



Implementing The *Beyond the Horizon* Strategy

A Systems Approach to
Seaport Security

Float Incorporated
1660 Hotel Circle North Suite 725
San Diego, California 92108
619-299-9888
619-299-5307 (fax)
www.floatinc.com

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BEYOND THE HORIZON

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The President orders all US shipping ports closed to inbound shipping in the wake of yesterday's mysterious explosion of a Liberian registered container ship in Boston Harbor. Evacuations of downtown and South Boston commenced as lethal fumes spread from the partially sunken and still burning ship. The National Guard has been called up to patrol ports in 16 seaboard states...

A likely story? Unfortunately, it is not only possible, but also probable. There is no known prevention or defensive strategy for such an event as long as we allow ships and their cargo to enter our ports uninspected.

Steven E. Flynn of the National Security Studies Program, testifying before the Senate Committee on Governmental Affairs, offered a sample scenario for how a ship or its hazardous material could reach our shores: *An Al-Qaida operative infiltrates a small foreign ceramics company that has been doing legitimate import business with a U.S. distributor. He inserts a high explosive in a normal ceramics piece that is bound for NY. The shipment travels by a first rate freight line like Maersk and avoids raising any suspicions in our intelligence community. Once the shipment reaches NY harbor, before it is even unloaded, the weapon is activated at predetermined coordinates.*

Senator Hollings, speaking in behalf of Senate Bill S-1214 stated, *"The U. S. Coast Guard and Customs Service are doing an outstanding job, but they are being outgunned. In the year 2000, we imported 5.5 million trailer truckloads of cargo. Due to that volume, seaports, according to The Customs Service, are only able to inspect between 1 to 2 percent of containers. In other words, potential terrorists and drug smugglers have a 98% chance of randomly importing illegal and dangerous materials."*

Representative Corrine Brown, ranking Democrat on the House Transportation Subcommittee, says, *"We can't wait for something to happen to our ports to act. There is vulnerability there."*

David Cohen, U.S. Customs Chief of Staff, says, *"The threat of a low-grade nuclear weapon being shipped into a U.S. port is not farfetched. The impact of such a disaster would be catastrophic."*

Current Vulnerability

Federal agencies, government officials and terrorist experts have identified our ports as being vulnerable to terrorist attacks, particularly with respect to the handling of container cargo. Of the 361 U.S. ports, many of them are not only near large metropolitan areas; they are the cores of the cities themselves. The Coast Guard estimates the container cargo entering the US at 27 million TEUs annually. Currently, customs can allow as much as 37 days for containers to reach their destination before the recording of formal entry is required. As many as 2.7 million uninspected containers could be traveling freely on our highways and railways during this period, with approximately 74,000 new containers arriving every day. A weapon of mass destruction, housed in one of these containers, could be moved to any city, location or target during that period.

Since 9/11, only 2% of the containers entering the U.S. are inspected and this is after they are already in port. This means that, of the cargo containers that reached our shores last year aboard ships from virtually every port in the world, some 26.5 million were shuffled through our ports with no inspections at all.

Even with the latest gamma ray scanning devices, it is impossible to inspect the contents of containers while they are aboard a ship. They are stacked cheek to jowl below and above decks and must be removed from the ship and individually inspected. During this process, the port is in jeopardy. The discovery of a cargo container packed with explosives, biochemical or nuclear devices, whether or not set off, would likely force the closure of all ports while searching for additional security intrusions.

Current Strategy

The current strategy for protection of our ports and waterways, although multi-layered, consists largely of water and air patrols, boarding vessels and escorting those that are considered to be high risk in and out of port. The Coast Guard is initiating the tracking of all foreign flagged vessels intending to enter the U.S., and plans are being made to promulgate international standards for cargo security and to encourage all nations to establish point of origin inspections.

Planning is also underway to increase the number of container inspections at all U.S. ports, although many do not have space for individual container inspection, nor for the storage of backed up containers caused by these inspections.

