

**Programme:** 100m LNG Dual-fuel Ro-Ro Passenger Ferry

**Programme Director:** [redacted]

**Review Period:** June 2021

<u>Name</u>	<u>Job Title</u>	<u>Signature</u>
[redacted]	Programme Director	
[redacted]	CFO	
[redacted]	Planning and Controls Manager	



# 1. Health & Safety

Month: **May 2021** Date: **21.06.21**

## 1. Monthly Cumulative Safety Statistics

Title	This Month Figures	Cumulative
RIDDORS	0	0
Fatality Case (Fatal)	0	0
Lost Working day Case (LWC)	9	9
Medical Treatment Case (MTC)	3	4
First Aid Case (FAC)	12	26
Property Damage (PD)	0	0
Near Miss (NM)	0	0
Fire Incident (FI)	0	0
Environmental Incident	0	0
Total Number of Recordable Injuries	1	1
Total Number of Days Lost	6	6

## 2. Description of Incident/Accident and Near Miss Reported This Month

### Events (NM/MT/FA/PD ETC....)

1. **RIDDOR. No Incidents Reported**
2. **Medical treatments 1 incident** – 1 head injury 801 cable space area, 1 Ankle Injury Module shed, 1 neck injury top shed.
3. **First Aid – 12 incidents** – 1 cut head, 1 Back injury, 1 debris in eye, 7 cut finger, 2 cut hand
4. **Fire incident** – Nothing reported.  
**24/7 fire watch patrols being maintained.**
5. **Environmental incident** – no environmental incidents occurred in month.
6. **Near Miss** – None reported

### Learnings from previous events

- **Electric shock – Jan** – occurred during bulb replacement due to unseen breakdown in cable protection – Whilst all normal precautions had been taken, limited experience of building condition (Greenock warehouse), meant electrician not aware fault existed.
- **Slipping incidents – Feb** – Slipping incidents – both occurred on vessel access walkways due to inclement weather. Additional gripper tape applied to fix.
- **Head injuries - March** – In both cases scaffolders helmets fell off during low level task due to lack of situational awareness – retrofit chin straps provided to all scaffolders and available to others working at height.
- **Rib Injury – April** – Engine room on 805 due to insufficient care & protection around a void space that was open. As a result the IP fell banging his side on the screws used to locate tank lid – correct barriers installed and all personnel reminded of the importance of ensuring that no tank lid is removed and left unattended until the correct care and protection is implemented.

## 3. HSE Activities

Description	This Month	
<b>Site Safety Inspection</b>	3	<ul style="list-style-type: none"> <li>801 &amp; 805 Walks include SMT member, Sub-contractor and or Union Representative.</li> <li><b>Continue to review the current site COVID-19 controls</b></li> </ul>
<b>Policy/ Paperwork/ Process Reviews</b>	1	<ul style="list-style-type: none"> <li>Permit to Work evolution into Integrated Safe System of Work using 'Worksafe' software – on site assessment, to confirm a good fit with our needs, completed mid May. Next step is to arrange technical briefing for 'permitting team</li> <li>Upcoming site lifts now formally considered during dedicated review meeting, held weekly.</li> <li>Question set developed to test understanding of personnel attending H&amp;S Induction</li> <li>New Health &amp; Safety Policy, incorporating arrangements and responsibilities to be submitted for sign-off (by Turnaround Director).</li> </ul>

## 4. HSE Initiatives

Description
H&S dept continue to identify, change & improve current processes, procedures & safety culture throughout the yard.
H&S Director and Turnaround Director continue to meet bi-weekly to discuss progress and align on next steps. Bi-monthly updates presented (via MS Teams) to the Board
Monthly Safety Committee continues with selected department attendees on a rotational basis. Safety walk now taking place, prior to meeting.
Agreement has been reached, between H&S and the Training Manager, regarding which roles should undertake which Health & Safety training modules. This is captured in a clear matrix. This includes Apprentices. NEBOSH training, to be attended by Head of Ops direct reports has been scheduled. The Director of Compliance will also attend, in order for him to take overall responsibility for HSE, with support from the permanent Head of HSE.
Emergency Response Team training, including Confined Space Rescue & Rescue from height with support from Mines Rescue Safety Training continues. Approx. 75% of the team have received this refresher training. Marine Safety Training (capability to rescue someone from the water) booked for 6 members of the ERT, mid June
Data collection, as input for provision of Accident Frequency Rate, now in place (includes FMPG and all its sub-contractors)
Process to source a suitable permanent candidate, for the role of Head of HSE continues. Final interview with senior team members, arranged for preferred candidate. Offer accepted by external candidate for permanent HSE Advisor role, to start end of June. New Trainee HSE Advisor, settling in well, as part of the team
Awaiting acceptance of offer, for the new role of Lifting & Rigging Manager (to take responsibility for all lifting activity in the yard and on vessels). Role will report to Facilities Manager with a dotted line (for governance), to the H&S Director
Combined HSE/HR & Union Information boards are being prepared for installation across the site. This will improve the quality and presentation of the information, including controls to ensure boards are regularly updated.
We are starting to see evidence of a positive impact of recent new hires into the business. Specifically: Training, Pipeshop, Manufacturing and Facilities Managers. This is relevant as they are generally bringing a more professional approach and personal attention to improving H&S safety in their areas of responsibility.
The planned start of Foreign workers in late May, was completed effectively, including adherence to Covid controls.

## 2. Contract Summary

<b>Customer</b>	Scottish Ministers	<b>Contract Start</b>	Contract Effective Date - 1st April 2020
<b>Agreed Contract value</b>	£110.3M	<b>Contract Finish</b>	801 [redacted] 802 [redacted]
<b>Project Type</b>	Design and Build	<b>Forecast Finish</b>	801 [redacted] 802 [redacted]
<b>Project Director</b>	[redacted]	<b>Contract Type</b>	Fixed Price

<b>Project Scope</b>	Design, build and commission 2 off LNG dual fuel ferries, including training and provision of spares and handbooks. The scope of this project is to complete the design and build etc. from the date of 16 <sup>th</sup> August 2019, being the date of Administration of FMEL
<b>Significant Project Changes</b>	None (in this phase).
<b>Acceptance Criteria</b>	As per the specification.
<b>Payment Terms</b>	Monthly payment application for Actual costs incurred in the previous calendar month
<b>Warranty</b>	The warranty for both vessels is 12 months from delivery. No allowance has been made financially for either shipyard support or suppliers' warranties that have lapsed during this period.
<b>Liquidated Damages</b>	No allowance has been made for late delivery. Performance penalty for weight – the maximum allowance of £250k per vessel has been included, if the allowance is exceeded the buyer has a contractual right to terminate. Performance penalty for speed - the maximum allowance of £150k per vessel has been included, if the allowance is exceeded the buyer has a contractual right to terminate. Performance penalty for fuel consumption – no allowance has been made.
<b>Special Conditions</b>	

