INTERIM REPORT OF
THE JOINT SUBCOMMITTEE STUDYING

ECONOMIC INCENTIVES TO PROMOTE THE GROWTH AND COMPETITIVENESS OF VIRGINIA'S SHIPBUILDING INDUSTRY

TO THE GOVERNOR AND
THE GENERAL ASSEMBLY OF VIRGINIA

SENATE DOCUMENT NO. 32

COMMONWEALTH OF VIRGINIA
RICHMOND
1999

MEMBERS OF THE JOINT SUBCOMMITTEE

Senator Stanley C. Walker, *Chairman*
Delegate Alan A. Diamonstein, *Vice Chairman*
Senator J. Randy Forbes
Senator Thomas K. Norment, Jr.
Senator Edward L. Schrock
Delegate Jerrauld C. Jones
Delegate Harry R. Purkey
Delegate Frank W. Wagner
Delegate Donald L. Williams
Mr. Thomas W. Godfrey
Mr. John L. Roper IV
Mr. Robert S. Walker
Mr. William Welch
The Honorable Barry DuVal, Ex officio
The Honorable Danny M. Payne, Ex officio
Adm. David P. Donohoe, Ret., Ad hoc

Staff

Franklin D. Munyan, *Division of Legislative Services*
Brian B. Taylor, *Senate Committee Operations*

INTERIM REPORT OF THE JOINT SUBCOMMITTEE STUDYING ECONOMIC INCENTIVES TO PROMOTE THE GROWTH AND COMPETITIVENESS OF VIRGINIA'S SHIPBUILDING INDUSTRY

To: The Honorable James S. Gilmore, III, Governor of Virginia,
and
The General Assembly of Virginia

Richmond, Virginia
January 1999

EXECUTIVE SUMMARY

Senate Joint Resolution No. 171, adopted by the 1998 Session of the General Assembly, established a joint subcommittee to study economic incentives to promote the growth and competitiveness of Virginia's shipbuilding industry. The joint subcommittee was charged with determining whether, and at what level, tax benefits or other economic incentives would be an effective tool in ensuring the continued health of Virginia's maritime industries.

During its first year the joint subcommittee held two meetings, during which it received information regarding the condition of Virginia's shipbuilding industry. The evidence presented indicates that the industry, while still a major presence in the economy of Hampton Roads, is being buffeted by changes in the market that make its long-term prospects uncertain. The joint subcommittee was cautioned that the survival of the shipyards is critical to the continued success of the ports of Hampton Roads. If shipowners are unable to have work performed on their vessels while in Virginia's ports, they may bypass the region in favor of competing port facilities on the Eastern Seaboard. Moreover, the private yards' capacity to repair Naval vessels provides a vital national defense resource.

The changes facing the industry include the reduction in the size of the Navy in the wake of the end of the Cold War, the shrinking amount of Navy ship repair work that is allocated to private yards, and the lack of commercial ship building and repair work resulting from subsidies provided by foreign governments to their own yards. The pressures are affecting shipyards in the rest of the nation as well as in Virginia.

As a result of these and other factors, employment in Virginia's yards has declined by one-third since 1990. Several firms have been forced to seek the protection in bankruptcy court. Norshipco, one of the largest yards in South Hampton Roads has been acquired by Southwest Marine, Inc. While the Hampton Roads Planning District Commission has described the outlook for the shipyards in Hampton Roads as optimistic, others see a bleak future.

The Navy's allocation of approximately eighty percent of non-nuclear Navy ship repair work to the federal Norfolk Naval Shipyard is endangering the future of some private shipyards. While the joint subcommittee cannot direct a change in the Navy's procurement practices, it will continue to monitor the issue.

The joint subcommittee was requested to examine five proposals to assist the Commonwealth's shipyards in making the transition from its traditional focus on Navy work to a new economic era in which firms will need to compete with yards in other states and other nations for the available commercial shipbuilding and repair work while exploring non-traditional opportunities. These recommendations include:

1. Extending deadlines for complying with state TBT regulations;

2. Establishing a Virginia Marine Industrial Commission, similar to the Virginia Film Commission, to promote and provide marketing assistance to the shipyard industry;

3. Establishing a study committee to review the federal and state workers' compensation acts to eliminate duplicative coverage that make the benefit programs confusing and costly;

4. Establishing a study committee to conduct a comprehensive study of the tax structure of the Commonwealth and its impact on the shipyard industry;

5. Considering future proposals for incentives for firms to invest in capital improvements in their shipyards.

These proposals were presented to the joint subcommittee at its meeting on December 17, 1998, and consequently there was insufficient opportunity to address them prior to the 1999 Session. The complexity of the issues prevented the joint subcommittee from completing its mission in a single year. Accordingly, the joint subcommittee recommends that the study be continued for a second year.

Recommendation: *The joint subcommittee's study of economic incentives for Virginia's shipbuilding industry pursuant to Senate Joint Resolution 171 should be continued for a second year.*

TABLE OF CONTENTS

I. INTRODUCTION

The 1998 Session of the General Assembly adopted Senate Joint Resolution 171 (Appendix A), which established a fifteen member joint subcommittee to study economic incentives to promote the growth and competitiveness of Virginia's shipbuilding industry. The joint subcommittee was charged with determining whether, and at what level, tax benefits or other economic incentives would be an effective tool in ensuring the continued health of Virginia's maritime industries. The joint subcommittee was directed to submit its findings and recommendations to the 1999 Session of the General Assembly.

The joint subcommittee was chaired by Senator Stanley C. Walker. Delegate Alan A. Diamonstein served as Vice Chairman. The other legislative members of the joint subcommittee were Senator J. Randy Forbes, Senator Thomas K. Norment, Jr., Senator Edward L. Schrock, Delegate Jerrauld C. Jones, Delegate Harry R. Purkey, Delegate Frank W. Wagner, and Delegate Donald L. Williams.

The joint subcommittee's four citizen members were Thomas W. Godfrey, president of Colonna's Shipyard, Inc.; John L. Roper IV of Norfolk Shipbuilding and Drydock Co.; Robert S. Walker of Marine Hydraulics International; and William Welch of Newport News Shipbuilding, Inc. The Honorable Barry DuVal, Secretary of Commerce and Trade, and the Honorable Danny M. Payne, Tax Commissioner, served as ex officio members with voting privileges. Admiral David P. Donohoe, Retired, president of the Norfolk Naval Shipyard Portsmouth Association, was appointed on October 20, 1998, as an ad hoc member.

SJR 171 authorizes the joint subcommittee to employ a consultant to assist it in its work, with its expenses to be funded by an appropriation of $50,000. The joint subcommittee did not have occasion to retain a consultant during its initial year.

II. BACKGROUND INFORMATION

A. The State of the Shipbuilding Industry in Virginia

Shipbuilding and ship repair is a major industry in Southeastern Virginia. Industry representatives advised the joint subcommittee that Hampton Roads is home to 20 shipyards and ship repair facilities and another 100 subcontractors that work in those facilities. These 120 companies have a combined 37,000 jobs, $1.2 billion in annual sales, and $941 million in employee earnings.

Bureau of Labor Statistics data, which does not include federal workers at the Norfolk Naval Shipyard or employees of other classifications of companies that subcontract with shipbuilding or ship repair firms, counted over 23,000 people as employed in Virginia's private ship and boat building and repair industries in 1996 (table 1).

Table 1: Virginia's Ship and Boat Building and Repair Industries, 1996

Category	Establishments	Employment
Shipbuilding and repair	39	23,018
Boat building and repair	81	381
Total	120	23,399

Source: Bureau of Labor Statistics, unpublished data

The impact of the shipbuilding and repair industry in Virginia extends beyond the number of direct employees. The Hampton Roads Planning District Commission (HRPDC) has estimated that private employment in the ship and boat building and repairing industries in Hampton Roads was 26,000 in 1997. Based on direct employment, modeling by HRPDC staff projects that the industry's total employment impact on the region of the industry, which includes indirect and induced employment, is 46,017 jobs. The personal income impact of the industry's private employment is approximately $1.8 billion. The industry's impact on the region's economic output is estimated at almost $4.1 billion.

If the 7,000 government employees at the Norfolk Naval Shipyard are added to the number directly employed in the private sector, the ship and boat building and repair industry's impact on employment in Hampton Roads increases to 58,407 jobs. The output impact of the combined public and private yards is estimated to be nearly $5.2 billion.

While shipbuilding has long been a mainstay of the regional economy, its contribution to the area's economy has been waning as the industry tries to cope with major changes. Total private and government employment in Virginia's ship building and repair industries has declined by about one-third since 1990 (table 2).

Much of the downturn has been attributed to defense downsizing. Navy work is expected to become increasingly scarce as the size of its fleet shrinks. At the same time, the Navy is perceived as protecting its remaining shipyards, including the Norfolk Naval Shipyard.

Table 2: Covered Employment in Virginia for Ship Building and Repair, 1990-1997

Year	Establishments	Employees
1990	50	44,744
1991	57	44,577
1992	51	41,743
1993	46	37,943
1994	46	33,393
1995	44	32,008
1996	42	30,483
1997*	40	29,170

Note: Figures include private and government establishments and employees.
* Average of data for first three quarters of 1997; all others are annual data.
Source: Va. Employment Commission, unpublished VELMA data.

In the period 1992 to 1996, private employment in the shipbuilding and ship repair industry declined 17.5 percent, and payroll declined 10.6 percent (see table 3). Much of this loss is reflected in employment figures at Newport News Shipbuilding. Employment at this firm, which is the region's largest shipyard, has declined steadily from its peak of 30,000 in 1984 and 1985 to 24,500 in 1992 to approximately 18,000 in 1996. (HRPDC, 1998 Economic Outlook, p. 52)

Table 3: Private Shipyard Establishments, Firms, and Payroll, 1992-1996

Year	Number of firms	Employment	Payroll ($ millions)
1992	41	28,600	1,002
1996	39	23,018	896

Source: 1992 Economic Census for Virginia, SIC Code 3731; 1996 BLS unpublished data.

