

Document	Glen Sannox & 802 Monthly Report
Author	[redacted]
Month/ Year	[November 2021]

Glen Sannox & 802 Monthly Report – [November 2021]

1.0 General

Executive Summary

The current level of production output continues to be insufficient to meet the requirements of either vessel programme. Reconciliation of production losses experienced on Glen Sannox remains limited to an increase in structural workers and an extension to the contracted work scope of the main piping contractor that now sees zone 8 pipe work removed from the yard scope of work. Outfitting worker inefficiencies persist, owing to ongoing and recurring design queries, poor 3D modelling accuracy, late procurement of key equipment, poor work prioritisation [redacted] With eight months to run until Glen Sannox's forecast completion date, the expectation is that unless monthly programme slippage is addressed as a matter of urgency further delays will be unavoidable. The most recent monthly project production feedback issued by FMPG on 17th November 2021, maintains previous reporting ambiguity by omitting reporting against contemporaneous building records. It makes little sense to report the project's overall status as satisfactory month after month if the production variance reported against the baseline reports the opposite. The argument against satisfactory project performance is unavoidably challenged by the announcement of the need to review both the 'Forecast Finish Date' and build programme. At the time of writing (1st December), no clarification on either delay issue had been provided by FMPG.

Project Risk – Glen Sannox

The ongoing approach to risk management issues for both vessels have for the previous eleven months been reported by FMPG as "in need of improvement". It is now reported that an initial part review has been undertaken in October 2021 and that there is a future intention is to perform a full review by the middle of November 2021. Many risks identified in the yard register back in November 2019 remain unaddressed at this relatively late stage in the project, the impact of which is unnecessary delay that could have been mitigated if addressed at an earlier point in the project.

The below table reports risk items identified by FMPG back in September 2019, all of which maintain significant project concerns that require continual attention and reassessment, CMAL comments are in red.

Risk Category	Risk Identified by	Risk Description	Controls in Place	Current Impact	Current Likelihood	Current Risk Score	Action Planned	Status as of December 10th 2021	Date Last Updated	Date Last Reviewed
Production	[redacted]	The use of subcritical causes commissioning problems - leakage - and gas through the maintenance valves. The use of subcritical is suboptimal and the training required to fit may not be sufficient.	A review of subcritical fitted in the engine and EO rooms will be undertaken and problem subcritical removed and remaining subcritical will be QC checked	50	5	250	1. A y and standard to be produced 2. Installation training to be provided 3. QC oversight to be established 4. Problem subcritical to be removed 5. ER and EO pipework will be edgepiped out and re-installed	1. Not shared with CMAL 2. Training provided by FMPG 3. FMPG quality management program is only active in CMAL QC comments 4. Problem subcritical will only be used as of December 2021 5. Training stopped has never been completed as agreed in either of these issues	Oct-19	
Project		Work packaging arrangements are not robust enough to control properly the work sequence or a capturing performance	No work packaging arrangement currently in place	50	5	250	1. Introduce a process for work packaging 2. Reprovide the organization to deliver the new process	This risk is still not resolved, the poor design has now progressed to being installed around full GC. The installation of the incompressible direct edge audit valves and the poor access to fuel oil isolation valves will not be acceptable to CMAL.		
Project		Poor control of subcontractors create risks to use of equipment working and rework	A subcontract manager is to be appointed	50	5	250	1. Agree T&E for a subcontract manager 2. Advise and appoint a subcontract Manager	The appointment of a contract manager has been agreed between the project and CMAL. The appointment is expected to be performed in the next week. The project will continue to be managed by FMPG in the management of their main team. A second audit was conducted during week 40, and many key equipment components that were already delivered to the yard are still missing.	Sept-19	
Supply Chain		Equipment in stores cannot be located in a timely manner to support work packages	No current BOM or work packages in place - this is an operational goal	50	5	250	Work packages and BOM are not defined - Technical team to define and then stores will review and align storage to suit where possible	Work packages and BOM are not defined - Technical team to define and then stores will review and align storage to suit where possible	04th October	04th Oct
Technical		Unable to recruit or retain technical staff in the required numbers, with suitable qualifications and experience	Resource planning and recruitment process is underway	50	5	250	1. Increase recruitment activity 2. Investigate recruitment for 3rd party design company support	The recruitment of F&E design staff is underway and expected to be completed in the next few weeks.	Oct-19	
Production		Unable to recruit or retain Production staff in the required numbers, with suitable qualifications and experience	Resource plans from revised programme, together with yield plan	50	5	250	1. Develop the programme resource plan 2. Develop a yield resource plan showing all projects 3. Identify resource usage strategy 4. Assess subcontract labour will be provided as an internal rate 5. Extra expenses may be required	The recruitment of F&E design staff is underway and expected to be completed in the next few weeks.	Oct-19	
Project		Late delivery of E01/B02	Risks associated with late delivery are captured elsewhere in the risk register with planned controls	50	5	250	1. Include a time allowance for programme slippage	Programme has now expanded. Programmes have been updated to reflect the latest design. The programme is expected to be completed in the next few weeks.	Sept-19	
Technical		Vessel cannot meet control design weight	Lightship weight continues to grow	50	5	250	1. Continue to limit weight growth wherever possible and practical 2. Commercial impact has been limited	Weight is still growing and is expected to be completed in the next few weeks.	Oct-19	
Supply Chain		Failure of equipment during warranty period. Supplier guarantees have expired	Warranty controls and replacement items to allow ongoing review of current position	50	5	250	Written to review meeting completed and information shared on all key areas where warranty is no longer able to be extended. (Where a care and maintenance plan will be put in place)	Written to review meeting completed and information shared on all key areas where warranty is no longer able to be extended. (Where a care and maintenance plan will be put in place)	04th October	
Production		There is insufficient capacity for pipe manufacture and installation to support the programme	Programme owned from plan-based upon installation rates and equipment capacity	50	5	250	1. Produce plans for subcontract of pipe manufacture 2. Produce plans for permanent and contractor installation labour 3. Produce specific plans for manufacture and installation of hydraulic systems	Programme owned from plan-based upon installation rates and equipment capacity	Oct-19	
Supply Chain		Materials has been stored offsite at the yard in poor conditions and increased. The material condition and level of stock is uncertain and may result in material stock write down	Materials have been stored offsite at the yard in poor conditions and increased. The material condition and level of stock is uncertain and may result in material stock write down	50	5	250	1. relocate all offsite materials to a new storage facility 2. undertake a stock take 3. improve stock location capability	Materials have been stored offsite at the yard in poor conditions and increased. The material condition and level of stock is uncertain and may result in material stock write down	30-Oct	
Production		Oil and foreign body ingress into piping systems causes commissioning problems. Caused by inadequate protection on pipe ends	Pipes have been stored externally for some time and open to the elements. Ingress pipework is not always blanked off	50	4	200	1. Plan for extended flushing of key systems 2. Improve pipe storage 3. Improve blanking for open ends	Oil and foreign body ingress into piping systems causes commissioning problems. Caused by inadequate protection on pipe ends	Oct-19	04th October
Technical		Machinery and Equipment maintenance access is not possible	Main items have removal/overhaul arrangements produced	50	4	200	1. plan for a demobilisation of engine overhaul 2. produce remaining removal drawings	Machinery and Equipment maintenance access is not possible	Oct-19	Oct-20
Technical		The stability criteria may not be met	Ongoing development of stability model to emerge margins	50	4	200	1. Continue to develop stability model, updating to reflect all predicted weight and trim 2. Engage LR and MCA to discuss	The stability criteria may not be met	Oct-19	
Technical		Design does not comply with various aspects MCA or LR rules	Design is aligned to with rules. Some are considered 'subjective'. AROD preparation is underway	50	3	150	1. Continue to review and obtain remaining approvals 2. Engage LR and MCA to discuss	Design does not comply with various aspects MCA or LR rules	Oct-19	
Production		The significant number of pipes made but not fitted cannot be found or are otherwise. There is a lack of stock control with pipes located at various places in the yard	This is a risk control currently for made and stored pipes	25	5	125	1. Review pipe inventory and grouping by system 2. Review pipes duplicate pipes made against lost and scrap reports	The significant number of pipes made but not fitted cannot be found or are otherwise. There is a lack of stock control with pipes located at various places in the yard	Oct-19	
Project		Poor change control management leads to changes being uncontrolled between departments	Improved project wide Engineering Change control process	25	5	125	1. Identify and implement five critical change control process 2. Audit the process to ensure effectiveness	Poor change control management leads to changes being uncontrolled between departments	Sept-19	
Quality		Survey does not comply with various aspects MCA or LR rules	calling notice and QC team set up to support structural surveys only at this time	25	5	125	1. Free production viewpoint impairment and control the survey and facilitate the process across all production departments by use of "calling notice for inspection" process 2. Give the QC/Equipment team size with respect to Discipline specialty competence with the present size and complexity 3. Technical team implement a robust internal checks implementation process to ensure Class and Stability plan approval comments are fully implemented in the design and construction documents	Survey does not comply with various aspects MCA or LR rules	Oct-19	
Commissioning		Equipment may not work during the setting to work and commissioning phase as a result of being idle for a significant length of time	there is a limited equipment maintenance package for all equipment with the exception of air conditioning heating and main engine supplier maintenance	25	4	100	1. appoint a commissioning manager 2. review maintenance requirements	Equipment may not work during the setting to work and commissioning phase as a result of being idle for a significant length of time		
Technical		F&E do not comply with specification or owners comments	Many ODRs and Drawing comments still to be resolved	25	4	100	Engage owner to resolve areas of concern	F&E do not comply with specification or owners comments	Oct-19	
Commissioning		IMO training in current regulations as the risk assessment has not been undertaken	A HAZOP, HAZID and bunkering risk assessment undertaken	10	3	30	1. a further risk assessment prior to deliver bunkering of IMO will be undertaken	IMO training in current regulations as the risk assessment has not been undertaken		
Technical		Overhaul and Maintenance. Client concern over engine room fire barriers access for maintenance, removal/overhaul	Risks associated with late delivery of materials are captured elsewhere in the risk register with planned controls				Practical frames will be provided through the Scottish Government rather than previous design payments	Overhaul and Maintenance. Client concern over engine room fire barriers access for maintenance, removal/overhaul	Sept-19	10-Oct
Project		Lack of knowledge of LMG bending causes safety hazards or problems					Measures will be managed against the revised programme	Lack of knowledge of LMG bending causes safety hazards or problems		

