

NSRP/ASE Crosscut Initiatives Panel Project

**Shaping Our Future Workforce:
A Summit for U.S. Shipbuilding and Repair
(Employee Sources and Skills Summit)**

Final Report

Prepared by

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For the

NSRP Crosscut Initiatives Panel

Larry Gebhardt, Chair

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October 31, 2005

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Employee Sources and Skills Summit

Abstract

Crosscut Initiatives Panel conferences and surveys reveal that employee sources and skills are falling behind requirements to replace aging workers and cover workplace turnover in shipyards as well as manufacturing in general. U.S. manufacturing is in competition with other industries in the U.S. and in other nations. There is strong demographic evidence of a gap in required skills and interest in shipbuilding and manufacturing in general. National efforts to revitalize American manufacturing require collaborative efforts.

The goal of this project was to organize and conduct a conference that will further connect shipbuilding and repair workforce development and skills initiatives with other national manufacturing and professional-technical education initiatives to achieve a more consolidated understanding and action plan. The summit shared specific manufacturing industry, workforce board and related education provider new employee needs, common problems and best practice solutions to achieve greater national, regional and local unity; and applied resulting recommendations toward improving shipbuilding and repair efficiencies including cost reduction.

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Final Report
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1. Introduction / Project Overview

This is the final report of the Crosscut Initiative Panel's 2004 –2005 research project entitled, "Shaping Our Future Workforce: A Summit for U.S. Shipbuilding and Repair." (Alternate title: Workforce Sources and Skills Summit.) The Summit was held in Alexandria, VA on September 20 – 21, 2005. The Summit was sponsored and funded with a \$25,000 grant by the Executive Control Board of the National Shipbuilding Research Program. Panel project planners and organizers were: Don Bewley, Jeffboat, Panel Chair; Larry Gebhardt, SENESCO Marine, Panel Vice Chair; and Les Hansen, Consultant.

The goals of the Summit were to:

- Synchronize the perceptions and assumptions about current and future workforce issues and problems within and between our public, private, defense and commercial shipyards from perspectives of: managers, production leaders, and HR and Training staffs.
- Confirm or clarify the shortcomings that the industry (and other industries) is seeing in the numbers and skills of current and future available workers. Factor our industry image or cyclic nature of business into the equation.
- Hear champions of successful shipyards and U.S. manufacturing revitalization leaders tell us some hard facts of life and some opportunities for worker sources and skills.
- Address specific issues such as: industry image, recruiting, skills, worker aptitude, aging and retention, demographics, etc.; identify recommendations or questions for future work.
- Develop a generally agreed path of action to resolve priority problems and issues.

The tasks accomplished to support project goals are identified in the Statement of Work (SOW), included in its entirety as *Appendix A* and outlined below.

1. Receive and process Summit goals and objectives recommendations from ECB members around "shaping the workforce."
2. Plan and Coordinate the Summit Venue
3. Design Summit Conference Program, Invitee List, and Follow-Up
4. Design and Conduct a Workforce Survey
5. Conduct the Employee Sources and Skills Summit Conference
6. Prepare and Deliver Reports as Noted in Deliverable List

A Survey Report was submitted in October and included the below information:

- Summary of Survey Findings
- Survey Evaluation and Implications
- List of Survey Respondents
- Survey Responses
- Comments by Respondents

This final deliverable addresses the following areas:

- Project overview
- Synopsis of the pre-conference survey
- Description of Summit Conference
- Conclusions and Recommendations

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Project deliverables are available for review and downloading on the NSRP website. Go to **http://www.nsrp.org/panel_projects.html#32**

Conference presentations are available for review and downloading at **http://www.nsrp.org/panels/xcut/xcut_events.html**

2. Pre-Conference Survey

2.1 Background

One of the project tasks was to develop and distribute a questionnaire/survey to potential attendees before the Summit. The purpose of the survey was to gather data prior to Summit to enhance the Summit's effectiveness to address the goals by seeking answers to Summit's core questions:

- Who will build and repair our defense and commercial ships and vessels in 2010 and beyond?
- Will our industry's image and contract-job stability attract sufficient numbers of trained or trainable workers to make up for retirements, growth or turnover?
- Do you understand changing labor demographics?
- Does the story that HR and training people tell to young people or job changers considering our industry get results in your area?
- Are new hires prepared to learn and work?
- Who shares the cost of achieving new and incumbent worker skills?
- How is shipbuilding and repair connected with other national initiatives to revitalize manufacturing jobs in America?
- What other industries, such as construction and heavy manufacturing, have lessons for shipbuilding and repair?
- What other problems or issues significantly impact current and future workforce quality and quantity?

A secondary purpose of the survey was to obtain input from attendees regarding their level of interest in various issues that could be used as topics for breakout sessions. The survey responses were used to plan and prioritize the content of the nine breakout sessions that were held during the Summit.

The project team designed and began to distribute the survey form during the first quarter of 2005. Survey responses were solicited in each of the various announcements that went out to the NSRP mailing list. Additionally, direct requests were made via e-mail to Summit registrants. Although responses were requested primarily from shipyards, several non-shipyard organizations also responded. Responses were received from a total of 29 shipyard employees representing 20 different shipyards, and ten non-shipyards.

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2.2 Summary of Survey Findings

Following is a summary of the survey responses. The complete survey results are available at the NSRP website (Summit Project, Deliverable 1). The results are presented in the same order as the questions appeared in the survey form.

Survey Respondent Background

- 29 responses from 20 different yards – most do both new construction and repair
- About 50% small yards (under 1000 employees)
- Majority of respondents are top/middle management in HR/Training (only one production)
- Locations all around U.S., primarily East and Gulf coasts
- Average age of businesses = 96; average longevity of respondents with company = 22 years
- Primary customer: Military – 60%; Commercial – 18%; Both – 22%
- 10 non-shipyard responses (academia; design; training; support)

Numbers and Skills of Workers

- Over 80% of respondents reported they do not believe they will have sufficient production workers in the next 5 years; and 95% anticipate a significant or moderate problem in meeting demand for new workers over the next 3 – 5 years and beyond.
- The average reported annual turnover is about 25 – 35%.
- Most respondents obtain workers to meet turnover or growth requirements by hiring and training workers from the local economy or hiring contact workers.
- The greatest weaknesses of the emerging workforce are technical skills and business sense, followed closely by academic (soft) skills; marginal or significant weakness was reported in all areas.
- Most respondents report new hires are only sometimes prepared to learn and work.

Industry Image

- Most respondents would cautiously advise their children or grandchildren to seek jobs in shipbuilding and repair.
- About half the respondents think residents in their area see shipbuilding and repair as marginally acceptable careers.
- About 70% think that shipbuilding and repair is a unique industry in America; most see it as a cross between manufacturing and construction.
- Cyclic work and adverse working conditions hurt the shipbuilding image the most.
- Most respondents feel that U.S. Shipbuilding and Repair is not as good as Japanese or Korean shipbuilding and Japan and Korea have the best shipbuilding/repair industry; most feel that the U.S. is better than China.