### 3. Business Success Criteria

Success Criteria	Due	Owner	Enabler	Status	TL	Tr
Health & Safety	Through the project	[redacted]	<ul style="list-style-type: none"> <li>Formal Gap Analysis completed Dec 2020), to de-risk business, through introduction of appropriate safety controls and arrangements.</li> <li>This should provide the basis for a recognised management system</li> </ul>	<ul style="list-style-type: none"> <li>Progress against identified shortfalls is reviewed bi-weekly with Tumaround Director and every 2nd month with Board.</li> </ul>	A	↔
Quality: right first time, dimensional control, care and maintenance	Through the project	[redacted]	<ul style="list-style-type: none"> <li>Appointment of Compliance manager to integrate QC team with planned activity and support Operational teams</li> <li>Calling notice and reporting protocols establish</li> <li>Patrol and monitoring surveillance</li> <li>PotD</li> </ul>	<ul style="list-style-type: none"> <li>Progressive acceptance of Legacy mechanical system installations signed off by all stakeholders</li> <li>801 structural completion surveys supporting operations</li> <li>Preservation and reactivation activity ongoing</li> <li>Client site team/Class surveyor weekly washup meetings implemented</li> </ul>	G	↔
Work packages are issued with associated information and materials	June 20	[redacted]	<ul style="list-style-type: none"> <li>Inventory is loaded into the stores management module on [redacted] Inventory can be coded to align with P6 plan</li> </ul>	<ul style="list-style-type: none"> <li>Work packages for fabrication, hotwork and pipe manufacture are now being issued with material identified. A diary programme has been issued and will be used to manage the detailed workpack progress.</li> </ul>	A	↑
Commissioning & Sea trials		[redacted]	<ul style="list-style-type: none"> <li>Integration with build</li> <li>Resource</li> <li>Test forms</li> <li>Ability to source LNG sea trials crew</li> </ul>	<ul style="list-style-type: none"> <li>Plan is being updated to include commissioning activities</li> <li>Test forms have been started</li> </ul>	G	↔
Technical information is produced on time and change is minimised	Through the project	[redacted]	<ul style="list-style-type: none"> <li>Holds are cleared prior to required release of AFC2 issue drawings</li> <li>Legacy drawings identified prior to planned requirements, checked, issued and material requisitioned.</li> <li>Scope of work to complete understood and planned</li> <li>Document Control in place to facilitate access to the correct drawings</li> <li>Minimise change by confirming basic design is compliant</li> </ul>	<ul style="list-style-type: none"> <li>Lists of legacy drawings identified and being checked</li> <li>Ship surveys may be required for additional areas.</li> <li>Document Control being established in sharepoint – seeking external resource to set this up.</li> <li>ICRs are being targeted over next 4 weeks with an ambitious plan to close all 160.</li> </ul>	A	↔
Control of change is a properly managed process		[redacted]	<ul style="list-style-type: none"> <li>An overall change process is in operation. A detailed process for stop work to be implemented across the business.</li> </ul>	<ul style="list-style-type: none"> <li>An overall change process has been operating for some months, however there is now a level of change appearing from the field engineering team requiring stop works. The detailed process for managing this is being finalised</li> </ul>	A	↔
Customer relationship is positively maintained throughout the project	Through the project	[redacted]	<ul style="list-style-type: none"> <li>Regular dialogue at all levels, monthly reviews, ad hoc meetings</li> </ul>	<ul style="list-style-type: none"> <li>We propose a Rules of Engagement to be agreed to clearly define how CMAL and FMPG will work together. OOR process under review and will be working with CMAL to review legacy OOR's.</li> </ul>	A	↓
Subcontractors are effectively integrated within the programme		[redacted]	<ul style="list-style-type: none"> <li>POTD, weekly and monthly reviews</li> <li>Fortnightly HSE review</li> </ul>	<ul style="list-style-type: none"> <li>Subcontractors have been kept involved in rebaseline activity</li> <li>Timing of issue of rebaseline has generated need to re-align Subcontractor plans to ours</li> </ul>	A	↓
The project is properly resourced with: <ul style="list-style-type: none"> <li>Production management &amp; supervision</li> <li>Production labour</li> </ul>	April 20	[redacted]	<ul style="list-style-type: none"> <li>Accurate resource forecasting from the schedule and a resource strategy in place</li> </ul>	<ul style="list-style-type: none"> <li>60 [redacted] on site by 2nd July.</li> </ul>	A	↑

## 4. SOFT Report

Successes	Opportunities
<ul style="list-style-type: none"> <li>• The structural insulation public procurement has been concluded and contract is now signed.</li> <li>• 802 outfit steel packages are currently in manufacture.</li> <li>• Improved dimensional control using 3D technology. Units surveyed to date; 82, 83, 83 , 73,74 and 75. Providing first time fit capability to production.</li> <li>• Workpack diary process rolled out and starting to take effect.</li> <li>• GMES agency labour is working well and keeping the plan on schedule.</li> <li>• Pre-Stainless Steel Weld procedures now complete.</li> <li>• Internal Audit Schedule established with revised Non-Conformance Management.</li> </ul>	<ul style="list-style-type: none"> <li>• Build strategy review for 802 to build as blocks for wheelhouse and bow units prior to erection at ship</li> <li>• Automated welding has progressed on 802, with several join-ups now complete and the up-skilling of welder with this process</li> </ul>
Failures	Threats
<ul style="list-style-type: none"> <li>• The impact of the suspension of production work, labour shortfall and the extension to the 801 drydock has required a review of the 801/802 programmes. With the resourcing solution agreed the programmes have been finalised and submitted to SG for review and agreement.</li> <li>• The technical proposal for 801 hull paint repair has not been agreed with CMAL. A way forward has been agreed and a dry dock specification has been issued for agreement.</li> <li>• Penetrations and axilocks were not designed in accordance with the requirements. We have identified the failures and have a process for redesign, approval by Lloyds before issue of the work to the ships. Rework for pens is likely to be minimal (limited to legacy VN penetrations typically).</li> <li>• The OOR process is not working and is under review.</li> </ul>	<ul style="list-style-type: none"> <li>• COVID 19 impact to programme– Further issues/restrictions remain a threat to the programme. This risk is diminishing as restrictions levels are lowered.</li> <li>• Weight report – full review of the report is currently underway using [redacted] generated data and validating [redacted] data where possible. This may have a weight growth risk. NA team are progressively validating the estimate as discussed with CMAL in May review meeting</li> <li>• Cryodiffusion delay in getting [redacted] on contract may impact LNG pipe installation programme. Scopes of work have been agreed. First delivery is being reported as available at site in week 28.</li> <li>• Equipment information loaded on [redacted] does not align to the [redacted] equipment list. A full inventory is underway, circa 50% have been aligned to the equipment list.</li> <li>• Absence of MCA sign off for aluminium bulkhead HVAC penetrations is a threat to progress.</li> <li>• Level of change arriving as a result of field engineering review.</li> </ul>
Impact Statement / Help Needed	

# 5. Traffic Light Report

Criteria	Overall Status				Future Trend	Comments
	Mar 21	Apr 21	May 21	Jun 21		
Overall Status	R	R	G	G	↔	<ul style="list-style-type: none"> <li>Re-baseline plan has been submitted to SG and waiting for the plan release.</li> </ul>
Safety	A	A	G	G	↔	<ul style="list-style-type: none"> <li>Additional H&amp;S resources (permanent Head of HSE and 2 x H&amp;S Advisors) being recruited, with a trainee having now started. Offer accepted by 2nd (external HSE Advisor). Their role is to provide support to further improve H&amp;S on vessels under construction and across the yard. Priority H&amp;S actions continue to receive attention.</li> </ul>
Quality	A	G	G	G	↔	<ul style="list-style-type: none"> <li>Quality Progresses to Green and follows the natural progression of understanding the quality issues and route to closure, Legacy pipework quality controls delivering repeatable results with Client progressive sign off now established. QC to support for weekend working established</li> <li>801 and 802 reactivation activities continuing with successful results .</li> <li>Formal Wartsila Engine survey received, Cumings now arrived on site 1st June</li> <li>Care and preventive Maintenance steering group set up between Quality/Commissioning/Operations/Facilities</li> <li>Dimensional control surveys with Specialist contractor underway</li> <li>Double curvature plate being delivered by CentralStaal resulting in successful assembly program</li> <li>Weight control process underway. Continuous improvement developments still highlighted. QC now enquiring at Plan of the Day Meetings for a list of items to be weighed for that day.</li> </ul>
Customer Relationship	G	G	G	A	↓	<ul style="list-style-type: none"> <li>We propose a Rules of Engagement to be agreed to clearly define how we will work together. OOR process under review and will be working with CMAL to review legacy OOR's.</li> </ul>
Schedule	R	R	G	G	↔	<ul style="list-style-type: none"> <li>Re-baseline plan has been submitted to SG and waiting for the plan release.</li> </ul>
Finance	G	G	G	G	↔	<ul style="list-style-type: none"> <li>Project Cost EAC remains within target at £110m. Cost forecast being reviewed in fuller detail to reflect the re-baseline exercise carried out in the month, and reflected next month once re-baseline schedule confirmed</li> </ul>
Technical	A	A	A	A	↑	<ul style="list-style-type: none"> <li>LR / MCA approvals is ongoing</li> <li>Design verification completed; many issues found, typically poor documentation.</li> <li>Stability calculations are progressing as per the NA team plan.</li> </ul>
Suppliers	G	G	G	G	↔	<ul style="list-style-type: none"> <li>Structural Insulation ITT now at award.</li> <li>Mini competition tender on Pipe Installation for Zone 4 (801/802) and Zone 2 (802) is in process with PO's to be placed in early July.</li> <li>Steelwork Services ITT is now ready for release on PCS.</li> <li>Multiple packages of fabricated seats to be outsourced through PCS Quick Quote.</li> </ul>
Resources	R	A	A	A	↔	<ul style="list-style-type: none"> <li>Rebaseline required to update resource demand. 60 [redacted] employees on dite by 2nd July.</li> </ul>
Risk Management	R	R	R	R	↔	<ul style="list-style-type: none"> <li>The risk register and risk review process have been identified for Process Review and Improvement.</li> </ul>

