

Newark Works
Castle Road
Port Glasgow
Renfrewshire, PA14 5NG
T. +44 (0) 1475 742300
E. info@fergusonmarine.com
www.fergusonmarine.com

Edward Mountain Convenor Net Zero, Energy & Transport Committee Scottish Parliament EH99 1SP

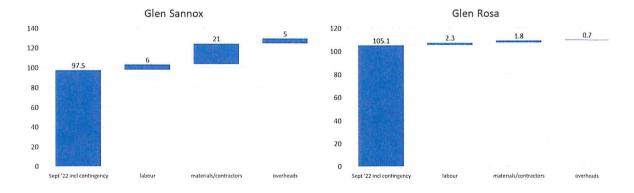
29 September, 2023

Dear Mr Mountain,

Update on Glen Sannox, Hull 801 & Glen Rosa Hull 802

Over the last 20 months since I took on the role of CEO of Ferguson Marine, I have, regrettably, reported cost and delay issues to your Committee every quarter; and to the FMPG Board, Scottish Government sponsor team and Ministers monthly. I have regularly mentioned design gaps, associated re-work and surprises as reasons.

Our latest forecast is £130m total cost to complete Glen Sannox and £110m to complete Glen Rosa, excluding provisions for warranty, plus a worst-case need for contingency of between £5m to £30m across both ships – see summary at the end of this letter. The target delivery dates are 31st March '24 and 31st May '25 respectively and the forecast increases from the budget set out in September '22 are shown in the graphs below.



In my summary to the Public Audit Committee (PAC) in June '23 and by open letter Dec '22, I grouped the issues with the two vessels into four parts:

- 1. Wrong decisions by FMEL in 2015-2019 (i.e., an unconventional build strategy, embedding significant design challenges, gaps & errors).
- 2. Wrong decisions by FMPG in 2020 post administration (i.e., changing the contractors for the overall ship-wide operating systems, tasking new designers with an impossible timeline and deliverables whilst the yard was closed for the Pandemic, with a technical team trying to work remotely, etc, further embedding many issues).



- 3. Pricing issues these vessels are complex¹, and I have openly expressed my view that the £97m original contract price was understated and inflation issues have become a significant factor from the longer build period.
- 4. Time related issues the original contract assumed a financial contribution to the shipyard for a percentage of its overheads for c4 years. That has increased by a factor of 5+; the contract for the ships will have covered the yard for c10 years.

I stand by my personal views expressed to the PAC, that more than half of the large increase from the original budget to the expected final budget can be attributed equally to the first two points, with the balance attributed to Time & Pricing.

As one example, the electrical contractor for Glen Sannox originally quoted to FMEL pre administration, for c130,000 metres of cable to be installed, terminated, and completed within 40 weeks. This was a serious underestimation by FMEL of the design scope which has now risen to more than 300,000 metres over a 150-week engagement. There have been similar issues we've solved across piping, other services, and systems.

Within the cabling increase there are, of course, costs relating to all four points above and it is of note that c90% of the increased total length has been installed during the past 15 months after the 'legacy cable issue' raised in Feb/March' 22 was finally closed out in early summer' 22.

As you might imagine, the cascade of this increased length into sizing of cable trays to support the cabling, the routing of larger volumes of cables through gaps in bulkheads, ceilings etc that are now found to be undersized, are small examples of the large amount of design upgrade, re-work, and extra work that we have been coping with across the whole ship.

I am pleased to advise that we have closed the majority of design areas – except the compliance issues with the MCA as below - and that the potential for legacy issues to arise from equipment, electrics, piping and other services that have had to be changed, re-worked or re-designed, is significantly reduced. Reaching this position gives us a clearer task ahead for both ships.

For Glen Sannox, the key focus is on ensuring we have the resources from sub-contractors, internal labour, drawings, specifications and materials, to complete the build over the next three months before Xmas and the dry-docking planned for 18th Dec '23. The task is moving from a design and engineering focus to a management and resourcing challenge.

Associated with this, I am also pleased to advise that we have undertakings from all our key contractors to complete the necessary aspects of their work scopes before the move of the ship to dry dock. Within this, the most critical part is from our electrical contractor, and I can confirm from a meeting with their senior directors/shareholder earlier this month, that they have committed to finishing the critical work before the middle of Nov '23 and concluding testing before dry-docking.

We are making steady progress with the LNG system; however, we still have some risks associated with the final installation of the special, low-temperature pipework by the contractor and with Glen Sannox being the first in class to be commissioned with LNG in the UK.

¹ As a simple comparison of what is meant by 'complexity'. The original contract requirements for Glen Sannox and Glen Rosa led to designs which are ~15m shorter and ~2m narrower than the Loch Seaforth, which runs less complicated systems, runs on a single diesel fuel, with a gross tonnage of 8680 compared to 7040 for Glen Sannox and Glen Rosa. and carries ~150 less passengers.



Maritime & Coastguard Agency

As previously reported, we have made some significant changes to the designs (by FMEL and its contractors from 2015-2017) for stairwells and passageways to secure the Safety Certification and approvals from the MCA for both ships. We have now agreed a compliant design and solution for the passenger and crew areas on decks 5, 6 & 7 and can build the solutions within the revised programme and budget. As part of this, CMAL and CalMac are considering a maximum carrying capacity of 852 passengers which will allow improved passenger seating layouts internally and externally. Work on the overall solutions is progressing well².

I also referred to other approvals issues in previous letters and confirm we have one outstanding issue relating to the eleven vertical exit routes up to deck 5 from the machinery spaces below the car deck (and that are outboard of the car deck and are constrained by the structural design decisions made by FMEL in their early stages of the overall ship development). From the communications with MCA this week, we believe we now have an acceptable solution for this issue, and we aim to close this within the next few weeks. This is not related to the crew/cargo vs. passenger rules issue I set out in my letter to you 22nd August and was missed by our compliance team over the past year.

Following a positive meeting with MCA on site two weeks ago and correspondence this week, the revised budget, risk evaluations and timelines includes dealing with any final requirements from the MCA. Once final approvals have been received, I will provide an interim report to the Committee.

Our revised budget and timelines for Glen Rosa 802 assumes we can transfer the learning from Glen Sannox, improve and refine the solutions we are agreeing with MCA for Glen Sannox and ensure early agreement of compliance for Glen Rosa – we have some opportunity to do things better and more efficiently on Glen Rosa, for example, small changes in the location of the new staircases and doorways because less has been built to date.

Glen Sannox

The core message of this quarterly update is we are moving away from the technically difficult design, re-design, rework, and engineering challenge into a resourcing, planning and management task to complete Glen Sannox and get the ship ready for trials and testing in Q1 '24. Also, to confirm we have contractor commitments to achieve this, especially from the electrical contractor.

There are still risks of issues arising for Glen Sannox during trials in Q1 '24. By its very nature, trials are set out to test the robustness and reliability of the design and quality of build. We will run the ship hard, test the as-built design, test speed, harsh turns, emergency stops involving a switch from full ahead to running astern and so on, all conventional in a first of class, complex new ship.

It would be very unusual if there are not issues of equipment or systems failing or breaking or highlighting some specification changes needed, particularly with the first of class aspects of the LNG system.

Whilst this has caused some extra work & costs, I can now clarify my update 22nd August and confirm that this has not been the main reason why trials have slipped to next year with associated handover deferral; as noted above, electrical and piping re-work and additional work have been the principle causes in slippage and are the most critical for work progress during the rest of this year pre-dry-docking.



Our ability to guarantee completion by 31st March 24, will thus depend on how well the trials progress and we will make every effort to prove the ship and solve issues as they arise. We remain very focused on getting the ship into service for next summer season and are meeting all stakeholders – Transport Scotland, CalMac, SG, CMAL – on a weekly basis.

Glen Rosa

Reaching a position of design completion on Glen Sannox has a positive impact on Glen Rosa. We are making good progress with the structural consolidation, achieving watertightness (installing propellers shafts, steering gear etc), and preparing tanks and spaces for electrical and piping fit-out.

The work with our design contractors on data cleansing, capturing all learning from Glen Sannox, improving the design – particularly systems & pipework routings where we can (some of which were physically constrained and too hard or too costly to change on Glen Sannox) – together with robust planning of work-packs, is providing assurance of a well-planned, well-documented, and well-resourced out-fitting programme, again with good contractor commitment.

Circa 70% of the manhours needed to complete Glen Rosa are contractor hours, and the careful advance planning of work-packs provides the tools to agree prices and manage contractors more robustly. We remain determined to avoid all the expensive legacy re-work on Glen Sannox and to build Glen Rosa 'right first time' as we install piping, electrical systems, equipment, and furnishings.

A year ago, I tasked the delivery & engineering teams for Glen Rosa to show that as we progress the structural consolidation and start the outfitting of Glen Rosa, this becomes the start of the next, positive chapter for Ferguson. To try to separate the second ship from the mistakes with Glen Sannox, we adopted the internal slogan '802 is the start of the future of FMPG' and the steady positive progress with Glen Rosa is showing that we are heading in the right direction.

As recently advised, we will defer the launch of Glen Rosa to around the end of February '24 to facilitate the timings with Glen Sannox and to stay within the suitable high tide window from early February to mid-March.

From the planning work and discussions with contractors, we have concluded we will need c15mths to complete the ship after launch. This moves completion of Glen Rosa to 31st May 25. I am pleased to advise that we have been securing positive engagement from contractors who are also keen to demonstrate that they can build the second ship more efficiently than the complex learnings with Glen Sannox.

However, if trials prove difficult on Glen Sannox and we slip beyond 31st March '24 for that ship, there will be a cascade onto Glen Rosa. Although for weight of ship reasons, we will still plan to launch Glen Rosa early '24 and this could mean that Glen Sannox will complete her trials from a quayside base downriver from Ferguson.

Financials & timings

I regret to advise that the financials I set out in my June '23 letter to you did not include c£10m of work in progress in May and June '23 with our operations and technical teams (with key contractors for Glen Sannox, negotiating new prices and costs to complete design and work-scope increases) that the finance team had not been able to capture in reports to me. As a result, I significantly understated the total forecast cost to complete Glen Sannox for which I



apologise. The figures in June also did not include the MCA aspects. I have made some changes with internal processes & senior roles to address this and confirm that the revised budgets and timelines detailed here were agreed with the FMPG board yesterday 28th Sept and presented to Ministers earlier in September.

Glen Sannox

- total forecast cost to complete £130m,
 - o plus, a contingency for costs arising from final commissioning and trials of between £2.3m £12.1m,
- delivery date, excluding contingency issues, 31st March '24,
- committed spend to date c£120m, with c£7m external spend to go with contractors and suppliers, c£3m for internal labour and overheads.

Glen Rosa

- total forecast cost to complete £110m,
 - plus, a contingency for costs from cascade delays from Glen Sannox and resourcing issues of between £3m - £18.5m,
- delivery date, excluding contingency issues, 31st May '25,
- committed spend to date c£65m, with c£30m external spend to go with contractors and suppliers, c£15m for internal labour and overheads.

Overall

- total forecast cost³ to complete both ships is £240m, excluding warranty costs post handover.
 - o plus, a worst-case contingency for additional costs ranging from c£5m c£30m.
- the issues identified and costed within this range include, for example, estimates for:
 - issues arising from trials, procurement, resourcing, or design upgrade risks,
 - expansion of design scope following trials, inflation, and manhours increase with contractors particularly for Glen Rosa, and
 - costs of any extension of timelines of worst-case 0-6 months with Glen Sannox and 0-7 months with Glen Rosa to deal with contingency issues.
- committed total spend to date on both ships is c£185m.

Yours	sincerely
VALUE	CINCATAIN

David Tydeman

Chief Executive Officer

³ As previously advised, the budgets assume a percentage of the yard annual overheads for '23-'25 are covered by other business.