

A Practitioner's Guide to

Effective
Maritime and
Port Security



MICHAEL EDGERTON

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A PRACTITIONER'S GUIDE TO

**Effective Maritime and Port
Security**

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Michael Edgerton

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To my family with love

Introduction

This book is designed for practitioners as well as students of maritime security, maritime transportation, and international business. The book provides an overview and analysis of the current factors that affect the security of the maritime operating domain, where shipping, international politics, economics, crime, and terrorism intersect in ways that have far-reaching global impacts. The book also provides a critique of the current approaches to maritime and port security that have been implemented by nations, the private sector, and the international community. The critique is an overview of the current state of maritime and port security as well as an assessment of potential challenges or weaknesses. This book provides actionable recommendations to enhance security while facilitating trade and improving the resilience of companies and governments.

In policy discussions, most of the current critiques of homeland-security measures and programs focus on national-level policy and do not differentiate between modes of transportation or infrastructure domains. This book is specifically focused on the maritime-security environment and proposes measures and approaches that will make international trade and maritime transportation more secure while enhancing efficiencies that can reduce the cost of security for ship operators, customers, and governments.

As part of this approach, the book assesses the business case for security and provides recommendations that are consistent with a focus on efficient, yet effective, security measures. The book is written for the private sector or government practitioner, as well as academic and government policy makers. Because of the inherently

international nature of maritime commerce, this book takes an international approach to possible maritime and port security solutions without bias toward or against any approach advocated by a particular nation or organization.

The book is divided into four major sections. The first is the context, which provides an overview of the basic components of the international maritime operating environment. These components include the multinational nature of shipping and multinational drivers in port operations, the criticality of ports from several perspectives, including geopolitics, ports as potential targets, and ports as potential conduits for illicit activity. The contextual section will also cover the issue of port connectivity to other modes of transportation and the intermodal nature and linkages of port and maritime security.

The next section assesses threats to ports in the maritime environment. These threats can take several forms, including state-sponsored threats, conventional state military threats, terrorism, criminal actions, embargo violations, and corruption and lack of transparency. Understanding threats is essential to being able to implement effective maritime security measures.

The third section of the book provides a critique of the current approaches to maritime port security. This critique will look at the United States, the European Union, and other international measures and approaches. Specifically, this section will identify the prism through which authorities make port security policy and some of the factors that affect policy-making and the establishment of current programs and their strengths and weaknesses.

The fourth and final section of the book lays out suggested principles for effective, truly risk-based maritime and port security. These principles focus on the need for security to be more than an objective but in addition a key enabler for legitimate maritime trade. The book reframes port and

maritime security as a key component of a multidisciplinary system in which secure, resilient, and efficient trade is the objective.

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This book was made possible only through the excellent editorial guidance and assistance of Virginia Howe and the late Dodge Woodson as well as the outstanding graphics support of Ben Spear. I am indebted to my employer, Good Harbour International, for supporting my efforts. I also need to acknowledge those with whom I served in September 2011, especially Joe Coccia, Mike Ferullo, and Paul Kohl. While they may not agree with everything in this book, we struggled to implement security measures on the fly with little or no guidance. As a result, they taught me some of the key lessons found in the book. This book wouldn't be possible without the support of my colleagues in government and the private sector with whom I've been privileged to work, all of whom have in some way, contributed.

MICHAEL EDGERTON

Foreword

A century ago when America thought about its security, much of its attention focused on its harbors. A large component of the US Army was then a branch called Coastal Artillery. That organization operated an extensive network of large fortresses that guarded America's harbors. Today those forts are historical relics turned into parks. Yet America today is far more dependent upon what comes in through its ports than it was a century ago. Then America was largely self sufficient; today it relies upon "just in time delivery" of millions of containers. Freight ships and tankers are our lifeline to the world, carrying vastly more than the small fraction of trade that moves by air cargo. Despite that shift in the importance of what comes through our harbors and what moves on ships, until relatively recently maritime security did not figure importantly in America's national security agenda. Not any more.

