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BABCOCK INTERNATIONAL GROUP SUBMISSION TO HOUSE OF COMMONS DEFENCE SELECT COMMITTEE THE NAVY: PURPOSE AND PROCUREMENT INQUIRY

Introduction:

Babcock is a FTSE250 listed international aerospace, defence and security company, headquartered in London. We specialise in providing critical, complex engineering services across defence, emergency services and civil nuclear markets, both in the UK and internationally. Babcock is the second largest supplier to the Ministry of Defence, and we are proud that our Marine business is currently preparing to build the Royal Navy's next generation Type 31 frigate at our facility in Rosyth.

This response addresses questions 4,6,7 and 8 in section 2 as this is where our expertise as a business lies. Where questions address several points, this response answers one at a time.

Summary:

- The UK's domestic shipbuilding industry is capable and ready to fulfil its role in delivering the country's naval capabilities but needs certainty and continuity in policy making and procurement to do so.
- The production plans for Type 31 are realistic and result from considerable planning and investment in facilities, software and skills by Babcock in our Rosyth Facility.
- Both Type 26 and Type 31 have been exported or are currently in the process of being exported. Increased exports of UK designed and built ships will add value to the UK, increase investment and could reduce the cost of future platforms to HM Government.
- A longer term perspective is needed for all Government policy decisions on naval platform expenditure, including long term fiscal planning and policy that accounts for the time taken to build up specialist skills and pay back major capital investments made by industry.

Responses to Questions

Q4. The UK is likely to face a "frigate gap" until at least the early 2030s. The current Type 23 frigates will begin to leave service on an annual basis from 2023. There are concerns over the extended retirement dates, especially with regards to the integrity of certain hulls and lack of spare part packages across the board. The first replacement Type 26s and Type 31s are not expected to be in service until at least four years later. What capabilities will the Navy lose or need to deliver through other means as a result?

1. No response to the first part of this question.

…How realistic are production plans for the Type 31s (already described as "aggressive" and including an ambitious delivery rate of one every 8-12 months, compared to 18 months for comparable European programmes for similar vessels)?

2. The production plans for Type 31 are realistic and result from considerable planning and investment by Babcock in our Rosyth Facility, where we have created a market-leading, innovative digital dockyard. Since the Type 31 Design and Build contract was signed in November 2019, all 18 milestones have been met and the project is on schedule for the start of construction of the first vessel in July 2021.

3. The first vessel in the class will be delivered to the Authority in 2025 and the last of the class delivered in 2028. The actual build time of each ship is approximately three to four years from cut steel to delivery, reducing over the course of the programme. To deliver all five ships by 2028, parallel build activity has been enabled through the programme schedule, planning, investment and supplier contracting methodology. Babcock has also invested considerably (approaching £60m) in our digital facility enabling all five frigates to be manufactured in a similar way to a modern car plant assembly line.

4. The Type 31 contract will result in the delivery of five warships in record time and to an agreed price that will set the benchmark for global best practice. The programme schedule was developed from a strong baseline and is fully integrated to incorporate the entire programme scope including engineering, procurement, facilities, manufacture, assembly, ship completion & delivery, along with programme management and other support functions. To benchmark the logic, sequence and duration, Babcock drew on previous projects such as Queen Elizabeth Class Aircraft Carriers (QEC) and Irish Offshore Patrol Vessel (IOPV).

5. In addition to internal and external benchmarking, Babcock has commissioned shipbuilding and manufacturing experts from the UK and internationally including engineering, build and commissioning to determine the appropriate work breakdown structure, durations and logic. The durations and logic were then validated through the creation of more detailed schedules in specific areas such as engineering modelling, production outputs and the finalised build and commissioning strategy, which are further validated through engagement with key third parties such as Thales, the Type 31 mission systems provider. As a result, the mission systems schedule is fully incorporated into the Whole Programme Integrated Schedule.

6. Type 31 production is also subject to strict governance, with shipyard footprint and resource capacity incorporated into the integrated planning process. Quality hold points are built into the programme schedule such as: engineering maturity gates, production readiness reviews and programme assurance reviews to ensure progress through the schedule is at the right level of maturity and readiness to proceed to the next phase.

7. Babcock has also sought to minimise the impact of Covid-19 on the programme, although we see the potential to impact further in our supplier base in the short to medium term. The schedule has continually been reviewed in light of the impact of Covid-19 to ensure delivery dates are maintained.

8. Unlike other recent UK ship building contracts, the contract with Babcock for Type 31 class is a combination of fixed and firm price, which is intended to minimise changes. Avoiding change during the detail design and construction phases reduces programme schedule and cost risk. These risks are further reduced by placing control of the deliverables (excluding some government furnished equipment) in our hands as the shipbuilder. The Type 31 is designed to be very adaptable, so change can be managed more easily in-service.

