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The Chief Secretary to the Treasury
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3rd November 2016

Dear Secretary of State & Dear Chief Secretary

SUMMARY OF RECOMMENDATIONS AND FINDINGS FROM MY INDEPENDENT REPORT TO INFORM THE NATIONAL SHIPBUILDING STRATEGY

Summary of Findings

The procurement of naval ships takes too long from concept to delivery compared with other complex industries.

Despite many good professionals at the Ministry of Defence (MOD), the procurement of Royal Navy ships are affected by:

- A lack of pace with timescale and cost impacted by a non-assured capital budget (i.e. subject to annual change);
- A lack of a governance system that grips design and specification to budget and time to contract;
- Responsibility and ownership of the project not always being clear or aligned.

In addition, naval ships are not designed to be export friendly.

From an industrial perspective, Industry capability needs to be better integrated in to the planning of the 'Total Enterprise' from concept to delivery, and Industry needs to invest in and deliver higher productivity and shorter cycle times. It must produce more export and production friendly designs. Industry and the Client must improve their collaboration on reducing cost of build and eliminating more expensive standards than are necessary.

In the course of my work, I have found that there is a renaissance in shipbuilding in commercial UK shipyards, fuelled by an entrepreneurial attitude and an enthusiasm to embrace change with flexible skilled labour practices and the ability to manage fluctuating workloads. In sum, there is a vibrant UK shipbuilding, marine and defence supply chain sector which the MOD should seek to harness.

The current situation is that fewer (more expensive) ships than planned are ordered too late. Old ships are retained in service well beyond their sell by date with all the attendant high costs of so doing. This 'vicious cycle' is depleting the RN fleet and unnecessarily costing the Taxpayer. It needs to be broken by;

- Defence gripping the design and specification of RN ships, to a cost within an assured budget, injecting pace and contracting on time;

- Build via a Regional Industrial Strategy to achieve competitive cost and reduced build cycle time;
- Both working collaboratively in a stable environment to deliver success for RN and in export markets.

If Defence and Industry can rise to this challenge then there is the potential for a wider prosperity benefit, with shipyards and the supply chain across the UK winning work and jobs for a wider swathe of UK regions.

In short, I am recommending a sea change. With Pace and Grip from Government, Investment from Industry, to the benefit of the Nation.

Recommendations

To bring greater grip and pace I make the following recommendations on **Governance**:

1. The Government must drive cultural and governance changes in Defence that inject genuine pace into the procurement process with a clear grip over requirements, cost and time.
2. There should be a new governance model of Sponsor and Client for all ship procurement linked to Industrial capacity (i.e. the Total Enterprise). (See Fig. 1).
3. The MOD Sponsor should establish a transparent Master Plan for naval shipbuilding that lays out Defence's procurement plans for each series of naval ships over the next 30 years. This should be backed by "set and assured" capital budgets for each new series of ships. The Master Plan should be reviewed at each SDSR.
4. The MOD Sponsor should empower an RN-led Client Project Contracting Board to finalise design, cost and time for each class of ship procurement compatible with the Master Plan. (See Fig. 2).
5. Current MOD governance processes and procedures should be simplified and aligned with the new governance recommendations 1 – 4 above, with a degree of financial freedom granted to ensure project pace is not hindered.
6. The RN-led Client Project Contracting Board should appoint a Project Director with extensive modern project management, commercial and technical experience. An integrated project office should be established with a multi-disciplined team drawn from Defence Equipment & Support, Navy Command and the lead shipyard etc. for each new class of ship procurement.
7. The MOD should take steps to ensure it is an intelligent client for warship design and build, to better understand the cost implications of naval standards, preferential engineering and bespoke equipment. This should enable proper trade-offs during development of the specification.
8. In addition, an external technical consultant should provide constructive challenge during trade-offs on the inclusion of specification standards, innovation, the minimising of through life and operating costs, ensuring design has flexibility for export and facilitates modern methods of construction.
9. Once these trade-offs have been agreed, the design specification should be frozen to allow the project to progress rapidly to contract signature. No further requirement changes should be allowed.
10. Contracts should be tautly drawn to properly incentivise Industry to invest in support of their "global competitiveness plan" and deliver to time, within the agreed cost envelope. This should provide a firm cost base and delivery to the milestones laid down in the Master Plan.