Figure 1 Data Source FMPG

Warranty Issues 801 & 802

The Yard has yet to provide information on how this essential post-delivery benefit will be managed, as the current position held of no allowance will have significant [redacted] implications. Clarification has not been received as of 30th November 2021. The Contract is very clear that there is a 1-year warranty period and that at the end of the day FMPG have to carry the costs of their own workmanship plus the costs of any machinery/equipment failure in the event that manufacturers warranties have lapsed (which they have).

Yard Supervision

The lack of effective onboard supervision of workers regardless of discipline remains a significant issue. Efficiency remains lower than would be typically expected of a shipyard [redacted]

2.0 Changes to Site Supervision Team

No Changes this period

3.0 Design Changes Approved

(Note of changes; changes to be authorised & recorded in Design Change Register)

4.0 Agreed Changes to Delivery Date

The yard informs that the forecast finish date currently reported as 25th July 2022 for the Glen Sannox is currently under review, the findings are now expected to be released first week of December 2021.

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

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

A total of seven inspection call outs have been made during this reporting period for Glen Sannox. At this point in the project this number should be closer to 200 per month, so less than 5% of what we would normally expect.

Callouts covering hull 802 focus entirely upon structural works.

Vessel	Inspection Call Out Detail	Deck	Week No	Status	
801	Welding of Mast to Deck	Deck 8	44	Accepted	
801	Steering Gear LO & HYD Test		45	Accepted	
801	Fairing Check Frames 47-51	02 & 03	45	Accepted	
801	Fairing Check	8	45	WIP	
801	Care & Protection Zone 1		46	Comments	
801	Pre Insulation Survey	3 P&S	46	Accepted	
No Calls for Inspection Week 47				47	
801 Week 48 will be addressed as part of December Report					
802	Stb Bilge Keel	900AB	44	Accepted	
802	Unit Butt Welds Blocks 1-2		45	Accepted	
802	Care & Protection Zone 1		45	Accepted	
802	Unit 80-73 Link Up Survey		46	Accepted	
802	Unit 49 Stb (part) Survey		46	Accepted	
802	Unit 51 Deck Plate Incerts & MPI		46	Accepted	
802	Unit A4/6 P7S Surveyed		46	Accepted	
802	Unit Butts Frames 21 - 97	3	47	Accepted	
802 Week 48 will be addressed as part of December Report					

8.0 Progress Against Programme

Analysis of monthly progress achievement is formulated against the following indicators: manpower resource fluctuations, yard-issued production reporting, identified risks, OOR management, rate of inspection call outs and real-time production monitoring through on-board survey inspection.

Resource Allocation Glen Sannox & Hull 802

The average core yard head count as of week 48 reports the [redacted] manning reshuffle that repositions 19 workers from hull 802 to the Glen Sannox. FMPG direct yard worker totals forty-

two for Glen Sannox and seventeen for hull 802 (excluding ancillary workers). Both resource levels maintain parity with planned resources set out in April 2021. It is unclear why FMPG has not reacted to the delays it now reports against pipe installation and outstanding hot works at a much earlier stage of the project as clearly increased resource allocation is seen as the solution to complete outstanding hot works.

The head count of six yard pipe fitters allocated to the completion of the installation works for all spaces outside of zone 2 on Glen Sannox is unworkable given the volume of the work involved to complete the, Forward Machinery (0402); Stabiliser Room Port (0308); Stabiliser Room Starboard (0305); LNG Tank Room (0306); STP Room (0304); Hydraulic Room (0307); Machinery Space Casing (0701 & 0702); Workshop & Store (0103); Steering Gear (0102) and all accommodation spaces above deck 3. It is unclear why a workable recovery strategy was not implemented at a much earlier stage of the project.

Glen Sannox

Hull 801 Worker Resources		33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
Week	Yard Worker/Day																		
	Welders	5	5	5	5	6	6	5	6	6	6	5	5	5	5	5	5	5	5
	Platers/Burners	2	2	2	2	3	4	4	4	5	6	4	4	4	4	4	4	4	3
	[redacted]	16	16	14	14	42	41	30	30	33	30	39	40	43	43	43	43	43	62
	Engineers	4	4	6	6	6	6	6	4	4	6	6	6	6	6	6	6	6	7
	Yard Pipe Fitters	4	4	4	4	3	6	6	6	6	6	6	6	6	6	6	6	6	6
	Painters	10	10	10	8	6	8	8	7	7	7	8	8	8	8	8	8	8	8
	Joiner	4	4	4	6	6	8	8	5	0	4	6	6	6	6	6	6	4	4
	Shipwright	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	2	2
	Stagers	2	2	2	4	4	2	4	6	6	4	6	7	7	7	7	7	7	7
	Ancils	17	17	17	14	12	15	14	14	9	6	7	7	8	8	8	8	8	33
	Average Total Per Day	64	64	64	63	88	96	85	82	78	77	87	89	93	93	93	93	93	117
	Weekly Hours 5 Day Week	3200	3200	3200	3150	4400	4800	4250	4100	3900	3850	4350	4450	4650	4650	4650	4650	4650	5850
Week	Contractors																		
	[redacted]	7	10	10	10	12	10	10	9	10	10	12	12	19	19	19	19	22	22
		4	6	6	6	8	12	12	10	11	11	12	12	12	12	12	12	12	9
		3	3	3	3	1	3	3	3	5	5	5	5	5	5	5	5	5	5
		3	4	4	0	0	2	4	5	2	3	3	3	3	3	3	2	3	2
		30	30	30	30	30	30	30	28	24	24	28	28	30	30	30	30	52	52
		0	2	2	0	0	0	0	0	2	2	0	0	0	0	0	3	2	2
		0	0	2	2	2	3	3	3	3	4	4	4	4	4	4	4	4	4
		60	60	53	53	0													
							4	4	3	3	4	4	4	4	4	5	5	5	
	Total Per Day	107	115	110	104	53	64	66	61	60	63	68	68	77	77	80	80	102	219 Combined Total
	Weekly Hours 5 Day Week	5350	5750	5500	5200	2650	3200	3300	3050	3000	3150	3400	3400	3850	3850	4000	4000	5100	10950 Combined Total

