

Programme: 801 Glen Sannox
100m LNG Dual-fuel Ro-Ro Passenger Ferry

Review Period: May 2023

<u>Name</u>	<u>Job Title</u>	
David Tydeman	CEO	
[REDACTED]	Ship Delivery Director	
	Ship Delivery Director	
	CFO	



Agenda



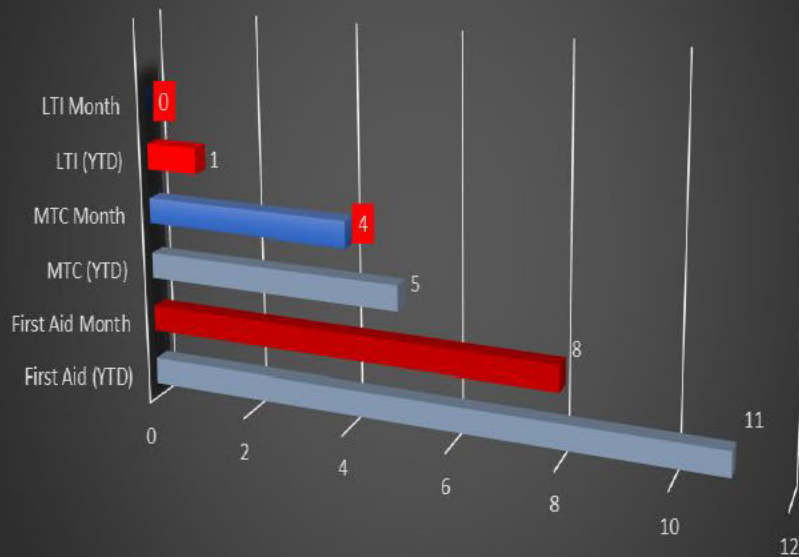
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HSE Dashboard May 2023

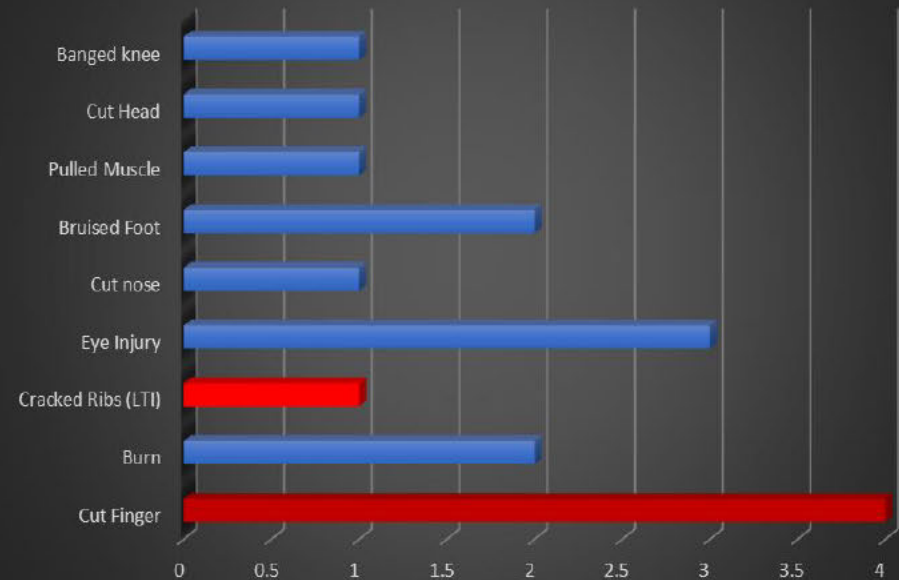
* Per 1,000,000 working hours
** Estimated no. of hours worked

Incident Statistics	Target	Actual		Fatal	0	Fire	0	Proactive Statistics	Target		Actual	
	2023	Month	YTD						Month	2023	Month	YTD
Number of Hours Worked**	858029	78137	156274	RIDDOR	0	Damage	0	Number of YSYD Cards	>50	>600	50	102
Number of Lost Time Incidents (> 3 Days)	< 9	0	1	LTI (> 3days)	0	Environmental	0	Toolbox Talks Issued	2	24	1	3
Lost Time Incident Freq Rate*	< 10.14	0	6.40	Medical Treatment (MTC)	4	Serious Near Miss	0	Housekeeping Inspections	4	48	4	8
Number of Recordable Injury Incidents	< 30	51.19	44.79	First Aid	8	YSYD	50	Emergency Drills Completed	>4	>48	1	3
Total Recordable Injury Incident Rate*	< 35.0	153.58	108.78	Total Injuries	12	TOTAL Incidents	4	Vessel Compliance Checks	30	420	30	60

