

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

Review Period: August 2023

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



Agenda



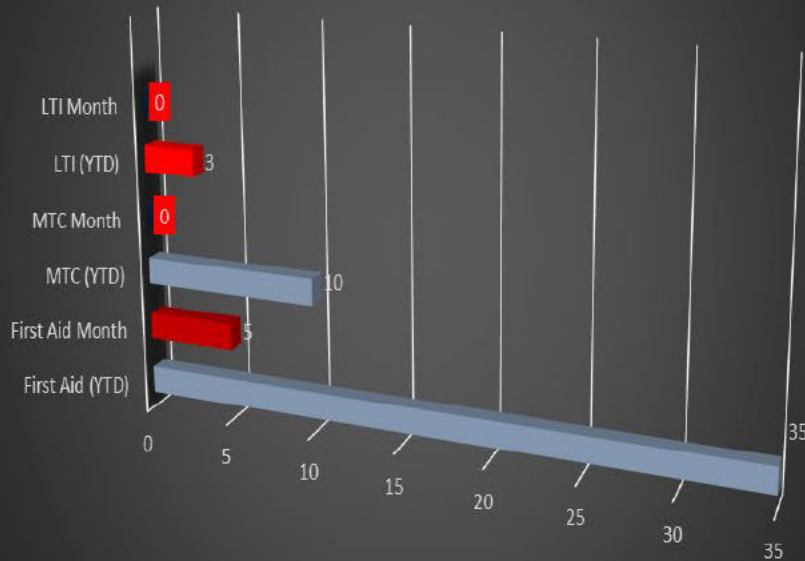
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HSE Dashboard August 2023

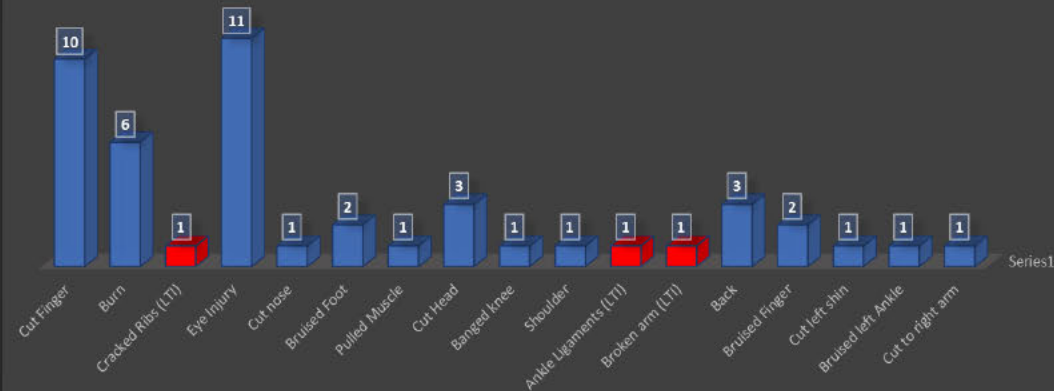
* Per 1,000,000 working hours
** Estimated no. of hours worked

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	390685	RIDDOR	0	Damage	0	Number of YSD Cards	>50	>600	52	258
Number of Lost Time Incidents (> 3 Days)	< 9	0	3	LTI (> 3days)	0	Environmental	0	Toolbox Talks Issued	2	24	1	6
Lost Time Incident Freq Rate*	< 10.14	0	7.68	Medical Treatment (MTC)	1	Serious Near Miss	0	Housekeeping Inspections	4	48	4	20
Number of Recordable Injury Incidents	< 30	0	33.27	First Aid	5	YSYD	52	Emergency Drills Completed	>4	>48	1	6
Total Recordable Injury Incident Rate*	< 35.0	76.79	117.74	Total Injuries	6	TOTAL Incidents	0	Vessel Compliance Checks	30	420	30	150

Reported Incidents YTD 2023 / 2024



INURY TYPE YTD 2023 /2024



HSE Summary

Latest Incidents

We experienced 2 First Aid last 10 days –

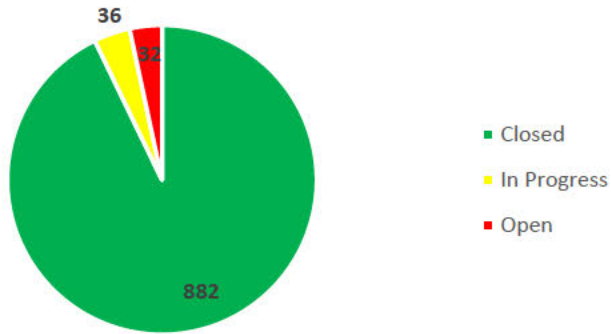
- Painter cutting finger during paint prep work.
- App Eng scraping top of back on scaffold on 801 engine room.