The decreasing volume of U.S. Navy work is also affecting government shipyard employment. Employment at the Norfolk Naval Shipyard in Portsmouth has declined over the past decade from 12,500 in 1988 to 7,000 in 1997. One of five U.S. Navy shipyards, it is the oldest and largest of the Navy's industrial facilities. (HRPDC, 1998 Economic Outlook, p. 50)

B. Trends in the National Shipbuilding Industry

Many of the challenges and trends affecting Virginia's shipyards are apparent in the industry nationwide. Virginia's yards play a major role in the nation's total ship building and repair capabilities.

In its 1997 survey of the shipbuilding and repair industry, the U.S. Maritime Administration (MARAD) has identified 87 companies as major shipbuilding and repair facilities. (MARAD 1997 Report on Survey, p. 3) Seven of the shipbuilding and ship repair firms in Virginia are "major" shipbuilding and repair facilities. Of these 87 major facilities, 18 qualify as a major shipbuilding base (MSB). As of October 1997, MSB yards employed 65 percent of the domestic shipbuilding and repair industry's total workforce. At the end of 1997, six of the 18 MSB yards were engaged in construction and/or conversion of major combatants and auxiliary ships for the Navy; three were engaged in ship construction work provided by the Navy's T-Ship program; thirteen had repair and overhaul work, smaller Navy vessel orders, and non-ship construction work; ten were involved with private new construction; and one was constructing vessels for the Coast Guard. (Id., p. 4) The only MSB located in the Commonwealth is Newport News Shipbuilding, which is the largest shipbuilding complex in the nation. (Id., p. 34)

While over 200 privately owned firms of varying capabilities are involved in rebuilding ships in the United States, 44 yards are capable of drydocking ships at least 122 meters in length. Major shipyards usually combine repair, overhaul and conversion with shipbuilding capabilities, and it is difficult to draw a line between shipbuilding yards and ship repair yards, as many are engaged in both types of work. MARAD's 1997 survey identifies 32 repair yards with drydocking facilities that are not counted in the list of MSBs. Thirteen of the major repair yards with drydock facilities are located on the East Coast. Of these, three are located in Hampton Roads: (i) Norshipco (2,403 employees); (ii) Colonna's Shipyard, Inc. (1,399 employees); and (iii) Metro Machine Corp. (668 employees). (Id., pp. 42, 91-92)

Nationally, MARAD has identified 37 major topside repair yards. Services rendered by these firms include providing voyage repairs while the ship is at anchor or working cargo at a commercial marine terminal. There is an increasing trend to send ship repairers to the ship rather than to bring the ship to the shipyard, thus calling for greater mobility of ship repair personnel. Of the 37 major topside repair yards, ten are on the East Coast. Of these ten, three are located in Hampton Roads: (i) Marine Hydraulics International (218 employees); (ii) Moon Engineering (212 employees); and (iii) Associated Naval Architects (74 employees). (Id., pp. 42, 93-94)

U.S. ship repair yards also face competitive pressures from businesses in other counties. Worldwide, the ship repair industry is worth about $15 billion annually. Of this amount, $2.6 billion of repair work was performed in U.S. yards. In 1994, commercial work accounted for about 35 percent, and military work for about 65 percent, of the repair work done in U.S. yards.

Since the federal government ceased providing subsidies given to private U.S. shipbuilders in 1981 and other nations simultaneously increased their subsidies, the shipbuilding industry has been in decline nationally. During the 1980s, many shipyards were forced out of business because they were at a competitive disadvantage in the international commercial shipbuilding market. Thousands of U. S. workers were laid off and by 1988, U. S. private shipbuilders no longer competed in the growing international commercial shipbuilding market. In order to stay in business, the remaining shipyards relied almost exclusively upon the shipbuilding needs of the Navy. However, because of cuts in the Navy's shipbuilding and ship repair budget, the remaining private U. S. shipbuilders have found themselves competing for a share of a declining market. (HRPDC, 1988 Economic Outlook, p. 49)

Appendix B illustrates the decline both in merchant vessel construction and commercial repair/conversion work. It also shows that, by 1993, Navy work was beginning to decline from the peaks in shipbuilding and repair work reached in the 1980s.

The number of employees in both private and Navy shipyards has dropped precipitously over the past three and one-half decades. From 1991 through 1996, private sector employment has fallen by 25 percent while Navy yard employment has fallen by 58 percent. (Table 4)

Table 4: Employees in Government and Private Shipyards: 1960 to 1996
[In thousands. Annual average employment in establishments primarily engaged in building and repairing all types of ships, barges, canal boats, and lighters of 5 gross tons and over, whether propelled by sail or motor power or towed by other craft. Includes all full and part-time employees]

Year	Total	Private yards	Navy yards	Year	Total	Private yards	Navy yards	Year	Total	Private yards	Navy yards
1960	208	112	96	1987	200	124	75	1992	183	124	59
1970	216	134	83	1988	197	124	73	1993	163	113	50
1975	217	154	65	1989	196	126	71	1994	148	107	41
1980	250	178	72	1990	198	130	68	1995	139	105	34
1985	219	138	80	1991	193	131	62	1996	124	98	26

Source: Statistical Abstract of the United States, 1997, U. S. Department of Commerce, Table 1074.

According to employment data published by the Bureau of Labor Statistics, the average total employment in U.S. private shipyards for the first eleven months of 1997 was 94,000. (Appendix C) Total average employment in this industry is projected to be lower than any level in the past 47 years. (MARAD, 1997 Report on Survey of U.S. Shipbuilding and Repaid Facilities, p. 56)

The number of U.S. shipyards is also declining, with the number of private ship building and repair yards falling from 106 in 1990 to 86 in 1996 (see table 5).

Table 5: Public and Private Shipyards in the United States, 1987-1996

Year	Public Yards	Large Builders	Large Repairers	Topside Repairers	Total
1987	8	24	32	54	118
1988	8	22	36	55	121
1989	8	20	35	53	116
1990	8	19	35	52	114
1991	8	18	33	52	111
1992	8	17	35	52	112
1993	8	19	33	50	110
1994	8	21	32	48	109
1995	8	19	31	42	100
1996	5	17	31	38	91

Note: In 1985, MARAD lowered the size criterion for large shipbuilders from a ship length of 475 feet to 400 feet and raised the size criterion for large ship repairers from a ship length of 300 feet to 400 feet.
Source: MARAD, 1997 Survey of Shipbuilding and Repair Facilities

Total U.S. shipbuilding and ship repair revenues peaked in 1990 at $10.7 billion. From 1990 through 1995, revenues have declined steadily, with 1995 revenue totaling less than $9.6 billion. In the first half of the 1990s, shipbuilding accounted for about 70 percent of revenues, ship repair for about 25 percent, and other work less than five percent (see table 6).

Table 6: U.S. Shipbuilding and Ship Repair Revenues ($ millions)

	Shipbuilding				*Ship Repair*		*Other*	*Total*
Year	Non-self propelled	Naval ships	Comm'l ships	sub-total	Comm'l ships	sub-total	Other Work	All Work
1987	108	4,749	469	5,354	797	2,704	285	8,343
1988	169	4,923	531	5,623	728	2,678	329	8,630
1989	178	5,736	548	6,462	786	2,656	411	9,530
1990	280	6,512	671	7,463	942	2,778	500	10,741
1991	344	6,270	663	7,278	984	2,850	573	10,700
1992	449	6,034	648	7,132	872	2,841	418	10,391
1993	477	5,706	678	6,861	882	2,555	386	9,801
1994	444	5,964	686	7,093	918	2,617	166	9,876
1995								9,586

Source: Colton & Company, Compilation of Bureau of the Census data

The average hourly earnings of shipbuilding production workers increased from $8.22 in 1980 to $10.94 in 1990 and to $12.80 in 1996, a gain of 55.7 percent. The gap between the wages paid to shipbuilding production workers and production workers in other industries is narrowing. Over the same period the average hourly earnings of production workers in all industries increased by 77.5 percent, from $6.66 to $11.82. (1997 Statistical Abstract of the U.S., Table 662) For all shipbuilding employees, the average hourly wage increased from \$8.56 in 1980 to \$11.83 in 1990 and to \$14.21 in 1996. (MARAD/BLS data compiled by Colton & Company).

The international shipbuilding market had not been good to American shipbuilders in recent years. In 1993, the U. S. was 27th among nations with only 0.2 percent of the world's gross commercial tonnage on order. A principal reason for the industry's decline prior to 1995 is that, because of foreign subsidies, it had been very difficult for the U. S. industry to compete for commercial work. (HRPDC, 1998 Economic Outlook, p. 53)

The commercial shipbuilding orderbook, compiled by the U.S. Maritime Administration, illustrates that construction, measured by both the number of ships and tonnage, declined throughout the period from 1970 until 1987, when activity ceased entirely. Since 1990, construction work has increased steadily, though still at relatively small levels. (Appendix D)

The construction of Navy ships has been the industry's lifeline since the demise of the commercial shipbuilding business. The end of commercial shipbuilding subsidies coincided with the onset of the nation's peacetime military buildup. During the 1980s , the U. S. Navy commenced the largest combatant ship construction program in peacetime history. Military construction continues to dominate the workload at U. S. yards, in some cases constituting more than 90 percent of total revenues. (HRPDC, 1998 Economic Outlook, p. 49)

The Navy's active fleet was cut from 541 ships to 354 ships between 1985 and 1997. While the Navy plans to build 48 ships at a cost of almost \$40 billion between 1998 and 2003, this program represents an average of 5.8 ships per year, which compares to the average of 19 ships per year during the 1980s. Cuts in the Navy's shipbuilding and ship repair budget has forced the remaining private shipbuilders to compete for a share of a declining market.

In FY 1997 the Navy completed 101 overhaul or repair projects, while the private sector completed 64 smaller, less complex availabilities, at a cost of \$959 million. The Navy's 1998 maintenance and modernization budget projects 94 scheduled availabilities with a value of \$2 billion. Naval shipyards are scheduled to accomplish 33 availabilities for \$1.33 billion while private yards are scheduled to do 61 availabilities for \$697 million.

The Navy currently relies upon five shipyards for the bulk of its ships. They are Newport News Shipbuilding for aircraft carriers and submarines; Electric Boat in Connecticut for submarines; Bath Iron Works in Maine and Ingalls Shipbuilding in Mississippi for guided missile cruisers and destroyers; and Avondale Industries in Louisiana for amphibious ships.

