National Security Assessment of the U.S. Shipbuilding and Repair Industry and DOC-USCG Deepwater Cooperation

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MISSION:

BXA is the focal point within the Department of Commerce for developing, promoting, and implementing policies that ensure a strong, technologically superior defense industrial base.
BXA and Carderock established four study objectives:

1. Illustrate the relationship between the maritime industry, national security, and the U.S. economy
2. Identify opportunities for increased sharing of maritime science and technology between public and private entities
3. Expand the use of public maritime capabilities toward advancing private industry competitiveness
4. Encourage cooperative efforts within the maritime industry among government, industry, and academia
BXA Maritime Assessment Partners

- Carderock Naval Surface Warfare Center – Sponsor
- Office of Naval Research (ONR)
- Department of Transportation’s Maritime Administration (MARAD)
- Consortium for Oceanographic Research and Education
- American Shipbuilding Association
- Shipbuilders Council of America
- United States Coast Guard
- Pennsylvania State University
- Others
Survey 1 – U.S. Shipbuilding and Repair Industry

- 199 Surveys sent to industry
- All major shipyards responded
- Interviews with government and industry experts
- Site visits to major shipyards

13 largest firms account for over 80% of all U.S. shipbuilding revenues
Report Findings: *Industry Revenues*

- $10.2 billion in 1998 – 70% from military market
- Big Six $6.7 billion (2/3 of total – 95% from military market)

**Shipbuilding and Repair Revenues, 1996-2000 (In $000s)**

<table>
<thead>
<tr>
<th>Year</th>
<th>Commercial</th>
<th>Defense</th>
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<tbody>
<tr>
<td>1996</td>
<td>$2,132,095</td>
<td>$6,922,519</td>
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<tr>
<td>1997</td>
<td>$2,494,560</td>
<td>$6,545,983</td>
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<tr>
<td>1998</td>
<td>$2,955,137</td>
<td>$7,012,627</td>
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<tr>
<td>1999</td>
<td>$2,955,407</td>
<td>$7,205,754</td>
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<td>2000</td>
<td>$3,464,136</td>
<td>$7,758,980</td>
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</table>
Report Findings: *Employment*

- U.S. private shipbuilding industry employs nearly 89,000; another 23,000 work in public yards.
- 60% of labor hours are attributed to production work.
- Since early 1980s, industry workforce has been cut in half.
Shipbuilding and Repair R&D, 1996-2000

- Basic research only about 1% of total R&D spending
- Development spending more than all other stages combined
- U.S. shipyard R&D avg. 1.23% of revenues from 1996-2000
  - Big Six account for 80% of industry R&D with an average of 1.5% of revenues (U.S. industry avg. is 3%)
Report Findings: *Productivity*

- Shipbuilding productivity increased 1.4% from 1987-1995 and 12% from 1995-1998
- 3 of Big 6 shipyards reported gains over 15% in the last 5 years
- American shipyard productivity lags behind international shipbuilders and considerably lower than other domestic manufacturing industries
Report Findings: Financial Conditions

- Military shipbuilding work relatively profitable
  - Big Six profits were 7.47% of total revenues; other yards averaged 5.16%
  - Total for all U.S. manufacturing is 8.31%

<table>
<thead>
<tr>
<th>Year</th>
<th>Big Six</th>
<th>All Others</th>
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<tbody>
<tr>
<td>1996</td>
<td>$430,972</td>
<td>$71,006</td>
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<td>1997</td>
<td>$288,625</td>
<td>$142,098</td>
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<td>1998</td>
<td>$540,273</td>
<td>$145,927</td>
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<td>1999</td>
<td>$581,734</td>
<td>$183,174</td>
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<td>2000</td>
<td>$604,560</td>
<td>$228,629</td>
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</table>

<table>
<thead>
<tr>
<th>Year</th>
<th>% Big Six</th>
<th>% All Others</th>
</tr>
</thead>
<tbody>
<tr>
<td>1996</td>
<td>6.72%</td>
<td>3.22%</td>
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<tr>
<td>1997</td>
<td>4.81%</td>
<td>5.38%</td>
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<tr>
<td>1998</td>
<td>8.45%</td>
<td>4.67%</td>
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<td>1999</td>
<td>8.86%</td>
<td>5.52%</td>
</tr>
<tr>
<td>2000</td>
<td>8.20%</td>
<td>6.26%</td>
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</table>
Report Findings: \textit{International Issues}

- U.S. ranks 10\textsuperscript{th} in the world with a 1\% share in construction of commercial vessels over 1,000 gross tons.
- Exports accounted for less than 2\% of 1998 revenues.
- 97\% of U.S. world trade is carried on foreign-flagged vessels.
- U.S. constructed vessels can cost 2-3x more than similar ships built overseas.
U.S. Shipbuilders in the International Market

- U.S. shipyards sourced 4% of their total purchases overseas in 1998 - this is rising over time
- Of the largest yards, over 1/3 show a willingness to team with international partners
- Cooperation increasing; joint ventures between U.S. – Australian shipyards are most prominent
  - Bender (Alabama) – Austal (Perth)
  - Bollinger (Louisiana) – INCAT (Tasmania)
Report Recommendations

• Review current maritime legislation focusing on possible changes that balance long-term security needs with sound economic planning

• Congress needs to ensure stability and predictability in DoD ship procurement budgets

• Look for opportunities to enhance industry productivity
  - Evaluate current Navy procurement practices
  - Promote cooperation between government and industry
  - Monitor international shipbuilding producers and products
  - Deepwater – international partnering/joint venture opportunities
Maritime Report: Next Phases

• Maritime Research, Development, and Education (Completion FY 02)
  • Over 150 surveys collected from leading colleges and universities
  • Study focuses on educational infrastructure for maritime industries and trends in government, private spending on maritime-related R&D

• Shipbuilders’ Supplier Base (Completion FY 02)
  • 4,000+ surveys sent to U.S. firms who supply goods or services to shipyards
  • Study focuses on health and competitiveness of subcontractors and suppliers to shipyards
Genesis of DOC Interest in Deepwater

- Benefits U.S. maritime industrial base
  - Jobs
  - Improves business for shipbuilding and aircraft industries
  - Use of leading-edge technologies, designs

- International Partnerships
  - Promote interoperability and cooperation with allied nations

- Unique Program Features
  - Assets can be utilized for many non-national security missions
    - (Fisheries, environmental protection, immigration)
DOC/USCG Deepwater Cooperation

• In March 2001, the U.S. DOC and the U.S. Coast Guard signed a 5-year Memorandum of Agreement to:
  • Jointly promote the Deepwater Program internationally
  • Develop partnerships and joint ventures
  • Assist U.S. industry in its efforts to globalize

• DOC will bring its own worldwide staff and resources to the partnership
Possible Cooperation Focus Points

• Government-to-Government
  • Defense cooperation and interoperability
  • Joint training and exercises
  • Economic policy (protection of economic zones)

• Industry-to-Industry
  • Sharing of technology
  • Industrial participation
  • Increased business opportunities for all parties
DOC/USCG Deepwater Cooperation

DOC’s Actions to Date:

• DOC Deepwater article was published in December’s issue of the Commerce Department’s *Export America* magazine

• Letters sent to 91 Foreign Commercial Officers in U.S. embassies educating them on Deepwater

• Positive responses from Colombia, Denmark, India, Qatar, South Africa, Sri Lanka, Sweden, and others

• Trade shows and conferences

• Discussions with local companies in interested nations regarding business opportunities