- We are currently working YSYD card spreadsheet to pull specific trends and analysis to help drive continual improvement throughout the business. (see next slide) Looking at ways to improve the participation.
- We have carried out a full review of the FMPG induction processes which are now in 3 versions Visitor / Office / Operations.
- To enhance improved communications throughout we have now installed 3 large screens at both amenities and reception. this will highlight inductions, recent incidents, safety alerts and improvements we are wanting to implement.
- We have developed an HSE improvement plan within the main / module shed for **[RED]** work moving forward. Yard and vessel heat map to be established which will effectively identify clear responsibilities throughout the shipyard.
- Looking to re-implement HAVs controls – This is at the approval stage with equipment to arrive 2 weeks lead time from placement of order.
- **[REDACTED]** Air Quality filtration system in the main fabrication sheds within the yard – Main / Module shed survey to took place 5th July / Aug and follow up visit penciled to confirm order planned for 19th Sept.
- We have recently implemented the new Barrier tags; these will be issued with each permit requiring barriers to be put in place for the work task in question clearly showing the date and reason for the barriers to be in place.

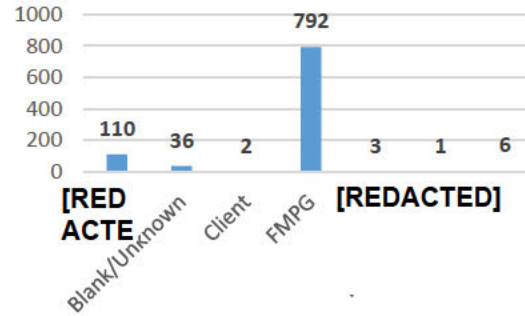


YSYD Observation / Near Miss Trending

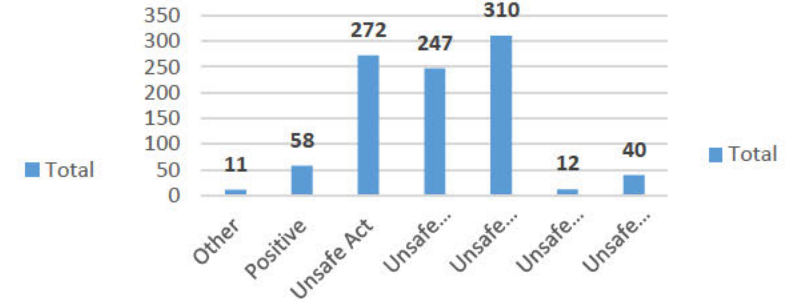
Status



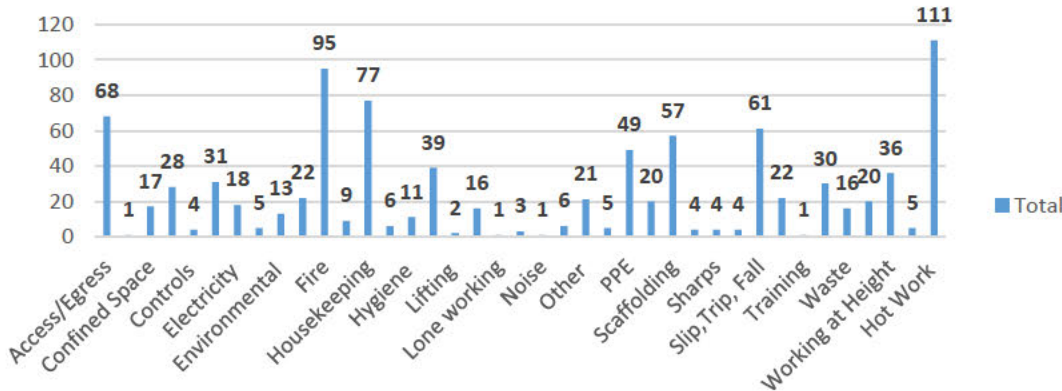
Company



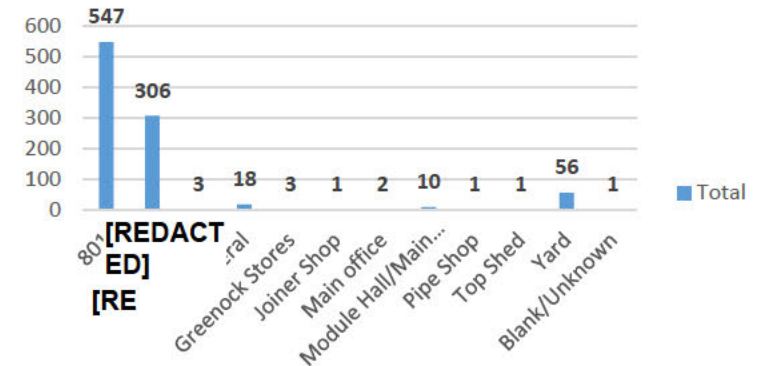
Category



Hazard/Topic



Project/Area



801 Level 0 Programme

Will be revised to March 2024 when MCA approval is confirmed.



Level 0 - Programme Glen Sannox (July 2023) This Programme does not address any additional works associated with review of Evacuation Analysis.