Today America's security and that of many other nations is intimately entwined with maritime security and governments now are recognizing that. The priority given maritime security has increased significantly in the last decade. Maritime security in the twenty-first century, however, is not a matter of large stone forts on harbor islands. What does comprise modern maritime security is the subject of this timely and comprehensive volume by my friend and colleague Michael Edgerton.

Mike has personal experience with maritime security in the U.S. military and in Department of Homeland Security. Now as a private sector consultant, Mike has examined various approaches to security risk. He has been able to identify leading best practices that could be adopted for worldwide implementation. His methodology reflects globally accepted

approaches to risk management and the need for security to contribute to the broader resilience of the maritime transportation system.

In his work on maritime security issues, Mike has developed a sophisticated approach to maritime security that recognizes the role of both government and the private sector. Much of his work has focused on the critical importance of implementing security measures that are complementary to the broader requirement to drive the continued operation and resilience of the maritime domain under all but the most severe threat conditions. This book analyzes the components of the maritime transportation-logistics system, reviews the security measures which have been put in place, and offers a fresh, comprehensive, yet flexible approach to managing maritime security risks without unduly restricting the need for rapid and efficient transportation of goods and people. It is a valuable contribution that governments, corporations, and maritime operators can all benefit by taking to heart its insights and recommendations.

RICHARD CLARKE

Richard A. Clarke is an internationally recognized expert on security, including homeland security, national security, cyber security, and counterterrorism.

Clarke served the last three Presidents as a senior White House Advisor. Over the course of an unprecedented 11 consecutive years of White House service, he held the titles of:

- Special Assistant to the President for Global Affairs
- National Coordinator for Security and Counterterrorism
- Special Advisor to the President for Cyber Security

Prior to his White House years, Clarke served for 19 years in the Pentagon, the Intelligence Community, and State Department. During the Reagan Administration, he was Deputy Assistant Secretary of State for Intelligence. During

the Bush (41) Administration, he was Assistant Secretary of State for Political-Military Affairs and coordinated diplomatic efforts to support the 1990-1991 Gulf War and the subsequent security arrangements. In a Special Report by Foreign Policy Magazine, Clarke was chosen as one of The Top 100 Global Thinkers of 2010.

PART ONE

The International Maritime Operating Environment

CHAPTER 1

Unique Characteristics of Ports and International Shipping

INTRODUCTION

International shipping operates in one of the most lightly regulated domains in the world. Huge ships staffed by a minimal number of crewmembers transit the high seas, which are outside of the jurisdiction of any country, and often fly the flags of countries that are largely unable to exert jurisdiction or protect the vessels that are their legal territory. There are about 40,000 ships that engage in international trade. These ships provide over 90 percent of imports to North America and carry about 80 percent of trade worldwide. The total volume of global trade is expected to double over the next two decades, with a particular focus on containerized cargo.

Large-scale commercial maritime trade is characterized by its multinational nature. Over the last 25 to 30 years maritime shipping has become increasingly international in scope and composition. Today, it is not unusual to find a ship that is registered in a country that it has never visited (or cannot visit, as it may not have a coast, such as Luxembourg or Mongolia), owned by a company whose representatives have never set foot on the ship, and operated by an additional company located in a country unrelated to the country of registration or country of

ownership. It would also not be unusual for that same ship to have crewmembers with potentially questionable or unverifiable professional qualifications from several different countries, none of which are from the country of registry. These crewmembers would most likely have been hired through potentially unregulated and corrupt personnel agencies in their home countries. Further, because of the multinational nature of shipping, the maritime security environment throughout the world is inherently interlinked in ways that would not be apparent to those not familiar with shipping or maritime trade. This global interdependence makes security measures in countries that have direct or even indirect trade links with other countries important to security and border agencies, since they reflect the integrity of security on a vessel coming to the nation's port. An example of this is trade between Indonesia and the United States. There are vessels that trade in coal that transit directly between Indonesian courts and ports on the US East Coast. Therefore, the security on the ship is only as good as the security in the Indonesian ports at which it had previously visited. When that ship docks at a US port, there is essentially a temporary land border between Indonesia and the United States, and the effectiveness of Indonesian border and port security is directly and critically important to the United States.

