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NAVAL COOPERATION AND GUIDANCE TO SHIPPING IN THE CONTEMPORARY OPERATING ENVIRONMENT

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JCSP 43 DL

Exercise Solo Flight

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CANADIAN FORCES COLLEGE – COLLÈGE DES FORCES CANADIENNES
JCSP 43 DL – PCEMI 43 AD
2017 – 2018

EXERCISE *SOLO FLIGHT* – EXERCICE *SOLO FLIGHT*

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NAVAL COOPERATION AND GUIDANCE TO SHIPPING IN THE CONTEMPORARY OPERATING ENVIRONMENT

Maritime transport is the backbone of global trade and the global economy.

- Former UN Secretary-General Ban Ki-moon

Introduction

Maritime trade remains an essential component of the modern globalised society. Seaborne trade accounts for over 80 percent of global trade by volume and 70 percent by value.¹ In 2016, total volumes of seaborne trade reached 10.3 billion tons. Consequently, the safety and security of the world's sea lines of communication (SLOCs) has become even more important as maritime threats evolve. For island nations such as New Zealand and Australia, seaborne trade accounts for 99% of trade by volume.² Such isolation and heavy reliance on export and import means that any threat to the global order that impacts on safety of shipping has the potential to cause a direct and profound effect on many nations and the interconnected global economy.

While the protection of shipping as a core component of a navy is as old as navies themselves, the foundations of Naval Cooperation and Guidance to Shipping (NCAGS) can be traced to World Wars One and Two with the Allied Naval Control of Shipping (NCS). NCS was critical to the allied success in both wars as the war effort was dependant on supplies and resources arriving by sea.³ After the end of the Cold War the threats to merchant shipping had evolved and NCS as it stood was no longer as relevant. Therefore, Naval Cooperation and Guidance for Shipping (NCAGS) was implemented, in order to provide,

¹ United Nations Conference on Trade and Development (UNCTAD), *Review of Maritime Transport 2017, United Nations: 2017*, accessed 21 May 2018, http://unctad.org/en/PublicationsLibrary/rmt2017_en.pdf, xi.

² New Zealand Ministry of Transport, "Connecting New Zealand – Maritime transport," accessed 19 May 2018, <https://www.transport.govt.nz/multi-modal/keystrategiesandplans/connectingnewzealand/cnzmaritimetransport>.

³ Marc Milner, "The Battle of the Atlantic," *Journal of Strategic Studies*, 13:1, 45-66, 2008, accessed 18 May 2018, <https://www.tandfonline.com/doi/abs/10.1080/01402399008437400?src=recsys>

“military co-operation, guidance, advice, assistance, and supervision to merchant shipping to enhance the safety of participating merchant ships and support military operations.”⁴

Consequently, NCAGS became the interface between naval and merchant shipping “in support of the operational commander’s mission.”⁵

Today, despite a very different security environment, the need for protection of shipping continues. Therefore, this paper argues that Naval Cooperation and Guidance to Shipping (NCAGS) is a concept that remains relevant in the contemporary operating environment. NCAGS doctrine provides the basis for this and allows for interoperability in the Joint, interagency, multinational and public (JIMP) domains. This paper will argue for the relevance of NCAGS by firstly exploring the current security situation with regard to the maritime domain. Secondly, by assessing the NCAGS doctrine and tools and discussing their use in a number of recent case studies. Lastly, by exploring the potential for NCAGS to be enhanced by the adoption of the Maritime Trade Operations model in order to maintain its relevance into the future. The essay concludes that global reliance on merchant shipping coupled with instability in the contemporary environment ensures that NCAGS is indeed still relevant today. Furthermore, nations that rely heavily on trade must also maintain and uphold the skills necessary for maritime protection that can be used at home or abroad in the defence of their national interests.

Today’s Security Environment

The interconnectedness of today’s global economy means that any interruption to trade could have a rapid and negative effect on national and regional economies. For those

⁴ NATO Shipping Centre, “Operations,” accessed 12 May 2018, <https://shipping.nato.int/nsc/operations/osg.aspx>

⁵ North Atlantic Treaty Organisation, *ATP- 2.1 Naval Cooperation and Guidance for Shipping (NCAGS) – Guide to Owners, Operators, Masters And Officers*, Edition A Version 1, NATO Standardisation Officer: 2014, 1-1.

that rely on shipping for up to 99% of their trade, such as Australia and New Zealand, it would affect all levels of business as well as individual activities within the nation.