Year	2023						24				
	Month	July	Aug	Sep	Oct	Nov	Dec	Jan			
Engineering/Design	[Gantt bar: July to mid-Aug]								Extended from March Addressing MS		
Manuals/Certification	[Gantt bar: July to Oct]								Remains on Track		
Hot work Installation	[Gantt bar: July to Sep]								Extended to align MS / Changes		
Painting	[Gantt bar: July to Dec]								Painting realigned to meet Delivery Date		
Clam Shell Doors/Ramps	[Gantt bar: July to Sep]								Slippage due to availability of SME (Holiday Period)		
Mezzanine Decks & Ramps	[Gantt bar: July to Aug]								Mezz Deck Load Testing Achieved by end of July		
Lift Install [REDACTED]	[Gantt bar: July to Sep]								Slippage due to availability of SME (Holiday Period)		
Wheelhouse completion	[Gantt bar: July to Aug]								Remains on Track		
Accommodation/Outfit	[Gantt bar: July to Nov]								Extended to align MS / Changes		
Pipework Installation	[Gantt bar: July to Nov]								Extended to align MS / Changes		
HVAC	[Gantt bar: July to Dec]								Extended to align with Accommodation Outfit		
Electrical Installation	[Gantt bar: July to Nov]								Extended to align MS / Changes		
Harbour Trials (Condensed)			[Gantt bar: Sep]						Moves, Aug to end Sept due to MS / Change to primary piping systems		
Commissioning [REDACTED]	[Gantt bar: July to Dec]								Extended to Align with MS Alteration Programme		
Crew Training [REDACTED]						[Gantt bar: Nov to Dec]			Ongoing		
Move Vessel to Inchgreen				[Gantt bar: Oct]					Vessel Move to [REDACTED] allow Launch of 802		
MES Deployment						[Gantt bar: Nov]			Alongside at [REDACTED]		
Dry Dock							[Gantt bar: Dec]		Moves to December to facilitate Passenger Cert		
Builders Sea Trials/MGO							[Gantt bar: Dec]		Aligned with Overall Programme		
LNG Install/ Commissioning				[Gantt bar: Sep to Dec]					Programme Dependent on Technical Support		
LNG Trials							[Gantt bar: Dec]		LNG Trials dependant on CalMac Crew & Follows Drydocking		
Owners Trials (MGO)							[Gantt bar: Dec]		Owners Trials to follow Builders		
LNG Bunkering							[Gantt bar: Dec]		LNG Bunkering cannot precede Drydocking		
Snagging				[Gantt bar: Oct to Dec]					General Activity		
Handover									To be Agreed with Client		

