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# Old but Gold: The Continued Relevance of Naval Gunfire Support for the Royal Australian Navy

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*Despite an extensive history of providing naval gunfire support (NGS) during the twentieth century, the relevance of the capability to the Royal Australian Navy (RAN) came under scrutiny at the turn of the twenty-first century. However, the provision of NGS during the 2003 Iraq War indicated that the capability remained useful in the modern era. Furthermore, lessons learned during past RAN operations and those of the Royal Navy and United States Navy demonstrate the enduring relevance of NGS. Australia's development of an amphibious capability will ensure that NGS remains useful in the future for a number of important reasons, including utility, cost-effectiveness and interoperability.*

In the Autumn 2012 edition of *Security Challenges*, Peter Dean pertinently observed that, “the history of the Australian military can provide both relevant historical examples for future directions as well as a critically important cultural heritage platform in amphibious operations”.<sup>2</sup> Australia's intention to develop an amphibious capability has raised multiple issues and sparked a number of debates, including the requirement for such a force, its necessary size and the range of missions that it will need to fulfil.<sup>3</sup> Australia's amphibious assets will need to be deployed for an assortment of essential missions, including humanitarian purposes. Whilst the Australian Defence Force (ADF) will need to be configured to conduct a number of different missions, power projection has continually proven to be an important task for the Royal Australian Navy (RAN). In order to project power, the capacity of the RAN to deliver firepower ashore is an essential issue.

If Australia is serious about developing an extensive amphibious capability, lessons can be learned not only from past Australian operations, but also from those of her closest allies. The potential importance of naval gunfire support (NGS) was borne out during RAN operations alongside allied navies

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<sup>1</sup> The views expressed in this article are entirely those of the author and do not necessarily reflect those of the New Zealand Defence Force.

<sup>2</sup> Peter J. Dean, 'Amphibious Warfare: Lessons from the Past for the ADF's Future', *Security Challenges*, vol. 8, no. 1 (Autumn 2012), p. 76.

<sup>3</sup> Andrew Davies, 'Amphibious Operations: More than Meets the Eye', *The Strategist*, The Australian Strategic Policy Institute Blog, 28 May 2013, <<http://www.aspistrategist.org.au/amphibious-operations-more-than-meets-the-eye/>> [Accessed 26 June 2013].

during the Korean War, the Vietnam War and the Iraq War. In addition, the United Kingdom's involvement in the Falklands War and the American intervention in Grenada demonstrated that NGS remains an important element of amphibious operations. Time and time again, the utility of NGS has been demonstrated, but it is a lesson that has had to be continually re-learned.

The development of precision guided munitions and sophisticated aircraft capable of providing accurate air support created the perception that NGS would be confined to being an issue of historical interest rather than practical relevance. However, conflicts throughout the twentieth century, and particularly those in the late-twentieth and early twenty-first centuries, have indicated that NGS can make a useful contribution to amphibious operations. At the very least, NGS can be used to supplement other forms of firepower. More importantly, NGS can be used to replace other forms of fire support and in some instances, may prove to be the only available asset. Land-based artillery, air support, and precision guided munitions have all proved to be unobtainable on occasion during operations, which can lead to a vast increase in the significance of the availability of NGS. Under certain circumstances, the nature of NGS and its capacity to spread fire can make it the most appropriate option to further the aims of an amphibious force. Aside from the practical applications, NGS has the appeal of being cost-effective, as rounds are significantly cheaper than precision guided munitions. All of the aforementioned factors have served to ensure that NGS should remain an important consideration in the conduct of amphibious operations. As the ADF's primary operating environment is maritime and archipelagic in nature, it is especially conducive to the use of NGS under the right conditions.

The value of NGS has, once again, been confirmed during the current decade. Throughout Operation Ellamy—the United Kingdom's designation for the 2011 intervention in Libya—personnel from 148 (Meiktila) Commando Forward Observation Battery, Royal Artillery, a dedicated spotting unit, provided observation for over 500 rounds of NGS from British and French ships across the course of fifty missions. The requirement for NGS was outlined in a North Atlantic Treaty Organisation (NATO) fragmentation order, which noted that sustained NGS should be employed as a “show of force”.<sup>4</sup> Scott Bishop has contended that the requirement to minimise the risk to civilians and infrastructure “relegated” surface warships to “very limited roles in strikes against targets ashore” due to the absence of precision strike capability. Nevertheless, he has also acknowledged that as the conflict progressed, there was increased opportunity to provide NGS.<sup>5</sup> Indeed, air strikes and NGS throughout Libya, in places such as Brega, Sirte,

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<sup>4</sup> Lieutenant Colonel Tim Wood, ‘Gunners Over Libya’, *The Gunner*, December 2011, pp. 9-11.

<sup>5</sup> Scott Bishop, ‘Libya and the Lessons of Naval Power’, *Canadian Naval Review*, vol. 8, no. 4 (Winter 2013), p. 17.

Tawurgha, Tripoli and Zlitan, helped to prevent forces operating in support of Colonel Gaddafi from utilising their “combat assets”.<sup>6</sup> One of the most notable employments of NGS occurred off Zlitan in August, when HMS *Sutherland*, HMS *Liverpool* and the French ship *La Vallee* rotated on the gunline in order to disrupt pro-Gaddafi forces. In one engagement, HMS *Liverpool* destroyed a pro-Gaddafi convoy with fifty-five rounds.<sup>7</sup> Star shells were also used on a number of occasions, including at Misrata in June, in order to aid rebel forces and provide a demonstration of force, whilst at the same time preclude the risk of collateral damage. The versatility of the naval gun that resulted from the range of shells available meant that NGS was a useful tool under varying circumstances.

The mobility of naval forces was seen as being central to operations in Libya. Naval power provided a “boots off the ground” option, which allowed NATO forces to influence the land battle whilst maintaining a limited commitment.<sup>8</sup> Prohibitive rules of engagement and the occurrence of fighting in residential and built-up areas ensured that precision guided munitions were favoured over NGS, but not exclusively. In reflecting on the campaign, Lieutenant Colonel Tim Wood, an NGS support officer (LNO), concluded: “NGS demonstrated yet again its versatility in the littoral”.<sup>9</sup> The fact that Libyan operations “reinforced British interest in the development of more sophisticated means of naval gunfire support” was testament to the ongoing utility of the capability.<sup>10</sup>

Despite some commentators indicating that the use of NGS in Iraq in 2003 was an anomaly, the limited use of the capability had not signified its impending extinction, but instead represented a transformation in the manner in which it was employed. The availability of other forms of fire support has ensured that NGS will likely be used more sparingly in the future, but it still has an essential part to play. For instance, in Iraq, NGS compensated for the temporary absence of tactical air support and the lack of artillery, whilst in Libya, the appearance of warships provided a dramatic demonstration of force. The lessons of history have shown that when the capability has been written off, NGS has proven to be essential.

## **The RAN’s Experience of NGS since the Second World War**

The reputation of NGS has waxed and waned since 1945, and, ultimately, the capability has never obtained the level of reverence that was achieved

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<sup>6</sup> Carmen Romero and Colonel Roland Lavoie, ‘Press Briefing on Libya’, 16 August 2011, <[http://www.nato.int/cps/en/natolive/opinions\\_77212.htm](http://www.nato.int/cps/en/natolive/opinions_77212.htm)> [Accessed 25 February 2014].

<sup>7</sup> Major Jonny Gray, ‘The Experience of a Naval Gunfire Liaison Officer’, *The Gunner*, December 2011, p. 10.

<sup>8</sup> Amitai Etzioni, ‘The Lessons of Libya’, *Military Review*, January-February 2012, pp. 46-7.

<sup>9</sup> Wood, ‘Gunners Over Libya’, p. 11.