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Labor Demographics

- About half of those entering the shipbuilding and repair workforce are the same as incumbent workers (with respect to gender, ethnicity and age); nearly a quarter are entering employment for the first time.
- About 40% are immigrants, women and other minorities.
- About 60% of respondents report the average age of their workforce is between 45 and 55; about 35% report a workforce between 35 and 45.
- Over 80% of respondents believe their company fully or mostly understands the impact that the current skill levels and changing demographics of incoming workers has on the future health of their business.

Replacement Worker Costs

- Nearly half of respondents indicate that their company overhead bears the majority of the education, training and initial experience cost of achieving new and incumbent worker skills.
- Public funding to schools and community colleges, and workforce grants and subsidies also bear a small percentage (<25%) of the costs.

Other Workforce Issues

- Respondents indicated the following problems or issues significantly impact current and future workforce quality and quantity, in order of importance:
 1. Younger worker reliability, such as attendance
 2. Drug or alcohol use
 3. Unable to read enough to obey signs and follow simple work orders
 4. Language other than English
 5. Transportation to work
- Almost 70% felt that their HR/Training people and Production people are mostly in agreement about incumbent and new workers.
- The organizations that are most helpful in understanding and solving workforce issues are:
 - Workforce boards – 23%
 - Trade associations – Shipbuilders Council of America (SCA), American Shipbuilding Association (ASA) – 22%
 - State government agencies (commerce, labor, education, etc.) – 23%
- Other issues or problems the Summit should address:
 - Improved methods for measuring applicant competency and readiness for work in our industry
 - Recruiting and retention
 - Pre-employment training nationwide - federal support
 - Demographic studies that provide potential resource solutions
 - Leading in a Lean Manufacturing environment
 - Funding for training

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2.3 Survey Implications

The Workforce Summit panel project began with a perception that a gap between skilled worker supply and demand is affecting shipbuilding and repair. Survey work verifies the trends and indicates it will become harder for shipbuilding and repair companies to recruit, hire, train, and retain good workers in the U.S. without some systemic changes and interventions. Primary causes of the gap are:

- Workforce Demand: Shipyards with steady workloads need new workers to replace those who are retiring or who leave voluntary or are discharged. Some shipyards are expanding.
- Workforce Supply: Available new workforce is generally uninterested in manufacturing careers; Manufacturing and entry-level new workers are not sufficiently skilled to start; National demographics indicate major changes in available workforce.

A majority of shipyards responding to the survey reported that they do not believe they will have sufficient incumbent production workers in the next five years. The Shipbuilders Council of America and others track workforce turnover in small-mid sized shipyards and report an average of 39 percent turnover annually. The survey respondents confirm these statistics by reporting an average annual turnover of about 25 – 35%. Some specific shipyards are expanding employment.

Shipyards reported weaknesses in new workers in terms of entry-level academic knowledge; technical knowledge, skills and abilities; relationship skills; and general employability skills. In general, new-hires were only sometimes prepared to learn and work when they entered the shipbuilding environment. Shipyards also reported some burden dealing with changing demographics such as gender, immigrants, languages, age and other attributes.

There is a significant shipbuilding and repair cost implication to these results. If entry-level workers are not prepared for entering work by the public education system, then the cost of basic academic, technical and employment knowledge and skills remediation falls on the shipyard. While some subsidy in terms of grants is available, the cost of replacing an aging or unexpectedly departing shipyard worker is at a minimum several thousand dollars per worker, multiplied by the shipyard's turnover rate. Productivity of a multi-skilled worker, such as a Shipfitter, requires several years to achieve the levels of retiring aging workers. If there are insufficient new workers entering the shipbuilding and repair industry, then other options such as hiring contract workers including non-US citizens, and attempting to hire workers away from competitors may be required to meet contractual responsibilities.

The 2005 survey results in this report confirm similar survey information gathered in 2003-2004 through the NSRP Crosscut Workforce Development Project. Results of the 2003-2004 survey are available through the NSRP web site, www.nsrp.org panel pages. Comparison of the two surveys reveals a heightened sense of the scope and depth of the future workforce problems and issues. The 2005 survey data characterized not only production workforce but also professionals such as engineers throughout the industry are more difficult to retain or attract. This analysis implies that shipbuilding and repair workforce problems and issues are not improving. For example, it is alarming that only about half of the respondents would recommend their children or grandchildren seek industry careers. Survey comments shared a

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heightened sense of urgency toward effective action and suggested many specific measures for consideration.

Results of the survey were presented to about 75 persons attending the September 2005 Workforce Sources and Skills Summit conference, including attendees from non-shipbuilding organizations. Other government and industry officials validated survey results noting that they are consistent with their organization surveys conducted over the past year. These organizations included: National Association of Manufacturers, U.S. Chamber of Commerce, National Association of Workforce Boards, US Departments of Labor, Education and Commerce.

Other survey work reveals that the shipbuilding and repair trend is symptomatic of national manufacturing. The Manufacturing Extension Partnership reports data up to year 2000 by Price Waterhouse Coopers survey that at least two thirds of manufacturers report lack both the numbers and skill levels of skilled/trained workers as a barrier to growth. Data presented by the National Association of Manufacturers, National Coalition of Advanced Manufacturers and at the National Association of Workforce Boards between November 2003 and March 2005 confirm these trends.

3. Summit Conference

3.1 Conference Overview

The primary task and main purpose of this project was to plan and conduct a Summit conference on issues primarily related to the future shipbuilding and repair workforce. Planning for the Summit, which began in early 2005, was a significant effort on the part of the project team with assistance from Advanced Technology Institute (ATI) personnel. Planning activities included:

- Contacting and obtaining commitments from potential speakers/panelists
- Multiple announcements and targeted invitations to potential attendees in shipbuilding and repair, and other industries
- Survey development, distribution, and data analysis to obtain critical input from potential attendees and other interested parties.
- Coordinating Summit logistics including meeting rooms, accommodations and food service.

The Summit was held over two days – September 20 & 21 – at the Alexandria Hotel, Pentagon South in Alexandria, VA. The agenda consisted of seven panel discussions and presentations, four plenary sessions, and nine breakout sessions. Successful planning and recruiting efforts resulted in nearly 100 registrants just prior to the conference. Due to normal attrition for this type of function and the impact of Hurricane Katrina on the Gulf Coast shipyards, actual attendance was about 75. The agenda and attendance list for the Summit Conference are shown in *Appendices B and C*. Notes from the plenaries and presentation notes are included in *Appendices D and E*.

The Summit goals are stated in Section 1 of this report. Goals were met through an agenda of survey results, presentations, panel discussions, topical breakout and plenary sessions.