Reported Incidents YTD 2023 / 2024



Injury Type YTD 2023 / 2024



HSE Summary May 2023

Progress Update:

May Incidents

- We experienced 4 Medical Treatment Cases and 8 First Aids in the month of May
- 2 MTC in last 7 days – Apprentice fabricator with burn to leg and scaffolder with foot injury, both were treated at hospital and returned to work.
- 3 First Aids in the last 7 days – Pipefitter Dust in eye / Engineer Insulation spike cutting head / scaffolder with knock to knee
- Weekly safety walks are proving a valuable and efficient tool, however looking to drive effective closure of findings with various Managers and Supervisors throughout the yard.
- New small fire extinguishers now handed out for all hot work tasks moving forward for 801 and 802. This has really improved the efficiency of the hot work scopes.
- New planning meeting to take place every day at 15:00pm has been initiated for 801 with the main objective to understand what the main critical hazardous work scopes are to take place over the next 24 hours, this meeting has been positively received, should look at 802 moving forward.
- New wireless emergency alarm system is now in place on 802, system and has had two rounds of testing and is proving to be very effective and a significant improvement from previous units fitted. These new improved units will be implemented onto 801 in June.
- Looking to re-implement HAVs controls - following initial meeting costs are to follow for rental and buy options.
- Currently putting a business case together for the introduction of [REDACTED] Quality filtration system in the main fabrication sheds within the yard.



801 Level 0 Programme

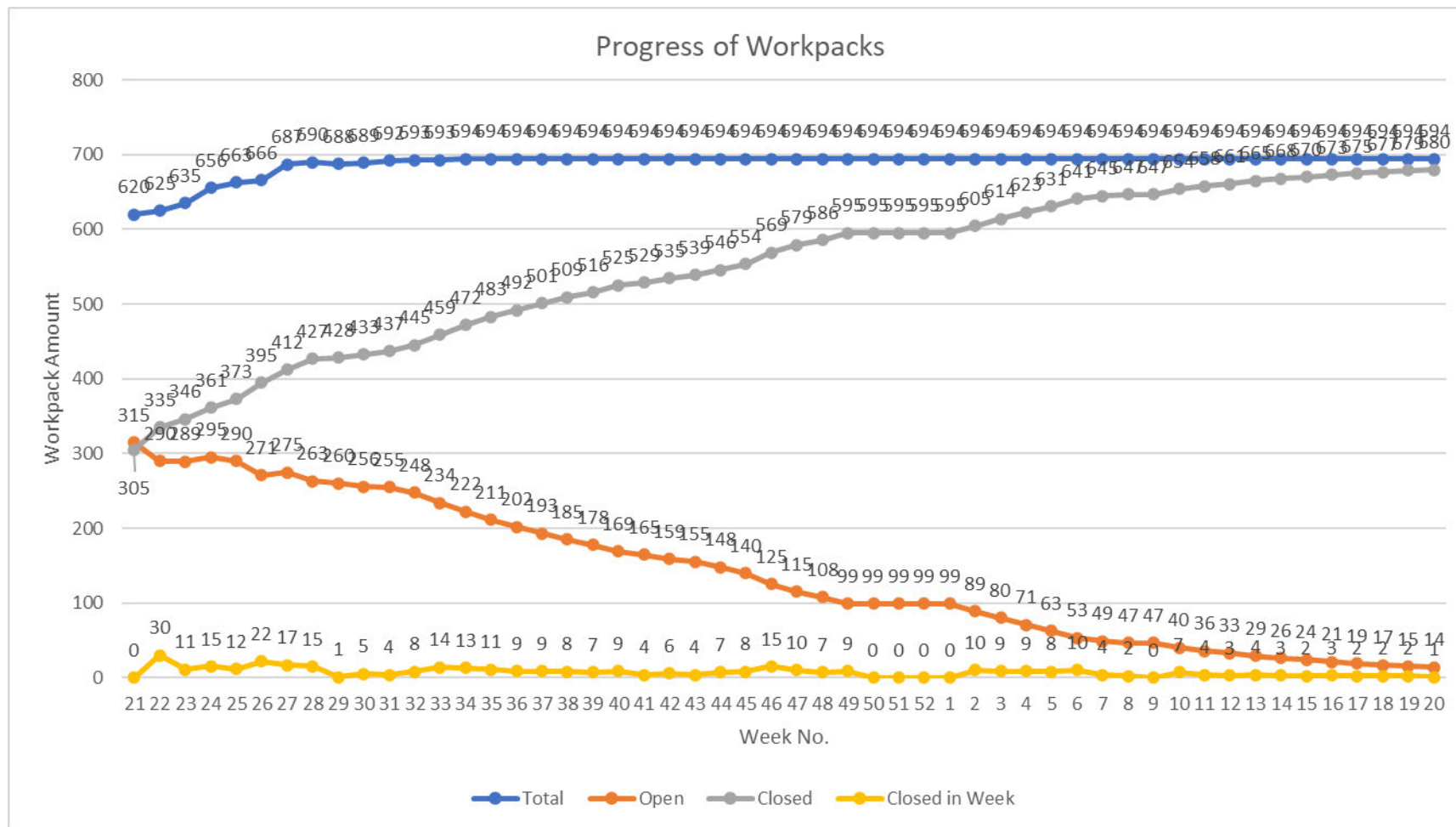
Year		2023												
Month		Feb	Mar	Apr	May	Jun	July	Aug	Sep	Oct	Nov	Dec		
801	Engineering/Design	[Blue bar]												
	Manuals/Certification	[Blue bar]												
	Hotwork Installation	[Blue bar]												
	Painting	[Blue bar]												
	Clam Shell Doors/Ramps		[Blue bar]											
	Mezzanine Decks & Ramps	[Blue bar]					[Blue bar]							
	Lift Install [REDACTED]	[Blue bar]												
	Wheelhouse completion	[Blue bar]												
	Accommodation/Outfit	[Blue bar]												
	Pipework Installation	[Blue bar]												
	HVAC	[Blue bar]												
	Electrical Installation	[Blue bar]												
	Commissioning	[Green bar] Commissioning												
	Dry Dock		[Yellow bar]								[Yellow bar]			
	Sea Trials/MGO								[Yellow bar]					
	LNG Install/ Commissioning								[Yellow bar]					
	LNG Trials											[Yellow bar]		
	Owners Trials												[Yellow bar]	
	Snagging					[Yellow bar]								
	Handover												[Green diamond]	

