SHIP PRODUCTION COMMITTEE
FACILITIES AND ENVIRONMENTAL EFFECTS
SURFACE PREPARATION AND COATINGS
DESIGN/PRODUCTION INTEGRATION
HUMAN RESOURCE INNOVATION
MARINE INDUSTRY STANDARDS
WELDING
INDUSTRIAL ENGINEERING
EDUCATION AND TRAINING

May 1999
NSRP 0533

THE NATIONAL SHIPBUILDING RESEARCH PROGRAM

A National Workshop on Human Resources and Training January 26 and 27, 1999

U.S. DEPARTMENT OF THE NAVY
CARDEROCK DIVISION,
NAVAL SURFACE WARFARE CENTER

in cooperation with
National Steel and Shipbuilding Company
San Diego, California

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A NATIONAL WORKSHOP ON

HUMAN RESOURCES AND TRAINING

NSRP Project N5-97-03 Subtask #20

JANUARY 26 AND 27, 1999

To be held at the

U.S. Navy Memorial Foundation

Washington, D.C.

Sponsored by:

The National Shipbuilding Research Program

Human Resource Innovation Panel
(SP-5)

A Major Opportunity to contribute your ideas toward improving the shipyard industry in our country

FOREWORD

This report captures the events that transpired during the SP-5 and 9 Joint National Workshop on Human Resources and Training at the U.S. Navy Memorial Foundation in Washington DC on January 26th and 27th of this year. The importance of this workshop to our industry is confirmed by the participants and the endorsements that this event attracted. The workshop itself, while important, pales in comparison to the importance of the consensus actions that flowed from it. A review of the total report or the Executive Summary on the next page will give the reader a good sense of the challenges that we are faced with to improve our competitive position in the global business of shipbuilding and ship repair. "Are we up to this challenge?"

As a "Maritime Nation", the answer has to be "Yes". We need to work together as an industry by embracing an "information exchange culture" which will be one of the first steps on the road to success. We need your help and dedication. Thank you.

Chuck Rupy
Chairman of NSRP SP-5
Human Resource Innovations

National Workshop on Human Resources and Training
U. S. Navy Memorial Foundation, Washington, DC
January 26 and 27, 1999

EXECUTIVE SUMMARY

This Workshop was consciously designed as a forum for industry leaders to explore alternatives and develop a set of consensus action plans to direct future efforts for improving human resources and training in the shipyard industry. There were 84 participants directly involved, representing 14 public/private shipyards, 8 Government agencies, and 4 National labor organizations. Endorsements and supportive messages were offered during the Workshop from the following:

- Senator Trent Lott, Majority Leader, United States Senate
- Vice Admiral Peter Nanos, USN, Commander, Naval Sea Systems Command
- John Welch, President, Electric Boat Corporation
- John Meese, President, Metal Trades Council
- Richard Vortmann, President, National Steel and Shipbuilding Company
- David Watson, President, Baltimore Marine Industries
- Robert Fricks, President, Newport News Shipbuilding
- Allan Cameron, President, Bath Iron Works
- Dr. Linda Rosenstock, Director, NIOSH (National Institute for Occupational Safety and Health)
- Rear Admiral Hank McKinney, USN (Ret), President and CEO, U. S. Navy Memorial Foundation

Details of the presentations on each Topic appear in this Report under the following headings, with the Post-Workshop Consensus Actions developed during the Workshop assembled under Section D of each Topic:

- Workforce Development - Multi-Skilled
- Workforce Development - Training
- Workers Compensation
- SHIIP - Shipbuilding Information Infrastructure Project
- Forming the Ergonomics Partnership
- Shipyard Organization and Staffing
- MACOSH - Maritime Advisory Committee for Occupational Safety and Health
- Funding for Training
- Recruitment Strategies
- Summary of Consensus Action Plans to follow and as found in 27-8D

One theme was prominent throughout the Workshop. The competition is not between shipyards anymore, but for the limited resources available in the future. To compete for those limited resources, the industry must learn quickly to work together, sharing ideas and technology so that a higher level of accomplishment can be achieved. Then, and only then, can the industry hope to compete in the international arena for a reasonable share of the world market. This theme came from Labor, from the Navy, from several commercial shipyards, and from Government agencies active in dealing with human resources and training. The message from this gathering is clear: shipyards must work together through teamwork and sharing, or go out of business. The choice is ours. Following the actions identified herein can help, especially with open endorsement and hands-on leadership from senior management throughout the shipyard industry. Continuing feedback is also needed from performing personnel to ensure that actions taken are both appropriate and effective. These actions can change the posture of the industry. The future of shipbuilding by U. S. workers in U. S. shipyards is in the balance.

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Summary of Action Plans

POTENTIAL
POST WORKSHOP CONSENSUS ACTIONS

Suggested Workshop Follow-on Actions

This Workshop, its endorsements, the attendees and participants from various agencies, and the module presentations included in this report, are a valuable resource for identifying and achieving future improvements. You can initiate and conduct appropriate follow-on actions related to this module by choosing one or more of these suggested approaches:

A. Discuss items with your management, utilizing the published Workshop data as a resource;

B. Contact and work with those who attended and participated in the Workshop. Contact data is included in this report.

C. Participate in establishing industry meetings as a follow-on to this module;

D. Work with local, state, and federal agencies, utilizing the Workshop endorsements, presentation materials, and contact data as your reference source;

E. Utilize the Workshop endorsements as leverage for all levels of support, development, and implementation.

WORKFORCE DEVELOPMENT MULTI-SKILLED

- NAVSEA TO MAKE WORKER JOB DESCRIPTIONS AVAILABLE TO THE INDUSTRY FOR REFERENCE. (PAT BRADSHAW – NAVSEA)
- PUBLISH A QUARTERLY STATUS OF THE NAVSEA and METAL TRADES ACTIVITY ON WORKFORCE DEVELOPMENT FOR OTHER INDUSTRY PARTICIPANTS TO POTENTIAL UTILIZE. (Pat Bradshaw – NAVSEA)
- IDENTIFY and SET-UP A FORUM FOR TOTAL INDUSTRY PARTICIPATION TO SHARE IDEAS and "BEST PRACTICES".

WORKFORCE DEVELOPMENT MULTI-SKILLED ACTIVITY CONTENT-DEFINITIONS & ISSUES

- PUBLICIZE ACTIVITY OF PROJECT ON THE Nsnet WEBSITE (Joanna Jones)
- CONDUCT WORKSHOPS at SMALLER SHIPYARDS. (Joanna Jones)
- ELICIT INDUSTRY ENDORSEMENT of PROJECT . (Joanna Jones)
- LOOK FOR PARTERSHIPS. (Joanna Jones)

CD available by contacting Mr. Walker at:

Lee Walker
Lee Walker Consultant
13773 Harpers Ferry Road
Purcellville, VA 20132
(540) 668-3497
ss564311@aol.com

WORKERS COMPENSATION

- SET-UP INDUSTRY FORUM and INDUSTRY "WORKERS COMPENSATION COMMITTEE" in March/April time-frame.
  (George Potts – Electric Boat Corp)

- CHAIR OF WORKERS COMPENSATION COMMITTEE will ESTABLISH MEETINGS OF INDUSTRY AND DOL TO ADDRESS VARIOUS IMPROVEMENTS THAT CAN BE PURSUED INVOLVING the LONGSHOREMAN and HARBOR ACT.
  (CHAIRPERSON – TBD)

- WORK WITH THE INTERNATIONAL COMMUNITY TO COMPARE APPROPRIATE METRICS WITH THE OFFICE OF NAVAL RESEARCH.
  (CHAIRPERSON – TBD)

SHIIP PROJECT

- PUBLISH A REAL-TIME ACTIVITY STATUS ON THE EXISTING CHANGE FORUM/SHIIP WEBSITE. LINK THIS SITE TO *NSNET*.

- CHANGE FORUM/SHIIP CONTINUE TO SOLICIT INPUTS FROM INDUSTRY TO ENHANCE THE VALUE OF THE SHIIP PROJECT.

- CHANGE FORUM DEVELOP METRICS TO MEASURE THE EFFECTIVENESS OF THE SHIIP PROJECT ONCE IT IS IMPLEMENTED.

Notes:

1. The SHIIP computer systems applications for the modules presented should continue to be demonstrated to shipyard top management. Specifically include demos on engineering, and planning of work for multi-skilled applications.

2. Demonstrate the application of SHIIP to Workers Compensation activities.

3. The SHIIP project should produce a demonstrated ability to incorporate on-line interactive training programs, with distribution throughout a shipyard and the industry.

4. The SHIIP project should ensure consistency with the points made by the keynote speakers and the participants at the Workshop.

FORMING AN ERGONOMIC PARTNERSHIP

- SP-5 WILL MAINTAIN A PROACTIVE POSITION TO DEVELOP A DRAFT ERGONOMICS STANDARD FOR THE DOMESTIC SHIPBUILDING AND SHIP REPAIR INDUSTRY.

