

# **Defence Update**

**Research Paper 96/90**

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The annual *Statement on the Defence Estimates* (Cm 3223) was published in May and the Defence Select Committee published its report on the Statement in July (HC 215). The two documents are to be debated on 14-15 October.

This paper discusses some developments in defence and international security which occurred over the summer. Five significant MOD defence procurement decisions are addressed: the Landing Platform Dock (LPD) replacements; the Conventionally Armed Stand-Off Missile (CASOM) order; the Advanced Air-Launched Anti-Armour Weapon (AAAW) order; the Nimrod Replacement Maritime Patrol Aircraft (RMPA); and separately the continuing progress of the Eurofighter 2000 project. The other developments examined are the opinion of the International Court of Justice on the legality of nuclear weapons and the conclusion of the Comprehensive Test Ban Treaty (CTBT).

Related Library papers are Research Paper 96/91 *Defence Statistics 1996* and Research Paper 96/92 *Defence Employment 1994-95*.

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## I Developments in Defence Procurement

At the start of the parliamentary recess and over the summer a number of important procurement decisions were made. These involved five projects: the Landing Platform Dock (LPD) replacements; the Nimrod Replacement Maritime Patrol Aircraft (RMPA); the Conventionally Armed Stand-Off Missile (CASOM); the Advanced Air-Launched Anti-Armour Weapon (AAAW); and, separately, the continuing progress of the Eurofighter 2000.

Government defence procurement must balance a range of political and industrial factors. It must secure value-for-money against the background of ever more expensive weapons systems and a declining defence budget. It must seek to acquire the most effective weaponry. It must retain access to the world's most advanced defence research and also the world defence market, which in part means retaining defence links to US manufacturers. It also aims to support new forms of European armaments and defence co-operation which are parallel to moves to create a stronger European Defence and Security Identity.<sup>1</sup> Finally, after pressure from industry, the DTI and the House of Commons Defence and Trade and Industry Committees, the MOD has recently refined its procurement policy from being primarily based on competition and laissez faire to being more responsive to domestic industrial concerns.<sup>2</sup> All the above factors influenced this round of procurement decisions which, collectively, are the largest to be taken before the end of the century.

Whatever the economics of the bids for the various orders, politics may have dictated that the key prime contracts were awarded to UK firms. Contenders with a European content might also have been favoured.<sup>3</sup> In the last eighteen months major MOD contracts have been awarded to US companies, including the order for attack helicopters from McDonnell Douglas (worth £2.5bn) and new Hercules transport aircraft from Lockheed (a contract worth nearly £1bn), in preference to UK or European bids. (Although it should be pointed out that both these contracts included substantial UK industrial participation and offsets.) There has been irritation in some government and UK industrial circles at the continuing imbalance in transatlantic defence trade. The so-called 'two-way' street promised since the 1970s has never really materialized with the balance of defence goods usually standing at two to one in the US favour. One argument recently used was that any loss of business of US firms in the current round of contracts would encourage the Pentagon to be more open to UK competition in the future.<sup>4</sup> However, this would seem rather naive and ignores the extent to which Pentagon procurement policy is subject to greater domestic political constraints than MOD

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<sup>1</sup> HC Deb 17 June 1996, c.364w

<sup>2</sup> see Defence Select Committee First Report, *Aspects of Defence Procurement and Industrial Policy*, HC 61 and Government reply HC 209, Session 95/96 and *SDE* 96, Paras 426-131

<sup>3</sup> *The Financial Times*, 20 June 1996

<sup>4</sup> *ibid*

policy in the UK, particularly from a legislature with control over the minutiae of defence spending.

There was some speculation that the LPD and particularly the RMPA, CASOM and AAW decisions were delayed by disagreements between the Treasury and the MOD as to their necessity and the extent to which defence requirements conflicted with government expenditure policy. Announcements in all cases had been expected to have been made earlier in the year, and at the latest, before the Commons summer recess.<sup>5</sup> The RAF procurement decisions were not revealed until 25 July. The Treasury, in its role as the guardian of public expenditure, is routinely involved in all defence procurement projects with a price in excess of £100m, including giving final approval for a contract to be awarded. Although the RAF received all the new weaponry that it was seeking, it is possible that the Treasury has extracted a financial penalty in the MOD's long term costings. This could either take the form of a reduction in expenditure on other proposed projects or might involve new, more stringent efficiency targets.

### A. The Landing Platform Dock Replacements

In July 1996 the MOD finally announced an order for the replacement of its two large landing ships (Landing Platform Docks or LPDs), *Fearless* and *Intrepid*, both dating from the mid-1960s. The two new vessels, named *Albion* and *Bulwark* after two earlier Commando ships, will be built by VSEL, now owned by GEC, at Barrow. Displacing 13,000 tons, the new LPDs will each carry a Marine Commando of 650 troops and 350 crew. The flight deck will operate two EH 101 Merlin helicopters but could also handle one RAF Chinook transport helicopter. The new ships will deploy eight landing craft, some capable of carrying main battle tanks. They will be based at Plymouth instead of Portsmouth where the amphibious squadron is currently located. The ships will cost some £225m each. This is a great deal more than the £80m price of two Dutch/Spanish LPDs of comparable tonnage currently under construction<sup>6</sup>.

The LPD contract is the last part of wider renewal of the RN's amphibious squadron, linked to the new strategic emphasis on flexible intervention forces. A package of projects has included the refurbishment (Service Life Extension Programme or SLEP) of four old Landing Ships Logistic (LSLs) and the procurement of a new helicopter carrier, *HMS Ocean*, which should enter service in 1998. A further element, the acquisition of two Ro/Ro ferries, has recently been added, possibly as a consequence of the continuing decline in size of the UK

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<sup>5</sup> *The Guardian*, 9 July 1996

<sup>6</sup> HC Deb 18 July 1996, c. 646w and *Jane's Defence Weekly*, 24 July 1996

merchant fleet. The MOD has decided to charter a ferry in the short-term as a prelude to leasing or procuring an additional ferry in the longer term.<sup>7</sup>

The new LPDs will not enter service until 2000 and 2002 at the earliest. In the mean time, the Royal Marines will soldier on with two steam-driven landing ships, the *Fearless* and *Intrepid*. These ships, which entered service in the 1960s, will be nearly forty years old when finally decommissioned. The history of the LPD project is a long one. Originally *Fearless* and *Intrepid* were scheduled for disposal as part of the 1981 defence review. They went on to play a key role in the Falklands War and were reprieved. In 1986, the MOD announced that it would retain an amphibious capability in the longer term and would replace the two LPD when they reached the end of their working lives in the mid-1990s.<sup>8</sup> Contracts for project definition were not placed until 1992 and completed in 1994, a year later than intended. Invitations to tender were then issued to VSEL and Vosper Thornycroft in that year. In 1995, it was announced that only VSEL would bid and that the project would be negotiated on a No Acceptable Price No Contract (NAPNOC) basis. As an attempt to save money, the design was apparently altered and reduced from 15,000 tons.<sup>9</sup>

*Intrepid* is thought to be barely seaworthy. *Fearless* was able to participate in Operation Purple Star, spring exercises held off the US Atlantic coast, but allegedly broke down on the way from the UK. Press reports suggest that some £40m has been spent to keep the two LPDs on the active list.<sup>10</sup> In response to such criticisms, the MOD has denied that *HMS Fearless* suffered "any great difficulty" during the exercise. Mr Arbuthnot declared, "She is doing very well and is in a better material state than she has been for very many years".<sup>11</sup> However, the MOD has confirmed that maintenance of *HMS Fearless* cost £32m over the last year and that an additional £33m has been spent on *HMS Intrepid* which has been in extended readiness (mothballed) since 1989.<sup>12</sup>

In 1993, commenting on the delay in procuring LPD replacements, the Defence Committee remarked, "For the next five years, Britain's amphibious intervention capability will be threadbare, with potentially serious implications for the United Kingdom's peacekeeping and intervention forces".<sup>13</sup> Given that the first replacement LPD may not enter service until 2001 or even later, the situation remarked on by the Committee may last for eight years or more.