801

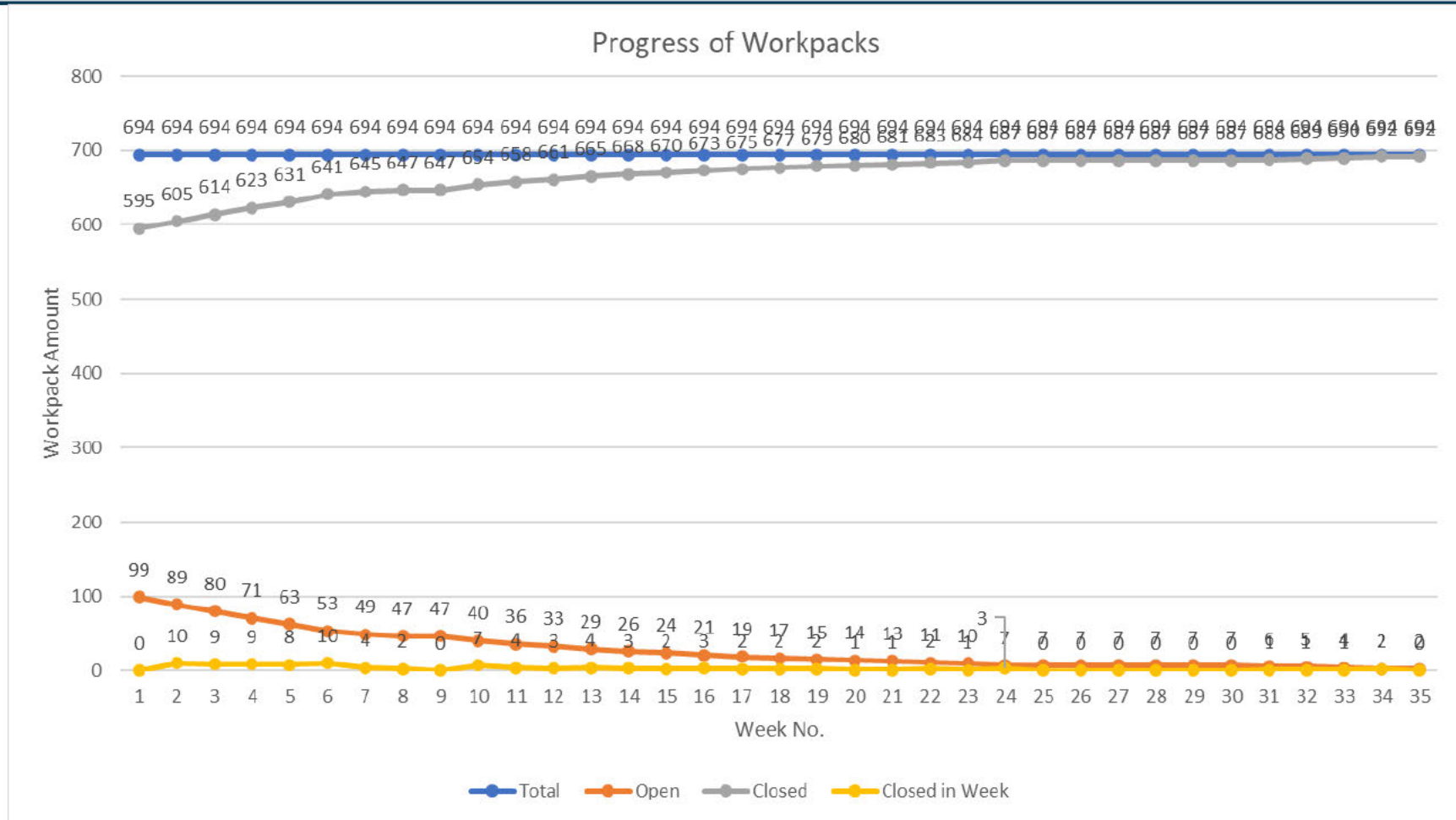
801 RAG Status



RAG status reflecting March 2024 output.

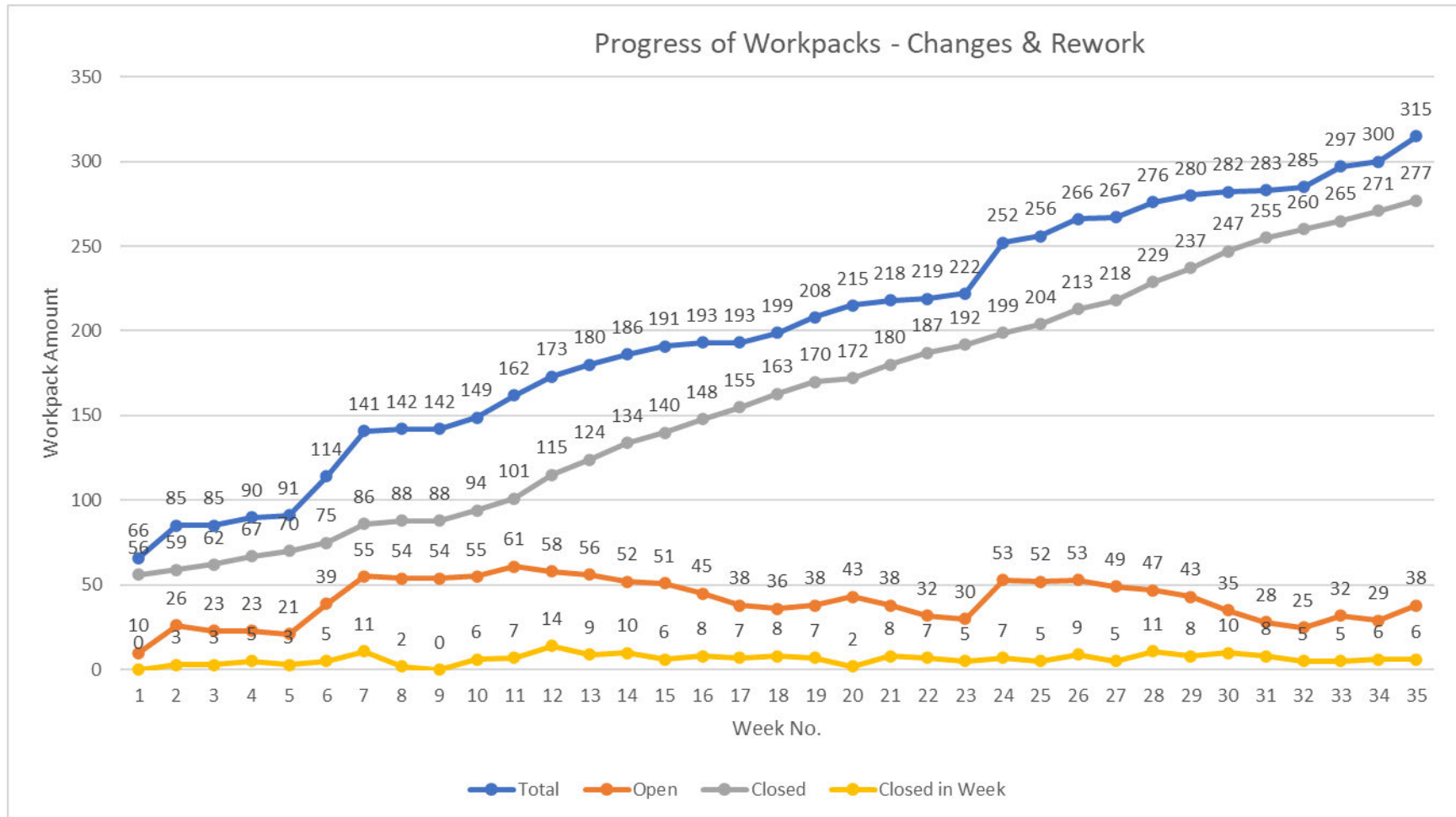
Discipline	Overall Status				Concerns	Actions	Comments
	May-23	Jun-23	Jul-23	Aug-23			
Overall Status	G	R	A	G	Pas senger routes evacuation	Awaiting approvals from MCA	
Safety	G	A	A	G			
Engineering- Design	G	A	A	G			
Procurement	G	G	G	G			
Hot-Work	G	G	G	G			
Piping - FMPG	G	A	A	G			
[REDACTED]	G	A	A	G			
Piping [REDACTED]	G	G	G	G			
Mechanical	G	G	G	G			
Electric [REDACTED]	G	R	R	A	Performance and delivery	Meeting held with [REDACTED] senior management team, Weekly meeting in diary to monitor	
[REDACTED]	G	G	G	G			
Commissioning	G	R	R	A			
LNG	G	A	A	G			
Lift Install	G	G	G	G			
RO-RO Equipment	G	G	G	G			