<sup>10</sup> Geoffrey Till and Martin Robson, ‘UK Air-Sea Integration in Libya, 2011: A Successful Blueprint for the Future?’, Corbett Paper No. 12, The Corbett Centre for Maritime Policy Studies (July 2013), p. 13.

during the Second World War. Nevertheless, in the post-Second World War period, the RAN was called on to deliver NGS during the Korean, Vietnam and Iraq (2003) wars, as well as during the Malayan Emergency and Indonesian Confrontation, albeit on a much more limited basis. During the course of the Korean War, between 1950 and 1953, the RAN made a significant contribution to the provision of NGS by the United Nations (UN) coalition. RAN ships steamed over 674,000 kilometres and fired: 9,614 4.7", 5,576 4.5", 9,983 4", 50,417 40mm and 9,921 2-pounder rounds.<sup>11</sup> As naval historian Eric Grove has aptly surmised, Korea was "a major British naval war", but it is equally true that it was a major Australian naval war, particularly when the relative resources that were available to each navy are taken into account.<sup>12</sup>

NGS was also utilised by the RAN in the 1950s, but only on a much more limited scale. During the Malayan Emergency, which was declared in response to Communist terrorist actions, and continued from 1948 and 1960, the RAN provided a small commitment to the Commonwealth Strategic Reserve from 1955 onwards. The nature of the Malayan Emergency ensured that the use of NGS was constrained. In January 1956, the Director of Operations, Malaya, recorded: "Bombardment of the terrorists by ships is a most helpful form of support for ground operations, but unfortunately there are not many opportunities for this type of attack."<sup>13</sup> In fact, RAN ships provided NGS on just four occasions.<sup>14</sup> Although the performance of the RAN ships was commendable, it is difficult to contend with the opinion of the official historians that the results "demonstrated that naval power was inappropriate to the circumstances of the Malayan Emergency".<sup>15</sup>

The results of the Indonesian Confrontation (*Konfrontasi*) replicated the evidence garnered from the Malayan Emergency. Whilst NGS was used in

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<sup>11</sup> Naval Staff History, *British Commonwealth Naval Operations, Korea, 1950-1953* (London: Ministry of Defence, Historical Branch [Naval], September 1967), p. 299; Eric Grove, 'British and Australian Naval Policy in the Korean War Era', in T. R. Frame, J. V. P. Goldrick and P. D. Jones (eds), *Reflections on the RAN* (Kenthurst: Kangaroo Press, 1991), p. 259.

<sup>12</sup> Eric J. Grove, *Vanguard to Trident: British Naval Policy Since World War II* (London: The Bodley Head Ltd, 1987), p. 149.

<sup>13</sup> Director of Operations, Malaya, 'Review of the Emergency Situation in Malaya at the End of 1955', January 1956, The National Archives of the United Kingdom (TNA), AIR 20/10375.

<sup>14</sup> 'HMAS Tobruk: Report of Proceedings, September 1956', 6 October 1956, Australian War Memorial, AWM 78, 343/5, Part 1; 'HMAS Anzac: Report of Proceedings, September 1956', 1 October 1956, Australian War Memorial, AWM 78, 34/4; 'HMAS Quickmatch: Report of Proceedings, January 1957', 7 February 1957, Australian War Memorial, AWM 78, 300/4; 'HMAS Queenborough: Report of Proceedings, January 1957', 3 February 1957, Australian War Memorial, AWM 78, 298/5; 'HMAS Anzac: Report of Proceedings, July 1957', 2 August 1957, Australian War Memorial, AWM 78, 34/5; Jeffrey Grey, *Up Top: The Royal Australian Navy and Southeast Asia Conflicts 1955-1972* (Sydney: Allen & Unwin, 1998), p. 33; 'HMAS Tobruk: Report of Proceedings, August 1957', 5 September 1957, Australian War Memorial, AWM 78, 343/5, Part 1.

<sup>15</sup> Peter Dennis and Jeffrey Grey, *Emergency and Confrontation: Australian Military Operations in Malaya and Borneo 1950-1966* (Sydney: Allen & Unwin, 1996), pp. 69-70.

the harassment role and naval guns, including Bofors, were used as a deterrent to infiltration, assessments of bombardments were inconclusive, despite some indications of limited success.<sup>16</sup> Therefore, whilst the manner in which NGS was used was not always justified, it retained some merit under the right circumstances.

It was not long before the significance of NGS was tested once again. As was the case in Korea, the United States Navy (USN) was at the forefront of the provision of fire support during the Vietnam War. The RAN's contribution was numerically smaller, both in terms of ships and rounds fired, but the Australians were able to commendably support their American allies. The RAN deployed a single destroyer on a rotational basis between March 1967 and September 1971. Despite the limited number of RAN ships deployed to Vietnam, Australian destroyers made a useful contribution to the war effort by patrolling off the coast of North Vietnam, participating in interdiction missions, delivering NGS, occasionally taking part in in-country river operations and sporadically forming part of the aircraft carrier screen at Yankee Station.<sup>17</sup>

Whilst the RAN favoured deploying the Charles F. Adams class guided missile destroyers (DDGs) HMA Ships *Brisbane*, *Hobart* and *Perth*, HMAS *Vendetta*, a Daring class destroyer, did undertake one tour. As well as being in service with the USN, the RAN's DDGs were fitted with the latest technology and possessed "very good ... AAW [anti-aircraft warfare] and surface gunnery capabilities", which ensured that they were well suited to NGS operations in Vietnam.<sup>18</sup> Although HMAS *Vendetta* was an older generation of ship, the capability of her six 4.5" guns to fire up to one hundred rounds per minute in good conditions made her an extremely useful asset when NGS was required.<sup>19</sup> In total, during the RAN commitment to Vietnam, the destroyers fired approximately 80,000 5"/54-calibre and 6,800 4.5" rounds at a daily average of 115.<sup>20</sup>

In the wake of the Vietnam War, the importance of NGS appeared to be in continual decline. Indeed, the initial design of the Anzac class frigate was

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<sup>16</sup> 'HMAS Hawk: Report of Proceedings, April 1966', 1 May 1966, Australian War Memorial, AWM 78, 136/2; 'HMAS Yarra: Report of Proceedings, June.1965', 4 July 1965, Australian War Memorial, AWM 78, 374/5; 'HMAS Yarra: Report of Proceedings, July.1965', 4 August 1965, Australian War Memorial, AWM 78, 374/5.

<sup>17</sup> 'Joint Royal Australian Navy-USN Activities, 1911-1971', Undated, Naval History and Heritage Command, Contemporary History Branch.

<sup>18</sup> Department of Defence, 'Minute by the Joint Planning Committee at a Meeting on 10th January, 1968', Undated, Australian War Memorial, AWM 122, 68/6001 Part 1; Ian Pfennigwerth, *Missing Pieces: The Intelligence Jigsaw and RAN Operations from 1939-71*, Papers in Australian Maritime Naval Affairs No. 25 (Canberra: Sea Power Centre-Australia, August 2008), pp. 244-5.

<sup>19</sup> John Perryman and Brett Mitchell, *Australia's Navy in Vietnam: Royal Australian Navy in Vietnam* (Silverwater: Topmill Pty Ltd, 2007), p. 7.

<sup>20</sup> 'Summary of RAN Naval Gunfire Support Operations: Vietnam, 1967-1971', 1974, Sea Power Centre-Australia, A703/T111, Misc Docs 3V, p. 26.

notable for its absence of a 4.5"/5" gun, with the 76mm Otto Malero gun favoured instead. Although the ship was eventually fitted with a 5" gun, the initial decision to forego the traditional naval gun was a barometer of the thinking in regard to NGS in Australia.<sup>21</sup> Events during the ensuing decades indicated that the final decision was fortuitous at the very least, and, arguably, judicious.