801 RAG Status

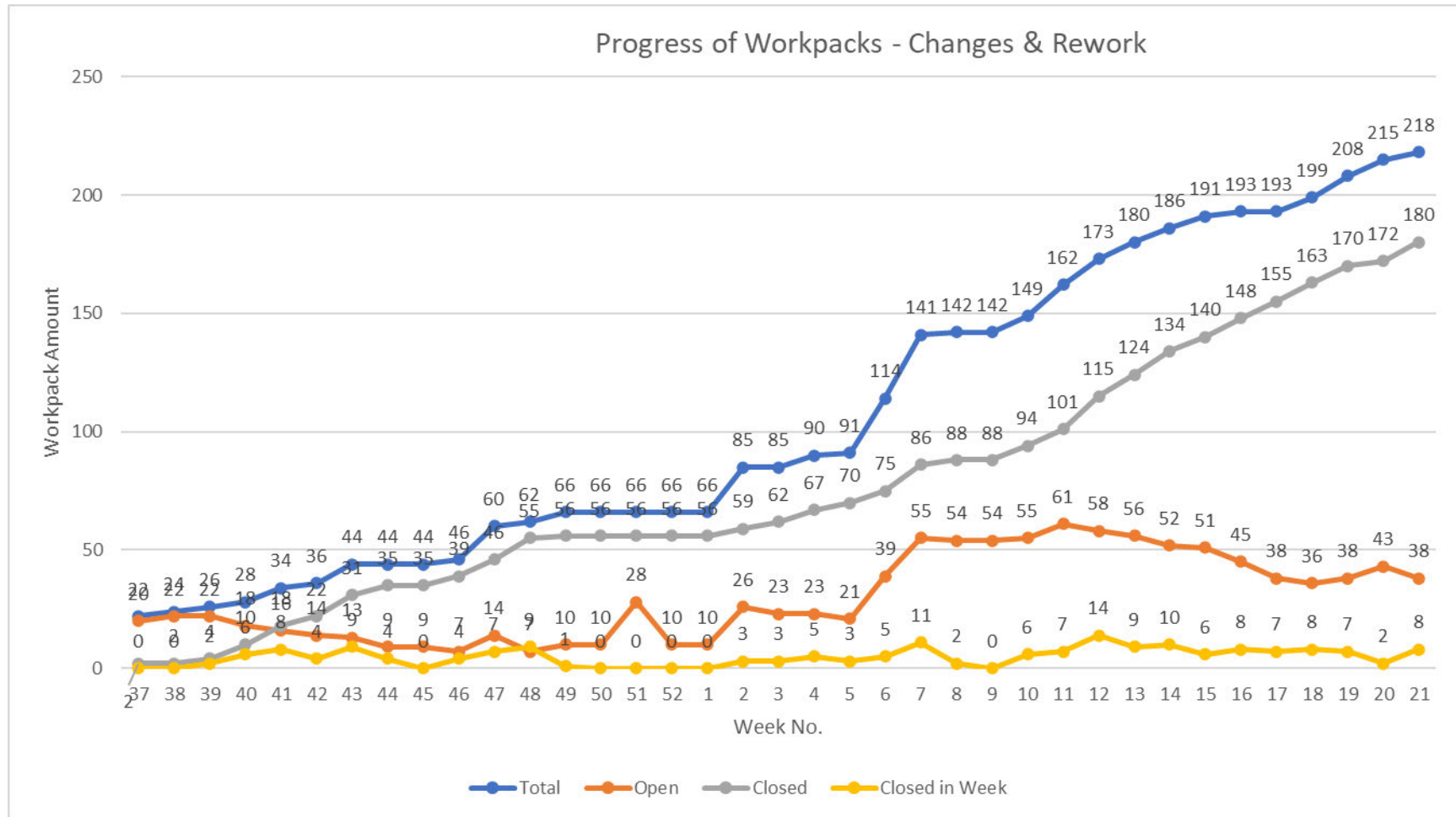


Discipline	Overall Status				Concerns	Actions	Comments
	Feb-23	Mar-23	Apr-23	May-23			
Overall Status	A	G	G	G			
Safety	A	G	G	G			
Engineering- Design	R	G	G	G			
Procurement	G	G	G	G			
Hot-Work	A	G	G	G			
Piping - FMPG	A	G	G	G			
Piping [REDACTED]	A	G	G	G			
Piping [REDACTED] hydro	A	G	G	G			
Mechanical [REDACTED]	A	G	G	G			
Electrical - [REDACTED]	R	G	G	G			
HVAC - Co-At	A	G	G	G			
Commissioning	A	G	G	G			
LNG	R	G	G	G			