801 Hotwork Work Packs



Focusing on Changes & Rework, Original scope workpacks need to be reviewed also to verify which items are still relevant within the workpack

801 Hotwork Changes & Rework

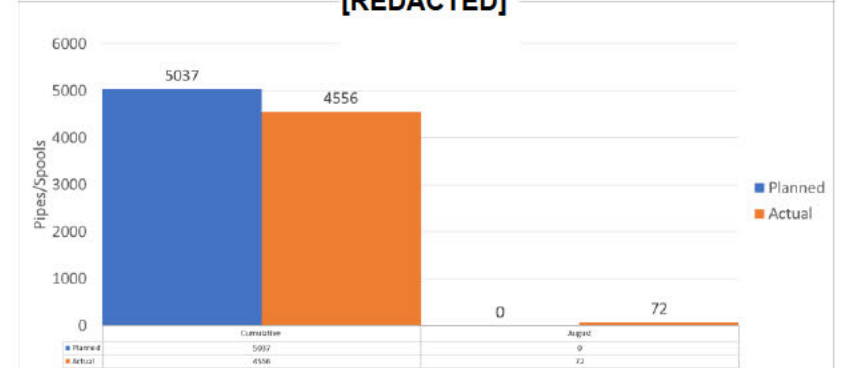
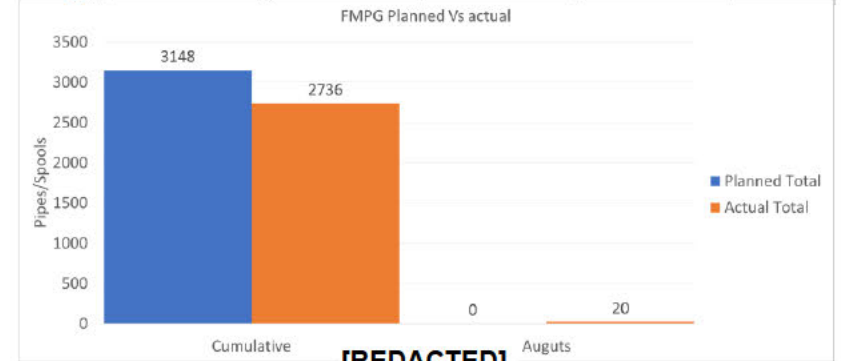
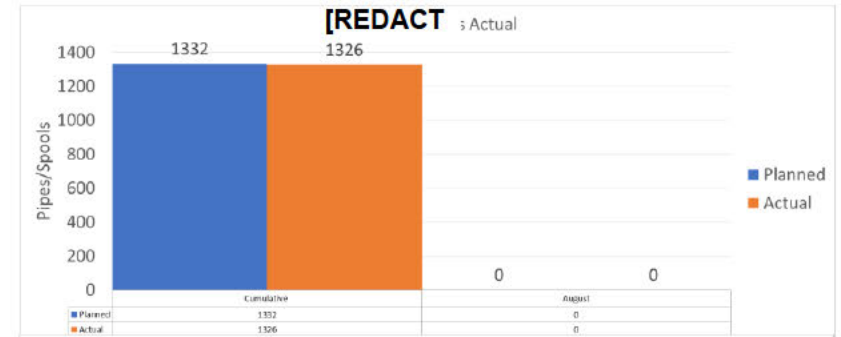


801 Pipework Installation

- [REDACTED] total pipes/spools to install: 1332 (increased by 5 due to modifications)