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<sup>7</sup> HC Deb 27 June 1996, c. 248w

<sup>8</sup> Defence Select Committee Fourth Report, *United Kingdom Peacekeeping and Intervention Forces*, HC 188, Session 92/93, Para 29

<sup>9</sup> *Navy International*, December 1993, p.352 and *Jane's Fighting Ships 96/97*, pp.772-773

<sup>10</sup> *The Observer*, 19 May 1996

<sup>11</sup> HC Deb 11 June 1996, c.102-103

<sup>12</sup> HC Deb 18 March 1996, c.67w

<sup>13</sup> HC 188, Para 29

### B. The Replacement Maritime Patrol Aircraft

An invitation to tender was issued in January 1995 for a replacement of the venerable RAF Nimrod maritime patrol aircraft. Tenders were issued for between 12-25 aircraft to enter service between 2001 and 2005 at a cost of some £2bn. Initially, there were four bidders; British Aerospace offering an upgrade of the existing Nimrod (Nimrod 2000); the US company Lockheed offering new Orion Maritime Reconnaissance (MR) aircraft (Orion 2000); the US company Loral offering remanufactured ex-USN Orion aircraft (Valkyrie); and the French company Dassault offering new Atlantique MR models. Dassault subsequently dropped out of the competition.

Both US-led consortia had substantial British participation. The Orion 2000 included a Tactical Command System provided by GEC, while the Valkyrie airframe would have been refurbished by Marshall of Cambridge; many other UK companies were included. Conversely, the BAe bid was reliant on a Tactical Command System produced by Boeing and initially was open as to whether it would be equipped with Rolls Royce or US General Electric engines. Each bidder included the usual offsets for foreign participation. Lockheed took over Loral earlier in 1996, although this does not appear to have affected the presentation of two bids by the now unified corporation.

All three bids had their attractions. The Loral Valkyrie would seem to have been the cheapest contender. The Orion 2000 benefitted from having a new airframe, and would assist GEC in maintaining a lead in electronics. Although it is based on an original 1950s design, the Orion has been very successful, long dominating the world maritime patrol aircraft market. The Nimrod 2000 would help one of the UK's most important industrial companies.<sup>14</sup>

The Nimrod 2000 became the MOD's preferred option and was indeed chosen in July.<sup>15</sup> After deliberation, the RAF opted to procure 21 aircraft i.e. four fewer than the original maximum requirement. Currently, the RAF maritime patrol force consists of 26 Nimrod aircraft, 23 in front-line units and 3 used for training. Further Nimrods are in store.<sup>16</sup> Some of these spare airframes will be handed over to BAe for conversion to allow for front-line strength to be maintained. The new Nimrod 2000s will be delivered progressively starting from 2002. Although physically the Nimrod 2000 will resemble its predecessor, the aircraft will effectively be new with 80 per cent of the airframe freshly built, new engines and mission systems.<sup>17</sup>

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<sup>14</sup> G. Palocz-Horvath, 'Britain's RMPA Dilemma', *Military Technology* April 1996

<sup>15</sup> *The Financial Times*, 24 June 1996 and HL Deb 25 July 1996, c.WA 64

<sup>16</sup> *SDE 96*, Annex D

<sup>17</sup> C. Beal, 'Nimrod 2000 to Spearhead UK Airborne Maritime Patrol', *International Defense Review*, September 1996 and *Military Technology*, August 1996



The project will be managed by BAe as prime contractor responsible for systems integration and the airframe. However, negotiations have not yet been concluded and a contract, for a value of between £1.8-£2.2bn, may not be signed until the end of the year. Part of the reason for the delay may relate to the belated involvement of GEC in the Nimrod 2000 which seems to have been engineered in order to increase UK industrial participation. GEC will now work with Boeing on the Tactical Command System yet the modalities of this relationship appear yet to be resolved. Rolls Royce will provide the engines and Racal its Searchwater 2000 MR radar.<sup>18</sup> The latter may also be chosen for the Sea King AEW upgrade, offering the prospect of some commonality. The Nimrod 2000 order will support some 2,600 jobs in the UK directly. Offsets to the full value of the overseas components will be given to UK companies.<sup>19</sup>

The RMPA competition appears to have narrowed to a choice between the Orion 2000 and the Nimrod 2000. In cost and performance, both aircraft were apparently very similar. The deciding factors may have been the possible strategic industrial benefits of Nimrod 2000 and, despite the role of Boeing, its place as the 'British' bid. The Nimrod 2000 order is valuable to BAe in two ways in particular. Firstly, Nimrod 2000 construction will help to fill the gap in BAe production lines created by the delay in the EF2000 project. Secondly, the contract will allow BAe to maintain a position as prime contractor of large defence projects requiring extensive systems integration. However, one attraction of the Orion 2000 bid was that it would have allowed UK participating companies access to potential Orion export orders. Lockheed suggested that some 250 Maritime Patrol Aircraft would need to be replaced over the next 20 years, creating up to £4bn in potential orders for UK industry. Although there may be a possible market for the limited number of remaining ex-RAF Nimrod airframes upgraded to Nimrod 2000, the export potential would seem tiny in comparison. On the other hand, many existing maritime patrol aircraft operators may follow the British, Australian and Canadian examples and upgrade their current planes rather than procure new models. In this case, BAe may be able to market aspects of the Nimrod 2000 design and systems abroad.<sup>20</sup>

Of the procurement decisions announced on 25 July, the Replacement Maritime Patrol Aircraft has perhaps the most straightforward military justification. The Nimrod first entered service in the 1960s, indeed the design is based on that of the Comet civilian jet which first flew in 1949, and the aircraft cannot continue in service for much longer without replacement or refurbishment. During the Cold War, the Nimrod played an important role in tracking and potentially attacking Soviet submarines in the North Atlantic. It also monitored Warsaw Pact surface naval vessels and civilian shipping. (During the Cold War, a large number of Soviet merchant ships and trawlers were also used for spying). With the end of superpower antagonism, the number of Russian warships entering the North Atlantic via either the Baltic or North Cape has declined. Indeed, large sections of the Russian fleet are mothballed due

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<sup>18</sup> *ibid*

<sup>19</sup> HL Deb 25 July 1996, WA 64

<sup>20</sup> 'Maritime Patrol Aircraft Briefing', *JDW* 2 October 1996

to fuel and crew shortages. Despite this, the Russian fleet retains significant combat potential which could be enhanced and deployed should relations between Moscow and NATO deteriorate in the longer term; the RMPA is likely to remain in service until 2030. More importantly, one area where Russia retains a military edge is in submarine technology which in some cases is in advance of US and UK capabilities. It would seem in the UK's interest to monitor such developments. In addition, Russian ballistic missile submarines, although no longer targeting the UK, still patrol in the Atlantic and may also require watching. It should also be pointed out that submarines are being operated by an ever larger number of navies. Iran now operates modern Russian submarines and submarine technology is proliferating throughout the Far East. There may therefore be a requirement for Britain to retain a strong airborne ASW capability beyond the NATO area.

The Nimrod has also had a number of additional dual military/civil applications. The most obvious is in terms of co-ordinating long-range air-sea rescue and assisting with the aftermath of maritime disasters, such as the Piper Alpha explosion. Nimrods have also been used to help monitor the implementation of sanctions against the Former Yugoslavia. In short, for a state with a long coastline and dependent on sea lanes for its economic wellbeing, the UK does require a number of new maritime patrol aircraft, although there might be dispute as to the requisite technical capabilities and cost.