Hull 802

Hull 802 Worker Resources		33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
Week	Yard Workers																		
	Welders	6	4	6	6	6	3	0	2	3	2	2	2	2	2	2	2	2	5
	Platers/Burners	14	14	12	10	10	1	0	1	2	2	2	2	2	2	2	2	2	2
	[redacted]						4	3	14	30	30	32	36	38	38	38	38	38	12
	Engineers						0	0	0	0	0	0	0	0	0	0	0	0	0
	Yard Pipe Fitters						0	0	0	0	0	0	0	0	0	0	0	0	0
	Painters	2	2	2		2	2	5	4	4	6	4	4	4	4	4	4	4	4
	Joiner						0	1	0	0	2	2	2	2	2	2	2	0	0
	Shipwright	3		3	3	3	1	3	3	3	3	3	3	3	3	3	3	3	2
	Stagers	2	2	2	2	3	1	2	2	0	4	4	4	4	4	4	4	4	4
	Ancils	9	9		8	10	7	9	8	8	4	4	4	5	5	5	5	5	0
	Total Per Day	36	31	25	29	38	18	33	51	50	53	57	59	60	60	60	60	60	29
	Weekly Hours 5 Day Week	1800	1550	1250	1450	1900	900	1650	2550	2500	2650	2850	2950	3000	3000	3000	3000	3000	1450
Week	Contractors																		
	[redacted]						0	0	0	0	0	0	0	0	0	0	0	0	0
							0	0	0	0	0	0	0	0	0	0	0	0	0
							0	0	0	0	0	0	0	0	0	0	0	0	0
							0	0	0	0	0	0	0	0	0	0	0	0	0
							0	0	0	0	0	0	0	0	0	0	0	0	0
							0	0	0	0	0	0	0	0	0	0	0	0	0
							0	0	0	0	0	0	0	0	0	0	0	0	0
							0	0	0	0	0	0	0	0	0	0	0	0	0
							0	0	0	0	0	0	0	0	0	0	0	0	0
							0	0	0	0	0	0	0	0	0	0	0	0	0
							0	0	0	0	0	0	0	0	0	0	0	0	0
							0	0	0	0	0	0	0	0	0	0	0	0	0
							0	0	0	0	0	0	0	0	0	0	0	0	0
	Total Per Day	0	2	2	0	0	0	0	0	0	2	2	2	2	2	2	2	0	0
	Weekly Hours 5 Day Week	0	100	100	0	0	0	0	0	0	100	100	100	100	100	100	100	0	0

Yard Production Reporting

Production reporting remains minimal, industry standard reporting detail is only provided against the remaining pipe spool installation and areas of outstanding hot works.

The below table reports FMPG pipe spool production achievement up to the data date of 30th November, prioritised systems needed in the process to perform commissioning activities in support of engine first start are highlighted in orange. Scaling up production of externally fabricated pipe spools is no longer a viable option for the yard to recover production delays. The low rate of reported production completion between September and November has

foundation in late spool procurement, poor 3D model accuracy, the need to ship run missing spools pieces and a lack of TQ prioritisation at design level. The additional time now required to fabricate and install spools compounds current delays and in our opinion is a significant oversight in the current planning philosophy.

System No	No of Spools to fit as of week 49	System	Percentage Complete		
			Sep-21	Oct-21	Nov-21
309	713	Hydraulic System	0%	14%	21%
414	9	Echo Sounders, Speed log	0%	57%	57%
571	211	Chilled Water	10%	9%	12%
577	232	Heating System	17%	25%	26%
581	928	Technical & Domestic FW	13%	18%	19%
582	372	Sanitary System	27%	34%	35%
666	17	Quick Closing Valves	0%	0%	0%
701	37	Fuel Oil System	42%	84%	93%
704	88	Machinery Save All Drains	7%	44%	31%
705	25	FO Bunkering	85%	86%	93%
708	106	Nitrogen System	40%	41%	43%
709	257	LNG System	9%	9%	17%
711	46	LO Transfer System	63%	78%	82%
712	13	LO Puri System	21%	48%	52%
713	120	LO System	23%	31%	34%
721	5	Sea Water Cooling	89%	92%	96%
722	188	FW LT HT Cooling	67%	77%	81%
725	37	Glycol Heating System	62%	62%	66%
731	215	Compressed Air	52%	57%	59%
743	100	Crank Case Breathers	45%	50%	50%
801	43	Heel & Ballast Water System	43%	79%	81%
802	23	Sludge & Waste Oil System	80%	84%	84%
803.1	127	Clean Bilge System	0%	71%	80%
803.2	52	Oily Bilge System	47%	77%	82%
804	435	External Scuppers	48%	19%	21%
813	300	Fire & Deck Wash System	8%	23%	28%
815	127	Novac System	9%	22%	25%
816	189	Vehicle Deck Drencher	1%	1%	2%
819	580	Water Mist	20%	25%	25%
821	254	Air & Sounding	51%	75%	77%
822	69	Sounding System	22%	64%	64%
Auxiliary Piping Systems Needed to Main & Aux Engines					

Figure 2 Source Date FMPG-Spool No's are based on the deliverable of the main piping contractor

Outstanding Hot Work – Glen Sannox

The below table clearly highlights the extent of the remaining hot works, slow production output rates are flagged in many areas over the period September through November. Completion of hot works is normally given the highest priority in the production and planning process as late completion has a huge impact upon start-up and completion of successor activities such as insulation, pipe installation and coating works.

Zone	Major Seats			Elect Seats			Lift Eyes			Pipe Pens			Elec Pens			HVAC Pens			WW/Stairs/Platfms			Struct/Sketches		
	Sept	Oct	Nov	Sept	Oct	Nov	Sept	Oct	Nov	Sept	Oct	Nov	Sept	Oct	Nov	Sept	Oct	Nov	Sept	Oct	Nov	Sept	Oct	Nov
1	95%	97%	97%	0%	0%	100%	0%	0%	100%	28%	28%	35%	20%	70%	100%	45%	91%	100%				75%	88%	100%
2	90%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	92%	100%	100%	100%				40%	47%	57%	71%	71%	100%
3	87%	97%	94%	88%	97%	99%	32%	73%	100%	68%	69%	73%	45%	70%	80%	5%	32%	89%	14%	14%	14%	30%	30%	80%
4	82%	88%	86%	56%	88%	88%	65%	84%	100%	40%	20%	31%	13%	27%	33%	0%	50%	50%	40%	46%	46%	73%	73%	100%
5	0%	0%	100%	0%	0%	37%	0%	0%	49%	0%	0%	25%	0%	0%	0%	0%	0%	50%	21%	21%	21%	0%	0%	0%
6	0%	30%	64%	0%	30%	49%	0%	0%	2%	0%	0%	9%	0%	6%	7%	0%	21%	32%	0%	5%	5%	46%	46%	46%
7	29%	19%	71%	19%	19%	19%	0%	0%	0%	62%	62%	62%	0%	100%	48%	0%	0%	0%		0%	0%	73%	73%	73%
8	0%	0%	25%	0%	0%	0%	0%	100%	100%	0%	0%	0%	0%	64%	80%	0%	39%	81%				0%	100%	100%
9	0%	45%	0%	0%	45%	45%	0%	100%	100%	0%	0%	0%	0%	41%	92%	0%	74%	80%	0%			0%	0%	0%
10	0%	17%	17%	0%	17%	17%	0%	100%	100%	0%	0%	20%	0%	40%	61%	0%	14%	57%	0%	0%	0%	0%	0%	0%
11	73%	0%	91%	0%	0%	0%								21%	21%		100%	100%				0%	0%	0%