This strategy, as necessary as the various layers are, does not provide the required protection against the basic threat from the in-port detonation of a ship, or cargo container borne weapon prior to its discovery and neutralization. The satellite-based tracking system can provide needed intelligence on the track of a container ship, but tracking every container on that ship from its point of origin to its final destination is beyond today's technology.

In the history of the United States, we have never had the full co-operation of all foreign nations, and with today's political unrest, to think that we could obtain worldwide backing on an issue as traditionally difficult as port security is not realistic. In the end, it will be up to the United States to secure its homeland. The administration's drive for an anti-ballistic missile system employs the same philosophical approach.

Beyond the Horizon Strategy

The Beyond the Horizon Strategy is based on the construction, assembly and deployment of floating offshore ports to inspect and screen cargo bound for U.S. ports.

While the numerous port security actions taken since 9/11 are commendable, they do not fully address the root of the threat. That is, if the threat is the unleashing of a weapon of mass destruction in a US port or a closely linked high value target. Clearly, preventing such an event requires the inspection of the ship and its incoming cargo to be conducted before it enters local waters. Given the state of world affairs and the difficulty of point of origin cargo inspections, it is more logical to do the cargo inspecting at a floating port constructed offshore where miles of water buffer it from our

populated areas. Following inspection, the cargo could be reloaded or, more likely, loaded on certified lighters for delivery to U.S. ports. Such offshore inspection and distribution centers could be provided for each coast and the Gulf of Mexico.

We should proceed now to close the obvious hole in our current strategy with the planning and engineering of these offshore ports and distribution centers. Waiting until a disaster occurs will be costly in lives and dollars. It could take several years to reopen a port depending on the nature of the attack. In the interim, the economic impact of the closure of a major port(s) would be felt nationwide. Obviously, spending a modest amount of money now to study, plan and move this concept forward is not only the wisest, but also the most frugal course. These beyond the horizon security ports can provide a solid core for our Homeland Defense.

Vulnerability

The proposed offshore port would not compare to the World Trade Center in its attraction for a terrorist attack. The on-board population would be too sparse and the damage readily contained. Further, being surrounded by water, it would be much more defensible. Additionally, it can be designed with modularity such that modules damaged in an attack could be quickly replaced with prefabricated modules, thus avoiding a significant loss of operating time. The sheer size of each platform and the number of components and modules that comprise it provide such redundancy that its vulnerability would be limited and manageable.

With the water being part of the perimeter defense, the security of the floating port will be easier to achieve than for land-based ports. Sensors and systems developed for land-based ports that are presently in use by the US Navy and others should be more effective considering the more homogeneous nature of the surrounding environment. Using today's technology to provide a picture of the port and all surrounding activity, above and below the surface through linked command, control and communication systems will enable rapid response to a threat.

A ship control plan, similar to the current aviation control and gate assignment system, could be employed. Approaching vessels could be required to have permission to enter a designated safety zone. Once in this area, the vessel could be directed either to proceed to a dock or to hold fast waiting further instructions.

Collateral Benefits

Not unlike FedEx's efficient nationwide delivery system with its center in Memphis where all packages are sent, the ocean shipping industry may realize that a similar system could work as efficiently for sea borne deliveries as well. Indeed, Grand Port, a proposal for just such an offshore, floating, deep-water port for New Orleans, employs the same technology. Grand Port had already achieved prominence in the Millennium Port deliberations prior to 9/11 on logistical considerations alone. If such a system of centralized distribution is successful, its adoption by other nations is assured. As time passes, all will grow accustomed to the necessity of shipping everything through these centers just as the airlines have gotten us use to flying from satellite cities to their hubs before flying on to another city.