9. Babcock is making shipbuilding in the UK more productive, having invested in facilities, software and skills to deliver an efficient design and build of Type 31. The first major investment is the building of a new assembly hall which will enable two Type 31s to be built side by side undercover until they are ready to launch (weather often impacts ship build programmes when the work on a vessel in build is undertaken outdoors).

10. Babcock is also investing heavily in digital and data-driven technology to deliver on its contracts and is transforming Rosyth into the most digitally advanced shipyard in the UK. The new ship build hall is designed with full connectivity throughout, including on-board the vessel, to maximise real time data and feedback. Rosyth has adopted a digital shipyard ethos that enables its teams to have mobile access to information with investment in mobile devices, touch screens and augmented reality. We have also invested in advanced computer aided manufacturing systems and automated production lines that receive drawings and production information straight from the Type 31 digital model.

11. Collectively, this investment is resulting in a high level of design maturity which avoids cutting steel too early, incurring additional expenses or time consuming re-work. The dynamic build schedule is aligned to Babcock supply chain so that equipment arrives when it is needed.

Q6. Is the UK's domestic shipbuilding industry able to fulfil its role in delivering the country's naval capabilities?

12. Yes – we are absolutely clear that the UK's domestic shipbuilding industry is able to fulfil its role in delivering the country's naval capabilities. As the UK's two primes capable of taking contracts for warships, Babcock and BAE Systems work with UK naval and non-naval ships yards, as well as the wider UK supply chain to deliver the countries naval capabilities, whilst also delivering social value and considerable returns to HM Treasury. International providers aiming to deliver the UK's requirements would not be able to provide the same level of economic value for this country.

13. As one of the UK's two shipbuilding primes, Babcock has played a key role in delivering the country's naval capabilities, assembling the Aircraft Carriers at Rosyth as part of the Aircraft Carrier Alliance, and now in delivering on the Type 31 contract. The certainty provided by a stable policy environment and continuous pipeline of potential orders (e.g. Fleet Solid Support and Type 32), would enable Babcock to continue to invest, train and maintain skills and increase productivity.

14. In addition to the major primes, the UK has capacity and capability among the Tier 1 and Tier 2 yards which can support the primes in meeting the demands of the naval programme, but investment is

needed to help them compete on a global level. Drawing on the lessons learned from the Aircraft Carrier Alliance, distributed build programmes can engender collaboration and spread value across the UK whilst protecting the Tier 1 and Tier 2 yards from too much risk exposure.

15. The UK's domestic shipbuilding industry has considerable niche skills (e.g. naval, leisure, wind, sustainability) which are not currently fully exploited. As UK orders are low volume (often even single ship) and UK naval standard requirements are more costly and complex than other nations, UK build often has the effect of looking expensive. Comparisons should not, however, be made between industry in the UK and countries like China or Korea, which specialise in volume build of large vessels (e.g. crude oil tankers, container ships etc.).

What has been the effect of the National Shipbuilding Strategy?

16. The original NSBS helped to catalyse new investment in UK shipbuilding. It has also helped to reinvigorate the relationship between HM Government and the shipbuilding industry – a relationship which is essential to the success of every country with naval ambitions like the UK. The refresh is needed, to cement the strategic national benefits of an appropriate and stable policy environment.

17. Babcock also recognise there is a need for industry leadership to drive the NSBS. That is why we take an active and leading role in MEWG, MarRI-UK, the Society of Maritime Industries and the Scottish Maritime Cluster. It is positive to see growing and tangible Government collaboration with industry, and we hope this continues to be deepened and developed.

Does the government's decision in the Defence Industrial Strategy to determine whether to invite foreign competition on a case-by-case basis (rather than just for warships) increase or decrease the opportunities for UK shipbuilding?

18. This decision will decrease the opportunities for UK shipbuilding. The Defence Industrial Strategy does not make clear how the new competition policy will be applied through the NSBS, but still allows for further international participation in UK shipbuilding. Positive lessons can be taken from international shipyards and turned into better UK solutions, without the need to undertake open competition as key shipbuilding technologies are now commoditised. Productivity in international yards can appear different, but this is generally related to scale of through-put, limits on change and strong relationships with national government.

19. The export of Type 31 and Type 26 is testament to the UK's domestic shipbuilding capability and its value for money. The impact of HM Government buying British helps secure the future of high-skilled British jobs in yards around the country and sends a clear signal to potential export markets that the Royal Navy has confidence in the shipbuilder who make that platform, but the opposite is also true.

What will industry need to see in the government's forthcoming update to the National Shipbuilding Strategy and 30-year plan for Naval and other government-owned vessels?