Figure 3 Outstanding Hot Work Percentages by Zone - Source FMPG

Owners Observation Reports

Progress to close out Owner Observation Reports (OOR's) remains slow and is performed largely out of sequence and or not incorporated in each vessel programme. FMPG risk register, line No 24 issued September 2019 identifies the severity of performing out of sequence works which remains a significant issue. As of the 30th of November 2021, 270 OOR's remain open. Many of the OOR's are relating to safety matters and the long-term maintainability of the vessels as built. Addressing these should have been and remains a high priority and consequently a high risk.

Year	2021							
	Month	June	July*	Aug	Sep	Oct	Nov	Dec
OOR's Raised		37	25	4	7	0	26	-
OOR's Closed		0	28	33	32	12	28	-

Inspection Call Outs

Rate at which inspection call outs are made is low, see paragraph 7 above.

801 Commissioning

[redacted]

FMPG continues to report the start of commissioning works as 17th December 2021. Maintaining this date has no foundation in terms of logical production achievement as the current days to mechanically complete auxiliary system in support of commissioning start-up will not in our opinion be achievable until week six 2022. At the time of writing, there are two weeks until the scheduled start of commissioning. However, little specific detail is provided in support of planned activities. FMPG has yet to respond to the following inquiries:

According to yard reporting, the electrical shore supply will be completed on December 15, 2021. The electrical shore supply must only be turned on when the 415V Main Switchboard is ready to be powered up. When will the 415V Main Switchboard be powered up from the shore supply? There are numerous unresolved issues regarding access and maintenance in the engine and generator rooms. These issues must be prioritised and resolved in order to deliver a vessel that meets Flag, Class, and building specifications. We've been told that "882 Transformers" and "872 Main and Emergency Switchboards" will be put into service. Which transformers/switchboards will be commissioned, and how extensive will the commissioning be? Is there any information available to support the Motor Control Centres and associated auxiliary system commissioning tests?

Hull 802

FMPG has advised of significant changes (delay) to the baseline schedule dates issued 28th June 2021 supporting block erection and completion, ref, email dated 28th September 2021, entitled Review of the Block Erecting and Consolidation Programme. Whilst it is acknowledged rescheduling of works within the programme is wholly under the responsibility of the yard and that the yard seeks to maintain overall key dates for Hull Assembly Completion (802KM002) and Superstructure Complete (802KM003), respectively 26th January 2022 and 21st July 2022. Late structure delivery invariably will impact the freedom production workers have to timely commence outfitting work in line with the current schedule, raising the question of the ongoing credibility of the current 802 schedule. The announcement that 19 [redacted]

have been repositioned to the Glen Sannox will challenge FMPG's ability to service the above programme of works.

Glen Sannox FMPG Baseline Planning Detail

Of the sixty scheduled activity with a planned start or finish date at the cut off of 30th November 2021, twenty nine are late to finish and thirty one are reported as late to start, ie FMPG has not upheld a single planned completion date in support of the baseline programme.

Activity ID	Activity Name	Activity Complete	Schedule % Complete	Start	Finish	OC	PC	Status as of 31st October 2021
801 - L1 PLAN								
Milestones								
801M7601	801 - Completion of Car Deck/Recesses	0%	0%	24-May-21*	25-Jul-22	230	230	Not Complete - Late to finish by 190 days
801M7602	801 - Complete Install Pipework in SZ 0303	0%	0%	16-Aug-21*	0	0	0	Not Complete - Late to finish by 206 days
801M7701	Main Equipment Installation Complete	0%	0%	23-Jun-21*	0	0	0	Not Complete - Late to finish by 07 days
801M7500	801 - 211 Wheelhouse all electrical equipment installed	0%	0%	08-Dec-21*	0	0	0	
801M7500	801 - Commission Auxiliary Systems Start	0%	0%	16-Dec-21*	0	0	0	
801M7603	801 - Commence Installation in Zone 09	0%	0%	13-Jan-22*	24-Jan-22	0	0	
801S76000001	801 - TUBING/PIP	0%	0%	13-Jan-22*	5	5	5	
801M7470	801 - Commission Auxiliary Systems Complete	0%	0%	17-Feb-22*	0	0	0	
801M7607	801 - All Checkwire Complete	0%	0%	28-Feb-22*	0	0	0	
801M7604	801 - Completion of Wheelhouse Windows	0%	0%	23-Mar-22*	0	0	0	
801M7480	801 - Main Engine & Gearbox Commissioning Complete	0%	0%	28-Mar-22*	0	0	0	
801M7520	801 Inching Exercise	0%	0%	01-Jun-22*	0	0	0	
801M7530	801 Enter Dry Dock 2	0%	0%	06-Jun-22*	0	0	0	
801S06640	Shipwide Outfit Complete	0%	0%	14-Jun-22*	0	0	0	
801M7490	801 - Builders & Owners Sea Trials Complete	0%	0%	27-Jun-22*	0	0	0	
801S07170	801 Zonal Outfit Complete	0%	0%	05-Jul-22*	0	0	0	
801M3069	801 LNG Bunkering Complete	0%	0%	11-Jul-22*	0	0	0	
801M7580	801 - LNG Sea Trial Complete	0%	0%	25-Jul-22*	0	0	0	
801M7530	801 - Delivery	0%	0%	25-Jul-22*	0	0	0	
Superstructure								
Walls								
801F02000001	Main Fuel Structure (Alu) Fab	40%	0%	26-Apr-21 A	22-Jun-21	30	30	Most In Position - Late to finish by 154 days
801F02000004	Main Fuel Erect, Fit and Weld	0%	0%	23-Jun-21	27-Jul-21	16	16	Most In Position - Late to finish by 156 days
Outfit								
Zone 01 Outfit								
80120101W0001	201 - Install All Compartment Hotwork incl. hull/outfit/walkways/elec seats	0%	0%	31-Aug-21	26-Sep-21	162	162	
80120101H0001	201 - Install HVAC & Hangers	0%	0%	08-Sep-21*	21-Oct-21	32	32	
80120101PE001	201 - Install Pipework	0%	0%	22-Sep-21*	13-Jan-22	74	74	Not Complete - Late to finish by 20 days
80120101EQ001	201 - Install Equipment (Steel/HVAC/Elec)	0%	0%	25-Nov-21*	04-Apr-22	86	86	
80120101PE003	201 - Pipework Testing	0%	0%	14-Dec-21*	16-Feb-22	40	40	
80120101H0002	201 - HVAC Testing	0%	0%	17-Jan-22*	24-Jan-22	6	6	
80120101ELEC003	201 - Electrical Cables - Reroute to Band Cables	0%	0%	07-Feb-22*	26-Apr-22	55	55	
Zone 02 Outfit								
80120201W0001	202 - Install All Compartment Hotwork incl. hull/outfit/walkways/elec seats	8.49%	100%	14-Dec-20 A	30-Jul-21	71	65	Not Complete - Late to finish by 153 days
80120201PE001	202 - Install Pipework	0%	100%	17-Dec-20 A	30-Jun-21	5	43	Not Complete - Late to finish by 183 days
80120201EQ001	202 - Install Equipment (Steel/HVAC/Elec)	0%	0%	17-May-21*	07-Oct-21	103	103	Not Complete - Late to finish by 54 days
80120201H0001	202 - Install HVAC & Hangers	0%	0%	09-Jun-21*	11-Aug-21	45	45	Not Complete - Late to finish by 111 days
80120201PE003	202 - Pipework Testing	0%	0%	12-Jul-21*	10-Sep-21	48	48	Late to start - Late to finish by 75 days
80120201H0002	202 - HVAC Testing	0%	0%	28-Jul-21*	24-Aug-21	19	19	Not Complete - Late to finish by 97 days
80120201ELEC003	202 - Electrical Cables - Reroute to Band Cables	0%	0%	01-Sep-21*	23-Dec-21	82	82	Late to start by 90 days
Zone 03 Outfit								
80120301PE001	203 - Install Pipework	0%	7.04%	26-Oct-20 A	25-Aug-21	71	82	Not Complete - Late to finish by 97 days
80120301H0001	203 - Install HVAC & Hangers	0%	16.13%	15-Mar-21 A	30-Jun-21	31	31	Not Complete - Late to finish by 154 days
80120301EQ001	203 - Install Equipment (Steel/HVAC/Elec)	0%	8.93%	15-Mar-21 A	05-Oct-21	56	111	Not Complete - Late to finish by 57 days
80120301W0001	203 - Install All Compartment Hotwork incl. hull/outfit/walkways/elec seats	0%	0%	09-May-21 A	16-Aug-21	75	75	Not Complete - Late to finish by 76 days
80120301H0002	203 - HVAC Testing	0%	0%	19-Jul-21*	30-Aug-21	30	30	Not Complete - Late to finish by 93 days
80120301ELEC003	203 - Electrical cables - Reroute to Band Cables	0%	0%	12-Aug-21*	07-Oct-21	41	41	Not Complete - Late to finish by 56 days
80120301PE003	203 - Pipework Testing	0%	0%	19-Aug-21*	07-Oct-21	79	79	Late to start by 103 Days
Zone 04 Outfit								
80120401EQ001	204 - Install Equipment (Steel/HVAC/Elec)	0%	0%	03-May-21 A	30-Jan-22	133	133	
80120401W0001	204 - Install All Compartment Hotwork incl. hull/outfit/walkways/elec seats	0%	0%	09-May-21 A	02-Sep-21	42	88	Late to finish by 80 days
80120401H0001	204 - Install HVAC & Hangers	0%	0%	29-Jun-21*	03-Sep-21	48	48	Late to finish by 91 days
80120401PE001	204 - Install Pipework	0%	0%	12-Jul-21*	13-Aug-21	24	24	Late to finish by 121 days
80120401EQ003	204 - Electrical cables - Reroute to Band Cables	0%	0%	12-Jul-21*	31-Aug-21	36	36	Late to finish by 61 days
80120401PE003	204 - Pipework Testing	0%	0%	02-Sep-21*	03-Nov-21	45	45	Late to start by 59 days
80120401H0002	204 - HVAC Testing	0%	0%	05-Oct-21*	10-Jan-22	63	63	Late to start by 57 days
80120401ELEC003	204 - HVAC Testing	0%	0%	05-Oct-21*	28-Oct-21	18	18	Late to start by 57 days
Zone 05 Outfit								
80120501W0001	205 - Install All Compartment Hotwork incl. hull/outfit/walkways/elec seats	0%	0%	17-Aug-21*	29-Nov-21	75	75	Late to finish by 2 days
80120501PE001	205 - Install Pipework	0%	0%	08-Sep-21*	06-Jan-22	80	80	
80120501EQ001	205 - Install Equipment (Steel/HVAC/Elec)	0%	0%	08-Sep-21*	27-Apr-22	157	157	
80120501H0001	205 - Install HVAC & Hangers	0%	0%	22-Sep-21*	13-Dec-21	59	59	
80120501H0002	205 - HVAC Testing	0%	0%	06-Oct-21*	06-Jan-22	60	60	Late to start by 57 days
80120501ELEC003	205 - Electrical cables - Reroute to Band Cables	0%	0%	21-Dec-21*	01-Mar-22	44	44	