## 6. Owners Observations

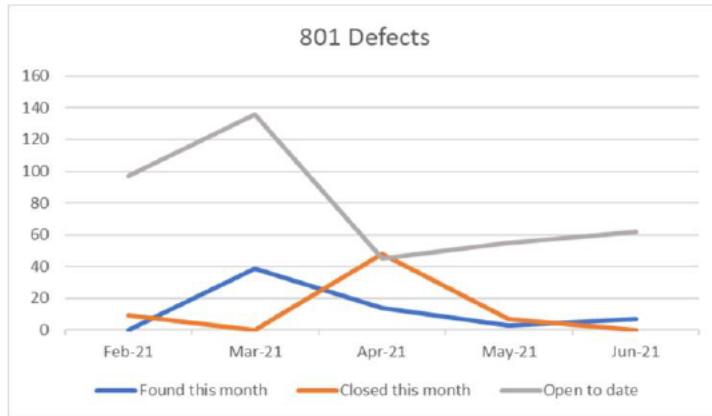
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- Process Review
  - now underway including :
    - Receipt acknowledgement;
    - Action allocation;
    - Forecast response date;
    - Formal response;
    - Agreed closure of OOR.
  - Project Management, Quality, Engineering and Operations all engaged
  - Further meeting scheduled for 24 June
  - Update on progress to be included in next pack
- Review of Legacy OORs to be progressed in parallel





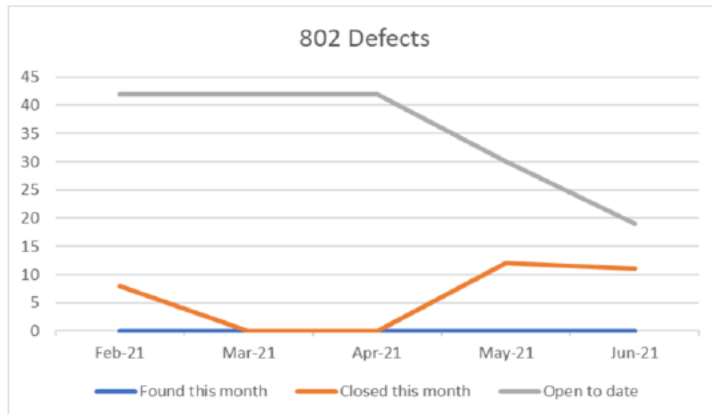
## 7. Quality 801 & 802



This months report shows 7 new defects open from last month on 801 which are all covering black steel pipes whilst patrolling onboard, 0 were closed out.

801 has seen surveys on mast and funnels continued bringing class and client to witness this with a minor markup noted.

MPI has been carried out on aft mooring deck bollards



There has been 0 new defects opened on 802 although 11 have been closed out covering care & protection. Defects are still continuously sent every Monday to ensure complete visibility of those remaining open and would encourage these to be worked through to reduce numbers

802 we have been working alongside welding dept to begin preparing linkups bringing them back to weldable standard carrying out pre-fit up checks.

Units 73, 74 & 83 have all been surveyed throughout build to ensure compliance, Lloyds have witnessed 73 & 74 & 84 and will be visiting 83 on Tuesday.

## 7. Quality

### Problem Statement:

**What:** On Vessel 801, Deck 5 Deck Head, CMAL has reported their findings of Insulation being fitted without the Pre- Insulation checks being performed. No formal approval to proceed with the insulation.

**When:** Wk 18

**Where:** Vessel 801, Deck 5, Deck head

**Impact:** No formal approval to proceed with the insulation. Risk of rework, Incomplete work being hidden

### Investigate the cause using 5 Why's

- WHY ?** - Insulation Installed prior to visual inspection being performed
- WHY ?** - No validation or confirmation that the compartment had been signed-off of prior to work commencing
- WHY ?** - No Request for Inspection had been submitted to QC to conduct a Visual inspection of compartment
- WHY ?** - The Request for inspection process had not been followed.
- WHY ?** - No documented process in place.

### Corrective Actions

1. A Hold Point will be added to the Work Pack Diary that will communicate to all stakeholders the Pre-Inspection of the Steelwork has to be completed prior to fitting the insulation. Once the Inspection has been signed off, including any remedial work completed. The signed off report will be forwarded to the Project / Operations to release Hold Point and schedule work to proceed.
2. A Visual representation of the QC status of each compartment to show signed off areas (per previous format, a highlighted Layout plan will be used). Placed within the QC Office to provide updates to the team.
3. Create a documented process and communicate to the stakeholders

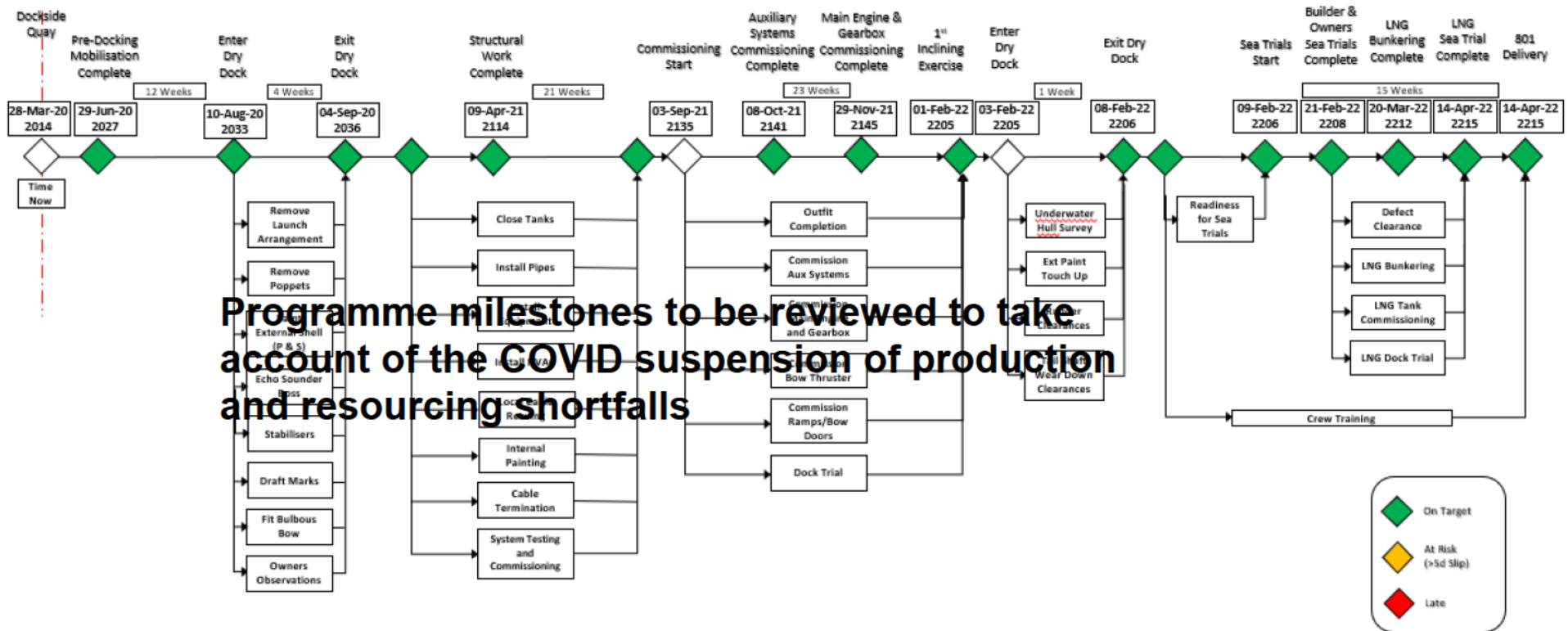
### Why will it correct the problem

Will provide a scheduled plan to give QC a control point window to perform Pre-Insulation checks. This will communicate the QC requirements to the entire Management Team to ensure compliance to the process.

The marked-up plans will provide a visual representation each day to the management team that the plans are being followed.

