Teneo

The Global CEO Advisory Firm

Project [redacted]
Workstream 1 – Draft Financial review

24 November 2022

Teneo Financial Advisory Limited is registered in England & Wales with registered number 13192958 and its registered office at 5th Floor, 6 More London Place London, SE1 2DA, United Kingdom

OFFICIAL – SENSITIVE

[redacted]

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24 November 2022

Dear Sirs / Mesdames

[redacted]

We enclose our draft report (the "report") on Ferguson Marine (Port Glasgow) Limited ("the Company") which has been prepared for the sole purpose of assisting and advising The Scottish Government in accordance with our Work Order dated 28 September 2022.

This report is a draft and is expected to be superseded by our final report. This draft contains a number of outstanding matters, identified by square brackets ("[ ]") and italics, that require clarification or confirmation by Management. We reserve the right to add, delete and/or amend the report as we consider appropriate. No party may place any reliance whatsoever upon this draft of the report.

This report considers, where possible, the potential impact on the Company of further cost inflation given the current macro environment and challenges around global supply chain post the Russian invasion of Ukraine. However, the situation is continuing to evolve, and many uncertainties remain as to the effect the ongoing conflict in Ukraine and the various associated sanctions regimes will have on the Company and the broader domestic and global economies. Accordingly, it is not possible for our work to identify and quantify the impact of all related uncertainties and implications. Changes to market conditions could substantially affect the Company and our work. We have not updated our work for any subsequent information or events.

This report is confidential to the addressees and prepared solely for the purpose(s) set out in our Work Order. You should not refer to or use our name or the report for any other purpose, disclose them or refer to them in any prospectus or other document, or make them available or communicate them to any other party. No other party is entitled to rely on our report for any purpose whatsoever and we accept no duty of care or liability to any other party who is shown or gains access to this report. This draft report should be treated as commercially sensitive for the purposes of the Freedom of Information (Scotland) Act 2002.

We draw your attention to the scope and basis of our work in Appendix 1.

Yours faithfully

[redacted]

Teneo Financial Advisory Limited

Contents

Key messages | Background

FMPG has faced further cost and timetable challenges since nationalisation in 2019. The new CEO has implemented a 'reset' strategy to address operational and reporting issues and to improve the forecasting process. This exercise identified overstatement of previous progress reports which has contributed to a significant increase in the cost to complete forecast.

Area	Summary
Important update	• During the course of our review the Company's Finance Director, [redacted], resigned from his position on 14 November 2022. • Management has confirmed [redacted] has a notice period of three months and that the search for his replacement has commenced.
Background	• The FMPG shipyard (the 'Company') has been financially challenged for some time, entering insolvency twice in the last eight years. • Its predecessor company, Ferguson Marine Engineering Ltd, was awarded a £97m contract in 2015 to build two ferries (801 and 802) for Caledonian Maritime Assets Limited ("CMAL"), which is wholly owned by the Scottish Government and owns the ferries, ports, harbours and infrastructure for ferry services across Scotland. Following the most recent insolvency in 2019, the business was nationalised. • The build programmes for both vessels are 'first of class' designs that have contributed to a catalogue of design flaws and build inefficiencies that resulted in further cost and timetable challenges post nationalisation. • CMAL has advised that the build status of the vessels have historically been overstated, implying there have been weaknesses in the Company's operational controls and governance. • Following his appointment as CEO in February 2022, David Tydeman ("DT") has implemented a 'reset' strategy to address this by strengthening the Management team, reviewing operational assumptions, improving operational and reporting processes and increasing accountability. • This exercise contributed to a significant increase in the most recent total cost to complete ("TCTC") estimate for both vessels (provided by the Company in September 2022) to £203m, up £81m since March 2022 (and £89m since the business was nationalised). • Whilst SG has advised that it remains committed to the completion of 801 and 802, and supporting a sustainable future for the yard, given the level of increased expenditure, SG has commissioned Teneo to perform a review to test and challenge the Company's forecast cost to complete ("FCTC"). SG has also appointed [redacted] to provide technical challenge and input to support this Teneo review.
Evolution of costs	• [redacted] • [redacted]
Basis of prep for latest cost to complete forecast	• As part of the recent 'reset' strategy, a significant amount of time has been spent refining and improving the operational model inputs across each of the key cost areas: Direct Labour, Materials, Subcontractors and Overheads/SG&A. Each of the key cost areas has a new Director who has led the updated forecasting process as set out in Appendix 2. • [redacted], the processes for preparing the FCTC appear sensible, with the relevant operational departments providing the inputs for the Project Cost model to Finance, and reviewing the outputs. • The Project Cost model itself has not been prepared in line with best practice. It is essentially a collection of spreadsheets, rather than an integrated forecasting model and has significant levels of manual copy and input. However, in light of the above, operational inputs are considered more robust and Finance are now more closely linked with the Operational teams (working on site 2-3 days/week and attending relevant project meetings).

Key messages | Cost to complete

The latest TCTC is £203m with £104m still forecast to be spent, of which two thirds relates to 802. This does not include estimated warranty costs of £7m (which the Company is liable for) or costs not recoverable against 801/802 of £14.2m, which are outwith the scope of our review.

Area	Total cost to complete (provided by Management in Sept 2022)	Summary
Costs to complete	see table below	see summary below

Costs to complete – Total cost to complete (provided by Management in Sept 2022)

Figures in £m	CTD	FCTC	TCTC
801			
Direct Manhours ('000)	[redacted]	[redacted]	[redacted]
Direct Labour	[redacted]	[redacted]	[redacted]
Materials	[redacted]	[redacted]	[redacted]
Subcontractors	[redacted]	[redacted]	[redacted]
Overhead	[redacted]	[redacted]	[redacted]
SG&A	[redacted]	[redacted]	[redacted]
Total	[redacted]	[redacted]	[redacted]
802			
Direct Manhours ('000)	[redacted]	[redacted]	[redacted]
Direct Labour	[redacted]	[redacted]	[redacted]
Materials	[redacted]	[redacted]	[redacted]
Subcontractors	[redacted]	[redacted]	[redacted]
Overhead	[redacted]	[redacted]	[redacted]
SG&A	[redacted]	[redacted]	[redacted]
Total	[redacted]	[redacted]	[redacted]
Total	[redacted]	[redacted]	[redacted]
Contingency 801	-	2 [redacted]	[redacted]
Contingency 802	-	[redacted]	[redacted]
TCTC	[redacted]	[redacted]	1 [redacted]
Warranty costs 801	-	3 [redacted]	[redacted]
Warranty costs 802	-	[redacted]	[redacted]
TCTC plus warranty costs	[redacted]	[redacted]	[redacted]
Unallocated cost			4 [redacted]
Total funding requirement			[redacted]

Source: Summary 801 802 Cost V2

Summary

1. TCTC is estimated to be £203m across the two vessels. £99m of this has been incurred to date (to end of July 2022), and £104m of this is the FCTC from 1 August 2022 onwards.
   - The FCTC is split £27m for 801 and £70m for 802.
   - 2 The FCTC includes a general [redacted] of FCTC for 801 ([redacted] and [redacted] of FCTC for 802 [redacted] This is discussed in more detail later in Key messages.

- Poor historical forecasting accuracy, recent changes in governance structure, and implementation of a new forecasting approach means we are not able to conclude on the current forecasting accuracy of the Company. It may be possible to do this in the future, once the Company has built a longer body of data.
- However, we set out key findings on each of the bottom up forecasts for each major cost category on the following slide.

Outside of scope

- In addition to the TCTC of £203m, the Company is forecasting to incur other costs which will need to be funded. These are outwith the scope of our review but included in the table opposite for completeness:

3 [redacted]

4 [redacted]

Key messages | Design and Schedule

Design has been a key risk throughout the build programme. Detailed design for 801 was finalised in 2020 and is due to be finalised for 802 in November 2022. Significant gaps and errors have been, and continue to be identified regularly, creating a risk of cost growth. [redacted] has advised that the overall Schedule appears achievable but there is minimal room for slippage.

Area	Summary
Design	• Design has been a key risk since the outset of the programme in 2015. – [redacted] – The design remained in flux throughout the build process (801 detailed design completed in 2020 and 802 detailed design due to be completed in Nov 2022). – This resulted in a variety of inefficiencies, with Company and Subcontractor staff: unable to complete scheduled work due to incorrect/incomplete drawings; having to 'Rework' areas which have already been completed incorrectly (adding additional time and in many cases requiring removed parts and Materials to be scrapped causing wastage); or being unable to complete scheduled work as key Materials have not been included in drawings. • The current CEO has prioritised Design and began working closely with Subcontractor design lead, [redacted] in May 2022. Management subsequently subcontracted all design work to [redacted] to help finalise 802. This increased the overall Subcontractor spend, but ensured that a tested third party was tasked with completing the detailed design drawings (FMPG retains Design authority and responsibility for detailed designs, but has outsourced production of areas which had created issues historically). • Whilst the 801 design could be said to have been 'completed' in 2020, significant gaps and errors have been, and continue to be identified and corrected 'on-ship'. Management has slowed outfitting on 802 whilst the detailed design work is being finalised. • [redacted], Rework due to inherited design flaws is as a key risk of the project, and one Management knows will crystallise. – Rework impacts all key operational cost areas (Direct Labour, Subcontractors and Materials). – Due to the unknown nature of embedded design issues, it is difficult to quantify the potential exposure. • The recent example of the [redacted] issue has highlighted the significant unknown issues which continue to be identified.
LNG sensor issue	• During w/c 24 October 2022, Management identified that a key [redacted] • Management has stated that 801 can still be launched with single fuel capacity, but it will require [redacted] • Management states that the cost of the commissioning will not change (as this was to be completed at a third party site in Troon and can be re-scheduled with no additional cost) and therefore any additional cost would be limited to any claims from CalMac Ferries Limited ("CalMac"). We understand that this assumption remains under discussion and can therefore not provide any observations.
Schedule	• Following the detailed review of the programme timetable for both vessels, Management has updated the delivery dates to May 2023 for 801 and Q1 2024 for 802. • [redacted] has advised that although there have been no specific issues identified which will impact 801 Schedule, which appears achievable, there is little headroom for slippage in the programme. Per [redacted] the 802 Schedule appears achievable (but reliant on 801 being delivered on time). • Any Schedule delays could have a material impact on the TCTC. Accordingly, we asked Management to provide an illustrative sensitivity for a Schedule delay. This is discussed in more detail later in the Key messages.

Key messages | Key cost categories

New detailed processes for calculating the FCTC have been implemented across all of the key cost areas. [redacted] has concluded that the new process, and the FCTC, across all cost areas appear sensible. There remains, however, global macro risks to cost and wage inflation for which we have produced an illustrative sensitivity.

Area	Summary
Direct Labour [redacted] **FCTC**	• Direct Labour is driven by forecast hours to complete across a number of detailed labour categories. These labour hours are delivered by a combination of FMPG staff (baseline hours) and [redacted] subcontractors (top up hours). This approach allows Management to flex the Subcontractor hours to meet demand forecasts. • Management has implemented new reporting formats and is now building a bank of performance data (via tracking of key KPIs and norms). • [redacted] • As this is not yet available, [redacted] have had to review Direct Labour at a high level, and have concluded that the forecast hours to complete ("FHTC") appear reasonable [redacted] but the potential for Rework is a significant risk. • [redacted] This is in line with recent competitor increases. There is a risk that the further inflationary pressures seen over recent weeks could result in FMPG having to [redacted] There is also a risk that [redacted] could seek to renegotiate current rates (no increase is included in the FCTC for [redacted]). We have included an illustrative sensitivity to reflect both of these risks – covered later in this key messages section.
Materials £[redacted] **FCTC**	• [redacted] – [redacted]. • [redacted] has stated that the FCTC processes for Materials appear adequate and an improvement on previous systems. However, this is still reliant on accurate drawing, design and engineering information. • [redacted] has reviewed the costs at a high level and noted the materials FCTC do not appear unreasonable. • Per [redacted] the Engineering/Design errors appear to the be largest area of risk, as the Materials team can only include Materials that they know about. As inherited design errors are still being found, this is a difficult risk to quantify. • Management has included some inflation risk in the Materials FCTC. However, there is a risk of further cost inflation due to the current macro environment. We have included an illustrative sensitivity for this risk – covered later in this key messages section.

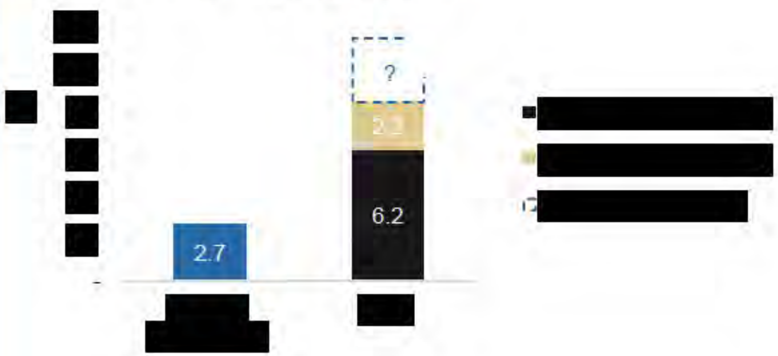
Key messages | Key cost categories (cont.)

New detailed processes for calculating the FCTC have been implemented across all of the key cost areas. [redacted] has concluded that the new process, and the FCTC, across all cost areas appear sensible. There remains, however, global macro risks to cost and wage inflation for which we have suggested an illustrative sensitivity.

Area	Summary
Subcontractor £[redacted] FCTC	• Subcontractors FCTC is based on detailed technical specifications (a combination of time based labour and materials costs) across a number of different categories. [redacted] • Per [redacted] the FCTC approach for Subcontractors appears sensible, but unfortunately, it is difficult to conclude definitively, as Management is still renegotiating all contracts for 802 and there has not been enough data captured under the new reporting formats to review Subcontractor performance. • Per [redacted] the main risk within the FCTC is Rework (as discussed in previous sections) and performance/management of key Subcontractors. Management has implement a variety of operational improvements to address this and has seen recent success in this area, overseeing a turnaround in performance of a key Subcontractor. • In line with Direct Labour and Materials, there is a risk that the Subcontractors seek to increase prices due to inflationary pressure (this could be across labour rates and materials costs). We have included an illustrative sensitivity for this risk – covered later in Key messages.
Overheads and SG&A £[redacted] FCTC	• Overheads comprise central costs (such as rates, utilities, insurance etc.) and Indirect Labour costs. SG&A costs are similar central support costs but are categorised separately for management reporting purposes. FCTC is based upon employee headcount and cost extracts from Payroll for Indirect Labour/SG&A employment costs and recent historical trends for all other areas. • Overheads and SG&A costs are allocated by live project, based on a proportion of production costs within each financial year (i.e. an activity-based cost principle). • [redacted] No inflationary increases are assumed for other central costs. We have included an illustrative sensitivity for this risk – covered later in Key messages.

Key messages | Contingency and Risk Register

Management's latest Risk Register has identified £[redacted] of potential risks, of which £[redacted] have a high risk of crystallising. Given a General contingency of £[redacted] has been included in the FCTC, Management agrees that it would be prudent to [redacted] from £[redacted] to £[redacted]

Area	Total cost to complete	Summary
Contingency and Risk Register	**801 - General contingency vs Risks**  [redacted] **802 - General contingency vs Risks**  [redacted] Source: 801/802 Project Risk Register 2.11.22	• The FCTC includes a general contingency of [redacted] – The general contingency is required to cover both the known and unknown risks. – Management tracks key risks on the Risk Register. The latest update in October 2022 includes a quantified risks total of [redacted] that Management considers to have a high risk of crystallising. • We have noted that the approach for calculating the financial impact of risks does not appear to be fit for purpose and Management would benefit from having a more scientific and distinct approach for calculating the potential financial impact for each individual risk. • [redacted] has concluded that: – the current approach for capturing risks and mitigating actions appears sensible. – the risks identified for 801 and 802 are relevant, appear to be given the appropriate rating, and that the mitigating actions are sensible. – in the absence of a more robust methodology for calculating the financial impact, it is difficult to conclude on whether the financial estimates are suitable. – the general contingency for 801 and 802 may not be sufficient given the quantum of risks quantified on the Risk Register and the potential for unknown risks. • Management agrees with this assessment and has noted that an increase to the general contingency is sensible. • Management has suggested doubling the contingency [redacted] • [redacted]

Key messages | Illustrative sensitivities

Given the global macro pressures on cost and wage inflation, we considered an additional sensitivity that demonstrates a potential impact of a further [redacted], after increasing the general contingency.

Area	Total cost to complete	Summary

Illustrative sensitivities

Illustrative sensitivities summary

£m	[redacted]
Additional general contingency	[redacted]
Macro cost inflation	[redacted]
Total	[redacted]

Illustrative sensitivities – impact on TCTC/FCTC

£m	TCTC	Sensitvities	Sensitised TCTC	Variance (%)
801	[redacted]			
802				
Total				

£m	FCTC	Sensitvities	Sensitised FCTC	Variance (%)
801	[redacted]			
802				
Total				

Source: Teneo workings

- Our illustrative sensitivities focus on two broad risk areas: General contingency level and Macro cost inflation.
  - As set out on the previous slide, Management acknowledge that the forecast contingency should be doubled to reflect the most recent risk register.
  - Further macro cost inflation is potential risk area given the recent further inflationary pressure. [redacted]
- The illustrative sensitivities total [redacted] and are summarised in the tables opposite.
- The illustrative sensitivities represent a significant increase in the FCTC [redacted]. As noted in the previous section, it is possible that the Sensitised TCTC/FCTC may be even higher due to the potential for unknown risks, including risk of further timetable slippage (which we discuss on the following page).
- Accordingly, we cannot conclude that the Sensitised TCTC is the worst case scenario.

Key messages | Illustrative delay scenario

Management provided a high level illustrative delay scenario for 801, whereby all work would effectively cease for a period of time. Management has stated that the biggest risk would be Direct Labour costs, but this could be mitigated in full by reprofiling onto 802. This assumes that the build programme can be flexed efficiently, which we believe may be challenging.

