

Glen Sannox & 802 Monthly Report – [April/May 2022]

1.0 General

Executive Summary

The hands-on approach now in place under the direction of the new management team is moving the shipyard in a better direction. Commissioning and architectural outfitting programmes are now being developed by the yard, set against realistic task durations, interdependencies, and achievable completion dates. There are signs in certain disciplines and areas that the shipyard are improving performance.

Production output continues to ramp up in all areas where available work interfaces exist. Third-party contractors are no longer instructed to install systems wherever they can. Instead, installation is now in line with the relevant coordination drawings for each area. Construction standards that satisfy the building specifications are slowly being resurrected. System completion for critical unfinished works such as the reinstallation of legacy cables and technical query driven missing pipe spool installations has been the subject of detailed review to ensure that installation will be performed once and in a sequence that supports the overall commissioning programme. Background works needing completion in support of commissioning works present a significant challenge as the previous management approach failed to identify and expedite late design issues together with late material and or missing equipment procurement. Identifying such issues has been a primary task of the revised approach to completing both vessels.

A major milestone in the setting to work of any marine project puts heavy emphasis upon energising the main switchboard and subsequently powering up the vessels' electrical distribution. Considerable progress has been made over this reporting period in the initial testing and verification of each of the principal switchboards by the equipment manufacturer. Early indications are that despite the lengthy period since the equipment's initial installation, onboard preservation procedures have maintained the equipment as serviceable.

The remaining pipe spools need to complete the main systems needed for the start-up of the main and auxiliary engines are now the subject of intense focus to meet the below deadlines. Completion dates of the first system (main sea water cooling system) has been met in line with the revised schedule, pressure testing is scheduled to take place during week 26. Design, procurement, production and third-party installation contractor have all confirmed the validity of the revised dates to complete the remaining ten systems.

Pre-commission works that fall outside of background outfitting have progressed in line with the revised Level 0 programme. The 415-volt, emergency and 240-volt switchboards have all been successful tested as far as they can be at this stage. Pre commissioning is ongoing for the 690-volt board which is scheduled to complete on the 26th of May 2022. Cable pulling to reinstate the recently removed 27km of legacy cables in the main and auxiliary machinery spaces has restarted with the identification priority cables on Monday 23rd May 2022, the work is expected to complete on or around week 25, three weeks before the vessel proceeds to her summer drydock.

The shipyard reaffirmed its intention to deliver a fully compliant vessel (801) that meets the intent of the building specification and that it intends to close all outstanding owners' observation issues and technical design office queries despite the earlier position that some would remain open. However, given the time constraints demanded by the completion

schedule, all parties should expect protracted discussions to expedite mutually agreeable solutions on a case-by-case basis.

Background outfitting in support of architectural outfit is progressing in line with the revised programme, electrical cable and piping systems have now largely been completed in deck 7 crew accommodation. Installation of the architectural vertical wall panelling is scheduled to commence in Q3.

The critical processes required to deliver a statutory-compliant and sufficiently mature construction design freeze is long overdue and remains to be achieved. Production output must be allowed to progress unhindered and the constant need for rework eliminated. A better understanding of the complex problems faced by the Yard design authority is now jointly shared through the recent triparty meeting held 05 May 2022. Where the principal external design contractor confirmed that their contracted work scope was never to totally remodel existing pipe runs or produce statutory compliant design details. This work scope limitation placed the onus on the Yard's design team to finally deliver key elements through their internal design approval process which in many cases was not suitably discharged.

The process of delivering a statutory-compliant and sufficiently mature construction design freeze has been long overdue and is still ongoing. Production output must be unhindered, and the constant need for rework must be eliminated. To reduce ongoing risk, detailed discussions are ongoing with the Yards' third-party design contractor.

Delivery Dates

801: Between March and May 2023

802: Between October and December 2023

Key Challenges for the Shipyard

Key known Challenges for the shipyard to meet the programme:

- Installation and termination of the ship's cables.
- Completion of pipework to meet commissioning dates, including addressing pipe clashes
- Close out of OORs
- Delivery and completion of production drawings and accuracy of production drawings
- Availability of experienced supervisors.
- Shortage of experience trades
- Availability of materials
- Lack of familiarity with final stages of finishing the vessels, surveys, documentation, certification

Yard Supervision

The current transition period has seen the introduction of changes to the onboard management (supervisors) responsible for the work to complete outstanding hot works on board Glen Sannox. A number of workers have also been redeployed from hull 801 to hull 802 to better distribute relevant worker skill sets.