Although the RAN had no cause to provide NGS during the 1980s and the 1990s, unlike her allies who found use for it in places as diverse as the Falkland Islands (Royal Navy (RN)), Grenada and Lebanon (both USN), the capability was unexpectedly required during the Iraq War in 2003. As part of the British drive to capture Basra, the Royal Marines launched an amphibious assault on the Al Faw peninsula, which commenced in the early hours of 20 March 2003, and involved the landing of 3 Commando Brigade, Royal Marines (as well as the 15<sup>th</sup> Marine Expeditionary Unit (US) that was under their tactical control) by helicopter. NGS, which was provided by HMAS *Anzac* and HM Ships *Chatham*, *Marlborough* and *Richmond*, proved to be an important factor in the assault.<sup>22</sup> All four ships delivered fire support against defensive positions and fixed installations up to eighteen kilometres inland, but from an Australian perspective, it is notable that *Anzac* spent the longest period on the gunline and fired the most missions.<sup>23</sup> In total, the ships fired 155 rounds across the course of seventeen missions, with *Anzac* delivering forty-six 5" rounds.<sup>24</sup> NGS was not decisive, but it was a critical enabler for the Royal Marines, and contributed to the success of the assault, which was accomplished without any combat casualties being incurred.<sup>25</sup> Ultimately, the Iraq War provided the RAN with confirmation of a lesson that the RN learned during the Falklands War and that the USN discovered throughout operations in Grenada—NGS had sustained relevance in the modern era.

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<sup>21</sup> Professor Hugh White, written interview with author, 15 October 2013.

<sup>22</sup> John Roberts, *Safeguarding the Nation: The Story of the Modern Royal Navy* (Barnsley: Seaforth Publications, 2009), p. 279; Richard Scott, 'Updating ANZACs to Meet Changed Strategic Posture', *Jane's Navy International*, 1 January 2006.

<sup>23</sup> Roberts, *Safeguarding the Nation*, p. 279; Scott, 'Updating ANZACs to Meet Changed Strategic Posture'; Ivan Ingham, 'Naval Gunfire Support for the Assault of the Al Faw Peninsular', *Journal of the Australian Naval Institute*, no. 109 (Winter 2003), p. 36.

<sup>24</sup> Nick Brown, 'Naval Assets Crucial to Power Projection for Iraq Land Campaign', *Jane's Defence Weekly*, 23 April 2003; Greg Nash and David Stevens, *Australia's Navy in the Gulf: From Countenance to Catalyst* (Silverwater: Topmill Pty Ltd, 2006), pp. 67-8.

<sup>25</sup> Tragically, one CH-53 helicopter crashed during the insertion, leading to the deaths of the four United States Marine Corps crew and eight Royal Marines. Michael R. Gordon and Bernard E. Trainor, *Cobra II: The Inside Story of the Invasion and Occupation of Iraq* (New York: Pantheon Books, 2006), pp. 194-7; Mike Rossiter, *Target Basra: The High Octane Story of the Royal Marine Commandos in Iraq* (London: Bantam, 2008), pp. 149-52; Roberts, *Safeguarding the Nation*, p. 279.

## **The Falklands and Grenada Experience**

In the United Kingdom, by the end of the 1970s, the death knell for NGS had seemingly been sounded. It was believed that missiles would be more effective than the naval gun for both air defence and surface action and, therefore, when combined with the availability of close air support (CAS), NGS would be redundant in the future. Consequently, the RN began to develop ships without a 4.5" gun, such as the first and second batches of the Type 22 frigate.<sup>26</sup> An interrelated decision resulted in a proposal to eliminate 148 Battery, the dedicated spotting unit, as part of a significant cull of amphibious forces following the 1981 UK defence review.<sup>27</sup>

Thinking about amphibious operations was reversed by Argentina's invasion of the Falkland Islands on 2 April 1982, which prompted the deployment of a British task force to recover the islands. The Falklands War, officially designated as Operation Corporate, led to British forces being deployed to reclaim the islands some 13,000 kilometres away. NGS was required for a range of reasons during Operation Corporate, including to support the brigade attacks and raids, for the purpose of harassment and interdiction, and to deceive and distract the enemy. The long-distance nature of Operation Corporate ensured that NGS was always going to be a valuable capability, but in the absence of medium and heavy artillery, it proved to be invaluable.<sup>28</sup> The official review of Operation Corporate concluded that: "The infantry would not have been able to carry their objectives without the support they received from artillery and naval bombardment". The 8,000 4.5" rounds fired by RN ships effectively provided a substitute for the absence of medium artillery.<sup>29</sup>

NGS was a significant contributor to the success of British forces during the Falklands War. Captain Chris Brown, a naval gunfire forward observer (NGFO) during the Falklands War, remarked: "I think the conflict saved 148 [Battery]. It saved NGS."<sup>30</sup> Tellingly, the design of future RN ships was reversed in the wake of the Falklands War. The third batch of Type 22 frigates was fitted with a 4.5" gun, as was the Type 23, in direct contrast to

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<sup>26</sup> Michael Evans, *Amphibious Operations: The Projection of Sea Power Ashore* (London: Brassey's, 1990), p. 163-164.

<sup>27</sup> 148 Battery had even received a farewell visit from the director of the Royal Artillery prior to the Falklands War.

<sup>28</sup> Although the RN deployed two aircraft carriers to the South Atlantic (HMS *Hermes* and HMS *Invincible*), air support to land operations was only one of many roles required of the aircraft. Ultimately, the defence of the Task Force was inevitably a priority. Royal Air Force (RAF) reinforcements were committed to support ground operations, but were also required for the same roles as their RN counterparts. Whilst RAF Vulcan bombers conducted five 'Black Buck' bombing missions, they were not used in a CAS role. In addition, the expeditionary nature of the operation and the competing demands on transportation, limited the amount of artillery available in theatre.

<sup>29</sup> Secretary of State for Defence, *The Falklands Campaign: The Lessons* (London: Her Majesty's Stationary Office, 1983), p. 17.

<sup>30</sup> Lieutenant General Chris Brown, telephone interview with author, 31 August 2012.

the first two batches of the Type 22.<sup>31</sup> This was despite the fact that 148 Battery had been informed prior to Operation Corporate that new generations of RN ships would not incorporate a 4.5" gun. In the end, the level of NGS provided was sufficient and the performance of the ships was highly commendable, although both could have been enhanced through a greater focus on the capability in the decades preceding the Falklands War.

The British were not the only ally of Australia to be reminded of the requirement for NGS during the 1980s. By the time the United States commenced Operation Urgent Fury—the invasion of Grenada—on 23 October 1983, NGS had become so outmoded that even establishing radio contact between ships and troops ashore for the purpose of obtaining fire support proved to be difficult. The crux of the problem was the procurement and utilisation of incompatible communications equipment. The Vinson secure radio equipment that was in use with the US Army was incompatible with the systems operated by the USN.<sup>32</sup> As a result of the rapid deployment of forces for the operation, there was insufficient time to ensure that units had compatible equipment, which meant that it was only after the 82nd Airborne arrived in Grenada that their officer-in-command, Major General Edward Trobaugh, discovered the problem.<sup>33</sup>

The stymied communications were a direct result of stovepiping. Incompatible equipment was not just a source of frustration, it was a hindrance to combat operations and led to dangerous situations. Most notably, in the process of reconnoitring and subsequently assaulting the runway at Port Salines, US Army Rangers were faced with a Cuban fortified machine gun position on high ground, which required indirect fire support to be attacked. The Rangers had their own mortars and hoped to call on AC-130 Spectre helicopter gunships. Communications with the AC-130s on the air-to-ground radio was problematic at first, but the Rangers were eventually able to summon their assistance. Nevertheless, as it was broad daylight and there was intense anti-aircraft fire, it was difficult for the gunships to provide effective fire support.