Compromised security in or around maritime choke points are a key concern. Taking Australia as an example, if the Straits of Hormuz or Malacca Strait were to be closed to merchant shipping any engine dependant on fuel would grind to a stop within two months. This is because, Australia holds enough fuel stores for only “22 days’ worth of crude oil, 59 days of liquefied petroleum gas (LPG), 20 days of petrol, 19 days of aviation fuel, and 21 days of diesel in reserve.”⁶

Contemporary threats to maritime trade include piracy, transnational threats, state and non-state hostility, terrorism and cyber-attacks. These threats “all have the potential to hinder, restrict or even close shipping routes, thus delaying or stopping the availability of commodities and imposing additional costs on consumers.”⁷ In addition, any part of the ocean deemed as a maritime high risk area (HRA) impacts the industry through increased insurance rates which have a significant financial impact on shipping rates, which in turn rapidly flow on to the customers. Not all threats to merchant shipping are from state and non-state actors, maritime trade is also vulnerable to the effects of natural events. Furthermore, the introduction of mega-ports, particularly in Asia, “has created another kind of chokepoint, as these ports are critical to the effective movement of seaborne trade.”⁸

In more recent years maritime piracy has occurred in the Straits of Hormuz, off the Horn of Africa and more recently West Africa and the Gulf of Guinea. Indeed, 2017 saw a spike in piracy off Somalia and although not at the numbers seen between 2008 and 2012 the

⁶ Samantha Hepburn, “Australia’s fuel stockpile is perilously low, and it may be too late for a refill,” 9 May 2018, *The Conversation*, accessed 15 May 2018, <https://theconversation.com/australias-fuel-stockpile-is-perilously-low-and-it-may-be-too-late-for-a-refill-96271>

⁷ Sea Power Centre Australia, *Australian Maritime Operations*, Royal Australian Navy: 2017, 107.

⁸ *Ibid.*, 113.

attacks serve as a stark reminder to mariners of the fragility of the regions maritime security.⁹ Additionally, the Malacca Straits and the South China Seas remain a hot spot for piracy with 101 incidents reported in the Asia region in 2017. In fact, this was an increase of 19 percent on 2016 reports.¹⁰

Terrorism is an increasing concern for merchant shipping both in peacetime and conflict. Despite the relatively low number of attacks against merchant shipping over the past fifty years, terrorism against or using merchant ships is still seen as a viable threat to ships, ports and infrastructure.¹¹ An example of a terrorist act against merchant shipping includes the attack on the MV Limburg off Yemen in 2002.¹² The use of a merchant vessel as a carrier of a weapon of mass destruction (WMD) or as transporter of precursor materials has also become a concern. Chalk argues that “it is reasonable to assume that the maritime environment will remain an interest to terrorist organizations because of its expanse, lack of regulation, and general importance for global trade.”¹³

Intra and interstate conflict also pose a risk to merchant shipping as seen during the Tanker Wars of the Iran Iraq conflict in the 1980s, Lebanon in 2006, and in Libya from 2011. Most recently, from 2016, rockets and missiles have been fired at merchant vessels off the coast off Yemen. For instance, 3 April 2018, the Saudi Arabian flagged merchant tanker Abqaiq was attacked in the Southern Red Sea.¹⁴ Only one month later on 10 May 2018, a Turkish bulk carrier carrying wheat to Yemen was hit by a rocket or missile. It has been

⁹ Fairplay IHS, “Shipping Faces Evolving Piracy Threat,” accessed 10 May 2018, <https://fairplay.ihs.com/safety-regulation/article/4292776/shipping-faces-evolving-piracy-threat>

¹⁰ Regional Cooperation Agreement on Combating Piracy and Armed Robbery against Ships in Asia (ReCAAP), “January- December 2017 Annual Report Piracy and Armed Robbery Against Ships in Asia,” ReCAAP: 2017, accessed 14 May 2018, <http://www.recaap.org/resources/ck/files/reports/2018/01/ReCAAP%20ISC%20Annual%20Report%202017.pdf>

¹¹ North Atlantic Treaty Organisation, *ATP- 2.1* ..., 4J-1.

¹² Fairplay IHS, “Shipping Faces Evolving Piracy Threat.”