- THE MAINE EMPLOYEES MUTUAL INSURANCE COMPANY IS FUNDED TO CONTINUE WORKING WITH NIOSH, AND TO POST RESULTS ON THE NIOSH WEBSITE UNTIL THE GULF COAST REGIONAL MARITIME TECHNOLOGY CENTER OR SOME OTHER INTERESTED PARTY TAKES OVER THIS WEBSITE.

- NIOSH WILL CONTINUE TO WORK WITH SP-5 AND THE INDUSTRY ONCE FUNDED VIA EITHER MARITECH-ASE AND/OR THE GULF COAST REGIONAL MARITIME TECHNOLOGY CENTER OR OTHER MECHANISMS.

- FINAL ACTION WILL PROVIDE SUPPORT TO OSHA IN DEVELOPING AN INDUSTRY-SPECIFIC DRAFT ERGONOMICS STANDARD.

SHIPYARD ORGANIZATION AND STAFFING

- SCHEDULE A FORUM TO DISCUSS AND EMPHASIS THE POTENTIAL GAINS BY APPLYING THIS MODULE FOR INFRASTRUCTURE CHANGE.

MACOSH COMMITTEE

- DEVELOP A WEBPAGE AND ANY OTHER COMMUNICATION VEHICLE TO PUBLISH THE COMMITTEE'S ACTIVITY. (Larry Reed – NIOSH)

- SP-5 WILL ALSO HIGHLIGHT THE VARIOUS MACOSH ACTIVITIES AT THEIR MEETINGS AND MEETING REPORTS AND INPUTS TO Nsnet.

FUNDING SOURCES FOR TRAINING

- THERE WILL BE A WORKSHOP CONVENED TO DEFINE OBJECTIVES AND PLANS AND TO SHARE “BEST PRACTICES” TO GO AFTER FUNDING SOURCES. (Joanna Jones – BIW)

RECRUITMENT STRATEGIES

- THERE WILL BE A SPECIAL MEETING SETUP IN THE WASHINGTON D.C. AREA TO “BRAINSTORM” THE MOST SUCCESSFUL STRATEGIES AND TO EXPLORE ANY INNOVATIVE STRATEGIES THAT MIGHT BE APPLIED. (Steve Sullivan)

Fifth National Workshop on Human Resources and Training

Presenters — Day 1 (Tuesday, January 26, 1999)

Time	Topicopic
8:45 — 9:00 a.m.	Introduction
Workshop Host:	Chuck Rupy, Chairman, Panel SP-5, General Dynamics/Electric Boat
9:00 — 9:30 a.m.	Opening Remarks
	Dave Watson, President, Baltimore Marine Industries John Meese, President MTC Senator Trent Lott
9:30 — 10:30 a.m.	Workforce Development — Multi-Skilled
Lead:	Richard Bowers, Sr. Administrator Human Resources, NavSea Sys
Facilitator:	Patricia Bradshaw, Director, Human Resources, NavSea Sys
Presenters/Panelists:	Mike McNerney, Labor Advisor, Nav Sea John Meese, President, MTC (Metal Trades Council) Betty Lucero-Turner, Nat'l Admin. Apprenticeship Program, DOL-ETA Bill Skillman, Sr. Training Consultant, Alpha Solution
11:15 — 12:15 p.m.	Workforce Development — Multi-Skilled — Activity Content — Definitions & Issues
Lead:	Lee Walker, Lee Walker & Associates, Consultant
Facilitator:	Brienn Woods, Manager, Training & Development, NASSCO
12:15 — 1:30 p.m.	Lunch Speaker — MARITECH ASE Overview
	Ron Glover, Program Administrator, Advanced Technology Institute

1:30 — 3:00 p.m.	Workers Compensation
Letter:	Robert Fricks, President, Newport News Shipbuilding
Lead:	Barry Schram, President, BMS & Associates
Facilitator:	Jack Shea, Chief of Workers' Compensation, General Dynamics/Electric Boat Corp.
Presenters/Panelists:	Jack Martone, Administrator, DoL Heather Kraus, Attorney, Semmes, Bowen & Semmes Richard Bowers, Sr. Administrator Human Resources, NavSea Jim Ellenberger, Manager, Health/Safety, AFL/CIO Dr. Thomas Hales, NIOSH
3:15 — 5:15 p.m.	Changing Course with SHIIP
Lead:	Joanna Jones, Director Human Resources, Training & Development, Bath Iron Works
Facilitator:	JoAnn Schindler, Sr. Partner, Harshman & Associates
Presenters/Panelists:	JoAnn Schindler, Sr. Consultant, Harshman & Associates, Inc. Cindy Butler, Sr. Trainer, Harshman & Associates, Inc. Brienn Woods, Manager, Training & Development, NASSCO Shawn Wilkerson, Asst. to Corporate Vice President — Government Programs, Avondale Industries, Inc.

Fifth National Workshop on Human Resources and Training

Presenters — Day 2 (Wednesday, January 27, 1999)

Time	Topicopic
Workshop Host:	Chuck Rupy, Chairman, Panel SP-5, General Dynamics/Electric Boat
8:30 — 9:00 a.m.	Opening Remarks
	Admiral Peter Nanos, Commander, NavSea John Welch, President, General Dynamics/Electric Boat Corp.
9:00 — 10:30 a.m.	Forming the Ergonomics Partnership
Video Clip:	Dr. Linda Rosenstock, Director, NIOSH
Lead:	Dr. James McGlothlin, Associate Professor, Prudue University
Facilitator:	Chet Matthews, Corp Director, Safety & Environmental, Bath Iron Works
Presenters/Panelists:	Dr. Steve D. Hudock, Senior Safety Engineer, NIOSH James Thornton, Director, Environment, Safety and Health,Newport News Shipbuilding Karl Siegfried, Ergonomist, MEMIC Milan Racic, Administrator, International Brotherhood of Boilermakers Larry Libertore, Maritime Administrator, DoL/OSHA LCRD Stan Jossell, US Navy, NAVSEA Industrial Hygiene and Safety
10:45 — 11:45 a.m.	Shipyard Organization and Staffing
Lead/Facilitator:	Rick Thorpe, Executive Engineer & Principal Consultant,Kvaerner Mesa Marine, Inc.
Presenters/Panelists:	Ron McAlear, Corporate VP, Marketing, Avondale Laurie Deschamps, President, SPAR Associates David Heller, Naval Architect, MarAd Marylou Madden, Director of SE Campus, University of Alaska Doug Ward, Director of Business Development, Alaska Ship and Drydock
12:45 — 1:15 p.m.	MACOSH
Video Clip:	Richard Vortman, CEO, NASSCO
Lead/Facilitator:	Larry Reed, Director, NIOSH
Presenters/Panelists:	Larry Reed, Director, NIOSH Larry Liberatore, Maritime Admin, DoL/OSHA James Thornton, Director, Environment, Safety and Health, Newport News Shipbuilding

1:15 — 1:45 p.m.	Funding for Training
Lead Facilitator:	Steve Sullivan, V.P. Human Resources, Baltimore Marine Industries George Lang, Manager Human Resources, Baltimore Marine Industries, Inc.
Presenters/Panelists:	Alex Landsburg, MARAD Susannah B. Schiller, Special Assistant to Director, NIST-AIP Betty Lucero-Turner, National Administrator Apprenticeship Program, DoL/ETA Dale Hartford, Grand Lodge Representative, IAM & AW Patrick Bullard, Training Manager, Electric Boat

1:45 — 2:30 p.m.	Recruitment Strategies
Lead Facilitator:	Chuck Rupy, Chairman, Panel SP-5, General Dynamics/Electric Boat Corp.
Presenters/Panelists:	Milan Racic, Boilermakers International Brotherhood Cliff Cooley, Director, Human Resources, Halter Marine Joe Jarvis, Director, Training Avondale

2:30 — 3:00 p.m.	Wrap-up, finalize consensus action plans
Lead	Chuck Rupy, Chairman, Panel SP-5, General Dynamics/Electric Boat Corp.

Reconstructed remarks by Chuck Rupy on Day 1 of the Workshop - (26-1)

I'm Chuck Rupy, and I welcome all of you to this Workshop. My real job is at Electric Boat Corporation, but here I'm the Chairman of the SP-5 Human Resources Panel of the National Shipbuilding Research Program. This is a co-sponsored Workshop between SP-5 and SP-9, the Education and Training Panel of the NSRP.

During the next two days we'll be talking about some issues that are critical to our industry. The key thing that we're going to be doing here is developing consensus action plans for these critical issues. And so, it's important what we do for the next two days, but it's more important what we do after we leave here. Fortunately, we have money to execute some of the plans after we leave here, and I think we have leadership that can be very successful.