Scheduled organization speakers included:

- Todd Pacific Shipyards – Tom Van Dawark, President & COO
- Puget Sound Naval Shipyard – CAPT D.J. Peters, Commanding Officer
- NAVSEA – Art Divens, Program Executive Office (Ships)
- Christian Construction, Inc – Jerome Christian, President
- SENESCO MARINE – Larry Gebhardt, Vice President
- Crosscut Initiatives Panel – Les Hansen, Consultant (Survey and results)
- National Association of Manufacturers, Workforce Initiatives – Stacey Wagner
- Working for America Institute (WAI) and Manufacturing Skill Standards Council – Nancy Mills, Executive Director
- US Department of Labor, ETA, Apprentice Programs – Tony Swoope
- US Department of Education, Division of High School, Post Secondary and Career Education – Scott Hess
- US Department of Commerce, Office of Manufacturing & Service – Jamie Estrada

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- National Association of Workforce Boards – Stephanie Powers, CEO
- US Chamber of Commerce, Center for Workforce Preparation, – Janice M. Magill
- AFL-CIO Labor Institute For Training, Indiana State – Kathy Clayton, Director
- Associated General Contractors – John Heffner & Donna Franza
- Caterpillar Marine Power Systems – Harry Edwards, Director of Training
- Northrop Grumman Newport News Shipyard – Bob Leber, Director of Education and Workforce Development
- US Merchant Marine Academy – Prof. John Tuttle
- Northeastern University, Labor Demographics – Dr. Neeta Fogg

Final speakers and presenters are shown in the agenda in *Appendix B*.

4. Conclusions and Recommendations

4.1 General Conclusions and Recommendations

The following conclusions and recommendations are drawn from the survey results, presentations at the conference, panel discussions and breakout sessions.

- Survey data reported broad and deep concern about the new and incumbent workforce and professionals such as engineers throughout the industry. Only about half of the respondents would recommend their children or grandchildren seek industry careers.
- Answering the central question, “Who will build and repair US Ships in 2010 and beyond?” requires coordinated action to meet challenges of an aging workforce, turnover, technology change/transfer, and business growth opportunities.
- Key factors the industry must deal with include: cyclic work, demographic changes including a major shift to service work; industry image in the K-12, student and parent communities; poor preparation of the emerging workforce; need for incumbent worker learning; and, organizational change.
- Shipbuilding and repair are perceived as a cross between manufacturing and construction. These parts of the national manufacturing base are growing and eligible for workforce development initiative funding under President Bush’s High Growth Job Training Initiative. Shipbuilding and repair should more closely align with these industries for lessons-learned and a stronger team to resolve problems and issues.
- Many federal, state, non-profit and industry agencies exist to support workforce development but in general do not effectively collaborate. Additional “political” advice and support is needed. Initiatives to bring SCA, ASA, NSRP and other industry equivalents together around workforce issues could be effective.
- Alignment and standardization of shipbuilding and repair skill standards with national skill standards where possible (MSSC initiatives) can be a valuable tool to get our shipyards, professional organizations, classification societies including NAVSEA, on the same page about workforce requirements. Progress has been made but more work is needed.
- Critical work for: K-12 intervention; incumbent worker skill upgrade; industry image improvement; workforce “life extension,” etc., is in progress in other industries competing for new and current workers.
- More work in our yards is being done by subcontractors. Nearly 10,000 people, about 5% of the shipbuilding and repair workforce, are in a surge-tank of contract/lease workers who all require adequate skills, orientation for safety, etc. Solutions to the incumbent and subcontract/temporary workforces overall quantity and quality (competence) will go a long way to reduce the cost of shipbuilding and repair, and keep the US competitive in the global marketplace.

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4.2 Suggested Actions and Areas for Future Research

One of the primary goals of the Summit conference was to develop a generally agreed path of action to resolve priority problems and issues as identified by participants. The table below summarizes the action plan.

<i>Action category</i>	<i>Action opportunities</i>
Individual action	Take steps in your company, community and broader public to help win over about half of our survey respondents who would not strongly recommend their children or grandchildren seek shipbuilding and repair industry careers.
Search for answers to the central question "Who will build and repair US ships in 2010 and beyond?"	Key factors the industry must deal with include: cyclic work, demographic changes including a major shift to service work; industry image in the K-12, student and parent communities; poor preparation of the emerging workforce; need for incumbent worker learning; and organizational change.
Collaborate with our cousins in the construction and heavy manufacturing industries.	These segments of the national manufacturing base are growing and eligible for workforce development initiative funding under President Bush's High Growth Job Training Initiative. Shipbuilding and repair should more closely align with these industries for lessons-learned and a stronger team to resolve problems and issues.
Improve trade association and government agency focus on shipbuilding and repair.	Many federal, state, non-profit and industry agencies exist to support workforce development but in general do not effectively collaborate. Additional "political" advice and support is needed. Initiatives to bring Shipbuilders Council of America (SCA), American Shipbuilding Association (ASA), NSRP and other industry equivalents together around workforce issues could be effective.
Use and align skill standards to help unify the image and function of shipbuilding and repair.	Alignment and standardization of shipbuilding and repair skill standards with national skill standards where possible (MSSC initiatives) can be a valuable tool to get our shipyards, professional organizations, classification societies including NAVSEA, on the same page about workforce requirements. Progress has been made but more work is needed.
Facilitate incumbent and new worker skill upgrades, aging worker opportunities, and related industry image.	There is critical work for: K-12 intervention; incumbent worker skill upgrade; industry image improvement and related marketing/advertising; workforce "life extension," etc. These initiatives are in progress in other industries competing for new and current workers.

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<i>Action category</i>	<i>Action opportunities</i>
Support Crosscut Initiatives Panel efforts.	The Crosscut Initiatives Panel provides a public forum for discussing issues, approaches, resources and programs to meet the needs of people and organizations. The Panel supports areas of Workforce Development and Retention, Education & Training, Technology Transfer, Organizational Change and Human Resources. These functions should be integrated regularly with other NSRP technical panel and multi-panel initiatives because they affect the entire industry – thus the name Crosscut.

Additional Recommended Actions From Plenary Sessions

- Find and prompt films on Discovery or History channels that tell shipbuilding and related industry story.
- Invite Community Colleges to participate in a panel meeting or future summit conference to share their capabilities.
- Dept of Labor resources
 - For private, non-union yards
 - For shipbuilding as a growth industry as part of manufacturing
- Look into American Productivity and Quality Center (APQC) and other professional organizations for curriculum, lessons learned, help, etc.
- Benchmark with other industries to learn best practices for recruiting and retention – construction and heavy manufacturing to start.
- Look into non-traditional recruiting areas such as Midwest & Rocky Mountains with little shipbuilding activity.