Activity ID	Activity Name	Activity Complete	Schedule %	Start	Finish	001	002	
Zone 06 Outfit								
801206HTWK001	Z06 - Install all Compartment Hotwork incl. hull/outfit/walkway/elec seats	0%	0%	25-Aug-21	24-May-22	185	185	
801206PW001	Z06 - Install Pipework	0%	0%	25-Aug-21*	01-Feb-22	108	108	Late to start by 97 days
801206HVAC001	Z06 - Install HVAC & Hangers	0%	0%	07-Sep-21*	17-Mar-22	131	131	Late to start by 54 days
801206ELEC001	Z06 - Electrical Cables - Reeve to Band Cables	0%	0%	08-Sep-21*	13-Jan-22	69	69	Late to start by 57 days
801206HVAC002	Z06 - HVAC Testing	0%	0%	09-Sep-21*	28-Mar-22	136	136	Late to start by 83 days
801206EQ001	Z06 - Install Equipment (Steel/HVAC/Elec)	0%	0%	03-Nov-21*	27-Apr-22	118	118	Late to start by 29 days
801206PW003	Z06 - Pipework Testing	0%	0%	09-Nov-21*	29-Mar-22	94	94	Late to start by 22 days
801206ELEC003	Z06 - Electrical Cables - Reeve to Band Cables	0%	0%	23-Nov-21*	24-May-22	121	121	Late to start by 8 days
Zone 07 Outfit								
801207HTWK001	Z07 - Install all Compartment Hotwork incl. hull/outfit/walkway/elec seats	0%	12.5%	08-Apr-21A	16-Feb-22	205	200	Late to finish by 110 days
801207PW001	Z07 - Install Pipework	0%	0%	26-Apr-21A	26-Nov-21	147	147	Late to finish by 7 days
801207HVAC001	Z07 - Install HVAC & Hangers	0%	0%	23-Aug-21*	04-Oct-21	31	31	Late to finish by 27 days
801207HVAC002	Z07 - HVAC Testing	0%	0%	13-Sep-21*	18-Oct-21	26	26	Late to start by 48 days
801207EQ001	Z07 - Install Equipment (Steel/HVAC/Elec)	0%	0%	06-Oct-21*	16-Feb-22	89	89	Late to start by 35 days
801207PW003	Z07 - Pipework Testing	0%	0%	02-Dec-21*	13-Dec-21	8	8	
801207ELEC003	Z07 - Electrical Cables - Reeve to Band Cables	0%	0%	06-Dec-21*	10-Feb-22	42	42	
Zone 08 Outfit								
801208HTWK001	Z08 - Install all Compartment Hotwork incl. hull/outfit/walkway/elec seats	0%	23.81%	19-Apr-21A	11-Nov-21	21	138	Late to finish by 51 days
801208PW001	Z08 - Install Pipework	0%	0%	20-Oct-21*	20-Jan-22	56	56	Late to start by 67 days
801208HVAC001	Z08 - Install HVAC & Hangers	0%	0%	09-Nov-21*	22-Nov-21	10	10	Late to finish by 9 days
801208HVAC002	Z08 - HVAC Testing	0%	0%	09-Nov-21*	29-Nov-21	15	15	Late to finish by 2 days
801208EQ001	Z08 - Install Equipment (Steel/HVAC/Elec)	0%	0%	11-Nov-21*	27-Jan-22	49	49	Late to start by 20 days
801208PW003	Z08 - Pipework Testing	0%	0%	01-Dec-21*	15-Mar-22	68	68	
801208ELEC003	Z08 - Electrical Cables - Reeve to Band Cables	0%	0%	07-Dec-21*	26-Jan-22	38	38	
801208PW003	Z08 - Blumarine Fitting Out	0%	0%	28-Feb-22*	04-Jul-22	88	88	
Zone 09 Outfit								
801209HTWK001	Z09 - Install all Compartment Hotwork incl. hull/outfit/walkway/elec seats	0%	0%	27-Sep-21	27-Apr-22	144	144	Late to start by 65 days
801209PW001	Z09 - Install Pipework	0%	0%	27-Sep-21*	30-Jan-22	69	69	Late to start by 55 days
801209HVAC001	Z09 - Install HVAC & Hangers	0%	0%	08-Nov-21*	16-Dec-21	29	29	Late to start by 23 days
801209HVAC002	Z09 - HVAC Testing	0%	0%	17-Nov-21*	22-Dec-21	26	26	Late to start by 14 days
801209EQ001	Z09 - Install Equipment (Steel/HVAC/Elec)	0%	0%	24-Nov-21*	03-Feb-22	45	45	Late to start by 6 days
801209ELEC003	Z09 - Electrical Cables - Reeve to Band Cables	0%	0%	15-Dec-21*	20-Apr-22	82	82	
801209PW003	Z09 - Pipework Testing	0%	0%	13-Jan-22*	24-Mar-22	52	52	
801209PW003	Z09 - Blumarine Fitting Out	0%	0%	12-Jan-22*	27-Apr-22	74	74	
Zone 10 Outfit								
801210HTWK001	Z10 - Install all Compartment Hotwork incl. hull/outfit/walkway/elec seats	0%	0%	11-Aug-21	23-Feb-22	134	134	
801210PW001	Z10 - Install Pipework	0%	0%	11-Aug-21*	08-Nov-21	64	64	Late to start by 104 days
801210HVAC001	Z10 - Install HVAC & Hangers	0%	0%	02-Sep-21*	28-Oct-21	41	41	Late to start by 90 days
801210EQ001	Z10 - Install Equipment (Steel/HVAC/Elec)	0%	0%	02-Sep-21*	07-Dec-21	69	69	Late to start by 90 days
801210HVAC002	Z10 - HVAC Testing	0%	0%	16-Sep-21*	08-Nov-21	38	38	Late to start by 76 days
801210PW003	Z10 - Blumarine Fitting Out	0%	0%	26-Oct-21*	21-Feb-22	78	79	Late to start by 36 days
801210PW003	Z10 - Pipework Testing	0%	0%	29-Nov-21*	09-Feb-22	46	46	Late to start by 2 days
801210ELEC003	Z10 - Electrical Cables - Reeve to Band cables	0%	0%	01-Dec-21*	23-Feb-22	54	54	
Zone 11 Outfit								
801211HTWK001	Z11 - Install all Compartment Hotwork incl. hull/outfit/walkway/elec seats	0%	0%	03-Sep-21	05-Apr-22	144	144	Late to start by 34 days
801211PW001	Z11 - Install Pipework	0%	0%	07-Sep-21*	12-Jan-22	85	85	Late to start by 34 days
801211HVAC001	Z11 - Install HVAC & Hangers	0%	0%	28-Oct-21*	08-Dec-21	30	30	Late to start by 33 days
801211PW003	Z11 - HVAC Testing	0%	0%	28-Oct-21*	01-Dec-21	25	25	
801211EQ001	Z11 - Install Equipment (Steel/HVAC/Elec)	0%	0%	28-Oct-21*	08-Dec-21	30	30	
801211ELEC003	Z11 - Electrical Cables - Reeve to Band cables	0%	0%	09-Dec-21*	05-Apr-22	77	77	
801211HVAC002	Z11 - HVAC Testing	0%	0%	09-Dec-21*	22-Dec-21	10	10	
801211PW003	Z11 - Pipework Testing	0%	0%	14-Dec-21*	23-Dec-21	8	8	
801211PW003	Z11 - Blumarine Fitting Out	0%	0%	12-Jan-22*	05-Apr-22	60	60	
Commissioning								
A1130	Commission Auxiliary Systems	0%	0%	10-Dec-21*	17-Feb-22	39	39	
A1150	Main Engine & Gearbox Commissioning	0%	0%	18-Feb-22	28-Mar-22	27	27	
A1160	STW Propulsion controls/Bow thruster/Inching	0%	0%	21-Mar-22*	02-Jun-22	51	51	
A1120	Dry Dock 2	0%	0%	03-Jun-22*	17-Jun-22	11	11	
A1130	Trial	0%	0%	18-Jun-22	23-Jul-22	36	36	
A1140	BD Delivery	0%	0%		23-Jul-22	0	0	