### **C. The Conventionally Armed Stand-Off Missile**

Also announced in July was the result of the competition for the Conventionally Armed Stand-Off Missile (CASOM). Originally, there had been seven contenders for this £750-£800m contract.<sup>21</sup>

Three contenders were predominantly American. The US company Hughes, teamed with Smith Industries of the UK, offered the Airhawk, an air-launched variant of the Tomahawk cruise missile. This was originally a ship- or submarine-launched weapon which was used during the Gulf War and also in air strikes against Bosnian Serb targets last year and against Iraq over the summer. It has recently been procured for installation in Royal Navy submarines. However, it was also believed to be one of the more expensive options. McDonnell Douglas put forward a variant of its Harpoon missile, called Grand Slam, in partnership with the UK companies GEC, Hunting and Lucas. Harpoon was another sea-launched missile and is already fitted to RN submarines. Finally Texas Instruments proffered the Joint Stand Off Weapon or Griffin with some involvement of Shorts of Belfast. There were three European contenders: the British Aerospace Dynamics with Storm Shadow (based on the French Matra Apache missile); an advanced variant of the all British GEC-Marconi

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<sup>21</sup> *Military Technology*, August 1996

Pegasus; and the German Daimler Benz-Swedish Bofors KEPD 350 or Taurus. The latter consortium also included some UK participation. Finally, the Israeli company Rafael was allowed to bid its domestically-designed Popeye missile.<sup>22</sup>

Of all the contenders, only BAe and DASA/Bofors were asked to clarify their bids.<sup>23</sup> The winning consortium was BAe with the Storm Shadow, although a contract and the exact price are still "subject to the negotiation of satisfactory terms".<sup>24</sup> The Storm Shadow will be built in the UK but development and production can be combined with French Apache manufacture, authorized in July.<sup>25</sup> Full value offsets for any work placed abroad have been obtained. 1,600 jobs will be sustained as a consequence of the order.<sup>26</sup>

Of the three RAF weapons projects considered in July, CASOM was politically the most significant. Whilst most CASOM bids apparently offered similar military capabilities, each contender met different politico-economic criteria. Although it is suggested that the German-Swedish KEPD-350 was preferred on purely military grounds, this consortium lacked a large UK industrial participant and was weak politically. The leading European contender, the Storm Shadow, matched most closely the government's desire to promote European defence industrial cooperation. It helped to secure the as yet unconsummated marriage of the BAe Dynamics and Matra missile businesses, part of a consolidation of European defence industry which is regarded by many as overdue in order to compete with the big US battalions. Given the apparent damage that previous large British defence orders from the USA have done to Franco-German aspirations for closer European defence procurement co-operation, a Storm Shadow order could act as a counterbalance. As the MOD stated, the contract "will strengthen British Aerospace's ability to play a leading role in a restructured European industry".<sup>27</sup> The order may also help smooth British membership of the European (currently Franco-German) Armaments Agency which in principle it has agreed to join as well as increasing commonality in European defence equipment.<sup>28</sup>

The extent of the European imperative behind the Storm Shadow contract may be indicated by failed US attempts at lobbying for the order. The US missiles offered the possibility of winning a US government order for a CASOM equivalent which might be ten times as large as the MOD contract and would thus secure huge subcontracting orders for a partnering UK company. McDonnell Douglas allegedly wrote to the MOD confirming that it had been

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<sup>22</sup> *The Times*, 25 June 1996 and D. Richardson, 'CASOM: A Long Arm for the Royal Air Force', *Military Technology*, April 1996

<sup>23</sup> *The Financial Times*, 24 June 1996

<sup>24</sup> HL Deb 25 July 1996, WA63

<sup>25</sup> *Military Technology*, August 1996

<sup>26</sup> HL Deb 25 July 1996, WA 63

<sup>27</sup> HL Deb 25 July 1996, WA 63

<sup>28</sup> HC Deb 19 June 1996, c.834 and 'UK CASOM Key to European Stand-Off Missile Acquisitions', *International Defense Review*, May 1996

awarded the US DoD contract to develop a US CASOM. It was thus able to cut the price of its tender, suggesting that Storm Shadow may not have been the cheapest option.<sup>29</sup>

The requirement for CASOM arose in essence from lessons derived from the Gulf War. During the 1980s, RAF doctrine centred on preparation for war with the Soviet Union involving, firstly, the air defence of the UK over the North Sea, and secondly, a low-level counter air offensive chiefly against Warsaw Pact airfields. Using the technology of the time, the MOD developed the JP233 for the latter role, a weapon which had to be released over the target, making the attacking aircraft vulnerable to air defences concentrated around it. During the Gulf War, the RAF applied its low-level attack tactics against Iraqi airbases, despite the bewilderment of US military leaders who were unwilling to expose their aircraft and aircrews to similar risks. The British tactic has subsequently been much criticized.<sup>30</sup> Whatever their effectiveness, the RAF suffered the highest percentage casualties of any allied air force in the conflict, losing a total of eight aircraft. During the campaign, the RAF switched to less costly medium altitude attacks using stand-off weapons. Again during Operation Deliberate Force, the NATO air offensive against the Bosnian Serb Army in August/September 1995, the RAF used stand-off tactics.

Stand-off tactics involve the use of a laser target designator aircraft accompanied with other planes carrying laser-guided bombs. In 1994, the RAF ordered new Paveway II laser-guided bombs which have recently been delivered.<sup>31</sup> However, CASOM is intended to move the attacking aircraft even further from the objective. A missile fired from 200km away is pre-programmed to strike an important target. This reduces the vulnerability of the attacking aircraft. As successive generations of aircraft have become more expensive, air forces have become smaller and there is a growing premium on protecting aircraft. There is a new imperative to use them as platforms from which to launch weapons. The unit production cost of each Eurofighter 2000 is now estimated to be over £38m.<sup>32</sup> By contrast each CASOM, which would be used on a selective basis, could cost about £600,000.<sup>33</sup> The RAF may order 1,000 missiles with some £200m being spent on placing the system on fighter aircraft. CASOM will enter service in 2001 and will equip Tornado GR4s, Harrier GR7s and then EF2000 as it comes into service.<sup>34</sup>

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<sup>29</sup> *The Independent*, 25 June 1996

<sup>30</sup> see for example, John Keegan in *The Daily Telegraph*, 4 January 1996

<sup>31</sup> *SDE 95*, Para 428 and *The Times*, 25 June 1996

<sup>32</sup> NAO, *Ministry of Defence: Major Projects Report 1995*, HC 677, Session 95-96, p.116

<sup>33</sup> *The Financial Times*, 3 April 1996 and *The Times*, 25 June 1996

<sup>34</sup> *Military Technology*, August 1996

## D. The Advanced Air-Launched Anti-Armour Weapon

The last major procurement project announced in July was winner of the competition for the Advanced Air Launched Anti-Armour Weapon (AAAW), intended to replace the BL755 cluster bomb. This is intended to be fitted to Harriers and Tornado bombers and will later arm EF2000s.<sup>35</sup> The five contending companies were BAe (with Typhoon, also involving the US company Hughes), GEC Marconi (with Brimstone a version of the US Hellfire missile), Hunting (with Swaarm 2000, also involving Boeing and Daimler-Benz), Texas Instruments/Shorts (with another version of the Joint Stand Off Weapon) and Thompson Thorn (UK/French).<sup>36</sup> The leading contenders emerged as GEC and Hunting.