Captain John Abizaid, in command of A Company, 1st/75<sup>th</sup> Rangers, acknowledged that the Rangers also encountered problems in obtaining NGS:

Normally we have ANGLICO [Air Naval Gunfire Liaison Company] and there were plans for ANGLICO but because of the speed of the deployment, the ANGLICO never joined us. So here's this perfect platform [naval 5" guns] sitting out on the coast unable to be used by us because the initial planning

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<sup>31</sup> Ian Speller, 'Delayed Reaction: UK Maritime Expeditionary Capabilities and the Lessons of the Falklands Conflict', *Defence & Security Analysis*, vol. 18, no. 4 (2002), p. 373.

<sup>32</sup> Ronald H. Cole, *Operation Urgent Fury: The Planning and Execution of Joint Operations in Grenada, 12 October–2 November* (Washington DC: Joint History Office, Office of the Chairman of the Joint Chiefs of Staff, 1997), p. 67.

<sup>33</sup> Major General Edward Trobaugh, written interview with author, 24 September 2012.

didn't envision the need for it and because the right people didn't get to the right place in the pre-deployment phase.<sup>34</sup>

Without the essential communications bridge that ANGLICO provided, the Rangers were unable to overcome the equipment compatibility issues that hindered their operations, which left them unable to establish contact with the ships for the provision of fire support. As a result, the Rangers were forced to launch an unsupported infantry assault up the hill, using a "commandeered" bulldozer in place of a tank.<sup>35</sup> The attack on Port Salines was ultimately successful, but it resulted in a number of casualties.

The 82nd Airborne were limited in obtaining the support of helicopter gunships due to difficulties with the runway at Port Salines and, just like the Rangers, they had no direct means of calling for NGS. In the absence of direct contact with the *Independence* Battle Group, the paratroopers were required to relay fire support requests back to Fort Bragg in the United States, who, in turn, would provide directions to the ship.<sup>36</sup> It was an incredibly inefficient process and one which was so convoluted that the 82nd Airborne were able to make little use of it. Without sufficient fire support, the 82nd Airborne's progress was hindered and their advance inevitably slowed. Deficiencies in communications inhibited all aspects of Operation Urgent Fury, but no issue was more adversely affected than the provision of fire support. The value of NGS had been underestimated and the impact of that attitude trickled down and negatively affected US troops on the ground.

The lessons provided by British operations in the Falklands and American operations in Grenada should be heeded by the ADF. Both of the conflicts were amphibious and expeditionary in nature, which is a contingency for which Australia must be prepared. If Australia is serious about developing a comprehensive capability, the RAN, and for that matter, all service branches, can ill-afford to discount the importance of NGS, as demonstrated by the experience of her allies. Although the RAN was ultimately not required to provide NGS between the Vietnam War and the 2003 Iraq War, the potential for such an eventuality did exist.

Whilst great caution should be applied to the consideration of counterfactuals, Australia's contribution to the International Force in East Timor (INTERFET), which was established by a United Nations Security Council resolution, provides a pertinent example. INTERFET forces were initially deployed in September 1999, in order to restore peace and security

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<sup>34</sup> ANGLICO is the dedicated observation force of the United States Marine Corps. General John Abizaid, interview with author, 23 June 2012.

<sup>35</sup> The Rangers were also unable to utilise Marine helicopters because their maps contained different grid systems. Richard Connaughton, *A Brief History of Modern Warfare: The Changing Face of Conflict, From the Falklands to Afghanistan* (London: Robinson, 2008), pp. 105-6.

<sup>36</sup> Cole, *Operation Urgent Fury*, pp. 52-3; Richard E. Stewart, *Operation Urgent Fury: The Invasion of Grenada, October 1983* (Washington, DC: US Government Printing Office, 2008), p. 22.

in the face of escalating violence following the independence vote. From an Australian perspective, it was fortunate that the 2nd Battalion Royal Australian Regiment's (2RAR) entry into Dili was not opposed, as they were operating at the end of a long air bridge and without heavy equipment. As a result, 2RAR would have been reliant on close air support from Royal Australian Air Force (RAAF) Base Tindal or NGS. It was fortuitous that neither CAS nor NGS was required, but the potential for power projection was important.<sup>37</sup> Then-Captain James Goldrick opined that, "maritime forces created a protective umbrella, within which the land component could operate, confident that it could concentrate on the job to be done in East Timor itself, without the possibility of external interference".<sup>38</sup>

### **NGS: There When You Need It**

A range of arguments have been put forward to justify the demise of NGS, but the capabilities that were believed to have superseded NGS have not always been reliable, and in some instances, have not been available at all. The benefits of CAS and, more broadly, tactical air support, are obvious and those capabilities have often been essential, but they have not always been available to those conducting operations on the ground. Operations in the Falklands, Grenada and Iraq all provided a stern reminder that the availability of air support could be constrained by a number of factors, including: the absence of air superiority, the number of aircraft in theatre, a lack of coordination and weather.

CAS was a limited commodity during Operation Corporate due to the dearth of available aircraft. The limited number of Sea Harriers in theatre—and the world for that matter—and their primarily defensive role in protecting the fleet meant that their employment in offensive action was constrained. Following an attack on the airstrip at Goose Green by three Sea Harriers from HMS *Hermes* on 25 May 1982, resulting in the loss of one aircraft and the death of Lieutenant Nick Taylor, Rear Admiral Sandy Woodward, Commander of the Carrier Battle Task Group, made the conscious decision to preserve the aircraft. Woodward concluded: "I resolved that from now on, if they were to bomb at all, it would only be against specific high-value targets or from high level—less accurate, I knew, but less expensive in Sea Harriers."<sup>39</sup> Although the Sea Harriers and the Royal Air Force Harrier GR3s made a significant contribution to the land battles through the provision of CAS, the lack of air superiority and inclement weather limited the capacity of these extremely capable platforms.

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<sup>37</sup> John Blaxland, *The Australian Army from Whitlam to Howard* (Port Melbourne: Cambridge University Press, 2013), p. 151.

<sup>38</sup> Alan Ryan, 'Primary Responsibilities and Primary Risks: Australian Defence Force Participation in the International Force East Timor', Study Paper No. 304 (Canberra: Land Warfare Studies Centre, November 2000), p. 79.

<sup>39</sup> Sandy Woodward, *One Hundred Days: The Memoirs of the Falklands Battle Group Commander* (Annapolis: Naval Institute Press, 1992), pp. 18-9.

The Official History of the Falklands Campaign recorded that: “[Brigadier Julian] Thompson found air support too weather dependent” and “so sparse as to be a bonus and nothing more”.<sup>40</sup> Concerns over the potential availability of air support prompted Major General Jeremy Moore, who had assumed command of the land forces on 12 May 1982, to plan for the eventuality of it not arriving during the brigade attacks, which led to a focus on ensuring that there was sufficient NGS to provide the required support.<sup>41</sup>

During Operation Urgent Fury, AC-130 gunships provided invaluable support and the availability of more aircraft would undoubtedly have been beneficial. Although operational fires were provided by a combination of A-7 fighter-bombers, AC-130 Spectre gunships and naval destroyers, it was the AC-130s that provided the distinguished support. Major General Trobaugh reportedly informed his staff that: “He would give up his offshore naval gunfire support, his landbased artillery, and his helicopters before he would release the gunships for redeployment”.<sup>42</sup> Nevertheless, the involvement of the AC-130s was not unrestricted and they were not always capable of providing the requisite support, as was the case at Port Salines.

During Operation Iraqi Freedom (OIF), some elements of the coalition perceived that the USN viewed NGS as “outdated” because of the increasing propensity to rely on tactical air support. The nature of OIF and the overwhelming force advantage held by the coalition fostered the notion that CAS would make NGS redundant. The coalition had achieved air superiority during Operations Northern Watch and Southern Watch, maintained an overwhelming air power advantage over Iraq and had five carrier battle groups on station. Consequently, it was believed that aircraft using precision guided munitions could satisfy any fire support requirements during the assault on the Al Faw peninsula.