There are additional advantages to the development of floating offshore ports. Among these are the following:

- Streamlining the handling and directing the cargo to specific sites could lessen the tremendous burden many ports are experiencing in handling such high volumes of freight and help to defray the expense of double handling.
- For those ports served by inter-coastal waterways, shallower draft lighters could navigate further inland with the potential of reducing the shipping costs.
- With a clean sheet of paper to work from, the floating port could be shaped and sized to fit the most efficient way to handle and re-ship the cargo.
- A system that would identify containers to be sent directly to railheads or truck terminals could be easily accommodated.
- By moving all cargo through these inspection stations, duplication of personnel and security equipment at existing US ports is minimized.
- Floating offshore ports could play a central role in drug interdiction programs.
- The need for dredging ports to permit transit of the new post-canal-class container vessels will disappear. Economically and environmentally, this will prove to be a plus.
- The offshore port can be strategically and optimally positioned for maximum security and relocated if required by change of circumstances.
- The flexibility associated modularity and associated reconfiguration possibilities will allow the stations to adapt to a changing role or mission.

Technology

Floating offshore ports will require stability and the ability to withstand severe ocean storms. They also require calm water in which to effect loading and unloading of cargo from ocean going ships. These requirements can be satisfied with a recently developed, government sponsored technology, the Pneumatically Stabilized Platform (PSP).

Summary & Recommendation

The United States Government has made a compelling case of the threat our nation is facing from a weapon of mass destruction being delivered through our ports. If such a weapon were unleashed, even in a single strategic port, the loss of life, and economic disruption would be incalculable. If the headline at the beginning of this paper were to be realized, the tip of the economic iceberg is found in the annual Department of Commerce, BEA statistics. The loss in 2001 of both import and export business would have been approximately \$6.5 billion per day.

To counter that threat, the U.S. has begun to plan and implement certain preventative and defensive measures. Two of these, increased standards of security in foreign ports and the tracking of all U.S. bound ships place one's security in the hands of foreign

governments and foreign nationals. This is a very unsettling thought. A third measure, to significantly reduce the threat by beefing up security in individual ports, is likely to be equally ineffective. First, the ports have little additional real estate for this added function. Second, the system would need individual tailoring to fit the over 300 U.S. ports. Third, simply detonating the ship or its cargo in the harbor before off loading its cargo could compromise even the best system of port security.

A floating offshore port embodies in a single concept a viable solution for all three deficiencies in the current strategy. The U.S. would have total control and not be dependent on foreign governments for the security of our shores. Tracking of ships with or without foreign government permission would not be necessary if the ships were channeled through these inspection stations at sea. Furthermore, and most important, terrorist incursions and attacks would be buffered from the mainland by its separation offshore.

A final point -- a floating offshore inspection port would force a fundamental change in the centuries old tradition for shipping and receiving goods. Shippers can be expected to resist almost any change in procedures. On the other hand, shipping companies are employing larger and larger ships, requiring the expensive dredging of our ports to accommodate the increased draft. The platform is already that ideal deep-water port. A shipper's dream is to carry as much freight as possible, make the least number of stops, and reduce the turn around time at each port. Again, in a single concept, the floating offshore port provides the facility by which these ideals may be realized.

Although it is unlikely that, in the near future, we will have the means for inspecting 100% of our imported cargo, the floating offshore ports will make it possible. Our current, more pragmatic security program can readily accommodate the offshore port concept. Initially, the inbound vessels that would be thoroughly inspected at these offshore platforms would be selected randomly or from intelligence data. Though not ideal, this should lead to a reduction in the risk of terrorist attack since shippers would not have advance knowledge of which vessels were to be inspected. The number of inspections could be increased as the equipment and procedures matured. Fortunately, the PSP technology is sufficiently flexible to allow for the expansion or contraction of a platform to match the projected cargo load. However, without these offshore inspection platforms, our reliance falls on the degree of security obtained at the cargoes' points of origin.

It is therefore recommended that the government implement, at the earliest possible time, the simultaneous development of this Beyond the Horizon strategy and the deployment of a demonstration platform utilizing the PSP technology