Additional Recommended Actions From Breakout Sessions

Industry Image

- Engage the press/media with press releases and positive stories
- Tell the story of the yard – who actually does the work
- Try to make the work “cool.”
- Use open house for community
- Promote “making neat stuff” – complex, interesting, long-life, etc.
- Engineer out brute-force, difficult environmental conditions
- Promote shipbuilding as high-tech, advanced manufacturing
- Develop DVD for shipyard production jobs
- Promote as a career not a job
- Defined career path, well managed
- Use flex time and job share arrangements where possible
- Adapt Associated General Contractors (AGC) approach to intervention in schools
- Survey both who we intend to recruit, and current and former employees to learn their current perceptions of the industry

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- Improve supervisory skills – critical team, follower and leader programs
- Provide production process information for future workers – like simulation modeling, etc.
- Look for On-the-Job Training funds to assist with training – Note: link shipbuilding as high-growth manufacturing industry
- Develop teacher intern-extern relationships

Inter-Industry Collaboration

- Link shipbuilding and repair to high-growth industries – manufacturing – to trigger training and other grant opportunities. At least \$12 million available from US-DOL-ETA
- Develop and use video that showcases shipbuilding and repair to make it attractive to collaborating industries and prospective employees. Look at cruise ship models – Dry-dock (Carnival lines); ship construction (Princess lines)
- Develop stronger, more coherent trade associations. Get SCA and ASA to collaborate. Look at construction – National Center for Construction Education and Research (NCCER) model for common image building
- Connect with support programs such as Manufacturing Extension Program (MEP), OSHA and Workforce Investment Boards to fund/develop common training and technology
- Explore new technology that will improve working conditions – such as water-jet cleaning technology. Look at better ways to use foreign workers.
- Ask the question – is our goal jobs or business profit? Look at global shipyards that are operating profitably –Asia and Grand Bahamas – including all facets of industry – finance, build, operate, maintain, dispose.

Skill Standards

- SCA is the only focal point – need one in NSRP
- Need affiliations with professional associations and societies
- Need oversight
- Emphasis on safety
- Community college awareness
- Text: Grade level 9-12 – look for youth, incumbent and new workers
- Bring in first line supervisor
 - Need more on scheduler, planner
 - Roll-in multi-skill
- MSSC standards are the core: NSRP standards are a specialty
- Get buy in – don't "do it to them."
- Explore US-DOL web site – O_Skills.net (used by Navy)

Temporary-Lease Labor and Subcontractors

- Invite SCA and ASA to help coordinate relief of security and paperwork-dense SubSafe and QA
- Figure out better ways for different "Tribes" of FTE/Contract workers to avoid us vs. them or union-non-union conflicts. Can resolve with better communications and management.
- Capitalize on Return on Investment of contract and subcontract workers
 - They help solve manpower shortages in skills and numbers
 - They bring a sense of professionalism that contrasts with some "entitlement" attitudes.

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- Careful management and communication can solve cost vs. schedule unknowns
- Contract/subcontract terms and conditions can reduce both cost and risk.
- Problems to resolve or minimize
 - Solve basic skills weakness in 18-28 year olds.
 - Develop better craft skills using skill standards, assessments and certifications
 - Solve security clearance cost/time issues.

Industry Image

Actions:

- Improve use of the press
- Use public service announcements about career opportunities – regional, national
- Look at ourselves. Find out exactly why we would not want our children to work in shipbuilding and repair and correct the problems.
- Share a positive image of ourselves (survey finding)
- Look externally – market toward job seekers interests
- Emphasize high-tech in shipyards – change image from “the hammer” as the number one tool. Find “glitzy” ways to show the industry. Include people doing the high tech.
- Current employee development through workforce referral – tune up and practice the message to be carried. Be sure people believe, not jut be parrots. Connect with community interests and needs.
- Work on consistent internal and external “press” in newsletters and press releases.
- Adopt a ship or shipyard/project – follow planning, progress, and connect with their studies. Elementary and middle/junior high schools.
- Update Crosscut Resources industry representation video and other materials (X-Cut Resources Center)
- Seek teacher internships and classroom aides, and externships where teachers spend longer periods learning the shipyard environment, skill needs, and helping shipyards develop and implement training, etc.
- Include shipyard career path information in recruitment ads (see AGC model)
- Use multi-craft training, include teamwork/follower skills and leadership/supervision.
- Emphasize wages as accumulated earnings and what they can buy – point out new cars and motorcycles in the shipyard parking lot.
- Better represent cyclic and stable nature of the industry, transportable skills, opportunity to have long periods of time off for personal activity, etc.
- Explore ways to lend employees between shipyards as a bridge to cycles. Link to common skill standards.
- Focus on what we can do in the industry, not what we can’t do.

Research

1. Conduct survey of target employee audience
 - Interest in employment
 - What do you expect from your job?
 - Do you like outdoor work?
 - What do you think is a fair wage for what you can do?
 - If you could choose would you rather work 60 hours or 30 hours in a week? Would you rather work four longer days or five “traditional days”? Do you want to earn overtime pay?

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2. Survey incumbent employees for job satisfaction to gauge what message is being taken to families and the community.
3. Learn what Japanese/Korean or European shipyards do with people during down cycles.

Incumbent Workforce

- Share Return on Investment Tools (2000 Crosscut Panel Meeting) to help provide financial rationale for learning activities
- Revitalize the Crosscut Initiative Crosscut Resources Center. Example needs:
 - Shared special skill training – such as on-board rigging and material movement
 - Share curriculum including possible fee-based licensing of shipyard developed modules. This helps solve problems of small shipyards that lack resources to develop training materials. See also the SCA-OSHA model for general and crane safety videos.
 - Share retention-motivation tools such as workforce personal recognition, employee suggestion programs, etc.
 - Computer aided and computer-based training – expand ideas and technology applicable to shipyards
 - Career path model – work towards consensus – AGC model (See SENESCOMARINE.COM people page for example)
 - Workforce expansion support – orientation, connections with military transition assistance seminars, etc.

Other Ideas for Future Research

1. Panel Project: Use and adapt Ship Constructor software to help share and upgrade knowledge. Current software holds much vessel design in graphic form. Software could hold more shipbuilding know-how information, and help attract employees to use AutoCad and Ship Constructor Software.
2. Panel Project: Capture deckplate problems and issues around shipbuilding and feed them back into the product model to yield design-for-production improvement, and simplified work drawings that move production knowledge into the design database.
3. SBIR Navy 05-061 – Improve Shipbuilding Work Environment – work collaboratively with the winner to: improve skill standards implementation; capture aging workforce knowledge; improve work conditions in difficult environment.

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**Appendix A:
Project Statement of Work (SOW)**

PTR: Jon Luksetich, Todd Pacific Shipyards

Technical Leads: Larry Gebhardt, SENESCO MARINE; Don Bewley, Jeffboat

Researchers: Les Hansen (Consultant)

Industry involvement: Shipyards (All ECB shipyards and others), Shipbuilders Council of America and American Shipbuilding Association; Other steel manufacturing and construction industry and organizations; Selected federal-state-local-government-private agencies and education organizations with workforce development agendas; Labor unions.