¹³ W.S.G. Bateman, *Lloyd's MIU Handbook of Maritime Security*, edited by Rupert Herbert-Burns, and Peter Lehr, Auerbach Publications, 2008, ProQuest Ebook Central, accessed 15 May 2018, <http://ebookcentral.proquest.com/lib/nzdf/detail.action?docID=365166>. xxv.

¹⁴ European Union Naval Force, “EU NAVFOR confirm MT Abqaiq attacked in Southern Red Sea,” 4 April 2018, accessed 23 May 2018, <http://eunavfor.eu/eu-navfor-confirm-mt-abqaiq-attacked-in-southern-red-sea/>

assessed that these attacks were carried out by non-state Yemeni actors from ashore. Subsequently, the attack prompted a warning from a European Union Naval Force (EUNAVFOR) official that more attacks on merchant ships are likely as the situation worsens.¹⁵

The emergence of new technologies and automation has introduced new threats to the maritime industry. The key technological concern to the industry, both at sea and ashore, being cyber. Both state and non-state actors can potentially wreak havoc across the whole industry. Cyber can be used for commercial gain, to disrupt or at the far end of the spectrum to cause destruction. The NotPetya cyberattack of June 2017 demonstrated to the maritime industry the impact of a wide spread cyber-attack. The attack affected the world's largest seaborne freight carrying company, Maersk Line, its vessels and its container terminal operations.¹⁶ Another concern is remote vessel access. Remote on-board systems now mean that vessels can be controlled from ashore. Therefore, the risks exists that a vessel could be hacked and taken control of by another actor for commercial or political gain. This occurred in February 2017 when a container vessel lost all control of its on-board navigation systems for 10 hours.¹⁷

Recent advances in military technology have seen containerised missile systems such as the Russian Club K and the Israeli Long-Range Artillery (LORA) system being developed

¹⁵ Jonathon Saul, "Ship carrying wheat to Yemen hit by missile: EU navy force," 24 May 2018, Reuters, accessed 24 May 2018, <https://www.reuters.com/article/us-yemen-security-shipping/ship-carrying-wheat-to-yemen-hit-by-missile-eu-navy-force-idUSKCN1IO2T0>.

¹⁶ Deloitte, "Industry insight, New Zealand ports and freight yearbook 2018," accessed 20 May 2018, <https://www2.deloitte.com/nz/en/pages/finance/articles/new-zealand-ports-and-freight-yearbook.html>

¹⁷ Fairplay IHS, "Hackers took 'full control' of container ship's navigation systems for 10 hours," 22 November 2017, accessed 28 May 2018, <https://fairplay.ihs.com/safety-regulation/article/4294281/hackers-took-%E2%80%98full-control%E2%80%99-of-container-ship%E2%80%99s-navigation-systems-for-10-hours>.

and marketed.¹⁸ Their potential use for deception brings into play significant concerns and issues for both shipping and militaries.

Finally, while the end of the Cold War saw a decline in the threat of a war being played out at sea, more recent events have seen a return to great power competition.¹⁹ For instance, the situation in the South China Sea and the Straits of Hormuz have the potential to cause major concerns for maritime trade protection.

NCAGS

Vice Admiral Tim Barrett states, "Merchant vessels provide the business of the sea and naval vessels provide the security of the sea."²⁰ Therefore, the navy must be in the business of protecting those same merchant vessels in times of need. It is the NCAGS doctrine that provides the means and the effects in order to do this. Furthermore, it is the NCAGS organization that "speaks the language of both the navies and the merchant marine" and in doing so provides a conduit for collaboration.²¹

NCAGS as a doctrine continues to evolve with the changing times in order to stay relevant. NATO can no longer demand that commercial ships be "controlled" by naval forces, hence the change to "co-operation." Merchant shipping may choose to follow military recommendations however, to choose not to may mean forfeiting military protection in threat areas. While military operations often involve, or have an impact on merchant shipping,

¹⁸ Joseph Trevithick, "Israel just launched a containerized ballistic missile from the deck of a ship," 21 June 2017, The Drive, accessed 15 May 2018, <http://www.thedrive.com/author/joseph-trevithick/www.thedrive.com/the-war-zone/11723/israel-just-launched-a-containerized-ballistic-missile-from-the-deck-of-a-ship>

¹⁹ United States Senate Committee on Armed Services, "Advance Policy Questions for Admiral Philip Davidson, USN," accessed 25 April 2018, https://www.armed-services.senate.gov/imo/media/doc/Davidson_APQs_04-17-18.pdf

²⁰ Tim Barrett, *The Navy and the Nation: Australia's Maritime Power in the 21st Century*, Melbourne University Publishing: 2017, 635.