# 8. 801 Schedule Overview as @ Baseline Position ( Aug 2020)

## 801 Timeline to Delivery

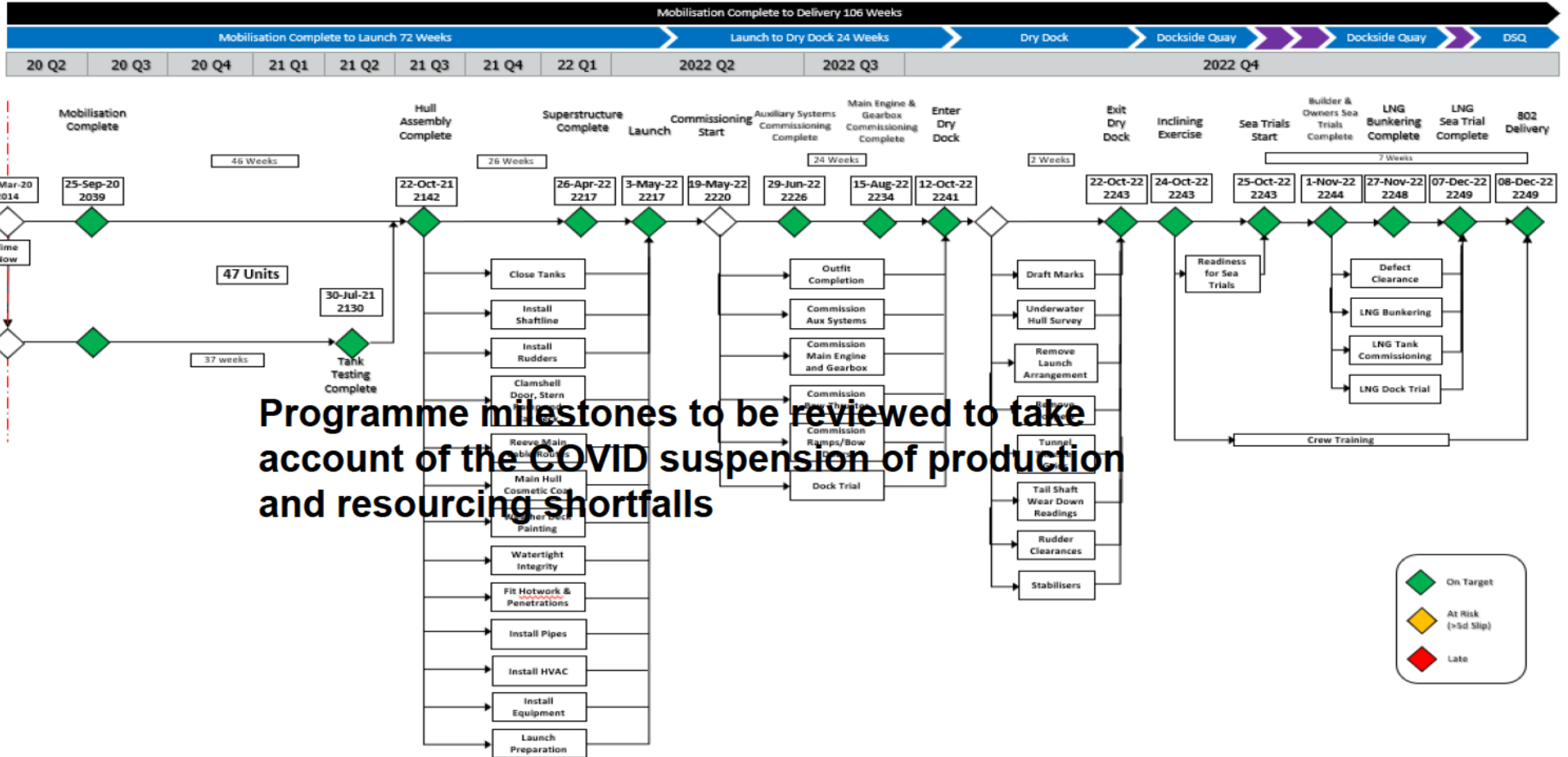


Programme milestones to be reviewed to take account of the COVID suspension of production and resourcing shortfalls

CDP has 3 weeks time contingency included compared to our Driving Project Plan

# 9. 802 Schedule Overview as @ Baseline Position (Aug 2020)

## 802 Timeline to Delivery

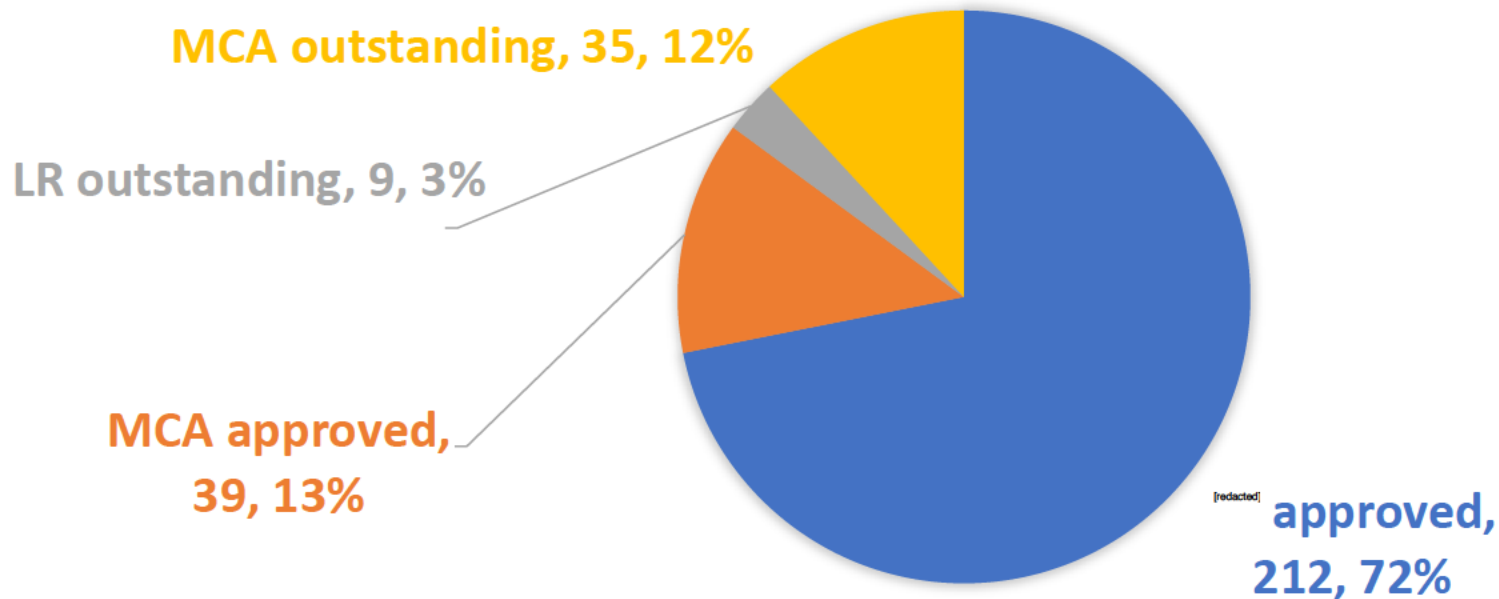


## 10. Weight

	rev21	REV25	REV26	Difference	Comments/Highlights
Group 1-1 Hull Steel	1543.54	1537.38	1537.38	0.00	
Group 1-2 Misc. Steel	141.83	138.68	135.61	-3.08	2.6t decrease in ICCP+MGPS, 0.4t decrease in overall margin
Steel Margin	0.00	0.00	0.00	0.00	
<b>Total Steel</b>	<b>1685.3</b>	<b>1676.07</b>	<b>1672.99</b>	<b>-3.08</b>	
Group 2 S/S Aluminium	177.39	158.81	158.81	0.00	
Aluminium Margin	0.00	0.00	0.00	0.00	
<b>Total S/S Aluminium</b>	<b>177.39</b>	<b>158.81</b>	<b>158.81</b>	<b>0.00</b>	
<b>2-4 Paint</b>	<b>33.16</b>	<b>32.99</b>	<b>32.93</b>	<b>-0.06</b>	Paint is a proportion of the total steel weight, so total steel changes from reduced the <u>weight</u>
Group 3 Cargo Equipment	185.89	202.40	202.40	0.00	
Group 4 Ship Equipment	183.13	186.39	188.28	1.89	Bow-stern thruster update (0.26t decrease), lifting lugs updated (2.15t increase)
Group 5 Accom. Outfit	564.73	590.17	590.17	0.00	
<b>Total Outfit</b>	<b>933.75</b>	<b>978.96</b>	<b>980.85</b>	<b>1.89</b>	
Group 6 Main Machinery	295.40	295.29	295.29	0.00	
Group 7 Machinery Systems	178.84	188.39	193.93	5.53	LNG system 8.04t increase, Fuel oil/bunker p&s 2.77t decrease, 0.27t margin <u>increase</u>
Group 8 Ships Common Systems	248.47	248.47	253.01	4.54	Cable weight update (4.54t increase from extrapolated items)
<b>Total Machinery &amp; Electrical</b>	<b>722.71</b>	<b>732.15</b>	<b>742.23</b>	<b>10.07</b>	
<b>Actual Weight of the Lightship</b>	<b>3552.38</b>	<b>3578.97</b>	<b>3587.81</b>	<b>8.83</b>	
<b>Margin weight (positive values)</b>					
<b>Excess weight (negative values)</b>	<b>1.97</b>	<b>-25.62</b>	<b>-34.46</b>	<b>-8.83</b>	
<b>Target Weight of the Lightship</b>	<b>3554.35</b>	<b>3553.35</b>	<b>3553.35</b>	<b>0.00</b>	
<b>Certainty of the lightship</b>	<b>89.79%</b>	<b>92.04%</b>	<b>92.39%</b>		
<b>Deadweight tonnage</b>	<b>877.95</b>	<b>877.95</b>	<b>877.95</b>		
<b>Displacement tonnage reading at 3.45m with 1.025t/cbm (Contract)</b>	<b>4431.3</b>	<b>4431.3</b>	<b>4431.3</b>		

- Detailed weight review held with CMAL on Thursday 27<sup>th</sup> May. No errors or omissions noted in the calculation.
- Actions agreed were that FMPG should continue the detailed validation of estimated weights by contacting OEMs and weighing items on site. This will allow assessment of the contingency weights.
- Detailed assessment of LNG and fuel piping systems in last month caused an increase, note the contingency has not yet been reduced.

