

Glen Sannox & Hull 802 Monthly Report – [February/March 2023]

1.0 General

Executive Summary

This assessment of the overall progress for each vessel is made against the programme dates set out within the FMPG letter to the NZET committee on the 16th of March 2023, informing of request from FMPG to Scottish Ministers to extend the delivery dates for the two ships to no later than the end of 2023 and end of 2024 respectively, with best endeavours to deliver earlier – Glen Sannox as soon as possible in the Autumn of 2023 and Hull 802 before late Summer 2024.

Re-baselined Level 1 programme issued by the shipyard for Glen Sannox/801, vessel delivery December 2023.

With the new programme dates the key challenges frequently reported in previous update reports have been reset as they have been considered by the yard in the new programme for 801. This reset will be closely monitored, with report on the schedule provided as normal in next month's update report.

801 Key Shipyard Risks:

[REDACTED]

The yard have advised that cable installation is now on track, glanding and testing of cables behind schedule. This reset will be closely monitored, with report on the schedule provided as normal in next month's update report.

The shipyard have provided an update (31 March 2023) on the status of OORs. At the time of writing this is still to be reviewed. An update will be given in the next update report. The number of general snagging items is also increasing, without action, well over 100 snagging items raised at this stage, in general these are relating to minor not major issues and will be addressed as normally would within a build contract of this nature, with CMAL vetting prior to issuing to the Shipyard.

Level 0 programme issued by the shipyard for 802, vessel delivery August 2023.

802 Key Shipyard Risks:

1. Dependency of the plan on the progress on 801 and available resources
2. The level 0 programme; with vessel delivery August 2024, 17 months from now is comparable with established commercial shipyard norms. Risk that this will not be realised.

The main themes for Glen Sannox (Hull 801) continue with the main drive for work onboard remains being both the hotwork completion and main equipment commissioning. items is also increasing, without action, well over 100 snagging items raised at this stage.

A successful dry dock was carried out for Glen Sannox late Feb/Early March 2023. The propeller shafts were replaced with the shafts from 802 (due to time constraints during the dry dock period to overhaul the shafts on Glen Sannox). 801s shafts will be overhauled and installed on 802.

Commissioning on Glen Sannox continues. Engineers from the suppliers of the propulsion machinery equipment are on site carrying out pre-commissioning checks on Main Engines, Auxiliary Engines/Generators, Shaft Alternators/Motors, Gearboxes, Propellers and Thrusters, this work is progressing well.

Harbour Generator and 2 x Auxiliary Generators were load tested w/c 20 March 2023. This major event was achieved later than previously planned; the previous target was to commission said equipment/systems before end 2022. The slippage in general as a result of additional modification works associated with failure in engineering and installation of pipework, only evident as commissioning is progressed. An updated commissioning plan was due to be issued in the new year, this will now be provided when the new 801 plan is issued. See also main body of this report for commissioning update.

Endurance trials will be carried out at Sea during Sea Trials to test the Engines and Propulsion Machinery performance at the machinery's maximum continuous rating (MCR).

FMPG are still to demonstrate the engine overhaul arrangements, this requires to be carried out as a priority.

Owners Observation Reports 801

The information below has been updated in conjunction with FMPG to reflect the joint review conducted during this reporting period. Significant efforts have been made to ensure that the scope of all issues, as well as the cost of implementation and the impact on the programme are fully understood.

The technical fix for the OORs has been the focus of the last month with the majority of the OORs moving from the ownership of the design department out to operations to be completed at ship.

CMAL Top Priority OOR's	Cat 1	Cat 2	Cat 3	Overall
Committed	4	1	0	5
Close when work complete	5	1	0	6
Still to resolve	1	0	1	2
CMAL Priority OOR's Totals	10	2	1	13

All other OOR's	Cat 1	Cat 2	Cat 3	Overall
Total Committed	17	6	0	23
Close when work complete	19	8	1	28
Still to resolve	0	3	0	3
All other OOR's Totals	36	17	1	54

Totals	46	19	2	67
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Reference – Updated ORR Summary by Yard Wk11 2023

Cat 1 - Items, which relate to Safety, Quality, Maintainability and Specification requirements.

Cat 2 – Item, which relate to poor design, quality or production.

Cat 3 – General snagging and workmanship.

In addition to the OOR list, there is an FMPG “snagging list” to record remarks. The number of remarks is increasing each week.