Area	Summary

Illustrative delay scenario	• In addition to the illustrative sensitivities, we asked Management to consider an illustrative delay scenario for 801.
	• Management has advised that it is difficult to consider the general impact of a Schedule delay, without being provided a detailed set of assumptions/scenarios.
	• However, Management has advised that the impact of a Schedule delay could be considered at a high level by assuming that something similar to the [redacted] is uncovered during the final snagging stage, resulting in all work having to effectively cease for a period of time whilst waiting for a key part.
	• In this scenario, Management has advised that the biggest risk of overall cost growth to the TCTC would be in relation to Direct Labour at a run rate of [redacted] In addition, there is a further [redacted] of Overheads and S&GA costs that will need to be reprofiled.
	  – Management has stated that in this scenario Direct Labour could be reprofiled onto 802, and then back to 801 after the part arrived, mitigating any increased costs and not impacting the 802 Schedule.
	  – Management has also stated that the Overheads TCTC for each vessel would not be impacted, as the activity levels across both vessels would remain the same, just in a different order.
	  – Management has assumed that any remaining Subcontractor costs could be reprofiled and Materials costs would not go up.
	  – Management has therefore concluded that this scenario is unlikely to result in an overall cost increase.
	• Whilst Management has stated that this scenario is unlikely to result in an overall cost increase, we note that this requires the build programme for 802 to be flexed efficiently to absorb this cost. In practice, this may be challenging to achieve and therefore some cost leakage may occur.

Key messages | Conclusions

Overall, whilst Management has prepared a more robust FCTC than was prepared under previous regimes, the Company still faces a number of known and unknown risks, which will need to be carefully navigated to achieve the forecast cost and Schedule targets.

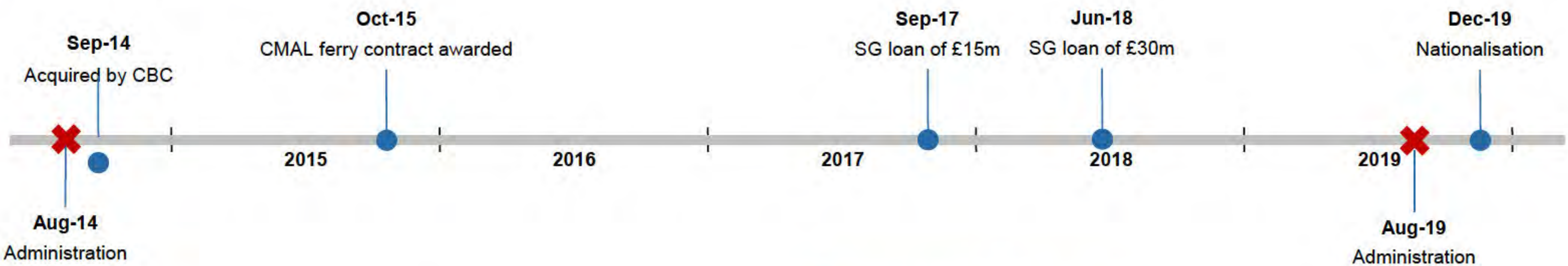
Area	Summary
Conclusions	• The recent 'reset' strategy implemented by DT and the new Management team has [redacted] This has manifested in a significant increase in the forecast costs to complete post a bottom up interrogation of the build components and operational assumptions. The latest forecast TCTC is £203m, an £81m increase from the estimate provided in March 2022. • Management was unable to provide a reconciliation of cost evolution prior to this forecast. We note that a cost reconciliation would also require the operational data that underpinned any previous forecasts and [redacted] • Whilst the perceived improvement in controls and reporting processes should lead to more robust forecasting going forward, the Company is not yet in a position to evidence this through actual performance stats. Moreover, there remains an inherent risk that legacy design and build issues continue to throw up issues that have not been identified on the Company's Risk Register. • The Risk Register was reviewed during the course of our review [redacted] • In addition, given current global inflationary pressures, we have considered additional illustrative sensitivities over and above [redacted] • Whilst [redacted] (external shipbuilding consultant) has stated that, notwithstanding the above, the Company's new FCTC estimates appear largely sensible it has been unable to conclude on whether Management's proposed increase to the general contingency is sufficient as further detailed review at operational level would be required to fully assess the execution risk. • One key risk area that [redacted] identified was the tight Schedule for 801. Consequently, we also considered a high level illustrative delay scenario for 801, whereby work on 801 would cease for a period whilst awaiting delivery of a key part. Management estimated that the cost impact would relate to additional Direct labour and Overheads required to support an extended timetable. However, Management believes that this could be fully rescheduled alongside 802 with no overall cost impact. The assumption that 801 Labour could be temporarily switched to 802 does not appear unreasonable as work remains ongoing on both vessels however given inherent execution risk and lost efficiencies, it may not result in the net nil scenario that Management has put forward. • Overall, we would conclude that whilst the recent forecasts appear to be anchored in a more robust forecasting process, there remains inherent risks in the build programme and broader macro inflationary pressures that may lead to further cost increases in time. This will be more acute for 802 given the relatively earlier status of its build. • On a separate note, we also identified that the Company is forecasting to incur [redacted]. These amounts will likely require funding by SG and we would recommend that SG gets better visibility from Management over the Company's New work pipeline ([redacted] and potentially other commercial projects) and the likelihood that this work will be able to absorb these [redacted] This will become increasingly important as 801 is completed and 802 becomes the only project making a contribution to costs at the shipyard.

Background

Background | Overview

FMPG operates a shipyard in Port Glasgow, which has over 100 years of heritage. The shipyard has been financially challenged for some time, entering insolvency twice in the last eight years. Following the most recent insolvency in 2019, the business was nationalised.

FMEL timeline – Pre-Nationalisation



Company overview

- Ferguson Marine (Port Glasgow) Limited ("FMPG" or "the Company") operates a shipyard on the River Clyde, and has over 100 years of heritage delivering shipbuilding, ship repairs, fabrication and engineering services to support the Scottish ship industry.
- The Company is based in Port Glasgow and, as at September 2022, had 432 employees (373 permanent and 59 temporary), in addition to six agency workers and c.150 (actual figure varies) Subcontractors.
- The Company's sole shareholder and immediate parent entity is Ferguson Marine (Port Glasgow) Holdings Limited. A group structure chart is included at Appendix 2 for further context.

Background to SG's intervention

- The business and assets of the shipyard were acquired from administration by Clyde Blowers Capital ("CBC") in 2014 via a new company, Ferguson Marine Engineering Limited ("FMEL").
- In October 2015, FMEL was awarded a £97m contract to build two ferries (801 and 802) for Caledonian Maritime Assets Limited ("CMAL"). At the date of contract award, the estimated completion dates for 801 and 802 were April 2018 and October 2018, respectively.
- Following the contract award, FMEL began to experience difficulties in agreeing technical design with CMAL, which resulted in significant contract delays, and financial difficulties for FMEL.
- These issues continued to persist over the following two years. SG provided financial support to FMEL in the form of two loans totalling £45m across 2017/18.
- Despite this, FMEL became cash flow insolvent and its directors placed the business into administration in August 2019.
- Following an unsuccessful sales process, the business was nationalised by the Scottish Government ("SG") in December 2019 (certain assets of FMEL were transferred to FMPG and the ferry build contracts were novated to Ferguson Marine (801-802) Limited, both entities ultimately owned by the Scottish Ministers).

Background | Evolution of 801 and 802

Following the nationalisation of FMPG by SG in 2019, the Company has continued to face cost and timetable challenges. Whilst the build programmes that SG inherited appear to have been materially flawed, it would also appear that weak governance and controls contributed to further under performance prior to the introduction of the new CEO in February 2022.

Timetable and cost estimate evolution under SG

	Date of estimate	Upper TCTC range under SG	Var. to Dec 19	Est. timetable to complete			
				2021	2022	2023	2024
1	Dec-19	£114m	-	801	802		
	Aug-20	£114m	-		801, 802		
	Jun-21	£114m	-		801	802	
2	Mar-22	£122m	+£8m			801	802
	Sep-22	£203m	+£89m			801	802

Source: Management information

Key: 801 802

FMPG strategy

- Following nationalisation, the Company was given a clear goal under Turnaround Director, Tim Hair ("TH") – complete the existing contracts for 801 and 802 and secure a future for the yard.
  - Despite the historical challenges in delivering these vessels, they remained critical to CMAL's ferry replacement strategy and were to be used to replace existing ferries which provide important transport and supply links for the Scottish Islands.

Evolution of cost and build programme for 801 and 802

- Following Nationalisation in December 2019, the management team under TH provided a revised FCTC estimate (£114m from the point of Nationalisation) and timetable (Dec-21 and Oct-22 for 801 and 802 respectively).

1 Following further operational challenges (mainly around inefficiencies and rework due to immature design), TH advised of further timetable slippage in August 2020 and again in June 2021.

- Despite the significant timetable delays, no reforecasting of FCTC was provided to SG during this period.
- TH was replaced in February 2022, with David Tydeman ("DT") appointed as CEO. Shortly after arriving in role, DT was asked to provide SG with a revised view on FCTC and schedule.

2 DT provided an updated estimate in March 2022, which showed:

  - an £8m increase in the FCTC (driven by c.£4m of cost increases for 801 and a c.£4m increase in Overheads due to the extended timeline – see below; DT had not yet reviewed 802)
  - a schedule delay of eight months for 801 and six months for 802
  - Management's forecasting process for this update is discussed in the following sections.

Background | Evolution of 801 and 802 (cont.)

Management's most recent TCTC estimate (provided by the Company in September 2022) is £203m, up £81m since March 2022 (and £89m since the Company was nationalised).

Timetable and cost estimate evolution under SG

Date of estimate	Upper TCTC range under SG	Var. to Dec 19	Est. timetable to complete			
			2021	2022	2023	2024
Dec-19	£114m	-				
Aug-20	£114m	-				
Jun-21	£114m	-				
Mar-22	£122m	+£8m				
3 Sep-22	£203m	+£89m				

Source: Management information

Key: ◆ 801 ◆ 802

Updated FCTC

- From March 2022, the new CEO, DT, has implemented a full 'reset' strategy to strengthen the Management team and improve operational and reporting processes (see following page).
- 3 The subsequent reforecasting process resulted in a material £81m increase in the FCTC estimate compared to March 2022. The new TCTC estimate totalled £203m (which included a £6m contingency).
- Management's reforecasting process, and the drivers of this cost increase, are set out in the FCTC review section.
- SG were provided with the updated FCTC estimate on 23 September 2022.
- SG has advised that it remains committed to the completion of 801 and 802, and to securing a future for the yard, however given the level of expenditure and public scrutiny, SG has commissioned Teneo to perform a review to test and challenge the Company's FCTC.
- SG also appointed [redacted] to provide independent technical challenge and input to support this Teneo review. We have clearly identified where [redacted] has provided input into this report.

Background | Reset strategy

Over the last six months DT implemented a full 'reset' strategy to strengthen the Management team, improve operational and reporting processes and increase accountability.

Reset strategy

- Since arriving in role in February 22, DT has made several changes to the operational controls and governance at FMPG.
- Prior to this the previous CEO (Turnaround Director) and CFO relied exclusively on progress information from the Programme Director and his planning team.
- Management has stated that the former CEO set a focus on technical progress and delivery date of the vessels rather than cost. We have not sought to validate this statement as it sits outside our financial scope.
- However, following challenge from CMAL [redacted], DT made a number of changes to the leadership of the programme management, planning, and procurement departments, noting:
  - Board minutes note the lack of adequate performance metrics to correlate with the cost reports.
  - Non exec directors provided a report to the Board on status and opinion on the program and plan in October 2021 and December 2021. These were fairly positive but did include some challenges to be addressed.
  - The Turnaround Director had approved the recruitment of a project accountant late '21 to strengthen the finance team
- In March 2022, [redacted]
  - This was the catalyst for the start of a detailed review of the programme timetable, the status of work done to date and a scoping exercise for work yet to be done to comply with the specification.
  - This included a deep dive analysis into all costs across Direct Labour, Subcontractors, Materials and Overheads and a reprofiling of the Schedule.

Management team

- Additional senior changes/hires were made in the following months to support the cost reset:
  - [redacted]
  - [redacted]
  - [redacted]
  - [redacted]
- The new Management team was tasked with preparing a more robust FCTC estimate on a bottom-up basis, referred to as the 'reset strategy'.

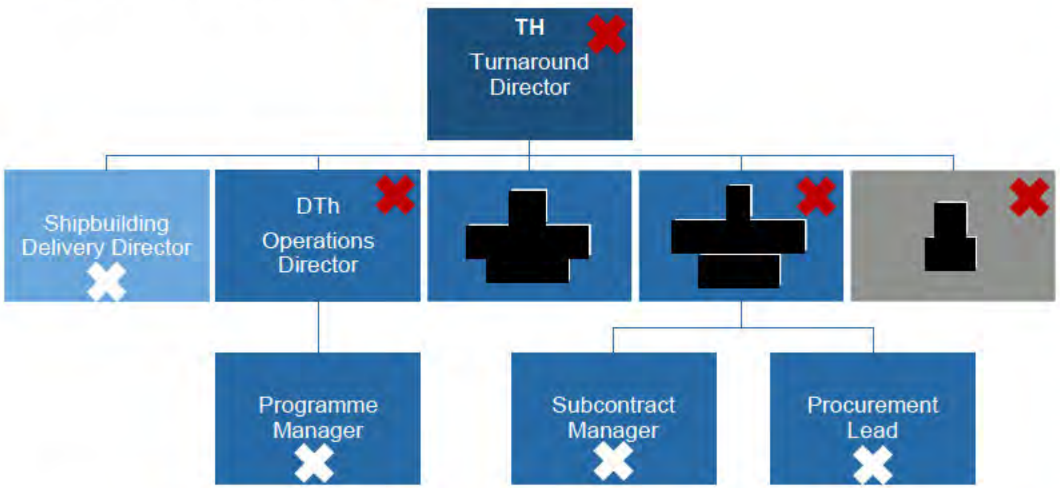
Strategic approach

- DT introduced a revised approach for each vessel:
  - For 801, review, system by system and zone by zone the outstanding work and establish a full list of work packages still needed. Re-negotiate with the key Subcontractors and achieve clarity on Subcontractor manhour forecasts, Labour needs, Subcontractor Materials required and Subcontractor monthly management charges. Run a thorough stock check and check the Bill of Materials and contract specification and price all outstanding Materials required.
  - For 802, work bottom-up (similar to 801) across the various aspects, but in parallel run an independent estimating exercise with the commercial team to benchmark calculate FCTC using agreed productivity 'norms' for comparison and validation purposes against other shipyards and market data. The different strategic approach for 802 was driven by its stage of completion compared to 801.
- Further detail on the Operational and Financial approach set out by DT is included at Appendix 2.

Background | Management team

The new (Operational) Management team is set out below. The majority of the team is either new to the Company or new to role in the last six to twelve months, with certain roles having multiple appointments between 2019 and 2022.

Management Structure 2019



Source: Management information

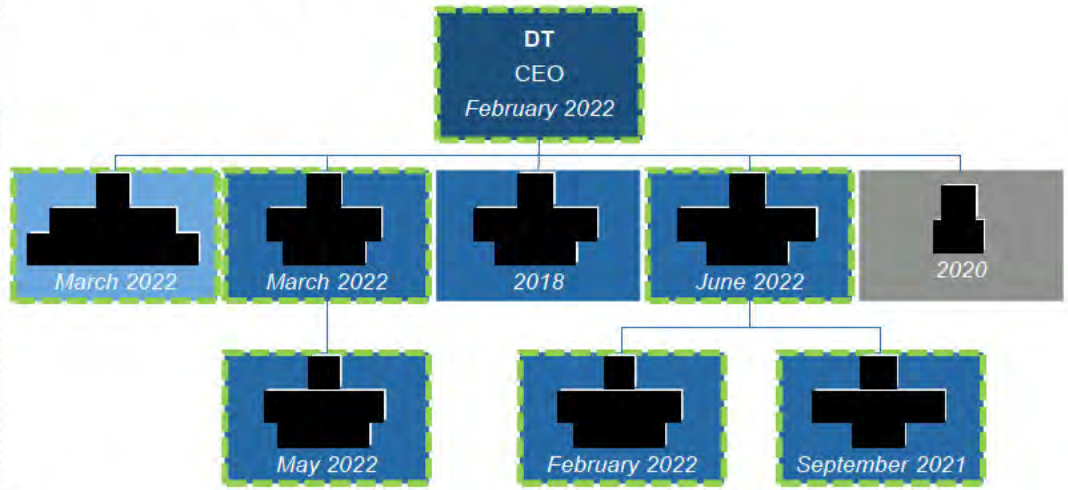
Employee numbers as at December 2019

- 332 employees (150 permanent, 172 temporary and 10 agency staff)
- Subcontractors not known.

Key

- CMAL Secondee
- FMPG Operations
- FMPG Finance
- New in role (since Sept 2021)
- Left the Company
- Role did not exist

Management Structure 2022[1]



Notes
(1) Management has stated that there were many interim appointments before reaching the above Management structure. Source: Management information

Employee numbers as at September 2022

- 432 employees (373 permanent and 59 temporary)
- c.150 (actual figure varies) Subcontractors.

Historical cost review

Forecasting accuracy

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Forecasting accuracy

Poor historical forecasting accuracy, recent changes in governance structure and a new forecasting approach means we are not able to conclude on the Company's forecasting accuracy. It may be possible to do this in the future, once the Company has posted more actual financial results under the new regime.

[redacted]

Forecasting accuracy

There are a number of challenges when considering the forecasting accuracy of FMPG, which are detailed below:

1. Poor historical forecasting accuracy

[redacted]

2. Recent change in governance structure

- The governance processes and reporting environment of the Company has changed significantly over the past six months. These changes relate to day to day operational improvements, rather than changes to the Board, and are detailed further in the Basis of Preparation section (Operational inputs).
- As such, any assessment of historical governance is deemed to have little relevance to the consideration of FMPG's current forecasting and governance processes.