The various bidders were divided between utilizing single-shot missiles or dispensers ejecting multiple warheads. The former and GEC bid would appear most useful in a limited war, such as in Bosnia, where pin-point accuracy might be needed to destroy individual tanks and armoured vehicles without incurring collateral damage. The Hellfire missile will also be used by Army Apache helicopters, perhaps allowing some efficiency in spares support, etc. The dispenser (Hunting) concept would seem more appropriate for attacking large armoured or mechanized columns in a more high intensity conflict. While opinion pointed towards to Hunting being the favoured company, in the end the allegedly more expensive GEC Brimstone was chosen.<sup>37</sup> The contract may be worth some £725m but again negotiations have yet to be completed.<sup>38</sup>

The military justification for AAAW is more controversial than that for CASOM. Some argue that it looks very much like a Cold War relic. Conventional NATO thinking from the 1950s to the 1980s was dominated by the perceived threat of massed Warsaw Pact tank invasions of West Germany. The first AAAW requirement was identified over a decade ago, probably with this threat in mind. Subsequently, it has been twice cancelled as a cost saving measure.<sup>39</sup> During the Gulf War, coalition forces for the first time actually encountered Soviet-style mass tank formations. However, such attacks could be broken up by a number of means: by anti-tank missiles; by direct and indirect tank or artillery fire; by using MLRS, the Army's Multiple Launch Rocket System; by existing air-launched bombs; and more significantly, by Hellfire missiles fired by US Apache helicopters. Last year, the MOD decided to procure 67 Apache helicopter gunships at a cost of £2.5bn.<sup>40</sup> Thus, the Army's Apache helicopters and the AAAW appear intended to perform very similar and overlapping roles. A military commander is obviously keen to retain a series of potentially duplicating

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<sup>35</sup> *JDW*, 17 June 1995

<sup>36</sup> HC Deb 26 March 1996, c.468w

<sup>37</sup> *The Financial Times*, 20 June 1996 and 4 April 1996

<sup>38</sup> *SDE 96*, Para 425 and HL Deb 25 July 1996, WA 64

<sup>39</sup> *The Financial Times*, 4 April 1996

<sup>40</sup> HC Deb 13 July 1995, c.1091-1102 and *Jane's Defence Weekly*, 2 September 1995

weapons systems as an insurance policy against the unavailability of one or more. Going back to the aircraft as weapons platform argument, the addition of AAW to the RAF Harriers would greatly increase their flexibility. Fixed-wing aircraft also have the major advantage of speed and range over attack helicopters and ground-launched weapons. However, the AAW is launched close to its target. Taking the logic of CASOM, it is questionable whether expensive aircraft should be exposed at such close quarters to opposing anti-aircraft defences.<sup>41</sup>

### E. Eurofighter 2000 - Finally to enter production?

The main feature of the RAF's procurement programme is the Eurofighter 2000, which remains "the cornerstone of the RAF's future air combat capability".<sup>42</sup> A quadrilateral project involving Britain, Germany, Italy and Spain, EF2000, originally the European Fighter Aircraft, has been beset with technical and political problems. The aircraft was originally conceived in the early 1980s in the climate of the Cold War as an air superiority fighter to challenge advanced Soviet aircraft. An MOU on development was signed in 1988. This was intended to lead to the aircraft entering service in 1998. Technical problems with the aircraft's flight control system (the jet is intrinsically unstable and can only fly with the assistance of computers) were exacerbated by overcomplex and bureaucratic management procedures. Both factors have contributed to delay in the project.

Politically, the plane has faced particular opposition in Germany where it is seen by many as a costly Cold War anachronism. Since 1990, the German defence budget has been cut repeatedly, partly in order to fund the costs of German reunification. Internal German political hostility culminated in the German government suspending its role in EFA development in 1992. Only after tough negotiation was Bonn kept in the programme. An agreement in December 1992 led the four partners to reconfigure and stretch out the project.<sup>43</sup> Whilst the UK would receive the most advanced version, the newly renamed Eurofighter 2000 would enter *Luftwaffe* service with some of its more expensive equipment removed or replaced by off-the-shelf systems. Britain and Italy, with the most pressing air defence need, would receive their aircraft first; Spain and Germany thereafter. Ironically, the implementation of the changes arising from the redesign have contributed to additional delays and costs.<sup>44</sup> The cost to the UK of the development phase of the project is now £4123m, £1253m or 40 per cent beyond the original MOD estimate of £2870m.<sup>45</sup>

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<sup>41</sup> *Military Technology*, August 1996

<sup>42</sup> HC Deb 14 February 1995, c. 613w

<sup>43</sup> Research Note 82/62, *The European Fighter Aircraft: A German Withdrawal?*, June 1992 and Research Note 92/92, *The European Fighter Aircraft: The End or a New Beginning*, November 1992

<sup>44</sup> Germany and Spain, having opted out of the EF2000 Defensive Aids System, have now rejoined this segment of the overall project on discovering that off-the-shelf replacements were both more expensive and less capable (*Military Technology*, August 1996, p. 63).

<sup>45</sup> NAO, *MOD: Major Projects Report 1995*, HC 677, Session 95-96, August 1996, p.115

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In January 1996, the British and German government resolved their dispute over production workshares which had threatened again to disrupt the EF2000 project. The original production shares were predicated on national off-takes of the entire production run. Germany indicated that it would buy 250 EF2000s out of the total of around 750. It was thus tentatively awarded 33 per cent of production work. Bonn then reduced its order to 140 aircraft. Italy reduced its offtake from 165 to 120 and Spain from 100 to 87. In contrast, Britain maintained its original requirement for EF2000. On a proportional basis, the UK would then have been allocated over 40 per cent of production work while Bonn's share would fall to 23 per cent. Germany insisted that it be given 33 per cent of production work as originally suggested.

The Anglo-German agreement involved Britain reducing its outline order from 250 to 232 aircraft while Germany increased its order from 140 to 180 units. The workshares were readjusted to give Britain 38 per cent and Germany 30 per cent. The increased workshare is worth an additional £1bn to British industry.<sup>46</sup> Italy is to procure 121 aircraft and Spain still 87.

To coincide with the Farnborough Air Show, the Secretary of State for Defence revealed that the UK was prepared to proceed with Eurofighter production. His announcement had been expected following the earlier outline agreement with Germany on workshares and the resolution of most management and technical difficulties surrounding the programme. The flight control system, managed jointly by DASA, BAe and GEC, is now operating to plan. The ECR 90 radar has also been tested successfully and should be tested on an EF2000 prototype later this year.<sup>47</sup> Perhaps more importantly "test pilots and engineers at the Defence Evaluation and Research Agency at Boscombe Down, as well as their German counterparts at BWB (Bundesamt for Wehrtechnik und Beschaffung) are unanimous in their praise for the aircraft and its flight characteristics".<sup>48</sup>

The total cost of 232 aircraft will be £15.3bn. The unit production cost of each Eurofighter was estimated to be £38.5m in August 1996.<sup>49</sup> The EF2000 order will secure 14,000 jobs mainly with BAe and Rolls Royce. Critics pointed out that this amounted to some £1m per job and suggested that whilst a Treasury minister, Mr Portillo had allegedly sought to persuade the MOD to withdraw from the EFA programme.<sup>50</sup>

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<sup>46</sup> *The Financial Times*, 19 January 1996

<sup>47</sup> N. Cook, 'EF 2000 awaits next pledge of support', *JDW*, 31 July 1996

<sup>48</sup> C. Beal, 'Is Eurofighter Over the Hump?', *International Defense Review*, September 1996

<sup>49</sup> The NAO estimated the cost of 250 aircraft (production, integrated logistic support, simulators and training aids) to be £11,300m (HC 677, p.116)

<sup>50</sup> *The Independent* and *The Guardian*, 3 September 1996

Deliveries to RAF training squadrons will commence in 2001. Production will continue at a slow rate of 20 per annum until 2014. EF2000s will replace Tornado F2s from 2003 and Jaguars in the close air support role from 2006. There is still the prospect that the MOD might eventually purchase perhaps an additional 70 EF2000s to replace Harriers GR7s. This would thereby reduce its front-line fast jet fleet to only two types, the EF2000 and Tornado bombers, currently being upgraded to GR4 standard. If an attrition buy is included this could lead to additional orders in excess of 100 aircraft. This will keep the EF2000 production line in the UK open longer than expected and have the byproduct of making BAe more able to meet export orders.<sup>51</sup> A new 'Stealthy' EF2000 may also provide one candidate for the RAF's Future Offensive Aircraft project, which is intended to replace the Tornado from 2015.<sup>52</sup>