We're not going to solve all the industry's problems, but in this age of affordability it's good for both our commercial interests as well as our military shipbuilding infrastructure to attack some of these processes and to improve upon them.

The major thing is that we're all very appreciative of the teamwork we have here. We have all the key government organizations that are part of this team, we have the shipyards, we have labor and, of course, management, and the Navy working with us. We have here a sort of model on how to get things done.

We've been working on quite a few areas prior to this Workshop, and we're going to build on that success subsequent to this Workshop.

I want to mention to you now some of the endorsements of this Workshop that include, for instance, Trent Lott. He was going to be here in person as of a few months ago. I'm sure that he would rather be here, in fact, but he's kind of busy these days. He has a vested interest in the shipbuilding industry being healthy and has sent a letter of endorsement to us. He's very interested in the consensus action plans that are developed as a result of this Workshop. Since we're not bashful individuals, and we have some personal connections with him, we're going to see that he knows about them. We're going to get from him all the help that he can give us in executing these plans, including potential funding sources.

We also have endorsements from several shipyard leaders. Bill Fricks from Newport News gave us a letter of endorsement. He's very interested in what happens here. Dick Vortmann, the President of NASSCO, sent a videotape that you will see tomorrow. Also, Allan Cameron from BIW and John Welsh from Electric Boat have provided endorsements. The industry is really behind what we're trying to do here, and it's a good team effort with all of the organizations working together - labor, management, Navy, everyone.

I want to introduce to you now Bob Fiorelli who will bring you a message from Dave Watson, President of Baltimore Marine Industries.

TRENT LOTT
MISSISSIPPI

MAJORITY LEADER

FINANCE

COMMERCE, SCIENCE, AND TRANSPORTATION

RULES

United States Senate

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January 14, 1999

Dear National Shipbuilding Research Program Attendees :

Greetings! I would like to welcome you to the National Shipbuilding Research Program I hope you enjoy your stay in Washington and the important work you will undertake. I am pleased to know that you are about to initiate this workshop in order to address some of the critical issues facing our shipbuilding and ship repair industry. As you know I am an ardent supporter of a strong U.S. shipbuilding industry.

We have recently approved some major military construction programs however, our current share of the global commercial shipbuilding and repair business is unacceptable. We need to initiate aggressive actions to gain a larger market share to help create jobs in our shipyards as well as in the associated vendor base. The subjects that you will be addressing this week that deal with Workforce Development, Workers Compensation, Recruitment, Training, and Safety and Health issues are critical areas where improvement is necessary. Improvements in these areas will help both our military as well as our commercial endeavors.

I was very pleased to hear that this will be a joint effort between the smaller, as well as large shipyards, and that the Navy, various government agencies, labor, and management are working together. I am also encouraged that you will be developing consensus action plans for follow-up after this workshop. These actions should help to reduce the cost of doing business and improve the working environment of our workers. I will be very interested in reviewing these action plans which I hear will be posted on your Nsnet web site.

Once again, I applaud your participation in this workshop to improve your industry. I regret that my schedule during this hectic time does not permit me to attend this meeting, but I look forward to seeing you in the near future and with best wishes, I am

Sincerely yours,

Trent Lott

Trent Lott

TL:mm

Dave Watson, President
Baltimore Marine Industries
Opening Remarks

Good morning. I welcome the opportunity to join you in opening this workshop. If there is one thing I have learned as a shipyard manager, it's that you're only as good as your people. While that may seem fairly obvious, it is nevertheless something that we who lead this industry tend collectively to forget.

This workshop is a recognition of the importance of our people, but unless plans change, this workshop will represent the swan song for the sponsoring SP-5 Human Resources Innovations Panel, whose focus areas will be splintered and merged in the new organization within two disciplines called Crosscut Initiatives and Facilities and Tooling. I daresay that the prioritizing that produced that organizational structure was not driven by anyone who has ever faced the challenge of running a shipyard for profit. In a labor intensive industry and national unemployment at 3 to 3.5%, we need to focus on retaining skilled people and attracting new blood if we hope to build a successful future in the shipbuilding and repair industry.

But enough political commentary for now! We have here a workshop to conduct and, from what I can see, it promises to be spirited, educational, and time well spent.

I came to the task of evaluating this workshop agenda with an ideal perspective: having been CEO of a mature shipyard for 15 years, I have now spent the last year coming out of the gate with a brand new shipyard – parts of which we carried over from the predecessor yard, parts of which (by choice or by necessity) we have built from scratch, and parts of which have emerged as hybrids of the old and the new. In the course of that experience, I have had occasion to take a fresh look at people issues. I believe they are more important today than at any time in my forty plus years in this business.

A brief survey of the generic modules on the workshop agenda should be useful in conveying my perspective.

The first module – Multi-Skilled Workforce Development – treats a topic that has perhaps been the most important to us at BMI. A hallmark of the collective bargaining agreement that we negotiated in connection with the purchase of the shipyard is a provision that enables us to assign any employee to perform any task that he or she can safely perform, without any regard to craft lines. On paper, it was the shipyards manager's dream and our first reaction was that our biggest challenge would be to figure out what percentage labor cost reduction to project in the first year. Reality quickly intervened, however, as implementation issues were identified in both management and hourly ranks, as we progressed. Over-exuberance was clearly to be avoided: non-union yards, despite having no contractual restrictions, nevertheless all use craft systems; it seems fairly obvious that an employee's time is most efficiently spent doing primarily the work in which he or she is skilled; it is difficult enough to hire employees who already possess one needed skill and virtually impossible to hire employees who already possess

multiple skills. Once you decide what craft lines are to be crossed and on what work, you then face the challenges of how to impart the necessary additional skills to your people and how to get them to do the crosscrafted work willingly, safely, and efficiently. Along the way and not incidentally, you have to reorient your line supervisors to a multicraft culture and teaching old dogs new tricks in not easy – management is a big problem. To be successful in cross crafting, you must invest heavily in training both management and hourly employees or you will surely fail to gain productivity. Plus you must redesign your budgeting and costing systems to evaluate your progress and change your estimating criteria. The good news, I suppose, is that, until you have successfully met all of those challenges, you probably don't have to worry about calculating your projected labor cost reduction. However, if you ever expect to compete in the international shipbuilding or ship repair market, you better be successful in developing a highly skilled flexible workforce.

The next generic module addresses Workers' Compensation, the importance of which I need not belabor. You know what it costs you – if that figure is less than 10% of your labor cost, you're probably proud of it. This module will build on some valuable work that the SP-5 Panel has already done in this area, with a widely disseminated report of a cost containment survey of 50 shipyards in 1995 and a follow-up workshop conducted in 1996.

The next generic module, Forming the Ergonomics Partnership, addresses an issue that has largely been neglected in our industry until recently. With the OSHA ergonomics standard a certainty in the not too distant future, we will not longer be able to ignore the issue. Given the potential savings in Workers' Compensation costs and labor productivity, we should not in any event be ignoring ergonomics. This module will take as its point of departure the accomplishments of the jointly sponsored SP-5/NIOSH ergonomics study project, which is expected to go a long way toward our achieving an OSHA ergonomics standard that makes sense in the shipyard industry.

The Shipyard Organization and Staffing module will address the evolution of the American shipyard in the post-cold war era from its exclusive configuration as a defense contractor to the mode necessary to compete in the commercial arenas, both domestic and international. To the lessons learned from the Panel's 1996 project, which compared the American and European models, will be added the lessons that ongoing experience has taught.

The MACOSH module not only will be informative, but also will highlight one of the SP-5 Panel's principal achievements – the Panel's tenacity deserves the lion's share of the credit for the creation, by the Secretary of Labor, of the Maritime Advisory Committee on Occupational Safety and Health, which has given our industry an effective voice in the development of the safety and health standards under which we are regulated. That industry voice is informed and supported by the Panel-sponsored Safety and Health Advisory Committee.

The last two modules, Funding for Training and Recruitment Strategies, highlight an anomaly: in an industry which has seen the size of its workforce steadily diminishing, meeting workforce requirements has become a major challenge of many shipyards. Anyone who was seeking a skilled welder on the Gulf Coast or East Coast last summer can attest to the magnitude of the challenge, as can anyone seeking a top notch ship repair estimator on any coast. While neither of these modules may provide many answers, they both may open constructive dialogues among those of us who have faced the problems. We need to find ways to attract the best young people by providing challenging work and opportunity for growth.

I would like at this point to go beyond the modules to note the union/management character of this workshop and to extend a particular welcome to the organized labor representatives who have joined us in developing the workshop.

It should be no surprise to anyone that in a manufacturing industry with approximately 100,000 people that union and management have their differences. It is how we jointly solve problems that counts.

The SP-5 Panel has enjoyed the unique distinction of being the only joint union/management body serving our industry. Its dissolution seems to me both short sighted and regrettable. I can only express my hope that my colleagues among the ASE founding parents will recognize the wisdom in its continued existence.