²¹ Bateman, *Lloyd's MIU Handbook of Maritime Security*, 32.

conversely commercial shipping may affect military operations.²² Therefore, cooperation can “minimize delays and enhance the safety and security of merchant ships when transiting through maritime areas of operation.”

NCAGS is applicable across the full spectrum of operations, from peace time operations to conflict. The NCAGS organisation provides the operational commander the ability to apply a tailored NCAGS solution ranging from an embarked staff officer to multiple deployable elements.²³ NCAGS is based around providing the operational commander a series of effects in order to contribute to the Commander’s decision-making process as well as the efficient and effective use of military assets. NCAGS effects help facilitate freedom of manoeuvre and the “free flow of maritime trade in the area of operations.”²⁴ This includes providing enhanced maritime domain awareness (white picture), de-confliction of shipping with operational requirements and providing liaison, guidance, advise, assistance, supervision and confidence to merchant shipping. NCAGS effects are intended to increase “merchant shipping’s confidence in military operations”²⁵ and to ultimately assist in protecting the “nations’ economic well-being and international stability.”²⁶

The key to an effective NCAGS organisation is co-operation not only between the civil-military interface but between nations. It has been recognised that:

There is never enough resources to concurrently protect all shipping and all ports...
Every maritime nation faces a similar situation therefore efforts continue to build an international partnership of navies willing to participate in global maritime security.²⁷

²² North Atlantic Treaty Organisation, *ATP- 2.1 ...*, 1-1.

²³ *Ibid.*, 2-1.

²⁴ *Ibid.*, 1-1.

²⁵ North Atlantic Treaty Organisation, *ATP- 2.1 ...*, 1-1.

²⁶ *Ibid.*, 1-1.

²⁷ Sea Power Centre Australia, *Australian Maritime Operations*, 110.

Therefore, NATO and the Pacific and Indian Oceans (PACIO) shipping working groups provide the forums for member states to advance inter-operability through discussion and exercises.²⁸ Indeed, as Till states, “the relationships developed with regional navies through exercises, port visits and training provide the opportunity for regional cooperation to protect shipping, as all countries will be affected if there are disruptions to seaborne trade.”²⁹

NCAGS provides an internationally recognised doctrine that acts as a baseline for maritime protection operations. It does however also serve as a flexible tool, as nations are free to supplement the doctrine according to their needs. The existence of multinational doctrine is also indispensable when it comes to training, preparation, and interoperability. The non-prescriptive nature of the doctrine and the unclassified nature of most NCAGS operations means that it is suitable for the Joint Interagency, multinational and public (JIMP) domains. Likewise, the ATP- 2.1 handbook provides the industry with an unclassified handbook for NCAGS operations which allows for a shared understanding across all sectors of shipping.

A counter argument to the usefulness of NCAGS is rooted in Mahan’s influence. Although Mahan acknowledged the disrupting effect of *guerre de course*³⁰ he believed that it was sea control through supremacy of force that would ensure safety of shipping.³¹ However, this thinking led to a time lag in the implementation of a formal system of protection of shipping during WW2.³² Accordingly in today’s complex environment the offensive strategy is not always possible when rules of engagement pose limitations. The tanker wars of the Iran-Iraq War were an example of this. When the threat is asymmetric, overwhelming force is

²⁸ Geoffrey Till, and Patrick Bratton, *Sea Power and the Asia-Pacific: The Triumph of Neptune?*, Routledge: 2014, accessed 17 May 2018 ProQuest Ebook Central, accessed 17 May 2018.

²⁹ Till and Bratton, *Sea Power and the Asia-Pacific...*, 179.

³⁰ Alfred Thayer Mahan, *The Influence of Sea Power upon History 1660-1783*, London: 1890, 136.

³¹ Mahan, *The Influence of Sea Power upon History 1660-1783*, 138.

³² Richard Woodman, *The Real Cruel Sea : The Merchant Navy in the Battle of the Atlantic 1939-1943*, Havertown: Pen and Sword, 2014. Accessed May 23, 2018. ProQuest Ebook Central, 412.

not always the answer. In summing up, traditional maritime security doctrine and assumptions cannot counter the inherent flexibility of NCAGS.