## 11. Engineering – Basic Design Status



30 electrical drawings previously approved by [redacted] have been resubmitted following [redacted] updates. These are still counted in the ‘ [redacted] approved’ total. It is expected that these will be approved again without issue.

18 drawings counted as “MCA outstanding” were submitted to MCA at the end of April and we have not yet had a response. MCA workload is beginning to cause issues for our team.

## 11. LR outstanding

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- Freeboard / External Watertight Integrity Plan
- Forward Mast Plan Frames 111-118 Structural Details
- Cargo Securing Manual
- Echo Sounders, speed log and Draught Gauges
- Nitrogen System
- Glycol System
- Steelwork Standards
- Damage control plan
- LNG System For ME & DF Gen Sets

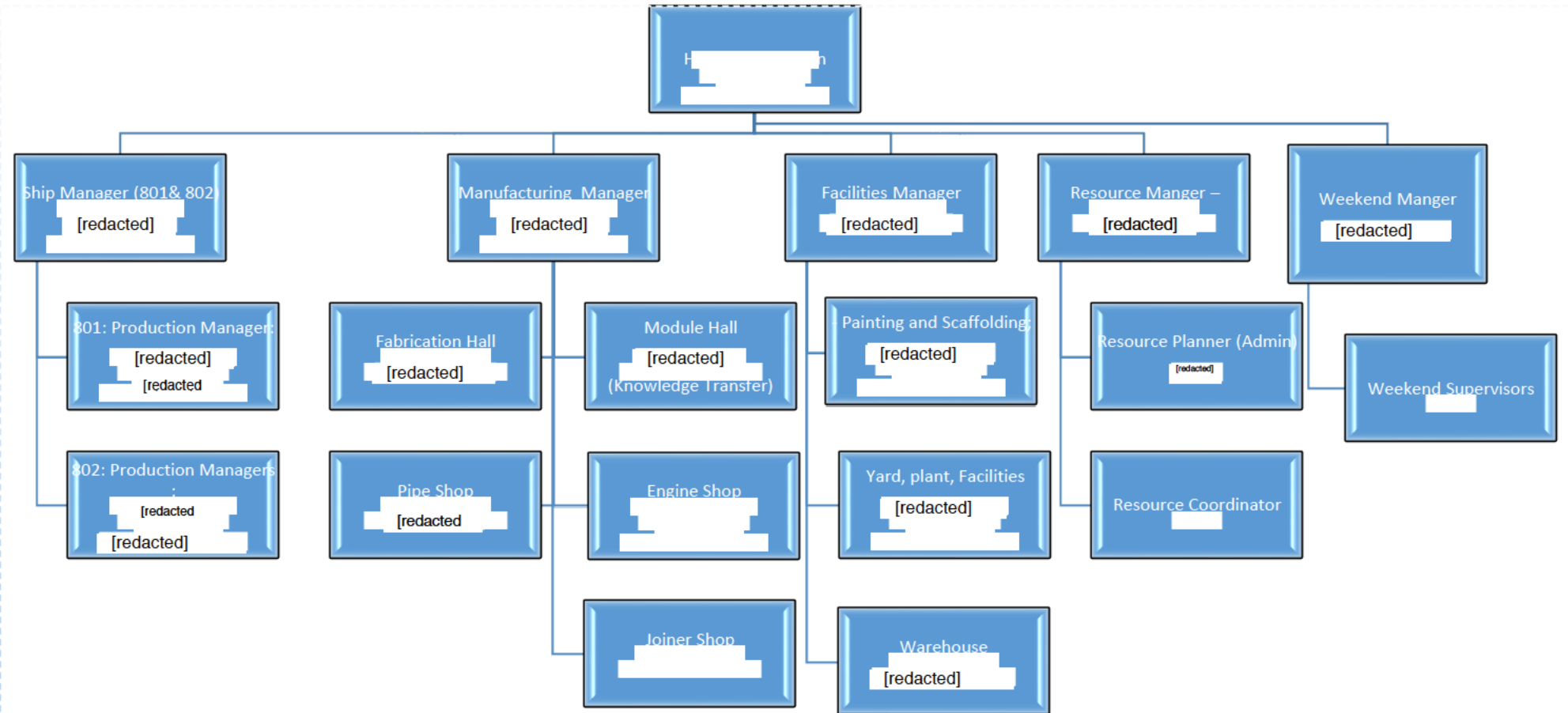
Green have been submitted recently

## 11. MCA outstanding

- HVAC Ducting Arrangements for 1002
- HVAC Penetration Plan for 1002
- Ducting & Instrumentation Diagrams (4)
- Location Drawing Emergency Light System
- Layout Drawing - Wheelhouse console
- Topology Drawing - Integrated Navigation System
- CABLE BLOCK DIAGRAM-INTEGRATED NAVIGATION SYSTEM
- Power distribution drawing integrated navigation system
- Certificates - Multi Cable Transit
- Tank & Capacity Plan
- Life Saving arrangement
- Fire Control Plan
- Escape Route Plan
- Accommodation Layouts
- Gangway Davit Seat Details
- Insulation Data - Certification
- Machinery & Save all Drains (already approved by Lloyds)
- Gas Detector Layout
- Sludge & Waste Oil System (already approved by Lloyds)
- Fire and Deck Wash System (already approved by Lloyds)
- 801 - Basic Intact Stability Information
- Preliminary Trim & Stability Book incl. Longitudinal Strength
- Preliminary Damage Stability Book
- Keel Readings (already approved by Lloyds)
- Gangway Davit (already approved by Lloyds)
- Fire Door, Damper & Patrol Point Monitoring
- Fire Detection General Arrangement
- Fixed Fire Extinguishing Syst. (3)
- 801&802-LNGPac Operating & Maintenance Manual LNGPac-H149-D9



# 12. Operations: Organisation Chart



**Note:**  
Next management level i.e. Managers and Supervisors been finalised prioritising 'Best Team' for 801;  
Organisational review and approval scheduled for Friday 25<sup>th</sup> June.

Successes	Opportunities
<p><b>Ship Build:</b></p> <ul style="list-style-type: none"> <li>• <b>801:</b> Work Pack Diary targets being met &amp; closed out on time . Production team adapting well to new process</li> <li>• <b>801:</b>Installation of walkways underway and progressing well, 2nd batch now onsite which [redacted] have started</li> <li>• <b>801:</b> Installation of equipment relating to critical path now progressing in Z2 (generator room)</li> <li>• <b>801 &amp; 802:</b> [redacted] now fully embedded into our core team , progressing well on contracted scopes (801, 802, manufacturing)</li> <li>• <b>802:</b> Automation welding progressing well with great feedback from the Quality team . (training guy in Manufacturing;</li> </ul> <p><b>Manufacturing:</b></p> <ul style="list-style-type: none"> <li>• Aluminium units 3/5 and 5/5 structure complete – outfit started;</li> <li>• Hull outfit seats complete and sent to store and final outfit work pack complete</li> <li>• 65 pipes per week kitted at Greenock store</li> <li>• Unit 84 complete and ready for ship delivery</li> <li>• Unit 73 and 74 QC survey completed passed right first time</li> <li>• Pipe Shop completed 801 23 spool work pack</li> <li>• Ducktail jig burned ready to start build</li> <li>• Mega block kick off – build strategy</li> </ul> <p><b>Facilities</b></p> <ul style="list-style-type: none"> <li>• [redacted] in for the construction of the new office building</li> <li>• Clearing space in PG facility</li> <li>• Created space for a kitting area to address work packs for pipe material</li> </ul> <p><b>Resources</b></p> <ul style="list-style-type: none"> <li>• New attendance roster implemented successfully.</li> </ul>	<p><b>Ship Build:</b></p> <ul style="list-style-type: none"> <li>• LFE from structural completion activities to be used on 802 – now in progress with car deck recess scope ( Project Leads: [redacted]</li> <li>• Pipe LfE in place taking LFE from 801 onto 802 lead by [redacted]</li> <li>• <b>802:</b> Opportunity to fit walkways in critical areas at an earlier stage , LFE noted from 801 install.</li> <li>• <b>801:</b> Pressure testing of pipes to be brought forward in the plan for zone 2 &amp; 3 (in Progress)</li> </ul> <p><b>Manufacturing:</b></p> <ul style="list-style-type: none"> <li>• Work pack process to be streamlined</li> <li>• Window outfit on 3/5 and 5/5</li> <li>• Set up module for sub assembly for Unit 4/5, 4/6 and 47 for [redacted]</li> <li>• Sub contract hull outfit seats for 801 and 802 to allow unit build by zone;</li> <li>• Start POTD in the pipe shop</li> </ul> <p><b>Warehouse</b></p> <ul style="list-style-type: none"> <li>• Greenock Warehouse reconciliation</li> <li>• Greenock Warehouse utilisation ongoing (i.e. Capacity Review). Warehouse layout consolidation of all 801 &amp; 802 materials.</li> <li>• Min/max PG stores WIP</li> </ul> <p><b>Resources</b></p> <ul style="list-style-type: none"> <li>• Allocation of Apprentices</li> </ul>