I hope and expect that all of you will leave this workshop the better for having attended it.

Thank you.

(Applause.)

Chuck Rupy: Thank you, Bob. Just to say a few words here, as far as the dissolution of SP-5, recent events have changed that a little bit. The ECB, the Executive Control Board, is sending me a letter to ask for our opinion on what I call transition plan where the SP-5 panel will stay in existence for what we consider is the appropriate time frame because of all the work we have going, and we will transition it to this new Maritech ASE program, so it will be a seamless transition, and we will together build that plan and publish that and that'll become reality. To get back to Dave, we're not going to disappear.

Chuck Rupy: Okay, next, I'd like to introduce retired Admiral Hank McKenney (ph) who is the president and chief executive officer of the U.S. Navy Memorial Foundation here, just to say a few words, sort of welcome us aboard, and then we'll go into our workshop.

(Pause.)

ADM. McKENNEY: Thank you, Chuck, and welcome aboard to all of you participants in this conference.

As a former naval officer who spent a little bit of time in Navy shipyards as a submariner, I truly do appreciate what you're up to and how important this conference is and how important your work is in terms of saving the industry, meeting a very challenging time, obviously, in this very tight labor environment and the drawdown in the shipbuilding industry is significant, and I know you're facing those challenges.

I can only say as someone who's been the beneficiary of your product I hope you solve those problems.

I know that submarine force, as you probably know -- I mean, I don't have to tell you this -- worked very hard to maintain a viable shipbuilding capability against an awful lot of odds, and that's worked pretty darn well, and of course the miracle of cooperative Newport News/Electric Boat operation amazed everybody, but it obviously is working in the right direction.

The importance of developing and working the people in the industry, I can't say enough about. I guess my sense is that, as I was involved with shipyard overhauls, the labor force was the critical element, and sometimes I couldn't help but feel personally as I watched it that sometimes the management did not understand how critical that labor force was to the ship, and I can recall -- and this again is a Navy shipyard environment, but I can tell as I took my submarine, *Seahorse*, through overhaul -- it was a refueling overhaul which we ended up cutting a little bit short. We were able to get out a little early, which was an unusual event back in the mid '70s -- late '70s, but as we completed that overhaul and I developed a little gimmick for the crew to recognize their participation in the overhaul, I made them all keel owners.

As you know, when you build a ship, you become a plank owner. You don't get anything for doing overhaul, but I felt it was important to give them something, so we ended up creating a little lead medallion -- the lead came from the keel of the *Seahorse*, the ballast -- lead ballast on the ship. Probably today you couldn't touch the lead because it would be too dangerous, but back then no big deal. We traded these little lead medallions and we handed them out to each member of the crew, and we -- you know, the object was to make them all keel owners, and they felt pretty good about it. But I had made more than I had just for the crew, and I added an extra 50 or 60. And I didn't know what to do with them until the chief of the boat said, "Captain, I've got a great idea. Why don't we present those to the guys in the shipyard who have done good things for us in *Seahorse*." And I thought for a minute. I said, "Okay, that's great. Who do you think we should present them to?" He says, "Let the

crew vote. Let the crew make a decision as to what individual they remember as making a little extra effort to get *Seahorse* done right, get her out on time, et cetera."

And I could see that I was going to run into a little bit of a problem because I doubted the crew was going to vote very much for the high-level management in the shipyard. They were going to vote for the guys who are on board the ship on a daily basis working our problems.

Well, in fact, that's who they voted for, and I went up to the shipyard commander and ceremoniously presented one of these medallions to him, and I said, "This is the only one going to management. I think there's a couple of foremen and leading men that might get one, but the rest are just going to the guys who made a difference to our ship." And he said, "Fine. That's great. Why don't you do that?"

So, I walked through the shops in the shipyard and individually presented each one of those individuals that we voted -- the crew had voted for that made a difference to our overhaul, and it was really quite a moving event because, quite frankly, they don't get that kind of recognition. They don't see it. And it was just terrific to present it to them.

And when I brought the ship back in and did a change of command and invited some of those same individuals to come to my change of command, you could also see the pride they had in that work they did on that ship.

So, I can only say to the Navy side of the business that, if we want to keep the shipyards and the shipyard force working in support of the Navy, the ships and the individuals on those ships have to pay some attention to the shipyard workers and build that pride of craftsmanship that we're talking about here. They can make a difference. That's my only thought.

Welcome to the Navy Memorial. We're glad to have you here. For those that are Navy veterans -- and I suspect there's a few in the room -- if you haven't signed up in the Navy log, I hope in the next day or so you'll take a look at the Navy log out there, and please do sign up. We'd love to have you part of our Navy memorial here and part of a record that's on the Internet and your kids can see who you are in the future.

The Navy Memorial has expanded beyond just Washington, D.C. We placed a lone-sailor statue at Great Lakes. That was one of our first projects here when I took over. I thought it was very important to put a lone-sailor statue out there because, really, the lone-sailor statue represents a symbol of excellence, an icon for our Navy today, our active-duty Navy.

But I realized very quickly, after taking over, that most sailors don't know much about the lone-sailor statue, never seen one, don't know what it represents, and I couldn't think of a better place to put it than at Great Lakes. As you probably know, we only have one boot camp left; that's at Great Lakes. The Navy in its great brack (ph) wisdom shut down Orlando and San Diego -- boot camps, and we kept the Great Lakes one open.

So, I thought it was important that our sailors, as they enter the Navy on the first day of their Naval service -- they get a haircut, urinalysis testing to be sure they're drug free, and get to meet the lone sailor all in the same day. That's a pretty big day for a brand-new sailor.

And, in fact, they've responded to it. It's great to see.

The other wonderful statue we have here, which you've seen probably as you came in the lobby is the homecoming statue. Quite frankly, I think it's the more emotionally appealing and the more important statue of the two because it does represent the sacrifices that Navy families make during our long deployments, and that particular statue, although it's here, has not really been out -- and the Navy doesn't see it. The Navy families don't see it.

So, the first one was placed in San Diego on the waterfront just last August. So, Navy families who really relate to that statue can see it, and the statue was dedicated in honor of Navy families.

We hope to do similar statues. We're working right now in Norfolk and similar statues in all our Navy home ports in the next several years, sponsored primarily by individual organizations in those home ports that want to honor the Navy, and that's obviously the -- a little bit of commercial for this group here that have some responsibility in that regard in Navy home ports where you're located.

Again, thank you very much for using this facility as part of your -- for your meeting and your conference. Welcome aboard, glad to have you here.

(Applause.)

(Applause.)

Chuck Rupy: Thank you, Admiral. Our next speaker will be Mr. John Meese (ph), who's the president of the Metal Trades Department, and again what's unique -- it's been said before this morning -- about the SP-5 panel, SP-9 panel as we work very closely with the labor force, so we have a very open forum, and when management is focusing quite often on the bottom line as far as the financial impact of safety and health, we look it also as a moral issue to provide a safe work environment for our workers, so there's certainly some common ground between management and labor as far as working on some of these common goals of ergonomics, workers comp and so on.

Mr. John Meese has been a presenter at our last workshop, and I'd just like to have him say a few words to kick this off. John?

(Applause.)

MR. MEESE: Thank you very much. One of the major problems with speaking in public is dealing with the introduction. Most of the time, by the time all the flowery words have been said, I'm afraid to speak for fear that all I'm going to do is prove that whoever introduced me didn't know me very well. Thank you for not burdening me with that this time.

We are going to be talking later about the use of multi-skill in shipbuilding, and it's certainly an appropriate subject. You know, depending on whose numbers you take, the United States shipbuilding went from number 1 to off the charts in 30 to 40 years, and I remember I was addressing a group of machinists in the shipbuilding -- working in the shipbuilding industry, on, about 10, 15 years ago, and at the close of my remarks, one of them asked me what I thought was necessary to revive U.S. shipbuilding, and my response was, "It's far too late for revival; we have to talk about resurrection." And, frankly, that hasn't changed very much since that time, in my view, anyway.

U.S. shipbuilders currently, in the United States, are dependent upon naval or other government work. Some of the leftover commercial work that is left over from the foreign markets -- work that is too small to go foreign -- and packages of work in the Great Lakes and in the Gulf.

Frankly, the naval work is just not going to sustain the existing shipyards, bad enough (sic) make room for new ones. So, if our shipbuilding industry is going to improve, we're going to have to become competitive with the foreign builders.

It's very interesting to note that most of those foreign builders pay more money to their employees, have better and higher overall packages of payment, and yet they are unbelievably competitive as it compares with the United States.

And understand just about 40 years ago, as a shipbuilder in the United States, you were competing only with other U.S. shipbuilders.

So, if you were doing things pretty much the same manner that they were doing them, you were only competing in that area, made it very safe. That's not true

any longer, obviously, and I think it's time that we examine why we lost this industry and hopefully find what we have to do to make the corrections to revive it or resurrect it.