Case studies of recent use

Current operations based on NCAGS doctrine include United Kingdom Maritime Trade Operations (UKMTO) Dubai and Operation Sea Guardian. UKMTO Dubai, “conducts operations in an area covering the Red Sea, Persian Gulf, Gulf of Aden and Indian Ocean high risk areas,”³³ in order to promote the freedom of navigation and trade through the region and in particular through choke points such as Bab Al Mandeb and the Strait of Hormuz. UKMTO Dubai also supports EUNAVFOR Operation Atlanta and the Combined Maritime Forces (CMF). In particular, Combined Task Force 151 which is a UN mandated mission focussed on counter-piracy and maritime security operations in the region. UKMTO is the principal contact for vessels in case of “threat, attack and for liaison in order to de-conflict with Coalition maritime security operations.”³⁴ UKMTO is led by the Royal Navy MTO and staffed by personnel from a number of navies. Additionally, there has been a NATO NCAGS officer deployed on board the EUNAVFOR flagship with Operational Atlanta since 2008.³⁵

Operation Sea Guardian is a NATO maritime security operation in the Strait of Gibraltar, its approaches and the Mediterranean Sea. It evolved from the counter-terrorism-focused Operation Active Endeavour in order to “build maritime situational awareness, support regional maritime capacity building and counter terrorism and is ready to respond to

³³ Sea Power Centre Australia, *Australian Maritime Operations*, 116.

³⁴ Sea Power Centre Australia, *Australian Maritime Operations*, 116.

³⁵ <http://eunavfor.eu/naval-cooperation-and-guidance-for-shipping-ncags-has-a-new-person-at-the-helm-on-board-eu-navfor-spanish-flagship-esps-galicia/>

a broad spectrum of maritime security threats.”³⁶ NCAGS is co-ordinated by the NATO Shipping Centre in Great Brittan.

Prior to Operation Sea Guardian, NATO led NCAGS operations within Operation Active Endeavour in the Mediterranean and Operation Ocean Shield in the Indian Ocean. Operation Shield was closed in 2016 when there had not been a confirmed piracy attack in over two years.³⁷ Other incidences of NCAGS operations include the Tanker Wars of the 1980s and the Libyan crises in 2011. During the 2011 Libyan crises a NATO NCAGS organisation was set up to facilitate the co-ordination between civilian shipping and naval forces. During this period the NATO Shipping Centre (NSC) Naples provided information, advice and guidance to merchant shipping and co-ordinated the safe transit of shipping in the region.³⁸

In Europe the permanently staffed NATO Shipping Centre (NSC) in Northwood, Great Brittan, is part of the NATO NCAGS organisation and provides the key point of contact between the military authorities and the shipping community.³⁹ For non NATO operations this responsibility is managed at a national defence or coalition level by respective NCAGS or Maritime Trade Operations organisation. Nations such as the United Kingdom, New Zealand and Australia have transitioned from NCS to Maritime Trade Operations (MTO). It is the MTO organisation that provides the NCAGS effects for command. Some nations have expanded the MTO role to encompass more than that stipulated in the NCAGS doctrine, in order to make it more relevant to their national and defence needs.

The model adopted by the RAN and RNZN is one of MTO officers and ratings who provide the link between the maritime industry and the defence force. These Reservist

³⁶ NATO Shipping Centre, “Operations.”

³⁷ Ibid.

³⁸ Kjell. Engelbrekt, Marcus. Mohlin, and Charlotte. Wagnsson, eds, *The NATO Intervention in Libya: Lessons Learned from the Campaign*, London: Routledge, 2013, accessed May 18, 2018, ProQuest Ebook Central, 142.