802 - FMPG Baseline Planning Detail

Of the twenty planned activity start/finish task dates, eight are late to finish and twelve are reported as late to start. In short no level one activity task group is yet signed off as complete.

Of the twenty scheduled activities with a planned start or finish date at the cut off of 30th November 2021, eight are late to finish and twelve are reported as late to start, ie FMPG has not upheld a single planned completion date in support of the baseline programme.

Activity ID	Activity Name	Remaining Duration	Start	Finish	Status as of 30th November 2021
802 - L1 PLAN		467d	25-Aug-20A	03-Apr-23	
Milestones		466d	24-May-21	03-Apr-23	
802MILECMAL2102	Commence Zone 2 Pipework Manufacturing	0d	24-May-21*		
802MILECMAL2004	Complete Preparation of Unit 48	0d		25-May-21	Late to Finish by 158 Days
802MILECMAL2103	Commence Zonal Hotwork Programme - Zone 2	0d	21-Jun-21*		
802MILECMAL2104	Commence Zone 2 Pipework Installation	0d	12-Jul-21*		
802MILECMAL2101	Commence Tank Testing	0d	26-Jul-21*		Late to Start by 126 days
802MILECMAL2105	Complete Preparation of the Funnels	0d		16-Sep-21	Late to Start by 70 days
802MILECMAL2109	Complete Pre-Filling Out (PFO) - Zone 2	0d		30-Sep-21	Late to Finish by 61 days
802MILECMAL2106	Completion of Cryogenic Pipework - Zone 2	0d		28-Oct-21*	Late to Finish by 61 days
802MILECMAL2108	Erect Fo'c'sle Block (U495051) at Berth	0d	07-Dec-21*		Late to Start by 33 days
802KM002	802 Hull Assembly Complete	0d		26-Jan-22	
802MILECMAL2107	Shutline - Final Line of Sign Achieved	0d		21-Feb-22	
802KM003	802 Superstructure Complete	0d		21-Jul-22*	
802KM004	802 Launch	0d		16-Aug-22*	
802KM005	802 Commission/Auxiliary Systems Complete	0d		11-Oct-22*	
802KM006	802 Main Engine and Gearbox Commissioning Complete	0d		21-Nov-22	
802KM007	802 Zonal Outfit Complete	0d		30-Nov-22	
802KM008	802 Eriar Dry-Dock	0d	26-Jan-23*		
802KM009	802 Inclining Exercise	0d	09-Feb-23*		
802KM010	802 Builders and Owners Sea Trials Complete	0d		20-Feb-23*	
802KM011	802 LNG Bunkering Complete	0d		20-Mar-23*	
802KM012	802 LNG Sea Trial Complete	0d		28-Mar-23*	
802KM013	802 Delivery	0d		03-Apr-23*	
Structure		281d	25-Aug-20A	06-Jul-22	
Unit Assembly		262d	25-Aug-20A	08-Jun-22	
A1170	Block 1	4d	25-Aug-20A	27-May-21	Late to Finish by 186 days
A1190	Block 3	86d	24-May-21*	21-Sep-21	Late to Finish by 70 days
A1210	Block 5	98d	07-Jun-21*	21-Oct-21	Late to Finish by 40 days
A1280	Block 12	87d	08-Jun-21*	07-Oct-21	Late to Finish by 54 days
A1200	Block 4	151d	14-Jun-21*	20-Jan-22	
Block Assembly		171d	13-Aug-21	21-Apr-22	
A1290	Block 11 Upper	25d	13-Aug-21*	16-Sep-21	Late to Finish by 75 days
A1300	Block 12 Fo'c'sle	46d	04-Oct-21*	06-Dec-21	
A1310	Block 10/11 Wheelhouse	85d	13-Dec-21*	21-Apr-22	
Launch		116d	06-Dec-21	05-Jul-22	
802A7020	Launch Arrangement	104d	06-Dec-21*	14-Jun-22	
802A7030	Launch Preparation	12d	15-Jun-22*	05-Jul-22	
Outfit		366d	21-Jun-21	30-Nov-22	
Zone 01 Outfit		142d	12-Jan-22	03-Aug-22	
802201HTVK001	201 - Install all Compartment Hotwork incl. hull outfit/walkways/elec seats	46d	12-Jan-22*	16-Mar-22	
802201HVAC001	201 - Install HVAC & Hangers	26d	26-Jan-22*	02-Mar-22	
802201PPE001	201 - Install Pipework	73d	26-Jan-22*	11-May-22	
802201PPE003	201 - Pipework Testing	73d	23-Feb-22*	08-Jun-22	
802201HVAC002	201 - HVAC Testing	49d	02-Mar-22*	12-May-22	
802201EQUI001	201 - Install Equipment (Steel/HVAC/Elec)	73d	16-Mar-22*	29-Jun-22	
802201ELEC003	201 - Electrical cables - Reeve to Band Cables	79d	11-Apr-22*	03-Aug-22	
Zone 02 Outfit		207d	21-Jun-21	15-Apr-22	
802202HTVK001	202 - Install all Compartment Hotwork incl. hull outfit/walkways/elec seats	65d	21-Jun-21*	23-Sep-21	Late to Finish by 68 days
802202PPE001	202 - Install Pipework	63d	12-Jul-21*	07-Oct-21	Late to Finish by 58 days
802202PPE003	202 - Pipework Testing	77d	29-Sep-21*	24-Jan-22	
802202EQUI001	202 - Install Equipment (Steel/HVAC/Elec)	85d	04-Oct-21*	08-Feb-22	
802202ELEC003	202 - Electrical cables - Reeve to Band Cables	131d	06-Oct-21*	19-Apr-22	
802202HVAC001	202 - Install HVAC & Hangers	57d	28-Oct-21*	25-Jan-22	
802202HVAC002	202 - HVAC Testing	35d	13-Dec-21*	08-Feb-22	
Zone 03 Outfit		169d	19-Jul-21	22-Mar-22	
802203HTVK001	203 - Install all Compartment Hotwork incl. hull outfit/walkways/elec seats	108d	19-Jul-21*	16-Dec-21	Late to Start by 101 days
802203HVAC001	203 - Install HVAC & Hangers	63d	03-Aug-21*	29-Nov-21	Late to Start by 101 days
802203PPE001	203 - Install Pipework	98d	03-Aug-21*	16-Dec-21	Late to Start by 92 days
802203PPE003	203 - Pipework Testing	90d	30-Aug-21*	11-Jan-22	
802203EQUI001	203 - Install Equipment (Steel/HVAC/Elec)	110d	06-Sep-21*	15-Feb-22	