In all honesty, I have to tell you that I am not sure that we're in time here. I'm not sure it's not already too late because I think building ships in the United States is a certainty, but I'm afraid they're going to be built by foreign companies coming to the United States to build them, and I think that we better look at this issue very closely today. I think we're talking about one of the matters that may actually revive, resurrect or at least save what shipbuilding we have, and I think we ought to take it seriously and examine it closely. Thank you.

(Applause.)

John Meese
President
Metal Trades Department

File Listing

Directory: 26-3
Workforce Development – Multi-Skilled

File Name	Description
26-3A	Participants and Module Overview
26-3B	*Presentations* 26-3B1 – Presentation Plan/Summary 26-3B2 – Transcript – Lead Presenter
26-3D	Action Plan
26-3E	Application Worksheet
26-3-File List	File Listing

Day 1 Schedule/Presenters/Description of Modules

9:30 — 10:30 a.m.	Workforce Development — Multi-Skilled

Lead: Richard Bowers, Sr. Administrator Human Resources, NavSea Sys

Facilitator: Patricia Bradshaw, Director, Human Resources, NavSea Sys

Presenters / Panelists: Mike McNerney, Labor Advisor, NavSea
John Meese, President, MTC (Metal Trades Council)
Betty Lucero-Turner, Nat'l Admin. Apprenticeship Program, DOL-ETA
Bill Skillman, Sr. Training Consultant, Alpha Solution

Description of Module: This session is based on a National Shipbuilding Research Program (NSRP) project on developing and maintaining a skilled and able production workforce. Specifically, it will examine issues raised in the course of the research with respect to workforce organization, internal training, external training, maintenance of an acceptable hiring pool, and the sharing of labor resources. The opening formal presentation will provide a synopsis of the focus areas and introduce tools developed by the project that can facilitate initiatives.

Presentations Workforce Development Multi-Skilled

26-3B1 Presentation Plan/Summary

26-3B2 Transcript Lead Presenter

National Shipbuilding Research Program (NSRP)
Human Resources Innovation Panel (SP-5)
Human Resources and Training Workshop
MULTI-SKILLING/CROSS TRAINING MODULE

SUMMARY

- Facilitator: Patricia Bradshaw, Command Assistant for Human Resources, Naval Sea Systems Command (NAVSEA), Arlington, VA

- Participants:
  - John Meese, President, Metal Trades Department, (MTD) American Federation of Labor and Congress of Industrial Organizations (AFL-CIO), Washington, D.C.
  - Michael McNerney, Command Labor Advisor, NAVSEA, Arlington, VA
  - Betty Lucerno-Turner, Head, National Apprenticeship Program, Employment Training Administration (ETA), U. S. Department of Labor, Washington, D.C.
  - Terry Walker, consultant to SP-5, Terry Walker Associates, Reston VA

- Program Plan:
  - Ms. Bradshaw will introduce panel members and discuss international trends which mandate that employers attract and maintain a workforce that has a much broader skill base than was required in the past. She will discuss the impact this has on employees and the skills they need to be successful and to progress in the future. She will define multi-skilling and explain how it is one approach to developing the workforce of the future. She will introduce Mr. Meese and Mr. McNerney by discussing the June 1996 agreement between NAVSEA and the AFL-CIO on multi--skilling at the NAVSEA Naval Shipyards.
  - Mr. Meese and Mr. McNerney will discuss the NAVSEA-AFL-CIO multi-skilling agreement from the union and the management perspective. Mr. Meese will discuss the union’s concern about multi-skilling because of the implications it has for workers and how the union’s view changed over time. Mr. McNerney will

discuss why management needed the flexibility in assigning work provided by this agreement and how implementing the agreement has influenced and changed how management plans and assigns work.

- Ms. Lucerno-Turner will discuss the work that the ETA has done is broadening employee skill bases and the assistance that the ETA can provide to private shipyards in implementing multi-skilling.
- Mr. Walker will review the NSRP SP-5 work in the area of multi-skilling and discuss how the results of this work can assist private shipyards.

- The group will have an open discussion with all panel members answering questions from workshop participants.

- Ms. Bradshaw will summarize the major points of the discussion to include a determination of the “next step(s)” for management and labor in achieving a more efficient and effective multi-skilled workforce.

Chuck Rupy Thank you, Mr. Meece. The next speaker that's going to be our facilitator for this first module is Pat Bradshaw, and I always feel very guilty even asking Pat to leave her office. She's probably one of the busiest people in Washington.

Pat works the NAV-C systems command headed by Admiral Peter Nanos who will be here tomorrow morning. I'm not sure, but I think, if you rank Nav-C as like a business community and put them in the Fortune 500 listing, there'd be up around five or six in the list as far as what dollar value they administer in their organization.

So, it's a tremendous organization, a tremendous responsibility on that organization to support the country, and they are one of the key funding organizations for our program.

So, Pat Bradshaw is going to facilitate this panel on a multi-skilled work force, and I'm sure we're all going to learn a lot and hopefully capture some action items as a result of that. Pat?

MS. BRADSHAW: Actually, I appreciate the opportunity to be here as the director of human resources for all of the Naval-C systems command.

The last couple of years have been fairly grueling as we have, as everybody knows, closed four yards and now work very hard, as Mr. Meece has already indicated, to keep the four that we still have and the government open and viable and competitive.

So, facilitating this workshop for me this morning is a real pleasure and real honor because I'm optimistic that we can learn a lot together about how we go forward and either partner with each other or at least learn from each other to remain a competitive edge and at least keep the work in this country being performed by U.S. workers.

The way I'd like to run the panel this morning -- we started out with five speakers, and we're down to four, and maybe we'll get our fifth one back before the morning's completed.

What I thought I would do is introduce each of the four panel members. They will have 10 to 12 minutes to make their presentation, and if you could hold your questions till the end, we'll come back and take questions and summarize some of the issues that we've addressed here. Then we'll take a break, and I understand Chuck will come back, and we will have another session before lunch.

So, let me begin by introducing my command labor relations advisor, Mr. Mike McNerney (ph) who has been very actively involved in working with Mr. Meece to set up the agreement that we do have with the Metal Trades Department and for multi-skilling in our shipyards, and he will talk to you about multi-skilling from the command's perspective.

Next to him, you already met Mr. John Meece, one of my very dearest friends, who always keeps me on the straight and narrow, and he will talk about the agreement from the labor's perspective.

Next we have Betty Laserno (ph) who is the head of the national apprenticeship program for the for the Employment and Training Administration in the Department of Labor, and Betty is going to share with us what the ETA has and can provide us in the way of implementing multi-skilling.

And next to her, we have Mr. Bill Skilman (ph) who is with Alpha Solutions who is a consulting firm on multi-skilling and other training initiatives.

So, with that, I'll turn it over to Mike.

MR. McNERNEY: Thank you, Pat. One of the things that Pat and I talked about

before we committed to this -- we kicked around some ideas in terms of approach and information that we wanted to put out, and we definitely believed in it and quickly seized the opportunity to attend and participate in the workshop, and for that I thank the organization for inviting us.

From a personal perspective, it's an honor for me to be here today to share some of the experiences that we at Command had with the concept of multi-skilling.

Mark Twain once said that it's -- there's nothing more frustrating than the aggravation of a good example. We kind of smiled and thought that, when we first executed the multi-skilling agreement, the day that I sat downtown in the conference room with the AFL-CIO in July two years ago, I never believed -- and I made that statement then -- that I never believed that in my career I would be sitting at a bargaining table across -- staring essentially across the table at the president of the Metal Trades Department and all the beady eyes of all the labor international union presidents to discuss a concept so closely held and dear to the heart of labor.

I would not suggest today that we hold that agreement up as the good example I referred to earlier, but I think it was a clear, excellent start for both parties, clearly recognizing where we were at that time and, in order to give you some background quickly, to inform you where we had just come from.

We had been a command nationwide with 120,000 employees and eight naval shipyards, and quickly, with the reduction as of '96 when the agreement was executed -- in January of that year, President Clinton had announced the reduction of the government of 200,000. Well, 60,000 of that had been done in the back of eight naval shipyards.

Things were pretty bleak and they're not a whole lot better today in that respect,

particularly with the loss of much of what we looked at in the past as workload.

I heard one captain in one shipyard make the comment -- the *Abraham Lincoln* -- which is one of our aircraft carriers -- was sitting in port at the time, and he said, "You know, 10 years ago, if that carrier had come in, we'd own all of it, and today we own the refueling, but everything else is up for grabs," and you need to understand that a lot of what the naval shipyards face is the difficulty of attempting to match whatever our current skill mix may be on hand to the workload availability.

