

**Written evidence submitted by Air Vice-Marshal Andrew L Roberts CB CBE AFC FRAeS  
RAF (Rtd)<sup>1</sup>**

## **Executive Summary**

- The UK's force of only nine P-8 Poseidon aircraft is insufficient to guarantee adequate maritime patrol aircraft (MPA) support for likely UK operations whilst simultaneously providing continuous cover for the UK strategic deterrent.
- If this situation is to be corrected, up to six additional P-8s (depending on RN operating areas) would need to be acquired, bringing the total fleet to 15 aircraft.

## **Introduction**

1. This paper is a response to question of *"What are the main gaps in capability and/or readiness, and what will it take to fill these gaps?"* in the terms of reference for the subject inquiry and deals only with the adequacy of the UK's fleet of MPA.
2. Capable though the P-8 may be, analysis suggests that the number of aircraft is unlikely to be enough to fulfil even the two highest priority tasks likely to be assigned to the force in tension and hostilities.

## **MPA Tasks**

3. The ten primary tasks for which MPA are likely to be required in peacetime, tension and hostilities are:
  - a. Protection of the UK's national strategic deterrent.
  - b. Protection of naval forces - in particular, the new aircraft carriers.
  - c. Protection against threats to commercial and other shipping, including counter-piracy.
  - d. Surveillance of, and action against, threats to trans-continental under-sea communications cables.
  - e. Protection of the UK EEZ (including oil rigs and shore facilities) against potential threats, assistance in counter-terrorism operations and, possibly, illegal immigration surveillance as well as fishery protection post Brexit.
  - f. Protection of overseas territories, especially the Falklands.
  - g. Operations in such areas as the Caribbean in support of counter drug-running operations.
  - h. Support to Special Forces.

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<sup>1</sup> The author's background and experience in MPA matters is summarised at Appendix A

- i. Gathering electronic, acoustic and photographic intelligence.
- j. Fulfilling the UK's international obligations for Search and Rescue in aid of shipping and aircraft in distress in the Atlantic Ocean out to longitude 30 degrees west, in accordance with the International Convention on Maritime Search and Rescue, 1979.

The two highest priority tasks in tension and hostilities are likely to be a. and b. above.

### **Patrol Requirements**

- 4. It will be necessary to be able to maintain at least one MPA patrol continuously in tension and hostilities for protection of the strategic deterrent.
- 5. The Integrated Review confirmed plans for new a fleet of Type 32 frigates which will be built in addition to the Type 26, 31 and 32 frigates bringing the escort fleet up to 24 vessels. However, only 8 fully anti-submarine capable Type 26 Global Combat Ships are now planned for the Fleet, the Type 31 and 32 frigates are like to have only a relatively limited anti-submarine capability and the NAO has expressed some doubts about whether the Type 32 frigates will actually enter service.
- 6. Even were the fleet to be increased to 24 and allowing for embarked helicopters, the geographical coverage of anti-submarine defence likely to be available to a UK aircraft carrier (CVA) group in, for example, the Indo-Pacific Region without MPA and possibly without NATO support, will be less than adequate. To provide adequate defence in the deep field against submarines equipped with long-range cruise missiles, continuous cover by at least two MPA per CVA group will be required.
- 7. Furthermore, additional important tasks, such as general surface and sub-surface surveillance, protection of the supply train for major naval deployments and operations, and other tasks specified in paragraph 3 above, are also likely to be required in both tension and hostilities. These tasks will fully occupy resources equivalent to those required to support at least one additional MPA patrol.
- 8. Thus, when the need to protect the UK's strategic deterrent is included, the irreducible number of patrols by UK MPA needing to be maintained concurrently in tension and hostilities, even if only one CVA is deployed at a time, would be four.

### **MPA Force Capability**

- 9. The number of continuous patrols an MPA force is able to maintain concurrently depends on the distance from its operating bases<sup>2</sup> at which operations are taking place. The table below shows the operational coverage possible with the current force of nine P-8 Poseidon MPA; it also shows what established fleets of 12 or 15 P-8s could achieve.

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<sup>2</sup> RAF Lossiemouth and/or deployed elsewhere.