FIGURE 1.1 Foreign ships create temporary borders between countries that normally don't share a border.



The inherent interdependencies between national and international security regimes will be exacerbated as global maritime trade continues to grow. Despite the recession of 2008 and 2009, analysts expect a rapid increase in maritime trade to continue, perhaps doubling within the next 20 years. This increase, coupled with a philosophy of “just in time delivery,” will place additional stressors on ports involved in maritime trade. The stressors will be a result of a need for delivery to meet timely, accurate schedules as well as aging intermodal infrastructure in which ports are located in congested urban areas where there is limited room for expansion and already crowded roadways and rail tracks. The “just in time delivery” approach is a relatively recent phenomenon that was a result of the need to reduce the costs of storage and warehousing. The result, however, is that transportation delays, regardless of the cause, can be catastrophic.

When studying approaches to maritime and port security, an additional challenge lies in trying to determine what constitutes a port. Unlike airports, which developed more recently and are more likely to have clearly defined borders

and less likely to be found in the older, more crowded parts of cities, ports are often hundreds of years old and grew up within cities—or in many cases cities grew up around ports. As a result, port functions often occur outside the formal defined perimeter of a port. These functions include warehousing, the operation of free zones, transshipment points, providers of maintenance and supply services, shipping agents, and shipping-company headquarters. Further, intermodal connections may not be within the formal perimeter ports. Rail hubs, container yards, and trucking centers may also be remote from the port. These issues complicate attempts to understand what constitutes a port as well as jurisdictional boundaries for ports and the maritime domain.

THE MULTINATIONAL NATURE OF SHIPPING AND BUSINESS DRIVERS IN PORT OPERATIONS

Ship and port operations are complex and involve numerous industry and government organizations and entities. These include:

- Vessel registries
- Ship owners
- Ship operators
- Classification societies
- Personnel agencies
- Labor unions
- Shipowner/operator organizations
- Shipping agents
- Cargo brokers

- Third-party logistics carriers
- Port operators
- Terminals
- Port authorities
- Harbormasters
- Customs
- Immigration agencies
- Coast guards
- Police agencies
- Intelligence agencies
- Navies
- Trade associations
- Safety agencies
- Environmental agencies
- Charterers
- Insurers
- Ship chandlers
- Technical repair and maintenance companies

International shipping has three larger components into which all of the above entities fit. These components are:

- Flag states—those countries in which ships engaged in international trade are registered
- Port states—those countries in which the ports that ships engaged in international trade visit are located
- Supply chain—the system in which goods and materials are transported from point of origin to point of use, often involving more than one mode of transportation

FLAG STATES

Flag states have unique responsibilities because vessels registered under the flag of a country form, for legal purposes, a part of that country's territory that moves around the world. Therefore, the flag state has

responsibilities for the safe and secure conduct of ships registered under its flag, regardless of where the ship is. This is complicated by the fact that vessels on international voyages also enter the jurisdiction of port states, thereby making them subject to some port-state rules as well.

Vessel Registries

The multinational nature of shipping is most apparent in how ships are owned, staffed, and operated. At the forefront of this are vessel registries. A vessel registry provides the mechanism for flag states to manage their commercial maritime fleet. Through a registry, a nation can create and enforce rules and requirements for vessels that fly its flag. Further, flag states have the primary responsibility for ensuring that vessels within their registry meet national and international requirements to which the flag state is signatory. Some of the functions of a flag state include:

- Conducting safety inspections
- Monitoring vessel compliance with all international and national standards, including security
- Investigating accidents and misconduct
- Issuing certificates of registry, staffing documents, and other required documentation
- Overseeing seafarers' licensing and documentation