Failures	Threats
<p><b>Ship Build</b></p> <ul style="list-style-type: none"> <li>• Unable to provide sub contractor make at ship closer material on time to enable critical spool fit. (WIP – recovery in place)</li> <li>• Work pack issued on time to production now resulting in a bottle neck with DCC – 1.5 weeks to recover.</li> </ul> <p><b>Manufacturing:</b></p> <ul style="list-style-type: none"> <li>• Material not available for 801 pipe priorities;</li> <li>• TQ's raised 4 off regarding aluminium and weight issues. Developing workaround with [redacted]</li> <li>• Roller doors top shed still not working requiring investment to create a Aluminium area only;</li> <li>• Aluminium profiled parts f/cast – concession for 8mm to 8.5 with engineering</li> </ul> <p><b>Facilities</b></p> <ul style="list-style-type: none"> <li>• Material schedules / work packs - Require better visibility to allow for effective marshalling;</li> </ul> <p><b>Resources:</b></p> <ul style="list-style-type: none"> <li>• Looking to rationalise shifts on 801, 802 and manufacturing, this cannot happen until 1 metre distancing is implemented in amenities.</li> </ul>	<p><b>Ship Build</b></p> <ul style="list-style-type: none"> <li>• Pipe Pen Changes for zones 2&amp;3 impact and condensing programme – catch-up programme to be defined;</li> <li>• MCA - HVAC. Awaiting final approval;</li> <li>• Chemical Flushing currently not planned into critical path – Working [redacted] to define way forward;</li> </ul> <p><b>Manufacturing</b></p> <ul style="list-style-type: none"> <li>• Resource for unit build? Review swap with ship resource, ensuring correct balance;</li> <li>• Time sheet entry – Supervisors been monitored and trained to ensure accurate bookings;</li> </ul> <p><b>Facilities</b></p> <ul style="list-style-type: none"> <li>• Footprint of Port Glasgow</li> <li>• Electrical capacity in FMPG</li> </ul> <p><b>Resources</b></p> <ul style="list-style-type: none"> <li>• Attrition rate of resources on the weekend shift</li> </ul>

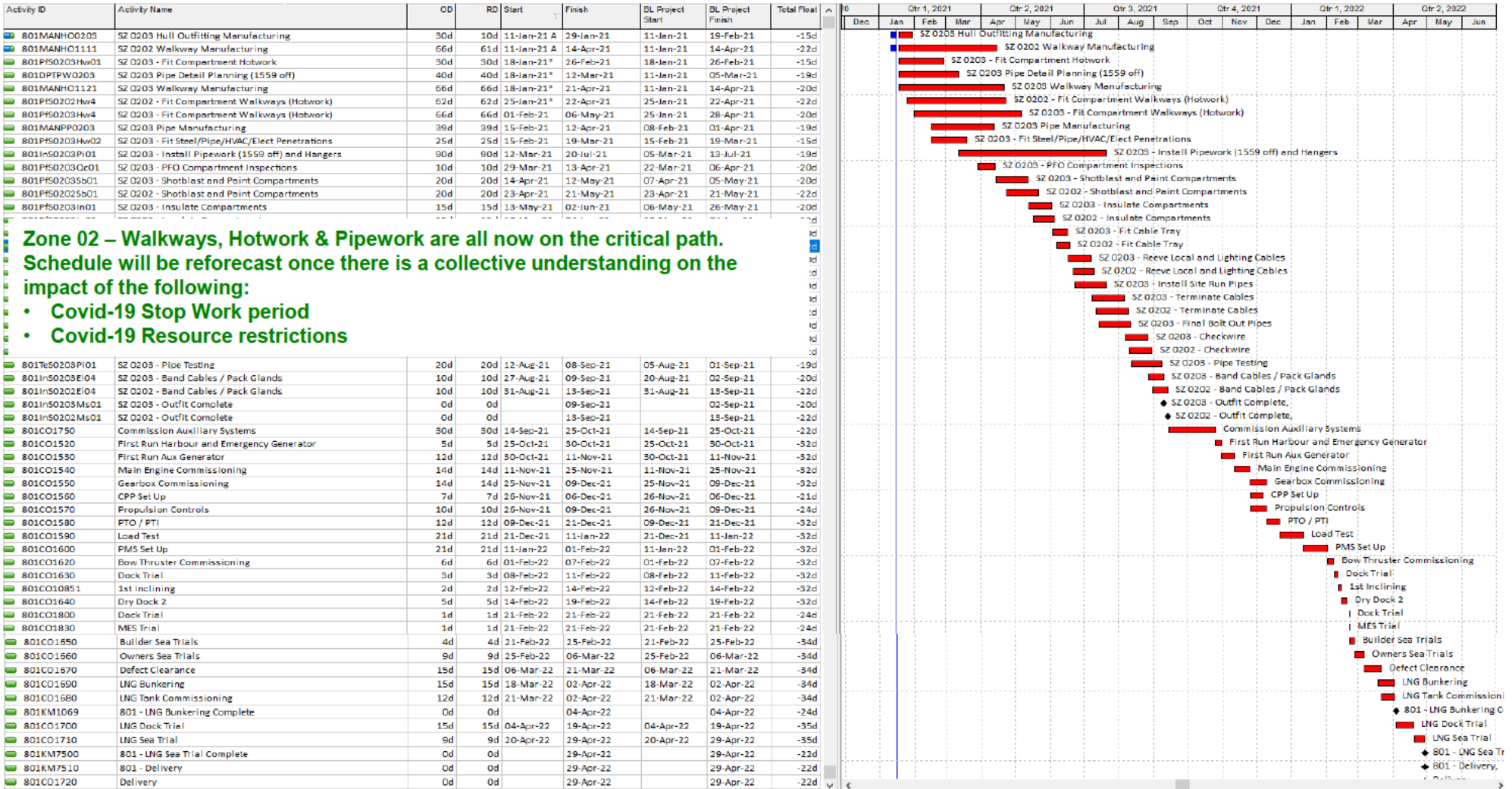
## 13. Planning Status

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### General Status:

- The programmes have now been re-baselined and have been signed off internally. These have been submitted to SG on 31<sup>st</sup> May.
- The workpack diary has now been issued for 801 and manufacturing and is being progressed.
- [redacted] will take on 801 planning.