Lift Install	A	G	G	G			
RO-RO Equipment	A	G	G	G			

801 Hotwork Work Packs



801 Hotwork Changes & Rework



801 Pipework Installation

[REDACTED] Total pipes/spools to install: 1327

- Week 21 saw a focus on making new spools, flushing/testing. No new spools installed.

• **FMPG total pipes/spools to install: 3148**

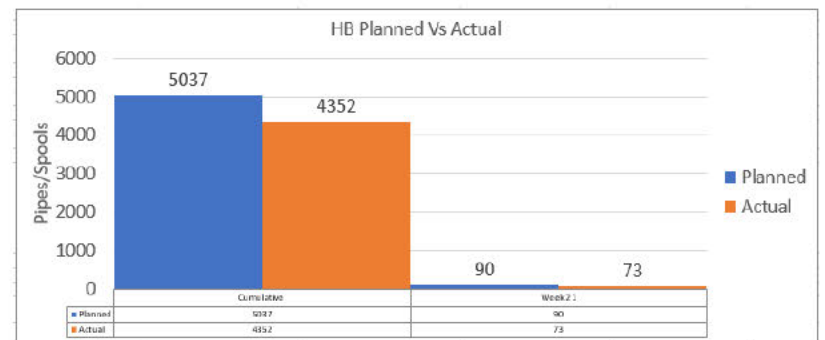
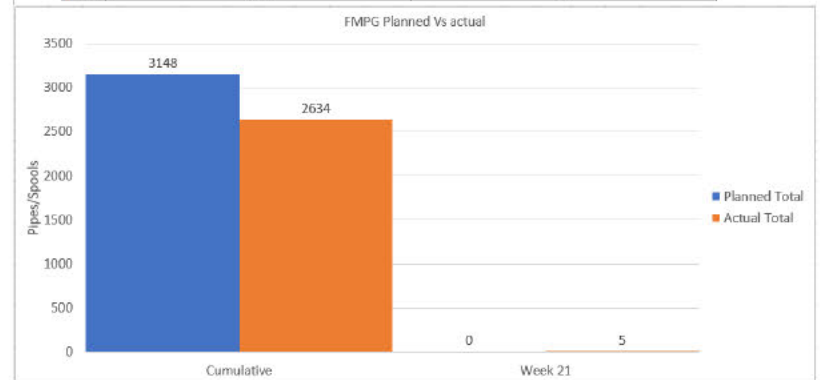
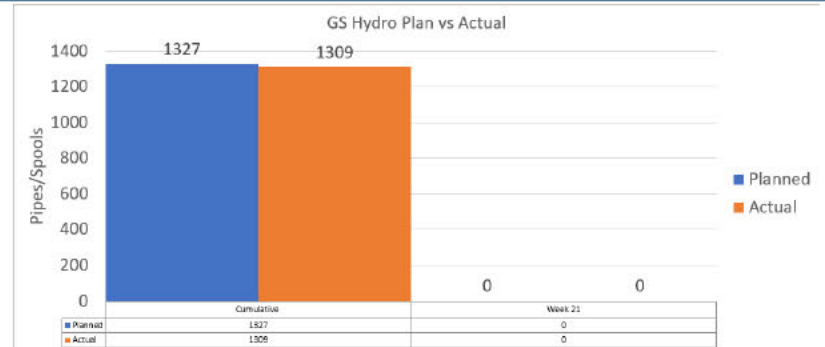
• Tasks achieved for week 21:

- Complete DP pipework above ceiling in ECR
- Complete CW/HW in stbd ECR Stairwell
- Carry on with LNG install in both stbd & port casings
- Carry on with LNG install in 0306 LNG Tank room
- Carry on with pipe mods in 0304 STP
- Glandpacking throughout ship

• [R] Total pipes/spools to install: 5037

• REMAINING TECH FRESH SYSTEM INSTALLATION AND TEST.

- HARBOUR GENNY FUEL MOD.
- BHS MOD ZONE 8.
- NITROGEN SYSTEM IN ER.
- DRENCH SYSTEM AFT.
- FF SYSTEM OBSERVATIONS.

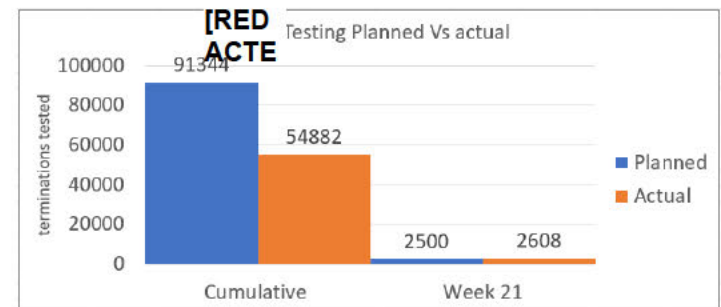
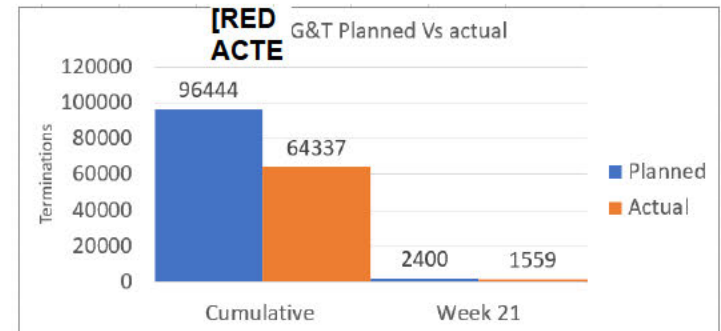
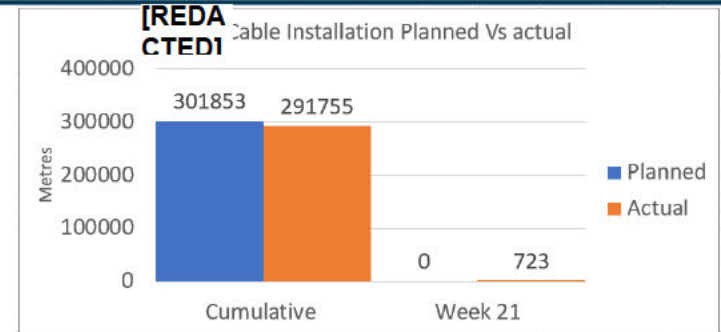