Tasks:

The following will be accomplished to support project goals:

1. Receive and process Summit goals and objectives recommendations from ECB members around “shaping the workforce” by December 2004
 - PTR and Technical Leads design specific questions (November 2004)
 - Gather and synthesize responses in conference call (November 2004)
2. Summit venue planning – complete in March 2005
 - Coordinate with other Panel chairs for multi-panel meeting and date (November 2004)
 - Plan for Summit week of September 19, 2005 in Williamsburg, VA (*later changed to Alexandria, VA*); ATI staff complete conference center contracting (March, 2005)
3. Design Summit Conference Program, Invitee List, and Follow-Up – complete by February 2005, except where noted otherwise
 - Preliminary announcement and agenda goals to ATI (December 2004)
 - Plenary speakers and breakout sessions leaders tentatively arranged (January 2005)
 - Technical Leads develop a brief with which to update the ECB, and gain buy-in and support for production and business leader participation. Actual presentation of the brief by the project team is subject to ECB availability; if presentation is not possible the written briefing materials will be delivered to ATI. (TBD)
 - Invitations aimed at production and HR staff teams from participating shipyards; other heavy manufacturing industry firms, trade association, government, education and workforce board representatives (February 2005)
4. Design and conduct a workforce survey – complete by October 2005 (Les Hansen)
 - Design a survey to gather data recommended by Technical Leads and ECB members (February 2005)

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- Conduct survey prior to the Summit by mail/e-mail/phone, and gather additional inputs at the Summit; report preliminary results at the Summit then compile and evaluate results of surveys and publish results (October 2005)
5. Conduct the Employee Sources and Skills Summit Conference – complete by September 2005
 - Hospitality and coordination between panels, guests – (September 2005)
 - Keep notes of plenary and breakout session meetings, comments and recommendations – (September 2005) (Les Hansen)
 6. Prepare and deliver reports as noted in deliverable list (October, 2005) (Larry, Don & Les)

Deliverables:

1. Status Report – March 30, 2005
2. Status Report – June 30, 2005
3. Project Briefing Material – TBD
4. Report on Workforce Sources and Skills Survey (Task 4) – October 15, 2005
5. Final Written Report on and Recommendations from Workforce Sources and Skills Summit Conference (Task 5) – October 31, 2005

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Appendix B:
Conference Agenda



National Shipbuilding Research Program Advanced Shipbuilding Enterprise

CROSSCUT INITIATIVES PANEL

**Shaping Our Future Workforce:
A Summit for US Shipbuilding and Repair**

Tuesday Sept. 20 - Alexandria Hotel - Capital Ballroom

- 7:30 Continental Breakfast - Register, obtain name tags, survey form if not completed
- 8:00 Welcome, logistics, conference goals - Don Bewley, Crosscut Panel Chair
- 8:30 CEO Panel: Todd Pacific Shipyards, Tom Van Dawark, CEO;
Puget Sound Naval Shipyard, CAPT D.J. Peters, Commanding Officer
- 9:00 Summary of Emerging Workforce Development Project - Larry Gebhardt, SENESCO MARINE
Summary of pre-conference survey - Les Hansen, Crosscut Panel Consultant
- 9:45 Catered Break
- 10:00 Keynote address - National Association of Manufacturers, Workforce Initiatives, Stacey Wagner
- 10:30 National organization panel - manufacturing initiatives - Moderator, Stacey Wagner
Manufacturing Skill Standards Council - Nancy Mills, Executive Director of the Working for America Institute (WAI) and Labor Manager for MSSC
US Department of Labor – ETA - Apprentice Programs - Tony Swoope
US Department of Education – Division of High School, Post Secondary and Career Education - Scott Hess
US Department of Commerce - Office of Manufacturing & Service - Jamie Estrada
National Association of Workforce Boards – Stephanie Powers, CEO
US Chamber of Commerce, Center for Workforce Preparation, – Janice M. Magill
AFL-CIO Labor Institute For Training, Kathy Clayton, Director, Indiana State
- 12:00 Catered Lunch - Shenandoah Room
- 1:00 Workforce Lessons Learned from Other Industries
Associated General Contractors – John Heffner & Donna Franza
Caterpillar Marine Systems - Harry Edwards
- 3:00 Catered Break
- 3:15 Breakout Sessions - choose your interest area
Capital Ball Room - Industry-workforce connections and related federal-state-local connections that support manufacturing. Co-leaders - Stephanie Powers, CEO, National Association of Workforce Boards; Tony Swoope, US Dept. of Labor ETA Apprentice Programs; Scott Hess, US Dept. of Education Post Secondary & Career Education; Bob Leber, Northrop Grumman Newport News shipyard (focus on Tidewater, VA initiatives).
Jefferson Room - Industry image and appeal - recruiting new and retaining incumbent workers. Co-leaders - Stacey Wagner, National Association of Manufacturers; Don Bewley, Crosscut Chair, former Jeffboat Training Manager.
Washington Room - Inter-industry collaboration - common problems and issues with shipyards, heavy manufacturing and steel construction. Co-leaders - Jamie Estrada, Deputy Assistant Secretary for Manufacturing; Janice Magill, Center for Workforce Preparation US Chamber of Commerce; John Heffner & Donna Franza, Associated General Contractors, Harry Edwards, Caterpillar Marine Systems
- 4:30 Plenary gathering - brief report and recommended actions from each breakout session
- 5:00 Reception, heavy hors d'oeuvres and cash bar
----- Dinner on your own - share meals and conversation

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Employee Sources and Skills Summit

Wednesday Sept. 21 - Alexandria Hotel - Capital Ballroom

7:30 Continental Breakfast

8:00 Re-convene, announcements and logistics - Don Bewley, Crosscut Panel Chair

8:15 Summary of new survey information and day one findings - Les Hansen, Crosscut Panel Consultant

8:30 CEO Panel - Navel Sea Systems Command, Art Divens, PEO Ships

Christian Personnel, Inc., Jerome Christian, President

9:15 Production Leaders Reflection on workforce problems and issues Don Bewley and Larry Gebhardt

moderate. Volunteer to share views related to: Welding – Surface Prep & Coating – Facilities & Tooling – Environmental - Business Processes – Systems Production Processes – Design & Materials

10:00 Catered Break

10:15 Plenary - Capital Ballroom - Labor Demographics Presentation - Dr. Neeta Fogg, Northeastern University

11:00 Breakout Sessions - choose your interest area

Capital Ball Room - Skill Standards - assessing and achieving global best knowledge, skill and abilities. Co-leaders: Lee Walker, Crosscut Panel Skill Standards Project; Kathy Clayton, Indiana AFL-CIO LIFT program. See new McGraw Hill manufacturing textbook for high-school use

Jefferson Room - Industry Professionals - futures for designers, engineers, managers. Co-leaders: Art Divens, PEO Ships; John Tuttle, US Merchant Marine Academy; Tom Conroy, US Maritime Administration.

Washington Room - Contract Workers - Skilled Temporary Labor for shipbuilding & repair- Co-leaders: Jerome Christian, CPI; Olly & Angela McVeay, MK Industries; Larry Gebhardt, SENESCO MARINE.

12:00 Catered lunch - Shenandoah Room

1:00 Re-convene in plenary - Capital Ballroom - receive reports and recommendations from morning breakout session.

Discuss specific action paths toward resolving top three problems (needing resources) or issues (needing further research). Don Bewley and Larry Gebhardt moderate.

1:45 Final breakout sessions as agreed in the preceding plenary. These topics are tentative and can be changed. Goal is to develop action and research recommendations.