3. Unproven accuracy of latest reforecast and governance processes

- Between March and September 2022, Management developed and refined FMPG's operational and financial processes. [redacted]
- [redacted]
- [redacted]

Evolution of costs

Evolution of costs | Overview

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[redacted]

Forecast cost evolution summary

Figures in £m	Dec-19	Mar-22	Sep-22	Variance Dec-19 to Sep-22
801				
Direct Manhours ('000)	[redacted]	[redacted]	[redacted]	[redacted]
Direct Labour	[redacted]	[redacted]	[redacted]	[redacted]
Materials	[redacted]	[redacted]	[redacted]	[redacted]
Subcontractors	[redacted]	[redacted]	[redacted]	[redacted]
Overhead	[redacted]	[redacted]	[redacted]	[redacted]
SG&A	[redacted]	[redacted]	[redacted]	[redacted]
Total 801	[redacted]	[redacted]	[redacted]	[redacted]
802				
Direct Manhours ('000)	[redacted]	[redacted]	[redacted]	[redacted]
Direct Labour	[redacted]	[redacted]	[redacted]	[redacted]
Materials	[redacted]	[redacted]	[redacted]	[redacted]
Subcontractors	[redacted]	[redacted]	[redacted]	[redacted]
Overhead	[redacted]	[redacted]	[redacted]	[redacted]
SG&A	[redacted]	[redacted]	[redacted]	[redacted]
Total 802	[redacted]	[redacted]	[redacted]	[redacted]
Total 801 and 802 (exc Contingency)	[redacted]	[redacted]	[redacted]	[redacted]
Contingency	[redacted]	[redacted]	[redacted]	[redacted]
Contingency %	[redacted]	[redacted]	[redacted]	[redacted]
Total 801 and 802	[redacted]	[redacted]	[redacted]	[redacted]

Source: GDC FM(PG) Ltd P4 Jul-22 Actuals and F'cast 2023 and 2024

Historical FCTC - overview

- As noted in the previous section, we have not been able to place reliance on FMPG's historical reporting when assessing the Company's forecasting accuracy.
- This has also presented material challenges when trying to reconcile the detailed factors which have driven the increase in the FCTC estimates between December 2019 and September 2022. These include:
  - ✖ Lack of easily comparable corporate history to reconcile cost estimates as at December 2019 and March 2022
  - ✖ Inconsistent categorisation between model versions with contracted Labour being rolled up in subcontract costs until April 2022
  - ✖ Incorrect operational inputs led to unreliable FCTC estimates containing flawed assumptions and were significantly understated
- [redacted]
- Accordingly, our assessment of Management's latest reforecast has focussed on the key processes and assumptions which underpin the September 2022 FCTC estimate only.
- Where possible, we have sought to set out the key 'high level' drivers of cost growth over the following pages.

Evolution of costs | December 2019 to March 2022 | 801

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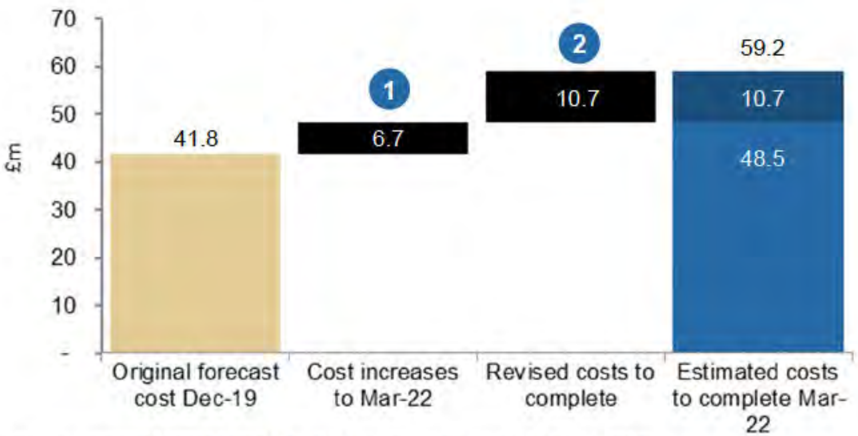
When reforecasting in March 2022, the actual CTD had already exceeded the December 2019 FCTC by £6.7m. [redacted]

801 - Historical CTC to Mar-22



Source: GDC FM(PG) Ltd P4 Jul-22 Actuals and F'cast 2023 and 2024

Key:

- cost increase
- cost decrease
- FCTC
- actual cost incurred to March 2022
- December 2019 Cost to Complete

801 overview

1. At the time of the March 2022 reforecast, actual costs incurred on 801 were £6.7m higher than the TCTC estimate provided in December 2019.
   - Management has informed us that it believes a lot of the cost overruns between December 2019 and March 2022 were due to higher than planned Subcontractor costs, largely relating to inefficiencies in the build programme, which resulted in Subcontractors being on site too early, extensive rework being required etc.
   - [redacted]
2. In March 2022 DT advised SG that the FCTC for 801 was £10.7m. [redacted]
   - [redacted]
   - [redacted]
   - [redacted]

Evolution of costs | December 2019 to March 2022 | 802

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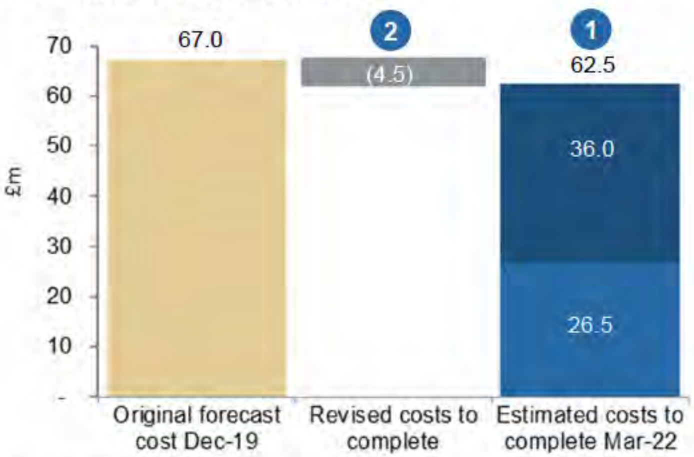
DT advised SG and the Cabinet Secretary in March 2022 that he had not yet looked at the actual spend to date for 802 and therefore did not have an updated view on the FCTC. The slight reduction is a result of the reallocation of Overheads and SG&A costs from 802 to 801.

802 - Historical CTC to Mar-22



Source: GDC FM(PG) Ltd P4 Jul-22 Actuals and F'cast 2023 and 2024

Key:

- cost increase
- cost decrease
- FCTC
- actual cost incurred to March 2022
- December 2019 Cost to Complete

802 overview

- The previous forecast cost for 802 at December 2019 was £67.0m.
- (1) Actual costs incurred to the end of March 2022 were £26.5m, with an estimated FCTC of £36.0m and forecast total cost of £62.5m.
- Management's analysis shows that the majority of the FCTC relates to Subcontractors ([redacted]) and Direct Labour ([redacted]) but it has not been able to provide a detailed break down of this figure as categorisation has not been consistent across costs historically [redacted]
- (2) [redacted]

Evolution of costs | March 2022 to September 2022

TCTC increased by £80.8m between March 2022 and August 2022. As Management has been unable to provide a detailed reconciliation showing the movements on a line by line basis, we have been unable to review and comment on the cost evolution since March 2022.

801 and 802 Total Cost to Complete

[redacted]

September 2022 cost to complete estimate

Figures in £m	801	802	Total
Direct Labour	[redacted]	[redacted]	[redacted]
Materials	[redacted]	[redacted]	[redacted]
Subcontractors	[redacted]	[redacted]	[redacted]
Overhead	[redacted]	[redacted]	[redacted]
SG&A	[redacted]	[redacted]	[redacted]
FCTC	[redacted]	[redacted]	[redacted]
Contingency	[redacted]	[redacted]	[redacted]
Contingency %	[redacted]	[redacted]	[redacted]

Source: Summary 801 802 Cost V2

801 and 802 - March to August 2022

- The TCTC increased by £80.8m between March 2022 and August 2022.

1 [redacted] which we understand have previously been discussed with SG.

- These include:
  - [redacted]
  - [redacted]
  - [redacted]

2 3 Management advises that the majority of the increased forecast costs for 801 and 802 relate to Subcontractors, with factors including:

- increased scope and programme extensions for main Subcontractors due to incomplete original designs
- high volumes of rework
- inaccurate assessment of progress for key Subcontractors
- unproductive time/cost spent on site before specific areas were available for work to commence and additional work required following the discovery of legacy issues

4 The forecast [redacted] in relation to 801 and 802 respectively (as set out in DT's update letter to the NZET Committee dated 28 September 2022), calculated as a percentage of forecast cost to complete for each vessel ([redacted]). This is considered in further detail in the next section of the report.

- [redacted]

Forecast cost review

Basis of preparation for latest cost to complete forecast

Basis of preparation | Project Cost model

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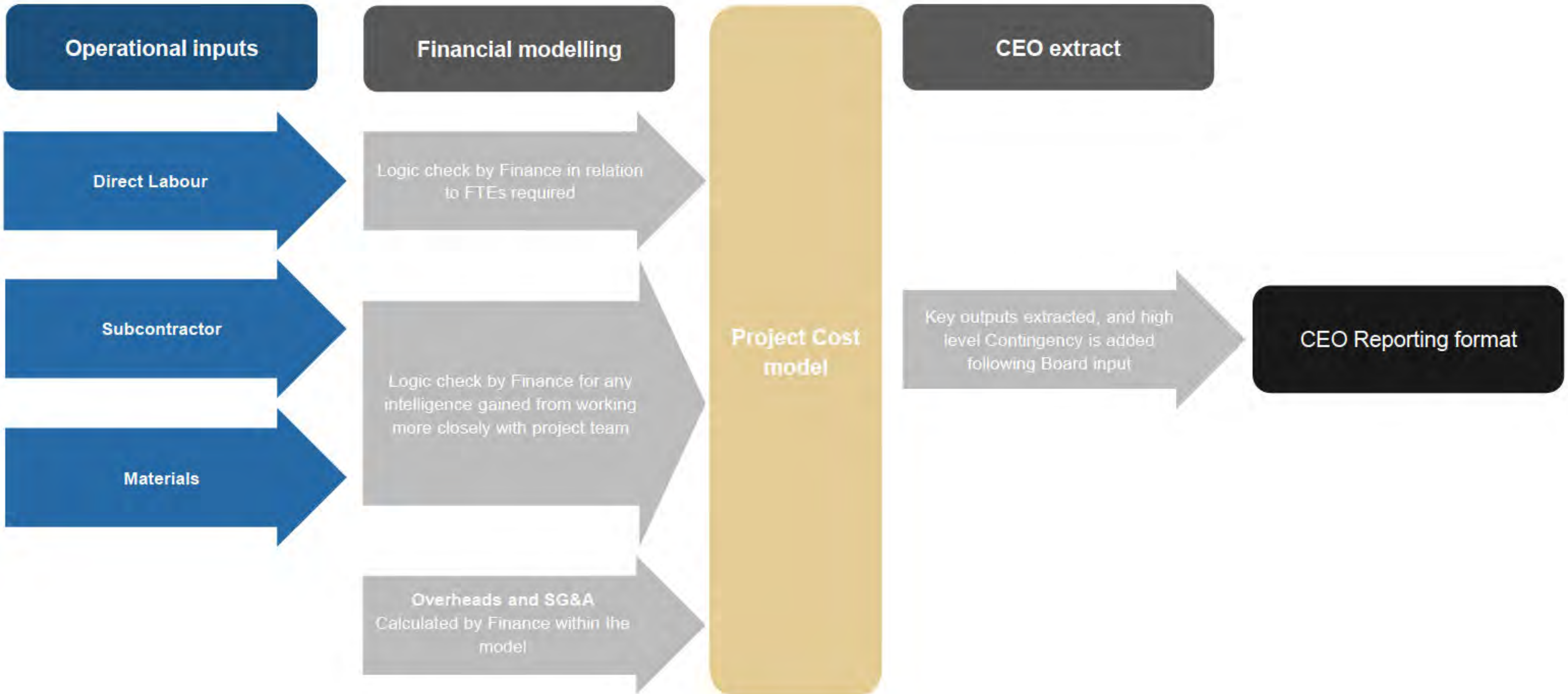
A high level summary of the financial process for calculating the FCTC is set out below. Whilst this process has not materially changed compared to the Company's historical approach, the underlying inputs appear to have been subject to more robust and thorough internal review and challenge by Management over recent months



Basis of preparation | Financial modelling

The Project Cost model is underpinned by a collection of spreadsheets. The majority of forecasting inputs are hard coded and the excessive levels of manual copy and input are not in line with modelling best practice.

- Over the following pages we have set out the basis of preparation for generating the FCTC via the Project Cost model (i.e. how the different operational areas of the Company provide inputs to the Finance team for modelling). The process for arriving at the operational inputs is set out within the operational sections later in the report.

Area	Summary	Teneo observations	RAG
Financial modelling	• **We have only reviewed the process for preparing the Project Cost model. We have not completed a model audit. The model does not have an integrated cash flow and balance sheet over the forecast period. We have not reviewed any forecast spend which has not been allocated to 801 or 802. See Limitations at Appendix 1.** • The Project Cost model has evolved over the past six months, mainly to accommodate more detailed operational inputs. • The Operational teams provide input data to Finance (see following page), which are then manually copied into the model by the FC. Once complete, the inputs and outputs are reviewed and approved by the Finance Director, [redacted] • After [redacted] review, these are reviewed and approved by DT with [redacted] and the relevant Operational Leads. • Once the final outputs were approved, these were manually copied into a separate spreadsheet for use by DT. DT applied a general contingency to the outputs and the updated outputs were used for Board and wider stakeholder reporting. • Management advises this process is tracked by the SG team and discussed with them regularly with SG also attending interim Board meetings. • The Board approved the model outputs on 22 September 2022.	• The Project Cost model is underpinned by a series of other spreadsheets that are not integrated. It contains a significant amount of hard coding and has not been built in line with modelling best practice. • Hard coding of operational inputs, and manual adjustments, creates a risk of errors and internal inconsistency.	[redacted]

Key

- Significantly below best practice
- Not in line with best practice
- In line with best practice

Basis of preparation | Operational inputs

The latest operational input processes appear sensible, with the relevant departments providing the model inputs to Finance (following review), and reviewing the outputs (as set out on the previous page). The inputs, however, are hard coded into the model, creating a risk of error and inconsistency.

Area	Summary	Teneo / [redacted] observations	RAG
Direct Labour	[redacted]	• The processes appear sensible, with the relevant operational departments providing the model inputs (following review), and reviewing the outputs (as set out on the previous page). • The inputs are not linked to the model, and therefore each new/updated version needs to be manually input into the model.	[redacted]
Sub-contractors	[redacted]	• The processes appear sensible, with the relevant operational departments providing the model inputs (following review), and reviewing the outputs (as set out on the previous page). • The inputs are not linked to the model, and therefore each new/updated version needs to be manually input into the model.	[redacted]
Materials	[redacted]	• The processes appear sensible, with the relevant operational departments providing the model inputs (following review), and reviewing the outputs (as set out on the previous page). • The inputs are not linked to the model, and therefore each new/updated version needs to be manually input into the model.	[redacted]
Overheads and SG&A	[redacted]	• This approach appears sensible.	[redacted]
Contingency	[redacted]	• This should be included within the model to help with internal consistency. • [redacted] has confirmed that this approach to general contingency is not inconsistent with other ship build projects that it has experience of.	[redacted]

Costs to complete

Forecast costs to complete

TCTC is estimated to be £203m across the two vessels. £103m of this is FCTC (split £27m for 801, £70m for 802 and [redacted]. The following section explores the cost categories that make up the FCTC.

TCTC summary

Figures in £m	CTD (1)	FCTC (2)	TCTC (3)
801	[redacted]		
Direct Manhours ('000)			
Direct Labour			
Materials			
[redacted]			
Overhead			
[redacted]			
Total			
802			
Direct Manhours ('000)			
Direct Labour			
Materials			
Subcontractors			
Overhead			
[redacted]			
Total			
Total			
Contingency 801			
Contingency 802			
TCTC			
Warranty costs 801			
(4) Warranty costs 802			
Total funding requirement			

Source: Summary 801 802 Cost V2

1. CTD is defined as actual costs to 31 July 2022.
2. FCTC is defined as FCTC from 1 August 2022.
3. The TCTC does not include all costs of the Company during the period to May 2024. Certain costs are forecast to be incurred which are not allocated to 801 or 802 and therefore outside the scope of this review. These have been summarised on the following page for completeness.
4. The warranty estimate is for the contracted 1 year warranty that the Company will need to honour once the vessels are formally delivered to CMAL. This is outside the scope of this review and has not been considered in further detail.

FCTC overview

★ *Important note: when discussing TCTC, this is the total cost since nationalisation in 2019 (it is not the total cost of the entire build project). It is not appropriate to compare TCTC for 801 vs 802 throughout this section as the vessels were at different stages of completion when nationalised.* [redacted] *See Appendix 3 for further detail.* ★

- FCTC for both vessels is £103.6m, split as follows:
  - 801 - £27.3m (28% of total vessel build cost)
  - 802 - £70.0m (69% of total vessel build cost)
  - [redacted] - [redacted]
- To provide the relevant context for each of the cost categories noted opposite, we have documented two key areas which underpin the build programme:
  - Design – page 36
  - Schedule – page 38
- Each of the key cost categories are then considered in further detail:
  - Direct Labour – page 40
  - Materials – page 46
  - Subcontractors – page 52
  - Overheads and SG&A – page 58
  - Contingency and Risk Register – page 61
- Finally, we have set out some key risks, along with some illustrative sensitivities on pages 64 – 72.