Types of Vessel Registries

There are three basic types of vessel registries in international shipping:

- Traditional national registries
- Second registries
- Open registries

Traditional National Registries

The traditional national vessel registry involves owners, operators, and crews from the same country in which the ship is registered. Until World War II, this approach to flag registries was used almost exclusively. The system guaranteed employment for large numbers of citizens and ensured that vessels registered in flag states would be fully regulated under that state's laws. Ships registered under conventional flag-state registry were able to request naval protection from that flag state anywhere in the world where that nation's naval units operated. Examples of conventional or traditional registries that still exist include the United States, Canada, and, to a lesser extent, some European Union member states.

Second Registries

With the rise of open registries (flags of convenience), conventional and traditional flag states have created additional registries, which they term "second registries." These registries have some of the characteristics of the conventional flag-state registry but also include some of the features of an open registry. For example, second registries will often adhere to the regulatory requirements of a conventional flag state but will allow crewmembers who are not nationals of the flag state to serve on board, including in command positions. This reduces labor costs, which are traditionally one of the higher costs involved in ship operations.

Open Registries

Since World War II, crews from developed countries have become increasingly expensive, and shipowners have perceived safety and pollution-prevention regulations to become more strictly enforced in the developed world. Therefore, in order to maximize profits, shipowners often pursue vessel registrations that are cheaper and have less

regulatory requirements than the vessel registries of more established nations. These registries are known as open registries or “flags of convenience.” The first open registry was created in Panama in the late 1920s. Open registries became more widespread after the Second World War, especially after the creation of the Liberian open registry in the late 1940s.

FIGURE 1.2 Mongolian flagged ship.



Open registries are usually found in smaller, less developed countries and are used as a way to raise revenue while providing ship operators and owners with an incentive to utilize their services by keeping regulation light and costs down. Today, the largest open registries are Panama, Liberia, and the Marshall Islands. In these and other cases, open registries are often administered outside the formal political or governmental administration of the flag state. For example, the Marshall Islands flag Registry is managed in Reston, Virginia, by a private company, International Registries, Incorporated, on behalf of the Marshall Islands government.¹ The following is a non-exhaustive list of countries that operate open registries and have a limited

international presence and capability to enforce laws and regulations outside their territory:

- Vanuatu
- Malta
- Tuvalu
- North Korea
- Belize
- Cambodia

Further, some landlocked countries such as Mongolia operate open vessel registries even though it is clearly impossible for them to provide naval support. Their efforts to oversee the enforcement of regulations on ships flying their flag is also limited by the requirement to outsource their maritime oversight, since they have no pool of maritime professionals to engage.

The advantages of open registries include: the ability to hire mariners from countries in which labor costs are lower, lower fees and tax burdens, the ability to reduce the transparency of ownership, and less stringent regulatory requirements. In many open registries it is possible for the identity of shipowners to be protected.

The UK's Committee of Inquiry into Shipping prepared a report in 1970, which provides a set of characteristics typically found in open registries,² including:

- Registration by foreign citizens is permitted (and in fact, encouraged).
- Minimal to nonexistent taxes
- The registry country is small, and tonnage charges may produce substantial effects on national income
- Ship operators can hire third-country labor; the flag state has no requirement for its nationals to be hired, even in command positions
- The flag state is incapable and unwilling to impose domestic or international regulations

All of these characteristics of open registries are attractive to shipowners and operators, who see light regulation and taxation as vital to the reduction of operating costs and the maximization of profit.

Implications for Security

The prevalence of open registries in the last few decades has resulted administratively. As a result, the tendency towards open registries has increased the multinational nature of shipping, arguably decreased the amount of government oversight of shipping activities, and decreased the transparency of vessel ownership and operators, as open registries have less stringent regulatory and financial reporting requirements than conventional flag-state registries. In open registries, shipowners often create shell companies that disguise the actual shipowner or shipowners. Concealed ownership is advantageous to entities that are trying to minimize tax burdens, avoid taxes, or are involved in illicit or potentially illicit activities.