2.0 Changes to Site Supervision Team

The core head count remains the same.

3.0 Design Changes Approved

Ongoing legacy issues are still affecting the constructability of the vessels. CMAL are daily assisting FMPG with these legacy issues. Assistance is also being given to Fergusons in meeting criteria to gain approval from class and MCA. Closure of final design gaps is needed, which at this late stage of the project remains a significant risk to the project.

4.0 Agreed Changes to Delivery Date

Updated programme delivery dates are set out in section eight below.

5.0 Agreed Changes to Price

(Note of changes; changes to be authorised & recorded in Contract Variation Register)

6.0 Changes Awaiting the Owner's Approval

(Note of changes outstanding for approval by the Owner in excess of Buyer's Representative authority as stated in Consultancy Agreement Cl. 3.4)

7.0 Surveys / Inspections

Verification surveys of the as-built standard are listed below.

	Week 05	
112	801 Pressure test of Tk 18 Sludge Tk (Gen-rm Fwd)	
113	801 Pressure test of Watertight door system piping (part) Aft LNG to St/Gear door	
114	801 Survey of Port side FO main lines chem/cleaning and flushing completed (Fuel now in lines)	
115	801 Paint survey of AMS voids	
116	801 Void 37 pre-staging removal survey to highlight outstanding works to complete by all departments.	
117	801 Hydro-test of LO Tk 10 Eng. W/shop (cancelled) expect Wk06	
	Week 06	
118	801 05dk Fwd area Fire insulation survey with MCA in attendance.	
119	801 Chem-cleaning/heating of FO lines temperature now reached with [REDACTED] accepted.	
120	801 Outstanding 03/04dk recesses structural surveys with [REDACTED]	
121	801 Hydro-test of LO Tk 10 Eng. W/shop (cancelled) expect Wk06	
122	801 Pressure test of Port Side FO lines from Stbd-rm to Gen-rm after Chem/cleaning with [REDACTED]	
123	801 Stbd FO Chem/cleaning was set up quickly set up after pressure test and Friday pm results accepted by [REDACTED] and [REDACTED] will do random c	
124	802 Part Survey Ally unit 10/7 lower void only in Mod Hall.	
125	802 Part survey of recently coated foundation seats that will allow fitting of equipment.	
	Week 07	
126	801 Part survey of P&S Chain lockers high level complete to allow staging to be removed and coating to continue at lower levels.	
127	801 Water Ballast Tk No 4 P&S DFT paint checks completed (Ballast suction pipes to complete)	
128	801 P&S Aux-Gens Alarms and Shutdowns witnessed by [REDACTED] and ourselves (Thurs/Friday)	
129	801 Recesses 4-7 & 46 structural checks complete.	
130	801 Lower area and under plates paint survey completed.	
131	802 Bottom shed Ally Units A8/7 completed with [REDACTED] and ourselves.	
	Week 08	
132	801 05dk Fwd area Fire insulation survey with MCA in attendance complete however we are still plagued but cut-outs and the susequant ong	
133	802 P&S Chain lockers final survey	
134	801 Water Ballast Tk No 4 P&S DFT paint checks completed (Ballast suction pipes to complete)	
135	802 Bottom shed Ally Units A10/7 completed with [REDACTED] and ourselves.	

Reference – Updated CMAL Surveys by week number.

8.0 Progress Against Programme

Glen Sannox

Re-baselined Level 1 programme issued by the shipyard for 801, vessel delivery December 2023.

Hull 801 Pipe Spool Installation

Installation of pipework spools is still very sporadic with very good and very poor weeks all within the same reporting month. FMPG and their subcontractor's pipe fitting rate is down in general due to rework on systems previously fitted. Attributed to the necessary alterations to previous systems to allow commissioning to take place. In line with the update provided on the 22nd of December from the yard the pipe installation was due to be completed week 8, however this target has been missed by some 200 spools still to go. We have highlighted our concern to the Ferguson management team and have been reassured that the new plan will take into consideration a more realistic timeline for pipe installation. As reported last month we have still not received an update as to the numbers involved and systems considered as site-run.

