; there are no more than 12 to 13 persons working on the vessel.

The majority of the FMEL workforce have been moved off projects 801 and 802 and are now allocated to other FMEL projects, our observation from our many years of experience in shipbuilding is that the Air Cushioned Barge project announced in October 2018 is behind schedule and not going well, neither are the 2 projects for the fishing vessels.

Below table shows the key dates for 801 Main Commissioning Activities, taken from the FMEL issued Cardinal Date Programme issued 27th June 2018. **None** of the activities scheduled over the last 11 months have been achieved. CMAL cannot even begin to guess when the ship will be ready to start running engines and testing systems.

801 Main Commissioning Activities				
Activity Name	Today's Date	Start Date	Finish Date	Notes
Trials & Delivery	30/05/2019	30/07/2018	28/06/2019	43 weeks overdue
Shore Supply Available	30/05/2019	30/07/2018	30/07/2018	43 weeks overdue
First Run Auxiliary Engine	30/05/2019	09/11/2018	09/11/2018	29 weeks overdue
Commission Systems	30/05/2019	09/11/2018	20/05/2019	29 weeks overdue
First Run Main Engine	30/05/2019	21/11/2018	21/11/2018	27 weeks overdue
Generator Load Test	30/05/2019	07/12/2018	24/12/2018	25 weeks overdue
PMS Set Up	30/05/2019	03/01/2019	19/01/2019	21 weeks overdue
Dock Trial	30/05/2019	13/02/2019	15/02/2019	15 weeks overdue
Dry-Dock	30/05/2019	21/02/2019	23/03/2019	14 weeks overdue
Inclining	30/05/2019	24/03/2019	26/03/2019	10 weeks overdue
Builders Sea Trials	30/05/2019	27/04/2019	02/05/2019	5 weeks overdue
Owners Sea Trials	30/05/2019	04/05/2019	09/05/2019	4 weeks overdue
LNG Tank Commissioning	30/05/2019	09/05/2019	20/05/2019	3 weeks overdue
LNG Bunkering	30/05/2019	27/05/2019	06/06/2019	
LNG Dock Trial	30/05/2019	08/06/2019	09/06/2019	
LNG Sea Trials	30/05/2019	11/06/2019	14/06/2019	
Delivery	30/05/2019	05/07/2019	21/06/2019	Delivery scheduled to be achieved in 3 weeks from date of this meeting

CMAL Estimated Percentage Piping Completions on 801

Pipe System	Percentage Complete
Starting Air Machinery Spaces ER and Gen room	0%



Agenda Item 11.1 – Project Updates

Duel Fuel Vessels 1 and 2 – Progress Update



Pipe System	Percentage Complete
Compressed Air and Service Air Machinery Spaces and Accommodation	0%
Water Mist Accommodation	4%
Total ships hydraulic system miscellaneous except Ro-Ro	40% However, nothing linked to the main Power Packs and no piping fitted above deck 5
Ro-Ro Hydraulics	0%
Scuppers and Overboard Discharges	15% Most of this fitted before launch in November 2017
Sanitary Grey Water	8%
Sanitary Black Water	5%
Fire and Wash Deck:	15% Nothing fitted above Mezzanine Deck Level
FW Cooling System:	35% Nothing completed and constantly being modified
Domestic FW hot and cold:	0%
Technical Dom FW	5% Only inside machinery rooms nothing fitted above deck 3
Chilled Water System	0%

Estimated Percentage Electrical Cabling Completions

CMAL estimate that no more 25% of the electrical cables have been installed on 801 (Note this % is for cables installed, about 5% terminated). No cables have been installed on 802.

Steelwork still complete 801

It is not only the outfitting, pipework, electrical, commissioning activities and issue of drawings which still have months and months of work, below is a list of major steelwork items still to be completed on 801:

- Completion of all outstanding steelwork surveys from deck 3 to deck 5 inside compartments from Longitudinal Bhd. at 6675 off CL to side shell Port and Starboard.
- Over 200 additional compensation spigots for excessively large penetrations through deck 5 frames and longitudinal members where cut out for piping.
- Completion of all external hull fairing and various butt joints and seams, none of which was completed before launching from fender bar at 5950 AB to deck 5 completely around the vessel.
- Completion of all mooring deck structure: Forecastle, Aft Port and Starboard and all Gun-port mooring areas Increased scantlings and additional stiffening.
- Aft ramp structure completion and all relevant hydraulic piping and supports.
- Fwd. Bow door Hinges and related stools and structure including a full survey of all structural items and connections to Unit numbers 49, 50 and 51 none of which were completed before launching. All relevant hydraulic piping and supports along with completion of the Clam Shell doors and Internal Ramps.
- Completion of all remaining survey work aluminium areas decks 6 to 8 full length of the ship approximately 25% still to complete.
- Completion of the entire Bridge and Wheelhouse area. The structural drawings for the required modifications have not been issued.
- Completion of Design, Fabrication, Welding and fitting of both the Fwd. and Aft mast structure with any relevant additional stiffening for the wheelhouse top and emergency generator room area.