The weather and its potential knock-on effect on operations changed the equation and led to an increased need for NGS. The coalition was aware that there are periods when there is extremely poor visibility over Iraq at that time of year, which could preclude the availability of air support.<sup>43</sup> As it turned out, a colossal sandstorm grounded a large proportion of the aircraft, which meant that the ships ended up providing fire support for forty-eight rather than the planned twenty-four hours.<sup>44</sup> In the end, none of the sorties that were put in the air to provide preparatory fires on the landing sites made

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<sup>40</sup> Lawrence Freedman, *The Official History of the Falklands Campaign, Volume II: War and Diplomacy* (London: Routledge, 2005), p. 621.

<sup>41</sup> Robert H. Scales Jr., *Fire Power in Limited War* (Novato: Presidio Press, 1995), p. 220.

<sup>42</sup> Major David T. Rivard, ‘An Analysis of Operation Urgent Fury’, Report 85-2185 (Montgomery: Air Command and Staff College, 1985), pp. 8-9.

<sup>43</sup> Rear Admiral Peter Jones, interview with author, 27 May 2011; Jim Dutton and Tom Waldhauser, ‘Operation Iraqi Freedom: US/UK Operations’, *The RUSI Journal*, vol. 148, no. 6 (December 2003), p. 10.

<sup>44</sup> Captain John Peterson, interview with author, 3 September 2011; Sea Power Centre-Australia, ‘Iraq Lessons: The More Things Change’, *Semaphore*, Issue 6, August 2003.

it to the targets, because they were all re-directed while in the air to high-priority targets that had been called in by the United States Marine Corps (USMC).<sup>45</sup> While the system of allocating air support on a priority basis was equitable, it meant that the availability of other forms of fire support was essential.<sup>46</sup>

In the case of small-to-medium navies, which are often operating without aircraft carriers, the potential lack of air support should always be a major consideration. For the ADF, the absence of aircraft carriers and the limitations on the range of land-based aircraft are especially significant. As Andrew Davies warned in 2009: "If we wanted the ADF to be able to provide air cover for the entire immediate neighbourhood, then we would need to use bases located in other countries."<sup>47</sup> The restricted range of aircraft conducting operations from Australia increases the potential for NGS to be employed within the ADF's primary operating environment.

Although ground forces often tend to favour their own organic artillery support due to the level of control that can be exerted over it, it has regularly proved to be insufficient to satisfy all requirements without additional firepower. During Operation Corporate, land-based artillery in the form of 105mm light guns, which were largely transported by helicopter, were essential to the success of the campaign. The official lessons of the Falklands campaign concluded that the performance of the artillery, which fired around 17,500 shells, was "excellent".<sup>48</sup> Despite the commendable performance of the artillery, there can be no doubt that British forces would have benefitted from the availability of medium and heavy artillery. NGS was effectively used as a substitute for medium artillery and proved to be invaluable. The absence of heavier artillery meant that the importance of NGS increased continually as the campaign progressed. The sinking of *Atlantic Conveyor* on 25 May 1982, resulting in the loss of a number of helicopters, dramatically reduced the lift capability of British forces and, ultimately, made it difficult to rapidly transport artillery to the required locations.

Similarly, during OIF, the transportation of artillery and the range of the guns limited the availability of firepower. Prior to the commencement of the Al Faw peninsula operation, it was intended that artillery and light armour would be landed on the beach by Landing Craft Air Cushion class hovercraft. The

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<sup>45</sup> Lieutenant General Jim Dutton, interview with author, 22 July 2011.

<sup>46</sup> Rear Admiral David Snelson, interview with author, 20 June 2011; House of Commons: Defence-Minutes of Evidence, Wednesday 3 December 2003, Examination of Witnesses, Rear Admiral David Snelson and Brigadier James Dutton CBE ADC, <<http://www.publications.parliament.uk/pa/cm200304/cmselect/cmdfence/57/3120301.htm>>.

<sup>47</sup> Andrew Davies, 'Putting the CAP into Capability', *The Strategist*, The Australian Strategic Policy Institute Blog, 22 May 2013, <<http://www.aspistrategist.org.au/putting-the-cap-into-capability/>> [Accessed 25 February 2014].

<sup>48</sup> Secretary of State for Defence, *The Falklands Campaign: The Lessons*, p. 23.

existence of beach mines, however, led to the plan being deemed infeasible by the Americans, which resulted in the withdrawal of the hovercraft.<sup>49</sup> Although the British had positioned 155mm artillery on Bubyian Island, it could not reach the tip of the Al Faw peninsula.<sup>50</sup> As a result, NGS played a significant, if not entirely expected, role in supporting the assault. NGS has proven to be an extremely important aspect of fire support and whilst it may not always be the most effective, its availability can be critical for forces fighting ashore.

### **Guided Missiles: The End of NGS?**

Land-attack cruise missiles have been a relatively topical issue due to the much-anticipated introduction of the Hobart class Air Warfare Destroyers (AWDs) to the RAN in 2016. The ships will be equipped with SM-6 anti-air missiles and have the capacity to fire long-range land-attack cruise missiles, as well as being fitted with advanced sensors to enhance target selection.<sup>51</sup> In 2012, the RAN declared that their “high end war fighting capability” had been “given a major boost” following the successful firing of a Harpoon Block II Missile at a land target range in the United States by HMAS *Perth*.<sup>52</sup> The GPS-guided missile provides a 500lb blast and can be used against a variety of land targets. The capacity to conduct long-range attacks against both land and waterborne targets was viewed as a significant advancement for the RAN.

The RAN’s commitment to missiles has mirrored developments in partner nations. Admiral Robert Natter, who occupied the dual role of Commander-in-Chief, US Atlantic Fleet and Commander of US Fleet Forces Command during OIF, has conceded that whilst the naval gun is “a very capable asset” and “still a good asset to have”, by 2003 it was no longer central to American naval thinking: “The short answer is that it is not as critical as it was in the past because in the past it was our main battery and then we developed an air plane, and then we developed missiles and then we developed guided missiles.”<sup>53</sup> NGS is clearly not as critical for the USN as it once was, and, in truth, it will never be as important as it was during the Second World War.

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<sup>49</sup> Dutton and Waldhauser, ‘Operation Iraqi Freedom’, p. 10; Rear Admiral S. R. Gilmore, ‘The Royal Australian Navy Fleet—Past, Present and Future’, *Institute Proceedings*, The Royal United Services Institute of New South Wales, 16 February 2010; Rear Admiral David Snelson, interview with author, 20 June 2011.

<sup>50</sup> Lieutenant General Jim Dutton, interview with author, 22 July 2011.

<sup>51</sup> Sea Power Centre-Australia, ‘The Navy’s New Aegis’, *Semaphore*, Issue 7, June 2009; ‘Aussie Rules: Air Warfare Destroyers Push Boundaries’, *Jane’s Navy International*, vol. 116, no. 8 (2011); Australian Association for Maritime Affairs, *Australian Maritime Digest*, vol. 187, no. 5 (1 February 2010), p. 5; Royal Australian Navy, ‘Air Warfare Destroyer (AWD)’, <<http://www.navy.gov.au/fleet/ships-boats-craft/awd>> [Accessed 28 September 2013]; Henry S. Kenyon, ‘New Ships for 21<sup>st</sup> Century Missions’, *Signal*, vol. 64, no. 2 (October 2009), p. 30.

<sup>52</sup> Royal Australian Navy, ‘Harpoon Block II Firing a First for Navy Capability’, 22 August 2012, <<http://www.navy.gov.au/news/harpoon-block-ii-firing-first-navy-capability>> [Accessed 28 September 2013].