³⁹ North Atlantic Treaty Organisation, *ATP- 2.1 ...*, 2-2.

personnel have some form of connection to the maritime sector, are ex-regular force or have government agency experience, such as border force and customs. For Australia and New Zealand MTO provides a civil/military capability able to support the Defence mission and its role in protecting maritime trade.⁴⁰

The Australian Defence Force (ADF) have expanded the MTO role beyond that of NCAGS to include civil military cooperation (CIMIC). Their MTO provides CIMIC capabilities during operations and exercise which include the briefing of merchant vessel masters on risks, self-protective measures, and routing, as well as ongoing liaison and communication and liaison with shipping entities and vessels at sea.⁴¹ In addition, MTO facilitates, “Maritime domain awareness briefings and reassurance to shipping industry bodies and port authorities operating in exercise areas, areas of tension and conflict or other high-risk areas.”⁴²

The need for safe and secure ports is important to the ADF as it increases operational effectiveness. This was demonstrated during the conflict in Timor Leste between 1999-2001, where the ADF relied heavily on commercial vessel support, safe ports and port infrastructure for operations.⁴³ It is also an example of where MTO can be utilised to manage maritime civil military interaction.

Future of NCAGS

Most typically NCAGS is implemented at the higher end of the threat spectrum during peacetime, crises or conflict. NATO doctrine in the form of NCAGS allows coalitions to train, exercise and activate maritime protection utilising a common doctrine. However,

⁴⁰ Sea Power Centre Australia, *Australian Maritime Operations*, 116.

⁴¹ Sea Power Centre Australia, *Australian Maritime Operations*, 117.

⁴² *Ibid.*, 117.

⁴³ *Ibid.*, 115.

maritime trade protection requires an organisation that is flexible, agile and delivers value beyond the establishment of formal NCAGS procedures. A Maritime Trade Operations model such as the ADF MTO can therefore provide the support mechanism to enact a larger set of tools directed at protection of shipping and supporting the operational commander.

MTO functions could be expanded to include the provision of planning advice to joint operations, liaison with industry and civil authorities and the conduct of Information operations. MTO could provide support to non-combatant evacuation operations (NEO) operations ashore or afloat as well as support to stabilisation operations involving port and harbour infrastructure. MTO is ideally positioned to establish a “coast watching organisation” and maritime “neighbourhood watch”⁴⁴ Lastly, MTO is well positioned to build knowledge on the maritime “patterns of life” by determining what constitutes “normal” maritime activity. This is a challenge for operators and analysts due to the extent of trading activity, vessels, flags, routes, crew, cargo and its documentation, “and the administration and oversight that links vessels with owners, vendors, charterers, freight forwarders, agents, and cargo recipients.”⁴⁵ The ability to detect anomalies would therefore supply the operational commander with valuable information.

The maintenance of a NCAGS capability and uniformed personnel who understand the maritime industry should be seen as a force multiplier. Indeed, Gordon’s words written about Jutland, serve as a warning, “A service which neglects to foster a conceptual grasp of specialist subjects will have too few warriors able to interrogate the specialists.”⁴⁶ The culture of “just in time” that has been adopted by many of today’s defence forces is not adequate when it comes to building and maintaining networks and trust between Defence and the civil sector. Indeed, as Vice Admiral Tim Barrett states, “the need for military liaison with

⁴⁴ Sea Power Centre Australia, *Australian Maritime Operations*, 118.

⁴⁵ Bateman, *Lloyd's MIU Handbook of Maritime Security*, 348.

⁴⁶ Andrew Gordon, *The Rules of the Game: Jutland and British Naval Command*, Penguin: UK, 2015,

industry will be on a far greater scale as the ADF manages a more complex and potentially volatile regional maritime picture.”⁴⁷ These relationships must be developed in peacetime in order to provide the capability and assurance to the maritime industry in times of crises or conflict.

Conclusion

The global reliance on merchant shipping coupled with instability in the contemporary environment ensures that NCAGS is indeed still relevant today. NCS was a vital part of the allied success in the First and Second World Wars and it is clear that the risks faced today, let alone potential risks in time of conflict, require a flexible tool like NCAGS. This is evidenced by the fact that NCAGS has been extensively utilised in the Middle East and the Mediterranean over the last ten years.

Nations that rely heavily on trade must maintain and uphold the skills necessary for maritime protection that can be used at home or abroad in the defence of their national interests. NCAGS is not a doctrine that can be pulled off the shelf and put straight into practice. To gain the most benefit, effective NCAGS operations require relationships with industry to be in place and for NCAGS to be incorporated into a structure that allows for seamless integration into the task force or campaign. Subsequently, providing the operational commander with a flexible tool able to provide a series of effects in order to contribute to the operational campaign and to enhance safety and security at sea.

⁴⁷ Sea Power Centre Australia, *Australian Maritime Operations*, 120.

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