The U.S. Navy's shipbuilding and repair/conversion programs will continue to be the principal customer for the nation's shipbuilding and repair industry. The FY 1998 Navy budget, which includes procurement authorizations for 13 DDG-51 destroyers, the lead ship of a new submarine class, and aircraft carrier refuelings, was $8.1 million, 48 percent more than the FY 1997 appropriation. The FY 1999 budget is 22.8 percent less than the FY 1998 level. The Navy's FY 1998 ship repair and modernization budget of $2 billion is 10.8 percent larger than the FY 1997 amount.

The prospect for new Navy construction work is reflected in the shipbuilding plan for fiscal years 1998-2003. The plan calls for the construction of 35 new ships, seven ship conversions, four service life extensions, and two carrier refuelings. Shipyard contract value accounts for about one-third of the plan's $45 billion cost. The plan represents a continued reduction in the amount of new shipbuilding work available compared to previous Navy programs. Averaging less than six new ships annually, the program represents a 69 percent reduction in the quantity of ships to be procured when compared to the average of the 1980s. (MARAD Survey, p. 54)

Department of Defense procurement contract awards in Hampton Roads totaled $1.3 billion (in constant 1982-84 dollars) in 1997. The amount of such awards since 1983 has fluctuated between $5.2 billion and $1.1 billion. The Hampton Roads Planning District Commission has reported that "[t]he majority of the recent decrease in DoD expenditures occurred on the Peninsula, where the shipbuilding industry has been in decline for some time. Prime contracts awarded in Newport News, for example, declined from $2,498.6 million in 1995 to $467.2 million in 1997, adjusted for inflation." (HRPDC, 1998 Economic Outlook, p. 44)

C. The Outlook for Virginia's Shipbuilding Industry

Virginia's shipbuilding industry has been under great stress in recent years. Total private and government employment in Virginia's shipbuilding and ship repair industries has declined by about one-third since 1990. Much of the downturn has been attributed to defense downsizing. Navy work is expected to become increasingly scarce as the size of the Navy is expected to decrease. At the same time, the Navy is perceived as protecting its remaining shipyards, including the Norfolk Naval Shipyard. (HRPDC, 1998 Economic Outlook, p. 54)

Several observers see these bleak conditions continuing into the future. Guy Stitt, a shipyard consultant based in Bremerton, Washington, was quoted by the Norfolk Virginian-Pilot as saying, "We're in a period of time when we have significant excess capacity in this industry." (Norfolk Virginian-Pilot, July 31, 1998) Art Collins of the Hampton Roads Planning District Commission has noted that the landscape of the ship repair business is beginning to change, with a trend clearly toward companies getting bigger. (Norfolk Virginian-Pilot, August 3, 1998)

Joint subcommittee member Thomas Godfrey, who is president of both the South Tidewater Association of Ship Repairers and Colonna's Shipyard, sees a bleak future for Virginia's shipyards. Employment levels are declining at most shipyard firms, and most see no reason for optimism. Much of the decline is attributable to market conditions and federal government policy over which the industry has no control.

Despite the industry's shrinkage since 1990, the Hampton Roads Planning District Commission reports that "the outlook for the shipyards in Hampton Roads is optimistic" and that "the future for military work in the yards of Hampton Roads is positive." (HRPDC, 1998 Economic Outlook, pp. 49, 54) After several disappointing years that included the bankruptcy of several businesses, local shipyards are described as recently being "in recovery." (Id., p. 54). Mr. Godfrey took issue with the joint subcommittee's optimism during the joint subcommittee's second meeting.

The following recent developments illustrate that Virginia's shipbuilding and ship repair industries are in an era of change and uncertainty:

1. <u>Advanced Shipbuilding and Carrier Integration Center.</u>

In order to protect its position as the sole facility capable of designing and constructing the nation's most sophisticated aircraft carriers, Newport News Shipbuilding has initiated development of a 230,000 square foot aircraft carrier design research center in downtown Newport News. Between 500 and 700 engineers and other professionals are expected to work in the new facility.

The facility is envisioned as the base for development of a radically different class of aircraft carriers, referred to as the CVX. Artists' conceptions of the CVX featured a low profile that would make it look like an oil tanker to radar. The CVX is expected to be the successor to the Nimitz class of aircraft carriers.

The Navy will build one more Nimitz-class aircraft carrier, referred to as CVN-77, at Newport News Shipbuilding. CVN-77 is viewed as a transitional step toward the evolution of future carriers. On September 10, 1998, Newport News Shipbuilding announced that it had been awarded a contract by the Navy for advanced procurement and advanced construction of CVN-77. The contract was valued at $45.3 million, with three options that could bring its value to $190 million. The contract will allow Newport News Shipbuilding to begin construction in areas below the waterline where no major design changes are anticipated. Advance construction of CVN-77 could begin as early as 1999.

The Navy announced in May 1998 that it would scale back plans to develop the CVX by 2006. Instead of forging ahead with the radical departure in design, the Navy will make incremental improvements to the Nimitz-class design and postpone plans to develop a revolutionary design for the initial CVX. As a result, the first CVX will look much like today's carriers but have internal advancements that allow it to operate with a substantially smaller crew. The announcement does not affect the Navy's plan to build CVN-77.

The Navy had planned to spend $3.2 billion for a "clean sheet" design for CVX. Newport News Shipbuilding had been working on new designs for the CVX. By deciding to retain the Nimitz hull, the Navy's decision makes it likely that design work on the CVX will be scaled back. However, the decision also makes it probable that at least the first CVX will be nuclear-powered. As Newport News Shipbuilding is the only U.S. yard currently able to build nuclear carriers, it would be assured of building the first CVX as well as the CVN-77. (Norfolk Virginian-Pilot, May 27, 1998)

The 1998 Session of the General Assembly enacted Senate Bill 442, which (in its third enactment clause) provides funds for the construction of the Advanced Shipbuilding and Carrier Integration Center. (Appendix E) The Center is to be built by a Qualified Shipbuilder for a local industrial development authority (IDA), which will initially own the Center. To be a "Qualified Shipbuilder," a shipbuilder must have over 10,000 employees in Virginia and make a qualified investment of at least $25 million in the fiscal year preceding each fiscal year in which any grant is awarded. The legislation states that the Center will be used by the shipbuilding industry to perform testing and integration projects, education and worker training.

The construction of the Center is to be funded by a $58 million investment grant, which will be funded if the Secretary of Commerce and Trade determines that (i) the Navy has determined that the next carrier will be nuclear-powered or has awarded a prime contract to a Qualified Shipbuilder, and (ii) a Qualified Shipbuilder agrees to build the Center for the IDA. The investment grant shall not exceed $8 million in fiscal year 1999, $30 million in fiscal year 2000, and $20 million in fiscal year 2001. The structure of the grant will be set forth in a memorandum of agreement, which is to include performance standards for the transfer of the Center from the IDA to the Qualified Shipbuilder. When the performance standards are satisfied, title to the Center will be transferred to the Qualified Shipbuilder.

Operations grants not exceeding $20 million during any fiscal year, and not exceeding $40 million in the aggregate, may be paid to the Virginia Economic Development Partnership for use by the Center if certain conditions, including the establishment of certain procedures to allow other members of the shipbuilding industry access to the Center and ensuring that training services provided by the Center are not limited to employees of the Qualified Shipbuilder, are met. The operations grants are to be used to establish or operate activities of the Center.

The 1998 Session appropriated $8 million in fiscal year 1999 and $3.2 million in fiscal year 2000 to be used for the grants program. In addition, upon certification from the Secretary of Commerce and Trade that a qualified shipbuilder has met the conditions for reimbursement as set forth in the legislation, the Governor is directed to submit amendments to the Appropriations Act providing for an additional $30 million in the aggregate for fiscal year 2000.

2. Sale of Norshipco.

On October 1, 1998, Norshipco was acquired by San Diego-based Southwest Marine, Inc. Norshipco, with approximately 1,800 employees, is the largest private shipyard in South Hampton Roads. Norshipco had been the leading Navy ship repair contractor in Hampton Roads in two of the past three federal fiscal years. Southwest Marine, which operates yards in California and Texas, is owned by The Carlyle Group, a Washington-based investment firm. The new company will be the largest non-nuclear ship repair firm in the nation, with an estimated $400 million in annual revenue and 3,800 employees. The deal may provide Norshipco with the capital and lobbying power needed to win Navy repair contracts. It may try to attract commercial cruise-ship repairs by building a large new dry dock. (Norfolk Virginian-Pilot, July 30 and 31, 1998; Newport News Daily Press, October 2, 1998)

3. GAO Review of Procurement Practices.

The U.S. General Accounting Office will review Navy policies for allocating ship repair work to public and private-sector shipyards, at the request of Rep. Owen Pickett. The GAO will also determine whether the Navy has been following its policies in recent contract awards and assignments. Private yards are concerned that the Navy is sending a large majority of its ship repair work in the harbor to the Norfolk Naval Shipyard, though the cost of doing the work in the Naval Shipyard is reportedly more than that of private-sector yards. The Navy's stated goal, under a policy introduced in 1996, has been to match its shipyard's workload with its 7,000 employees. According to the Atlantic Fleet, about 80 percent of ship maintenance funds in Hampton Roads are being spent in the Navy's yard, with the remaining 20 percent going to the private sector. (Norfolk Virginian-Pilot, June 19, 1998, p. D1)

4. Commercial Shipbuilding Prospects.

American shipbuilders have taken steps recently to re-enter the $50 billion annual world commercial shipbuilding market. These moves were encouraged in part by the Title XI loan-guarantee program, run by the U. S. Maritime Administration. Lower labor costs may also contribute to the position of U. S. shipyards. American shipyard workers are paid less than comparable workers in Germany, Japan, and other competitor nations except for Korea. This labor cost advantage is important since labor costs constitute approximately 40 percent of the total cost of a finished vessel. Additionally, American shipyards have been modernized. Investing heavily in capital goods, American yards have raised the productivity of their operations and have become more efficient than their international counterparts. (HRPDC, 1998 Economic Outlook, pp. 53-54)

Hopes for growth in commercial tanker construction were set back when Newport News Shipbuilding announced in March that it was exiting from the commercial shipbuilding business and would cancel its last three domestic product tankers. After completing five commercial tankers, the company will focus its efforts exclusively on military work.