Third Country Owners

Vessel owners do not necessarily have any political, social, or cultural links to the flag states that operate open registries. A key attraction for owners to register their vessels under flags of convenience is the ability to make ownership hard to trace. This opaqueness is under pressure as a result of post-9/11 interest in maritime security and the potential threat of shipping as a terrorist conveyance. However, the intricacies of ship financing and the combination of international interests and light governance of shipping have led to the retention of an opaque ownership structure among open registries.

The Organisation for Economic Cooperation and Development's (OECD) Directorate for Science, Technology,

and Industry prepared a study in 2003 entitled “Ownership and Control of Ships,” which identified several key findings regarding ship ownership.

The report essentially finds that it is easy and inexpensive to establish a web of corporate entities and instruments, such as limited-liability companies, nominee shareholders and directors, and bearer shares to provide very effective cover to the identities of owners who do not want to be known.⁴

Additionally, open registries, which have very limited or no nationality requirements, are easy jurisdictions in which to register vessels that are covered by complex legal and corporate arrangements. The multinational nature of shipping means that the corporate arrangements will involve a number of nations, thus complicating any attempts to determine beneficial ownership.

Implications for Security

The lack of transparency of ownership found in open registries (although not limited to open registries) and lack of interest on the part of some registries to encourage or require transparency, coupled with the lack of strong international regulation and disclosure requirements for vessel ownership, present several security challenges, including the ability to profit from legal and illegal trade anonymously as well as the ability to minimize governmental involvement in illegal activity.

CASE STUDY

In late 2002, the *So San* a North Korean ship sailing under Cambodian registry, was discovered with 15 Scud missiles and 15 conventional warheads, 23 tanks of nitric-acid rocket propellant, and 85 drums of unidentified chemicals hidden beneath a cargo of cement bags. The weaponry had documentation indicating it was headed to Yemen but ended up being sent to Libya. The Cambodian government has taken a very “hands-off” approach on its responsibilities as a flag state, as indicated by Ahamd Yahya of the Cambodian Ministry of Public Works and Transport, who reportedly said, “We don’t know or care who owns the ships or whether they’re doing ‘white’ or ‘black’ business ... it is not our concern.”³

FIGURE 1.3 M/V *So San* being boarded by Spanish special forces. *Photo credit: US Navy.*



Vessels owned by entities or individuals that have no direct link to the operator or largely unregulated flag registry may more easily be used for illicit activity, as there is no strong governmental control over the vessel and the true operational control of the vessel may be hidden from port-state authorities who are responsible for assessing potential high-threat vessels that may be arriving in their

ports. Under the current system, dishonest owners are likely to have a high degree of confidence that the risks they incur for smuggling, operating unsafe vessels, or other illegal activity are acceptable and that their involvement will not be discovered, even if the ship is seized or their activity is disrupted. Further, the lack of transparent ownership information complicates the work of government investigators, who may be pursuing criminal cases or developing intelligence leads. The current system, which discourages the transparent and open identification of beneficial owners of vessels, is likely to increase the security risks throughout the global shipping industry as well as in ports of call.

Multinational Crews

Crews from several nations serving on the same vessel bring additional potential security challenges. These challenges include:

- Disparate levels of training, qualification, and overall professionalism depending on crew nationality
- Possible intracrew hostilities or tensions based on nationality
- Potential lack of crew cohesiveness
- Crew lack of familiarity with each other over long periods of time

In recent decades, the composition of merchant crews has changed significantly, with a greater percentage of crews coming from developing countries, some of which have less technologically advanced methods of documenting or validating crewmember identities and qualifications.

Crew costs are one of the highest expenses that ship operators incur, comprising up to 50 percent of vessel operating costs. In the late 1990s an American ship's master could expect to earn about \$11,000 per month,