We're either faced with two different drivers -- those drivers are either budget-driven or they're workload projection-driven, and ships -- not only in the type of workload that comes in -- and that, by the way, is not determined by the naval shipyard -- that's determined by our fleet commands and type commanders in determining what dollar they have to spend in their budget and how much repair and overhaul can they afford given the current mandate charge-back rates that the naval shipyards charge them.

That's an equally frustrating thing, particularly when we start looking at shifts in workloads from surface ships -- some of our yards that specialized for years on surface ships -- and now are migrating in some areas to submarines -- Trident and 688-class submarines.

Well, that creates additional pressures and concerns with respect to the skill balances and the skill mixes that currently are on hand -- may not fit the future availabilities that come in.

So, you can see from the collection of concerns a pent-up pressure to do something different than what we had done in the past, and I think there was a clear recognition on both sides back in '96 when we first sat down at the bargaining table with John and his folks.

We knew there was a lot of trepidation on both sides. There was a lot of angst and a lot of dinosaurs in the room on both sides and a lot of dinosaurs not in the room on both sides, and surely we have, in fact, experienced some of that since then.

In the yards, we had to learn to stop asking the question, "What is the -- how can we downsize and restructure effectively and move more to thinking along the lines of how can we change the way we do business so that we can use the people we have most effectively?"

We're not there yet, and I would not suggest that the agreement that we executed then is the -- is the see-all, end-all solution to where we go from here.

John and I have had a number of discussions in the recent past about the concerns that we have where we've had differences in the application of that agreement in different yards.

What we have found is they're -- the one I find interesting from yard to yard that's common is they've stopped arguing about traditional positions at the bargaining table on many issues involving trade applications.

Those positions have migrated more towards one of understanding the other side's position. That's something we didn't have a long time ago or even as recently as three years ago.

Every yard -- and I've talked to the presidents of each of the Metal Trades Councils at those yards and as well as the managers and the labor relations folks at the local level, and they all collectively have admitted one thing that's been consistent, and that is that, while they may not have applied various provisions of the agreement locally, there has been a collective migration in thinking and a collective sense that we need to do more than we currently are doing.

Some have coined the word -- an interesting -- all four of the yards attempted to coin the word locally -- that we need to be more flexible, and that, interestingly, drew a lot of

resistance from the locals and I believe stemmed from past experiences -- management flexibility means somebody has given something up.

I'd like to suggest that we not adopt flexibility as the phrase but more versatility, and that is, in fact, where some of the folks have been leaning, and that is ensuring that when and where we apply the agreement provision, whether it's something as simplistic as helping hands -- one trade crossing over and assisting another trade on essentially the very rudimentary task or moving up into what we call composite skills.

We all have taken the opportunity to travel to places like Bath Iron Works where they, in fact, negotiated a multi-skill agreement and then tied it to a pay concept.

Bath has implemented that in some fashions, not successfully in other areas, but I think they're suffering from the same genre that we all are facing and that is, when you do not have a change in culture that embodies the concept of change that includes those who are affected by it, it never will be adopted. And that's one of the key elements that we are trying to approach in the shipyards and one that we at the command have attempted to impose as a basic tenure -- as a basic tenet that you need to include the people who are going to be affected by the change in the process of making the change. And that's been a very difficult hurdle to overcome.

Other obstacles that we've incurred are with respect to the agreement, not so much an obstacle but what -- I consider the agreement has helped us in focusing and movement in the right direction, and that is the -- give us a chance to aim not at helping the trade workers understand the bottom line; we all have done a lot of rhetoric in that arena, myself included, and I'd like to repeat that. It gives us a chance to aim not at helping the trade workers understand the bottom line but to help enhance the bottom line, and that's a key element that I think has been

missing historically in our approach in a lot of areas. It's one that is very -- we've received a lot of resistance on both sides at the local level. We have -- and John can -- and I both have spoken about this, and he probably will even address it somewhat -- we've experienced a lot of resistance not only the local council, local membership of the council, but we've also experienced a lot of resistance from local supervision, particularly those who have come up in that trade or craft and who have, interestingly -- now as first and second-line supervisors have had difficulty in making the shift to that dynamic to include having someone not in the trade perform some element of that trade.

A lot of emphasis on the safety concerns and that's one that we committed to in the agreement in writing, that we would not ask anyone to ever perform any function outside of their trade in a manner that was unsafe or would result in damage to equipment or property.

With that, I temporarily conclude my remarks and turn it over to John and --

MR. MEESE: Thank you, Mike. I was interested to hear your remarks about the number of dinosaurs in that room. Actually, they didn't bother me nearly as much as the number of jackasses in the room that day.

It certainly is appropriate that we talk about multi-skill, and there's a lot of different tags put on that particular operation. I don't think it matters what you call it. We all know how to define the lady in the pretty, new dress. No matter how new or how pretty it is, the obvious purpose of this is to avoid nonproductive time of employees, very simply.

Unfortunately, there are many people who believe this is the panacea for the problems in the shipbuilding industry, and if you're one of those, you're wrong. It is one of the items that has to be dealt with in order to take care of the industry problems.

There are many people who are continually arguing that the problem with the shipbuilding industry was a loss of subsidies. It certainly didn't help. But if you're banking on getting them back, get out of the business. They're not coming. So, we're going to have to find ways to deal with that problem, and that is not going to be an issue, I don't believe, for discussion.

I said that the multi-skill use is not a panacea for problems, but it may be the catalyst of all of the other answers, and there are many other requirements.

One is the technology and equipment. If you're going to compete with the foreign builders, you're going to have to have equipment for the employees to use and tools that are at least as good as they have. You're going to have to have skilled workers available, and believe me, that's becoming more and more problematic to those people in the industry. There aren't enough welders. There are now not enough pipefitters. Very shortly, machinists and electricians will join that group, and you are training very few for a very, very long time. You depended on the United States Navy to do most of your training. They trained apprentices. They went to work in private industry for higher pay. Well, they're not available from that source anymore.

All in all, I'd like to talk to you about a couple of experiences with the multi-skill use that I've had. One, Michael has referred to, and that's the multi-skilled agreement with the Navy. Make no doubt about what I consider my job to be as president of the Metal Trades. I believe it's my responsibility to provide the employees in our department with the best possible wages, benefits and conditions of employment.

Where does that come from? From your profits, obviously, so we have a vested interest that you make a profit, and the greater that profit the higher the benefits and wages are going to be that come to the employees.

So, whether or not we agree, whether or not we formally work in a manner which is partners or partnership, we are partners because both of us want you to make a profit.

Now, with that, of course, we have to consider what the effect's going to be of what is done at this level but with a very, very brave admiral, Tom Porter, and Mike and Pat and some other people from within the Navy. We had discussions about the possibility of providing a way to make naval shipyard workers more productive -- I don't mean work harder -- it means to get more work at the end of the day, and we spent two days batting heads with all of our local people from the unions most of whom neither wanted to be there discussing the subject that was on the table -- and with a group of people from the Navy who looked at everything that we proffer with a gimlet eye especially on the first day, but on the second day we hammered out an agreement which permits the Navy to utilize employees outside of their job description or outside of their normal or traditional craft duties.

In addition to that, we put in at the very end of this that, in the event that this system proved to be cost-saving, then we believed that we would come back to the table to negotiate an increase in wages from those employees who were creating this cost savings.

We have never got any money for it because I don't believe the Navy yet can even find that it saved any money. It's very places in my experience -- and I've been to all of the shipyards -- and there are a couple of special types of jobs -- refueling at Norfolk which has cross-crafted a couple of trades and actually reduced the number of employees necessary to do the same function, but even there we can't prove there's any cost savings.

And until we have some concept of really what we're accomplishing, I don't believe the program has an opportunity to be totally effective.

Let me talk to you about some of the problems we've had with it.

Where do you get first-line supervisors? Obviously, they come out of the crafts. So, each one of them has a craft distinction -- machinist, electrician, sheet metal worker, boilermaker, pipefitter -- now, that particular supervisor may very well be willing -- supposing he might have a contract from the machinist trade -- to assign a pipefitter and a sheet metal worker to work together and share duties, but it's not very damn likely he's going to do that same thing with his own craft.

So, we had people who were literally very deeply aligned with the concept of craft assignment, especially their own craft, ultimately responsible for making this system work.

And what we were getting was top-level port telling all of the layers of management down through the system that this was going to be the program, and by the time it got to the bottom it was so diluted nothing really happened.

Now, we're talking with the Navy now, but the possibility of getting our groups back together to discuss how we're going to correct the problem -- let me assure you this. If we don't make the naval shipyards more competitive for the work they are currently doing and the work that's going to be available, they won't be there, and I have a vested interest to keep my people employed.

Let me assure you also that I am fully aware that the utilization of employees across craft lines is going to require less employees, but it's a damn sight better to have that number that is profitably employed working than to have none. So, we have to look at the overall picture.