20. Industry can deliver successful, sustainable shipbuilding if the policy environment is designed to support long term sustainable capital investment in whole career talent development, international exports and continuous innovation. Uncertainty and change are seen as investment risk, which diminishes expectations of reasonable returns on investment and tends to move capital to other sectors. There is a simple, but overwhelming, business case to invest in UK shipbuilding.

21. Industry needs longevity and certainty of pipeline to incentivise further significant investments in modern ship building equipment and digital manufacturing. Certainty would enable investment in new skills and innovation to ensure that the UK shipbuilding sector not only attains world class status but sustains it over a long period. Support for modern apprenticeships from HM Government will allow shipyards to develop and stimulate the manufacturing market beyond just shipbuilding. Babcock has recruited over 50 graduates and apprentices at Rosyth in the last 12 months, taking our total to over 100 on site at present.

22. Babcock would like to see the NSBS refresh make clear, long term commitments in the 30-year plan to set out platforms needed, the related timescales, associated budgets and respective procurement strategies. This would enable industry to plan long term for those we would like to build, focus our investment and continue to support high value jobs and apprenticeships.

23. In addition to enhancing certainty of new build work load, Babcock wants the NSBS to set out the contracting method and number of yards required to sustain a consistent workload over a 30 year period including ship support plans (maintenance, repair, overhaul, dockings etc.), and factor this into design & build decisions, which would add further incentives for investment and avoid fluctuating boom and bust orders. Support for investment is required with a baseload of work that allows industry to move to an export position in both design and build of naval vessels and international technology transfer as has already been shown with Type 26 and which Babcock are actively pursuing with Type 31.

24. Cooperation between HM Government and the shipbuilding industry also has an important role to play in delivering the vision for Global Britain. By working in partnership, the UK can and should seek to win in the global naval market, by focussing on UK strengths.

25. The government's decision to design and build in the UK with support from Royal Navy increases the exportability of these classes on the international market - a reflection of the esteem in which the Royal Navy is held globally. Being able (as Government) to sell not only a single class but a whole capability to a foreign navy – such as a mixed class carrier strike group – would further extend export opportunities for the UK, however, Government to Government (G2G) arrangements or other appropriate procurements will be an essential element of this approach.

26. How the NSBS will apply HM Treasury's Green Book social value policy is still unclear. It is yet to be seen how it will allocate value across unit production cost, through life cost and public benefits; and how it will assess total value to the taxpayer when considering bids from state sponsored international yards. Industry has shared evidence with MoD that design and build in the UK offers solid returns to HM

Treasury, circa five times greater than from an international build. Whilst discretion rests with the procurement authorities, HM Treasury should approve the criteria being used to ensure it focusses on UK social value through UK content. We assume this would come with expectations of value auditability to re-assure taxpayers of long term positive outcomes.

27. Babcock is committed to levelling up prosperity across the UK through collaboration, as was clearly demonstrated by our role in the Aircraft Carrier Alliance. In that programme, two 65,000te carriers were assembled in Rosyth with design and manufacture distributed around the UK. Babcock is collaborating with shipyards and manufacturers in the UK on future programmes under the NSBS, as well as exchanging technology and productivity thinking with international shipyards in Korea, Australia, Canada and the USA. Babcock sees social value as part of our sustainability agenda and as key to a successful relationship between HM Government and the shipbuilding industry.

28. Babcock is looking to HM Government (via BEIS/UKRI) to give higher priority to maritime innovation in support of the NSBS and the commitment to increasing UK investment in R&D to 2.4% of GDP by 2027. Babcock have led the development of Maritime Research & Innovation UK (MarRI-UK), drawing together the industrial and academic interests and proposed a range of potential innovation projects to Government, spanning clean maritime, high-tech and ship building productivity. Increased cooperation between HM Government and the shipbuilding industry also has an important role to play in supporting the transition to Net Zero.

29. Babcock would also like to see policy drive much stronger links between our education sector (colleges and universities) and shipbuilding through funded placement modern apprenticeships. The proposed National Skills Academy (Maritime) should be developed in conjunction with MarRI-UK and given resources to enable HE & FE organisations to further develop existing courses in support of the sector.

Q7. How realistic are proposed exports of Type 26 and Type 31 frigate designs…

30. As both platforms have, or are being exported, the proposals are totally realistic and are a clear indication of the value other governments place on the ability of the UK's domestic shipbuilding industry. According to analysis carried out by the Defence Solutions Centre, the global corvette to frigate size market – up to the mid-2030s – has a potential value of $193bn. The driving imperatives for global sales of vessels this size are capability, platform utilisation, total cost and value for money, indigenous industrial and supply chain participation and delivery timescales.

