Aerial torpedoes – a weapon system failure

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On 4 December 1943, six Beaufort torpedo bombers of No 8 Squadron, Royal Australian Air Force (RAAF), attacked Japanese shipping in Blanche Bay, Rabaul harbour. As the aircraft piloted by Squadron Leader N.T. Quinn (the unit's commanding officer) was tracking to release its torpedo, it hit either a ship's mast or a cable and crashed. Quinn and his observer survived, but both were taken prisoner. This was the nineteenth—and *last*—operation undertaken by the RAAF torpedo strike force. Why was it that the aerial torpedo had failed as a weapon system?

The RAAF had devised a theoretical basis for the development of its torpedo bomber strike force, in a 1936 Air Staff Memorandum that presented rudimentary operational-level doctrine. Despite this, no effort was made to establish a torpedo bomber organisation for some years. Australia had committed itself in mid-1939 to local manufacture of the Beaufort general reconnaissance aircraft, and torpedo bombing was one of the secondary roles that had been considered in the design. But it was only in June 1941—just two months before the first Australian-built Beauforts were delivered—that the intention of fitting the type with a torpedo, as an alternative to a semi-armour piercing bomb, was made known.

In the meantime, no steps had been taken to allow any RAAF personnel to acquire expertise in maritime strike operations. Even after it was decided to create an Australian torpedo bomber strike force, it was only in late January 1942 that Nowra, New South Wales, was selected for development as the site for training of this arm. It was not until 29 August that 15 crews from No 100 Squadron commenced training in the torpedo bomber role. On 7 September they undertook the first RAAF torpedo bomber attack in the South-West Pacific Area, at Milne Bay.

Given the short time between the commencement of training and the first operational employment of the torpedo bomber force, it was no surprise that the Beauforts had little success. Their initial showing, however, highlighted two of the inherent weaknesses in the deployment of the force—training and the weapon system itself.

Practice attack by Beaufort torpedo bomber of No 100 Squadron at Jervis Bay, NSW. Painting by Frank Norton. Credit: ART23937, Australian War Memorial

Although aircrew training was undertaken at Nowra, it was not until June 1943 that a dedicated Operational Training Unit was formed. Three squadrons (No 7, 8 and 100) were converted to torpedo bomber units, but No 7 never flew in the role. At least 13 per cent of the 145 pilots and their crews who attended courses were subsequently posted to other than torpedo bomber units. Even where trained aircrew went to one of the two operational torpedo bombing units, only 30 per cent actually participated in one or more missions. Within the operational squadrons themselves, priority was given to reconnaissance and ordinary bombing tasks—a clear indication of the unsuitability of the torpedo weapon system against small, shallow draught Japanese vessels in the theatre, as well as the commander's lack of faith in the efficacy of the torpedo bombing role. On these statistics, aircrew would also have been hard-pressed to remain current in the skills required of an effective torpedo bomber force.

The other facet of the training question was that of producing technicians that were capable of maintaining the weapon. Over 450 students graduated as Fitter Torpedo and Aircrafthand (Torpedo) from the base Torpedo Unit at Nowra between May 1942 and June 1944—forming a specialist trade group with restricted promotion and posting prospects. The torpedo was technically complex, and required many man-hours to maintain. It was not a weapon that could be deployed effectively to the rudimentary airfields from which the RAAF operated in New Guinea. To help overcome this operational restriction, Mobile Torpedo Sections were raised to support squadrons in the field, and thereafter fought an ongoing battle to protect their sensitive charges from the insidious effects of tropical heat, mud, rain, and humidity.

The major reason for the ineffectiveness of RAAF torpedo bombers was the weapon system itself. The Beaufort had been designed to carry the British 18-inch Mk XII torpedo, but when British suppliers could not meet a RAAF order for 360 of these weapons, Australia was forced to make a costly resort to local manufacture. The decision to build a million-pound facility was taken in 1941, but it was not until September 1943 that the first Australian torpedoes were delivered.

In the meantime, the RAAF was forced to turn to the American Mk XIII torpedo, which was not fully compatible with the Beaufort, being larger in circumference than the British version. The bomb bay doors of the Beaufort therefore could not be fully closed, which increased drag and degraded the aircraft's performance. Apart from this, the American torpedo performed erratically, and there were still supply problems associated with its provision from US Navy sources.

Group Captain Bill Garing (left) and Air Commodore Joe Hewitt, Port Moresby, 1943.
Credit: Department of Defence

In addition to the physical difficulties with the weapon system one must look at the intangible factors of mind-set and experience. Both the RAAF commanders intimately involved with the Beaufort torpedo bomber operations, Group Captain W.H. Garing (Air

Commander, Milne Bay) and Air Commodore J.E. Hewitt (AOC No 9 Operational Group), were well versed in maritime operations, but neither was knowledgeable in strike operations. Equally, the torpedo was not the weapon of choice of American air commanders in the South-West Pacific.

A lack of understanding and the operational imperatives that prevailed in 1942 combined to ensure that the aerial torpedo was put into Australian service and deployed prematurely. At the operational level, the incompatibility of the American Mk XIII with the aircraft system, combined with its unsatisfactory performance, was the major reason for the failure of the weapon system failure. However, the lack of foresight and intellectual rigour when introducing the system led to the concept itself failing at the strategic level.

There is a stark lesson that can be drawn from this episode in the development of the RAAF, which is valid even today. For a weapons system to be effective, it is necessary to have a clear vision for its operational use, guaranteed supply of all essential components, and a well-considered training program that is economic and ensures the flexible use of available manpower.

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