A lot of the things I've done have not been terribly popular with the people I

represent -- not only the union members but the presidents of those unions, but we all have to face the facts of life in this bit that, if we don't make it competitive, it doesn't stay in business. If we want some to be employed, that's a lot better than none. And I am proceeding with that with the Navy. Hopefully, we will be in time because I believe, by the year 2005, we will either be super-competitive or there will be no more shipyards left in the United States Navy.

Now, let me talk a little bit about a private industry, and if I get going on time, just tell me to shut the hell up and I'll try to. Well, in your particular case, I'll ignore you.

I have experience with two shipbuilders that work with the multi-craft concept -- Meyerworf and Caverner. Meyerworf was very close to opening a shipyard in Philadelphia. Caverner has opened one in Philadelphia, and it's under a metal trades contract.

When Caverner was coming to Philadelphia, they contacted my office, and I met with their principal officers, and they said, "We want to have the union contract even before we start to hire employees. We want to know that we are going to have a viable operation with the employees without any labor problem.

(End of side A.)

John Meese: -- have a labor contract; it would have to permit them to operate as they operate in their foreign yards, and they started to tell me about their operation in foreign yards, and finally I said, "Gentlemen, I don't understand what you're talking about. What I want you to do is go with me through these foreign yards, and I want you to show me what you're doing."

Unlike most of you in here, I didn't graduate from college; I'm not very intelligent or

bright. I have difficulties understanding even the English language, and if you put a little bit of Norwegian into the process, it creates even more problems.

But in any event, I went to East Germany, Finland and Norway and went through their yards and was absolutely amazed -- amazed.

First of all, they engineered their processes as carefully as they engineered their assemblies and sub-assemblies and the ship itself. They took the time to be absolutely certain that the engineering of the processes would tell them where they were going from one minute to the next to the next to the next and what was necessary.

And, secondly, they operated the production of ships in teams.

If it were a very large -- and they had one assembly that went aboard the ships that weighed 600,000 tons, so some of these were large and very time-consuming -- and they would have teams anywhere from 125 down to seven or eight.

The people in those teams were very carefully trained to do almost everything that was done there with this exception.

On those jobs that were so skill-requiring that it would take too long to train lots and lots of people, those types of assignments always were made to the appropriate craft.

If you're going to line-bore for shaft alignment, you may have a lot of people who think they can do it, but I assume you're going to assign that to a machinist, and if you're going to install 400 volt circuits, you're not going to let anybody but someone who's going to be able to do it both safely and well and right the first time do it, and they work to that.

However, to the maximum, they train people to work to do anything that was necessary. They consider all their employees shipbuilders. They don't even refer to them as

machinists or electricians. They're hard with that title and trained so that they don't use it any further.

They manage to get about 97% of a day in productive time per employee. I was amazed when I walked through the shipyards. There were no people wandering around. There was no one that didn't have something to do, and everybody seemed to be happy, and they left me alone to talk to the union representatives at each yard, and the union representatives who had been there in many cases before Kvaerner (ph) took over and put this process in -- and let me tell you, Kvaerner didn't try to convert the thinking of the people that were there when they take over a yard. They fire everybody and start from zero.

So, they bring the people in to work their processes, and it's a lot easier, therefore, than the Navy's going to have because they're not going to have that luxury. They're going to have to convert already employees -- they're going to have to convert people that have a concept of the way that they should do things; they're going to have convert especially managers who know very well that, if the number of employees go down, so do the number of managers, and everybody in this system is looking out -- what we all refer to as CYA; all of you know what that means, so I won't use it -- although I would like to, but I do see there's some ladies present.

In any event, when I come back to Philadelphia with Kvaerner and what I expect I'll be doing with Meyer Werft for another shipyard in the United States very soon -- I agreed that we would work their system.

Now, this caused some problems for the individual local unions in determining who fit where into what union because always before we've done it by job title -- all the machinists were in the machinists union, all the electricians in the electrical union and electronics workers, pipefitters, obviously -- so, what we did was we said, "Okay, what is the makeup of a shipyard, and we are going

to divide this one by the number that that provides." If there is ordinarily 27% pipefitters in a bargaining unit in a shipyard, then 27% of these people are going to be pipefitters no matter what the hell their job title is when they're hired.

We'll just get away from the overall concept and we'll go to their concept.

Now, one of the impressive parts of this in viewing the operations in Europe -- they have about one supervisor for every 75 employees. Employees are very carefully trained to do work which they do without supervision; they do their own inspection and their own certification and it's available for use.

Now, when they do that, their number is the certification, so they're responsible for the job that they do. If they do something wrong, they're called in and counseled, given additional training; if they do it wrong again, they're called in and counseled and told that, if they do it wrong again, they will either be reduced in rank or compensation placed in a job they're able to do -- or they'll be fired.

The union and the company is both present when that's happened.

They have a system by which they pay a bonus to employees based on what they call productivity profit bonus, and so that everybody knows what that's going to be, each one of these corporations has two members of the union, appointed by the union on its board of directors with full voting rights.

When the books are presented to the board, they're present, so there isn't any way to hide anything, not that this company would, by the way, but the union knows that it's going to get the amount of money it's entitled to.

The day that we were in Finland which was, I believe, the first week in December of

the year before last, they were issuing the bonus checks of 11.3% -- 11.3% of your gross earning for that year -- had nothing to do with hourly pay.

If you made $30,000, you got 11.3% of that amount, and if 20,000 of that was overtime, it would still be the same amount; it was based on the gross amount paid, and their concept was that those people who worked more and earned more money probably were more responsible for the profit and productivity increases.

Every employee in that shipyard was fully aware that his work was as important to him -- herself as it was to the company.

We will be entering very shortly with Kvaerner for some type of bonus system for the shipyard in Philadelphia based on probably the same types of subjects perhaps -- use different formulas -- and that's going to depend on the situation there because it's a rarity when one decision will float across the entire world and make sense.

Meyer Werft works under almost the same type of circumstance, with teams and training.

Every employee hired by Kvaerner that is going to be a shipbuilder will be sent for 12 weeks to one of its European yards to learn the team system and be cross-trained. It will actually take place in two segments -- one six weeks, go back for another six weeks.

In addition, there will be continued training in Philadelphia so that those employees within teams are exposed to more and more of the work of the other crafts with which they work -- with which they co-work.

The training never ends. It's very expensive. Kvaerner says it pays big dividends. They are a very profitable ship builder in a lot of places in the world, and make no mistake about it.

Meyer Werft and Kvaerner and now two Japanese firms that have been to my office to discuss with me the possibility of coming here want to come to the United States to build ships. Why? First of all, there's federal money to help them some, although I imagine it will dry up, but most importantly is because it's a hell of a lot cheaper to have a worker in the United States than it is in Japan or Germany or Norway or Finland or Sweden or France or Great Britain. Yeah, it's wise to come here.

German automobile manufacturers didn't move here because they wanted a better place to build cars. They moved here because they could make more profit. Nothing wrong with that, by the way. That doesn't bother me. But that's who you're going to be competing with.

And I am sorely afraid, if we don't change our system very quickly, that the U.S. shipbuilders in this country are all going to have names that are very damn difficult to pronounce. Thank you.

(Applause.)

Betty Lucerno - Turner: I'm new to DC. I've been with our national BAT office for about three months, and I'm an inlander, so I'm still learning quite a bit. I'm from Colorado, so I can't say that I'm much of an expert on shipbuilding.

But I do want to talk to you about the Bureau of Apprenticeship and Training and the possibility that there is any way that we can work with the shipbuilding industry -- obviously we would like to do that.

The Bureau of Apprenticeship and Training -- if you're not familiar with this service and agency, they are with the U.S. Department of Labor and they've been around since 1937 working with various industries in developing structured apprenticeship programs for a number of occupations.

We currently have about 850 occupations that are recognized as apprenticeable, and they really cross all industries. We have programs in manufacturing, in servicing, in aerospace, and of course the one you're probably more familiar with when you think in terms of apprenticeship -- the construction industry.

Many of our programs cover the gamut. We work and set up programs with cities and municipalities for wastewater and water treatment plant operators. We'll work with a small employer in a rural part of America who is interested in setting up an autobody repair program, so we do work with a variety of industries in a number of occupations.

Anyone participating in a registered apprenticeship program is under the national apprenticeship system. We have criteria that an employer would need to meet in order to have a registered apprenticeship program, and those areas are really outlined in our regulation Title 29 CFR 29, but when you look at the standards that are required to have a federally registered apprenticeship program -- most of them are very common sense. They address areas like probationary period, like a progressive wage scale, as the apprentice gain scale -- it addresses areas like related technical instruction; there are about 22 standards.

But I will tell you that, in registered apprenticeship program, the concept really is that the apprentice is learning from someone who is already skilled in that occupation and that the majority of the training is occurring at the facility, at the employer site with about 80% of it being learned on the job and the remainder of it being learned through what we call related technical instruction or the book end of learning that particular occupation, and that can be done through a community college, home study or correspondence.