Commercial work in Hampton Roads tends to be sporadic, and the jobs of small dollar value. The best commercial customers are cruise ships. Private shipyards understand they must diversify in order to remain economically viable. Examples of diversification include Colonna's Shipyard's development of a yacht repair facility and Earl Industry's construction of television towers.

One reason for the difficulty American shipbuilders face in competing in the commercial market is the practice of foreign governments to subsidize their shipbuilding programs. In an attempt to address the problem of subsidies, the United States joined the fifteen-member European Union, Japan, and South Korea in 1994 to negotiate an accord curtailing shipbuilding subsidies. Since then, all of the participants except the United States have ratified it. (Journal of Commerce, London, October 21, 1997)

D. Economic Incentives Offered by Virginia

The Commonwealth offers a range of incentives and services to assist business growth and reduce the costs of opening or expanding a business facility within Virginia. The economic incentives provided by Virginia have generally reflected one or more of the following themes: (i) Rewarding new establishments or major expansions of exiting businesses that result in substantial capital investments, the hiring of new full-time employees, or both; (ii) directing economic incentives to comparatively new, technologically advanced industries that previously did not have a major presence in the Commonwealth; and (iii) directly linking the amount of incentive payments to levels of production by the recipient firms, so that incentives are not paid until investments are completed and workers are hired.

The Existing Industry Development Division of the Department of Business Assistance, through its industry visitation program, serves as the Commonwealth's principal point contact and communications with business and industry. The Division visited 2,207 firms in fiscal year 1998, and received over 4,800 requests for assistance. The Division, which provides existing businesses with advice referrals, and ombudsman services, reported that the three most popular categories of assistance requests were worker availability/training, financing, and export development.

The Division visited 23 of the Commonwealth's 49 shipbuilding and repair firms, identified by standard industrial classification (SIC) Code 3731, in 1998. The categories of assistance requested by these firms tracked the results of all companies, with the most frequent categories being workforce availability (30 percent) and financing (26 percent), followed by defense downsizing and marketing assistance (15 percent). Types of assistance and information provided to shipbuilding firms include Defense outplacement referral service, Capital Resource Directory, and the Defense Conversion Revolving Loan Fund.

Virginia does not provide economic incentives aimed specifically at shipyard industries. However, a variety of economic development incentives are currently offered by the Commonwealth. These incentive programs include:

- Major business facility job tax credit (§ 58.1-439)
- Enterprise Zone tax credits and grants (§ 59.1-270 et seq.)
- Tax credit for hiring TANF recipients (§ 58.1-439.9)
- Worker retraining tax credit (§ 58.1-439.6)
- Governor's Development Opportunity Fund (§ 2.1-51.6:5)
- Financing assistance through the Virginia Small Business Financing Authority
- Workforce training programs
- Financial incentives directed at specific industries, such as the Coalfield employment enhancement tax credit (§ 58.1-439.2), the Solar photovoltaic manufacturing incentive grant program (§ 45.1-392), the Semiconductor manufacturing performance grants (§§ 59.1-284.13 through 59.1-284.15), and the Retaliatory tax credit for insurance companies (§ 58.1-2510)

E. Incentives Offered by Other States

Several other states have attempted to revive or ensure the survival of their shipbuilding firms by providing economic incentives. Examples include:

Louisiana: In 1998 the Louisiana legislature appropriated $1.35 million to the state Department of Economic Development to finance the renovation of port space operated by Avondale Shipyard. In September 1998, the Interim Emergency

Board approved an additional $835,000 to help Avondale Shipyard open a plant at the Port of Madison Parish. The board's actions are subject to ratification by the legislature by mail ballot. The funds will be used to locate qualified workers who are in short supply because of a booming shipyard industry. Avondale will put more than $1.6 million into the project, which could employ 300 workers. (New Orleans Times-Picayune, September 23, 1998)

In addition, in 1997 the Economic Development Commission recommended that the state provide $40 million for a facility for the design and construction of the LPD 17 assault ships. Under the agreement, a foundation will construct the facility for use by Avondale in conjunction with the University of New Orleans.

Maine: In 1997, General Dynamics, the parent of Bath Iron Works, negotiated a $194 million package of state and local tax relief in connection with its investment of $350 million over ten years to modernize its shipyard. The tax relief package includes $3 million annually, for twenty years, in rebated payroll income taxes, $53 million in state investment tax credits (equal to one percent of the original value of new equipment), and $81 million in property tax relief over 25 years from the city of Bath through a tax increment financing district. In addition, Bath must meet minimum employment levels in order to receive the state tax benefits. (Portland Press Herald, May 23, 1997)

Maryland: Baltimore Marine Industries received a $7 million state economic incentive package in connection with the $16 million purchase of the Bethlehem Steel-Sparrows Point yard. The purchaser also received from the shipworkers' union a 75-cent cut in the average hourly wage for workers. (Baltimore Sun, November 2, 1997)

Pennsylvania: Kvaerner ASA, an Anglo-Norwegian construction and engineering firm, received a state contribution of $182 million in general obligation bond proceeds for reconstruction of shipyard facilities at the site of the former Philadelphia Naval Shipyard. The shipyard is to be jointly owned by the state, the city, and the port authority. The federal government is scheduled to provide $80 million in assistance. Philadelphia and the Delaware River Port Authority were to contribute additional public funds. The total of all government assistance is approximately $400 million, of which half is earmarked for worker training. The firm was to invest additional sums of its own money to update the yard. The firm will lease the yard for a term of 99 years. The agreement was expected to generate between 700 and 1,000 shipyard jobs. (Journal of Commerce, London, October 21, 1997)

III. ISSUES IDENTIFIED BY THE JOINT SUBCOMMITTEE

The Joint Subcommittee's first meeting was held in Richmond on October 5, 1998, and its second meeting was held at the Holiday Inn Executive Center in Virginia Beach on December 17, 1998. Information was provided to the joint subcommittee at both meetings which served to identify specific barriers to the continued health of Virginia's shipyards.

A. Navy Contracting of Repair Work

Employment at Norfolk Shipbuilding and Drydock Co. (Norshipco) has declined from 3,500 in 1991 to 684 in 1998, an 81 percent reduction. Retired Admiral Alexander Krekich, president of Norshipco, identified the reduction in the amount of Navy repair work as one of the two reasons for the declining employment both in his firm and in the industry generally. This concern has two parts. The first is the overall decline in the amount of work as the Navy reduces the size of the fleet. The second is the allocation of much of such work as is available to the Norfolk Naval Shipyard. While the Secretary of Defense has mandated privatization, the Navy has chosen to in-source a majority of its non-nuclear repair work in Hampton Roads.

The number of ships repaired by private yards in Tidewater will have dropped from 16 in 1996 to three in 1999. Private shipyards received 27 percent of Navy depot funding in 1997; in 1999, their share will fall to 15 percent of Navy depot funding. While the private share of Navy depot funding is falling 42 percent over this period, the total of Navy and private yard funding will increase from $360 million to $375 million.

Federal law currently provides that private yards may receive not more than 50 percent of the Navy's workload, and that public facilities will maintain a work effort of not less than 50 percent of the workload. However, there is no cap on the percentage of work that the public yards may undertake. In practice, about 80 percent of the Navy repair work goes to Norfolk Naval Shipyard and 20 percent goes to private yards.

The vast majority of Navy non-nuclear ship repair work is allocated to the Norfolk Naval Shipyard despite the fact that its costs are two to three times higher than private sector costs. While the Norfolk Naval Shipyard's man-day rate is $600, Norshipco's man-day rate is $250. As a result of the declining share of Navy repair work available to private yards in Hampton Roads, the yards that invested heavily in piers and docks for Navy work have been put at a competitive disadvantage.

B. State Regulation of TBT

The second cause for declining shipyard employment identified by Admiral Krekich is the industry's high cost of doing business. The Commonwealth's regulation of TBT (tributyltin) was cited as putting Virginia's shipyards at a competitive disadvantage compared to yards in other jurisdictions. TBT is an antifouling agent that prevents the growth of barnacles on ships' hulls. It is designed to leach out as a ship moves through the water. Virginia is the only state that imposes TBT limits in the discharge permits of shipyards. Virginia has established a water quality criterion, resulting in an effluent limitation in the water discharge permits of shipyards. The limit on TBT discharges of shipyards is so minute that it cannot be accurately measured without sophisticated equipment. The impact of the TBT regulations, based on an assumption that all 2,160 commercial ship repair jobs in the region would be lost as a result of the regulations, was estimated to be $340.2 million. (See Appendix F)

Approximately 70 percent of all commercial vessels have an antifouling paint containing TBT on their hulls. While restrictions have been placed on Virginia's industry through water discharge permits, there is no known technology to test levels this low on a reliable basis or to treat the washwater to the required level. In addition, restrictions have not been placed on the releases by vessels entering the Ports of Hampton Roads for cargo. The amount of TBT released in Virginia's waters from these vessels is far greater than from the washdown process in drydock. It has been estimated that while 2,400 grams of TBT are released annually from shipyard drydocking, 70,000 grams are released by visiting TBT-coated ships. (Se Appendix G)

Governor Gilmore has proposed an amendment to the biennial budget that will provide $1.5 million, to be matched by the industry, for the Center for Advanced Ship Repair and Maintenance (CASRM) to research ways for shipyards to meet the state's strict TBT regulations. The CASRM study, which includes $1 million in federal funds, will take 30 months.

C. Dual Jurisdiction in Workers' Compensation Insurance

The dual jurisdiction issue in workers' compensation was cited as an example of the unique burdens placed on Virginia's shipyards that other firms are not forced to bear. Virginia employers are in some instances required to comply with both the federal Longshore and Harbor Workers' Compensation Act and the Virginia Workers' Compensation Act. The affected shipyards contend that the duplicate coverage requires them to bear the added financial burden of covering their employees on a policy that incorporates both federal and state laws.

D. Industry Taxation.

The state and local taxation of the shipyard industry was blamed for a portion of the high cost of doing business in the Commonwealth. It was acknowledged that local governments are under severe fiscal stress that limits their flexibility in providing relief for the industry. However, taxes were mentioned as a source of much concern.

Two examples of unduly burdensome taxes were the local consumer utility and machinery and tools taxes. The utility tax rate levied by the City of Norfolk has recently been lowered from 20 times as high as the rate in Virginia Beach to a level "only" 14 times as high. A business's machinery and tools are assessed in Norfolk for city tax purposes at 40 percent of their original cost, regardless of age, condition or use.

