

## THE ECONOMIC BENEFITS OF NAVAL SHIPBUILDING

Although the extent of the cost differential between local versus overseas naval shipbuilding must always be taken into account, Australia has often more to gain than a simple direct comparison of contracted price might suggest. Our long involvement with warship construction has always had several purposes, linked to the primary aim of providing the Royal Australian Navy (RAN) with the most effective vessels possible. Perhaps more important to many outside the Service has been the creation and maintenance of a robust and efficient local shipbuilding industry. Naval shipbuilding is not only a fundamental component of Australian sea power, but also of direct benefit to the wider economy, generating growth in, among other areas, the manufacturing, heavy engineering and information technology sectors of Australian industry.

Beginning in earnest in 1912 and reaching a peak during World War II, local naval construction was marred after 1945 by lengthy delays and cost overruns. Causes were many, and included foreign exchange difficulties; funding rescheduling; an inability to source technology, tools and equipment; inadequate investment in infrastructure; skills shortages; labour disputes; poor management; and the splitting of build orders between two government dockyards. During the 1960s and 1970s these seemingly intractable problems led to decisions to build some RAN vessels in foreign yards. The three *Perth* class guided missile destroyers were ordered from the United States, as were the first four *Adelaide* class guided missile frigates, while the six *Oberon* class submarines were built in the United Kingdom. To partially ameliorate this foreign expenditure, in late 1969 the government introduced an offsets program whereby foreign companies had to sub-contract 20 per cent of work to Australian industry either within the specified project or any other defence project where local industry could supply the relevant items.<sup>1</sup>

Election of the Hawke Government in 1983 led to revitalised industry policies and a specific policy for Defence industry through a new Australian Industry Involvement program. Thereafter, elements of an item being procured had to be manufactured, assembled, tested or set to work in Australia, or at least 30 per cent of the work had to be undertaken by local companies to encourage technology transfer.<sup>2</sup> Equally important were productivity improvements following the privatisation of the naval dockyards and the introduction of new management arrangements.<sup>3</sup> Williamstown, for example, saw the end of demarcation disputes as the number of unions dropped from 23 to 3, union awards from 30 to 1, pay classifications from 390 to 2, and on-site allowances from 180 to 0.<sup>4</sup> The final plank of this revitalised shipbuilding policy was a significant RAN re-equipment program, beginning in the late 1980s. For the next 20 years local content was set at approximately 70 per cent, and all ships were built in Australia.

Beginning in 1987, the government signed a \$3.9 billion contract with the Australian Submarine Corporation (now ASC) to build six *Collins* class submarines in Adelaide. This project involved a 'section' build of the submarine,

introduced advanced welding techniques to Australia, and has been compared in complexity to the building of the space shuttle. A \$3.6 billion contract with Tenix followed in 1989, which saw ten *Anzac* class frigates built at Williamstown, and introduced local industry to modular warship construction. Five years later, a \$917 million contract with Australian Defence Industries resulted in the building of six *Huon* class minehunters at Newcastle. This project introduced advanced fibreglass construction to Australia, and although the first hull was produced in Italy, the remaining five, plus systems integration occurred locally. Following on from construction of 14 *Fremantle* class patrol boats in the 1980s, a \$175 million contract with NQEA in Cairns in 1996 produced two *Leeuwin* class hydrographic ships. This project involved the integration of multi and single beam echo sounders, towed and forward-looking sonars, and satellite and terrestrial position fixing equipment into a complex survey system suite. Finally, in 2003 a \$553 million contract was signed with Defence Maritime Services (DMS) for 12 (later 14) *Armidale* class patrol boats. Sub-contracted to Austal at the Australian Marine Complex (AMC) at Henderson, WA, these vessels were built using civilian rather than military specifications, and introduced the notion of contractor provided, long-term logistic support to the RAN.



*Five Anzac class frigates under construction at the Tenix shipyard at Williamstown, Victoria (Tenix)*

It is difficult to accurately determine the specific economic impact of each of these shipbuilding endeavours, but an independent analysis has been undertaken of both the *Anzac* and *Huon* projects. Using both short and long run general equilibrium analysis models, the *Anzac* project was estimated to have increased Australia's gross domestic product (GDP) by at least \$3 billion over its 15 year construction phase, increased consumption by at least \$2.2 billion over the same period, and created 7850 full time jobs.<sup>5</sup> For the *Huon* project the figures were respectively: \$887 million over nine years, \$491 million and 1860 jobs.<sup>6</sup> Importantly, much of this economic benefit flowed directly to the regions where the shipyards were located or components were sourced. The *Huon* project, for example, awarded \$160 million worth of contracts to companies in the Newcastle

region,<sup>7</sup> while the *Anzac* project involved over 1300 companies in Australia and New Zealand, with over 90 per cent being small to medium enterprises.<sup>8</sup> Given the 70 per cent local content requirement, the *Collins*, *Leeuwin*, *Armidale* projects would have delivered similar benefits proportional to their cost. Furthermore, the *Collins* and *Huon* projects were predicated on creation of greenfield sites, with purpose built infrastructure. This was not only used for the construction phases of each build, but may be used for maintenance and support of the ships during their service life. This investment in infrastructure, technology transfer, the skilling of personnel, and continued work for sub-contractors and dockyard staff all provides a residual capacity in defence industry that assist bids for further shipbuilding contracts.