The MOD announcement on British willingness to proceed with production is however still provisional since a full production and investment decision requires the consent of all four partners. A Production and Investment MOU is not expected until February 1997. Significantly, it is dependent on German parliamentary approval both for German EF2000 production expenditure and the January 1996 workshare agreement. If the PI decision is not made by late 1996 or early 1997, the EF2000 schedule will be further delayed.<sup>53</sup>

The German MOD is currently facing severe financial curbs. In 1991, the German defence budget totalled DM53bn. By 1996 it had fallen to DM48.2bn.<sup>54</sup> In order to meet the criteria for EMU, the German Finance Ministry demanded a programme of budget cuts of some DM50bn in advance of agreement of the 1997 budget. Theo Waigel, the Finance Minister, suggested that the defence budget should be cut by DM1bn in 1997 and by a further DM11bn by the end of the century.<sup>55</sup> After negotiations, the defence budget for 1997 was cut to DM46.6bn but the longer term cuts were reduced to DM7bn.<sup>56</sup>

With operating costs relatively fixed, the only way to obtain such long term savings is from the procurement budget, causing the German Defence Minister again to review the EF 2000 as well as other large multinational projects. Despite this, the domestic political and industrial reasons which influenced the German decision to remain in the EF2000 project in the past would seem likely to secure future German participation. Most notably, the German aircraft will be assembled and jobs preserved in Bavaria, political home of the CSU party and coalition government member. The German Finance Minister is a CSU member. Thus the latest German problems with EF2000 are largely financial rather than political. Germany is unlikely to withdraw from the project for a second time, but "it is feared that no money - at

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<sup>51</sup> D. Smith and E. Bonsignore, 'Eurofighter - Where Do We Stand?', *Military Technology*, August 1996

<sup>52</sup> *Flight International*, 21 August 1996

<sup>53</sup> *SDE 96*, 'EF2000 moves closer to last major hurdle' *JDW*, 8 May 1996 & 'EF2000 awaits next pledge of support', *JDW*, 31 July 1996)

<sup>54</sup> *The Financial Times*, 29 May 1996

<sup>55</sup> *The Guardian*, 2 July 1996

<sup>56</sup> *Frankfurter Allgemeine Zeitung*, 9 July 1996



least, no significant money - will be available next year to finance the industrialisation [PI] phase. Given that a production order is anyway to be placed before the end of the year, this would require some form of highly creative financing".<sup>57</sup>

## II Conclusion of the Comprehensive Test Ban Treaty - without India

### A. The end of the negotiations

A Comprehensive Test Ban Treaty (CTBT) has been the declared goal of many states and arms control proponents for many years, but only with the end of the Cold War did it become a practical prospect. Negotiations began early in 1994 under the auspices of the UN Conference on Disarmament and concluded with the adoption of a draft text in August 1996.

A legally binding international agreement not to carry out test explosions of nuclear devices would have obvious environmental benefits, even if, as some governments still claim, the risks associated with careful testing are very low, but the main intended effect is to end the continuous competitive development of ever more sophisticated or destructive nuclear weapons and to place further obstacles in the way of nuclear proliferation.

Three of the nuclear weapon states, the USA, Russia and the UK, have observed a moratorium on nuclear testing since 1992 and announced their intention to proceed to signature of a CTBT without carrying out further tests. China and France continued to test while the detailed negotiations began, but France ceased early in 1996 and China in the summer.

China eventually dropped its demand that peaceful nuclear explosions (ie for civil projects, such as tunnelling and river diversion) should still be allowed under the treaty. These were permitted under the Non-Proliferation Treaty, but have not taken place anywhere in the world since the Soviet Union ended its programme in 1987. The USA dropped its insistence that certain low-yield "laboratory" experiments should still be permitted.

China was also resisting the idea that some of the verification mechanisms, including on-site inspections could be triggered by information gathered by "national technical means" (ie satellites and sensors belonging to particular countries) and preferred that such inspections could only take place on the basis of decisions taken under the international system of

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<sup>57</sup> D. Smith and E Bonsignore, 'Eurofighter - Where Do We Stand?', *Military Technology* August 1996

verification. Other countries wanted to rely to a greater extent on national technical means because this would reduce the need to put in place a very expensive verification system under international control. Eventually a compromise was agreed whereby on-site inspections can only be triggered by a three-fifths majority of the 51-Member Executive Council which will administer the verification arrangements.<sup>58</sup>

While these issues were important, they finally proved to be amenable to negotiation and compromise on the part of the five nuclear weapon states. In the end it was the terms on which the three threshold nuclear weapon states - India, Israel and Pakistan - were prepared to support the treaty which turned out to be the greatest stumbling block. Of these, India conducted a single nuclear test in 1974 and is believed to have contemplated another, Israel is known to have a small nuclear arsenal and may have conducted a covert test in 1979, and Pakistan is committed to matching India's capability for deterrence purposes, should the need arise.

At the close of the Conference on Disarmament session on 28 June 1996 there was deadlock over the "entry into force" provisions of the draft treaty. The UK had been one of many states which advocated making the entry into force of the new treaty dependent on the ratifications of the three "threshold" states as well as all five declared nuclear weapon states. This view was also held by both Russia and China. The USA and France supported this view at some points in the negotiation but both at other times seemed prepared to be more flexible and to rely on diplomatic pressure to bring India on board. India is the key to this issue, because Pakistan would comply provided that India did so, and Israel also seems happy to sign because this might help to prevent future proliferation to states such as Iraq, Iran or Egypt.

At the end of May 1996 the Conference chairman, Ambassador Ramaker of the Netherlands, had proposed a solution based on a British idea - all eight declared and threshold nuclear states would have to ratify before entry into force, but they would not be singled out as such. Instead the treaty would require 44 named states with advanced nuclear facilities to ratify before entry into force - a list which includes the "five" and the "three". India had campaigned for nuclear disarmament for many years and had supported a CTBT, but it had also argued that there should not be discrimination against developing countries. Rather than seeing the Non Proliferation Treaty (NPT) and the CTBT entrench the positions of the nuclear weapon "haves" and "have-nots" it wanted a firm commitment in the CTBT to complete nuclear disarmament. On this issue Ambassador Ramaker engineered a compromise which referred to the ultimate goal of eliminating nuclear weapons in the treaty preamble in language very similar to the statement adopted in 1995 on the extension of the NPT. The preamble indicated that the test ban would be a step in this direction, but it did not make total

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<sup>58</sup> *Disarmament Diplomacy*, July/August 1996, 11

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nuclear disarmament a formal objective of the new treaty or set a time-table, as India had demanded.<sup>59</sup>

Most of the non-nuclear-weapon states in the negotiation were prepared to accept this, but on 20 June 1996 the Indian representative announced in absolute terms that her country would not sign the treaty on this basis. The ultimatum was ostensibly based on the unwillingness of the nuclear powers to take firmer steps towards disarmament, but it was also clear that the present Indian government does not want to abandon its nuclear option at this stage. The main opposition, the Bharatiya Janata Party or BJP has openly advocated a further Indian test explosion. Rebecca Johnson commented:

Despite its rhetoric, India appeared unwilling to work with its non-aligned colleagues to strengthen the treaty's preamble by confronting France, Britain and the United States with a co-ordinated proposal. This appeared to confirm the growing view that India is less interested in getting a good treaty than in pandering to a strident sector of domestic opinion that wants India to demonstrate its nuclear capability, thereby maintaining an illusion that India can keep its nuclear options open even if others sign a CTBT.<sup>60</sup>

Further negotiations in August failed to break the deadlock and the Conference found itself unable to transmit the treaty by consensus to the UN General Assembly because of the strong objections lodged by India, and also, on similar grounds, by Iran. Instead the treaty text was referred to the General Assembly on the initiative of a group of 127 states led by Australia and adopted there on 16 September by 158 states to three, with 24 abstaining or absent. The three states voting against were India, Bhutan and Libya.<sup>61</sup> Signature of the treaty began on 24 September with President Clinton signing for the USA and Foreign Secretary Malcolm Rifkind for the UK.

