

## Counting the cost of security

**Shipping companies, financial analysts and bankers are all calculating how much financial impact new legislation and fears about personal and asset security will cost in the future. Barry Parker considers the issues**

Vessel and port security is becoming a major issue for ship owners and another daily financial burden to bear. While security against crimes such as theft, vandalism and fraud are familiar problems to the industry, fears of terrorism and piracy for example, are forcing companies to spend on a range of preventative measures.

There is no easy way to calculate how much this enhanced maritime security will cost but the recently IMO- enacted International Ship and Port Facility Security (ISPS) Code. Richard Greiner, a London-based director at shipping accountants Moore Stephens, Mr. Greiner, and others who have tried to answer this question, but have had difficulty pinning down precise numbers. "Here is the definite answer. No-one knows yet, ...despite all the action in the US, and at IMO...", says Mr Greiner.

In his analysis, Mr. Greiner suggests that, beyond costs of mandated hardware such as ship alert devices, a sensible way to estimate security costs for ships is to consider a companies' experience implementing the ISM Code, which occupied managers throughout the business in 1997 and 1998. He also acknowledges that there will be many unpredictable costs, as new procedures are worked out for the first time.

Securities analysts who follow quoted companies, and bankers and finance professionals working with both listed and private companies, are starting to wonder about the costs of security and what it means to a firm's bottom line. How worried should they be?

Although Mr Greiner is correct about the uncertainties, some guidance is already available. The US Coast Guard, in a publication appearing in the Federal Register (a daily summary of U.S. government activities), has provided some estimates of probable costs of implementing its proposed new security regulations (which mirror, substantially, the SOLAS amendments agreed last December at the IMO). During January and February, 2003, the U.S. industry had a chance to comment, in a few cases offering their views of the costs.

For the purpose of this analysis, marine consultants bdp1 created a number of new models, straddling the worlds of vessel operations and finance- we estimate likely security costs for listed tanker companies and then transcribe these increased costs into simple earnings models.

Using the US Coastguard figures as a starting point, additional costs were included to reflect appropriate "uncertainty factors" reflecting the likely startup spending as consultants write plans and peer into void spaces.

The Coast Guard made a number of estimates for the cost of implementing its security regulations on office costs (table 1), and, I this instance on US flag deepsea tankers (table 2).

**Table 1. Office based security costs**

Category	Large Initial	Company Annual	Small Initial	Company Annual
C.S.O.	\$150K	\$150K	\$37.5K	\$37.5K
C.S.O. Training	\$3.5K	\$3.5K	\$2K	\$2K
Training key crew	\$5K	\$5K	\$3.5K	\$3.5K
V.S.O. (see below)	\$5K	\$5K	\$5K	\$5K
V.S.A. non towing	\$8K	\$0.4K	\$4k	\$0.2K
V.S.P. non towing	\$8K	\$0.4K	\$4k	\$0.2K
Total	\$179.5K	\$164.3K	\$56 K	\$49K

C.S.O. = Company Security Officer, V.S.O. = Vessel Security Officer, V.S.A. = Vessel Security Assessment, V.S.P.= Vessel Security Plan

**Table 2. COST PER U.S.-FLAGGED SOLAS TANK SHIP**

Item	Initial Cost			Annual Cost		
	Number	Cost/ Item	Total Cost	Number	Cost/ Item	Total Cost
Metal detectors	1	\$200	\$200	1	\$10	\$10
Hand held radios	5	\$200	\$1000	5	\$10	\$50
Locks	10	\$300	\$3000	10	\$15	\$150
Lights	5	\$400	\$2000	5	\$25	\$125
Auto Intrusion Alarm	5	\$500	\$2500	1	\$100	\$100
Ship Security System	1	\$2000	\$2000	1	\$100	\$100
VSO see above	1	\$5000	\$5000	1	\$5000	\$5000
VSA	16.00 hours	\$100/hour	\$1600	0.02 hours	\$100	\$2
VSP	4.00 hours	\$100/hour	\$400	0.02 hours	\$100	\$2
Quarterly Drills	Na	na	na	4 hours	15 crew	\$6000
Total Cost/ Vessel			\$17,700			\$11,539

Source: US Federal Register, Dec. 30, 2002

In order to run a simple but instructive model, bdp1 built upward some of the costs provided by the Coast Guard, which were considered to be on the low side.