**Table 1 – Comparison of the Sustained ASW Patrol Capability Possible with Varying Numbers of P-8 Poseidon Aircraft in the Front Line**

Radius from Base (nm)	9 P-8 No of sustained patrols possible	12 P-8 No of sustained patrols possible	15 P-8 No of sustained patrols possible
400	4	6	7
600	4	5	6
800	3	4	5
1,000	3	4	4
1,200	2	3	4
1,400	1	2	3
1,500	1*	2*	2*
1,600	1*	1*	2*
1,800	1*	1*	1*
2,000	0	0	0

**Notes:**

1. The figures in this table are taken from the detailed, computer-based, study, *The Sustained Patrol Potential of a Royal Air Force Fleet of Nine P8A Poseidon for Maritime Patrol*, undertaken by Group Captain Derek Empson, an officer with many years of experience in planning and controlling MPA operations. However, the figures were derived from open source material and are likely to be optimistic. Now that the RAF is gaining experience in operating the P-8, the Committee staff will need to check these figures with Strategic and Air Commands (whose figures will be classified and thus not available to the author).
  2. The table assumes that 85% of the established number of aircraft will be available daily.
  3. The minimum number of hours on patrol for effective ASW cover is about three hours. Asterisks are shown against the number of patrols possible at ranges where less than 3 hours on patrol would be achieved.
  4. For the purposes of this assessment, the Sustained Monthly Flying Rate assumed for periods of political tension and during hostilities for MPA crews is assumed to be 130 flight hours per mean calendar month. This is 30% higher than the generally accepted maximum peacetime rate of 100 flying hours.
  5. The table assumes that no air-to-air refuelling is available.
  6. The table assumes that the aircraft would be operating from a main base. A logistic supply chain to the Indo-Pacific region, combined with the likely absence of tailored main base facilities, is likely to reduce the assumed aircraft availability. Of course, some engineering support would be available were RAF P-8s to deploy to the US Navy Support Facility on Diego Garcia or the US Navy Air Facility at Misawa, Japan. To a lesser extent some support could be made available at the Indian naval air bases in Goa and Tamil Nadu, where Indian P-8i MPA are based. However, it must be remembered that some specialist sensors used by RAF and Australian P-8s have not been released to the Indian Navy.
10. Clearly, not all patrols would necessarily be taking place at the same distance from base. Nor, of course, does the author know precisely where the UK strategic deterrent and CVAs would be operating. However, it can be seen from this illustrative table that, to achieve four continuous patrols at anything greater than 600 nm from a main base, an additional three P-8s would need to be acquired. To enable four patrols to be sustained out to more than 1,200 nm from a main base to provide sustained ASW cover for more distant deterrent and/or CVA operations, 15 aircraft would need to be established.

## Conclusion and Recommendation

11. The planned force of only nine P-8 Poseidon aircraft would be insufficient, in both tension and hostilities, to guarantee the concurrent continuous support of one aircraft for both the UK deterrent and other vital tasks, and for CVA protection, at ranges of more than 600 nm from the operating base.
12. To remedy this situation by catering for patrols of up to 1,200 nm from operating bases, six additional P-8s would need to be acquired, bringing the total established fleet to 15 aircraft.

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Andrew Roberts entered the Royal Air Force through the RAF College, Cranwell, as a flight cadet in 1956.

Although, as a pilot, he has flown over 30 different types of aircraft, his operational experience has been largely in the maritime field, in which most of his flying has been on the Shackleton and Nimrod, although he has also flown the Buccaneer and the Sea King/Wessex helicopters. Also relevant to this submission is the fact that over the years he has flown in, and exercised operational coordination of, maritime patrol aircraft of other NATO and Commonwealth nations.

His staff and command appointments in the maritime field included:

- responsibility for all MPA operations and development of NATO AWACS concepts of operation at Headquarters Supreme Allied Commander Atlantic (SACLANT), a post which included responsibility for overseeing all Maritime Surveillance Coordination Centres throughout the NATO area [1975-77];
- command of RAF Kinloss (Nimrod MR1 and 2) [1977-79]; and
- Chief of Staff at HQ No 18 [maritime] Group, at the same time acting as Chief of Staff (Air) to CINCHAN/CINCEASTLANT at the Northwood Headquarters [1987-89].

Appointments within the Ministry of Defence include:

- Personal Air Secretary to USofS (RAF), serving both Labour and Conservative ministers [1970-71];
- Director of Air Force Plans and Programmes [1984-87], responsible for the development and 'Long-Term Costing' of the RAF programme and for its submission to form part of the overall Defence Programme;
- Assistant Chief of the Defence Staff Concepts [1989-91], responsible for developing concepts on which the allocation of funding between the three Services and the centrally-funded equipment programmes over the following 25 years could be based,
- Leader of the RAF Manpower Strategic Studies Team [1992-94], responsible for developing new RAF manpower structures and supporting policies for the following 25 years.

He retired from the Royal Air Force in April 1994, to join the Lord Chancellor's Panel of Independent Inspectors.

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