The refusal of India to sign or ratify the CTBT means that it cannot enter into force under the provisions of Article XIV. Without India, Pakistan is also unlikely to ratify, as is Iran. All three states are on the list of 44 states which must ratify before the treaty enters into force. If the treaty has not entered into force three years after the opening for signature (ie by September 1999) a conference will be convened and will meet annually thereafter to consider measures to accelerate the process of ratification.

In the mean time the fact of signature alone creates some obligations for the signatories, including the five nuclear-weapon states. There is a customary view in international law that

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<sup>59</sup> *Disarmament Diplomacy*, May 1996, 20

<sup>60</sup> *Disarmament Diplomacy*, June 1996, p12. See also *Disarmament Diplomacy*, July/August 1996, 48 and Z. Mian & A. H. Nayyar, "A Time of Testing?", *Bulletin of Atomic Scientists*, July/August 1996.

<sup>61</sup> *Jane's Defence Weekly*, 18 September 1996, 5

states which have signed but not ratified a treaty should refrain, as a matter of good faith, from acts which would undermine the value of the treaty. Once they have ratified a treaty, but are waiting for the ratifications of other states to bring it into force, states are bound by Article 18 of the Vienna Convention on the Law of Treaties not to act in ways which would defeat the object of the treaty. This obligation fades only if there is undue delay in the treaty coming into force.<sup>62</sup> If the treaty is ratified by a large number of states, but still does not enter into force it could, in time, be deemed to express rules of customary international law which would be binding on all states, including non-signatories. President Clinton said on signing the treaty that "the signatures of the world's five declared nuclear powers... will immediately create a norm against nuclear testing, even before the treaty formally enters into force."<sup>63</sup>

During the final stage of negotiations Ambassador Ramaker assured India that the measures which might be proposed by the conference likely to be convened in 1999 would not include UN Security Council sanctions against non-signatories. However, this is not to say that India would not face sanctions or other Security Council measures if, despite the near universal support for the CTBT, it were to carry out another nuclear weapon test. Given the danger of a nuclear arms race developing between India and Pakistan the Security Council might well decide that such a test constituted a "threat to the peace" under Chapter VII of the UN Charter and act accordingly.

## B. Implications for the UK

Work on the Trident warhead was completed before the moratorium on nuclear testing took effect. It has been reported that the UK planned to carry out at least three more tests during 1992-6, probably in connection with the now cancelled TASM and proposed safety devices, but these fell victim to the US decision to introduce and then extend the moratorium. The last British test was held at the Nevada test site in the USA in 1991. Previously there had been on average, one British test at Nevada each year throughout the 1980s.

Official thinking on the need for nuclear tests has undergone a significant evolution. During most of the 1980s the view of the British government was that a comprehensive ban would eventually be desirable, but that in the short term testing was essential to maintain deterrence and safety. As recently as 1993 the Government still believed that only live testing could ensure the safety and reliability of nuclear weapons and that it could not yet be certain that simulation techniques could provide an adequate substitute.<sup>64</sup> However, the Clinton administration was persuaded that the Russian willingness to outlaw testing provided a unique

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<sup>62</sup> *Oppenheim's International Law*, Ninth edition, 1239

<sup>63</sup> *Jane's Defence Weekly*, 2 October 1996, 3

<sup>64</sup> HC Debates, 5 July 1993, c.24

opportunity to halt the nuclear arms race. The Russians had been forced to stop testing new warheads because their test site was in now-independent Kazakhstan and they faced great technical and environmental problems and costs in shifting their test activities to an alternative site on their Arctic coast. The Americans were also deeply concerned about the possible proliferation of nuclear weapon-possessing states and hoped that an enforceable world ban would help to limit the number of these to the current five.

By the time that the 1994 *Statement on the Defence Estimates* was published the Government had accepted that future plans would be based on simulation and alternative technologies alone, but it was openly acknowledged that, "Committing ourselves to negotiate a CTBT has not been an entirely easy decision for us".<sup>65</sup>

Thus, assuming that the CTBT is eventually brought into force and the USA does not waver in its decision to maintain the moratorium until then, the UK will have no further opportunity to carry out nuclear tests of any kind and will have to rely on simulation techniques.

The Defence Committee commented on this prospect in its 1995 report on the progress of the Trident programme. It noted the MOD view that a CTBT would constitute a "very severe limitation" in maintaining a nuclear capability and concluded:

We look to MOD to provide the resources to facilitate the widest possible use of existing expertise and facilities at AWE and to pursue with vigour the prospects for future co-operation with appropriate allies in non-nuclear testing.<sup>66</sup>

Co-operation with the USA and France is restricted by the terms of Article 1 of the Non-Proliferation Treaty which prohibits the transfer of weapons or control over nuclear weapons directly or indirectly, but the sharing of technologies designed to test the safety of existing nuclear weapons would be permissible. The UK and USA have a Mutual Defence Agreement (1958, most recently amended in 1994) which provides for the exchange of nuclear weapons information and materials. The USA and France have recently concluded a similar agreement.<sup>67</sup>

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<sup>65</sup> Cm 2550, p20, para 4. The technical arguments surrounding the testing issue were summarised in Nuclear Testing and the UK, Library Research Paper 93/73 of July 1993. An official witness told the Defence Select Committee in March 1995 that "if the moratorium were lifted and the United States started testing again we would wish to test as well because as we discussed last year the only way that a nuclear physicist really knows that what he is doing is correct is by carrying out an experiment to prove it", HC 350 of 1994-95, p.9, Q1515.

<sup>66</sup> *Progress of the Trident Programme*, Eighth report of the Defence Committee, HC 350 of 1994-95, para 25.

<sup>67</sup> *The Times*, 18 June 1996

### III Legality of nuclear weapons

On 8 July 1996 the International Court of Justice announced its findings in two cases concerning the legality of nuclear weapons which had been referred to it for advisory opinions. In one case the Court delivered a long and complex opinion on the use or threat of use of nuclear weapons; in the other it explained its reasons for declining to give any opinion on the health and environmental effects of nuclear weapons. The findings represented the culmination of a long campaign by a group of international non-governmental organisations to have nuclear weapons declared illegal.<sup>68</sup>

#### A. International humanitarian law

International humanitarian law has developed over a long period and one of its principal aims has been to limit the harm caused in time of war to civilians and other non-combatants, such as wounded soldiers and prisoners of war. Even as regards combatants, the Hague Regulations of 1907 (Article 22) acknowledged that "the right of belligerents to adopt means of injuring the enemy is not unlimited". After both the first and second world wars there were sustained efforts by large numbers of governments, encouraged by the International Committee of the Red Cross and other voluntary bodies, to codify humanitarian rules and give them a legal framework. The main body of current international humanitarian law is contained in the Hague IV Convention of 1907, the four Geneva Conventions of 1949, two additional protocols of 1977 to the latter, and the Inhumane Weapons Convention (1980 and subsequent protocols). The Hague and 1949 Geneva Conventions are now regarded as having passed into customary international law and are therefore binding on all states, whether or not they have duly signed and ratified the relevant agreements.

The main burden of these agreements is that states involved in armed conflicts should ensure that their military activities discriminate effectively between combatants and non-combatants and be prepared to enforce the agreed rules by legal as well as administrative means. Both the development of massive aerial bombardment as a military strategy in the 1930s and the invention of nuclear weapons in the 1940s posed obvious challenges to this approach. The post-war agreements avoided referring to nuclear weapons and in some cases where reference was made directly or indirectly to indiscriminate attacks, for example in the Additional Protocol I of 1977, the nuclear weapon states explicitly reserved their position on nuclear weapons.

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<sup>68</sup> For the background to this campaign see M. Moore, "World Court says mostly no to nuclear weapons", *The Bulletin of Atomic Scientists*, September/October 1996, 40.