- FMPG total pipes/spools to install: 3148

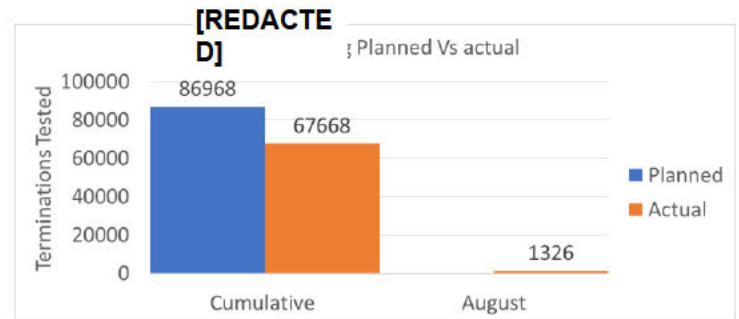
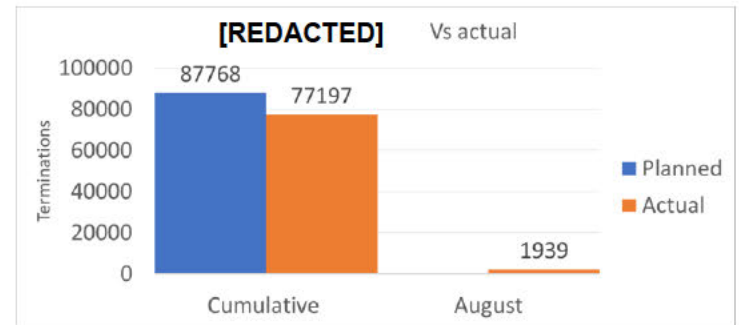
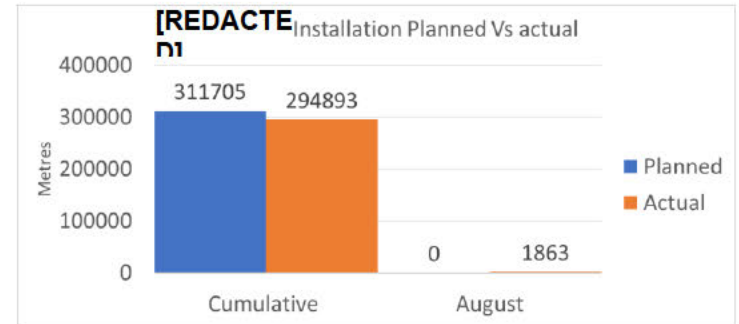
- [REDACTED] Total pipes/spools to install: 5037 (excluding modifications)



- **Total meterage to install: 311,705**
Week 35

- **Total to gland and terminate: 87768 (nr)**
Week 35

- **Total meterage to test: 86968 (nr)**
Week 35



[REDACTED] HVAC Install

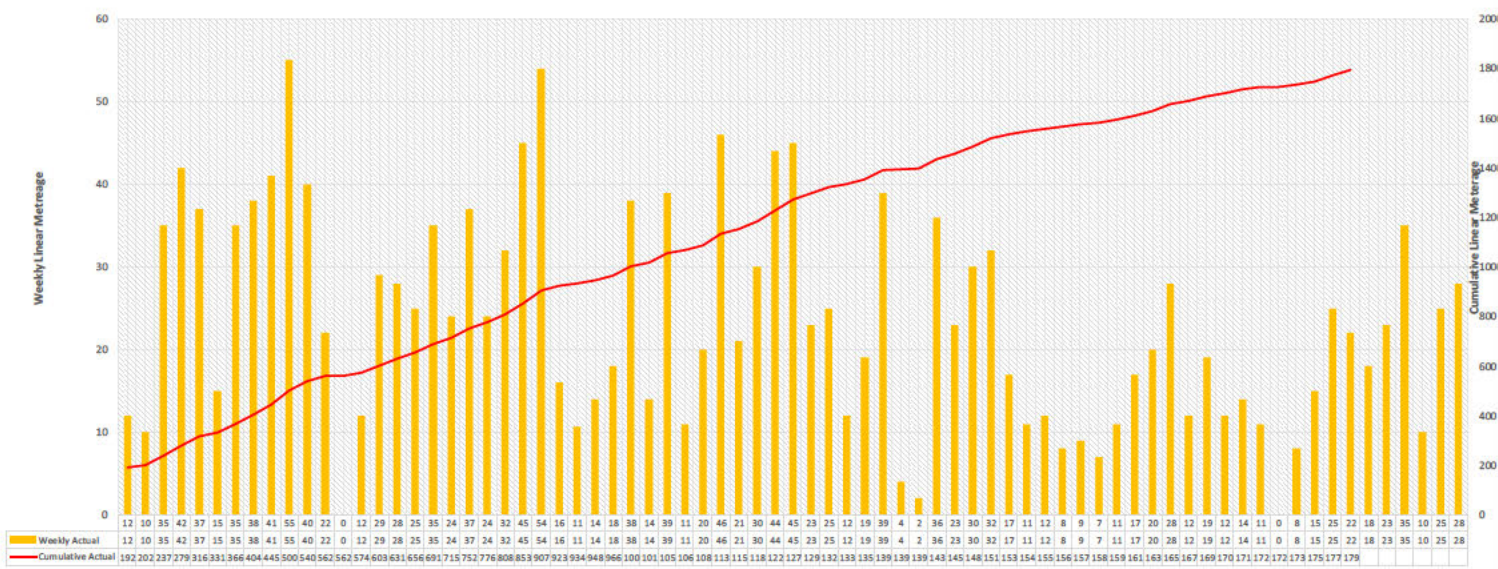


Week No. :	3123	
Total Estimate of Linear Metreage :	2380	
Estimate of Installed Metreage to Date & %age :	2262	95.0%
Total Metreage yet to be installed & %age :	118	5.0%
Current Date & Week No. :	02/08/2023	week 31
Completion of Installation :		
No of Weeks to complete ⁽¹⁾ :		
Required Duct Metreage Instal Rate per week to complete by Stipulated Date :		