802203ELEC003	203 - Electrical cables - Reeve to Band Cables	134d	07-Sep-21*	22-Mar-22	Late to Start by 84 days
802203HVAC002	203 - HVAC Testing	27d	16-Dec-21*	01-Feb-22	
Zone 04 Outfit		189d	20-Sep-21	23-Jun-22	
802204PPE001	204 - Install Pipework	85d	20-Sep-21*	25-Jan-22	Late to Start by 81 days
802204EQUI001	204 - Install Equipment (Steel/HVAC/Elec)	123d	25-Oct-21*	26-Apr-22	
802204HTVK001	204 - Install all Compartment Hotwork incl. hull outfit/walkways/elec seats	60d	01-Nov-21*	01-Feb-22	
802204ELEC003	204 - Electrical cables - Reeve to Band Cables	162d	10-Nov-21*	23-Jun-22	
802204PPE003	204 - Pipework Testing	85d	15-Nov-21*	22-Mar-22	
802204HVAC001	204 - Install HVAC & Hangers	19d	22-Nov-21*	16-Dec-21	
802204HVAC002	204 - HVAC Testing	13d	30-Mar-22*	19-Apr-22	
Zone 05 Outfit		122d	29-Nov-21	31-May-22	
802205HTVK001	205 - Install all Compartment Hotwork incl. hull outfit/walkways/elec seats	25d	29-Nov-21*	11-Jan-22	
802205HVAC001	205 - Install HVAC & Hangers	40d	13-Dec-21*	15-Feb-22	
802205HVAC002	205 - HVAC Testing	34d	05-Jan-22*	21-Feb-22	
802205PPE001	205 - Install Pipework	72d	19-Jan-22*	03-May-22	
802205EQUI001	205 - Install Equipment (Steel/HVAC/Elec)	63d	09-Feb-22*	26-Apr-22	
802205PPE003	205 - Pipework Testing	67d	09-Feb-22*	17-May-22	
802205ELEC003	205 - Electrical cables - Reeve to Band Cables	64d	28-Feb-22*	31-May-22	

Block Erection Status - 802

After 03dk, Units 81 erection joints were surveyed in week 46, and Unit 80 is expected to be surveyed in week 48.

FMPG has, for the time being, abandoned any work on deck 5, further delaying the revised consolidation erection program.

Hull 801

Wheelhouse Navigation

Communications and Safety Console Installation

Work has not started on the agreed [redacted] upgrade, the ongoing works to outfit the bridge area should in no way be considered as being performed in a controlled environment, aluminium grinding particulate covers most surfaces and will contaminate the safety critical equipment and cabinets. Correspondence has been entered into with FMPG the outcome of which is still awaited.

While window installation continues, access to install an underslung scaffold to facilitate the installation of the outermost port and starboard bridge wing windows has been restricted due to inclement weather. Our onboard patrolling inspections have identified a significant number of localised points of burn damage to the installed glazing units as a result of insufficient protection, which is disappointing given that CMAL raised the possibility of damage to installed windows several months ago but went unheeded. Following cleaning, the yard will conduct a detailed survey and report their findings.

Additionally, we notice that the window washing unit has been installed in the void beneath the bridge. The position chosen gives insufficient access for maintenance.

Weather Conditions Recorded for Port Glasgow for November 2021

☀️ Daytime temperature	7.5°C
🌙 Nightly temperature	2.6°C
🌡️ Average temperature	5°C
☀️ Daily sunshine	1.9 hrs
💧 Avg rainfall	215 mm
☔️ Rainy days	21 days
🌊 Sea temperature	11.9°C
☁️ Humidity	90%
🌬️ Windspeed	18.7kph

Figure 4 November 2021 Weather Stats

The high instance of wet weather has stopped all external deck works.

It is regrettable that many of the external works that are inevitable exposed to weather are being carried out in the Autumn and Winter period – this is totally predictable in the “West of Scotland and is a further example of poor planning and understanding of the job prioritisation.

Ongoing External Structural Works

Panama Eyes

On-going work stalled because of poor weather. Work started on removal back in week 33, work remains to be completed as of week 43. Scheduled completion of this work (801Z05HTWK001) was planned as 29th November 2021. Bad weather has delayed their subsequent installation onboard.

Modified Mooring Rope Bits

Modification works to increase the height dimension is now complete, all units have now been installed on the forecastle.

Hull Belting

On-going work stalled because of poor weather - Planned completion of hot works in zones 1,2 & 3 is respectively 9 December 2021, 30 July 2021 and 16 August 2021. Arguably this work should have been a component deliverable of the 7th of May 2020 milestone claim for structural completion. Work is currently abandoned because of bad weather.

External Deck Coating Works

On-going work stalled because of poor weather - Uncoated structural components remain open to the elements for the second winter season, please [redacted] to gain a full understanding.