801 [REDACTED] - Cable Progress

- Total meterage to install: 301,853

- Total meterage to gland and terminate: 100,752

- Total meterage to test: 100,752



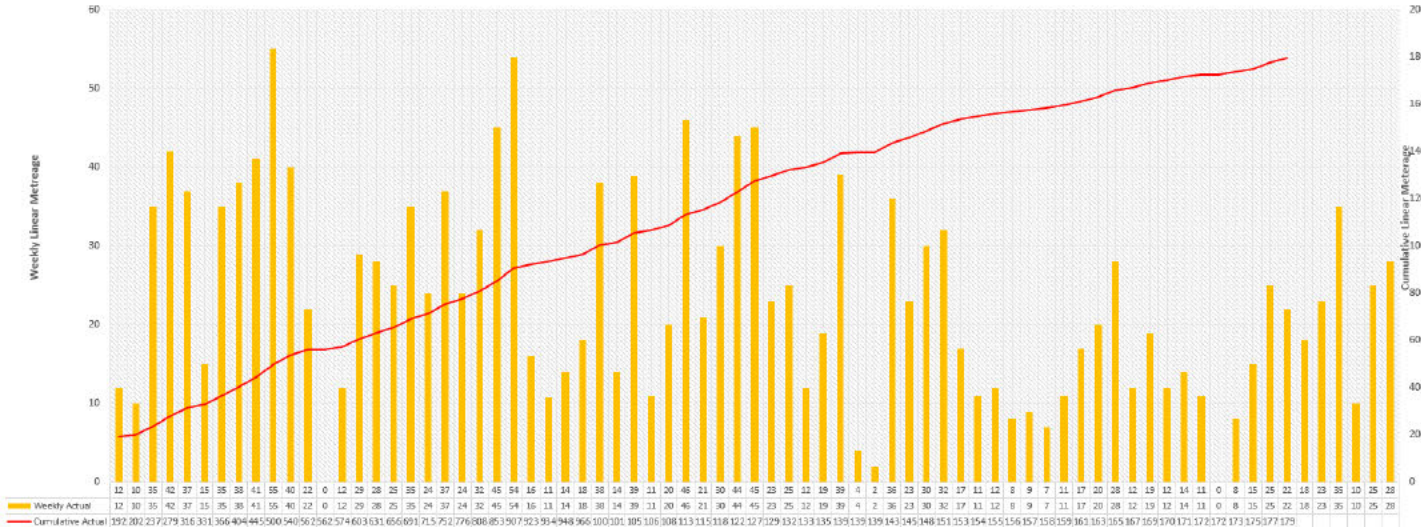
[REDACTED] HVAC Install

Recent Activities

- Installing Fire Dampers on ship side plenums
- Installing Ducting, Unit Room 7 Deck Aft
- Installation of Hydraulic Room Ducting through casing
- Installation of Sewage Treatment Room Ducting through casing
- Installation of Stabiliser Room Ducting through casing
- Installation of Wheelhouse void space Ducting
- Installation of Galley ducting