Hull 801, it would take an organised and properly resourced shipyard 12 months to complete 801. There are other risks which could result in further delays; such as design and installation issues and the time required to commission all the equipment/systems in the vessels, particularly given that the majority of the equipment in



Agenda Item 11.1 – Project Updates

Duel Fuel Vessels 1 and 2 – Progress Update



the vessels by the time of commissioning will have been delivered to the shipyard several years ago sitting idle for so long. Equipment damage is already being experienced.

Hull 802, it would take an organised and properly resourced shipyard 21 months to complete the vessel in its current condition. Dependent on risks as for 801 above and lessons learned from 801.

FMEL have advised that 78% of the detail and production drawings are complete, as such 22% of the detail and production drawings are not yet completed; over 43 months from contract signing. Very few new or updated drawings are being issued by FMEL to CMAL.

Since the start of the project for the 2 vessels; FMEL have failed to assign the correct resources and the adequate number of resources in accordance with their original and revised plans. From the start of the design phase and the start of the fabrication phase there has not been sufficient numbers of people employed or plans. CMAL advised FMEL of the lack of resources and strategy early in the project. In addition to this, productivity levels are extremely low and the extent of re-work on the vessel is considerable. FMEL in our opinion, do not have the know-how and management team to get the project on any kind of track.

Photographs

CMAL have been unable to take any photographs recently as FMEL have introduced a policy for taking photographs on site and CMAL await an approval letter from FMEL to take photographs.



Agenda Item 11.1 – Project Updates

Duel Fuel Vessels 1 and 2 – Progress Update



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
Cutting of Steel	15 Dec 2015	15 Dec 2015	-						15 Dec 2015	Achieved on original scheduled date Rev 01
10% Fabrication	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
25% Fabrication	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
35% Fabrication	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
50% Fabrication	14 Oct 2016	14 Oct 2016							09 Dec 2016	Achieved 2 months later than original and revised schedules
Major Equipment and Lock Out Items Installations	14 Nov 2016	13 Mar 2017 to 18 Jan 2018	-	14 th June 2017	16 th July 2017				16 th July 2017	All main equipment delivered.
75% Fabrication	15 Dec 2016	15 Dec 2016	10 Feb 2017						31 st March 2017	Achieved 3 and a half months later than originally scheduled.
100% Fabrication	16 Jan 2017	16 Jan 2017	16 June 2017	10 th July 2017	15 th Sep 2017				21 st March 2018	Achieved 14 months later than orig schedule Rev 01
Berth Join Up	14 Mar 2017	28 Apr 2017	14 Jul 2017	15 th Aug 2017	06 th Oct 2017				17 th Nov 2017	Achieved 8 months later than original schedule
Hull Inspection Prior to Paint	17 Apr 2017	26 May 2017	21 Apr 2017	24 th July 2017	tba				18 th Aug 2017	Partial area inspected only.
Launch	14 Aug 2017	24 Aug 2017	24 Aug 2017	24 Aug 2017	21 st Sep 2017	21 st Nov 2017			21 st Nov 2017	Achieved 21 st November 2017.
Delivery	25 May 2018	29 Jun 2018	25 May 2018	25 May 2018	25 th May 2018		28 th Oct 2018	21 st June 2019		

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
Cutting of Steel	15 Dec 2015	15 Dec 2015	-						15 Dec 2015	Achieved on original scheduled date Rev 01



Agenda Item 11.1 – Project Updates

Duel Fuel Vessels 1 and 2 – Progress Update



10% Fabrication	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
25% Fabrication	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
35% Fabrication	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
50% Fabrication	14 Oct 2016	18 Nov 2016	20 Jan 2017						13 Jan 2017	Achieved 3 months later than original schedule Rev 01
Major Equipment and Lock Out Items Installations	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.
75% Fabrication	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.
100% Fabrication	16 Jan 2017	20 Feb 2017	20 Oct 2017	13 Oct 2017				07 June 2019		Currently 28 and a half months behind original schedule and approx. 21% behind in fabrication.
Berth Join Up	14 Mar 2017	05 Jan 2018	14 Dec 2017	10 Nov 2017				19 Jul 2019		Currently 26 and a half months behind original schedule
Hull Inspection Prior to Paint	17 Apr 2017	02 Feb 2018	24 Nov 2017	31 Oct 2017				05 Feb 2019		
Launch	12 Oct 2017	20 Mar 2018	12 Jan 2018	17 Nov 2017				05 July 2019		
Delivery	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