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There has long been disagreement over the extent to which international law might serve as an agent for nuclear disarmament. Anti-nuclear campaigners have held that a literal interpretation of existing agreements would render any use of nuclear weapons unlawful. The nuclear weapon states have held that an outlawing of nuclear weapons can only come about by the deliberate decision of the states concerned and that it is more helpful to use international law to bolster the restrictions on nuclear weapon possession which have been reached by negotiation, eg the Non Proliferation Treaty, the INF Treaty, the START treaties and the partial test ban treaties.

### B. The questions posed

Against this background the International Court of Justice agreed to give an advisory opinion to the UN General Assembly on the question: "Is the threat or use of nuclear weapons in any circumstance permitted under international law?". It declined to answer the following question posed by the World Health Assembly (the international deliberative body associated with the World Health Organisation): "In view of the health and environmental effects, would the use of nuclear weapons by a State in war or other armed conflict be a breach of its obligations under international law including the WHO Constitution?" It based its refusal on the finding that the question was outside the scope of the activities of the WHO and therefore not within the jurisdiction of the ICJ.<sup>69</sup> It would appear from this that were the question to be asked again by the General Assembly, the ICJ would have no choice but to consider the evidence and give an opinion.

### C. Review of the law

On the first question, the Court reviewed the various instruments of international law which might be interpreted as prohibiting any use of nuclear weapons. It rejected the contention that the International Covenant of Civil and Political Rights has this effect: the affirmation that "No one shall be arbitrarily deprived of his life" turned on the definition of *arbitrarily* and this could only be derived from the more specific laws governing armed conflict.<sup>70</sup> It also rejected the view that the Genocide Convention of 1948 necessarily outlaws the use of nuclear weapons: this would only be so if the use had been guided by an *intent* to destroy a particular population group.<sup>71</sup> It considered also the implications of a variety of international agreements relating to environmental protection and found that respect for the environment was indeed a prime consideration in deciding the necessity and proportionality of any military

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<sup>69</sup> Advisory Opinion, General List No 93, 8 July 1996, 16

<sup>70</sup> Advisory Opinion, General List No 95, 8 July 1996, pp.13-14

<sup>71</sup> *ibid*, 14

act, but did not agree that the agreements were intended to constitute a complete ban on the use of nuclear weapons in self-defence.<sup>72</sup>

Having thus cleared the ground, the Court decided that it must look specifically at the international law of armed conflict and, in particular, the UN Charter. It found that the Charter rules on the use of force in self-defence were not specific to particular weapon systems, but applied equally to any use of force that was not specifically unlawful. It discussed the concept of nuclear deterrence in relation to the Charter and, in a rather convoluted paragraph, found that in some, but not all circumstances a deterrent posture could be regarded as a threat in contravention of the Charter. By implication the action threatened as a deterrent would have to be proportionate, necessary and inherently defensive in order to be lawful.<sup>73</sup>

In looking more specifically at the laws of armed conflict the Court proceeded from the assumption that in general "the illegality of the use of certain weapons as such does not result from the absence of authorization but, on the contrary, is formulated in terms of prohibition", ie in order to demonstrate the illegality of nuclear weapons it would be necessary to find an applicable prohibition, rather than the absence of a specific legal base. The Court reviewed a large and growing body of international treaties banning other weapons of mass destruction, limiting nuclear weapons and testing, and banning nuclear weapons completely in certain geographical areas and concluded that these could be taken collectively to foreshadow a future general prohibition of nuclear weapons, but do not constitute such a prohibition.<sup>74</sup> The Court also examined the large corpus of UN General Assembly resolutions in favour of nuclear disarmament, but found that these were non-binding and insufficiently consensual to constitute an expression of customary international law.

The negative security assurances given to non nuclear states by the five nuclear weapon states, ie assurances that the former would not be threatened or attacked with nuclear weapons provided that they did not associate themselves with attacks by nuclear weapon states, were found by the Court to be legally binding, but they do not, by definition, constitute a general prohibition.<sup>75</sup>

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<sup>72</sup> 14-16

<sup>73</sup> 19

<sup>74</sup> 24, para 62

<sup>75</sup> These assurances were originally given in the form of non legally binding declarations in 1978 and reformulated in 1995 as part of the agreement to extend the Non Proliferation Treaty indefinitely. At the time of the 1995 NPT extension conferences it was widely assumed that the new assurances were not legally binding, but the ICJ appears to have decided otherwise - see George Bunn and Roland Timerbaev, *Security Assurances to Non-Nuclear-Weapon States: Possible Options for Change*, Programme for Promoting Nuclear Non-Proliferation Issue Review 7, September 1996, 3.



The Additional Protocol I of 1977 presented the Court with potentially one of the greatest sources of difficulty and uncertainty about the law on nuclear weapons. This is because the protocol contains in Article 51.4-5 a prohibition on "indiscriminate" attacks, including those which employ a method or means of combat which cannot be directed at a specific military objective or those which employ a method or means of combat the effects of which cannot be limited.<sup>76</sup> The protocol did not refer specifically to nuclear weapons and the specific problems of nuclear weapons were not discussed at the diplomatic conference of 1974-77 which preceded adoption of the text; as noted above, some states made clear that they regarded the protocol as definitely not applicable to nuclear weapons and made reservations to this effect; some, including the UK, USA and France postponed ratification because of concerns about the legal interpretation of the protocol; the British government, having decided in 1993 that in principle it was prepared to ratify the protocol, postponed ratification again towards the end of 1995 because of the uncertainty as to how the ICJ would interpret the text.<sup>77</sup>

### D. The Court's conclusions

In the event the Court has not offered an entirely clear interpretation. In Paragraph 84 of the Advisory Opinion it finds that there is no need to elaborate on the applicability of the protocol to nuclear weapons, because:

all States are bound by those rules in Additional Protocol 1 which, when adopted, were merely the expression of the pre-existing customary law, such as the Martens Clause [the 1899 affirmation of the applicability to armed conflict of the general principles of humanity and public conscience], re-affirmed in the first article of Additional Protocol I. The fact that certain types of weapons were not specifically dealt with by the 1974-1977 Conference does not permit the drawing of any legal conclusions relating to the substantive issues which the use of such weapons would raise.<sup>78</sup>

On the issue raised by the arguments about the protocol as to whether nuclear weapons are by their very nature indiscriminate in their effects (potentially violating the neutrality of neighbouring states as well as harming civilians etc), the Court considered the argument put to it in written evidence by the United Kingdom that:

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<sup>76</sup> A. Roberts & R Guelff (eds), *Documents on the Laws of War*, second edition, 1989, 416

<sup>77</sup> Other obstacles to ratification were cleared by the passage of the Geneva Conventions (Amendment) Act 1995. A.P. V. Rogers, whose work reflects the official British view, argues in *Law on the Battlefield*, 1996, that the article is poorly drafted, but that there was no intention to cover nuclear weapons (22 and 118-9, including footnotes 91-2).

<sup>78</sup> Advisory Opinion, 29

In some cases, such as the use of a low yield nuclear weapon against warships on the High Seas or troops in sparsely populated areas, it is possible to envisage a nuclear attack which caused comparatively few civilian casualties. It is by no means the case that every use of nuclear weapons against a military objective would inevitably cause very great collateral civilian casualties.