E. Developing Alternative Businesses

Shipyards must obtain additional work from the commercial market, in addition to diversifying into non-traditional market sectors worldwide, in order to recover from the loss of Navy ship repair work. Notwithstanding comments by Secretary of Defense Cohen in favor of privatizing some Navy work, there is no assurance that its in-sourcing of a vast majority of its non-nuclear repair work in Hampton Roads will end in the foreseeable future. As a result, Virginia's yards see a need to diversify into new lines of business.

Examples of possible diversification that repair yards in Hampton Roads may attempt include expanding their commercial market lines through construction of vessels, repairs to mega-yachts, large steel fabrication projects, and increased repair of commercial ships.

IV. PROPOSALS OFFERED FOR JOINT SUBCOMMITTEE CONSIDERATION

The following four measures designed to prevent the continued decline of the ship repair industry were proposed for the joint subcommittee's consideration:

TBT: The Commonwealth needs to extend the compliance date for Virginia ship repair yards to align with the Congressionally-funded CASRM pilot treatment project. The extensions to the compliance date must be in place by October 1999. Colonna's Shipyard has a TBT limit in their VPDES permit; Norshipco's permit will come into compliance in November 1999; and Newport News Shipbuilding's permit will come into compliance in June 2000. Unless the compliance date for all three shipyards is extended to align with the thirty months required for the recently-funded CASRM project, Virginia shipyards will be unable to remove TBT paint from commercial vessels, and thus will be precluded from participating in the commercial ship repair business. Options for extending the compliance date for all of Virginia's ship repair yards include legislation, permit revocation and reissuance, permit modification or variance, consent orders, and mediation. The joint subcommittee was told that it must direct the administration to select and implement a single option for the entire industry within the next six months.

Workers' Compensation Study: The industry recommended that a study committee be established for the purpose of reviewing the federal and state workers' compensation acts. Differences in coverage make the benefit programs confusing, costly and duplicative. A study committee could be composed of representatives from government, industry, and labor.

Commercial and Industrial Development Initiative: The Commonwealth should establish a commission, similar to the Virginia Film Commission, to promote and provide marketing assistance to the shipyard industry. Named the Virginia Marine Industrial Commission, the office could serve the industry with such marketing services as developing a strategic plan, overseeing industry participation in trade shows, developing and producing promotional material, and promoting and identifying commercial and industrial opportunities. The industry would match funds appropriated for this purpose. The cost of establishing and operating the VMIC for a biennium was estimated at $400,000.

Tax Structure Study: The industry recommended that a committee be established to conduct a comprehensive study of the tax structure of the Commonwealth and its impact on the shipyard industry. Current state and local taxing structures were described as cumbersome and costly to a declining industry faced with layoffs. The study committee would analyze the various tax structures, including unemployment and sales taxes, and recommend possible avenues of amelioration.

Though no specific recommendations were offered, the industry also noted that incentives for firms to invest in capital improvements in their yards will enable them to be more competitive in the commercial market. The loss of Navy repair work has reduced the industry's profitability, which in turn has precluded shipyards from making the improvements needed to diversify into new markets. The Commonwealth should develop a program for grants that encourage the capital investments needed to expand into new lines of business while preserving existing jobs or creating new jobs. Few south side ship repairers have been eligible for existing investment incentive programs. The industry would like to present recommendations for a program providing shipyards assistance in making capital investments to the joint subcommittee at a future meeting.

V. INTERIM FINDINGS AND RECOMMENDATIONS

Ship repair yards are affected by unique burdens that other industries in the Commonwealth do not face. The unique burdens, combined with the loss of Navy work, may prove deadly to Virginia's ship repair industry. The Hampton Roads Planning District Commission has projected that the decline of Navy repair work, combined with the impact of TBT regulations, will have a total output impact on the Hampton Roads economy of $339 million, a total personal income of $153 million, and a total value added of $202.6 million. In addition, the impact on total employment will be 3,835 jobs. (Appendix H) Without the full-service capabilities that make the Port of Hampton Roads the second largest port facility on the East Coast, vessel owners will look to other ports where their needs can be met.

The shipyard industry is under stress in Virginia, and the future prognosis is uncertain. The stresses are due primarily to actions of the federal government and in the international economy, and the ability of the Commonwealth to meaningfully influence them is negligible. These actions include the reduction in the size of the Navy, the allocation of most Navy ship repair work to public yards, and subsidies provided by foreign governments.

The joint subcommittee wishes to examine the industry's proposals in greater detail. Some may be within the scope of the joint subcommittee's mission to study, while others may be best addressed by other groups. As they were presented to the joint subcommittee in December 1998, there has not been enough time to address them prior to the 1999 Session.

In its first year, the joint subcommittee held two meetings. Though the joint subcommittee was able to commence its work in 1998, the complexity of the issues has prevented the joint subcommittee from completing its work. Accordingly, the joint subcommittee should be continued for another year. During this time, the joint subcommittee should address those issues that have been identified as areas where action by the Commonwealth can ensure that shipyard industries, and by logical extension the entire maritime industry of the Commonwealth, remain vibrant.

Recommendation 1: The joint subcommittee's study of economic incentives to promote the growth and competitiveness of Virginia's shipbuilding industry pursuant to Senate Joint Resolution 171 should be continued for a second year.

Legislation implementing this recommendation is attached (Appendix I).

The joint subcommittee extends its gratitude to all interested persons who contributed to its work.

Respectfully submitted,

Senator Stanley C. Walker, *Chairman*
Delegate Alan A. Diamonstein, *Vice Chairman*
Senator J. Randy Forbes
Senator Thomas K. Norment, Jr.
Senator Edward L. Schrock
Delegate Jerrauld C. Jones
Delegate Harry R. Purkey
Delegate Frank W. Wagner
Delegate Donald L. Williams
Mr. Thomas W. Godfrey
Mr. John L. Roper IV
Mr. Robert S. Walker
Mr. William Welch
The Honorable Barry DuVal, Ex officio
The Honorable Danny M. Payne, Ex officio
Adm. David P. Donohoe, Ret., Ad hoc

SENATE JOINT RESOLUTION NO. 171

Establishing a joint subcommittee to study economic incentives to promote the growth and competitiveness of Virginia's shipbuilding industry.

Agreed to by the Senate, March 13, 1998
Agreed to by the House of Delegates, March 12, 1998

WHEREAS, the encouragement of major investments in shipbuilding facilities in Virginia, the preservation of thousands of existing jobs, and the creation of new jobs in Virginia's shipbuilding industry are in the best interests of the Commonwealth; and

WHEREAS, while the Commonwealth has provided economic incentives for the development within Virginia of several industries, including the semiconductor manufacturing industry, similar economic incentives have not been specifically directed at the shipbuilding industry; and

WHEREAS, several other states have provided financial and other incentives to preserve, expand, and promote their shipbuilding industries; and

WHEREAS, the development of state-of-the-art facilities for the design, manufacture, and support of future generations of ships will require substantial investments; and

WHEREAS, the implementation of economic incentives for the development within the Commonwealth of such facilities is necessary if Virginia is to maintain its position as a leader in shipbuilding and related industries; and

WHEREAS, an analysis of potential tax benefits and other economic incentives directed at fostering additional investments in Virginia's shipbuilding, ship repair, and shipping industries will provide the Commonwealth with valuable information; now, therefore, be it

RESOLVED by the Senate, the House of Delegates concurring, That a joint subcommittee be established to study economic incentives to promote the growth and competitiveness of Virginia's shipbuilding industry. The joint subcommittee shall determine whether, and at what level, tax benefits or other economic incentives would be an effective tool in ensuring the continued health of the Commonwealth's maritime industries.

The joint subcommittee shall be composed of 15 members, which shall include nine legislative members, four nonlegislative citizen members, and two ex officio members, as follows: four members of the Senate to be appointed by the Senate Committee on Privileges and Elections: five members of the House of Delegates to be appointed by the Speaker of the House, in accordance with Rule 16 of the House Rules; one citizen representing the shipbuilding industry and one citizen familiar with the operations of the Norfolk Navy Shipyard, to be appointed by the Senate Committee on Privileges and Elections; and one citizen representing the shipping industry and one citizen recommended by the Board of Commissioners of the Virginia Port Authority to be appointed by the Speaker of the House. The Secretary of Commerce and Trade or his designee and the Tax Commissioner or his designee shall serve ex officio, with voting privileges.

The direct costs of this study shall not exceed $7,000.

The joint commission may employ such consultants as it deems necessary to assist it in its work. Expenses for such consulting services shall be funded from funds appropriated by the General Assembly in the amount of $50,000 for the joint commission's study.

The Division of Legislative Services shall provide staff support for the study. All agencies of the Commonwealth shall provide assistance to the joint subcommittee, upon request.

The joint subcommittee shall complete its work in time to submit its findings and recommendations to the Governor and the 1999 Session of the General Assembly as provided in the procedures of the Division of Legislative Automated Systems for the processing of legislative documents.

Implementation of this resolution is subject to subsequent approval and certification by the Joint Rules Committee. The Committee may withhold expenditures or delay the period for the conduct of the study.