11. Post contract management should be driven by a joint project management team (Defence Equipment & Support, Navy Command and the lead shipyard etc.) and a governing Project Delivery Board with an Independent Chairman that will foster discipline and overall effective control. A shipyard Trade Union (TU) representative could be appointed to attend the regular progress meetings of the Project Director and his team in order to enhance transparent communications. The post-contract Project Delivery Board is the final authority on any change contemplated post contract. None should be accepted that could impact the programme. (See Fig. 2)
12. The risk assessment process, led by the Client Project Contracting Board, should result in the allocation of risk provision partially to the Project Director and partially to the Client Project Contracting Board as the final authority on change.

To drive this change, I make the following recommendations on the **General Purpose Frigate (Type 31e) (See Fig. 3):**

13. The new Type 31e should not set out to be a complex and sophisticated warship based on traditional design approaches. It should be a modern and innovative design on a standard platform which should provide a menu of choice to support exports and beat the competition. It should be termed Type 31e. The 'e' means that export flexibility is inbuilt, not a variant.
14. The Type 31e should be prioritised, and act as a pathfinder project to pilot this new governance and Virtual Shipbuilding (VSb) industry approach (see recommendation 19 and figure 4). It should be rapidly procured and placed into service as early as possible in the 2020s. If necessary, wider Government financial support should be provided to allow early build of the vessel. This will enable the new governance approach to be embedded in order to deliver medium to long-term savings in ship procurement.
15. Type 31e should be designed so that the price/capability point is an attractive export proposition and then it should be delivered to a hard target cost.
16. The MOD should determine the economic service life for a naval ship and then replace ships with new vessels at that point, rather than operate longer and thus avoid expensive major refits. As a pathfinder, Type 31e should also be procured as a RN asset that stimulates exports including via sales from the Fleet.

To deliver **export-led growth (See Fig. 5)**, I recommend that:

17. There should be a stronger national co-ordinated effort, including Government to Government trade deals, placed on the exports effort for ship sales, project management, design, equipment and sub-systems. This should be driven by the Department for International Trade, with support from the Foreign Office, Department for Business, Energy and Industrial Strategy, and Defence. A dedicated professional should be appointed to concentrate on the national effort.

To exploit, and benefit, the **vibrant UK marine and defence supply chain sector**, I recommend:

18. Warships should be built in the UK for reasons of National Security and the sustainment of National Sovereign capabilities.
19. Industry and the Government, as part of their Industrial Strategy, should establish a Virtual Shipbuilding (VSb) industry model (Fig. 4) that harnesses the UK regional shipyards that have demonstrated their cost competitiveness and the capability to build fully outfitted "blocks". The intention should be to build these in series and in parallel to capture the learning curve productivity benefits.

20. The VSb construct should be used to build and integrate the Type 31e via a lead shipyard or alliance with sufficient financial and industrial capacity and capability to construct and to enter into the key sub contracts. Contracts should be taut, eliminate cost growth, and incentivise delivery while allowing reasonable profit.
21. UK Industry, utilising the VSb approach, should be able to compete effectively, against international competitors for RFA procurement (starting with the Fleet Solid Support programme), and should be strongly encouraged to put forward strong bids for this work.
22. "Global competitiveness plans" should be developed by each shipyard, and the supply chain, with a focus on tight scrutiny of overheads and targeted investment in skills, modern working practices, digital systems, and modern tooling.
23. Industry and the Government should invest in a small, specialised virtual Innovation Centre to challenge existing naval standards and introduce new ones, and to force through advances in design, new materials including composites and manufacturing/assembly methods that contribute to productivity improvements and cost of build. The leader of the Innovation Centre should oversee the "global competitiveness plans".
24. Companies will need to invest and embrace the full potential design and production benefits of digital engineering technology in the same way as world leading manufacturers, for example Jaguar Land-Rover in the car industry and Meyer Werft (Germany) in the cruise ship industry. These targeted investments should attract Government support. Local Enterprise Partnerships, Scottish Government and Invest Northern Ireland should be encouraged to support the transformation of the industry.
25. BAES has the breadth of technical and engineering talent and the most recent experience of building sophisticated warships. They should build the Type 26 series with adherence to schedules supported, if required, by the VSb shipyards via block build. BAES' immediate operational priority should be to use the build of Type 26 to maximise productivity in order to be competitive in future and win sophisticated warship, and other naval ship, design, build and systems engineering work for the RN and exports customers. Their "global competitiveness plan" should focus on capturing the industrialisation benefits of digital engineering and ensuring, with the TUs, flexible skills in the workforce that are compatible with what can be achieved in a digitally engineered driven production world.
26. There is no precedent for building two 'first of class' RN frigates in one location in the UK. Type 26 is a critical project for the RN and the Nation. Type 31e is urgently required to maintain RN frigate fleet numbers and to establish a UK exportable light frigate. Against this background risks need to be assessed and evaluated in a responsible way by all stakeholders. A separate lead shipyard or alliance would appear to be the best way forward for Type 31e to minimise overall risk. Regardless of choice, BAES would remain in a position to compete for Type 31e work on combat systems, design support and in block build if capacity is available.
27. Given the export potential of design, technical engineering and consultancy services, Industry should consider combining their Maritime Design and Combat Systems Engineering resources into separate subsidiary Companies to make these more visible to the world.
28. Industry and the Government should recognise the importance of the UK maritime supply chain as a provider of specialist equipment and services, through the opportunities offered by a series of Type 31es which further enhances export opportunities given RN selection and endorsement of UK (or UK-based) equipment manufacturers (thereby stimulating new product and manufacturing investment).
29. To address future affordability challenges, the MOD should consider conversion of commercial shipping to meet certain support shipping needs (as was the case with