Forward And Aft Masts

Remaining structural and outfitting works are on hold because on continued poor weather conditions.

Clam Shell Door Installation

Work has progressed well this period, the first trial opening of the doors has now been attempted, a few issues remain to be resolved prior to the arrival of the TTS OEM on the 6th of December. It should be noted that the door movement was achieved by using external jacks, not the dedicated vessel hydraulic system.

Main and Auxiliary Engine Exhaust Resilient Supports

Works are ongoing, OOR's have been raised against several significant defects that must be progressed in line with the building programme to ensure the installation is fit for purpose, the yard is expected to prioritise this work in support of first start of main and auxiliary engines.

Structural Compensation of Pipe Transits

Work is ongoing to fit compensation pieces in all affected areas. This work's out of sequence impact is hugely damaging to the progress of works set out in the master schedule. The delay impact will significantly impact the earliest date at which testing, and commissioning works can start. This hold point is not factored into the current planning philosophy.

Structural Plenums

Work continues in the fabrication of structural plenums. No reference is made within the level 1 baseline program as to when this work is scheduled to be completed.

Deadweight Issue

Update expected week 50 during FMPG project update meeting.

Glen Sannox Piping

LNG

Sound progress has been achieved in the installation of the main bunker double walled vacuum insulated aft bunker pipe headers, pipe runs now extend from the auxiliary machinery space through the main engine room and on to the cryogenic storage tank space.

Zone 2 Machinery Space Isometric Pipe Installation

At the time of writing 6,000 pipe spools still need to be fitted to complete the installation on Glen Sannox. Work continues at a slow pace, [redacted]

Onboard observation flags the complexity of the remaining works will warrant significantly longer installation times per spool. A normal installation would typically factor between 5 and 10 hours per spool, we now typically see this as closer to 20 hours per spool. [redacted]

The ongoing baseline program completion date overrun is currently reported as 140 calendar days in delay. Unless the Yard takes immediate action to recover this delay through acceleration measures there is little likelihood that commissioning will start in line with the master schedule on the 16th of December 2021.

Pipe System Prioritisation - Commissioning - 801

In their September 2021 project report, the yard identifies the "volume of change from zone 2 modifications sheet now understood and materials are available, level of change has impacted major systems for the start of commissioning" Ongoing survey of the systems in question does not indicate measurable prioritisation of the works needed to complete essential systems. Late in the day, the yard's procurement of system valves and various pumps remains a significant issue.

Piping, Cable & Transformer Space - 0303

Minimal production progress is again reported over this reporting period. The overall level of piping completion this period; penetrations through to the P&S stabiliser spaces are now complete allowing final spool pieces to be installed for some transiting systems. Progress is assessed to remain at 75% for mechanical installation. The late procurement of glycol system valves and pipe spools, the late installation of the LNG bunkering pipe transits, and a lack of available resources to complete remain the principal issue faced by the yard. Scheduled completion of this area was planned as 16th August 2021.

Forward Machinery Space (0402) – 801

Work has mainly stopped in this area, assess is hampered because of installed scaffolding. Furthermore, we assume that this is driven by late procurement of key components, pipe installation was scheduled to be completed 31st August 2021, hot work was scheduled to be completed 03rd September 2021, HVAC testing is also scheduled to be completed as well of 13th August 2021.

Central Hydraulic System Installation - 801

Work has started on the pipe installation, the main header is now run from the sewage treatments space (0304), through the pipe, cable and transformer space (0303), initial feedback is the installation standard is high, progress is slow as the contractor is unavoidably forced to await the shipyard driven hot works (bulkhead penetrations, support attachments to tank tops etc.) be completed. Many co-ordination issues have prevented pipe runs in the

machinery spaces from following the 3D model coordination routing. Site run pipes have now been installed that will likely impact the access to the main engine cylinder heads during routine maintenance procedures, the issue is under discussion with the yard.

Zone 2 Walkways - 801

At the time of writing the yard has appointed an external contractor to review what improvements can be made to the onboard installation, their findings are awaited.

Electrical - 801

The electrical contractor has continued to run low-voltage cable in the workshop and forward auxiliary facilities.

As of week 48, the advice given at the Week 42 FMPG Project Meeting that mainline cable pulling will commence in week 43 (rather than the initially scheduled week 36) had not materialised. However, it should be noted that [redacted] has directed the vessel to be inspected by an advanced survey team prior to beginning this task.

Cable trays and ladder racks continue to be installed on decks 5/6/7. It should be noted that the cable tray utilised is extremely thin gauge, and additional support will be required to guarantee the proper installation standard is met.

[redacted] structural workers are completing the missing links in the emergency generator room cable routing by installing cable transit spigots rather than [redacted] glands.

[redacted] personnel continue to work on the [redacted] modification of the engine control room's main switch boards.

FMPG has awarded [redacted] the contract for switchboard cleaning. The initial cleanup occurred during week 46.

HVAC Installation - 801

Previously reported progress has had to be revised as already installed ducting in many areas has had to be taken down because of poor production coordination issues, auxiliary machinery space: forward machinery space: workshop area.

Cardinal Date Status

Milestone' Completion of Car Deck Recesses' originally due 9 April 2021 and is now claimed as complete 7 May 2021, is now scheduled to be complete 24 May 2022 under the guidance set out in the re-baselined programme. The balance of work needed to complete the remaining 17 structural recesses remains to be started. The programme slippage currently stands at 128 calendar days. Clearly the baseline expectations underpinning the RBP is unrealistic.

Commissioning		154d	22-Aug-22	03-Apr-23
A1110	Commission Auxiliary Systems	37d	22-Aug-22*	11-Oct-22
A1150	Main Engine & Gearbox Commissioning	15d	31-Oct-22*	18-Nov-22
A1160	STW Propulsion controls/ Bow Thruster/Inclining	58d	21-Nov-22*	17-Feb-23
A1120	Dry Dock	11d	25-Jan-23*	08-Feb-23
A1130	Trials	32d	13-Feb-23*	28-Mar-23
A1140	802- Delivery	0d		03-Apr-23

Work to complete the claimed milestone of structural completion claimed 7 May 2021 remains ongoing. Many other areas need to be worked and completed to achieve 'full' Steel/Aluminium Structural Completeness. Examples are, installation of all remaining internal bulkheads,

aluminium bulkheads within the accommodation areas, installation of all stairwells, completion of welding of all Panama fairleads, completion of lift shafts, installation of all windows, installation of Forward Mast and the cutting / opening of bow doors and associated major structural works.

Aft Mast: As of week 21, 2021, milestone completion claimed 7 May 2021. However, final acceptance by CMAL inspection was not possible as the build quality of vent pipe supports, and poor standard of internal structure coating was insufficient to satisfy normal industry build standards or the requirements set out in the contractual specification.

Belting: Milestone completion claimed 7 May 2021; As of week 30, 2021, work remains incomplete on the starboard side of the vessel, work has been progressed this period to complete the port aft belting. Programme slippage currently stands at 115 calendar days.

9.0 Next Stage Payment Due

n/a

10.0 Forthcoming Period Events

(Note of events, visits, holidays or other yard commitments)

11.0 Tests & Trials Due

Updated statistics not provided by FMPG for this reporting period.

12.0 Risk Register Update

Updated statistics not provided by FMPG for this reporting period.

13.0 Safety & Environmental

Title	This Month	Cumulative
RIDDORS	0	0
Fatality	0	0
Lost Working day Case	0	5
Medical Treatment Case	2	22
First Aid Case	10	76
Property Damage	0	0
High Potential Near Miss	2	3
Near Miss	0	0
Fire Incident	0	0
Environmental Incident	0	0
Total Number of Recordable Injuries	0	1
Total Number of Days Lost	1	48

Figure 5 Data From FMPG

Print Name: [Jim Anderson]

Signature:

Date: 16 December 2021

[redacted]