# 13. Ship 801 Critical path



# 13. Ship 802 Critical path

Activity ID	Activity Name	OD	RD	Start	Finish	BL Project Start	BL Project Finish	Total Float	Gantt Chart																						
									21	Qtr 4, 2021	Qtr 1, 2022	Qtr 2, 2022	Qtr 3, 2022	Qtr 4, 2022	Qtr 1, 2023	Qtr 2, 2023	Qtr 3, 2023														
									Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul
802MAUA116Hw01	Unit A11/6 Prep Full Unit	15d	15d	18-Nov-21*	08-Dec-21	18-Nov-21	08-Dec-21	-63d	■ Unit A11/6 Prep Full Unit																						
802FaUA116Hw01	Unit A11/6 Fab Fab-T Frames, Minor Sub-Assys and Pillars	10d	10d	16-Dec-21	07-Jan-22	16-Dec-21	07-Jan-22	-63d	■ Unit A11/6 Fab Fab-T Frames, Minor Sub-Assys and Pillars																						
802FaUA116Hw03	Unit A11/6 Fab 6 Deck Plating	15d	15d	10-Jan-22	28-Jan-22	10-Jan-22	28-Jan-22	-63d	■ Unit A11/6 Fab 6 Deck Plating																						
802ASUA116Hw01	Unit A11/6 Unit Assembly + Dry Survey	15d	15d	31-Jan-22	18-Feb-22	31-Jan-22	18-Feb-22	-63d	■ Unit A11/6 Unit Assembly + Dry Survey																						
802ASB0011Hw02	Erect Fair and Weld Unit 11/6 to Block	20d	20d	21-Feb-22	18-Mar-22	21-Feb-22	18-Mar-22	-63d	■ Erect Fair and Weld Unit 11/6 to Block																						
802ASB0010Hw03	Erect Fair and Weld Unit 10/7 to Block	20d	20d	04-Apr-22	04-May-22	04-Apr-22	04-May-22	-63d	■ Erect Fair and Weld Unit 10/7 to Block																						
802ERB0010Hw01	Wheelhouse Block Erect, Fair and Weld	25d	25d	05-May-22	08-Jun-22	05-May-22	08-Jun-22	-63d	■ Wheelhouse Block Erect, Fair and Weld																						
802ERUA097Hw09	Unit A9/7 Erect, Fair and Weld	20d	20d	19-May-22	15-Jun-22	19-May-22	15-Jun-22	-63d	■ Unit A9/7 Erect, Fair and Weld																						
802ERUA087Hw01	Unit A8/7 Erect, Fair and Weld	20d	20d	16-Jun-22	13-Jul-22	16-Jun-22	13-Jul-22	-63d	■ Unit A8/7 Erect, Fair and Weld																						
802ERUA77Hw01	Unit A7/7 Erect, Fair and Weld	20d	20d	30-Jun-22	27-Jul-22	30-Jun-22	27-Jul-22	-63d	■ Unit A7/7 Erect, Fair and Weld																						
802KM003	802 Superstructure Complete	0d	0d		27-Jul-22		27-Jul-22	-63d	◆ 802 Superstructure Complete																						
802A6470	Commission Auxiliary Systems	30d	30d	08-Aug-22	16-Sep-22	08-Aug-22	16-Sep-22	-63d	■ Commission Auxiliary Systems																						
802A4910	Launch	0d	0d	26-Aug-22*		26-Aug-22		-29d	◆ Launch, 26-Aug-22*																						
802A4920	First Run Harbour and Emergency Generator	2d	2d	17-Sep-22	21-Sep-22	17-Sep-22	21-Sep-22	-29d	■ First Run Harbour and Emergency Generator																						
802A4930	First Run Auxiliary Generator	4d	4d	22-Sep-22	03-Oct-22	22-Sep-22	03-Oct-22	-29d	■ First Run Auxiliary Generator																						
802A4940	Main Engine Commissioning	5d	5d	04-Oct-22	17-Oct-22	04-Oct-22	17-Oct-22	-29d	■ Main Engine Commissioning																						
802A4960	Propulsion Controls	10d	10d	18-Oct-22	31-Oct-22	18-Oct-22	31-Oct-22	-61d	■ Propulsion Controls																						
802A4970	Gearbox Commissioning	5d	5d	18-Oct-22	31-Oct-22	18-Oct-22	31-Oct-22	-28d	■ Gearbox Commissioning																						
802A4980	PTO / FTI	1d	1d	01-Nov-22	04-Nov-22	01-Nov-22	04-Nov-22	-28d	■ PTO / FTI																						
802A4990	Load Test	7d	7d	06-Nov-22	26-Nov-22	06-Nov-22	26-Nov-22	-28d	■ Load Test																						
802A5000	PMS Set Up	7d	7d	27-Nov-22	17-Dec-22	27-Nov-22	17-Dec-22	-28d	■ PMS Set Up																						
802A5010	Bow Thruster Commissioning	2d	2d	18-Dec-22	22-Dec-22	18-Dec-22	22-Dec-22	-28d	■ Bow Thruster Commissioning																						
802A5020	Dock Trial	0d	0d	26-Dec-22	26-Dec-22	26-Dec-22	26-Dec-22	-28d	■ Dock Trial																						
802A5030	Dry-Dock	3d	3d	28-Dec-22	06-Jan-23	28-Dec-22	06-Jan-23	-28d	■ Dry-Dock																						
802A10677	Inclining Exercise	0d	0d	10-Jan-23	10-Jan-23	10-Jan-23	10-Jan-23	-29d	■ Inclining Exercise																						
802A5040	Builder Sea Trials	1d	1d	11-Jan-23	14-Jan-23	11-Jan-23	14-Jan-23	-29d	■ Builder Sea Trials																						
802A5050	Owners Sea Trials	1d	1d	15-Jan-23	17-Jan-23	15-Jan-23	17-Jan-23	-29d	■ Owners Sea Trials																						
802A5070	Defect Clearance	5d	5d	18-Jan-23	31-Jan-23	18-Jan-23	31-Jan-23	-29d	■ Defect Clearance																						
802A5080	LNG Tank Commissioning	4d	4d	01-Feb-23	12-Feb-23	01-Feb-23	12-Feb-23	-29d	■ LNG Tank Commissioning																						
802A5090	LNG Bunkering	2d	2d	08-Feb-23	12-Feb-23	08-Feb-23	12-Feb-23	-28d	■ LNG Bunkering																						
802A5100	LNG Dock Trial	2d	2d	14-Feb-23	18-Feb-23	14-Feb-23	18-Feb-23	-29d	■ LNG Dock Trial																						
802A5110	LNG Sea Trial	1d	1d	20-Feb-23	22-Feb-23	20-Feb-23	22-Feb-23	-29d	■ LNG Sea Trial																						
802A5120	Delivery	0d	0d		27-Feb-23*		27-Feb-23	-54d	◆ Delivery																						

## 14. 801 Sub Contract Status

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### General Status

- [redacted] - Pipe installation progressing in 0201, 0202 and 0203
- [redacted] continue with cable uncoiling and work in ECR, Bow Thruster compartment and installing cable ladders on mezzanine deck
- [redacted] have insulated beams on Deck 5 and 50% through beams on Deck 6 – we await MCA approval of insulation drawings
- [redacted] continue preparatory work, with increased team due on site in June. Need to subcontract penetrations and BIDs has arisen.

### Key Issues in month

- [redacted] manufacture subcontract underway to support subcontractor programme, zone 3 PO currently being placed, all other packs being compiled to be available week 26 for Procurement.
- Stop Work on burning new penetrations in Zone 3 is still in place
- Resolution with MCA on HVAC penetrations on aluminium bulkheads required urgently
- Forecast date for re-baseline to be formally issued
- Volume of modification sheets for Zone 2 pipework – review has been completed to scope size of change package – [redacted] now engaged, workpacks will need to be issued, to include Axilock replacements
- Material for closers – summary of material has been passed to Stores to marshal for Zone 2 and Zone 3
- Valve availability – zone 3 on order, all of zone 2 with Procurement

[redacted]

- First deliveries due week 28

## 14. 801 Sub Contract Status - [redacted]

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### **Key Activities**

- ECR – Install cable idents and Core Ferrules ( [redacted] )
- AMR – Install & mount 2No DPU Cabinets 003A & 003B, fabricate unistrut bracketry
- Material Request 011 – Issued 07/06/21 – delivered 08/06/21, (2No - DPU Cabinets)