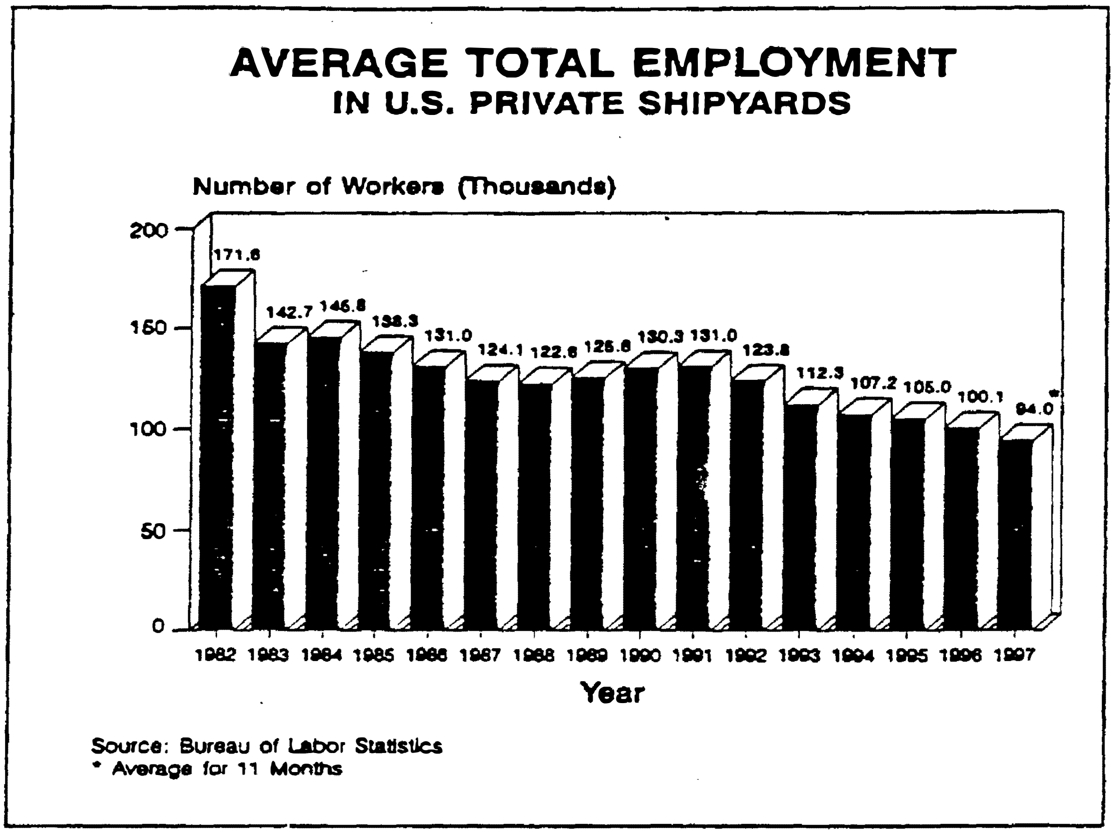
APPENDIX B: Private Shipyards -- Summary 1980 to 1993
(For calendar year, unless noted)

TYPE	UNIT	1980	1985	1987	1988	1989	1990	1991	1992	1993
Employment[1]	1,000	177.3	130.3	120.4	121.0	123.4	121.8	127.2	123.5	111.0
Production workers	1,000	141.8	99.0	90.8	90.9	88.6	86.4	95.5	93.3	84.3
Value of work done	Mil dol	9,269	9,358	8,531	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
On ships only	Mil dol	8,889	9,483	8,377	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
Value added	Mil dol	5,338	5,740	5,227	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
Building activity:										
Merchant vessels[2]										
Under construction[3]	Number	69	10	6	--	--	--	3	3	1
Ordered	Number	7	--	--	--	--	3	--	1	--
Delivered	Number	23	3	4	--	--	--	--	3	--
Canceled	Number	4	--	--	--	--	--	--	--	--
Under contract[4]	Number	49	7	--	--	--	3	3	1	1
Naval vessels[2]										
Under construction[3]	Number	99	100	79	83	105	98	91	90	82
Ordered	Number	11	11	20	32	16	8	13	10	12
Delivered	Number	19	26	16	10	23	15	14	18	19
Under contract[4] [5]	Number	91	85	83	105	98	91	90	82	73
Repairs/conversions										
Commercial ships	Mil dol	1,335	852	806	202	279	373	380	226	292
Naval ship	Mil dol	1,134	2,311	1,930	1,238	1,091	1,119	993	526	573
Unfinished work										
Commercial ships	Mil dol	2,070	450	53	--	--	--	99	32	42
Naval ships	Mil dol	7,107	12,091	8,265	10,500	16,010	15,450	14,151	12,286	(NA)

Source: Statistical Abstract of the United States, 1997, U. S. Department of Commerce, Table 1073.

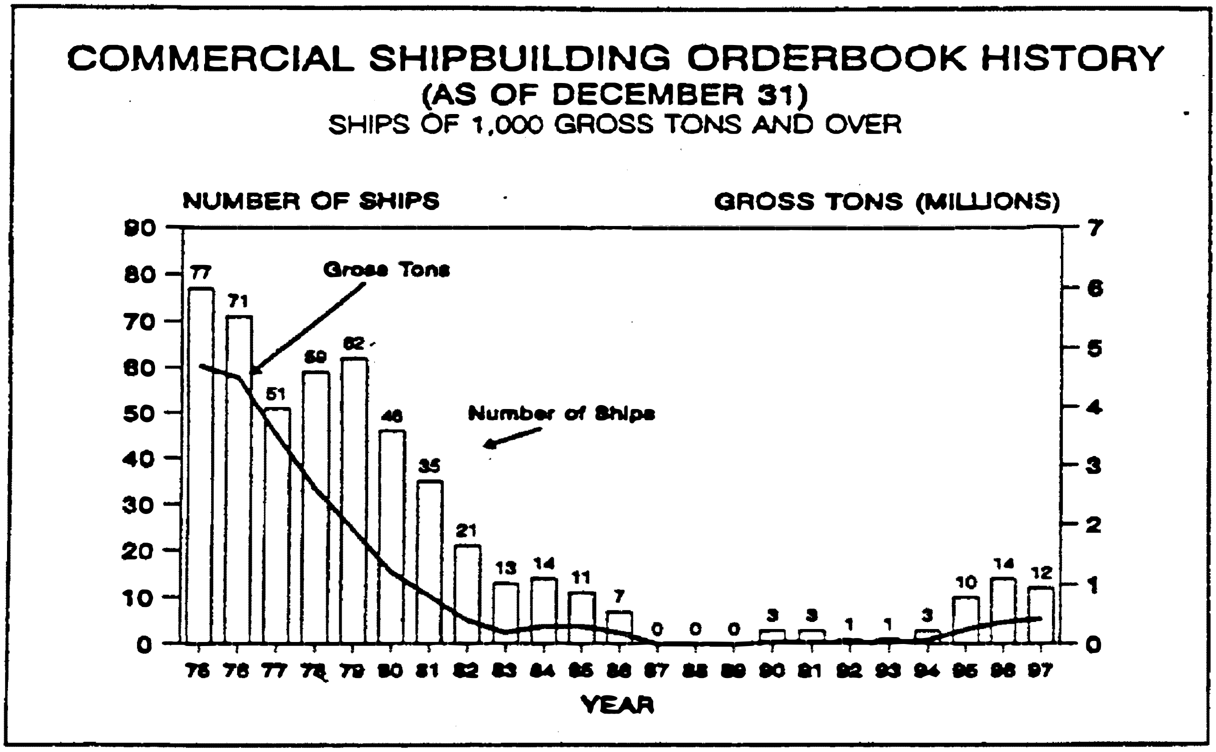
-- Represents zero.
NA Not available.
[1] Annual average of monthly data.
[2] Vessels of 1,000 tons or larger.
[3] As of Jan. 1.
[4] As of Dec. 31.
[5] Two ships were canceled in August 1993.

APPENDIX C



Source: MARAD, 1997 Report on Survey of U.S. Shipbuilding and Repair Facilities, p. 48.

APPENDIX D



Source: MARAD, 1997 Report on Survey of U.S. Shipbuilding and Repair Facilities, p. 48.

APPENDIX E: Third Enactment of Chapter 790 of the 1998 Acts of Assembly (Senate Bill 442)

3.

§1. The General Assembly finds that the encouragement of major investments in shipbuilding facilities in Virginia, the preservation of thousands of existing jobs, and the creation of new jobs in Virginia's shipbuilding industry are in the best interest of the Commonwealth and its citizens. The General Assembly has determined that the establishment of a center in Virginia to undertake (i) testing and integration development projects, (ii) research, and (iii) training of workers in the shipbuilding industry, will enhance and promote the quality and competitiveness of Virginia's shipbuilding industry, is in the public interest, and will promote the general welfare of the citizens of Virginia. The General Assembly finds that several states have provided financial and other incentives to preserve, expand and promote their shipbuilding industries. The General Assembly further finds that the enactment of incentives for the construction and operation of an advanced shipbuilding and carrier integration center in Virginia is necessary to maintain Virginia's position as a leader in the shipbuilding industry and related defense industries and will thereby contribute to the strength and expansion of Virginia's economy.

§2. As used in this section:

"Affiliate" of a specific company means a company that is directly or indirectly controlled by, or is under common control with, the company specified.

"Advanced Shipbuilding and Carrier Integration Center" means a shipbuilding facility which, pursuant to a Memorandum of Agreement with the Secretary, is to be initially owned by a local industrial development authority in Virginia and built and operated by a Qualified Shipbuilder for use by the shipbuilding industry, primarily (i) to perform testing and integration projects, including research and development in conjunction with Virginia universities concerning those projects, and other projects relating to the design and integration of navigation, communication, weapon, and other ship systems for aircraft carriers, and (ii) to provide education, training, and retraining of workers in the shipbuilding industry.

"Decision by the United States government" means a law, regulation, or administrative action, including but not limited to the issuance of a United States Navy or joint requirements document or a Defense Acquisition Board decision.

"Fiscal year" means the twelve month period beginning July 1 and ending June 30.

"Next aircraft carrier" means the aircraft carrier following the already authorized aircraft carrier designated CVN-77, such next carrier currently being designated by the United States Navy as CV(X).

"Qualified investment" means any expenditure capitalized or to be capitalized for federal income tax purposes that is related to the construction, expansion, improvement or modernization of a shipbuilding facility in Virginia. Except for salaries that are capitalized as part of the cost of a shipbuilding facility, "qualified investment" shall not include the salaries or other compensation paid to employees of a Qualified Shipbuilder or its affiliates.

"Qualified Shipbuilder" means a corporation that (i) is primarily engaged in designing, constructing, overhauling, modernizing, and repairing ships at its facilities in Virginia; (ii) employs more than 10,000 persons at its shipbuilding facilities in Virginia; and (iii) makes a qualified investment of at least $25 million in the fiscal year preceding each fiscal year in which any grant provided by this act is awarded.

"Secretary" means the Secretary of Commerce and Trade or his designee.

"Shipbuilding facility" means any property, including land, buildings and other improvements to real estate, tangible personal property, machinery and tools, ships, boats and parts thereof, docks and dry docks, employed or designed to be employed in the shipbuilding industry.

