

Introduction and Objectives for the Workshop

Hello! On behalf of the Society of Naval Architects and Marine Engineers panels on Cargo Handling, Sealift and Maritime Economics I want to welcome you all to this WORKSHOP on Strategic Sealift, Convertibility, and Economics. For those of you who may not know me, I am Jennifer Zeien, Chairman Maritime Economics panel. My fellow chairmen are: Charlie Piersall, Chairman of the Sealift panel and Phil Kimball, Chairman of the Cargo Handling panel.

We have quite an ambitious agenda, so I'll dispense with detailed remarks. Let me just frame the coming discussion for you.

Sealift has been the subject of an ongoing debate over the course of many years. Today's presentations are designed to focus your attention on the interface between the requirements of the government for sealift, and the requirements of ship operators for ships that are suited to operate in commercial trade. [I would like to inject the caveat that we will be talking today about resupply rather than the initial rapid response that is orchestrated by the military using ships that it owns or controls directly.] We will examine in some detail the notion of trade-off and balance between competing commercial and military objectives.

In this workshop, we want to look at sealift issues from the broadest possible perspective. I would encourage you to, at least for today, think of sealift as a transportation issue.

Ultimately sealift is a question of transportation: moving goods needed by the armed forces from the place where they are stored to a theater of operations. The goods to be shipped are packaged in some way. They travel to a U.S. port and are loaded on ships. The ships transit to a foreign port. Maybe the port is near the center of action, maybe its in a neutral zone nearby. The cargo is unloaded. Then it has to be transported to where it is needed by the troops. Maybe this means reloading the cargo on a military ship that can unload it at a beachhead. Maybe the cargo is moved by truck or rail to its destination. I guess that this is all quite obvious, and not new to any of you. But the point I want to make is that water transportation is only one step in the process.

Defining sealift as a transportation problem can embrace concepts like intermodalism, that go beyond the traditional emphasis of sealift discussions that center on design issues. So let's try to think of the process as a whole, and some interesting ideas may emerge.

We hope that today's presentations inspire the frank exchange of ideas in an open forum. The success of this WORKSHOP depends on you.

Our first session today is on commercial requirements. I would like to kick off the session with a short description of the commercial markets that will probably have to be considered. Here, however, I am talking about the market as defined by the supply of and demand for ships. This afternoon, Ron Poulsen will present a model that has put some numbers on the types of cargo moving on various trade routes and has addressed particular cargo markets methodically, but for now, I would like to use an intuitive approach to market analysis and make a few preliminary observations.

I'd also like to suggest at the outset that you keep in mind that these ships, whether specially designed or not, should spend most if not all of their operating lives plying the waters in commercial service. If they are not suited to their commercial mission, they will be orphaned and become wards of the state. In addition, maintaining suboptimal ships in commercial trade carries a high price tag, and may cause ancillary problems in the ship operator's relations with his customers and in the ability to integrate these ships with others in the fleet.

For a sealift program employing ships in commercial operation to succeed, the emphasis has to be on designing ships that are not only able to be used in a commercial setting, but that are indeed full-fledged commercial ships. I am not convinced that commercial ships will not be useful in a military mission. Perhaps they are not optimal from a military standpoint, but would they be adequate?

In discussing sealift, primary utility is accorded to roll on/roll off ships. RO/ROs have historically had a pivotal role on many trade routes. Immediately coming to mind is the use

of RO/RO ships in the North/South trades, the Caribbean Basin and the Middle East. RO/RO ships serve routes where the port facilities are inadequate to support container ships, or where short sea distances offset the penalty in cargo carrying capacity with shortened port time.

As world economies develop (and recognizing that improved port and inland transportation infrastructures fuel that development) the role of RO/RO is being increasingly relegated to the short sea environment. RO/ROs will continue to serve selected niche markets. It is difficult to envision, however, that the commercial markets for U.S. flag RO/RO ships will be adequately robust to meet military resupply needs at any time in the foreseeable future. In addition, RO/RO configurations that are useful in short sea service are probably quite different than those designed with an eye toward military utility.

Another type of ship that often enters the sealift discussion is the automobile carrier or the PCTC. We have recently been told about the turn around in Detroit: the American automaker is producing cars that the rest of the world is willing to buy. Likewise, in the last several years, members of Congress have proposed legislation aimed at reserving a portion of U.S. automobile imports to U.S. flag ships. Thus, a conceivable scenario could include an increased role for U.S.-flag or U.S.-controlled automobile ships. The reality is, however, that automobile ships tend to be single-purpose: owned or controlled by the automobile manufacturer and optimized to carry the particular type or types of vehicle that manufacturer. It is worth noting that auto carriers typically cube out rather than weigh out. They also have extremely low deck heights. To carry military, cargoes, significant structural adaptations are required. Wade

Webster and Jim Raber have addressed some of those considerations in a recent SNAME Chesapeake section presentation of an innovative, convertible PCTC design. Although auto carriers are an area of some promise, however, the size of this market is dwarfed by the market for container ships.

Virtually every trade route of any significance whatsoever today uses containers and container ships for almost all general cargo. There are a lot of good productivity reasons for this. The entire house-to-house intermodal revolution has been developed around this approach. There are three main thrusts of this observation:

- (1) if large numbers of ships are needed to ensure adequate support for a mobilization effort, the most logical pool from which to pull at least some of the ships is the pool of container carriers
- (2) recognizing that not all military cargoes lend themselves to packing in containers, a lot of what an army needs does fit into containers, and might ultimately make prestaging and shipping easier
- (3) given the pervasive use of container ships, virtually all ports have container handling facilities.

If the concern is with destruction of the port infrastructure, an alternate strategy could involve transshipping to a military RO/RO at a neutral location in the vicinity of the theater, thereby optimizing the use of the military RO/ROs and increasing the number of commercial ships that could be drawn upon in an emergency.

When I speak of container ships, however, it is worth noting that each trade route or type of route has peculiar requirements that drive variations in ship type. In addition to the obvious restrictions of port or channel restrictions or pier accommodations on the trade route, certain routes demand the handling of specialized cargoes such as refrigerated goods, liquids, heavy or oversized items that drive vessel design and operating considerations. Vessel size will ideally be a function of, among other things, the volume of trade on the route and the frequency of service. Vessel speed and operational characteristics will be tailored to the requirements of the service and schedule.

In other words, the military, in choosing to meet its resupply needs with commercially operating ships, should be flexible in considering multiple types of vessels with widely varying characteristics. Another consideration which will be discussed more fully later is the relationship between numbers of ships available and cost of each ship to the government. To be blunt, ships operating commercially have a commercial role. In supporting a regional conflict using commercial ships, dislocations will occur. If many ships may meet the need, the chance of securing an adequate number of ships in a reasonable amount of time, while lessening the hardship on any particular commercial service is enhanced.