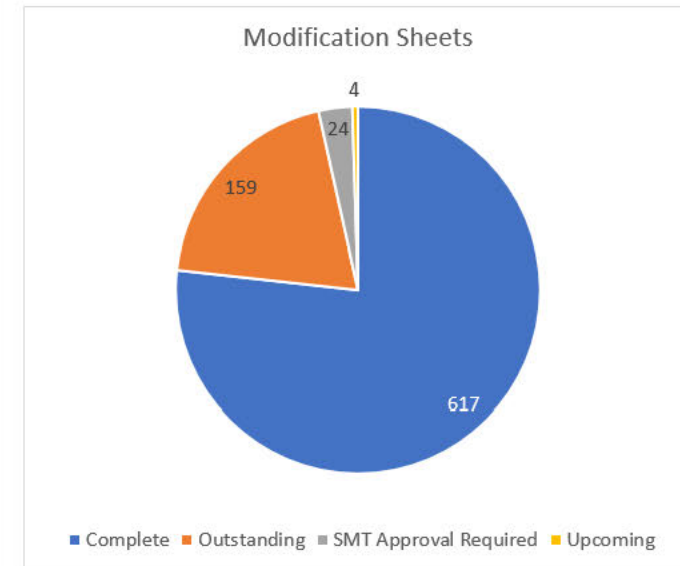
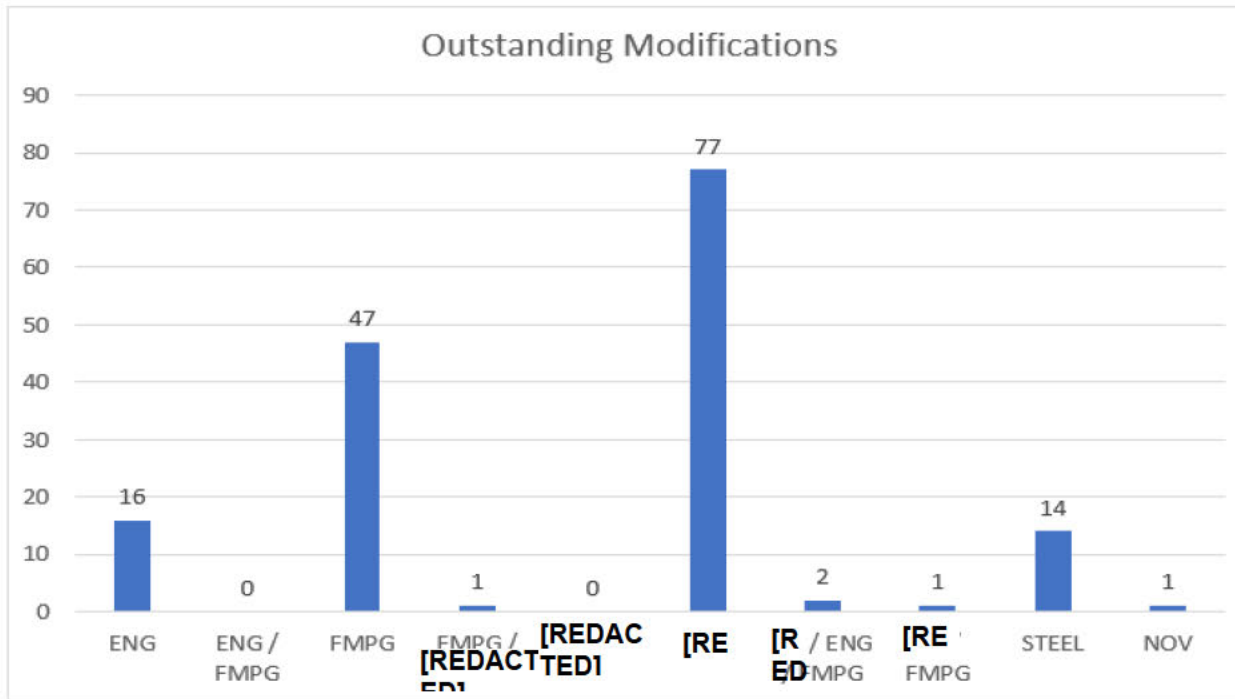
Zone	Total Metreage	Installed Metreage	%age Complete
1	32	32	100.0%
2	35	26	74.3%
3	113	98	86.7%
4	94	83	88.3%
5	14	14	100.0%
6	378	286	75.7%
7	1	1	100.0%
8	304	283	93.1%
9	1096	1046	95.4%
10	198	198	100.0%
11	115	115	100.0%
Totals	2380	2182	91.7%