"Shipbuilding industry" includes (i) businesses engaged in either designing, building, overhauling, modernizing and repairing ships in Virginia and (ii) other persons engaged in research, design, manufacturing or other activities in Virginia that are directly related to, or that provide necessary support for, such businesses.

§3. A. A local industrial development authority shall be entitled to the investment grant provided for by this section for use by a Qualified Shipbuilder to build the Advanced Shipbuilding and Carrier Integration Center if the Secretary determines that:

1. The United States government has either (i) made a decision that the United States Navy's next aircraft carrier will be nuclear powered or (ii) awarded a prime contract to a Qualified Shipbuilder to design or design and construct the United States Navy's next aircraft carrier; and

2. A Qualified Shipbuilder has agreed to build the Advanced Shipbuilding and Carrier Integration Center for the local industrial development authority.

B. The investment grant provided for by this section shall be subject to the following limitations:

1. The grant shall be awarded after July 1, 1998 and before July 1, 2001.

2. The total amounts granted under this section shall not exceed:

a. $8 million from July 1, 1998, through June 30, 1999;

b. $30 million from July 1, 1999, through June 30, 2000; and

c. $20 million from July 1, 2000, through June 30, 2001.

Investment grants provided for by this section shall not exceed $58 million in the aggregate.

3. The structure of the investment grant provided for by this section shall be negotiated and set forth in a Memorandum of Agreement. After the Secretary makes the determination required by §3 A and has entered into a Memorandum of Agreement with a Qualified Shipbuilder, the investment grant shall be made to the local industrial development authority where the Qualified Shipbuilder is located. The Memorandum of Agreement shall set forth, inter alia, the performance standards for transfer of the Advanced Shipbuilding and Carrier Integration Center to the Qualified Shipbuilder. Title to the Advanced Shipbuilding and Carrier Integration Center shall be held by the local industrial development authority and shall be transferred to the Qualified Shipbuilder if it meets the performance standards set forth in the Memorandum of Agreement. A copy of such agreement shall be provided prior to its execution to the chairmen of the House Appropriations Committee and the Senate Finance Committee for review.

§ 4. A. The operations grant provided for by this section shall be appropriated to the Virginia Economic Development Partnership for use by the Advanced Shipbuilding and Carrier Integration Center if the Secretary determines that:

1. The investment grant provided for in § 3 has been awarded;

2. The United States government has awarded a prime contract to a Qualified Shipbuilder to design or to design and construct the United States Navy's next aircraft carrier;

3. The Qualified Shipbuilder has undertaken construction and has agreed to operate the Advanced Shipbuilding and Carrier Integration Center consistent with the Memorandum of Agreement with the Secretary; and

4. To the extent practicable and consistent with the security requirements of the United States government and the protection of the Qualified Shipbuilder's proprietary information, the Memorandum of Agreement between the Qualified Shipbuilder and the Secretary provides for the establishment of procedures to:

a. Include members of the faculties and staffs of those public institutions of higher education in Virginia that provide engineering and other courses of study relevant to the shipbuilding industry, in the activities of the Advanced Shipbuilding and Carrier Integration Center, including research and development, education and training;

b. Allow other members of the shipbuilding industry access to, and participation in, the activities of the Advanced Shipbuilding and Carrier Integration Center, including its ship systems integration activities; and

c. Ensure that the training, retraining and education services provided by the Advanced Shipbuilding and Carrier Integration Center are not limited to employees of the Qualified Shipbuilder, but also are available to other members of the shipbuilding industry.

B. The operations grant authorized by this section shall be subject to the following limitations:

1. The operations grant shall be awarded after July 1, 1998, and before July 1, 2004; and

2. The total operations grants awarded shall not exceed $20 million during any fiscal year and shall not exceed $40 million in the aggregate.

3. All such grants received shall be used to establish or operate activities of the Advanced Shipbuilding and Carrier Integration Center.

§ 5. A Qualified Shipbuilder building and operating the Advanced Shipbuilding and Carrier Integration Center shall submit annually to the Secretary a statement, approved by an independent certified public accountant licensed by the Commonwealth, confirming that the Qualified Shipbuilder: (i) has made a Qualified investment in the amount required by this act; and (ii) employs more than 10,000 persons in Virginia. The statement shall be in the form specified by the Secretary and shall be subject to audit and verification by the Secretary.

§ 6. The Virginia Economic Development Partnership shall be authorized to create a non-stock non-profit corporation to receive the grant funds and oversee the administration of the grant program provided for by § 4 of this act. The Board of Directors of the corporation shall be appointed by the Governor and shall consist of nine members as follows: (i) the Secretary of Commerce and Trade; (ii) the Secretary of Finance; (iii) one member representing the shipbuilding industry; (iv) one member representing industries that supply critical systems components to aircraft carriers; (v) two representatives of Virginia's institutions of higher education; (vi) two representatives to be designated by the Qualified Shipbuilder and (vii) one citizen member who shall have had substantial U.S. Navy experience aboard an aircraft carrier. The Board of Directors will oversee the utilization of state funding for training and research and development and monitor the general implementation of the Memorandum of Agreement as it relates to operations grant funding until all such funds have been expended, at which time such corporation shall cease to exist. The records, meetings and activities of the corporation, its Board members, and employees that are deemed confidential, proprietary, or are classified by the federal government shall be exempt from disclosure under the Virginia Freedom of Information Act, § 2.1-340 et seq. of the Code of Virginia. The members of the Board of Directors shall also serve as the members of the Virginia Advanced Shipbuilding and Carrier Integration Center Board.

§ 7. The Memorandum of Agreement shall specify the following:

1. Circumstances for transfer of title to the Advanced Shipbuilding and Carrier Integration Center to the Qualified Shipbuilder upon completion of construction and fulfillment of performance standards.

2. Operation of the Carrier Integration Center prior to transfer of title to the Qualified Shipbuilder and until all grants hereunder have been expended.

3. The means by which participation of the shipbuilding industry in the activities of the Advanced Shipbuilding and Carrier Integration Center shall be accomplished.

4. The means by which participation of Virginia universities in the activities of the Advanced Shipbuilding and Carrier Integration Center shall be accomplished.

5. Disbursement and use of the operations grant monies provided in § 4.

HAMPTON ROADS
PLANNING DISTRICT COMMISSION

JOE S. FRANK CHAIRMAN · ROBERT C. CLAUD SR. VICE-CHAIRMAN · MYLES E. STANDISH TREASURER
ARTHUR L. COLLINS EXECUTIVE DIRECTOR/SECRETARY

CHESAPEAKE
W. Joe Newman Council Member
John L. Pazour City Manager
Elizabeth P. Thornton Council Member

FRANKLIN
Robert E. Harrell Vice-Mayor
Rowland L. Taylor City Manager

GLOUCESTER COUNTY
Graham C. Blake Board Member
William H. Whitley County Administrator

HAMPTON
James L. Eason Mayor
Dr. Mamie E. Locke Council Member
George E. Wallace City Manager

ISLE OF WIGHT COUNTY
W. Douglas Caskey County Administrator
Robert C. Claud Sr. Chairman

JAMES CITY COUNTY
Jack D. Edwards Chairman
Sanford B. Wanner County Administrator

NEWPORT NEWS
Charles C. Allen Vice-Mayor
Joe S. Frank Mayor
Edgar E. Maroney City Manager

NORFOLK
Mason C. Andrews M.D. Council Member
Herbert M. Collins Sr. Vice-Mayor
Paul D. Fraim Mayor
Daun S. Hester Council Member
James B. Oliver Jr. City Manager

POQUOSON
Charles W. Burgess Jr. City Manager
Gordon C. Helsel Jr. Mayor

PORTSMOUTH
J. Thomas Benn III Council Member
Ronald W. Massie City Manager
P. Ward Robinett Jr. Council Member

SOUTHAMPTON COUNTY
Michael W. Johnson County Administrator
Charleton W. Sykes Board Member

SUFFOLK
Marian B. Rogers Council Member
Myles E. Standish City Manager

VIRGINIA BEACH
John A. Baum Council Member
Linwood O. Branch III Council Member
W. W. Harrison Jr. Council Member
Louis R. Jones Council Member
Meyera E. Oberndorf Mayor
Nancy K. Parker Council Member
James K. Spore City Manager

WILLIAMSBURG
[illegible] City Manager
[illegible] Vice-Mayor

YORK COUNTY
[illegible] Chairman
[illegible] County Administrator

August 10, 1998

Ms. Ruth Lord
500 World Trade Center
Norfolk, Virginia 23510

Re: Economic Impacts of TBT
Regulations (ECO:Gen.)

Dear Ms. Lord:

As per our earlier conversation, I have completed an analysis of the economic impact upon our regional economy which would result from the TBT regulation affecting area ship repair facilities. Our estimated impacts were produced from the use of a regional input-output model constructed for the fifteen cities and counties of the Hampton Roads region. This model was prepared by the Minnesota IMPLAN Group, Inc., one of this nation's three primary providers of regional input-output models. This model estimates that implementing TBT regulations will result in the loss of 2,160 jobs, $340.2 million dollars of output, $202.6 million of total value added or gross regional product, $153.3 million of personal income, $145.1 million of employee compensation, and $8.2 million of proprietor's income. These estimates assume that all 2,160 commercial ship repair jobs in the region would be lost as a result of the regulations.

Thank you for providing us with an opportunity to be of service. If I can be of further help, do not hesitate to call.

Sincerely,

John W. Whaley

John W. Whaley
Deputy Executive Director, Economics

JWW:jmc

HEADQUARTERS · THE REGIONAL BUILDING · 723 WOODLAKE DRIVE · CHESAPEAKE VIRGINIA 23320 · (757) 420-8300
PENINSULA OFFICE · HARBOUR CENTRE 2 EATON STREET · SUITE 502 · HAMPTON VIRGINIA 23669 · (757) 728-2067

Estimate of TBT Released to Hampton Roads Harbor by Ships Visiting Port

Approximately 2800 ships visited the Port of Hampton Roads in 1988. It is estimated that 70% are coated with TBT antifouling paint. TBT leaches continually from paint on the underwater hull, while the ships are in port. The following is an estimate of the total TBT released to local waters from this source.