The impact of all these shipbuilding projects on Australian defence industry has been significant. First (and where applicable), military specifications for parts are more robust than civilian specifications. In order to deliver a higher quality product, companies have been required to improve their business practices, strategic planning, research and development, staff training, manufacturing equipment, and quality assurance.

As noted, there has also been significant technology transfer, which may occur in a number of ways. At the high-end, foreign firms have either set up business in Australia to fill a local capability gap or formed strategic partnerships with local industry. On occasion local firms have also obtained a licence to produce 'foreign' equipment. For less complex items, local companies might conduct original research and development to gain access to, or generate, new technology.

Finally, improved business and management techniques have provided opportunities for local companies to improve the quality of their processes and products. By promoting a culture of continuous improvement, they have increased both Defence-related and non-Defence sales, opening up new domestic and export markets, while increasing productivity and lowering production costs.

Export opportunities for ships built to the RAN's specifications have generally been limited, and although successful modernisation and upgrade designs have been developed within Australia, critically we still lack the complete design capacity needed to be a true naval shipbuilding nation. Progress has been made, nevertheless, and local industry is now designing or building warships for the Philippines, New Zealand and the United States. As a result, the product lines of the companies involved have expanded and they have improved their export potential.

Often forgotten in considerations of naval shipbuilding are the logistic support, maintenance, and modernisation of these ships. A local build, combined with the retention of industrial capacity normally allows for through life support at a lower cost than if the vessels had been built overseas; primarily because the parts and expertise are located in Australia and can be provided much faster than from an overseas supplier. As noted earlier, DMS has a contract to provide logistic support to the *Armidale* patrol boats throughout their service life. In December 2003, ASC signed a \$3.5 billion contract for 25 years for through life support for the *Collins* submarines.<sup>9</sup> Meanwhile, the logistic support arrangements for the *Anzac* frigates are based on a 70 per cent local content requirement. With a ship's lifespan likely to

exceed 30 years, there will obviously be ongoing work for Australian industry.

There are clear inter-relationships between the commercial and naval shipbuilding sectors. Thus, while the AMC focuses largely on commercial shipbuilding, it still undertakes repair and maintenance for RAN vessels worth about \$100 million annually. This includes such complex undertakings as the refits of *Anzac* frigates and intermediate dockings for the *Collins* submarines.<sup>10</sup> Important links with Australia's research and development sector are encouraged particularly in Adelaide, which is now a defence industry hub in close proximity to the Defence Science and Technology Organisation in Salisbury.

In late 2007, the government signed two major contracts to begin the next phase of Australian naval shipbuilding. First, an \$8 billion contract was signed with ASC and Raytheon to build three *Hobart* class Air Warfare Destroyers (AWDs) in Adelaide. Although the ship's AEGIS-combat system has been purchased from the US, there will be at least 55 per cent Australian industry involvement in the project.<sup>11</sup> Second, a \$3 billion contract was signed with Tenix for two *Canberra* class amphibious ships (LHDs). Although the hulls will be built in Spain, about \$500 million will be spent in Williamstown on superstructure construction and fitout, while up to \$100 million will be spent in Adelaide on combat system design and integration work, employing more than 2500 people directly and indirectly.<sup>12</sup>

Naval shipbuilding brings great economic benefits to the nation. The policy of building locally where possible results in increased GDP from capital investment; new infrastructure, employment and enhancement of the labour market; extensive technology transfer; export potential of parts and services; contributions to through life logistic support; and, increased self reliance for repair and maintenance.<sup>13</sup> While \$8 billion for the AWD project may seem expensive, we must remember that a large percentage of the expenditure remains in Australia, generating and maintaining jobs, skills and expertise that improves our defence self-reliance and provides benefits to all Australians.

1. M Thomson, 'Competition in Australian Defence Procurement', in Committee for Economic Development of Australia (CEDA), *Growth 57: The Business of Defence - sustaining capability*, Melbourne, 2006, p. 35.
2. Department of Defence, *The Defence of Australia 1987*, Australian Government Publishing Service, Canberra, 1987, p. 80.
3. An incentive for the purchaser of Williamstown Naval Dockyard was a contract signed in 1984 to build two FFGs.
4. Defence Industry Committee, *The Australian and New Zealand Ship Construction and Repair Industry*, Canberra, 1995, p. 159.
5. Tasman Asia Pacific, *Impact of Major Defence Projects: A Case Study of the Anzac Ship Project - Final Report*, Canberra, February 2000, p. 47.
6. Tasman Economics, *Impact of Major Defence Projects: A Case Study of the Minehunter Coastal Project - Final Report*, Canberra, January 2002, p. 75.
7. Tasman Economics, *A Case Study of the Minehunter Coastal Project*, p. 89.
8. Tasman Asia Pacific, *A Case Study of the Anzac Ship Project*, p. v.
9. B Wylie, 'Supplying and Supporting Australia's Military Capability', in CEDA, *Growth 57*, p. 57.
10. Department of Industry and Resources, *Australian Marine Complex*, 2006, p. 5.
11. 'Air Warfare Destroyers - The Foundation Laid', Minister for Defence Media Release 113/2007 of 4 October 2007.
12. '\$3 Billion Amphibious Ships Will Strengthen ADF, Boost Australian Industry', Minister for Defence Media Release 060/2007 of 20 June 2008.
13. Standing Committee on Foreign Affairs, Defence and Trade, *Blue Water Ships: consolidating past achievements*, Canberra, 2006, p. 209.