<sup>53</sup> Admiral Robert Natter, interview with author, 16 February 2012.

However, NGS does still have a useful role in the twenty-first century, particularly for small-to-medium size maritime powers.

For smaller navies, such as the RAN, cost will be an important and ever-present consideration, especially in an era of austerity. During the Korean War, Rear Admiral J. E. Gingrich (USN), who was in command of the blockade and escort forces as Commander, Task Force 95, reasoned in mid-1952 that: "The cost of a 5-inch shell at the end of the Korean pipeline was approximately \$200 ... Unless it did that much damage, we were hurting ourselves more than the enemy."<sup>54</sup> The logic behind Gingrich's reasoning still holds firm and there is no doubt that financial considerations will be a fundamental factor in the selection of ordnance to be used.

With the cost of a single Tomahawk missile being reported as \$US 1.5 million, a critique of US spending on ammunition in *The Economist* concluded: "Money, as Cicero observed more than two millennia ago, is the sinews of war. That is still true today. But lately, from the American point of view, things have got ridiculous. Guided missiles, in particular, are ludicrously expensive."<sup>55</sup> Despite advancements in the development of naval shells, the cost remains significantly lower. Even improvements in accuracy are doing little to reduce the disparity in cost.<sup>56</sup> For example, the low cost munitions project in the United States was carried out with the intention of developing a guidance and control unit for under \$3,000 per round.<sup>57</sup> If the required effect can be achieved using a cheaper projectile, it is only logical that navies should seek to utilise NGS, when the circumstances lend themselves to such a decision.

The number of missiles maintained in national inventories will be determined by a range of factors, such as the amount of vessels capable of utilising the projectile, production lines and cost. It is highly unlikely that the level of stockpiled land-attack missiles would exceed the number of shells in a navy's inventory. Therefore, although the intended purpose is not always identical, when there is an overlap, the recourse to land-attack missiles is far from an inevitable decision. The example of the RN during OIF provides a pertinent example for the RAN. Only two of the RN's vessels were capable of firing Tomahawk Land Attack Missiles (TLAMs) and both of those vessels were submarines. As none of the surface vessels were capable of firing TLAMs, the flexibility of British forces was reduced. Nonetheless, as Rear

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<sup>54</sup> Malcolm W. Cagle and Frank A. Manson, *The Sea War in Korea* (Annapolis: United States Naval Institute, 1957), p. 352.

<sup>55</sup> 'Rockets Galore', *The Economist*, 29 September 2012, <<http://www.economist.com/node/21563702>> [Accessed 16 September 2014].

<sup>56</sup> Sandra I. Erwin, 'Naval Guns: Can They Deliver "Affordable" Precision Strike?', *National Defense Magazine*, March 2001, <[http://www.nationaldefensemagazine.org/archive/2001/March/Pages/Naval\\_Guns7095.aspx](http://www.nationaldefensemagazine.org/archive/2001/March/Pages/Naval_Guns7095.aspx)> [Accessed 16 September 2014].

<sup>57</sup> Norman Friedman, *The Naval Institute Guide to World Naval Weapon Systems*, fifth edition (Annapolis: Naval Institute Press, 2006), p. 485.

Admiral David Snelson, Commander, UK Maritime Force and Deputy Coalition Force Maritime Component Commander during OIF, explained, TLAMs “lend a particular capability to the UK expeditionary effort, providing precision strike in all weathers, without endangering aircrew, and are available at short notice”.<sup>58</sup>

Information on the quantity of TLAMs that are maintained by the RN is of limited availability in the public domain, but it was revealed that sixty-five were originally purchased, one of which was fired on the test range.<sup>59</sup> During the conflict in Libya, a “defence industry source” reportedly declared: “At this rate we are using up five or ten per cent of our stock [of TLAMs] per day and soon it could become unsustainable ... What if the strikes go beyond a second week? We will simply run out of ammunition.”<sup>60</sup> As a result of the finite resources possessed by the RN, the use of TLAMs and the impact on stock levels needed to be taken into consideration. Under such circumstances, it was hardly surprising that British and French naval forces found a role for NGS in Libya. Even with the addition of precision guided land-attack missiles to the service’s inventory, the selection of projectiles during any amphibious operation will need to be seriously deliberated by the RAN.

Whilst there are a great many benefits to using precision guided munitions over ‘dumb’ projectiles, there are some advantages to the use of shells. In certain scenarios, the spread of fire provided by NGS is exactly what land forces require. It was estimated that during Operation Corporate, a barrage of twenty-five rounds of 4.5” naval gunfire was dispersed within an area that was smaller than a tennis court.<sup>61</sup> RN ships carried two different types of 4.5” guns during Operation Corporate. The newer Mark 8 was deemed to be more accurate and provided a greater rate of fire, whilst the older Mark 6 was considered to be more reliable. The divergences in accuracy were somewhat of a double-edged sword. For precision targets and missions in support of friendly troops in contact, any increase in accuracy was obviously advantageous. However, in the harassment role, which was designed to restrict the enemy’s movement and create the feeling that they could be killed at any given moment, a small dispersion of shells could be beneficial. Lieutenant Commander Ian Inskip, the Navigating Officer of HMS *Glamorgan*, noted: “Whereas the Mark 8 would place shells in a very tight pattern, the Mark 6 tended to spread them about. When firing five or ten

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<sup>58</sup> House of Commons: Defence-Minutes of Evidence, Wednesday 3 December 2003, Examination of Witnesses, Rear Admiral David Snelson and Brigadier James Dutton CBE ADC.

<sup>59</sup> *Ibid.*

<sup>60</sup> Thomas Harding, ‘Libya: Navy Running Short of Tomahawk Missiles’, *The Telegraph*, 23 March 2011, <<http://www.telegraph.co.uk/news/worldnews/africaandindianocean/libya/8400079/Libya-Navy-running-short-of-Tomahawk-missiles.html>> [Accessed 16 September 2014].

<sup>61</sup> Scales Jr., *Fire Power in Limited War*, p. 212.

rounds, one wanted to blanket an area rather than land shells in the same place.”<sup>62</sup>

The psychological strain inflicted on Argentine troops by NGS was also significant. One Argentine soldier noted: “We were very demoralized at that time because we felt so helpless, we couldn’t do anything. The English were firing at us from their frigates and we couldn’t respond.”<sup>63</sup> The demoralising capability of NGS was never more apparent than during the capture of South Georgia. The extensive bombardment by HMS *Plymouth* and HMS *Antrim* was recorded as the main factor in inducing the Argentinian troops to surrender.<sup>64</sup>

During OIF, whilst accuracy was obviously of paramount importance, the ability to spread fire was one of the great advantages of NGS. The intention, where possible, was to clear Iraqi troops and force them to surrender, rather than kill them.<sup>65</sup> In order to achieve that objective, the first round fired by the ships was normally offset by one hundred yards, causing the round to fall close to the target without hitting it. The Royal Marines then opened fire with personal weapons, whilst at the same time using loudspeakers to coax Iraqi forces into surrendering. In most instances, Iraqi forces capitulated by that stage, but if they did not then two or three rounds were fired on top of the target.

One of the benefits of the naval gun is its versatility in terms of the types of rounds that can be used. Aside from high explosive rounds; star shells for illumination, white phosphorous rounds for smoke, armour piercing and anti-aircraft rounds, amongst others, can be fired. In addition, different fuses can be utilised to allow for explosion on impact or after a set time. In some circumstances, such as Libya, star shells can achieve the required effect, whilst at the same time reducing the risk of collateral damage. Although it can be essential under some circumstances, precision accuracy is not always required and, in some instances, it is not even desired. Each situation needs to be evaluated on its merits and it is important that the NGS capability forms part of the options available to land forces.