Zone	Total Metreage	Installed Metreage	%age Complete
1	32	32	100.0%
2	35	26	74.3%
3	113	109	96.5%
4	94	92	97.9%
5	14	14	100.0%
6	378	294	77.8%
7	1	1	100.0%
8	304	298	98.0%
9	1096	1083	98.8%
10	198	198	100.0%
11	115	115	100.0%
Totals	2380	2262	95.0%

(1) Allowing 1 week for Easter & other stats

HVAC Installation Progress 'S' Curve



Engineering Status

- **Lloyds Submissions** – Final [REDACTED] approval of LNG System has now been received. Updates to [REDACTED] drawings associated with Escape stairwells is ongoing.
- **MCA Submissions** – Approval of secondary escapes in crew accommodation and passenger areas has been received, 30th Aug. All production drawings have been released and subcontractors fully informed of their scope. Work onboard is well underway. All requisitions for doors and materials have been submitted. FMPG is still awaiting MCA clarification on rules related to Escape Trunks from machinery spaces, MCA were due to respond on the 15th September. All possible design solutions are being worked on in anticipation of the MCA response.
- **Owners Observations** - Engineering have no outstanding OORs or TQs and continue to support production with patrol remarks and closing out historical issues.
- **Spares** - The identification of all required spares for 801 and spares transferred to CalMac so far has been completed. All relevant information has been passed to procurement to conclude on the spares in stores or requiring to be procured.
- **As Built Drawings** - Production of final As Built Drawings is ongoing and will continue until sea trials.
- **Manuals** - Production of the Operations Manual is complete and has been passed to CalMac for final comment.
- **Modification Sheets** - All Engineering modification sheets are complete and have been submitted for implementation at ship. These are also well under way on board.
- **Electrical Modification Sheets** - We have now released cable schedule 41, there should be no further cable schedule released for 801. [REDACTED] have now agreed a completion date for hull 801. The car deck doors have arrived, and electrical installation work can now commence.
- **Sea Trials** - Engineering will begin preparing for Sea Trials over the coming weeks.

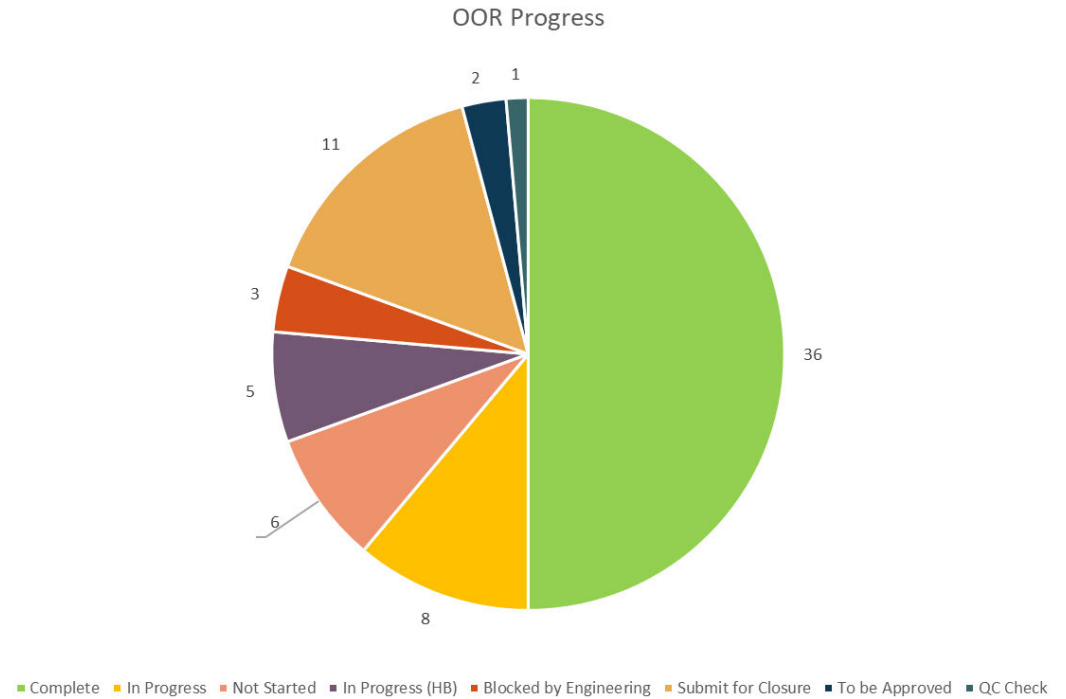
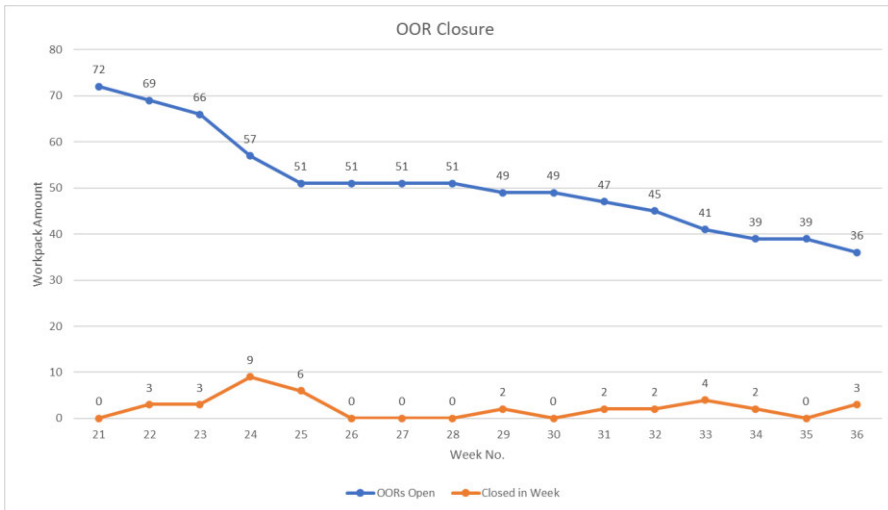
Risk