31. Babcock's Arrowhead 140 was selected by the UK for Royal Navy's Type 31, Inspiration Class frigate requirement, predominantly to perform a maritime security role, as opposed to the very high-end anti-submarine role of the Type 26, City Class. However, the Arrowhead 140 baseline design can be configured to meet a wide range of operational tasks and profiles that can meet the most demanding requirements of international navies. Potential configurations range from high-end Anti Air Warfare; Anti-Submarine and Surface Warfare capabilities (including hosting of autonomous air, surface and sub-surface operations) through to the provision of humanitarian and disaster relief support, all of which

can be performed in either blue water or littoral environments. The modularity of the AH140 design enables cost-effective, rapid role change and capability insertion, providing a high level of both political and military choice from one platform.

32. Arrowhead 140's qualities of proven hull form, adaptability and incremental capability enhancement potential, combined with a market-disrupting price point, is generating significant interest in export markets. Babcock is currently pursuing three active opportunities concurrently for Arrowhead 140 design licences with engineering and shipbuilding support services. Several other countries have expressed interest in the platform, for indigenous build, UK build or a combination.

…and what effect would they have on costs of the frigates for the UK?

33. Increased exports of the same platform would see costs stabilise if not decrease in real terms. With regard to the total cost of ownership and through life costs of the vessels in service, there will also be benefits from exports derived through economies of scale in the supply chain. Exports will reduce the non-recurring engineering expenditure for future capability insertions into the UK Inspiration Class ships significantly by leveraging design work to adapt the baseline platform to meet the capability requirements of export customers. Additionally, export vessels built in Rosyth will contribute to the productivity of the Rosyth yard, spread overhead costs and generate the potential for increased value for money in the building of the future Arrowhead 140 variants in Rosyth.

34. The export of Arrowhead 140 will also provide tangible experience to inform and leverage the adaptability of the design to de-risk the Royal Navy's Type 32 requirement. As a key reason the platform was selected for the Type 31 programme was its inherent adaptability, the opportunity arises to adopt an adapted version of the Arrowhead 140 design for the Type 32 requirement. This would save considerable cost and risk in the Type 32 programme, and create the ability to make further productive use of the infrastructure already invested in for the Type 31 programme.

…Since most foreign buyers will seek to produce ships domestically, how much value are these export deals likely to deliver to UK shipbuilding?

35. While many export customers seek to utilise, improve or create their indigenous shipbuilding capabilities, the licensing of the Arrowhead 140 design and the delivery of the Arrow Yard (an export of Babcock's digital shipyard) to enable indigenous build still generates profitable UK revenue. In addition, over 50% of the systems and equipment in the Arrowhead 140 baseline design for the Inspiration Class is sourced from the UK maritime supply chain. With some, often positive, fluctuations due to adaptation, the UK supply chain will always benefit significantly from Arrowhead 140 exports.

36. Alongside Arrowhead 140 design licence proposals there is a strong demand for additional UK design engineering and shipbuilding build support services through the direct provision of those services or through revenue generating technology transfer. There are also opportunities arising for Babcock and other specialist UK companies to be part of shipyard modernisation and optimisation programmes, training programmes and through life support solutions.

37. The UK's value-adding revenue opportunities span the whole product lifecycle from readying and modernising national infrastructure, design licensing, engineering support, initiating and developing shipbuilding strategy and delivery, enabling workforce training & upskilling and post-delivery through-life support solutions.

38. In addition to the monetary value for Babcock and wider industry, there is also considerable social value added by export sales. The jobs associated with either design or complex equipment provision – as required in export sales – are generally highly skilled or professional, and each export sale helps safeguard them. The value of these roles are generally well above the median for the UK, with Babcock employees a key part of the workforce which MaritimeUK has shown creates economic productivity 42% higher than the average UK worker.

Q8. The government's Defence Industrial Strategy promises up to five Type 32 frigates and a new class Type 83 destroyer but no further details on these ships' designs and roles have been provided: how can the government learn from previous programs in designing and delivering these two ships?

39. A long-term perspective is needed for all of HM Government's policy decisions on naval platform expenditure, including fiscal planning that accounts for the time taken to build up specialist skills and pay back huge capital investments etc. The strategic case for each shipbuilding project should be set in this context as shipbuilding cannot be seen in the same context as other manufacturing sectors. For instance, much less commitment can be made by businesses on a three year individual project with no prototyping, a short production run (e.g. five ships in class) and limited repeatability (assuming 10 or 20 years between "Main Gate" decisions for similar classes of ship).

40. Decisions by industry to compete or cooperate are largely driven by HM Government's procurement strategies, therefore it is important that Government provides certainty and continuity, to allow competing UK shipyards to plan and cooperate where appropriate. Considerable lessons have been learned from the modular build approaches adopted by the Aircraft Carrier Alliance which can be drawn on in future platform builds including the Fleet Solid Support programme that would add value and level up across the UK.

End