2.0 Changes to Site Supervision Team

There are no planned changes to the previously advised staffing levels.

3.0 Design Changes Approved

Ongoing design changes affecting the constructability of the vessels design are driven exclusively within the Shipyard process. All are related to outstanding technical queries, previously unidentified works. Concerns that the vessel construction design is not frozen at this late stage of the project is a significant risk to the project.

4.0 Agreed Changes to Delivery Date

Updated programme delivery dates are set out in section one above.

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. Too few call outs are currently made at this late stage of either project. Many call outs are rejected because the work is incomplete:

No	Survey/Inspection	Comments
1.	Inspect and pressure test emergency alternator fuel tank	Work not complete
2.	Deck 6 area main ladder-rack installation	call rejected as work not complete.
3.	CSD Butchers' block welding and MPI	Accepted
4.	Emergency generator space out board bulkhead behind switchboard	Accepted
5.	Deck 7 instrument room pre-insulation inspection carried out	Work not complete
6.	Deck 6 Fire locker external bulkheads pre insulation inspection	Work not complete
7.	Deck 7 Crew cabin insulation repairs inspected port and starboard	Accepted
8.	Electrical Inspection of ceiling main containment installation in ECR	Accepted
9.	Emergency generator space part survey behind Emergency Switchboard	Accepted
10.	Deck 7 P&S areas including part survey of instrument room by MCA	Rejected
11.	Deck 7 Crew cabins insulation repairs inspected port and starboard	Accepted
12.	Main Ladder-Rack containment installation in steering gear area	Accepted
13.	Deck 7 Weather tight doors hose tested	Accepted
14.	Emergency Generator fuel storage tank pressure test	Not ready
15.	Ongoing structural fire protection callouts on deck 7	Accepted
16.	Electrical containment inspection on decks 5, 6 and 7	Accepted
17.	Emergency Generator space outboard bulkhead pre insulation	Accepted

No	Survey/Inspection	Comments
18.	Deck 7 Instrument room pre insulation inspection carried out	Accepted
19.	Deck 7 Server room forward outboard bulkhead pre insulation	Accepted
20.	Deck 6 Linen locker pre insulation inspection	Accepted
21.	Deck 6 Fire locker external bulkheads pre insulation inspection	Accepted
22.	Deck 7 Crew cabins insulation repairs inspected P&S	Accepted
23.	Decks 5, 6 & 7, cabling and main containment installation	Accepted
24.	Emergency generator silencer insulation	Accepted

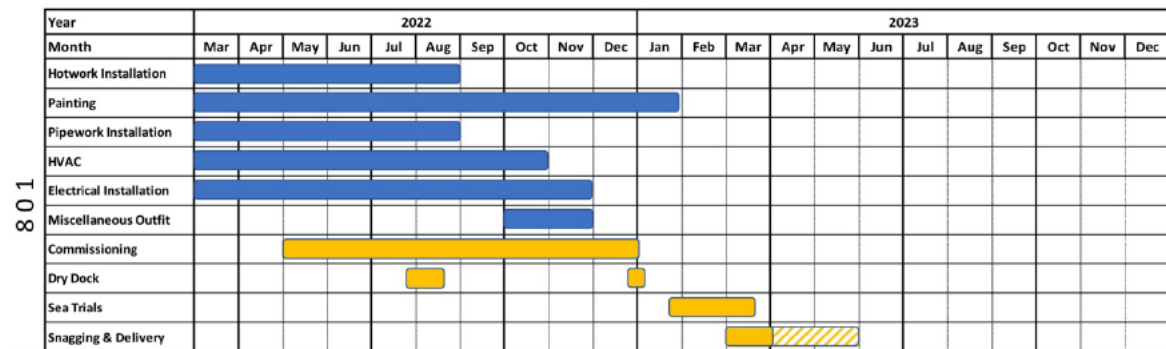
8.0 Progress Against Programme – Glen Sannox & Hull 802