## **NGS and the Australian Amphibious Force**

The intended development of an effective amphibious force has necessitated a process of restructuring. As part of Plan Beersheba, 2RAR will form the backbone of the Australian Army’s contribution as a specialist amphibious

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<sup>62</sup> Commander Ian Inskip, *Ordeal by Exocet: HMS Glamorgan and the Falklands War 1982* (London: Chatham Publishing, 2002), p. 128.

<sup>63</sup> Scales Jr., *Fire Power in Limited War*, p. 211.

<sup>64</sup> Major General Julian Thompson, interview with author, 26 October 2012; Nick van der Bijl, *Nine Battles to Stanley* (Barnsley: Leo Cooper, 1999), p. 75.

<sup>65</sup> Major Peter Boyce, interview with author, 15 December 2011; Colonel James Hutton, interview with author, 18 January 2012.

infantry unit.<sup>66</sup> Perhaps inevitably, the public focus has been drawn to the decision to purchase a range of amphibious vessels, particularly the keynote acquisition of two Canberra class amphibious assault ships (LHD).<sup>67</sup> Amongst the significant transformations and key acquisitions being pursued by the ADF, the humble surface combatant has maintained an important role. As the RAN outlined in 2005:

The highly capable surface combatant is well placed to provide a flexible and rapid response to the broad range of threats that may arise in Australia's large sovereign area, as well as supporting our nation's global interests further afield.<sup>68</sup>

In *The Navy Contribution to Australian Maritime Operations*, the RAN acknowledged that: "Surface combatants provide unique capabilities that complement other elements of the ADF force structure to ensure a layered defence or concentration of effects against a wide range of threats."<sup>69</sup> Sea combatants are expected to engage in anti-submarine warfare (ASW), AAW and anti-surface warfare to protect advance forces (hydrographic, mine warfare and clearance divers) and the amphibious force itself, as well as other maritime power projection forces.<sup>70</sup>

While the surface combatant will be required to undertake a range of tasks, *Australian Maritime Doctrine* (2010) made it clear they offered "considerable potential to contribute to combat operations on land and in the air":

Medium calibre guns in surface combatants can be used for fire support or bombardment operations, while air warfare sensors and weapons contribute to counter air operations. These capabilities will be particularly useful when networked with AEW&C and fighter aircraft, or with land-based sensors and weapons. Army battlefield helicopters (embarked in the Amphibious Ready Group (ARG)) and naval combat and utility helicopters can also provide extensive support to operations on land.<sup>71</sup>

Whilst the introduction of another capability, especially an additional form of fire support, necessitates consideration, not least because of the

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<sup>66</sup> John Wellfare, 'Beersheba's Battle Plan', *Army News*, 2 February 2012, p. 18; The Australian Army, 'Amphibious Capability', <<http://www.army.gov.au/Our-future/Plan-BEERSHEBA/Amphibious-capability>> [Accessed 14 December 2013].

<sup>67</sup> Commonwealth of Australia, *Defending Australia in the Asia-Pacific Century: Force 2030*, Defence White Paper (Canberra: Department of Defence, 2009), p. 73.

<sup>68</sup> Commonwealth of Australia, *The Navy Contribution to Australian Maritime Operations*, RAN Doctrine 2–2005, First edition (Canberra: Sea Power Centre-Australia, 2005), p. 85.

<sup>69</sup> *Ibid.*, p. 88.

<sup>70</sup> *Ibid.*, pp. 91-2.

<sup>71</sup> Commonwealth of Australia, *Australian Maritime Doctrine: RAN Doctrine*, RAN Doctrine 1–2010 (Canberra: Sea Power Centre-Australia, 2005), p. 107.

requirement for deconfliction, the surface combatant is still a critical component of an amphibious force.<sup>72</sup>

RAN doctrine encapsulates the idea that surface combatants can play a crucial role during amphibious operations. In the area of maritime power projection, which is considered to include: “the landing of amphibious or special forces, the delivery of land forces by sea, and the provision of bombardment by guided or unguided weapons from seaborne platforms”, surface combatants have the potential to be useful contributors.<sup>73</sup> In some circumstances, surface combatants can provide an essential increase in firepower, whilst in others, they can be utilised to reduce the amount of land-based artillery required and, consequently, lessen the logistical demands of the amphibious force. Of the five types of amphibious operations outlined in Australian joint doctrine (raid, demonstration, assault, withdrawal and military support operations), NGS has the potential to be of great utility to all but military support operations, which incorporate tasks such as relief efforts, peacekeeping and humanitarian assistance.<sup>74</sup>

The structure of Australia’s amphibious force and the ADF in general not only leaves room for the continuation of the NGS capability, but actually warrants it. With the Anzac class still in the service with the RAN, the amphibious force can continue to rely on the support of the 5” gun and its capacity to fire twenty rounds per minute. The Hobart class AWDs, in addition to anti-air and anti-ship missiles, will also be equipped with a 5” gun. The indication is that future frigates will also possess the naval gun. The very fact that the United Kingdom and Australia are considering working jointly on future frigates, including the RN’s Type 26 Global Combat Ship, at a time when interest in NGS has been rejuvenated in the United Kingdom suggests that the naval gun will remain an important tool in the RAN’s kit bag.<sup>75</sup>

Although some tasks are likely to occupy Australian forces more than others, all contingencies must be prepared for in advance. As John Blaxland noted, “while we hope the amphibious capability will never be called upon for warfighting, it must be prepared to do so”.<sup>76</sup> Australian amphibious forces will obviously be able to utilise other forms of fire support than NGS during

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<sup>72</sup> Alan Titheridge, Gary Waters and Ross Babbage, *Firepower to Win: Australian Defence Force Joint Fires in 2020*, Kokoda Paper No. 5 (Canberra: The Kokoda Foundation, October 2007), p. 29.

<sup>73</sup> Commonwealth of Australia, *The Navy Contribution to Australian Maritime Operations*, p. 92.

<sup>74</sup> *Ibid.*, pp. 105-6. See: Australian Defence Force, ‘Australian Defence Doctrine Publication (ADDP) 3.2—Amphibious Operations’, Second edition (Canberra: Commonwealth of Australia, 2009).

<sup>75</sup> Royal Navy, ‘Britain and Australia to Work Together to Create Possible Frigates of the Future’, 18 January 2013, <<http://www.royalnavy.mod.uk/News-and-Events/Latest-News/2013/January/18/130118-UK-and-Aus-Type26>> [Accessed 29 April 2014].

<sup>76</sup> John Blaxland, ‘In War and Peace an Amphibious Capability is Apt’, *The Canberra Times*, 22 October 2012.

operations, but the naval gun still has a role to play. The capacity of the LHD to carry helicopters means that Tiger attack helicopters can be used to support amphibious operations, either by providing direct fire support or delivering precise target information.<sup>77</sup> Tiger helicopters offer an impressive array of firepower, including a 30mm gun, 70mm rockets and Hellfire Air to Ground missiles (AGMs).<sup>78</sup> The 30mm gun is capable of firing 750 rounds a minute at air or ground targets. The Hellfire AGMs, which provide a heavy anti-armour capability, are laser guided and offer the capability to designate the target either before or after firing.<sup>79</sup>

Nevertheless, the availability of Tiger helicopters to support amphibious forces will not diminish the value of NGS. Although the Australian Army considers the Tiger to be “one of the most advanced armed reconnaissance helicopters in the world”, and there can be doubt that the aircraft will offer the ADF huge advantages in power projection capabilities in comparison to their predecessors, they will still be subject to the same risks.<sup>80</sup> The Tiger may have far greater survivability and be capable of minimising risks, but they are still vulnerable in a hostile air environment or in the case of adverse weather. The two capabilities should be seen as complementary because as well as offering a range of fire support, the targeting technology fitted in the Tigers could enhance the provision of NGS. Whilst Australia continues to deploy ships armed with naval guns and those weapons can be usefully employed to support forces operating ashore or to achieve a desired effect, NGS will remain a valuable capability.