Week Number	Spools Fitted	Spools Fitted Running Total
2301	0	10629
2302	44	10673
2303	35	10708
2304	70	10778
2305	108	10886

2306	86	10973
2307	41	11013
2308	12	11025
2310	39	11064
2311	105	11219

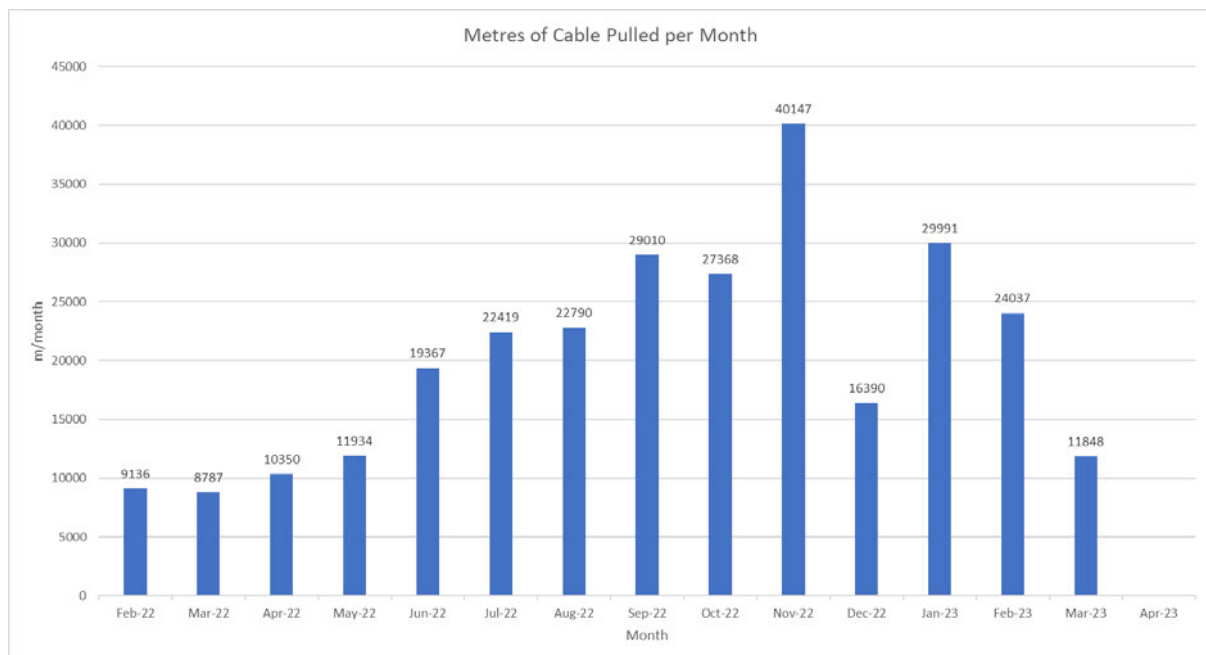
Reference – Wk11/23 update on CMALs records.

Hull 801 Electrical Works

Cable pulling has continued throughout the vessel in both the machinery and passenger accommodation areas. Workmanship, quality, supervision and productivity of the electrical installation needs to increase and improve. As reported last month the cable schedule sits just shy of 300,000m of cable. In line with the new yard overall plan to completion we are expecting to see some detail behind how the electrical package will be executed in line with revised planning dates.

Testing of cables is behind schedule, with the norm of only 1.5% testing per week. If the same trend continues, this will lead to planning challenges.

We have also highlighted serious concerns that the packing/sealing of the many deck and bulkhead cable glands on the ship is not being addressed. The focus is on pulling, testing and terminating cables. The packing/sealing of bulkhead and deck glands to make the compartments on the ship watertight is being pushed down the order of priority, which is not good ship building practice. In areas the glands are overpopulated with cables and inaccessible due to the stage of outfitting in other areas. The work to address this will be very time consuming.



Reference – Wk11/23 update on CMALs records.

Hull 801 Clam Shell Doors

Work on the bow doors is nearing completion. An excellent spell of two weeks was had at drydock with only a few minor parts to finish. After this is completed, the doors will be tested by means of a chalk test then a hose test. After that the yard will commence with the installation of the inner door and the bow ramp.

Hull 801 Lifts install

The Lift contractor arrived in early November and commenced with lift install. Commencing with the forward access passenger lift then moving onto the passenger lifts throughout the ship. The latest programme shows all lifts installed by week 13, 2023. However, this does not include the commissioning nor setting to work. We have asked Ferguson to clarify when this will be completed.