It also heard arguments to the contrary from a number of states which insisted that nuclear weapons were necessarily indiscriminate in their effects. As regards the British (and also US) argument the Court sounds a note of scepticism, questioning whether, in practice, a low-yield nuclear attack could be prevented from escalating into the use of high-yield weapons, but it came to the conclusion that it did not have sufficient basis to make a definite ruling.<sup>79</sup> On the wider point of whether nuclear weapons allow for the distinction between military and civilian targets which is at the heart of the overriding consideration of humanity in armed conflict, the Court again felt that it could not come to a final view, despite its conviction that "the use of such weapons in fact seems scarcely reconcilable with respect for such requirements".<sup>80</sup>

The Court's verdict on the question before it is therefore this:

Accordingly, in view of the present state of international law viewed as a whole, as examined above by the Court, and of the elements of fact at its disposal, the Court is led to observe that it cannot reach a definitive conclusion as to the legality or illegality of the use of nuclear weapons by a State in an extreme circumstance of self-defence, in which its very survival would be at stake.<sup>81</sup>

This, however, does not conclude the advisory opinion. The Court felt bound to complete its ruling by noting that international law and order suffers from the continuing disagreements about the legality of nuclear weapons and that the means to end the disagreement already lies to hand in the form of complete nuclear disarmament. It notes that this has long been on the international agenda and that in the Non Proliferation Treaty and in successive resolutions of the UN General Assembly and Security Council states have committed themselves to this objective by the specific means of "negotiations in good faith". The Court therefore concludes that the objective of nuclear disarmament remains "of vital importance to the whole of the international community today".<sup>82</sup>

At the end of the Opinion the principal conclusions are recapitulated. Since the opinion is the collective view of the 14-strong Court, the formal conclusions are adopted by varying

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<sup>79</sup> Advisory Opinion, 32

<sup>80</sup> 32

<sup>81</sup> 33

<sup>82</sup> 35

majorities. Four paragraphs are adopted unanimously. The proposition that there is no general prohibition on the use of nuclear weapons was adopted by 11 votes to 3; the conclusion (2:E) that the use or threat of use of nuclear weapons would *generally* be contrary to the rules of international law, but that the Court could not determine whether or not the use of nuclear weapons would inevitably be illegal in extreme circumstances of self-defence was adopted by the casting vote of the President, Judge Bedjaoui of Algeria, the judges having divided 7 against 7. On these two propositions where the judges divided, the British judge, Professor Rosalyn Higgins, was with the majority in the first instance and belonged to the group of 7 judges over-ruled by the president's casting vote in the second instance.

Several judges appended personal declarations and dissenting opinions. Judge Higgins appended a dissenting opinion on the subject of conclusion 2:E, finding that it was lacking in judicial meaning and did not flow logically from the preceding argumentation. In particular she takes exception to the vagueness of the word *generally* and to the failure to rule on the most important issue.<sup>83</sup>

### E. Reaction

The ICJ advisory opinion was generally received either as a qualified victory for the anti-nuclear campaigners and the Australian and New Zealand governments which had been most active in seeking the ruling, or as an awkward compromise.<sup>84</sup> Those who had campaigned for a verdict of illegality were quick to point out that the 7-7 tied vote on 2:E was misleading because those on the losing side had widely different motives. According to Peter Weiss of the International Association of Lawyers, "the vote in favour of declaring nuclear weapons illegal was really 10 to four, and the vote against a finding of illegality was, in fact, cast only by judges from the three Western nuclear powers".<sup>85</sup>

The initial reaction of the British government was that the opinion was complex and required careful study.<sup>86</sup> On 16 July, in a parliamentary written answer, an FCO minister commented:

we do not believe that it gives rise to any new factors affecting the fundamentals of United Kingdom and NATO defence policy, including the continuing importance of nuclear deterrence in maintaining peace and stability in Europe.<sup>87</sup>

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<sup>83</sup> Dissenting opinion of Judge Higgins, para 25

<sup>84</sup> For example, the *Guardian* headline on 9 July reads: "International Court fudges nuclear arms ruling".

<sup>85</sup> Peter Weiss, "And now, abolition", *The Bulletin of Atomic Scientists*, September/October 1996, 43

<sup>86</sup> *Financial Times*, 9 July 1996

<sup>87</sup> HC Debates, 16 July 1996, c.442w

A spokesman for the US State Department said:

We think that the decision as we understand it so far is positive ... we believe that the decisions mean that there is no international legal prohibition against the existence of nuclear weapons, certainly not against the strategy of nuclear deterrence... There is no legal prohibition against the threat of use or the use of nuclear weapons consistent with the international guidelines the United States has subjected itself to in Geneva and The Hague.<sup>88</sup>

## F. Assessment

It could be said that, while failing to give a clear answer to all aspects of the question, the International Court has clarified some issues relating to the use of nuclear weapons and to the threat of their use as a means of deterrence. For example, the Court's comments on nuclear deterrence in the light of the UN Charter do seem to go against any doctrine of massive retaliation and discourage any nuclear deterrent posture which targets cities. Judge Higgins comments that "it may be concluded that a weapon will be unlawful *per se* if it is incapable of being targeted at a military objective only, even if collateral harm occurs" and "to the extent that a specific nuclear weapon would be incapable of this distinction, its use would be unlawful". Judge Higgins goes on: "We may believe that, in the present stage of weapon development, there may be very limited prospects of a State being able to comply with the requirements of humanitarian law. But that is different from finding the use of nuclear weapons 'generally unlawful'".<sup>89</sup> Two possible measures of the extent to which a weapon is capable of being targeted accurately at a military objective are the "circular error of probability (CEP)", ie the radius of the circle within which 50% of warheads can be expected to fall, and the explosive yield. According to the IISS publication *The Military Balance* British Trident warheads have a CEP of 28 metres and a variable yield of up to 200 kilotons (cf about 13 kilotons yield at Hiroshima).<sup>90</sup>

NATO nuclear strategy is deliberately not spelled out in detail in public pronouncements and therefore it is difficult to measure against the legality criteria considered by the ICJ. The new NATO "Strategic Concept" of November 1991, which replaced the doctrine of "flexible response", states:

The fundamental purpose of the nuclear forces of the Allies is political: to preserve peace and prevent coercion and any kind of war. They will continue to fulfil an essential role by ensuring uncertainty in the mind of any aggressor about the nature of the Allies' response to military aggression.<sup>91</sup>

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<sup>88</sup> *Disarmament Diplomacy*, July/August 1996, 45

<sup>89</sup> Dissenting opinion of Judge Higgins, paras 24 and 26

<sup>90</sup> *The Military Balance 1995/96*, 288

<sup>91</sup> *NATO Review*, December 1991, p.32

Elsewhere in the same statement (para 36) the NATO allies re-affirmed that none of their weapons would ever be used except in self-defence. The ICJ language of "necessity" and "proportionality" does not appear in the NATO strategic concept which instead uses terms such as "adequate" and "credible" to describe its intended military potential. A nuclear deterrent posture based on "adequate" or "credible" strength could imply a threat to respond to aggression with only necessary and proportionate force, but it could also imply an element of deliberate over-insurance to ensure that the deterrent message is clearly conveyed. The stated aim (para 55) is to "demonstrate that aggression of any kind is not a rational option". While this might be achieved by an implied threat of massive strategic response, it might risk failure if the implied response were to be pitched at a lower level than this. One of the main results of the new Strategic Concept in the field of nuclear weapons was to be a substantial reduction in the sub-strategic stockpile and the total elimination of the remaining short-range systems. Thus the Alliance was moving towards a relatively greater reliance on the larger-scale systems which appear to be most problematic in the legal perspective of the ICJ.

It also follows from the Court's opinion that a threat to respond to aggression by using low-yield nuclear weapons accurately against aggressive military targets, eg missile launch sites, might be regarded as permissible, particularly if these were the only weapons available which could reasonably be expected to prevent further attacks by the aggressor. There has been some pressure in recent years for the United States to develop so-called "mini-nukes".<sup>92</sup> However, it has also been widely recognised that there are risks in this approach. To the extent to which a nuclear weapon might be brought more clearly into compliance with the requirements of international humanitarian law in terms of the scale and accuracy of its effects, its use would also become more tempting and more likely. Despite lending some weight to the notion that smaller nuclear weapons might be more acceptable from a legal point of view than large ones, the ICJ clearly did not wish to encourage movement in that direction and it makes clear in the final section of its opinion that it much prefers the solution of total nuclear disarmament.

TD/RJW/JML

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<sup>92</sup> See, for example, T. Dowler & J. Howard, "Countering the threat of the well-armed tyrant: a modest proposal for small nuclear weapons", *Strategic Review*, Fall 1996.

**Defence**

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