CD Programme



Level 0 - Programme

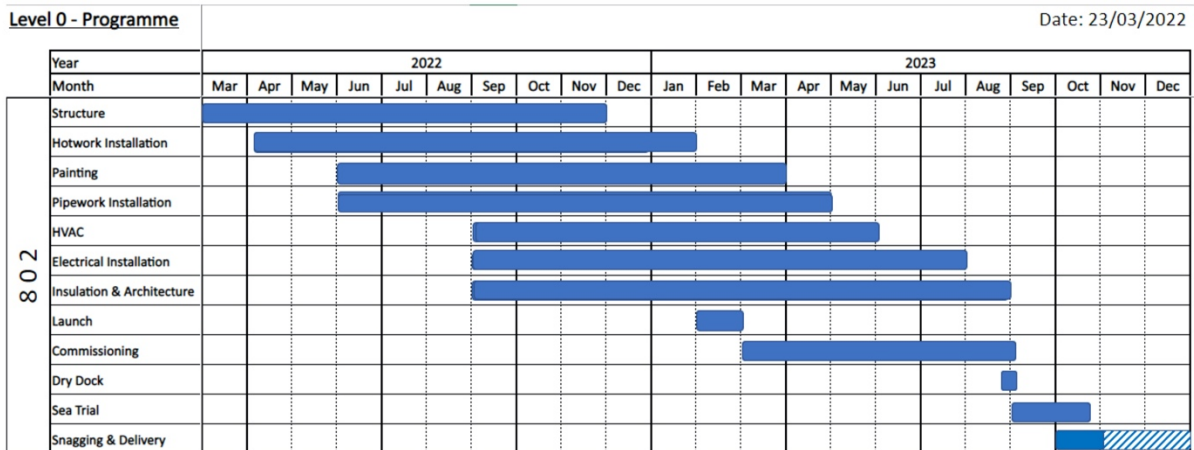
Date: 23/03/2022



Reference - March 2022 FMPG Project Report

Progress Against Programme - 802

802 Cardinal Date Programme



Reference - March 2022 FMPG Project Report

Owners Observation Reports

OOR status

	All categories	Category 1	Category 2	Category 3
Total Raised	604	366	228	10
Total Closed	416	248	169	0
Total committed	41	32	9	0
Total to close when work complete	76	50	21	5
Total still to resolve	71	36	30	5

Category 1 - Must be done before handover

Category 2 - General / Specification Issues to be done - may carry over to warranty period

Category 3 - Snagging

Reference - May 2022 FMPG Shared email detail

The emphasis on managing CMAL comments (OORs) now includes senior yard management decisional input. This has resulted in a timelier approach to resolving long-standing issues. As a result of increased visibility in the change request process identified against open OORs, a joint detailed review is now underway. There is no indication at this point in the delivery programme that mutually agreed-upon solutions cannot be reached by all stakeholders.

Inspection Call Outs

The frequency with which inspections are called are made to verify completed production works, remains concerningly low. This should be seen as a significant KPI and now as a potential risk that flags the volume of work that has still to be completed. The majority of inspections calls made this period are against first fix background outfitting installation for

cable containment and Class/thermal insulation installation. No call are yet made to inspect any completed system on board.

801 Commissioning

Commissioning priority systems in support of auxiliary engines first start-up on 28th August

Priority	System Description	Install percentage complete to date.	Install completion	Test Completion	Flushing completion
1	SFI 701.1 F.O. System for Main Engines. Aux & Emergency	88%	09 June 2022	30/06/2022	08/07/2022
1	SFI 705.1 Fuel Oil System (Bunker & Trans)	98%	09 June 2022	30/06/2022	09/07/2022
3	SFI 711.1 L.O. Transfer System	81%	24 June 2022	15/07/2022	22/07/2022
4	SFI 712.1 L.O. Purification System	68%	22 June 2022	13/07/2022	22/07/2023
1	SFI 721.1 Sea Water Cooling System	99%	20 May 2022	10/06/2022	
1	SFI 722.1 Fresh Water LT-HT Cooling System	82%	27 June 2022	18/07/2022	22/07/2023
1	SFI 731.1 Compressed Air and Instrumentation System	62%	17 June 2022	08/07/2022	12/07/2022
1	740_Exhaust_System	41%	17 June 2022	08/07/2022	
1	SFI 743.1 Exhaust Gas & Crankcase Breather System	62%	17 June 2022	08/07/2022	
1	SFI 666.1 Quick Closing Valve System	0%	08 June 2022	29/06/2022	06/07/2022
1	SFI 821.1 Air & Sounding Diagram	70%	25 May 2022	15/06/2022	

Hull 802

802 Block Erection

The forward bow section, blocks 49, 50 and 51 now positioned within the main hull structure, erection fit up and alignment work now in progress. The following overview details the progress made this reporting period.