Forecast costs to complete

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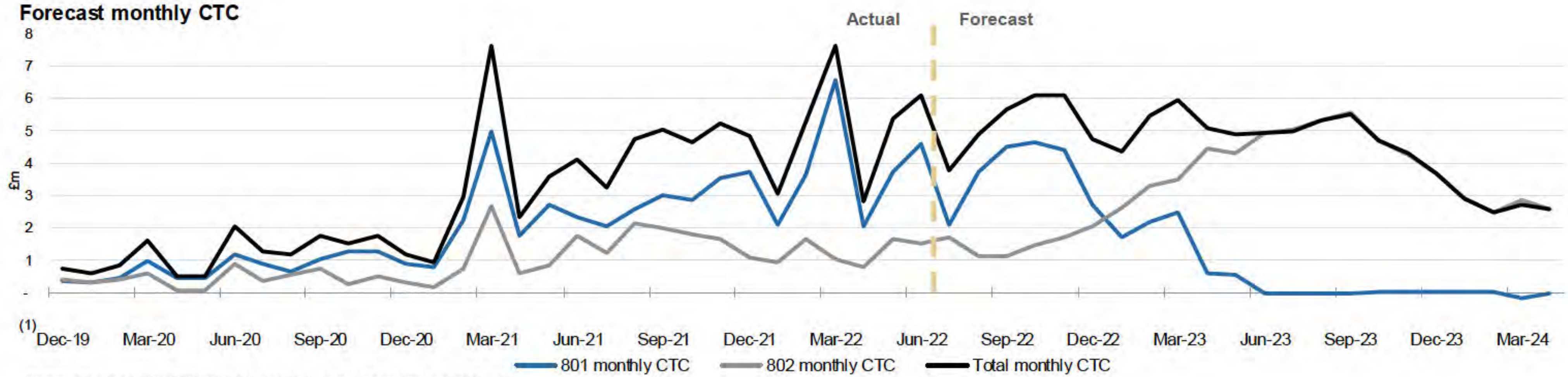
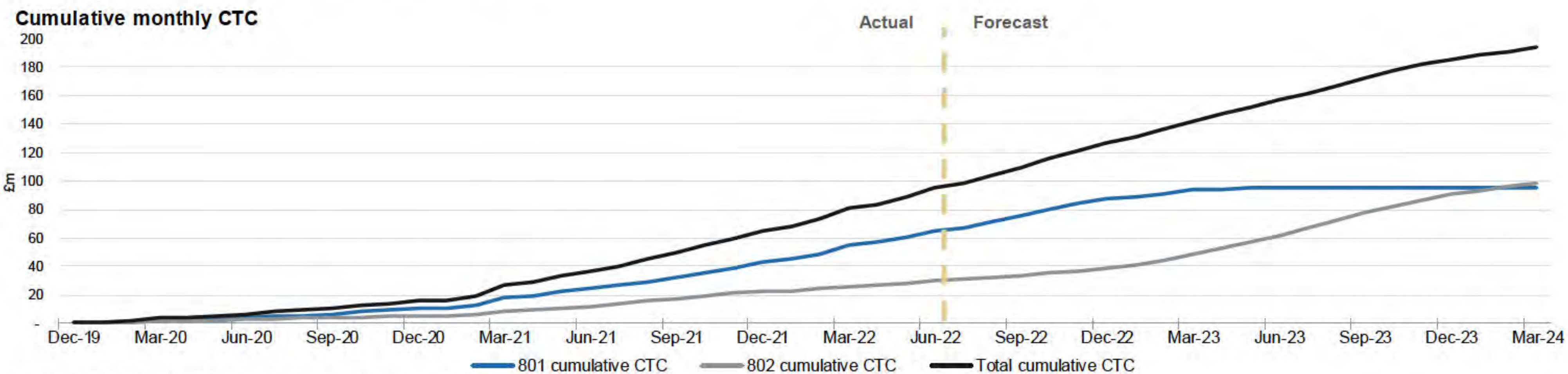
The graphs below show the TCTC both monthly and cumulatively since nationalisation. The top graph shows 801 spend declining sharply from March 2023 to zero after May 2023 (delivery to CMAL), and the entire spend shifting to 802 from that point on.



Source: 2022 09 13 GDC FM(PG) Ltd P4 Jul-22 Actuals and F'cast 2023 and 2024 - Teneo



Source: 2022 09 13 GDC FM(PG) Ltd P4 Jul-22 Actuals and F'cast 2023 and 2024 - Teneo

Forecast costs to complete | Non 801/802 Labour and Overheads

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Over the Forecast Period, the Company has allocated a total of [redacted]

Forecast Labour hours

'000	FY23 OT	FY24	FY25	Total
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

Forecast Labour costs

£m	FY23 OT	FY24	FY25	Total
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

1 2

Note: New work cost figures above include allocation of labour under/over absorption.

Source: 2022 09 13 GDC FM(PG) Ltd P4 Jul-22 Actuals and F'cast 2023 and 2024 - Teneo

Forecast Overheads costs

£m	FY23 OT	FY24	FY25	Total
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

1 2

Note: Cost figures above include allocation of Overheads under/over absorption.

Source: 2022 09 13 GDC FM(PG) Ltd P4 Jul-22 Actuals and F'cast 2023 and 2024 - Teneo

Non 801/802 Labour

- There are two key assumptions which underpin this review and the FCTC estimates:
  - the Company will continue to win new work, and employees will be able to rotate off 801/802 and charge time onto new projects; and
  - [redacted]
- If either of these assumptions were to change, it could have a material impact on our work and the FCTC estimates.
- [redacted]
- [redacted]
- [redacted]
- [redacted]

1 – [redacted]

2 – [redacted]

- These areas are outside the scope of this review and have not been considered in further detail.

Apprentices

- [redacted]
- [redacted]
- [redacted]

Design

[redacted]

Area	Overview	[redacted] view
Design	• [redacted] • FMPG started off as the ultimate 'owner' of the design, working alongside design houses [redacted] In practice, this meant that the design houses provided the detailed drawings, but FMPG had to sign them off. • The detailed design continued to be refined from 2015 to 2019. • [redacted] was contracted in Feb 2020 to complete detailed systems designs and other design work. [redacted] generated c.27,000 drawings during 2020. At that point, FMPG did not have the capacity to check them as they were received. • [redacted] • The new Management team identified the need for a more focussed approach to Design and began a data cleansing operation for 801 and 802 in May 2022, working closely with [redacted] • Management took the decision to mitigate the design risk on 802 by subcontracting all design work to [redacted] As a result, the Company will seek to benefit from [redacted] expertise and design skills but it retains Design authority and overall design risk remains with FMPG.	• Whilst 801 was a 'first of class' vessel (which generally carry most of the risk of any multi vessel build programme), [redacted] • [redacted] • Management has taken the decision to subcontract the design work to [redacted] for 802, given the significant shortcoming in the management of the design process to date. This has resulted in higher Subcontractor costs for 802, but is likely to reduce future risk. This appears to be a sensible trade off based on the experiences of 801. • Most design work appears to be in detailed design, and in the refinement of systems. No major design items have been noted by [redacted] that would pose a significant problem to delivery. • [redacted]

Design (continued)

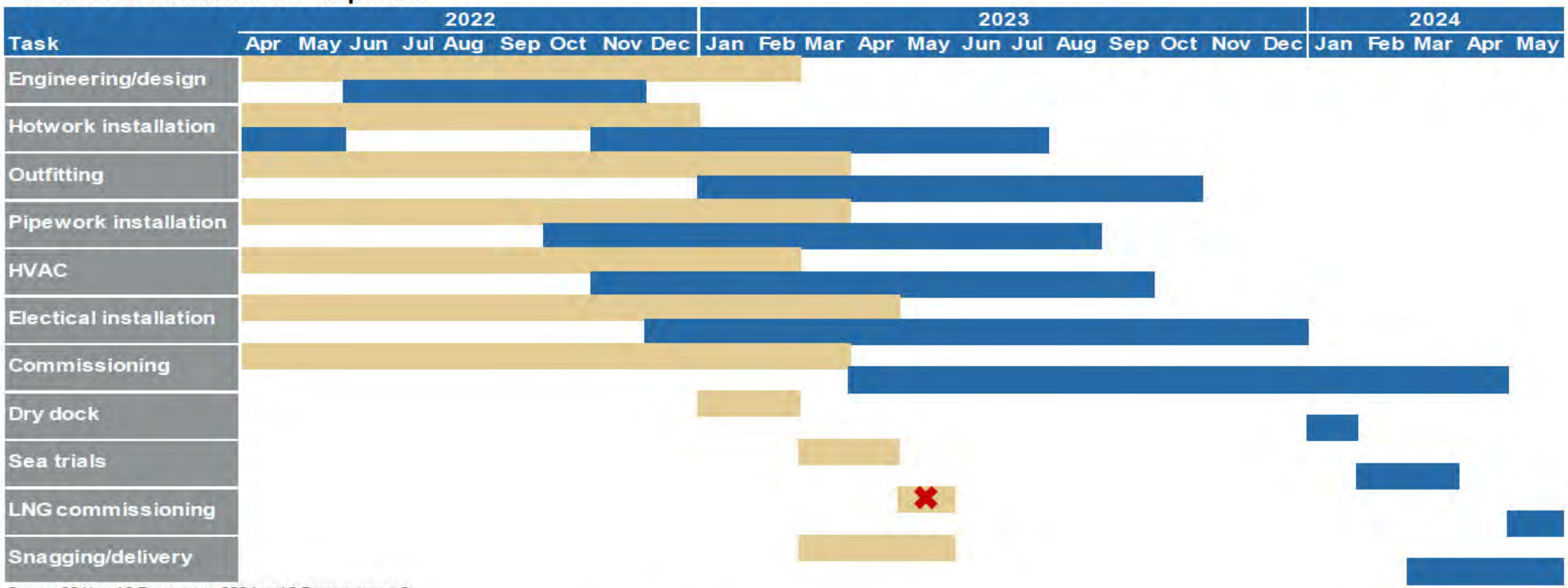
Per [redacted], Rework due to inherited design flaws is a key risk of the project, and one Management know will crystallise. Due to the unknown nature of the embedded design issues, it is very difficult to quantify the potential exposure. This is discussed in further detail in the Contingency and Risk Register section.

Area	Overview	[redacted] view
801 Design	• Whilst the design could be said to have been 'completed' in 2020, significant gaps and errors have been, and continue to be identified by the Operations team and corrected 'on-ship'. • Rework has an impact across: – Direct Labour and Subcontractors – creates additional work and impacts ability to deliver targets (KPIs/norms), resulting in higher cost and reduced performance. – Materials – creates additional wastage (if parts need to be removed and replaced) and errors of omission can cause significant delays (or require premium pricing to order on short notice).	• Rework is included in the Risk Register as a key risk, and one Management know will continue to crystallise. • This is one of the largest areas of risk for the project, both from the inefficiencies and additional costs generated from the time required to fix the errors, through to the potential missing parts which can put a halt on progress. • Due to the unknown nature of the embedded design issues, it is very difficult to quantify the potential exposure. • This is discussed in further detail in the Contingency and Risk Register section.
802 Design	• The data cleansing operation is expected to embed the upgrades/design improvements identified during the construction of 801 for 802. Management is working closely with [redacted] to identify further efficiency improvements, although these are not built into the FCTC. • The design work for 802 is due to be completed in November 2022.	• Until such time as the design work settles, there continues to be a risk that additional rework will be required.

Schedule

Set out below is a summarised version of the Schedule for both 801 and 802. Schedule is discussed in more detail on the following page.

801 and 802 Schedule to completion



Source: 801 Level 0 Programme, 802 Level 0 Programme rev2

Key: 801 802 ✖ Known issue. Expected between July 2023 and March 2024, depending on CMAL/SG/CalMac Ferries Limited decision.

Schedule

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The overall Schedule appears achievable but there is very little slack in the programme. Any Schedule delays could have a material impact on the TCTC. Accordingly, we asked Management to provide an illustrative sensitivity for a Schedule delay. This is discussed in more detail in the Sensitivities section.

Area	Overview	[redacted] view
Schedule	• Following the detailed review of the programme timetable for both vessels, DT advised the NZET Committee on 28 September 2022 that the latest target delivery dates for 801 and 802 were before May 2023 and Q1 2024 respectively. • Management is targeting 801 completion in April 2023, with LNG commissioning intended for May 2023. Commissioning of the LNG system requires specialist suppliers and facilities to be carried out at Troon [redacted] Management states that the cost of the commissioning will not change (as this was to be completed at a third party site and can be rescheduled with no additional cost) and therefore any additional cost would be limited to any claims from CalMac Ferries Limited ("CalMac"). We understand this is still under discussion and can therefore not provide any observations. • 802 practical completion is forecast by the end of December 2023 with completion activities (final dry docking, associated trials and handover) scheduled between January and March 2024. Commission of the LNG system remains open at this time (subject to harbour upgrades at Ardrossan and if not available, which is the likely outcome, will be done at Troon) but is expected to take place in May 2024. • Any delay to the Schedule will result in higher: – Direct Labour costs, unless forecast hours can be reprofiled, and the relevant staff can be reallocated to other chargeable projects (i.e. New work) or released (for Direct Labour subcontractors). [redacted] – Subcontractor costs, unless the forecast time costs can be reprofiled – Material costs, mainly around extended periods for hire equipment • Management has stated it currently has no concerns about completing the OOR list in the time available.	• The critical factors for 801 would appear to be the completion of electrical work and pipework to enable system commissioning in advance of the Harbour Trials date of mid-February, with valuable time likely to be lost for the Christmas period and dry-docking. • Commissioning on 801 is well underway but no detailed Commissioning Plan is available. Commissioning of systems on 801 will likely require very careful scheduling given the difficulties of obtaining commissioning engineers at short notice and the overrun of pipework and electrical work. – Management will seek to determine next steps in relation to the LNG issue at the Board meeting during w/c 14 November 2022. • Other than the LNG issue, there have been no specific issues identified which will impact 801 Schedule. The overall 801 Schedule appears achievable but there is very little slack in the programme. We have concluded that it would therefore be helpful to understand the potential impact of a short delay for 801. – Management has provided an illustrative sensitivity for a Schedule delay in the Sensitivities Section. • The earliest indicated date for launching 802 (March 2024) would seemingly create less than optimal conditions for further outfitting, whereas postponing the launch until August 2024 would probably enable more efficient outfitting with the vessel on the slipway. • The 802 Schedule appears achievable.

Direct Labour

Direct Labour | Overview

OFFICIAL - SENSITIVE

Direct Labour is driven by forecast hours to complete across a number of detailed labour categories. These labour hours are delivered by a combination of FMPG staff (baseline hours) and [redacted] subcontractors (top up hours). This approach allows Management to flex the Subcontractor hours to meet demand forecasts, which is an industry standard approach.

Direct Labour – Summary cost

£m	CTD	FCTC	TCTC
801 Direct labour	[redacted]		
801 [redacted]			
801 Total labour			
802 Direct labour			
802 [redacted]			
802 Total labour			
Combined Direct labour			
Combined [redacted]			
Combined Total labour			
Direct labour % of total	*97%*	*62%*	*81%*
Contractor % of total	*3%*	*38%*	*19%*

Direct Labour – Summary hours

'000 Hours	HTD	FHTC	THTC
801 Direct labour	[redacted]		
801 [redacted]			
801 Total labour			
802 Direct labour			
802 [redacted]			
802 Total labour			
Combined Direct labour			
Combined [redacted]			
Combined Total labour			
Direct labour % of total	*96%*	*63%*	*78%*
Contractor % of total	*4%*	*37%*	*22%*

Source: 2022 09 13 GDC FM(PG) Ltd P4 Jul-22 Actuals and F'cast 2023 and 2024

Direct Labour overview

- FCTC is [redacted], which is driven by the FHTC multiplied by a fixed labour rate (further detail on the following page).
- 63% of FHTC are forecast to be delivered by FMPG and 37% of the FHTC by [redacted] (a key Subcontractor who provides 'top up' Direct Labour).
  - [redacted]
- This approach allows Management to flex the Subcontractor hours to meet demand forecasts, and should ensure that the majority of FMPG labour is fully utilized. [redacted]
- The Company is in discussions with [redacted] regarding a proposal to subcontract certain steelwork labour to its site in [redacted]. [redacted]. This has not been included in the FCTC, but Management believes this would generate an 'upside' in performance, [redacted] (see Appendix 3 for further details on this assumption).

Direct Labour review

- This section considers the following areas:
  - Management's approach in arriving at the FCTC, process improvements and additional controls implemented along the way, and key risks relating to the updated FCTC.
  - Direct Labour FCTC for 801 and 802 in further detail.
- [redacted] has provided input into each of the above areas.

Direct Labour | FCTC approach

[redacted], the FCTC process for Direct Labour appears sensible, but it is difficult to conclude as to the reasonableness of the FCTC as Management is still surveying the outstanding compartments to confirm build progress and there has not been enough performance data captured under the new reporting formats to review.

Direct Labour approach

- [redacted] have overseen a full review of hours required on 801 and 802 since commencing their roles in March 2022.
  - For each of the 17 labour categories, a detailed review with the Operational leads and Ship Managers was undertaken to clearly define all activities that required completion, and ensuring these were captured in the correct sequence.
- This review highlighted that there was:
  - significant shortfalls in the overall management processes and reporting
  - [redacted]
  - [redacted]
  - [redacted]
  - significant rework issues, caused by immature designs
- [redacted] implemented a number of key actions on the back of this:
  - Overhaul of the reporting processes, with a variety of new operational KPI's being tracked on a weekly basis
  - Started a process to review and measure actual completion of each area/compartment of the vessel (this process remains ongoing with a completion date within the 801 delivery schedule and weekly reporting – priority risk areas were addressed first to feed into the FCTC estimate)
  - Scheduled regular meetings with the Finance team to update on progress
  - Reduced outfitting work on 802 whilst detailed designs were being finalised with [redacted]

FCTC estimate

- The updated FCTC estimate has been re-calculated following the detailed review by [redacted]
- A split of forecast hours by discipline is created after assessing what skills are required each month to complete the vessels in line with build schedules.
  - This is provided to Finance and input into the Project Cost model, which calculates the forecast headcount required each month, cross checks this to ensure all FMPG employees are utilised, and calculates how many additional [redacted] staff will be required.
  - Total labour hours are then multiplied by an average 'labour recovery rate' to arrive at the FCTC. Please see Appendix 3 for further detail.
- [redacted] have assumed that current performance can be maintained, and there will not be extensive issues experienced in the past. Any efficiency improvements would be upside to the FCTC.
- The FCTC includes a [redacted] to the end of the Forecast Period. Management states this is in line with recent wage increases in local shipyards. FCTC also includes a [redacted]
- [redacted] hourly rate is not assumed to increase across the Forecast Period. We consider this a risk and discuss further in the Sensitivities section.

[redacted]

- [redacted] discussed the methodology with various individuals from the Company's senior management team ([redacted]), and concluded that this approach appears sensible.
- The review and process implementation used in conjunction with improved process reporting and task scheduling would appear to be a very positive step in improving efficiency.
- The methodology of applying a flat hourly rate to forecast Labour costs is relatively standard - this approach is adequate for calculating project costs.
- Ultimately, it is difficult to conclude definitively on the FCTC approach, however, as Management is still surveying the outstanding compartments to confirm build progress and there has not been enough performance data captured under the new reporting formats to review.

Direct Labour | Risks and [redacted] view

Per [redacted], the key risk area for Direct Labour is Rework, which is being identified regularly and is expected to result in additional costs. The unknown nature of the design issues mean it is very difficult to accurately quantify the risk. [redacted]

Risks to FCTC

- When completing the latest FCTC exercise, Management identified a number of key risks that apply to Direct Labour.
  - Where appropriate, Management has included the key risks on the Risk Register (an extract of this is shown opposite with the high likelihood risks included – those rated a 4 or 5 on a scale of 1-5, with 5 being considered the most likely/expected to happen).

1 *Design risk*

- As noted in the Design section, there is a material risk of rework in 801 and 802 due to the embedded design mistakes.
- Issues with the designs inherited from the prior management teams are being discovered on a regular basis.
- Rework is anything which requires additional time to be incurred fixing problems identified. Rework is included in the 801 Risk Register.

Schedule risk

- As noted in the Schedule section, delays to the current programme (outwith Direct Labour) are likely to result in additional Labour time (and increased costs) due to inefficiencies. There is no risk in the Risk Register for Schedule delays. This is discussed further in the Contingency and Risk section of the report.

Performance risk

- The FCTC is based on FMPG staff continuing to deliver current levels of efficiency. [redacted]
- Whilst no upside has been assumed in relation to Direct Labour, there is a risk that current performance cannot be maintained and additional Direct Labour hours are necessary to complete the vessels.

Wage inflation

- [redacted]
- We believe there is still a risk of further Macro inflation – we have added an illustrative sensitivity in the Sensitivities section to reflect this.

Risk Register extract – Direct Labour

	Risk Register	Risk	Potential cost (£000)	Likeli-hood	Description
1	801	General design - Rework	[redacted]	[redacted]	Rework - Operations will continue to identify errors and gaps in design which will lead to Rework
	802	Labour – Painting costs	[redacted]	[redacted]	Painting and blasting tender for Materials and Labour will have different rates for FMPG/Subcontractors (FCTC assumes both used, albeit mainly via FMPG resource)

Source: 2022 Project Risk Register 2.11.22

[redacted]

As identified by Management, the key risk areas for Direct Labour are Design and Schedule.

- Whilst there are no significant risks to Schedule identified (other than the known LNG issue), it is clear that Rework is being identified on a regular basis.
- This will almost certainly result in additional cost, however, the unknown nature of the design issues mean it is very difficult to accurately quantify the risk. This is discussed in more detail in the Contingency and Risk Register section.

- The FCTC is dependent on the Company's workforce continuing at current efficiency levels. [redacted]
- [redacted] appears to be vitally important to Operations of the Company as he appears to be a key man in terms of managing day to day governance of both Direct Labour and the wider programme.

Direct Labour | 801

Management is now tracking KPIs and norms and will begin building a bank of performance data. As this is not yet available, [redacted] have had to review at a high level, and have concluded that the [redacted] FHTC for 801 appear reasonable (indeed likely in excess what would be achieved by a more competitive yard) but the potential for rework is a significant risk.

801 labour hours summary

	HTD	FHTC	THTC % of total
Welder	[redacted]		
Plater			
Welder [redacted]			
Plater -			
Caulker Burner			
Shipwright			
Pipe Fitter			
Engineers/Mechanical Fitter			
Painting			
Joiner			
Scaffolder			
Ancilliary Worker			
Searchers / Quality			
Design			
Supervision			
Commisioning			
Apprentice 2nd Year			
Total			

Source: 2022 09 13 GDC FM(PG) Ltd P4 Jul-22 Actuals and F'cast 2023 and 2024

801 Labour costs

- Direct Labour is managed across the 17 key categories shown in the table opposite.
- The monthly split of Direct Labour across all categories is set out in Appendix 3.
- Each of the trade categories in the table opposite have been calculated using the methodology described earlier in this section, with the exception of Design and Commissioning (which are provided by the individual departments) and Supervision (which is based on a percentage of production hours).
- [redacted] estimate that 801 comprised several thousands of work packs, the majority of which have now been completed with fewer than 1,000 outstanding.

[redacted]

- In considering the FCTC:
  - [redacted]
  - Management has spent c.6 months in collating all of the relevant data to provide the FCTC across several thousand total work packs and is currently still working through surveys of all zones (11 total) on the vessel with this process continuing system by system until the end of commissioning. It would therefore likely require weeks, or even months, to complete a detailed review of each of the Labour categories.
  - Views are therefore based on a high level review of FCTC, taking into account discussions with Management, and experience of other shipyards.
- [redacted]
- As noted on the previous page, the main risk for 801 is potential for rework due to historical issues in the design. No rework hours are included in the FHTC opposite.

Direct Labour | 802

Again, at a high level, [redacted] has concluded that the [redacted] FHTC does not look unreasonable, [redacted]

802 labour hours summary

	HTD	FHTC	THTC	% of total
Welder	[redacted]			
Plater				
Welder - [redacted]				
Plater - [redacted]				
Caulker Burner				
Shipwright				
Pipe Fitter				
Engineers/Mechanical Fitter				
Painting				
Joiner				
Scaffolder				
Ancilliary Worker				
Searchers / Quality				
Design				
Supervision				
Commisioning				
Apprentice 2nd Year				
Total				

Source: 2022 09 13 GDC FM(PG) Ltd P4 Jul-22 Actuals and F'cast 2023 and 2024

802 Labour costs

- The quarterly split of Direct Labour across all categories is set out in Appendix 3.
- [redacted] will produce between 6,000 and 10,000 work packs across various disciplines for 802. Management has higher confidence in the FHTC as the forecast has been based off much more advanced design detail.

[redacted] view

- The hours are based off current performance levels [redacted]
- Management has slowed outfitting work on 802 pending approval of production design work packages from [redacted], which is expected during November 2022.
- This has allowed the Company to focus resource on progressing 801, whilst reducing the risk of inefficiencies/overruns on 802 by optimising work plans and finalising technical specifications prior to further work being undertaken.
- In line with the comments on the previous page, [redacted] has concluded that the FHTC do not look unreasonable, [redacted]
- The forecast increase in subcontracted labour may lead to efficiency improvements, with the caveat of the robustness of the contracts, the supervision of the work (which applies equally to FMPG direct employed labour) and control of the programme.

Materials

Materials | Overview

Materials FCTC is driven by a 'master' list of Materials which has been prepared over the summer. This is heavily reliant on the correct information being provided by Engineering/Design. A significant [redacted] was identified during w/c 24 October 2022, which will impact the ability of 801 to be fully operational (dual fuel) on launch.

Materials – Summary cost

£m	CTD	FCTC	TCTC
801	[redacted]		
802			
Total			

Source: 2022 09 13 GDC FM(PG) Ltd P4 Jul-22 Actuals and F'cast 2023 and 2024

[redacted]

- [redacted]
- [redacted]

Materials overview

- 'Materials', as defined by the Company, covers 23 different categories, including: Third party equipment; Hire equipment; Raw Materials; Dry dock fees (not a 'Material') and Lloyds register fees (not a 'Material').
- We note that not all 'Materials' are included within this category, with certain key equipment included within Subcontractors (e.g. [redacted] provide the physical engines and the installation).
- Management advises that all of the Materials relating to the FCTC are still to be purchased by the Company as at September 2022.
- [redacted] of the FCTC is 'committed' (where the order and costs have been agreed and finalised). The uncommitted FCTC is therefore [redacted]

Materials review

- This section considers the following areas:
  - Management's approach in arriving at the FCTC, along with process improvements and additional controls implemented along the way.
  - Materials FCTC for 801 and 802 in further detail.
  - Management's confidence levels in delivering the TCTC.
- [redacted] have provided input into each of the above areas.
- Where relevant, we have made reference to the Risk Register. We have only included risks which are rated as 4 or 5 by Management (i.e. risks with a high likelihood of occurring).

Materials | FCTC approach

[redacted], [redacted] has stated that the new cost forecasting processes for materials appear adequate and an improvement on previous systems. However, this is still reliant on accurate drawing, design and engineering information.

Materials approach

- A review of Material costs incurred to date and FCTC commenced when [redacted] joined the Company in March 2022. The purpose of this exercise was to develop a master Material list for both vessels (whilst this did previously exist, [redacted] To ensure a full and robust Materials master list:
  - [redacted] worked closely with [redacted], to document the Materials needed for each of the different programme elements of the build (and ensure nothing was lost between the Materials and Subcontractor teams).
  - [redacted] confirmed what Materials were already installed or in stock (where possible), and the additional Material required to be bought in.
  - [redacted] engaged with suppliers to obtain up to date pricing for outstanding items.
- [redacted] joined the Company in June 2022, whilst this process was ongoing. Whilst the focus was on developing a robust FCTC estimate, [redacted] was keen to understand and learn from the historical challenges around Materials.
- In developing the Materials list over the next few months, a number of key risks from previous practices were identified:

[redacted]

Materials approach (cont.)

- [redacted] has implemented a number of controls to mitigate the process risks, including:
  - better communication with Engineering to ensure visibility of up upcoming Material requirements
  - commencement of a stock take process (due to be completed in December 2022), which includes a review of equipment in stock and risk of obsolescence. We have been advised by [redacted] that the outstanding items to be counted are lower cost items and should not pose a risk to the FCTC estimate.

FCTC estimate

- The Materials FCTC has been calculated on a granular basis for each of the 23 categories. The key assumptions which underpin each category vary, but the key characteristics are set out below:
  - Third party equipment – based on current price from [redacted] discussions with suppliers (or refurbishment price, if required)
  - Hired equipment – based on a current run rate over a future period linked to schedule (based on Engineering estimate)
  - Raw Materials – based on current cost levels
  - Dry dock fees – based on summer dry dock cost
  - Lloyds Register fees – based on discussions with Lloyds

[redacted]

- New cost forecasting processes appear to be adequate and an improvement on previous systems. However, this is clearly reliant on accurate drawing, design and engineering information.
- The stock take currently being undertaken to determine Materials that have been purchased and are held in stock (and their condition and suitability of use) is laborious but it seems that the process is being well managed.
- It is difficult to definitively conclude on the FCTC process whilst the stocktake remains in progress.

Materials | Risks and [redacted] view

[redacted] the Engineering/Design errors appear to the be largest area of risk (as evidenced by the [redacted] issue), as the Materials team can only include Materials that they know about. As design errors are not yet known, this is a difficult risk to quantify, and has been discussed further in the Contingency and Risk Register section.

Risks to FCTC

- When completing the latest FCTC exercise, Management identified a number of key risks that apply to Materials.
  - Where appropriate, Management has included the key risks on the Risk Register (an extract of this is shown opposite with the high likelihood risks included – those rated a 4 or 5).

1 *Engineering / design errors*

[redacted]

2 *Price inflation risk*

[redacted]

3 *Obsolescence risk*

[redacted]

4 *Cannibalisation risk*

[redacted]

General supply chain risks

- included in the Corporate risk register, but difficult to quantify.

Risk Register extract – Materials

	Risk Register	Risk	Potential cost (£000)	Likeli-hood	Description
1	801	General design - Rework	[redacted]	[redacted]	Rework - Operations will continue to identify errors and gaps in design which will lead to Rework
2	802	Materials – commodity Inflation	[redacted]	[redacted]	Suppliers costs will inflate particularly on fuel, stainless steel and aluminium and unable to be fixed due to weakened GBP
2 4	802	Materials – Inflation and cannibalisation	[redacted]	[redacted]	Material required for completion of 802 (FCTC) has increased costs, long lead times and may have already been used on 801
3	802	Materials - Obsolescence	[redacted]	[redacted]	Equipment obsolescence may become a problem following the length of time the equipment has been on-site
1	802	Materials – Drawing freeze	[redacted]	[redacted]	Material still being requested which may not be required as drawings not yet frozen

Source: 2022 Project Risk Register 2.11.22

[redacted]

- Engineering/design errors appear to the be largest area of risk (as evidenced by the [redacted] issue), as the Materials team can only include Materials that they know about. As the design errors are not yet known, this is a difficult risk to quantify, and has been discussed further in the Contingency and Risk Register section.
- The other risks noted are relevant, and it is sensible to track these, and the mitigating actions, via the Risk Register. The potential costs associated with the risks are discussed in more detail in the Contingency and Risk Register section.

Materials | 801

63% of the FCTC have been committed (order and costs agreed). The risk remains in the [redacted] of uncommitted costs. These costs are all due to be incurred by March 2023, therefore the risk of uncommitted costs rising significantly from the current estimates is considered by [redacted] to be low.

801 Materials cost summary

£m Material category	CTD	FCTC	TCTC
Equipment	[redacted]		
Dry Dock			
Electrical			
Fees			
Safety			
Pipe			
Finishing processes			
Raw materials			
General			
Paint			
Total			

Source: Summary 801 802 Cost V2 and 2022 09 13 GDC FM(PG) Ltd P4 Jul-22 Actuals and F'cast 2023 and 2024

1 There is no detailed comparative CTD information as historically Management did not split out the material categories in the same way as has been applied to the FCTC.

801 Material Costs

- FCTC is [redacted] of these costs have been committed (i.e. the order and costs have been agreed and finalised), therefore the risk remains in the [redacted] of uncommitted costs.
  - With all costs scheduled to be incurred by March 2023, the risk of uncommitted costs rising significantly from the current estimates is low and continues to reduce. The monthly split of Materials is set out in Appendix 3.

[redacted]

- [redacted] has discussed the key FCTC areas with Management at a high level – Equipment and Dry dock costs (together these represent 63% of the FCTC).

Equipment costs - [redacted] FCTC

- Equipment costs comprises hire and purchase costs of the plant and machinery required to complete the vessels, including larger items such as Crane and Plant Hire [redacted]).
- The underlying costs and methodology appear reasonable and the key risks here are price inflation (as hire/purchase costs are not committed) and engineering errors (the majority of hire equipment is assumed over an fixed time period, which may need to be extended depending on operational performance). No additional risks to note.

Dry Dock costs - [redacted] FCTC (50% already incurred)

- The cost for the August 2022 dock was [redacted]. This has already been paid. The August cost was used as the basis for the January 2023 slot as Management similar amount of work will be required following the findings from the summer dry dock. This will be tendered via public tender to ensure competitive pricing.
- [redacted] noted that in order to comment on this assumption, a comparison of the dry dock specifications would need to be reviewed. This is noted as a limitation of this review.

Other costs

- These have been reviewed at a high level. Other than the areas included in the Risk Register, no additional risks noted.

Materials | 802

[redacted] (96%) FCTC are uncommitted. [redacted] has reviewed the costs at a high level and noted the materials forecast costs do not appear unreasonable. Cost inflation, forex and supply chain issues represent key risks to the Materials FCTC on 802.

802 Materials cost summary

£m Material category	CTD	FCTC	TCTC
Pipe	[redacted]		
Equipment			
Fabrication			
Electrical			
Safety			
Raw Materials			
Paint			
General			
Dry Dock			
Fees			
Outfitting			
Ship Models			
Launch Activities			
Total			

Source: Summary 801 802 Cost V2 and 2022 09 13 GDC FM(PG) Ltd P4 Jul-22 Actuals and F'cast 2023 and 2024

1 There is no detailed comparative CTD information as historically Management did not split out the material categories in the same way as has been applied to the FCTC.

802 Material Costs

- FCTC is [redacted]. Only [redacted] of these costs have been committed (i.e. the order and costs have been agreed and finalised), therefore there is a risk of price growth on the remaining [redacted] ([redacted]).
- The monthly split of Materials is set out in Appendix 3.

[redacted] review

- [redacted] has discussed the key FCTC areas with Management at a high level.

Pipe - [redacted] FCTC

- [redacted]
  - The estimate of [redacted] is based on detailed calculations (i.e. an average cost for spools, valves and couplings etc. multiplied by the estimated quantity required). Management believes that appropriate planning for 802 should lead to a better negotiating position when acquiring new pipes and mitigate against further cost increases. This doesn't appear unreasonable and may provide a small upside if managed carefully.

Equipment - [redacted] FCTC

- Equipment comprises of crane and plant hire, mechanical equipment and additional tools required.
  - Crane hire ([redacted]) and plant hire costs ([redacted] are based on April/May 2022 actual invoices and assumes 18 months of full rental costs. Again, the risk here is price inflation and engineering errors around timescales.
  - The list of additional tools required ([redacted]), which includes hired tools for the build and purchased tools required to be delivered with the vessel, is assumed to be the same as 801 with a [redacted]. This does not appear unreasonable.

Other costs

- These have been reviewed at a high level. Other than the areas included in the Risk Register, no additional risks noted.

Subcontractors

Subcontractors | Overview

Subcontractors FCTC is based on detailed technical specifications (a combination of time based labour and materials costs) across a number of different categories. [redacted]. This exposes FMPG to significant risk of cost growth if there are any delays, inefficiencies or performance issues.

Subcontractors – Summary cost

£m	CTD	FCTC	TCTC
[redacted]			

Subcontractor overview

- There are [redacted] Subcontractors, which fall in 3 categories:
  - High volume installation of key infrastructure (pipes, electricals etc);
  - Provision and installation of key equipment (engines, lifts etc); and
  - Service providers (design).
- The majority of Subcontractors have been contracted across 801 and 802 on a 'cost plus' basis. This exposes to Company to significant risk of cost growth if there are any delays, inefficiencies or performance issues.
- [redacted]
- The cost for certain large pieces of equipment (e.g. engines) are included in Subcontractors and not Materials. The Materials team track anything provided by Subcontractors to ensure there is no double ordering, and nothing is 'lost' between the two categories.
- The key Labour Subcontractor, [redacted], is now included in Direct Labour, but prior to 1 April 2022 was included in Subcontractors.

Subcontractors review

- This section considers the following areas:
  - Management's approach in arriving at the FCTC, along with process improvements and additional controls implemented along the way.
  - Subcontractors FCTC for 801 and 802 in further detail.
  - Management's confidence levels in delivering the TCTC.
- [redacted] have provided input into each of the above areas.
- Where relevant, we have made reference to the Risk Register. We have only included risks which are rated as 4 or 5 by Management (i.e. risks with a high likelihood of occurring).

Subcontractors | FCTC approach

[redacted], the FCTC approach for Subcontractors appears sensible, however it is difficult to conclude as to the reasonableness of the FCTC as Management is still renegotiating all contracts for 802 and there has not been enough performance data captured under the new reporting formats to review.

Subcontractor approach

- As discussed in previous sections, Subcontractor cost overruns are one of the main reasons for historical cost growth.
- [redacted] was appointed in February 2022 as [redacted] to improve the processes and controls around Subcontractors, and to conduct a full review of the Subcontractors for both vessels.
- [redacted], whilst this process was ongoing. Whilst the focus was on developing a robust FCTC estimate, [redacted] was keen to understand and learn from the historical challenges around Subcontractors.
- [redacted] worked through each of the [redacted] Subcontractors (and their contracts) to understand CTD (both Materials and Labour), and FCTC for each vessel.
- The review identified a number of historical challenges with Subcontractors, both in how the contracts were structured, and how the Subcontractors were being managed on site. The key areas were as follows:
  1. Poor structuring of the Subcontractor contracts – the older contracts are based on Subcontractor time plus a profit margin ('cost plus' rather than 'fixed [redacted] This means that the Subcontractors:
     - [redacted]. Given the design challenges throughout the process, we understand – anecdotally – that this has been a constant issue throughout the build process.
     - [redacted]
  2. [redacted]
- [redacted] have sought to introduce controls to help manage Subcontractors, including:
  - [redacted]

Subcontractor approach (cont.)

  - [redacted]
- The increased focus on Design maturity has also helped with Subcontractor discussions for 801 and 802, with both sides benefitting from more robust information on future work packages. This has allowed a process of renegotiation to take place, utilising more detailed scope information.

FCTC estimate

- The Subcontractor FCTC for 801 have been updated based on current performance and a more detailed path to completion (i.e. with better design data, improved processes and controls and better working relationships).
- The Subcontractor FCTC for 802 have been updated following a process of 'renegotiating' in 2022 (Subcontractors have been contracted across both vessels but previously provided estimates for 802 based on incomplete and/or high level design data). The renegotiation process is still underway with key areas under discussion being as follows:
  - With more accurate design data, Management has asked for revised pricing from Subcontractors. The FCTC for 802 is based on the costs in the responses (97% of total confirmed). Management is also hoping to agree some risk sharing through this process (i.e. fixed prices and suitable penalties).
  - Management also believes there may be some upside as Management has not yet begun negotiations on the pricing responses.

[redacted]

- The new processes implemented by [redacted] and [redacted] would appear to be robust, and greater control of Subcontractors is arguably the most valuable improvement in correcting much of the poor performance allegedly experienced historically.
- The availability of detailed work packages has helped Management obtain more accurate pricing and should help improve workflow on 802 (although there is insufficient evidence at this point to validate this assertion).
- It may be possible to agree some risk sharing with the Subcontractors. It may also be possible to generate some upside through pricing negotiations. It is reasonable (given the uncertainty) that this has been kept as potential 'upside', rather than being included in the FCTC. It is difficult to conclude on FCTC whilst renegotiations remain ongoing.

Subcontractors | Risks and [redacted] view

Per [redacted], Subcontractors are subject to the key risk areas of Design (Rework) and Schedule (delays) noted previously, due to the nature of the contracts. The main risk within the FCTC is performance and management of key Subcontractors. Management appears to have seen recent success in this area, overseeing a turnaround in performance of a key Subcontractor.

Risks to FCTC

- When completing the latest FCTC exercise, Management identified a number of key risks that apply to Subcontractors.
  - Where appropriate, Management has included the key risks on the Risk Register (an extract of this is shown opposite with the high likelihood risks included – those rated a 4 or 5).

1 – *Performance risk*

  - During the summer, Management 'red flagged' a key Subcontractor on 801, with performance metrics significantly behind targets (and therefore at risk of cost growth due to 'cost plus' contract structure). A recovery plan was put in place and the Subcontractor performance has improved. This is discussed in further detail on the following page.
  - Management is working closely with all Subcontractors to ensure costs there are no other material issues, and Schedule remains on track for 801. There are currently no Subcontractors 'red flagged', but this remains a key risk.
  - [redacted]
  - Whilst quotes for 802 have been based on more detailed designs, and better management controls and processes are now in place, Subcontractor overruns remain a key risk. Currently, there is nothing included in the 802 Risk Register for performance risk on 802.

2 *Design risk*

  - As noted in the Design, Direct Labour and Materials sections, there is a risk of significant Rework in 801 and 802 due to the embedded design mistakes.
  - This creates a risk of inefficient use of Subcontractor time if designs are not available or if material rework is required.
  - Rework is included under Design in the 801 Risk Register. *Note: this is the same risk as shown in the Direct Labour section – not a separate risk amount.*

3 *Price inflation risk*

  - There is no fixed pricing mechanism for key Subcontractors in 2024. There is a risk of inflated Labour and Materials costs at this stage, therefore this has been included in the 802 Risk Register.
  - We believe there is still a risk of further Macro inflation – we have added an illustrative sensitivity in the Sensitivities section to reflect this.

Risk Register extract – Subcontractors

	Risk Register	Risk	Potential cost (£000)	Likeli-hood	Description
2	801	General design - Rework	[redacted]	[redacted]	Rework - Operations will continue to identify errors and gaps in design which will lead to Rework
1	801	Subcontractor - Maintenance	[redacted]	[redacted]	[redacted] costs for Care and Maintenance may be higher than forecast.
3	802	Subcontractor - pricing	[redacted]	[redacted]	No fixed pricing for tasks in 2024

Source: 2022 Project Risk Register 2.11.22

[redacted] view

- As identified by Management (and previously discussed in the Direct Labour section) the key risk areas for Subcontractors are Design and Schedule.
  - Inefficiencies and delays from other parts of the build program will impact total Subcontractor cost due to the nature of the contracts.
- The main risk within FCTC is performance and management of key Subcontractors, due to historical challenges faced, and the nature of the contracts.
  - If key Subcontractor performance drops, there is a risk not only of increased cost (due to additional time required to complete all tasks), but of wider delays to the project which could impact Schedule.
- Management has made significant progress in addressing these risks through the implementation of more robust processes and controls, however, it is difficult to conclude on the overall FCTC as a bank of performance data is not yet available.
  - It is helpful to have seen an example of process improvements in practice, with Management implementing a recovery plan for [redacted], which has resulted in an apparent improvement in performance (discussed on following page).

Subcontractors | 801

[redacted] of the FCTC have been committed. Per [redacted] the risk remains in the [redacted] of uncommitted costs, and in any delays, inefficiencies, or underperformance causing cost increases. [redacted] was the only Subcontractor 'red flagged' due to underperformance, however, a recovery plan was put in place and [redacted] is now performing in line with expectations.

801 Subcontractor cost summary

£m Subcontractor	Services	CTD	FCTC	TCTC
[redacted]	Electrical installation	[redacted]	[redacted]	[redacted]
[redacted]	Outfitting	[redacted]	[redacted]	[redacted]
[redacted]	Pipe installation	[redacted]	[redacted]	[redacted]
[redacted]	Insulation and pipework	[redacted]	[redacted]	[redacted]
[redacted]	Ventilation	[redacted]	[redacted]	[redacted]
[redacted]	Commissioning and electrical	[redacted]	[redacted]	[redacted]
[redacted]	LNG pipework	[redacted]	[redacted]	[redacted]
[redacted]	Main/auxiliary engines	[redacted]	[redacted]	[redacted]
[redacted]	Lift installation	[redacted]	[redacted]	[redacted]
[redacted]	Hydraulic pipework	[redacted]	[redacted]	[redacted]
[redacted]	Design drawings	[redacted]	[redacted]	[redacted]
[redacted]	Electrical and automation	[redacted]	[redacted]	[redacted]
[redacted]	Gangways and doors	[redacted]	[redacted]	[redacted]
[redacted]	Fire and gas safety	[redacted]	[redacted]	[redacted]
[redacted]	Labour subcontractor	[redacted]	[redacted]	[redacted]
Total		[redacted]	[redacted]	[redacted]

Source: Summary 801 802 Cost V2 and 2022 09 13 GDC FM(PG) Ltd P4 Jul-22 Actuals and F'cast 2023 and 2024

801 Subcontractor costs

- FCTC is [redacted]. [redacted] of these are 'committed' (i.e. based on a PO, GRNI or an invoice has been issued to the Company). The risk is therefore around the remaining [redacted]:
  - With all Subcontractor costs scheduled to be incurred by March 2023, the risk around growth of the uncommitted costs reduces as time elapses. The monthly split of Subcontractors is set out in Appendix 3.

[redacted] review

- [redacted] has discussed the key FCTC Subcontractors with Management at a high level – [redacted] – comprising approximately [redacted] of the FCTC.
  - All FCTC are based on detailed technical specifications, with performance against targets now tracked on a weekly basis by the SMT (and reported on a monthly basis in the Board packs).
- [redacted] was the only Subcontractor 'red flagged' due to underperformance against targets over the summer.
  - Management has been working closely with [redacted] to improve communication and reporting channels. A recovery plan was put in place in September 2022 to bring performance back in line with expectations.
  - Early indications suggest an improvement in performance with [redacted] tracking closer to targets. Accordingly, [redacted] are no longer 'red flagged'.
- At the moment, none of the Subcontractors have material performance issues resulting in a high rated risk [redacted] being added to the Risk Register. This is something Management will need to continue to manage carefully.
- The other Subcontractors have been considered at a high level, with no additional risks noted. Accordingly, the overall costs for 801 do not appear unreasonable.

Subcontractors | 802

[redacted] ([redacted]) FCTC are uncommitted. The FCTC are based on the updated detailed designs and the recent pricing received as part of the renegotiation process. Whilst the forecast subcontractor costs for 802 appear sensible, this is a key risk area (based on historical performance) and Management will need to monitor progress carefully.

802 Subcontractor cost summary

£m Subcontractor	Services	CTD	FCTC	TCTC
[redacted]	Electrical installation	[redacted]	[redacted]	[redacted]
[redacted]	Outfitting	[redacted]	[redacted]	[redacted]
[redacted]	Pipe installation	[redacted]	[redacted]	[redacted]
[redacted]	Design drawings	[redacted]	[redacted]	[redacted]
[redacted]	Insulation and pipework	[redacted]	[redacted]	[redacted]
[redacted]	Ventilation	[redacted]	[redacted]	[redacted]
[redacted]	Hydraulic pipework	[redacted]	[redacted]	[redacted]
[redacted]	Electrical and automation	[redacted]	[redacted]	[redacted]
[redacted]	Gangways and doors	[redacted]	[redacted]	[redacted]
[redacted]	Main/auxiliary engines	[redacted]	[redacted]	[redacted]
[redacted]	Lift installation	[redacted]	[redacted]	[redacted]
[redacted]	LNG pipework	[redacted]	[redacted]	[redacted]
[redacted]	Commissioning and electrical	[redacted]	[redacted]	[redacted]
[redacted]	Fire and gas safety	[redacted]	[redacted]	[redacted]
[redacted]	Labour subcontractor	[redacted]	[redacted]	[redacted]
Total		[redacted]	[redacted]	[redacted]

Source: Summary 801 802 Cost V2 and 2022 09 13 GDC FM(PG) Ltd P4 Jul-22 Actuals and F'cast 2023 and 2024

802 Subcontractor costs

- FCTC is [redacted], with relatively little cost incurred to date. [redacted] of the forecast cost is 'committed' (i.e. based on a PO, GRNI or an invoice has been issued to the Company). The risk is therefore around the remaining [redacted].
  - The majority of the costs ([redacted]) are due to be incurred in 2023. The monthly split of Subcontractors is set out in Appendix 3.

[redacted] review

- [redacted] has discussed the key FCTC Subcontractors with Management at a high level – [redacted] – comprising approximately [redacted] of the FCTC ([redacted] have been discussed in the Design section of the report).
- All FCTC are based on the updated detailed designs and the recent pricing received as part of the renegotiation process ([redacted] of FCTC is based on updated pricing).
- [redacted] The new controls and processes implemented by Management are a sensible mitigation to this risk.

  [redacted]
- The overall costs for 802 have been calculated on a sensible basis. The key risk here will be ensuring performance is closely monitored throughout, and the new processes and controls mitigate the self inflicted issues which occurred as part of the 801 build process.
- The other Subcontractors been considered at a high level, with no additional risks noted. Accordingly, the overall costs for 802 do not appear unreasonable.

Overheads and SG&A

Overheads and SG&A | Overview

Overheads are central costs (rates, utilities, insurance) and Indirect Labour costs. SG&A are similar central costs but are categorised separately. FMPG forecast costs are based on employee headcount and cost extracts from Payroll and recent historical trends for all other areas, before being allocated to 801 and 802 in proportion to activity levels on each project.

Overheads and SG&A costs summary

£m Category	CTD	FCTC	TCTC
801 overheads	[redacted]		
802 overheads			
Overheads total			
801 SG&A			
802 SG&A			
SG&A total			
Total overheads			
Total SG&A			
Total overheads and SG&A			

Source: Summary 801 802 Cost V2

Overheads

- Overheads FCTC for both vessels are forecast to be [redacted]
- Overheads includes a combination of:
  - Indirect Labour costs - salaries, NIC and pension, external contractors etc.
  - general Overheads - rent and operating leases, consumables, utilities, insurance, professional fees etc.
- The majority of these costs are fixed.
- FMPG forecast Overheads are based on employee headcount and cost extracts from Payroll, with non-employee costs based upon recent historical trends. Overheads are then allocated to 801 and 802 based on project activity levels.
- Average monthly Overhead run rates in the current year is [redacted]. Average monthly Overheads in the forecast to end of year is [redacted] lower than current run rate). Management attributes the reduced forecast run rate to lower headcount and fewer interim staff in the Forecast Period.

SG&A

- SG&A FCTC for both vessels are forecast to be [redacted]
- SG&A includes a combination of:
  - employment costs for non-production staff - including the CEO and the Finance, HR and Sales/Commercial teams
  - general SG&A costs - professional fees, training, IT etc.
- The majority of these costs are fixed.
- As with Overheads, FMPG forecast SG&A costs are based on employee headcount and costs extracts from Payroll, with non-employee costs based upon recent historical trends before being allocated to 801 and 802 in proportion to project activity levels (see allocation percentages table on the following page).
- Average monthly Overhead run rates in the current year is [redacted]. Average monthly Overheads in the forecast to end of year is [redacted] lower than current run rate). See Overheads above for an explanation from Management in relation to the reduced forecast run rate compared to actuals in the year to date.

Overheads and SG&A | Allocation

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Overheads and SG&A are allocated by project based on a proportion of production costs each financial year (i.e. an activity-based cost principle). It is assumed for the purposes of this report that Overheads and SG&A allocated elsewhere (i.e. not 801 or 802) are funded by SG.

Allocation percentages for Overheads and SG&A costs

Project	FY21	FY22	FY23	FY24	FY25
801	[redacted]				
802					

Allocation between 801 and 802

- Overheads and SG&A are allocated by project based on a proportion of production costs each financial year (i.e. an activity-based cost principle). The relevant allocation percentages for FY21 to FY25 (forecast) are shown in the table opposite.
- The allocation shifts towards 802 in FY24 as 801 is expected to be completed by May 2023.
- It is assumed for the purposes of this report that Overheads and SG&A allocated elsewhere (i.e. not 801 or 802) are funded by SG or third parties.

Contingency and Risk Register

Contingency and Risk Register | Overview

The FCTC forecasts include a general contingency estimate, [redacted] A separate risk register is maintained by the Company which has quantified a number of risks relating to 801, [redacted].

Contingency included in Cost to Complete

- When preparing the September 2022 TCTC estimate, Management included a [redacted]
  - [redacted] for 801 ([redacted] of FCTC) and
  - [redacted] for 802 ([redacted] of FCTC).
- Management also advised that there is potential for up to [redacted] of 'upside' in 802. Key areas of potential upside include:
  - Efficiency improvements versus current performance on Direct Labour; and
  - Renegotiations with Subcontractors on 802.
- However, this has not been included in the forecasts as there is not yet sufficient supporting evidence

Risk Register

- Management maintains a separate Risk register to record all identified programme risks for each vessel.

Risk register summary

Figures in £m	Total per RR (Rated 1-3)	Total per RR (Rated 4-5)	Total per RR
801	[redacted]		
802			
Corporate			
Total			

Notes: Rating relates to 'likelihood' assessment as above.

Source: 2022 Project Risk Register 2.11.22

- Management recently restructured the Risk Register into three parts covering 801, 802 and central 'Corporate' risks.
- Each Risk has an associated 'likelihood' rating ([redacted]) and financial estimate (where possible).
- In this section, [redacted] has considered the higher risk items ([redacted]) from the 801/802 Risk Registers.
  - [redacted] has also set out some thoughts on the 'Weight' and 'Vibration' risks later in this section, as these have been brought to the attention of SG previously, but currently sit with a [redacted] rating.
- The Corporate risk register considers broader risks to the Company as a whole, rather than the specific risks of the 801/802 build programme (e.g. loss of key individuals, IT infrastructure failure, supplier insolvency). These are more difficult to quantify, and therefore do not have a financial estimate. The current Corporate Risk Register is included at Appendix 4.

Contingency and Risk Register | Risk Register process

Management implemented a new Risk Register process in September 2022. Whilst the approach for capturing risks, likelihood and mitigating actions appears sensible, the methodology for calculating the financial impacts would benefit from having a more scientific and distinct approach for each individual risk.

Current Risk Register process

[redacted]

[redacted] review

- [redacted] has concluded that the process of capturing risks, likelihood and mitigating actions is sensible.

New Risk Register process

- Having restarted a new Risk Register in September, Management is now going through a process to further refine the Risk Register.
- Following the October 2022 Board meeting DT has undertaken to reshape the registers around the following key areas ahead of the November 2022 Board meeting (this is therefore not available for us to review in this report).

801

[redacted]

802

[redacted]

Contingency and Risk Register | 801

[redacted] advises that the risks identified for 801 are relevant, appear to be given the appropriate rating, and that the mitigating actions are sensible. However, in the absence of a more robust methodology for calculating the potential financial impact, it is difficult to conclude on whether the risk quantification is appropriate.

[redacted]

- [redacted] advise that the risks identified below are relevant, appear to be given the appropriate rating, and that the mitigating actions (not shown below but reviewed by [redacted]) are sensible. However, in the absence of a more robust methodology for calculating the potential financial impact, it is difficult to conclude on whether this financial estimates are suitable.
- Specific [redacted] comments (where relevant) have been added against each of the risks below.

[redacted]

Source: 2022 Project Risk Register 2.11.22

Contingency and Risk Register | 801 (cont.)

Based on current information, [redacted]

[redacted]

Source: 2022 Project Risk Register 2.11.22

Notes

[redacted]

Contingency and Risk Register | 802

[redacted] advises that the risks identified for 802 are relevant, appear to be given the appropriate rating, and that the mitigating actions are all sensible. However, in the absence of a more robust methodology for calculating the potential financial impact, it is difficult to conclude on whether these financial estimates are suitable.

[redacted] view

- [redacted] advise that the risks identified below are relevant, appear to be given the appropriate rating, and that the mitigating actions (not shown below but reviewed by [redacted]) are sensible. However, in the absence of a more robust methodology for calculating the potential financial impact, it is difficult to conclude on whether these financial estimates are suitable.
- Specific [redacted] comments (where relevant) have been added against each of the risks below.

[redacted]

Source: 2022 Project Risk Register 2.11.22

Contingency and Risk Register | 801 Contingency

[redacted]

Contingency and Risk Register | 802 Contingency

[redacted]

[redacted]

Sensitivities

Sensitivities | Illustrative sensitivities

We have included illustrative sensitivities to cover two broad risk areas: General contingency level (covered in the previous section) and Macro inflation pressures. We have suggested broad illustrative sensitivities for inflation which could result in further costs of [redacted] for 801 and [redacted] for 802, [redacted]

Sensitivities observations

- **For the purpose of our sensitivities, we have focused on two broad risk areas: General contingency level and Macro cost inflation. Following discussions with Management, we have set out below illustrative sensitivities to capture the potential impact of each.**

Risk area	Detail	Description	Illustrative sensitivity	801 (£m)	802 (£m)
General contingency	-	As discussed in the previous section, [redacted] and Management has noted concerns about the level of General contingency. Management has suggested doubling the General contingency for 801 and 802.	[redacted] increase in General contingency for 801 [redacted] increase in General contingency for 802	[redacted]	
Macro cost inflation	Direct Labour - FMPG	Management has included a [redacted] wage increase in the forecast from 1 April 2023. Management has stated this is in line with recent competitor increases. There is a risk that the further inflationary pressures seen over recent weeks will result in FMPG having to agree to a higher wage increase. We have suggested a further [redacted] illustrative wage increase taking the total increase to [redacted].	Additional [redacted] for FMPG Direct Labour		
	Direct Labour - FMPG	Management has not included a cost increase for [redacted] Direct Labour. There is a risk that [redacted] will seek to renegotiate rates given current Macro environment. We have suggested a [redacted] illustrative cost increase.	Additional [redacted] for [redacted] Direct Labour		
	Materials	Management has included some cost inflation in the FCTC. Inflation risk is included in the 802 Risk Register ([redacted]). There is a risk of further cost inflation due to the current Macro environment. We have suggested a [redacted] illustrative sensitivity.	Additional [redacted] for all Materials		
	Subcontractors	In line with Direct Labour and Materials, there is a risk that the Subcontractors seek to increase prices due to inflationary pressure (this could be across Labour rates and Materials costs). We have suggested an illustrative sensitivity of [redacted] due to Labour/Materials mix.	Additional [redacted] for all Subcontractors		
	Overheads / SG&A	Similar to Direct Labour, Management has included a [redacted] wage increase for Indirect Labour. No increase has been assumed for other central costs. In line with Direct Labour, we have suggested a [redacted] illustrative wage increase. We have also suggested a [redacted] illustrative sensitivity for other central costs.	Additional [redacted] for Indirect Labour within Overheads and SG&A Additional [redacted] for other (non Labour) central costs within Overheads and SG&A		
Total					

Sensitivities | Illustrative sensitivity (cont.)

Our illustrative inflation sensitivities represent a significant increase in the FCTC ([redacted] for 801 and 802 respectively). As noted in the previous section, it is possible that the Sensitised TCTC/FCTC may be even higher due to the potential for unknown risks. Accordingly, we cannot conclude that the Sensitised TCTC is the worst case scenario.

Illustrative sensitivities – summary

£m	TCTC	Sensitvities	Sensitised TCTC	Variance (%)
801	[redacted]			
802				
Total				

£m	FCTC	Sensitvities	Sensitised FCTC	Variance (%)
801	[redacted]			
802				
Total				

Source: Teneo workings

Illustrative sensitivities

- Our illustrative sensitivities are summarised in the table opposite.
- As noted in the previous section, it is possible that the Sensitised TCTC/FCTC may be even higher due to the potential for unknown risks.
- Accordingly, we cannot conclude that the Sensitised TCTC is the worst case scenario.

Sensitivities | Illustrative delay scenario

Management provided a high level illustrative delay scenario for 801, whereby all work would effectively cease for a period of time. Management has stated that the biggest risk would be Direct Labour costs, but this could be mitigated in full by reprofiling onto 802. This assumes that the build programme can be flexed efficiently, which we believe may be challenging.

Illustrative delay scenario

- In addition to the illustrative sensitivities, we asked Management to consider an illustrative delay scenario for 801.
- Management has advised that it is difficult to consider the general impact of a Schedule delay, without being provided a detailed set of assumptions/scenarios.
- However, Management has advised that the impact of a Schedule delay could be considered at a high level by assuming that something similar to the LNG issue is uncovered during the final snagging stage, resulting in all work having to effectively cease for a period of time whilst waiting for a key part.
- In this scenario, Management has advised that the biggest risk of overall cost growth to the TCTC would be in relation to Direct Labour at a run rate of [redacted]/month. In addition, there is a further [redacted]/month of Overheads and SG&A costs that will need to be reprofiled.
  - Management has stated that in this scenario Direct Labour could be reprofiled onto 802, and then back to 801 after the part arrived, mitigating any increased costs and not impacting the 802 Schedule.
  - Management has also stated that the Overheads TCTC for each vessel would not be impacted, as the activity levels across both vessels would remain the same, just in a different order.
  - Management has assumed that any remaining Subcontractor costs could be reprofiled and Materials costs would not go up.
  - Management has therefore concluded that this scenario is unlikely to result in an overall cost increase.
- Whilst Management has stated that this scenario is unlikely to result in an overall cost increase, we note that this requires the build programme for 802 to be flexed efficiently to absorb this cost. In practice, this may be challenging to achieve and therefore some cost leakage may occur.

Appendices

Appendix 1 | Scope and basis of work

Extract from engagement terms

Extract Scope

- An extract of the scope of our work, under the Scottish Government Framework Agreement for the Provision of Commercial Advisors and detailed in the Work Order form dated 28 September 2022 is set out below.

1. Base Case Review

– Detailed review of the Company's base case financial forecasts for completion of vessels 801 and 802 ("the Forecasts").

- This draft report addresses part of our scope of our work only, as detailed in the Work Order form dated 28 September 2022. The relevant extract of our scope of work is set out below.

Scope item 1 – Base case review

- Detailed review of the Company's base case financial forecasts for completion of vessels 801 and 802 ("the Forecasts") to include:
  - Comment on the robustness of the key assumptions underpinning the Forecasts;
  - Review of forecasting accuracy with specific comment on the underlying drivers of material cost increases since the previous forecast in March 2022 (note: may not be possible based on information available – to confirm Week 1);
  - Comment on any risks and/or future requirements to complete the vessels beyond current cost estimates;
  - Assessment of the impact of the above, any other sensitivities and potential upsides on the Forecasts.
- Comment on the potential range of cost outcomes following the sensitivity analysis.

Extract Scope (cont'd)

Notes:

(1) In addition to management's views, our work here will draw on the technical input from CMAL and [redacted] who have been engaged to look at programme management and productivity benchmarking respectively. We may also liaise with the external shipbuilding expert [redacted] or other qualified specialist to be sub-contracted by SG), who will be engaged to provide technical input on the cost estimates and delivery schedule contained in the Forecasts.

Appendix 1 | Scope and basis of work (cont.)

Limitations and post date events

Limitations

Access to Management

- Our work has been performed largely on a desktop basis with limited access to Management and is not intended as a detailed review or the operations or financial position of the Company.
- During the course of our work we visited the Company's premises at Port Glasgow.

Information

- We have relied on information and explanations provided to us by Management. The Company's forecast and their related assumptions are the sole responsibility of the Company.
- The information we have used to prepare the report has been provided to us by the Company. Our procedures did not include verification work or constitute an audit in accordance with auditing standards.
- Our work is based on discussions with Management and information provided to us by the Company.
- Specific limitations to our work are noted as follows:
  - The scope of our work to date has been limited by the information made available to us and the time available with Management.
  - Management has been unable to provide all of the information requested, including certain explanations and reconciliations.
  - [redacted]
  - Unallocated labour and New work are outside the scope of this review and have not been considered in further detail.
  - Management's warranty estimate is outside the scope of this review and has not been considered in further detail.
  - We have been provided with various versions of the Company's Project Cost model but we have not completed an audit of the model, nor does the model contain any integrated balance sheet or cash flow statements. The Project Cost model has not been reconciled to audited financial statements.

Limitations (continued)

- The Project Cost model includes actual figures until July 2022 only. We have not had sight of actual results for August to October 2022. No management accounts have been provided for this period.
- As noted opposite, the Project Cost model does not have an integrated balance sheet and cash flow statements. Instead, it prepares a 13 week cash flow forecast, which is provided to SG and used to forecast monthly funding requirements. We have not reviewed the 13 week cash flow forecast.

Forecasts

- The assumptions behind the Company's forecasts are the sole responsibility of Management. We comment on the assumptions but can accept no responsibility for them, or the ultimate realisation of the forecasts. You should also note that there will usually be differences between forecast and actual results because circumstances frequently do not occur as expected, and these differences may be material.

Liability

- We shall not under any circumstances whatsoever be under any liability to any party other than the Scottish Government, for whatever the Scottish Government may or may not do in reliance on the report or any other information, opinions or advice given to the Scottish Government by us. Any further work done or advice given in relation to the engagement will be on this basis.

Post date events

- This report is issued on the understanding that Management has drawn our attention to all matters of which they are aware concerning the financial position of the Company which may have an impact on our report up to 4 November 2022. We have no responsibility to update this report for events and circumstances occurring after the date of this report.

Management representation

- The Company's CEO, David Tydeman, and CFO, [redacted], have reviewed a draft of the report and their comments have been incorporated, where appropriate.

Appendix 1 | Scope and basis of work (cont.)

Other

Information obtained from third parties

- [redacted] has provided certain views and information which is referenced/sourced accordingly throughout the report.
- [redacted] has reviewed its respective sections and confirmed that they accurately reflects its view/understanding and the information provided.

COVID-19

- The Services do not include analysing the extent of the impact of Coronavirus (COVID-19) on the Company's operations.
- We rely, in part, on publicly available information, Company forecasts and other information provided by Management in relation to the effect COVID-19 will have on the Company.
- Accordingly, it is not possible for our work to identify and quantify the impact of all COVID-19 related uncertainties and implications. Changes to market conditions could substantially affect the Company and our work. Unless requested, we will not update our work for any subsequent information or events.

Russia and Ukraine conflict

- As stated in the transmittal letter, this report considers, where possible, the potential impact of the Russian invasion of Ukraine on the Company. However, the situation is continuing to evolve, and many uncertainties remain as to the effect the ongoing conflict in Ukraine and the various associated sanctions regimes will have on the Company and the broader domestic and global economies.
- Accordingly, it is not possible for our work to identify and quantify the impact of all related uncertainties and implications. Changes to market conditions could substantially affect the Company and our work. We have not updated our work for any subsequent information or events.

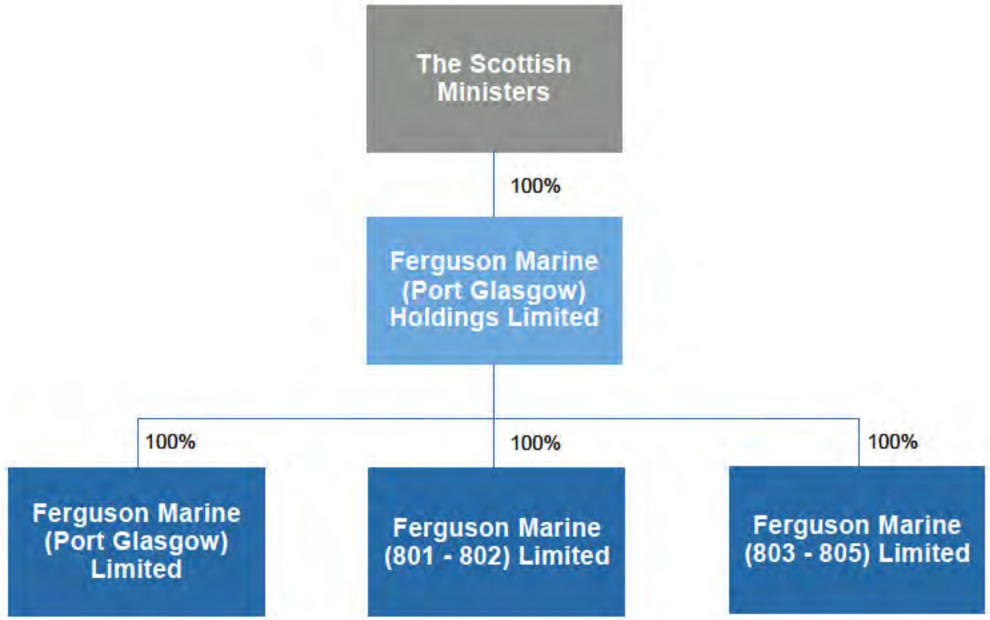
Appendix 2 | Background

Director cost forecasting leads

Key cost area	Responsible Director	Supported by
Direct Labour	[redacted]	
Materials		
Subcontractors		
Overheads and SG&A		

Appendix 2 | Background

Group structure chart



Note: Percentages shown above reflect shareholdings in subsidiary entities.
Source: Companies House

Key

- Ultimate controlling party
- Holding company
- Subsidiary companies

Appendix 2 | Background

Operational and financial strategy

Operational management of build programme

- DT implemented a new approach for each of the vessels based on the status of each build.

801 approach

- DT approached the re-basing of 801 as a "conversion project" (i.e. an existing vessel being upgraded or converted) rather than a normally planned, sequenced and executed new-build.

802 approach

- All subsequent planning and estimating for the work to complete 802 has been predicated on:
  - Having a clean design before work starts;
  - Having a robust procurement effort scoped before work starts; and
  - Planning the build as if starting with a 'free issue' empty hull structure and a focus on outfitting.
- The strategy to progress 802 is underpinned by the following key milestones:
  - Accelerate the completion of aluminium modules, with a target completion date of December 2022 (aside from the wheelhouse unit which requires additional work and completion is expected in early 2023);
  - Focus on finishing the consolidation of steel modules onto the vessel by November 2022;
  - Completion of all welding and hot work on the vessel before December 2022 to enable outfitting to start cleanly; and
  - DT has commissioned a series of design reviews with CMAL and [redacted] contractors, in order to obtain a clean set of drawings and design data for 802 to capture lessons learned from 801 prior to starting outfitting.

FCTC and timetable

- In order to develop a more robust FCTC estimate, DT introduced two different strategies for Management team in their review of 801 and 802.

801 strategy

i. A deep review of systems and vessel zones to confirm outstanding work by area

ii. Establish a complete list of work packages that were still required

iii. Renegotiate with key Subcontractors and achieve clarity on manhour forecasts, Labour needs, Materials required, and monthly management charges

iv. Thorough stock check and review of bill of Materials and contract specification, to price all outstanding Materials required.

802 strategy

i. Bottom up review of timetable and costs as above with 801, and

ii. A separate independent estimation of FCTC by the Commercial team to benchmark FCTC against productivity norms, other shipyards and market data.

  - This exercise showed a strong correlation between the two independent assessments of the FCTC for 802.

Appendix 3 | Financial Information

Total cumulative cost for 801/802 since 2015

Total cumulative cost summary

Figures in £m	801	802	Total
FCTC	[redacted]		
Contingency			
Warranty costs			
Pre-nationalisation project costs			
Cumulative TCTC			

Source: Summary 801 802 Cost V2 and Summary 801 802 Cost - 14 Sept v13a dt

Total cumulative cost summary

- The cumulative TCTC for 801 and 802 amounts to [redacted].
- Note this total does not include the £45m of loans provided to FMEL by SG (2017 and 2018) prior to nationalisation.

Appendix 3 | Financial Information

FMPG and [redacted] worker hours per week assumptions

FMPG and [redacted] attendance hours assumptions

	Rate	FMPG	GMES
Annual hours per worker	[redacted]		
less Holidays (31 days)			
Maximum annual basic attendance hours			
less Sickness / Absence			
Basic attendance hours			
plus Overtime			
Attendance hours			
less Paid tea break (15 minutes)			
Maximum working hours			
less Indirect tasks by Direct staff			
Actual hours booked to WIP			
Gross weekly hours			
% of hours booked to WIP			
Net weekly hours			
Hourly rate (£)			

Note: Hourly rate shown for FMPG relates to FY23.

Source: GDC FM(PG) Ltd P4 Jul-22 Actuals and F'cast 2023 and 2024

Appendix 3 | Financial Information

Labour and Overhead recovery rates

Labour recovery rate summary

£m	FY20	FY21	FY22	FY23	FY24	FY25
Total Direct employment costs	[redacted]					
Production cost recoveries - Design						
Direct labour hours						
Labour recovery rate (£)						

Source: 2022 09 13 GDC FM(PG) Ltd P4 Jul-22 Actuals and F'cast 2023 and 2024

Overhead recovery rate summary

£m	FY20	FY21	FY22	FY23	FY24	FY25
Total Indirect employment costs	[redacted]					
Overheads						
Direct labour hours						
Overhead recovery rate (£)						

Source: 2022 09 13 GDC FM(PG) Ltd P4 Jul-22 Actuals and F'cast 2023 and 2024

Overhead recovery rate

- To generate the forecast Overhead FCTC, the Company calculates the total Labour hours required (process explained in the Direct Labour section) and multiplies this by a flat rate – the 'Overhead recovery rate'.
  - The Overhead recovery rate is calculated for each financial year and is determined by dividing total indirect employment costs plus production Overheads by the Direct Labour hours in the year. *Note: costs and hours relate to the Company, which are then allocated proportionately to projects (i.e. 801, 802, New work etc.) based on activity levels.*
  - For FY23, the rate is [redacted]. By comparison, the actual Overhead recovery rate in FY22 was [redacted].

Appendix 3 | Financial Information

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Monthly Labour hours 801

801 Labour hours summary

	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Total
Welder	[redacted]										
Plater											
Welder - [redacted]											
Plater - [redacted]											
Caulker Burner											
Shipwright											
Pipe Fitter											
Engineers/Mechanical Fitter											
Painting											
Joiner											
Scaffolder											
Ancilliary Worker											
Searchers / Quality											
Design											
Supervision											
Commisioning											
Apprentice 2nd Year											
Total											

Source: GDC FM(PG) Ltd P4 Jul-22 Actuals and F'cast 2023 and 2024

Appendix 3 | Financial Information

Quarterly Labour hours 802

802 Labour hours summary

	Q2 23	Q3 23	Q4 23	Q1 24	Q2 24	Q3 24	Q4 24	Q1 25	Total
Welder	[redacted]								
Plater									
Welder - [redacted]									
Plater - [redacted]									
Caulker Burner									
Shipwright									
Pipe Fitter									
Engineers/Mechanical Fitte									
Painting									
Joiner									
Scaffolder									
Ancilliary Worker									
Searchers / Quality									
Design									
Supervision									
Commisioning									
Apprentice 2nd Year									
Total									

Source: GDC FM(PG) Ltd P4 Jul-22 Actuals and F'cast 2023 and 2024

Appendix 3 | Financial Information

801 Material costs by month

801 Materials Monthly Costs

£'000s	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Total
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Additional tools required tab	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Profiling	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Paint	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Dry Dock	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Firefighting and Lifesaving	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Raw Materials	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Fabrication	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Pipe	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Crane Hire	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Electrical	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Consumables	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Plant Hire	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Lloyds Register	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Welding Consumables	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Small Vendors	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Blasting	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Ship Spares	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Soft deliverables for decks	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Pilot ladder	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Pilot chair and rails	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Anodes	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Inclining	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Glass Services	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Mechanical equipment	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
MCA	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Additional AON insurance	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Percentage of Materials costs	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

Source: GDC FM(PG) Ltd P4 Jul-22 Actuals and F'cast 2023 and 2024

Appendix 3 | Financial Information

802 Material costs by month

802 Materials Monthly Costs

£'000s	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	Jan-24	Total
[redacted]	[redacted]																		
Additional tools required tab	[redacted]																		
Profiling	[redacted]																		
Paint	[redacted]																		
Dry Dock	[redacted]																		
Firefighting and Lifesaving	[redacted]																		
Raw Materials	[redacted]																		
Fabrication	[redacted]																		
Pipe	[redacted]																		
Crane Hire	[redacted]																		
Electrical	[redacted]																		
Consumables*	[redacted]																		
Plant Hire	[redacted]																		
Lloyds Register	[redacted]																		
Welding Consumables*	[redacted]																		
Small Vendors	[redacted]																		
Blasting*	[redacted]																		
Ship Spares	[redacted]																		
Soft deliverables for decks	[redacted]																		
Launch activities	[redacted]																		
Ship Models	[redacted]																		
Pilot ladder	[redacted]																		
Pilot chair and rails	[redacted]																		
Anodes	[redacted]																		
Inclining	[redacted]																		
Outfitting	[redacted]																		
Mechanical equipment	[redacted]																		
MCA	[redacted]																		
Additional AON insurance	[redacted]																		
	[redacted]																		
Percentage of Materials cost	[redacted]																		

Source: GDC FM(PG) Ltd P4 Jul-22 Actuals and F'cast 2023 and 2024

Appendix 3 | Financial Information

801 Subcontractor Monthly Costs

801 Subcontractor Monthly Costs

	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Total
[redacted]	[redacted]										
Percentage of Subcontractor costs	[redacted]										

Source: GDC FM(PG) Ltd P4 Jul-22 Actuals and F'cast 2023 and 2024

Appendix 3 | Financial Information

802 Subcontractor costs by month

802 Subcontractor Monthly Costs

	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	Jan-24	Feb-24	Mar-24	Apr-24	May-24	Total
[redacted]	[redacted]																						
Percentage of Subcontractor cos[redacted]																							

Source: GDC FM(PG) Ltd P4 Jul-22 Actuals and F'cast 2023 and 2024

Appendix 4 | Risk Register process

Risk Register process

Impact

Rating	Description	*Quantum*
1	[redacted]	
5		
10		
25		
50		

Likelihood

Rating	Description	*Quantum*
1	[redacted]	
2		
3		
4		
5		

Risk score matrix

		Likelihood				
		1	2	3	4	5
Impact	1	1	2	3	4	5
	5	5	10	15	20	25
	10	10	20	30	40	50
	25	25	50	75	100	125
	50	50	100	150	200	250

Source: Updated corporate risk register 2 Nov 22

Appendix 4 | Risk Register process

Corporate Risk Register

Area	Risk	Likeli-hood	Impact	Management description	Management key concerns
General	[redacted]				
General	[redacted]				
General	[redacted]				
Operational	[redacted]				
Operation	[redacted]				
Operation	[redacted]				
Operation	[redacted]				
Financial / Commercial	[redacted]				
Financial / Commercial	[redacted]				
Financial / Commercial	[redacted]				
Financial / Commercial	[redacted]				
	[redacted]				

Source: Updated corporate risk register 2 Nov 22

Appendix 4 | Risk Register process

Corporate Risk Register

Area	Risk	Likeli-hood	Impact	Management description	Management key concerns
IT	[redacted]				
IT	[redacted]				
People / Resource	[redacted]				
People / Resource	[redacted]				
People / Resource	[redacted]				
Supply chain	[redacted]				
Supply chain	[redacted]				
Supply chain	[redacted]				
Supply chain	[redacted]				
	[redacted]				

Source: Updated corporate risk register 2 Nov 22

Glossary

Glossary

801 / Glen Sannox	Hull 801 / MV Glen Sannox
802	Hull 802
[redacted]	[redacted]
[redacted]	[redacted], FMPG Shipbuilding Delivery Director
[redacted]	[redacted], FMPG Operations Director
Brexit	A term for the departure of the United Kingdom from the European Union
CalMac	CalMac Ferries Limited
CBC	Clyde Blowers Capital
CEO	Chief Executive Officer
CFO	Chief Financial Officer
CMAL	Caledonian Maritime Assets Limited
Company	Ferguson Marine (Port Glasgow) Limited
CTD	Cost to date
[redacted]	[redacted], FMPG Commercial Director
DT	David Tydeman, CEO of FMPG
[redacted]	[redacted], former FMPG Operations Director
Forecast Period	FY23 OT to FY25
FMEL	Ferguson Marine Engineering Limited
FMPG	Ferguson Marine (Port Glasgow) Limited
FCTC	Forecast cost to complete
FHTC	Forecast hours to complete
FTE	Full time equivalent
FY20, FY21, FY22, FY23, FY24, FY25	Year ended 31 March 2020, 2021, 2022, 2023, 2024, 2025
FY23 OT	Forecast results for the eight months ending 31 March 2022
[redacted]	[redacted], CFO of FMPG
[redacted]	[redacted]
HTD	Hours to date
[redacted]	[redacted]
[redacted]	[redacted] former FMPG Procurement Director
[redacted]	[redacted], FMPG Subcontract Manager
[redacted]	[redacted], FMPG Programme Manager
KPI	Key Performance Indicator
LNG	Liquified Natural Gas
Management	FMPG Senior Management including David Tydeman, [redacted]
MCA	Maritime and Coastguard Agency
NIC	National Insurance Contributions
NZET	Net Zero, Energy and Transport
PCS	Public Contracts Scotland
[redacted]	[redacted] FMPG Supply Chain Director
Prelims	The section in the contracts of quantities which groups together items which are necessary for the contractor to complete the works, but will not actually become part of the works, such as scaffolding.
Project Cost model	The Company's financial model, used to generate the FCTC

Glossary

Q2 23, Q3 23, Q4 23, Q1 24 etc.	Three months ended 30 September 2022, 31 December 2022, 31 March 2023, 30 June 2023 etc.
[redacted]	[redacted], FMPG Procurement Lead
[redacted]	[redacted], FMPG Head of Detailed Design
SG	The Scottish Government
SG&A	Selling, General & Administrative
SMT	Senior Management Team
[redacted]	[redacted], former FMPG CFO
TCTC	Total cost to complete
TH	Tim Hair, former CEO/Turnaround Director of FMPG
THTC	Total hours to complete
W/C	Week commencing
[redacted]	[redacted]

Teneo

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Teneo

The Global CEO Advisory Firm

[redacted]

Draft discussion document: Workstream 2 – Options analysis

12 December 2022

Teneo Financial Advisory Limited is registered in England & Wales with registered number 13192958 and its registered office at 5th Floor, 6 More London Place London, SE1 2DA, United Kingdom

Important Notice

This draft document is strictly private and confidential to the Recipient Parties, as defined in our Work Order dated 28 September 2022 ("the Contract"). Save as expressly provided for in the Contract, it must not be recited or referred to in any document, or copied or made available (in whole or in part) to any other party. This draft document has been prepared for the sole purpose of supporting an update meeting to Scottish Ministers regarding [redacted] on 14 December 2022.

This is a draft document for discussion purposes only. Our work is incomplete and remains subject to our internal review procedures. Accordingly any subsequent deliverable may reflect substantially different contents, views and conclusions dependent upon our further work and consideration of the issues involved.

This draft document is prepared on the basis of the limitations set out in in our [redacted] Workstream 1 – Financial review report dated 9 December 2022 ("Workstream 1 Report"). This draft document should not be treated or viewed as a comprehensive summary of the Workstream 1 Report. The following limitations should also be noted relating to our work in this discussion document:

- Our work is based on discussions with Management of, information gathered and provided to us by FMPG. We have relied on the information and explanations (and the accuracy thereof) provided to us.
- Due to the nature of its contents, this draft document has not been reviewed by FMPG to confirm factual accuracy; and
- No audit work has been performed or verification of data provided by or presented by FMPG.

No party is entitled to rely on this draft document for any purpose whatsoever and we accept no responsibility or liability for its contents or its completeness to any party.

This draft document should be read in conjunction with our Workstream 1 Report.

This report should be treated as commercially sensitive for the purposes of the Freedom of Information (Scotland) Act 2002.

Overview

The latest cost forecasts received from FMPG in September 2022 highlighted an £81m increase to complete the 801 and 802 vessels. This has prompted SG to consider the counterfactual options as part of its ongoing AO assessment obligations.

Background and context

- As set out in Teneo's Workstream 1 – Financial review report dated 9 December 2022 ("the Workstream 1 Report"), FMPG informed SG in September 2022 of an estimated £81m increase in total costs to complete for 801 and 802, and has submitted a business case for additional funding.
- SG has advised that completion of 801 and 802, and securing a sustainable future for the yard, remains the preference of Scottish Ministers. However, as part of the required AO assessment, SG is considering the counterfactual options to complete or otherwise deliver vessels equivalent to 801 and 802, and the implications of these.
- SG has commissioned Teneo to support the project management and coordination of the evidence and data required to support SG's AO assessment, including summarising information that can be used to compare the financial considerations of these counterfactual options.

Counterfactual options

- As part of the counterfactual process, a number of options have been considered and ultimately discounted by SG (summarised at Appendix 1).
- Currently, the only future design and build option being considered by FMPG (beyond completion of the contracts for 801 and 802) [redacted]
- [redacted]
- [redacted]

[redacted]

[redacted]

Considerations for future viability options

[redacted]

Future business plan

- FMPG is due to present a business case in February 2023 for the future for the yard beyond the completion of 802 (802 is due to be delivered in Q1 2024, [redacted]
- [redacted]

[redacted]

[redacted]

[redacted]

Illustrative cost comparison of potential options

[redacted]

Key

- High level of confidence in estimate
- Further work required to refine estimate
- Significant further work required to refine estimate
- Only applicable to future scenarios

Notes

1 [redacted]

Next steps

The analysis set out in this paper remains high level and there are a number of key assumptions that require further refinement and testing. [redacted]

Next steps

- [redacted]

[redacted]

- [redacted]
- [redacted]
- [redacted]

[redacted]

Key

- High level of confidence in estimate
- Further work required to refine estimate
- Significant further work required to refine estimate
- Only applicable to future scenarios

Appendices

Appendix Contents

Appendix 1 | SG discounted options

Summary of SG discounted options

[redacted]

Appendix 2.1 | Sources of financial data

801 and 802 future cost to complete (as at 1 March 2023)

Financial Input	Summary	Further reading	Teneo comments
801 FMPG FCTC estimate (post Teneo sensitivities)	[redacted]		
802 FMPG FCTC estimate (post Teneo sensitivities)	[redacted]		

Key

- High level of confidence in estimate
- Further work required to refine estimate
- Significant further work required to refine estimate
- Only applicable to future scenarios

Appendix 2.2 | Sources of financial data

802 equivalent ([redacted])

Financial Input	Summary	Further reading	Teneo comments
Capital cost - 802 equivalent	[redacted]		

Key

- High level of confidence in estimate
- Further work required to refine estimate
- Significant further work required to refine estimate
- Only applicable to future scenarios

Appendix 2.3 | Sources of financial data

Additional maintenance costs ([redacted])

Financial Input	Summary	Further reading	Teneo comments
Additional maintenance costs – delay in delivery of 802	[redacted]		

Key

- High level of confidence in estimate
- Further work required to refine estimate
- Significant further work required to refine estimate
- Only applicable to future scenarios

Appendix 2.4 | Sources of financial data

Efficiency savings over life of vessels

Financial Input	Summary	Further reading	Teneo comments
Efficiency savings over life of vessels – 802 vs. reprocured equivalent	[redacted]		

Key

- High level of confidence in estimate
- Further work required to refine estimate
- Significant further work required to refine estimate
- Only applicable to future scenarios

Appendix 2.5 | Sources of financial data

Infrastructure investment in yard

Financial Input	Summary	Further reading	Teneo comments
Infrastructure investment in the yard	• SG has commissioned a report from FMI to advise on the investment required to make the yard efficient, and commercially competitive. [redacted]	Draft FMI report dated [SG to confirm date] *(Note: Teneo has not been provided with a copy of this report)*	Teneo has not been provided with a copy of the FMI report to verify the capex estimates quoted by SG. Investment in the yard is not applicable in a closure scenario and therefore has not been considered further for the purposes of this discussion document. *Confidence level* **Further work recommended:** FMI findings to be considered in the event that viable options to secure the future of the yard are identified.

Key

- High level of confidence in estimate
- Further work required to refine estimate
- Significant further work required to refine estimate
- Only applicable to future scenarios

Appendix 2.6 | Sources of financial data

Additional costs to complete 801 / 802

Financial Input	Summary	Further reading	Teneo comments
Additional costs to complete 801	[redacted]		
Additional costs to complete 802	[redacted]		

Key

- High level of confidence in estimate
- Further work required to refine estimate
- Significant further work required to refine estimate
- Only applicable to future scenarios

Appendix 2.7 | Sources of financial data

[redacted] – [redacted] – 802

Financial Input	Summary	Further reading	Teneo comments
[redacted] - 802	[redacted]	[redacted]	[redacted]

Key

- High level of confidence in estimate
- Further work required to refine estimate
- Significant further work required to refine estimate
- Only applicable to future scenarios

Appendix 2.8 | Sources of financial data

[redacted] – [redacted] – Other

[redacted]

[redacted]

Key

- High level of confidence in estimate
- Further work required to refine estimate
- Significant further work required to refine estimate
- Only applicable to future scenarios

Appendix 2.9 | Sources of financial data

[redacted]

Financial Input	Summary	Further reading	Teneo comments
[redacted]			

Key

- High level of confidence in estimate
- Further work required to refine estimate
- Significant further work required to refine estimate
- Only applicable to future scenarios

Appendix 2.10 | Sources of financial data

[redacted]

[redacted]

Key

- High level of confidence in estimate
- Further work required to refine estimate
- Significant further work required to refine estimate
- Only applicable to future scenarios

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Appendix 2.11 | Sources of financial data

[redacted]

[redacted]

Key

- High level of confidence in estimate
- Further work required to refine estimate
- Significant further work required to refine estimate
- Only applicable to future scenarios

[redacted]

Glossary

801 / Glen Sannox	Hull 801 / MV Glen Sannox
802	Hull 802
AO	Accountable Officer
BAU	Business as usual
c.	Circa
CalMac	CalMac Ferries Limited
Capex	Capital expenditure
CEO	Chief Executive Officer
CFO	Chief Financial Officer
CMAL	Caledonian Maritime Assets Limited
CME	Cemre Marin Endustri shipyard in Turkey
Company	Ferguson Marine (Port Glasgow) Limited
Construction Contract Assets	Contract costs incurred plus recognised profits less recognised losses to date
CTD	Cost to date
[redacted]	[redacted]
DT	David Tydeman, CEO of FMPG
FMPG	Ferguson Marine (Port Glasgow) Limited
FCTC	Forecast cost to complete
[redacted]	[redacted]
FTE	Full time equivalent
LNG	Liquified Natural Gas
[redacted]	[redacted]

Management	FMPG Senior Management including David Tydeman, [redacted]
NBV	Net book value as at 31 March 2022
NI	National Insurance
NIC	National Insurance Contributions
OCEA	Office for the Chief Economic Adviser
[redacted]	[redacted]
Q1, Q2, Q3, Q4	1 January – 31 March, 1 April – 30 June, 1 July – 30 September, 1 October – 31 December
R&D	Research and development
SEPA	The Scottish Environment Protection Agency
SG	The Scottish Government
SVRP	Small Vessel Replacement Programme
TCTC	Total cost to complete
TS	Transport for Scotland
TULCRA	Trade Union and Labour Relations (Consolidation) Act 1992
WIP	Work in progress
Workstream 1 Report	Project Chestnut Workstream 1 – Financial review report dated 9 December 2022
[redacted]	[redacted]

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