Event	Total TBT Released per event	Total TBT Released/Year
Shipyard drydocking	200 g	
12 Drydockings/year (for all shipyards 1997)		2,400 g
One ship coated with TBT paint visiting port for one day	35 g	
Estimate 1960 TBT coated ship visits/year 1997 Actuals		70,000 g

ASSUMPTIONS

1. **Drydock worst case**

   Generate 100,000 gallons wash water
   @ 500,000 ppt. TBT

   Total weight of water   100,000 x 4 liters
   = 100,000 x 4000 grams
   = 4×10^8 grams. water

   Total weight of TBT released

   = $4 \times 10^8 \times 500{,}000 \times 10^{-12}$ g. TBT
   = 200 grams TBT/Ship drydocking

2. **Ships visiting the port**

   Assume 2800 call/yr to port of Hampton Roads
   1 day stay/call
   Assume 70% ships coated with TBT

   Total TBT ship days/year = 1960

   Assume underwater hull area = 50,000 ft^2
   = 50,000 x 900 cm^2

   Assume actual TBT release rate = 0.8 micrograms/cm^2/day

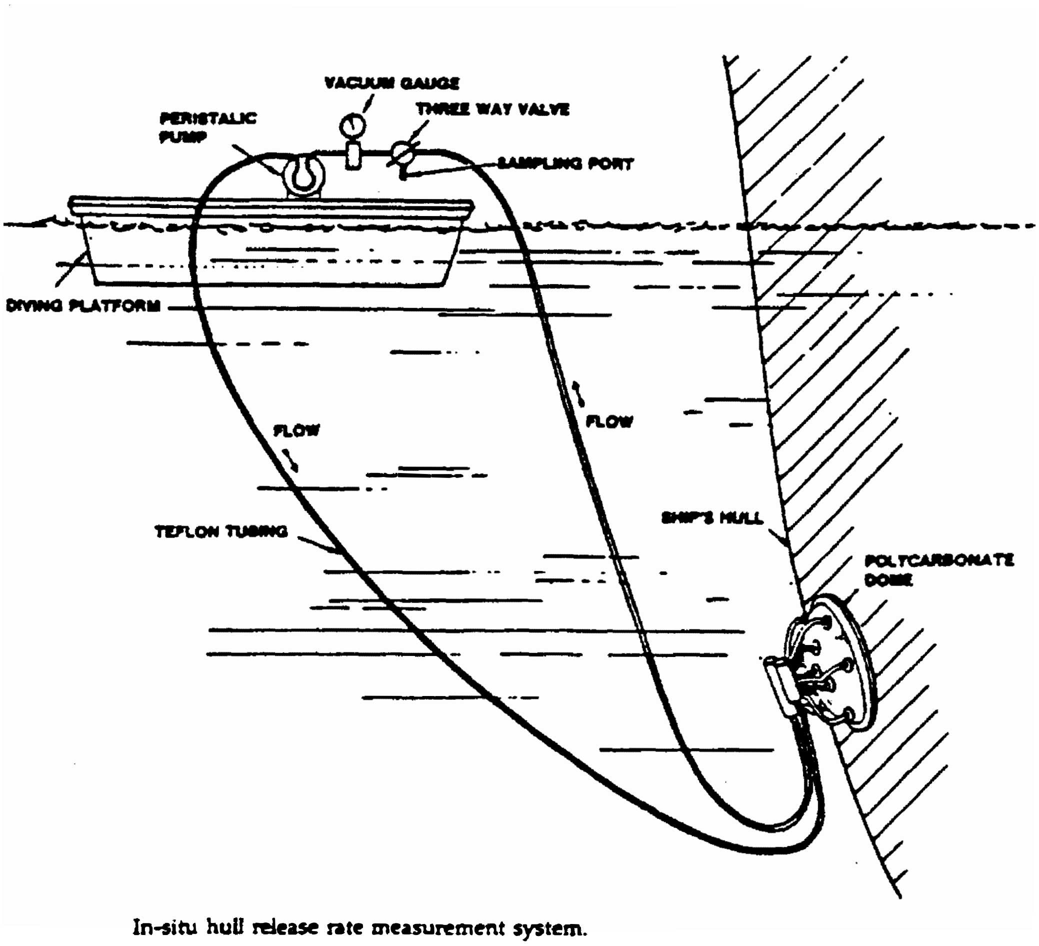
   Total TBT leached per ship/day
   = $0.8 \times 10^{-6} \times 50{,}000 \times 900$
   = 35 g/day/ship TBT

   Total TBT/year = 35 x 1960
   = 70,000 g/yr. TBT

3. **Release Rate**

   By law release rate of TBT from antifouling paint can be no more than 4 micrograms per sq. cm per day. However, this figure is the maximum allowable and not a measure of the actual leach rate. There has been only one scientific study of leach rate of TBT from painted ship hulls while the ship is actually floating in the water. This study[1] was performed by the US Navy in Pearl Harbor in 1987. Details are attached. The Navy found an average value of 0.81 micrograms/cm^2 per day.

ATTACHMENT B



In-situ hull release rate measurement system.

Table 20.2 Tributyltin mass loading from US Navy painted test vessels in Pearl Harbor based on underwater hull areas and measured release rates

Test ship	*Date painted*	*Wetted hull area* (m^2)	*Paint type*	*TBT release rate* ($\mu g\ cm^{-2}\ d^{-1}$)	*Calculated ship TBT load factor* ($g\ d^{-1}$)	*Total loading* (%)
USS *Beaufort*	Sept 1986	1 337	ICP HiSOL	0.86 ± 0.17	11.5	6.9
USS *Leftwich*	Dec 1985	3 321	ICP HiSOL	0.86	28.6	22.3
USS *Davidson*	Sept 1987	1 879	ABC-2	0.11 ± 0.01	2.1	1.6
USS *Badger*	Mar 1987	2 104	ABC-2	0.32 ± 0.05	6.7	5.6
USS *Brewton*	Aug 1987	2 104	ABC-2	0.10 ± 0.02	2.1	1.6
USS *Omaha*	Jan 1982	3 264	SPC-4/F-170	2.62[a]	77.5	60.3

AVERAGE 0.81 $\mu g/cm^2/day$

City of Norfolk
Virginia

Department of Development

December 16, 1998

Charles E. Rigney
Assistant Director

Ms. Ruth H. Lord
Government Relations
Vandeventer Black LLP
500 World Trade Center
Norfolk, VA 23510

Re: Ship Repair Impact

Dear Ruth,

Below are the figures I received from John Whaley of the Hampton Roads Planning District Commission on the impact on the loss of Navy ship repair work, combined with the anticipated impact of the Virginia TBD regulations in Norfolk, and the Hampton Roads area.

As anticipated, these numbers are certainly significant; please keep us advised as to your efforts in seeking some relief and assistance to this vital industry:

	Economic Impacts Norfolk	HR
Output	$261,685,070	$339,128,360
Personal Income	$124,140,243	$153,112,559
Value Added	$155,178,455	$202,606,588
Employee Compensation	$119,031,127	$144,929,575
Proprietor's Income	$ 5,109,114	$ 8,182,974
Other Property Income	$ 26,534,588	$ 40,128,761
Employment	2,288	3,835

*Please note that these numbers do not reflect the impact of the potential economic impact of related business conducted through the Port of Hampton Roads.

Thank you for your continuing interest in assuring the health of an industry so inextricably linked to the City of Norfolk. Please let us know how we might be of further assistance to you.

Sincerely,

cc: file

600 City Hall Building ♦ Norfolk, Virginia 23510-2735
(757) 664-4338 ♦ fax (757) 664-4315 ♦ 1-800-City-Hall
csignor@city.norfolk.va.us ♦ www.norfolkdevelopment.com

SENATE JOINT RESOLUTION NO. 436

Continuing the Joint Subcommittee Studying Economic Incentives to Promote the Growth and Competitiveness Virginia's Shipbuilding Industry.

Agreed to by the Senate, February 25, 1999
Agreed to by the House of Delegates, February 25, 1999

WHEREAS, Senate Joint Resolution No. 171 (1998) established the Joint Subcommittee Studying Economic Incentives to Promote the Growth and Competitiveness of Virginia's Shipbuilding Industry; and

WHEREAS, the Joint Subcommittee was directed to examine, among other things, whether, and at what level, tax benefits or other economic incentives would be an effective tool in ensuring the continued health of Virginia's maritime industries; and

WHEREAS, the Joint Subcommittee has in its first year examined information on a wide variety of topics including the economic condition of Virginia's shipbuilding and ship repair firms, and reasons for the declining levels of employment in the industry; and

WHEREAS, due to the complexity of the issues and time constraints, the Joint Subcommittee has not been able to complete its study of these issues and possible strategies to allow the industry to overcome the market conditions and governmental procurement policies which are responsible for much of the industry's problems; and

WHEREAS, the members agree that the Joint Subcommittee should be continued for a second year; now, therefore, be it

RESOLVED by the Senate, the House of Delegates concurring, That the Joint Subcommittee Studying Economic Incentives to Promote the Growth and Competitiveness of Virginia's Shipbuilding Industry be continued. In its s l year, the Joint Subcommittee shall examine, in addition to such other issues as it deems advisable, (i) state regulation of tributyltin (TBT), (ii) dual state and federal jurisdiction over workers' compensation for shipyard workers, (iii) establishing a state commission to promote and provide marketing assistance to the industry, (iv) the Commonwealth's tax structure and its impact on the shipyard industry, and (v) incentive grants for capital investments by shipyards.

The members duly appointed pursuant to Senate Joint Resolution No. 171 (1998) shall continue to serve; however, any vacancies shall be filled as provided in the enabling resolution. Further, appointments of members of the House of Delegates to fill vacancies shall also be in accordance with the principles of Rule 16 of the Rules of the House of Delegates.

The Division of Legislative Services shall continue to provide staff support for the study. All other agencies of the Commonwealth shall provide assistance to the Joint Subcommittee, upon request.

The Joint Subcommittee shall complete its work in time to submit its findings and recommendations to the Governor and the 2000 Session of the General Assembly as provided in the procedures of the Division of Legislative Automated Systems for the processing of legislative documents.

The direct costs of this study shall not exceed $7,000.

Implementation of this resolution is subject to subsequent approval and certification by the Joint Rules Committee. The Committee may withhold expenditures or delay the period for the conduct of the study.