Hull 801 LNG System

LNG pipework has not yet recommenced since the contractor left the yard on the 16/12/2022.

Hull 801/802 LNG Bunkering

There are two (2) locations on the vessels for bunkering LNG: one port and one stbd. After agreeance with CalMac, the stbd side bunker was removed as the vessel will only ever be bunkered to port when at Troon or Ardrossan.

Meeting held 30 March 2023, between Senior Managers from Transport SCAD, Scotland, CalMac, CMAL and Fergusons on the first fill bunker and commissioning of the system.

Hull 801 Commissioning

- Anchor Windlass set to work.
- Aft Capstans operational.
- Propulsion Gearboxes flushed.
- First run of Auxiliary Engines
- First run of Main Engines.
- 90% of Main Engine and Auxiliary Generator alarms signed off.
- Aux Generators safety shutdowns demonstrated to CMAL^[REDACTED]
- Main Engines safety shutdowns demonstrated to CMAL^[REDACTED]
- Harbour Generator load tested.
- Auxiliary Generators load tested
- Main Engines started.
- Propellers clutched in.
- First run of Propulsion Motors
- First run of Shaft Generators.
- First run of Bow and Stern Thrusters

For next month (April) the target is the following.

- Propulsion motors to be demonstrated.
- Shaft Generators to be load tested.
- Propellers to be demonstrate.
- Set up of Power Management System.
- Complete initial Nav & Comms commissioning.
- Paralleling of Auxiliary Generators

Hull 801 - Accommodation Outfitting

- 07dk cabins carpets fitted with furniture now being installed.
- Wheelhouse ceiling perimeter now commenced.
- 06dk cabins above ceiling inspection underway. Looking to close out in the coming week or two.
- 06dk bhd linings complete barring fwd observation windows.
- 05dk bhd linings nearing completion.
- Galley fit out nearing completion.
- Patient transfer room outfit has now commenced.

Hull 801 HVAC Installation

Contractor performing in line with current outfit demands, the standard of installation remains satisfactory. Issues with sequencing and finishing details occurring due to lack of information. Below 3 deck works now await further outfitting and commissioning of major machinery before HVAC can be installed and completed. Outstanding HVAC control panels and AHU plants have been delivered with all now installed in their final position onboard.

Hull 802

802 Level 0 Programme	Ship Construction																								Ship Delivery into Service				
	2022												2023												2024				
	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May		
Engineering/Design	[REDACTED]																												
Workpack Release																													
Structure (Unit Construction)																													
Structure (Unit Erection)																													
Structure (Unit Consolidation)																													
Hotwork Installation																													
Clam Shell Doors/Ramps																													
Mezzanine Decks																													
Pipe Manufacture																													
Pipework Installation																													
HVAC																													
Electrical Installation																													
Outfit																													
Launch Prep & Launch																													
Commissioning																													
Dry Dock																													
Sea Trial																													
Snagging/ Delivery/ In Service																													

Reference - October 2022 FMPG Project Report. (Confirmed launch date still under review)

Project 802 is making limited progress against the dates given in the level 0 plan. Main sub-contractors are yet to commence work on hull 802. There remains no visibility of main contracts for Electrical systems being awarded with limited pipework allocation in machinery

spaces. The yards focus remains committed on project 801. There is a lack of available labour across all trade groups for 802, dates shown above will need to be revised.

In line with an expected update from the FM board, the programme for 802 is currently under ongoing review to align with proposed new launch date and allocation of labour.

Hull 802 Block Fabrication and Erection

- Unit fabrication nearing completion. The same update as last month with only the Wheelhouse (A10/7) and masts still to complete.
- 06dk units all now onboard. Consolidation catching up due to increased labour
- 07dk units completed except wheelhouse. Only unit A4/7 [REDACTED] unit onboard.

Hull 802 Works

- Limited outfit of machinery foundations are being installed in the AMS and generator room.
- Limited paint work continues in varied spaces below 03dk.

9.0 Next Stage Payment Due

N/A

10.0 Forthcoming Period Events

N/A

Hull 802

- N/A

11.0 Risk Register Update

February monthly risk meeting cancelled due to clash with scheduled undocking of the Sannox at drydock.

12.0 Safety & Environmental

No issue to report this period.

Print Name [REDACTED]
[REDACTED]

Signature:

Date: [05 April 2023]