Current top 5 risks on risk register:

Risk N	Risk Category	Risk Name	Risk Identified by:	Risk Owner	Risk Description	Pre-mit. Imp	Pre-mit. Likelihood	Pre-mit. Risk Score	Pre-mit. Rankin	Mit./Action Planned
C7-801	Compliance	Design Consolidation	[REDACTED]	[REDACTED]	Machinery escape non compliance	50	3	150	6	<ul style="list-style-type: none"> 1. Escape Analysis conducted confirming AS built arrangement escape meets the statutory escape times. 2. Robust design justification paper submitted 3. Site survey by MCA completed 4. New solution currently being worked up by Engineering for submission to MCA.
	Contract Queries	Contract Queries	[REDACTED]	[REDACTED]	Subcontractor costs continue to surface ie HB circa [REDACTED] for previous works. [REDACTED] available for 802 used on 801.	25	4	100	13	<ul style="list-style-type: none"> 1. New process implemented for capturing costs. 2. Sit down with Subcontractors to establish/confirm previous costs.
C6-801	Compliance	Design Consolidation	[REDACTED]	[REDACTED]	An alternative Design arrangement submission (MSF 1261) relating to Secondary escape routes from passenger Observation lounge has been submitted to MCA for Equivalence to FFS Code requirements [REDACTED] - updated supporting documentation submitted to MCA following initial review prior to Glasgow office endorsement for HO review	50	3	150	7	<ul style="list-style-type: none"> 1. Escape Analysis conducted confirming AS built arrangement escape meets the statutory escape times. 2. Robust design justification paper submitted 3. Site survey by MCA completed 4. New solution currently being worked up by Engineering for submission to MCA.
P2-801	Production	Sub-Contract [REDACTED]	[REDACTED]	[REDACTED]	Sub- Contractor under performing (BGEN): 25% progress vs 65% Programme not aligned to commissioning plan, Sept 2022 currently at 50%	50	5	250	1	<ul style="list-style-type: none"> 1. Recovery Plan now reviewed and monitored. Cable install now on track. G&T and testing behind plan.
E2-801	Engineering	801 Engineering	[REDACTED]	[REDACTED]	Design Maturity, consolidation of design and management of change poses a risk to the delivery plan	10	5	50	19	<ul style="list-style-type: none"> 1. Realign Engineering team structure 2. Strict control and ownership structure for change control processes 3. Restructure of Liaison, and QC teams to support operations 4. Ongoing discussions with [REDACTED] now moved into [REDACTED]

OOR Progress (Production)

- 11 OORs with CMAL for sign off
- 1 to be checked by QC after work completed
- 2 solutions to be approved for implementation
- QC Department integrated into the completion of OORs



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 [REDACTED] provided limit curves on 23 Mar 2023 and related figures reflected to the longitudinal strength calcs and submitted to [REDACTED] on 5 Apr 2023. [REDACTED] 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 [REDACTED] Approved SWBM limits (30000 kNm – 95000 kNm) in DAD document has forwarded [REDACTED] and [REDACTED] to generate load conditions and additional section strength calculations will be processed by [REDACTED]
- [REDACTED] fed with stability database on 17Mar 2023 [REDACTED] 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 semi-WT aft lift doors, [REDACTED] and [REDACTED] agreed on the technical boundaries of the integration as of 05 Apr 2023. [REDACTED] approved doors shipped and expected to arrive at Port Glasgow w/c 18 Sep. Service Engineer availability is from 02 Oct.
- 802's stability information booklet was awarded on 24May2023.

Weight

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

Escape Routes

- MSF 1261 for Deck 5-6-7 escape routes approved by MCA HQ on 30 Aug and necessary changes are ongoing onboard.
- Escape trunk details are under investigation and a new MSF 1261 form will be submitted w/c 18 Sep.

- Comments
- AOB