Capital Ball Room - Industry image and cyclic nature of shipbuilding and repair contracts' impact on employees - Don Bewley, Crosscut Panel Chair

Jefferson Room - Intervention in K-12 and post secondary education to attract and prepare workers in collaboration with other heavy manufacturing and construction industries - Facilitators: Doug Ward, Director of Shipyard Development, Alaska Ship & Drydock

Washington Room - Improvements to orient, train and retain current workers - Facilitators - Larry Gebhardt, SENESCO MARINE

2:30 Final Plenary - Capital Ballroom. Report from breakout sessions and discussion of conference conclusions and recommendations.

Action task groups related to specific production workforce development, industry image, recruiting, or other specific topics.

Future research led by Crosscut Initiatives Panel or other NSRP panels related to workforce

Political policy or legislative issues needing help from SCA, ASA, Navy, Congressional Delegations, etc.

3:00 Summit Conference Adjourns

The Crosscut Initiatives Panel provides a public forum for discussing issues, approaches, resources and programs to meet the needs of people and organizations. The Panel supports areas of Workforce Development and Retention, Education & Training, Technology Transfer, Organizational Change and Human Resources.

NSRP: www.nsrp.org Crosscut Initiatives Panel www.usashipbuilding.com/panels

Chair: Don Bewley, Jeffboat, bewleydw@aol.com

Vice Chair: Larry Gebhardt, SENESCO MARINE, lgebhardt@senescomarine.com

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Employee Sources and Skills Summit

Appendix C: Attendance List

First Name	Last Name	Organization Name	Email Address
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Don	Bewley	Crosscut Panel Chair	BewleyDW@aol.com
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Ken	Clarke	Northrop Grumman Newport News	ken.clarke@ngc.com
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Art	Divens	PEO Ships	
Micheline	Eyraud	Computer Sciences Corporation	meyraud@csc.com
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Bill	Fox	Oceaneering-Marine Services Division	bfox@oceaneering.com
Donna	Franza	Associated General Contractors	franzadeagc.org
Larry	Gebhardt	SENESCO Marine	lgebhardt@senescomarine.com
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John	Malone	Malone Consulting Services	maloneconsulting@cox.net
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Appendix D: Breakout Session Notes

Session 1:

3:15 - 4:30 PM – Tuesday, September 20, 2005

Industry-Workforce Connections

Problems and issues

- Small business incentives (SBI) are not a large presence in WIBs – need to state priorities
- SBI needs to know how to:
 - a. Access all federal training funds (\$29 billion pool)
 - b. Connect the agency dots
 - c. Connect the industry professional association/society dots
 - d. Connect the educators and how we will educate
- Workforce Investment Act (WIA) Re-Authorization Status
 - a. Consolidation of funding streams
 - b. Keep flexibility of rules to meet local economic needs
 - Incumbent workers
 - Business services
 - c. Emphasis on business sector (vs. government sector)
 - d. Business leaders must learn how to talk to educators such as with work-keys assessments
 - e. Need innovative training ideas – they are the ones that get funded. There is a shortage of ideas.
 - f. Explore shifting or sharing labor between shipyards vs. contract or lease labor.
 - g. Develop multi-level certifications along the way to full certifications
- Quality of Life issues for new, young workers
 - Balance of home life with work
 - Flexible work settings
 - No tolerance for rules, they want to produce.
- Disseminate developed training tools
- Apprenticeship key factors
 - Craftsmanship
 - Scholarship
 - Leadership
- Security clearance issues

Industry Image

1. Current Status
 - a. Survey: Top impacts: 1- cyclic work; 2 – working conditions; 3 - wages
2. Change Opportunities
3. Additional study or work required

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Current status

- Perceived as smokestack industry going down the tubes.
- Press coverage covers only the bad.
- Wages perceived not tied to work environment (wages don't compensate for difficulty, etc.)
- Perception of unsafe work environment
- Perception of "old white boy" system with minorities, females not welcome
- Generational work-ethic gap
- Perceived many easier jobs that pay more are available
- The current leadership is resistant to change around better inclusion
- Today's worker looking for a challenge rather than a career.
- Today's worker expects 40 hours or less work per week.
- Regional differences

Solutions

- Engage the press/media with press releases and positive stories
- Tell the story of the yard – who actually does the work.
- Try to make the work "cool."
- Use open house for community
- Promote "making neat stuff" – complex, interesting, long-life, etc.
- Engineer out brute-force, difficult environmental conditions.
- Promote shipbuilding as high-tech, advanced manufacturing
- Develop DVD for shipyard production jobs.
- Promote as a career not a job
- Defined career path, well managed.
- Use flex time and job share arrangements where possible

Future work

- Adapt Association of General Contractors approach to intervention in schools
- Survey both who we intend to recruit, and current and former employees to learn their current perceptions of the industry
- Improve supervisory skills – critical team, follower and leader programs
- Provide production process information for future workers –like simulation model, etc.
- Look for On-the-Job Training funds to assist with training – Note: link shipbuilding as high-growth manufacturing industry
- Develop teacher intern-extern relationships

Inter-Industry Collaboration

Issues:

- Need replicable models. Draw on US Chamber broad customer base.
- Need to minimize "worker stealing" – develop long term collaboration –AGC model
- Average age 49 – need to replace via apprentice/learning programs
- Need stability; figure out ways to collaborate for R&D and new projects
- Need to understand and connect industry through IT related projects
- Need to find products to make that are not ships such as MAGLEV track beams
- Need to find ways to retain and use the older workforce
- Need succession planning and knowledge transfer from older to younger

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- Need industry-wide apprentice program to attract young, idle teens
- Need motivated workers in all industries

Action Ideas:

1. Link shipbuilding and repair to high-growth industries – manufacturing – to trigger training and other grant opportunities. At least \$12 million available from US-DOL-ETA
2. Develop and use video that showcases shipbuilding and repair to make it attractive to collaborating industries and prospective employees. Look at cruise ship models – Dry-dock (Carnival lines); ship construction (Princess lines)
3. Develop stronger, more coherent trade associations. Get SCA and ASA to collaborate. Look at construction – NCCER model for common image building
4. Connect with support programs such as Manufacturing Extension Program (MEP), OSHA and WBS to fund/develop common training and technology
5. Explore new technology that will improve working conditions – such as water-jet cleaning technology. Look at better ways to use foreign workers.
6. Ask the question – is our goal jobs or business profit? Look at global shipyards that are operating profitably –Asia and Grand Bahamas – including all facets of industry – finance, build, operate, maintain, dispose.

Session 2:

11-12 – Wednesday, September 21, 2005

Skill Standards

NSRP Skill Standards Issues

- Need common language
- Calibrate existing processes with NSRP standards
- Lack of implementation
- No process to keep skill standards current
- Need web-enabled databases
- Don't have acceptance in many shipyards
- Need assessment tools for all standards
- Need certification tools for some standards

MSSC Skill Standards

- NSSB-MSSC – Portable credentials – bakers to Boeing
- Roll-out planned for November, 2005
- Text Book – on high performance manufacturing, integrate to existing systems
- Focus on production certification
 - core skills
 - non-traditional manufacturing
 - connect with specialty skill standards
- Career paths
- Certification
- Four (4) modules
- Tool for increasing worker skills – not a screening tool

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- Easy to use
 - Instructor resource – instructional plans
 - Instructional material and testing included on DVD
- Need accreditation
 - Test issued for skilled workers
 - Looking for test sites

Questions

- How well are skill standards accepted as a credential?
 - Just launching program in Fall, 2005
 - Talking to colleges, businesses, chambers of commerce
 - 4000 participants in original development to kick-start
- Transition to degree – such as associate degree?
- Does labor support? “sell” in, raise skills.