The World Shipping Council, a Washington DC-based lobbying group for the major lines operator container vessels have reported a member estimating its security costs for a

container ship would be \$95,000 in the first year alone, while the Chamber of Shipping of America has suggested that costs of putting in an AIS is \$10,000 per vessel.

For a large company, fixed costs will be \$250,000 in the first year, and then \$200,000 thereafter.

Unlike the Coast Guard, bdp1 felt that bigger companies might need a middle tier of managers, so that our model adds another \$100,000 in year 1, and \$75,000 thereafter, if a company owns more than 50 ships.

In bdp1's estimates, we felt that per vessel variable expenses (above the cost of the senior security executives) on the shore side would be \$10,000 per ship annually, initially, and then \$5,000 per year thereafter for each unit. The costs are undiscounted; we have not attempted to estimate present values of cash outflows.

Bdp1 estimated extra onboard costs of \$25,000 per vessel the first year, and then \$15,000 thereafter, differing from the Coast Guard numbers because of factored in costs such as travel, equipment installers, and additional equipment. Implicit in the new numbers is an assumption that listed companies will hire top consultants and pay full price for plans, rather than purchase a low cost security plan template.

However, a countervailing assumption, which caused us to temper the per vessel price, is the notion of economies of scale as many plans are produced, where fleets contain sister ships. Other economies may creep in; for example Intertanko has recently established a working group that will be looking at ways that security training can be done in house, or even aboard vessels.

Analysts have pointed out that security activities could well be subsumed into ISM compliance, which would have the effect of lowering the pure "security" cost, albeit not in the initial year. When onboard costs are considered, we make a simplifying assumption that equipment costs are expensed in the year of purchase. In reality, some of these costs can be spread over a period matching the life of the equipment.

In essence, the bdp1 cost model is based on the number of ships in a fleet, and we assume that all of the listed companies, sensitive to transparency considerations, would be what the Coast Guard describes as a "Large Company". Like the Coast Guard, we recognize that initial costs will exceed costs after the break-in period. Readers will be quick to point out that "owners" may not be the party incurring the expenses where technical management is contracted out, or may charter in tonnage.

The assumption is that outside technical managers, or owners, will pass along security expenditures to the listed operating company. We recognize that in reality, each flag state will take a different approach to security, and may mandate different requirements at different costs.

As an example of the security cost computation, for a hypothetical 27 ship company, fixed office overhead (the company security officer and staff) is \$250,000, and office variable expense is \$270,000 (associated with vessel plans), 27 vessels @ \$10,000 each. Aboard the vessels, variable expense is \$675,000, 27 vessels @ \$25,000 each, reflecting assessments, equipment and security drills. In the aggregate, the costs for this 27 ship company will be just under \$1.2m.

For companies with listed shares, the cost model can now be applied (Table 3)

**Table 3: Listed shipping companies. Cost model**

Company	# Vessels	Cost in \$m.	# of shares, m	Cost / share
Teekay	147	\$ 5.495	39.67	\$ 0.14
Stolt	140	\$ 5.250	55.0	\$ 0.10
Frontline	74	\$ 2.940	76.4	\$ 0.04
OSG	55	\$ 2.275	34.435	\$ 0.07
General Maritime	47	\$ 1.895	36.965	\$ 0.05
OMI	38	\$ 1.580	70.279	\$ 0.02
Stelmar	31	\$ 1.335	16.82	\$ 0.08
Tsakos Energy	24	\$ 1.090	17.01	\$ 0.06

*Source: Vessels and shares from company websites. Security costs are bdp1 estimates*

At first sight, the high costs requirements could be seen as a depressant on the stock prices.

However, it is felt that shares analysts and investors would recognize the necessity of the hefty one time investment. Importantly, they would also realize that all peer companies are impacted, security does not affect one company but not its competitors.

As Moore Stephens' Greiner says: "A true picture of security costs will start to emerge only as 2003 financial results come in." But, hopefully, the estimates developed here will provide some guidance to cost impacts of the new rules on the tanker industry.

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