RFA Argus), hire commercial vessels to meet low threat tasking and for other duties, such as minesweeping through using frigate or OPV platforms to host capabilities, including unmanned vehicles, rather than procuring bespoke vessels.

To deliver **socio-economic benefit**, I recommend that:

30. Industry and the Government should, with the Trades Unions, support the creation and sustainment of high skilled jobs along with modern apprenticeships, and expansion of Technician and Graduate recruitment, to drive performance and to address the age profile of the current workforce at the shipyards.
31. The MOD should seek to better understand the socio-economic benefit of awarding work to UK shipyards, or UK suppliers, and should give this more weight in non-warship building and all ship outfitting procurement decisions.
32. The Defence Growth Partnership, as part of the Government's sectorial Defence Industrial Strategy should, bearing in mind the demands on busy Executives' time, take the lead and work with the extensive network of Industry and Industry/Government discussion and lobbying forums in order to galvanise the maximum national effort on the implementation of this strategy.

Finally, I recommend:

33. Work will need to be commissioned to assess the detailed effects, if any, that these recommendations may have on naval ship support solutions.
34. The Government should appoint a senior civil servant to ensure that the accepted recommendations are embedded within 'the Total Enterprise' and to place the Secretary of State in a position to report on delivery against these recommendations annually.

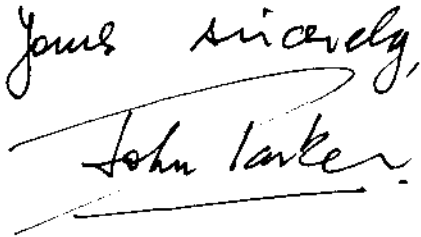
Conclusion

I am of the view that Government and Industry need to:

- Govern the design and specification of Royal Navy (RN) ships to a target cost within an assured capital budget and inject pace to contract on time;
- Design ships suitable for both RN and export;
- Build via a Regional Industrial Strategy to achieve competitive cost and reduced build cycle time;
- Maintain RN Fleet numbers over next decade via urgent and early build of Type 31e (General Purpose Frigate);
- Use Type 31e as the Pathfinder Project to implement the recommendations of this review.

Should Government and Industry, including Trades Unions, rise to the challenges I have set, particularly around the disciplined governance system and the Industrial Strategy, I believe we can establish a new era of collaboration and drive for success across the 'Total Enterprise'.

This should create savings over the coming years within MOD, renew the RN fleet and take shipbuilding on a transformational journey similar to that experienced by our rejuvenated car industry over past decades.

Yours sincerely,
A handwritten signature in black ink, appearing to read 'John Parker', with a horizontal line underneath.

Sir John Parker GBE FREng
Independent Chairman, National Shipbuilding Strategy

Enclosure:

*An Independent Report to inform the UK National Shipbuilding Strategy by Sir John Parker
GBE FREng*