



Agenda Item 9 – Project Updates

Duel Fuel Vessels 1 and 2 – Progress Update



Planning/Programme

- Weather disruption. FMEL have advised that they would like to claim Force Majeure days for the recent weather event. Claim awaited.
- The production labour resource increased by 40 to 50 people w/c Monday 12 March 2018. Notwithstanding this increase in resource; FMEL lack resource in all areas; management/supervision, technical and production.
- Progress Hull 801: 4 months on from the launch, progress has been slow on the vessel. 100% Fabrication milestone certificate will be signed 21 March 2018. Original date for 100% fabrication 16 January 2017, achieved 14 months later than originally scheduled.
- Progress Hull 802: Expected to achieve close to the 70% mark this week including aluminium panels stored of site at Westway facility. Hull 802 is now being joined up on the slipway, the approach to this vessel recently is much more in line with logical ship building practice. The shipyard is no longer forsaking good shipbuilding methods in order to achieve “fabrication” milestones for payment. With this improved build method, the 75% fabrication milestone certificate will be signed 21 March 2018, although the actual % will be closer to 70%. Original date for 75% fabrication 16th December 2016.
- Progress Hull 802: Next milestone 100% Fabrication. Original date for 100% Fabrication 16 January 2017, currently 14 months behind original schedule and approx. 30% behind in fabrication.
- Delivery Hull 801: FMEL have verbally advised CMAL of a delivery period (no date) for 801: Winter 2018/2019, the winter timetable runs to end of March. CMAL’s opinion, given the under resourcing, processes and QM systems is that it will take at least 12-15 months to deliver 801. This assumes an improvement in all aspects of the build and that there will be no hiccups when FMEL reach the commissioning stage. Also following handover to CMAL, CFL require 8 weeks for LNG certification, another 2 months to add.
- Delivery - Hull 802: FMEL are to advise the new date for delivery. given current progress, guesstimate for delivery of 802 is end Dec 2019.
- CMAL ask FMEL frequently for programmes for both vessels, FMEL are still not issuing any programmes or having discussion with CMAL on programmes. Still no delivery date for 802.

Manoeuvring Simulation

Further manoeuvring simulation trials were carried out at the City of Glasgow College facility on Monday 05th March (evening) and Tuesday 06th March 2018 (day).

Simulations exercises carried out:

- Test the modification to the ship model for the astern running operation.
- Simulations of Vessel arriving/departing at Ardrossan with existing quay/linkspan layout, in various wind and sea conditions.
- Simulations of Vessel arriving/departing at Ardrossan with modified quay/linkspan layout (option 2 layout), in various wind and sea conditions.
- Simulations of Vessel arriving/departing at Ardrossan with modified quay/linkspan layout (option 2a layout), in various wind and sea conditions.

The simulation exercise to test the modification to astern running operation showed a big improvement to the previous ship model. With this we proceeded to the simulation exercises for the vessel arriving/departing at the existing Ardrossan quay and with options 2 and 2A.

The simulation exercises show for options 2 and 2A, that the modified layouts (i.e. increased turning area) give the Master more space to manoeuvre the vessel and time to think and react, with the added benefit of increasing the length of quay for vessel mooring.

We have reached the stage where the model has been developed as far as is possible. CFL are preparing a report on the simulations carried out.

Passenger Numbers/Accessibility

For a vessel required to carry 1000 passengers, accessibility for wheelchair users throughout the passenger accommodation (including the external areas on Deck 6 and 7) is very tight, CMAL have produced a drawing which we have shared with CFL, showing the challenging areas. Consideration to be given to reducing the passenger numbers from 1000 to provide reasonable accessibility; by removing internal and external seats.

Photographs

802 on Slipway



802 Welding



801 Bulbous Bow Nose



802 Tank Top





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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	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	Not all major equipment has been delivered/installed: Electrical Switchboards, Propellers/Shaft lines/, RoRo Equipment still to be installed.
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	The status of the drawings, outfitting and installation several months behind schedule.
Delivery	25 May 2018	29 Jun 2018	25 May 2018	25 May 2018	25 th May 2018		28 th Oct 2018		

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



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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					“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	At 21 st March 2018, Approx 70% Fabricated including 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					Currently 14 months behind orig schedule and approx. 30% behind in fabrication.
Berth Join Up	14 Mar 2017	05 Jan 2018	14 Dec 2017	10 Nov 2017					FMEL to advise new date.
Hull Inspection Prior to Paint	17 Apr 2017	02 Feb 2018	24 Nov 2017	31 Oct 2017					FMEL to advise new date.
Launch	12 Oct 2017	20 Mar 2018	12 Jan 2018	17 Nov 2017					FMEL to advise new date.
Delivery	26 Jul 2018	29 Aug 2018	26 Jul 2018	26 Jul 2018					FMEL to advise new date

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