## **NGS: Ready Aye Ready**

The conduct of integrated operational training will be essential to the development of an effective amphibious force. It was noted in *Future Maritime Operating Concept—2025: Maritime Force Projection and Control* that:

Real time mission simulation, detailed operations analysis, distance education systems and opportunities to learn from the experiences of other forces will enhance the capability of maritime force personnel. It should be noted that while simulation will permit enhanced training, it will not replace field training and live fire activities under realistic conditions.<sup>81</sup>

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<sup>77</sup> Commonwealth of Australia, *Defending Australia in the Asia-Pacific Century*, p. 77.

<sup>78</sup> Department of Defence, ‘AIR 87—Armed Reconnaissance Helicopters’, September 2008, <<http://www.defence.gov.au/dmo/asd/air87/main.cfm>> [Accessed 29 April 2014].

<sup>79</sup> The Australian Army, ‘ARH Tiger’, <<http://www.defencejobs.gov.au/army/about-the-army/vehicles-and-aircraft/arh-tiger.aspx>> [Accessed 29 April 2014].

<sup>80</sup> The Australian Army, ‘ARH Tiger’, <<http://www.army.gov.au/Our-work/Equipment-and-clothing/Aviation/ARH-Tiger>> [Accessed 29 April 2014].

<sup>81</sup> Australian Defence Force, *Future Maritime Operating Concept—2025: Maritime Force Projection and Control*, unclassified version (Canberra: Sea Power Centre-Australia, 2007), p. 17.

That the surface combatant's capacity to deliver NGS remains highly valued by the RAN is demonstrated by the training undertaken by Australian ships. RAN ships practise a number of different serials, including communication exercises, system trials and live firings. Non-firing drills are conducted at least monthly and live firings on multiple occasions throughout the year. Post-maintenance trials, exercises and some mission work-ups also include live firings.<sup>82</sup>

The RAN's commitment to preserve the skill set suggests that NGS will remain relevant for the foreseeable future and will arguably increase in importance as the focus on an amphibious capability intensifies and developments in fire support are enacted. Indeed, in 2007, the RAN declared: "The development of sea based land attack weapons, such as land attack missiles and extended range gun munitions, will allow maritime forces to responsively support manoeuvre ashore at considerable distances."<sup>83</sup>

### **NGS: A Current Capability**

The intent to use a capability (if required) is an important determinant in the assessing its usefulness, but so is the potential requirement to do so. The 2013 Defence White Paper outlined four principal tasks for the ADF:

- Deter and defeat attacks on Australia
- Contribute to stability and security in the South Pacific and Timor-Leste
- Contribute to military contingencies in the Indo-Pacific
- Contribute to military contingencies in support of global security.<sup>84</sup>

Whilst a case could be made for the naval gun during all of the aforementioned contingencies, NGS is far more likely to be required under certain circumstances. In the event of an attack on Australia, the naval gun could foreseeably be used in ship-to-ship engagements. However, from an NGS perspective, it is particularly worthwhile to consider the potential requirement for the capability during contingencies other than an attack on Australia.

The maritime expanse of the South Pacific with its extensive littoral environments creates the possibility that NGS could be useful in the future, as it has been in the past. Hugh White has noted:

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<sup>82</sup> Written interview with RAN officer, conducted by the author, 4 May 2013.

<sup>83</sup> Australian Defence Force, *Future Maritime Operating Concept—2025*, p. 18.

<sup>84</sup> Commonwealth of Australia, *Defence White Paper 2013* (Canberra: Department of Defence, 2013).

Australia will face continuing demands to undertake military interventions in small island states in our neighbourhood. Indeed, Australia's strategic stake in our small neighbours will only increase if, as seems likely, the wider Asian scene becomes more contested between the US and China.<sup>85</sup>

Australia's experience during INTERFET demonstrated that stability and security operations could potentially lead to the requirement for NGS, even though it was not actually required in East Timor. Restrictive rules of engagement may well circumscribe the scope for employing fire support in many contingencies.

The maritime and archipelagic nature of Australia's primary operating environments lends itself to the utilisation of NGS in the event of participation in military contingencies in the Indo-Pacific. Although frigates and the AWDs, which will both possess 5" naval guns, will primarily be used for other purposes, their presence during operations ensures that the NGS capability can be quickly utilised as and when required. In the event that artillery cannot be landed or that it is insufficient to address the requirement of the forces ashore, NGS can fill the gap.

Events in Iraq and Libya have demonstrated that NGS can and will be used in contemporary military contingencies in support of global security. There is no reason why the usefulness of NGS should diminish in future operations outside of Australia's primary operating environment. If anything, the development of Australia's amphibious force will increase the relevance of NGS in the future. Australia's history of conducting expeditionary operations provides a platform for future involvement in military contingencies in support of global security. Furthermore, as Australia has frequently acted as part of a coalition and those forces have continued to employ NGS, it is an area where a valid contribution can be made to multinational efforts, often at minimal cost.

## **Here Today, Here Tomorrow**

The golden era of NGS has long since passed. The importance of NGS has been diminished by the continual developments in firepower since the Second World War. Despite a resurgence of interest in the capability after the Falklands War, which was followed by the battleships USS *Missouri* and USS *Wisconsin* firing 1,185 shells at enemy shore defences during Operation Desert Storm, the appeal of NGS waned as the twentieth century came to a close.<sup>86</sup> However, the important, if unexpected, utilisation of NGS during OIF and the conflict in Libya has indicated that whilst navies have had to adapt the way in which the capability is used, it is still relevant in the twenty-first century.

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<sup>85</sup> Hugh White, 'Army Should be Careful with its Aim', *Sydney Morning Herald*, 1 May 2012.

<sup>86</sup> William H. Garzke, Jr. and Robert O. Dulin, Jr., *Battleships: United States Battleships, 1935-1992* (Annapolis: United States Naval Institute Press, 1995), p. 278.

For the RAN, HMAS *Anzac's* involvement in NGS during OIF was a milestone, as it was the first time that an Australian ship had fired in anger since the Vietnam War. Quite simply, there had been no requirement for the RAN to deliver NGS in the intervening period.<sup>87</sup> However, this does not mean it will not be required again, either in support of coalition operations like OIF or in direct support of operations in the South Pacific, South East Asia or the broader Indo-Pacific. The RAN's limited utilisation of NGS should not be allowed to cloud its continued relevance. Whilst there are many variations of amphibious operations, offensive capabilities must be seriously considered, even though they may only be used infrequently (if at all in the near future). Even if land-attack missiles are freely available to the RAN, there will still be a place for the more modest naval shell, which is not only cheaper and more prevalent, but can, in some instances, be more useful to those fighting on land. NGS came perilously close to being written off in Australia once before, when doubts over the merits of the capability led to the initial design of the *Anzac* class including the incorporation of the Otto Malero 76mm gun. In that instance, advocates of NGS won the day and it would be wise for that lesson to be heeded into the future.

That is especially true since the decision was taken to transform the Australian Army into an amphibious force. Indeed, as Hugh White has explained: "Amphib [amphibious] ops were not seen as a big priority in the [19]80's, but today they are seen as central to Army's future, and in that context NGS makes much more sense".<sup>88</sup> Other forms of firepower have superseded NGS, but they have not invalidated it. Although NGS is likely to be used relatively infrequently and more sparingly than in the past, it is a capability that should be maintained and practised to provide forces ashore with an additional source of firepower. There will undoubtedly always be people that deem NGS an irrelevance in the modern era, but history has proven otherwise.

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<sup>87</sup> Although capable of providing NGS if required, there was no call for RAN ships to do so during Operation Desert Storm. Rear Admiral Ken Doolan, interview with author, 18 April 2011.

<sup>88</sup> Professor Hugh White, written interview with author, 15 October 2013.