Recommendations

- SCA is the only focal point – need one in NSRP
- Need affiliations with professional associations and societies
- Need oversight
- Emphasis on safety
- Community college awareness
- Text: Grade level 9-12 – look for youth, incumbent and new workers
- Bring in first line supervisor
 - Need more on scheduler, planner,
 - Roll-in multi-skill
- MSSC standards are the cure: NSRP standards are a specialty
- Get buy in – don’t “do it to them.”
- Explore US-DOL web site – O_Skills.net (used by Navy)

Professional Occupation Development

- Deficiencies in young engineers – that are supported by OJT, and mentoring
 - Foundation skills
 - Problem solving skills
 - Soft skills
- Look at other disciplines – not just naval architects –look at Electrical Engineering, Mechanical Engineering, etc.
- Perception of adequate number of engineers in the pipeline now but if shipbuilding growth, Navy growth happens there could be a future shortage
- Retention issues
 - Need continuing education
 - Job rotation
 - Internal familiarity with the entire organization
- Need to attract mid-level engineers from other industries – few set beliefs, cross train, experience
- Government hiring process is bureaucratic and rule-bound without flexibility
- Ex-military not being targeted for public yard employment (double dipping perception)
- Newport News – excellent engineering orientation, training – willing to share

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- Need Pre-college exposure to engineering work – to link to possible future work – a local initiative.
- Image issue has the same impact on engineers as all shipyard occupation impact.
- Careful selection of spokesperson for recruiting so he/she looks “like” the audience.

Temporary-Lease Labor and Subcontractors

Issues and problems

- Labor sources
- Subcontractor innovation as value to shipyard
- Supplier reliability and quality variation
- Need contract labor to help sustain a stable core workforce. Cover peaks without excess overtime.
- Security clearances for contractors difficult and not timely.
- Navy admin systems a high cost of doing business: SubSafe, QA, etc.

Recommendations:

- Invite SCA and ASA to help coordinate relief of security and paperwork-dense SubSafe and QA
- Figure out better ways for different “Tribes” of FTE/Contract workers to avoid us vs. them or union-non-union conflicts. Can resolve with better communications and management.
- Capitalize on Return on Investment of contract and subcontract workers
 - They help solve manpower shortages in skills and numbers
 - They bring a sense of professionalism that contrasts with some “entitlement” attitudes.
 - Careful management and communication can solve cost vs. schedule unknowns
 - Contract/subcontract terms and conditions can reduce both cost and risk.
- Problems to resolve or minimize
 - Solve basic skills weakness in 18-28 year olds.
 - Develop better craft skills using skill standards, assessments and certifications
 - Solve security clearance cost/time issues.

Session 3:

1:45-2:30 PM – Wednesday September 21, 2005

Industry Image

Actions:

1. Improve use of the press
2. Use public service announcements about career opportunities – regional, national
3. Look at ourselves. Find out exactly why we would not want our children to work in shipbuilding and repair and correct the problems.
4. Share a positive image of ourselves (survey finding)
5. Look externally – market toward job seekers interests
6. Emphasize high-tech in shipyards – change image from “the hammer” as the number one tool. Find “glitzy” ways to show the industry. Include people doing the high tech.

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7. Current employee development through workforce referral – tune up and practice the message to be carried. Be sure people believe, not just be parrots. Connect with community interests and needs.
8. Work on consistent internal and external “press” in newsletters and press releases.
9. Adopt a ship or shipyard/project – follow planning, progress, and connect with their studies. Elementary and middle/junior high schools.
10. Update Crosscut Resources industry representation video and other materials (X-Cut Resources Center)
11. Seek teacher internships and classroom aides, and externships where teachers spend longer periods learning the shipyard environment, skill needs, and helping shipyards develop and implement training, etc.
12. Include shipyard career path information in recruitment ads (see AGC model)
13. Use multi-craft training, include teamwork/follower skills and leadership/supervision.
14. Emphasize wages as accumulated earnings and what they can buy – point out new cars and motorcycles in the shipyard parking lot.
15. Better represent cyclic and stable nature of the industry, transportable skills, opportunity to have long periods of time off for personal activity, etc.
16. Explore ways to lend employees between shipyards as a bridge to cycles. Link to common skill standards.
17. Focus on what we can do in the industry, not what we can't do.

Research

1. Conduct survey of target employee audience
 - Interest in employment
 - What do you expect from your job?
 - Do you like outdoor work?
 - What do you think is a fair wage for what you can do?
 - If you could choose would you rather work 60 hours or 30 hours in a week? Would you rather work four longer days or five “traditional days”? Do you want to earn overtime pay?
2. Survey incumbent employees for job satisfaction to gauge what message is being taken to families and the community.
3. Learn what Japanese/Korean or European shipyards do with people during down cycles.

Intervention in K-12 and Post Secondary Education

- Get school people into yards
 - After school
 - Adopt-a-school – primary, high-school
 - Adopt a ship - help with home port, practical exposure
 - Projects
- Internships for 18 year olds – waivers for younger are real insurance problem
 - Get students to help with writing, web-sites; public affairs; logo designs
 - Students perform simple inspections, audits, checks
 - Database updates
 - Give shirts and hard-hats to remember the shipyard
- PTA, public housing connections
- Reach out to Native Americans, minorities, females, etc.

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- Projects
 - Regional survey of all schools to determine effective communications methods
 - Produce materials, brochures, DVDs, posters (all teachers need posters)
 - Identify funds for maritime academies for scholarships
 - Database of technical training resources on web site (CRC)
 - Identify science competition and link up such as science, submarine competition, robotics
 - Strategy like AGC to connect with primary schools – build age-appropriate materials
 - Tech-Prep/Community Colleges
 - Liaison with courses, tech educators
 - Open house, Tours - Survey the kids
 - Special events
 - Tech-Trek with counselors
 - Partner with other industries such as health that support shipyards
 - Tech-Prep begins in primary grades
 - Show ‘em the money, jobs to students, parents, counselors – look at cars and motorcycles in the parking lot
 - Show value of associates degree vs. HS diploma
 - Find industry \$\$ to participate
 - Co-op program with work experience and applied learning
 - Community College – make connections between guidance counselors in high schools
 - Use media to advertise the jobs and workforce development
 - Develop engineering technology degree with career path at 2 and 4 year – 75% design, 25% technology

Incumbent Workforce

- Recruit – orient
- Train – motivate
- Retain
- Share & upgrade knowledge

Actions:

1. Share Return on Investment Tools (2000 Crosscut Panel Meeting) to help provide financial rationale for learning activities
2. Revitalize the Crosscut Initiative Crosscut Resources Center. Example needs:
 - Shared special skill training – such as on-board rigging and material movement
 - Share curriculum including possible fee-based licensing of shipyard developed modules. This helps solve problems of small shipyards that lack resources to develop training materials. See also the SCA-OSHA model for general and crane safety videos.
 - Share retention-motivation tools such as workforce personal recognition, employee suggestion programs, etc.
 - Computer aided and computer-based training – expand ideas and technology applicable to shipyards
 - Career path model – work towards consensus – AGC model (See SENESCOMARINE.COM people page for example)

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- Workforce expansion support – orientation, connections with military transition assistance seminars, etc.