- Fabrication of units 85 and 86 continues in the module hall.
- Units 97 and 98 surveyed by Lloyds Register, the unit is now ready to be lifted on board to allow fit-up work to begin.
- Units A7-5 x 3 all surveyed now awaiting transport from the lower shed.
- Fabrication of unit A9-5 is almost complete.
- Fabrication of unit A10-5 Btm Fab is almost complete.
- Unit A5-6 now lifted on to vessel awaiting final alignment.
- Unit A6-5 now lifted on to vessel awaiting final alignment.

Hull 801 Outfitting Works

Electrical

Cable pulling in the accommodation continues on deck 6 & 7, cable installation of the legacy issue in the main and auxiliary machinery spaces has started on nightshift 23rd May 2022.

The makers' technicians continue pre commissioning works on the 690-volt switchboard.

Wheelhouse Windows

Remaining two starboard windows has now been fitted, the installation of all windows concerning the the decision to reduce the dimension of the 'T' profile flat bar stiffening around the window openings to accommodate the installation of thermal fire protection insulation has now been agreed with [redacted]. Completion of the outstanding welding of the port side mullions will likely coincide with the window glass removal to allow the ingress of the modified console.

Clam Shell Doors

It is understood that despite initial feed back to the contrary further rework is required to achieve the correct opening of the port side door. The repositioned main hinge on the starboard side has still to be welded in position.

LNG Bunker Tank Valve Attachments

Work by the [redacted] technician to install new equipment (control valves) in the Tank Connection Space (TCS) of Glen Sannox is ongoing, the same work on Hull 802 is rescheduled because of availability of spare gear.

801 Bridge External walkways

Work is ongoing.

801 – [redacted] - Central Hydraulic System Installation

Principle work this period continues to focus on the installation of small-bore piping supports main vehicle deck gun port areas.

801 - Port Side Shell Fairing

Corrective work has completed on the ports side hull, freeing up the vessel to be turned on the outfitting berth. The planned move was scheduled on Sunday 29th May 2022 and has been completed without incident. Reconnection of services and the reinstatement of the X 2 access gangways plus fire alarm and emergency lighting systems was in time for the recommencement of work on Monday 30th May.

Ongoing External Structural Works

Panama Eyes

Outstanding work to complete bulwark stiffening. Original scheduled completion of this work (801Z05HTWK001) was planned as 29th November 2021.

Hull Belting

Corrective work has been completed on the port side hull, freeing up the vessel to be turned on to the outfitting berth.

Vessel Repositioning

The planned move was scheduled for Sunday, 29 May 2022 and has been completed without incident. The vessel is now starboard side to. Services were reconnected and X2 access gangways were put back in place, as well as fire alarm and emergency lighting systems. All of this was done in time for work to start back up on Monday, May 30.

External Deck/Side Shell Coating Works

Coating works is scoped as part of the Summer dry docking period, 15th July through 7th August 2022.

Forward And Aft Masts

Rework on the LNG vent mast is nearing completion prior to the ship turning, outfitting of the forward navigation mast is ongoing.

Main and Auxiliary Engine Exhaust Resilient Supports

Port main engine exhaust silencer removed to allow access to complete the outfitting of the funnel internal volume, work has yet to get underway.

Accommodation Outfitting

Work continues to pin and insulate decks six and seven, preparation to install the first vertical architectural panels on deck 7.

HVAC Installation - 801

Work progresses on decks 6 & 7; the standard of installation is remains satisfactory.

9.0 Next Stage Payment Due

n/a

10.0 Forthcoming Period Events

11.0 Tests & Trials Due

Glen Sannox

Description	Date
Summer Docking	15th July to 07 August 2022
Winter Docking	23rd Jan to 31st Jan 2022
Sea Trials	25th January 2023

Hull 802

Description	Date
Dry Docking	August - September
Sea Trials	01st October 2023

12.0 Risk Register Update – Glen Sannox

Risk register update expected 1st June 2022

13.0 Safety & Environmental

No issue to report this period

Print Name: [redacted]

Signature:

[redacted]

Date: [06 June 2022]