HVAC Installation Progress 'S' Curve



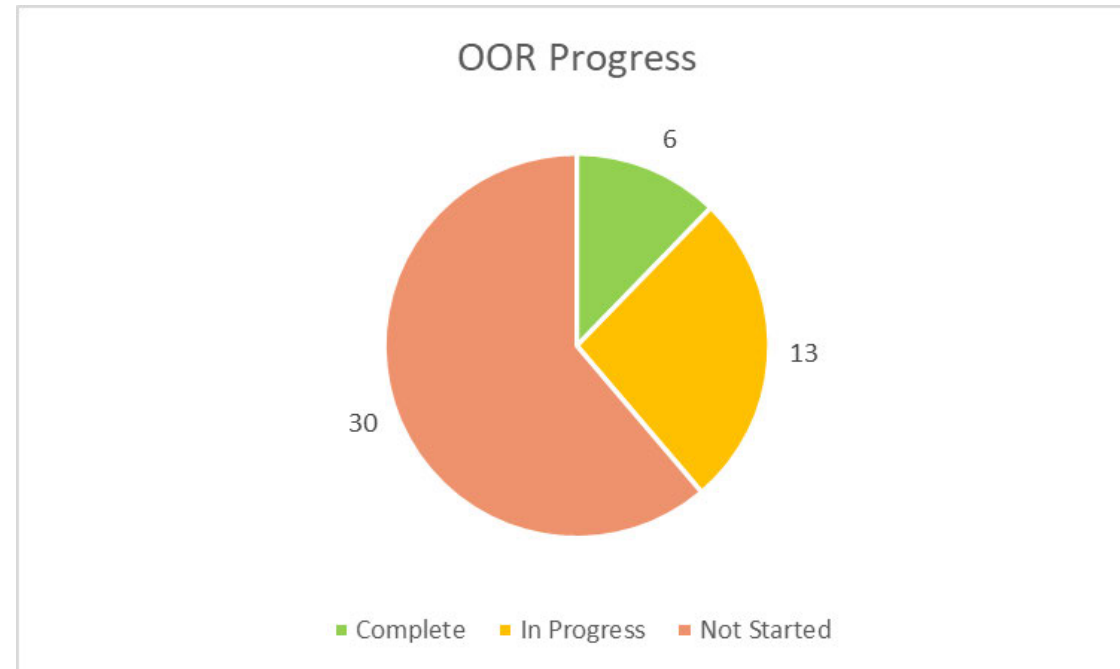
Engineering Status

- Out of the 18 OORs submitted for engineering review, solutions are available for all 18. Related modification sheets have now been prepared.
- 16 CMAL TQs raised – 6 closed, 10 have resolutions prepared to be complete on board.
- All Engineering drawings for [REDACTED] updated and submitted, local approval is ongoing.
- 159 out of 804 have yet to be implemented/verified on board. 4 mod sheets due end of week 22.



OOR Progress (Production)

- OOR 149 – Fitted ready to be signed off
- OOR 347 – Stiffening under decks to be verified once engines
- OOR 375 – Hotwork complete for spigots
- OOR 596 – Both Heeling tanks complete to be signed off
- OOR 506 – Flywheel and shaft guards now underway when possible
- OOR 280 – Signed off
- OOR 533 – Flooring support has been modified in way off thermostatic valve, however CMAL would like further work
- OOR 548 – Position of mass flow meters to be signed off by CMAL after walk around on ship
- OOR 422 – Work complete to be signed off



Weight & Stability

Stability

- Intact Stability book was submitted on 9th Dec 2022. MCA's feedback received and intact section agreed on 31May2023.
- Damage Stability book was submitted on 9th Mar 2023. Although calcs are ongoing, MCA informed on 31May2023 that FMPG's methodology is correct. Final values subject to inclining experiment and to be updated.
- Lightship weight distributed and still water bending moments and shear forces calculated. The longitudinal strength calcs submitted to [REDA] provided limit curves on 23 Mar 2023 and related figures reflected to the longitudinal strength calcs and submitted to [REDA] on 5 Apr 2023. [REDA] comments received for the risk of buckling in the upper structure of the ship under compressive stresses on 23May2023. Under investigation with load conditions as advised by [REDA].
- [REDACTED] fed with stability database on 17Mar 2023. [REDA] loading computer will be integrated after MCA's preliminary book approval.
- Damage control plan and book templates are ready, to be released after stability book's approval by MCA.
- Regarding bespoke [REDA] WT and [REDA] agreed on the technical boundaries of the integration as of 05 Apr 2023. PO is raised and forwarded to the company and paid on 31May23. FAT is expected to be received in before 9Jun2023 and [REDA] /MCA to be invited for FAT of the door.
- 802's stability information booklet was awarded on 24May2023.

Weight

- Calibrated weights will be used for both inclining experiment and [REDA] ramps' load tests.
- Final inclining will be undertaken before sea trials.
- Usage of [REDA] NA screeding compounds as caused additional increase from planned estimates. Details being reviewed.

Escape Routes

- MCA confirm the MSF1261 submission has been supported by Glasgow MCA office and is now with MCA HQ Southampton for approval

Ship support activities

Manuals - No further update this period

- Site survey of as built equipment concluded (excluding ER/GB space which will be complete during commissioning activity)
- Operations Manual – This will be reviewed on an ongoing basis during commissioning of equipment. and training - FMPG will update the Operations Manual
- OEM Manuals ongoing and shared via shared FMPG-CMAL SharePoint CALMAC feedback positive. The site teams are working closely to identify the remaining elements –watching brief

Spares

- CalMac Gourock stores readying for next inventory from 5th June – Anchors, propeller Blades, FO purification Fenders. This activity will continue up to handover
- Consolidated master spares list now created and Procurement engaging vendors for identified delinquencies. Engineering team validating original spares list to current design.

Training – No further update this period

- 801 - [REDACT] propulsion platform **now completed** [REDACTED]
- **802 - agreed in principle Q1/2024** 19th until 23rd February 2024 (Propulsion at [REDACTED] board) ; 26th February until 8th March 2024 (Engines at [REDACT] 11th until 15th March 2024 (Engine Control at [REDACT] ; 18th until 22nd March 2024 (LNG Pac at [REDACT
- PMS and Alarm and Monitoring system timings to be arranged with [REDACTE in line with agreement below
- Classroom Training onsite then practical demonstration onboard and time afforded on board for following:
 - Nav and comms
 - Internal comms ~(i.e Entertainment CCTV etc)
 - Praxis Alarm and Monitoring
 - Power Management System
- For retrofit switchboards, [REDACT to provide O&M manuals for their modifications FMPG will then train the Ships staff onsite.
- EDICS online training

- Comments
- AOB