Unknowns, Suggested Research:

4. Panel Project: Use and adapt Ship Constructor software to help share and upgrade knowledge. Current software holds much vessel design in graphic form. Software could hold more shipbuilding know-how information, and help attract employees to use AutoCad and Ship Constructor Software.
5. Panel Project: Capture deckplate problems and issues around shipbuilding and feed them back into the product model to yield design-for-production improvement, and simplified work drawings that move production knowledge into the design database.
6. SBIR Navy 05-061 – Improve Shipbuilding Work Environment – work collaboratively with the winner to improve: skill standards implementation; capture aging workforce knowledge; improve work conditions in difficult environment.

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Appendix E:
Presentation Notes

Note: PowerPoint presentations are available on NSRP website:

http://www.nsrp.org/panels/xcut/xcut_events.html

CEO Panel #1

Participants: Tom Van Dawark, Todd Pacific and Capt D.J. Peters, Puget Sound Naval Shipyard.

Focus: Current industry and business/workforce relationships.

- Shipbuilding has cyclic work and workforces
- Need to communicate reality with workers
- Get right people and create a lean environment
- Need curious (question asking) and honest workers
- Develop workforce and core team stability
- Find and lift up opportunities for old and young
- Build workforce by training
- Lead and supervise workers; develop and implement good project management
- Recruiting and retaining top engineers is difficult
- Need: better preservation – surface preparation and coating – both technology and people
- Need better entry level basics and leadership

CEO Panel #2

Participants: Art Divens, PEO Ships and Jerome Christian, Christian Personnel, Inc.

Focus: Role of professional person in shipbuilding and repair industry (Art Divens)

- A competent workforce influences the lower cost of shipbuilding and repair
- Need professional workers
- Dealing with four (4) Navies: past (for disposal), present – for maintenance, future – for acquisition, and next navy (to avoid technological surprise)
- Statistics of downsizing past the Cold War peaks. Attrition 1150 people 02-05 averaging 25 years of experience implies over 30,000 years of experience lost in three years.
- Just learning to recruit new engineers and managers in rule-bound and uncompetitive pay environment
- In PEO Ships, 35% of workforce eligible to retire in 5 years.

Focus: contract or lease workers – represents 6000-9000 workers. (Jerome Christian)

- Need to find ways to reduce spikes of employment with little or no layoffs to make industry attractive
- Need innovative work-study program to attract idle teens. Concept – 4-day paid work at low skills, 1 day per week study and practice leading to entry and retention while quickly heading for living wage. Target 5000-10,000 youth. Make connection with President Bush State of the Union initiative (Laura Bush). Model: Australian apprentice program.
- Contract workers miss praise and recognition given to regular full time employees
- New 5-year contract with Northrup Grumman has only 1-2% profit, requires wage reduction for employees.

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Keynote Address

Stacey Wagner – National Association of Manufacturers

- Workforce Initiatives
 - Free trade agreements
 - Reduce and control external costs outside of labor costs such as energy, health care, infrastructure
 - Workforce development
- Productivity improvements need skills
- Education - \$1 Trillion investment but concentrated in high-growth areas. Align with high-growth manufacturing and construction.
- Make better industry-community connections

National Organization Panel

Nancy Mills – Working For America and Manufacturing Skill Standards Council

- Partner for competitiveness
- Cope with technological change – incumbent worker training and up-skilling
- Emphasize growth of small-medium sized firms (less than 500 workers)
- Layoffs are a plague – need credentials for portable skills and a local/regional job matching program
- Need specialty skills
- Need effort to help non-English language proficient people
- Need better pipeline for youth and young workers.

Scott Hess – US Dept of Education

- Education is weak. Federal departments and agencies are not well connected.
- Need system that is industry serving
- Federal service in transition
 - Career cluster development and College and Careers Transition Initiative (CCTI) pathways
 - Connection to skill standards
 - Inter-state
 - 4 clusters and pathways applicable to shipbuilding and repair
 - Need to develop common knowledge-skill-ability definitions for clusters
 - More focus on role of parents in clusters and pathways?
 - More focus on public-private partnerships

Stephanie Powers – National Association of Workforce Boards (www.nawb.org)

- Need collaboration between economic development and workforce development
- How can we better translate technology impact into action for incumbent workers?
- How can we help youth to achieve durable learning skills
- Need more focus on re-training
- Examples in states and regions

Jamie Estrada – US Dept of Commerce – Manufacturing

- Economic history with key milestones
- Manufacturing Report (on web site manufacturing.gov)
- Current state economic markers are up.

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- Working on 57 recommendations – 32 implemented now.
 - Trade
 - Non-direct cost reduction
 - Innovative R&D
 - Tax reform
 - Education for the workforce
 - Structural changes
- Key tool: interagency working group on manufacturing
- Shared service contacts

Jan Magill – US Chamber of Commerce

- National survey correlation with shipbuilding
- Business training investment \$373 million
- Demographics –literacy a key need
- Need to upgrade skills – “no longer our parents’ workplace”
- Before age 28 – average 32 different jobs – adaptable workforce
- Need flexible workforce model – hours, shifts, responsibilities
- Worker replacement costs about 1.5 time annual compensation
- Pay for skills and raise by partnering with community colleges
- Need assessments of skills and credentials for portability

Kathy Clayton – Indiana LIFT program and Manufacturing Skill Standards Council

- MSSC developed advanced manufacturing certification for employers and portability for workers
- Skill survey on web site – eight (8) critical work functions
- Entry level credentials
- Assessment and remediation

Donna Franza – Associated General Contractors - AGC

- Look at NTCER Industry image organization
- Need “common good” focus
- Skill standards –goal is certification
- Youth begin to eliminate career choices in the 5th grade
- AGC chapter members interact with schools and districts – BuildUP kit, On-Site kit that meet standards for curriculum – developed with Scholastic, Inc.
- Benefits for parents, guidance counselors and teachers included including projects for home, career change ideas for parents
- Older students use constructmyfuture.com
- Skills USA has career and technical student database, local and national, includes leadership development
- Construction career academy – school-within a school model with lower cost and risk than focused charter school.
- Need business-industry involvement with schools
- Develop college student chapters where construction engineering and construction management are taught.
- National PTA has a grant to work with high-growth industry for training and parent/family interaction

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Contact Information

www.agc.org

www.constructmyfuture.com

www.constructioncareerpath.com

www.bls.gov

www.dol.gov/eta

www.ncler.org

www.skillsusa.org (formerly vica.org)

Harry Edwards – Caterpillar, Inc. Marine Power Systems

Family Emergency – unable to attend –provided presentation and liaison.