### **Issues**

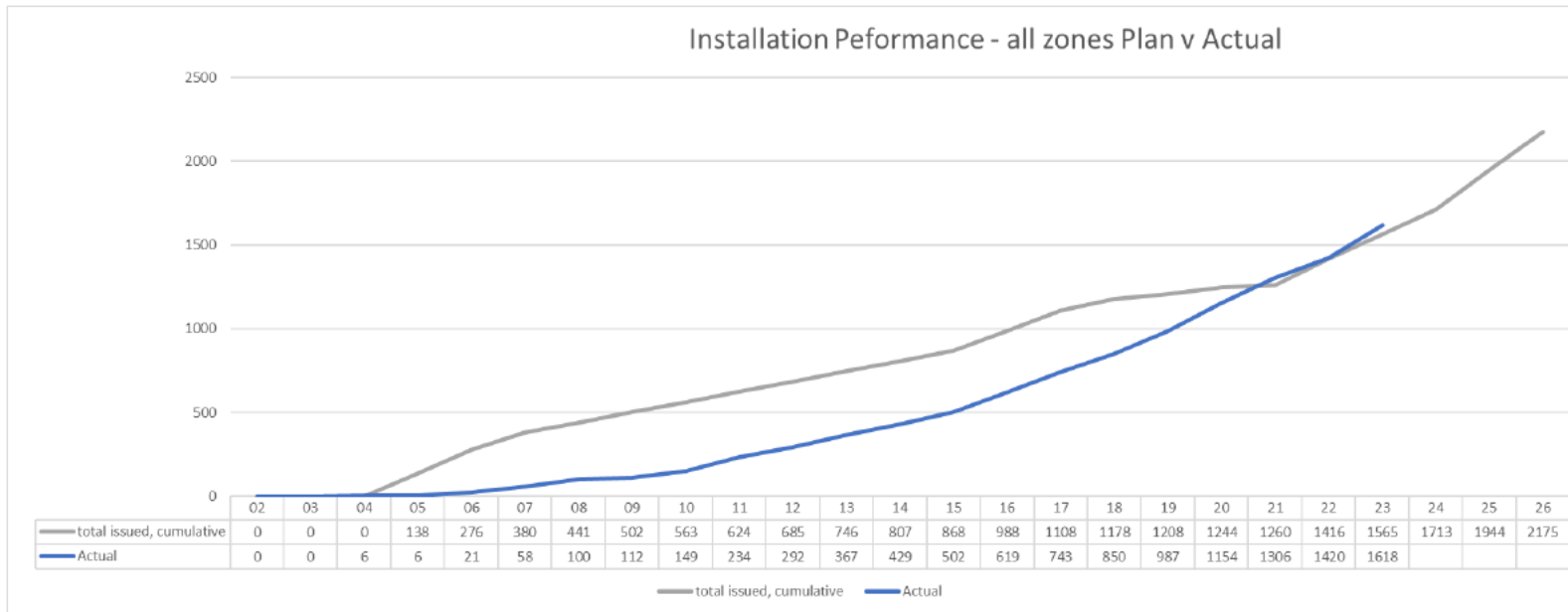
- Looking to open up more workfaces – Decks 4 – 8
- Review of [redacted] Plan against re-baseline is underway
- [redacted] have finalized their programme of activities, which will be issued once re-baseline is issued
- Await [redacted] switchboard mark ups for [redacted] changes
- Concerned with FMPG ability to procure relevant material from the call-off procedure.
- “All subcontractor” meeting to be arranged when re-baseline is issued.



# 15. Pipe Installation – FMPG & [redacted]

## Overall

- Pipe Installation in Zone 02 and Zone 03 is underway using FMPG & [redacted] resource
- Overall pipe installation curve shown below (for 801 & 802), measuring plan v actual
- Issues around penetrations have hampered progress for pipe installation teams
- Currently on plan
- [redacted] extended to complete Zone 2 installation and Pressure Testing
- Impact of Modification Sheets ongoing, Zone 2 analysis complete, Zone 3 analysis ongoing



[redacted]

[redacted]

## 17. Risks – Top 10

	Risk Description	Controls in Place	Current Impact	Current Likelihood	Current Risk Score	Action Planned	Risk Owner	Change explanation
88	COVID-19 - there is a risk that the ongoing effect may impact the yard or its suppliers	Revised onsite social distancing and mask policies New amenities brought in to allow for increase in labour Most office staff now working from home	50	5	250	Social distancing rules remain extant. Easing of lockdown should reduce the likelihood of further COVID related incidents within the yard.	[redacted]	All production staff have returned to work 08/02. Planning team has returned to work Increase in labour planned for May
37	Late delivery of 801/802	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 2. To be reviewed due to production suspension, 801 drydock extension, and labour shortfall	[redacted]	Potential programme impact to 801 as a result of poor hull paint system requiring extension to second dry docking Concern around labour and production suspension impact to programme A revised programme has been produced and will be reviewed and signed off end April/early May
85	Unable to recruit or retain Production staff in the required numbers, with suitable qualifications and experience	Resource plans from revised programme, together with yard plan Allowance against market rates reviewed.	50	5	250	1. Include allowance for potential increase 2. Part of annual wage negotiations 3. Develop the programme resource demand 4. Produce a yard resource plan showing all projects 5. Develop a resource supply strategy 6. Assumes subcontract labour will be provided at same internal rate 7. Extra supervision may be required	[redacted]	
70	Insufficient capacity for pipe manufacture and installation to support the programme	Programme demand from plan based upon installation rates and compartment capacities Pipe painting facility set up in Greenock to complete painting of bought-in pipes	50	5	250	1. produce plans for subcontract of pipe manufacture - plan shows pipe made out company only closing pipes 2. produce plans for permanent and contractor installation labour plan based on yard install 3. Produce specific plan for manufacture and installation of hydraulic pipework required to be out contracted	[redacted]	Should be able to place new orders soon - likely for 802. Behind because of legacy work.

## 17. Risks – Top 10

	Risk Description	Controls in Place	Current Impact	Current Likelihood	Current Risk Score	Action Planned	Risk Owner	Change explanation
38	Programme launch date of 802 not met	Risks associated with late launch are captured elsewhere in the risk register with planned controls.	50	5	250	<ol style="list-style-type: none"> <li>1. Include time allowance for programme slippage (same as late delivery)</li> <li>2. To be reviewed due to production suspension and labour shortfall</li> </ol>	[redacted]	Currently linked to 801 programme. To be reviewed
14	Level of rework not sufficiently scoped. Known rework not fully scoped. Unknown rework will occur particularly during the test and commissioning phase	CNs and 200 series included in programme Change control process implemented. OORs incorporated into model	50	5	250	<ol style="list-style-type: none"> <li>1. Completion of re-baseline evaluation</li> <li>2. Allow additional time in the commissioning programme</li> </ol>	[redacted]	Rework is being separately identified through planning rework codes Legacy rework, and new rework, continues to be identified. Current concerns have been axilocks, non Lloyds approved use, and penetrations
84	Impact to the programme of the implementation of the Public Procurement process	Procurement plan in place	50	5	250	<ol style="list-style-type: none"> <li>1. Increase procurement headcount</li> <li>2. Allow for time in the programme</li> </ol>	[redacted]	Public Procurement process is embedded in the business.
55	Failure of equipment during warranty period. Supplier guarantees have expired	Warranty controls and spreadsheet is live to allow ongoing review of current position	50	5	250	Warranty review meeting completed and information shared on all live warranties: where warranty is no longer able to be extended (Wartsila) a care and maintenance plan will be put in place.	[redacted]	Wartsila OY back on contract. Surveys ongoing to define care and maintenance required.
46	Vessel cannot meet contract deadweight	Lightship weight continues to grow	50	5	250	<ol style="list-style-type: none"> <li>1. Continue to limit weight growth wherever possible and practical</li> <li>2. Commercial impact subject to the contract provisions</li> </ol>	[redacted]	Weight calculations ongoing with updated information. ICE will be contracted to supply information for newly modelled items.
90	Lack of robust Stop Work Process	Stop work register now in place.	50	5	250	engineering have produced an stop work process and register, this is being rolled out.	[redacted]	Change impact increased to 50 as this is becoming a concern. Process is in place however this is being reviewed to ensure it is effective.

## 19. Variations to Contract

Description	Additional Cost 801	Additional Cost 802	Programme Allowance 801	Programme Allowance 802	Weight Allowance 801	Weight Allowance 802	Status	VTC Forecast Date
Removal of Oily Water Separator	-	-	-	-	-1.88 T	-1.88 T	Closed	
Removal of 1 air compressor, 1 air receiver, and 1 air dryer	-	-	-	-	-1.1 T	-1.1 T	Closed	
Removal of 2 LO purifiers for Diesel Gen	-	-	-	-	-1 T	-1 T	Closed	
Removal of Vapour Return Line	-	-	-	-	-	-	Closed	
Supply of Window Washing Equipment	[redacted]	[redacted]	-	-	-	-	Closed	
Removal of Condition Monitoring System	-	-	-	-	-	-	Closed	
Change of Supplier from Kongsberg to Wartsila	-	-	-	-	-	-	Closed	
Removal of 24V AC system	-	-	-	-	-	-	Closed	
Raindrop Ventilation Change	-	-	-	-	-	-	Closed	
Panama Eye Removal	-	-	-	-	-	-	Closed	
802 Thermostatic Valves	-	[redacted]	-	-	-	-	CMAL to respond	26/05/2021
Provision of Workshop Tools	[redacted]	[redacted]	-	-	-	-	FM to send VTC	01/06/2021
Accommodation Fresh Water Fire Main							Open	24/06/2021
Sliding Weathertight Doors Deck 7							Open	24/06/2021
Additional Shore Supply Connection 802							Open	24/06/2021
Sanitary System Discharge							Open	CMAL to confirm

## 20. CMAL Comments to the Monthly Report

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### CMAL Comments: