From: Luke VAN BEEK < **Sent:** 25 January 2019 10:51 To: McAllan M (Mary) < Mary.McAllan@gov.scot>; <gov.scot> Subject: FMEL Observations Mary Please find attached my further observations on the FMEL situation. I know we have a call next Wednesday when we can discuss these observations. yours Luke Luke van Beek CBE Vatis Ltd This email has been scanned by the Symantec Email Security.cloud service.

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Project Poseidon: Observations from my January Visit

In my drawdown report I made a number of suggestions that would provide more assurance to the time and cost of delivery. I provide more detail on each of these below. I also provide some further detail on the "Davie" case from Canada.

Freeze all change to the design (except safety critical)

One aspect that is really difficult is a steady stream of change requests from CMAL. At this late stage in the build of 801 incorporating change is both costly and likely to impact on the schedule. An example that I have seen is a recent request to change from 2 to 4 sewage eductors (and zones) (the specification called for 2). This is a significant amount of work and is inevitably disruptive this late in the build. I strongly recommend that all change, with the exception of safety critical issues, to 801 is frozen. During the meeting with CMAL/Tpt Scotland CMAL agreed to freeze all change to 801.

Work quickly to resolve the medium term cash issue

The existing loan facility expires at the end of March, however with the delay to 801 delivery and associated milestone payment, there is a medium term cash flow concern. To ensure ferry delivery against a revised programme this must be resolved quickly. One option would be to make a "without prejudice" cash payment in advance of settling the FMEL claim, another to adopt the approach taken by the Quebec Government (see below).

Instigate action to improve the relationship with CMAL

The relationship with CMAL appears to be continuing to deteriorate. I was told of aggressive meetings and have a copy of an unpleasant (and unhelpful) e mail sent by a senior member of the CMAL team. Each party clearly blames the other and positions

are entrenched. I proposed, as a first step, that once the revised programme is finalised (early February) there should be a mutual discussion (CMAL-FMEL) on both the new programme and the risk register. I believe FMEL would accept this approach provided there was independent facilitation.

Simplify the build (both process and delivered capability)

There are a number of areas where simplification or a different approach would reduce the programme risk and provide more confidence in the 801 delivery date. The ones below I have discussed with FMEL. There may be others.

Activity/Action	Detail	Benefit	Risk/Impact
LNG System	Install & test	Flexibility	Unable to operate
Commissioning	pipework. Do not	Reduce complexity	801 in dual fuel
	commission system	Small cost saving	mode
	in 801. Availability	Reduction in trials	
	of bunkering		
	probably means		
	commissioning will		
	have to be repeated		
STW, Test,	Adopt a	Saves time	Low
Acceptance	collaborative	Quicker defect	
	approach.	rectification	
	Undertake these	Avoid repeat activity	
	activities in tandem		
Self Certification	Allow FMEL to	Saves time	Inadequate
	certify non-critical		certification
D ()	systems		0 "
Do not change	Bulbous bow due	Time in dock	Cosmetic concerns
bulbous bow	for change in		
	drydock.		B.4
Reduce paint coats	Number of coats of	Time	More risk of
by one	paint is variable (3-	Cost	exposure to air
	5).		

During the meeting with CMAL/Scottish Transport it was accepted that this could be pursued. It would require documenting. Undertaking this activity at the same time as discussion on the programme and risk appears sensible.

FMEL Legal Case

I have previously seen the broad nature of the FMEL claim for additional funding. During this visit I have learnt more. Whilst it requires a comprehensive review (I have not seen the submitted document) I continue to believe, from what I have seen, that it

has merit. It certainly appears to cross the threshold at which the defendant (CMAL/Scottish Government) would be unwise to go to court. I understand from CMAL that they expect to have completed their review in mid February. The strong indication given during the meeting with them was that they intend to reject the claim.

Davie Case

In Quebec Province, Canada a very similar situation arose. After a competition Davie Shipyard was contracted on a design and build basis to build 2 LNG ferries for the Quebec government. It became apparent during the early stages of the build that significant challenges existed and Davie made it clear that they could not deliver to either time or cost. Davie submitted a claim against STQ. Davie and STQ (the equivalent of CMAL) were at loggerheads and had adopted an entrenched position. The Quebec Government decided to intervene and take positive action to resolve the problem. Led by Economic Development Quebec a new legal entity was formed (Investment Quebec (IQ)) who took on the role of negotiating for the Quebec Government a solution. STQ was distanced from the process adopted. An MOU was signed between IQ and Davie with the agreement of the Quebec Government. This allowed negotiation to start with the aim of ensuring;

- A fair and reasonable price for 2 ferries
- Delivered in a reasonable timescale.

Work did not stop on Ferry one during this process. It was realised that this approach would only work if a "Win-Win" scenario was at its completion. After about 6 months of negotiation a new specification, contract, price and timescale were agreed by both Davie and the Quebec Government. Today there are 2 new ferries operating successfully on the St Lawrence River.

Alternatives to FMEL (in its current form) Completing Build

A number of suggestions have been proposed as an alternative to FMEL completing Ferry 801. These might arise if FMEL went into receivership or was taken into public ownership. Alternatives appear to be:

CMAL taking over the shipyard:

Whilst CMAL appear keen to do this it would be extremely disruptive. CMAL have expressed concerns about the competence of the yard which would take time to resolve. The FMEL senior management team would leave. It is assumed that CMAL would inherit the FMEL debts and would need further funding to complete the work on

both 801 and 802. There are likely to be significant legal issues associated with this option.

Towing 801 to another shipyard:

Any other shipyard would have significant learning curve challenges and would apply a significant risk premium to accept a contract to completion. Even if another yard could match the FMEL programme (which appears unlikely) there would be the delay resulting from the move and re-establishment of systems (at least 4 weeks). The FMEL workforce would have to be made redundant, potentially at Government expense. This leaves how to complete 802 unanswered.

These options were discussed during the meeting with Transport Scotland and CMAL. It was accepted that completion of the ships at Port Glasgow offers the lowest risk and most cost effective solution.

A further option thus appears to be the Scottish Government converting the current loan into share ownership. This would allow FMEL to obtain funding elsewhere, might offer an alternative structural solution and certainly minimises the increases in cost and time (above the anticipated 4 month delay and current increase in cost). It would retain the workforce but the effect on senior management is uncertain.

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