The apprenticeship system is very flexible. I know that many times people tend to

think that it isn't flexible, but we do work with employers in trying to meet their needs whether it be time-based training or competency-based training. We try to work with the employer to develop the programs.

Now, I must also say that, in companies or employers where there is a collective bargaining agreement, we set up the joint programs, and those are programs that are managed jointly by labor and management. We find that those programs operate much more smoothly when both parties are involved initially when the apprenticeship standards are developed.

I know that many of you may not also be familiar with the fact that, once the apprenticeship program is registered at the federal level, apprentices enter into an apprenticeship agreement, just as they did when America was first being settled.

The apprentice enters into an agreement that is signed by both the employer and the apprentice, and in the case of a program that's being jointly administered, it's signed by the joint apprenticeship and training committee with signatures coming from both management and labor.

We have been around for a very long time providing technical assistance to a variety of employers. I'm not -- I'm somewhat becoming familiar with the needs of the shipbuilding industry. It sounds to me like you want to look at having skilled workers, but the multi-skill development -- I'm quite interested in hearing more about that. We are finding that there are many companies that are looking at that, but we also -- as you know, the Bureau of Apprenticeship and Training -- these are not short-term training occupations; they are rather lengthy -- anywhere from four to six years.

So, we're quite interested in at least talking to the shipbuilding industry to see what, if anything, we can do to work with you if registered apprenticeship is something that you're looking

at in the industry itself.

So, I just kind of want to leave it open. As I said, I'm not that familiar with the shipbuilding industry, but I am more than willing to sit down with whoever to talk about the possibilities of registered apprenticeship programs in some of the shipyards. Thank you.

(Applause.)

Bill Skillman: My basic background -- I do have some Navy background; I'm a retired Navy submarine-nuke, so I spent 20 years in the Navy itself and then I worked at Norfolk Naval Shipyard for the last 10 years up until this past June when I left the government service to go work for the private company that I work for now.

I was there during the great rifts, the cutbacks, the personnel depletion, the death of the apprenticeship training programs that we had at Norfolk Naval Shipyard, and I was there after that as we regenerated it from a standard, traditional apprenticeship training program into a cooperative that we work with the local community colleges and some of the trade schools in the area.

So, I've been through the whole routine on it.

A little bit of the background of the Navy maintenance skills training because most of the work that we have now is still -- as John mentioned -- it's in the Navy ship area.

Along with the reduction in number of ships and therefore the work that you people have to do in the shipyards when we cut back in the Navy, we also cut back a lot of the maintenance skills and maintenance areas that the Navy had to repair those ships and to keep them running -- the tenders, the short intermediate maintenance activities -- those types of areas.

And they developed a process where they decided that the operating fleet sailor had

to be also the maintenance expert, far in excess of what he had been able to do in previous commands.

In other words, we had to train this guy so that, when something in the battle force broke, they could fix it on station and keep the battle force operating and not have to come off station.

And that presented a whole gamut of problems that we had like what skills did we need that were critical to go to that point. How do we go about identifying who, what, where, what was necessary -- the different types of training that would be done.

At the same time that this was happening, we were going through a thing called regionalization and still are going through that as a matter of fact. They take 15 similar attributes in different repair activities and combine them into one area and combine the military and civilian workers that were working in that into one working shop, and you have that quite a bit now where the sailors and the military -- or the civilians are working together in the same shop, doing the same job, the same results for the same purposes.

That became helpful in that area because now we were able to take this civilian artisan -- let's say, motor rewinder -- has been doing this for 20 years -- he could take the second-class Navy guy and teach him how to rewind the motor that he might have to rewind when he's out on the battle force and out in front and that made it a little bit easier to train the people because we now had the experts to work with it.

At about the same time in the NSRP, the training and education panel, SP-9, we had two projects that were started: 96-1 and 96-2. And the purpose of these projects were (sic) to define the skill standards required to keep a shipyard operating, to have the shipyard skills necessary to build and repair ships and what specific standards and skill requirements and OJT specialties that had to

be acquired by the tradesmen that were working in these shipyards, and they had pretty much finished most of the -- the definition of what was necessary in the cataloging of the skills, requirements, how to train, where to train.

Right now, they're going into the final step of it -- and Lee, correct me if I'm wrong -- but identifying who has the training for you and how you go about getting it, which is pretty much the end part of the project.

So, we think that, because of the skills definition that were (sic) done, there was a lot of commonalities that were found which leads directly into a multi-skilled training area. A sheet metal worker, a shipfitter and a welder all have metal working skills of some sort. They don't necessarily go in the same direction when they're doing their own trade, but the cross-training in that area was a little bit easier than taking the machinist and training him to be an electrician.

So, wherever we could combine the issues, we found that that was very easily available to identify, and the kind of cross-training that existed would be very helpful.

They did benchmarking; they did research surveys; they went from shipyard to shipyard, picked out all that information and developed a catalog of things, and I think that CD-ROM that was in the handout is the results of what we have so far, so we do have something in that area.

The problem now is we've got this definition of skills; we know where we can reduce the amount of training on a second-scale acquisition, working with labor and management together, buying in on this process. The problem is how do we design, how do we develop, how do we deliver the training that's going to be necessary, and that's going to be a very expensive process, but it can be mitigated somewhat if we start using a resource-sharing program amongst the shipyards.

I've made a lot of calls to a lot of the shipyard training directors and talked to them.

Some of them have what I would classify as the, you know, top-grade apprenticeship training program such as Joanna up in Bath. It's an excellent multi-skilled training program and very good results coming out of it.

Some of the other shipyards -- some union, some nonunion -- report back that they don't have an apprentice training program. They bring a person in off the street for about 12 weeks, teach him how to weld a beam, and off he goes and he becomes a productive worker.

Well, that's not in line with the Department of Labor's Bureau of Apprenticeship Training requirements, and there are a lot of things that can be involved in that.

So, what I'm looking at now is a combination of efforts that need to be done.

We take the Navy sailor that's been trained in specific skills. First of all, that helps keep our forces out there in the front where we need them.

Second of all, when this sailor decides to leave the Navy and if he approaches a shipyard for employment, he now has an acquired skill that is directly usable in the shipbuilding or ship-repair industry. It makes it a little bit less costly to train this person if he already has it.

What we need to come up with is some sort of nationalized documentation system that says a shipfitter has these following number of skills. If you've acquired ten of them and you can test out that you show you have the capabilities on those ten of them, then we don't need to retrain you on that; we can save training costs on whatever issues exist.

We make better-qualified workers. We know what they're trained to, and we now have more union members -- good, strong workers, productive skill workers, first-time quality which is obviously the thing that we need to have.

If we can get this stuff all cataloged and lined up so that we know where we're going,

who's going to do it for us, how it's going to be done and especially for those of you that don't have the training programs in place for apprenticeships, how much is it going to cost.

If we combine the resources and we deliver the stuff using web technology that exists nowadays -- I mean, this explosion is in the last five years -- we know that you can deliver training much less costly if you have a concerted effort across the country and your standards are the same all the way across. I mean, a welder is a welder is a welder. You weld a certain type of weld; you have national standards do work for. Why don't we have training standards to that level?

And as much of the off-the-shelf training programs that currently exist, if we can utilize those in a training delivery system, we will further reduce the cost, and there's a lot of ideas that we can look into.

We know what we want to train in; we've done that with the projects that the NSRP and SPI has done before. Now we've got to figure out how to make it work. Thank you.

(Applause.)

Pat Bradshaw Questions, dialogue you'd like to have with our panel members?

MS. McGRUFF: I'm Carolyn McGruff (ph) from (Cascade General It's great to hear about cross-skills, but I'm very concerned about (indiscernible). The average age of my shipyard worker is 47. (Indiscernible.) We also went way back in (indiscernible) and then figure out what it is that we're paying for, so we have (indiscernible); we have two major problems. We have a 40% illiteracy rate. How do I get them trained (indiscernible)? Second, how do I (indiscernible) on 47-year-old workers who (indiscernible), and third, how do I train my (indiscernible) staff because they are also union employees -- looking for whatever help you can give?

Mike Mc Nerney: Well, in the Naval shipyards, we're currently running at 49½.

FEMALE SPEAKER, Cascade General : Oh, I feel better.

Mike McNerney : So, we're not in any better shape in that regard. With respect to the literacy and I think -- I wrote down 40% -- I don't know how much of a commitment you have made locally within your community to look for sources of access to training for remedial skills and make those available for your workers -- and then tie that back to the corporate objectives. If you're introducing technology, it's worthless if no one can read it. If you're introducing instructions on how to apply a new system, it's worthless if they can't understand it.

So, I would venture that you have an obstacle that you need to address and overcome, and perhaps one opportunity there would be some local community participation for the -- your local school systems, community college -- if there's one locally, perhaps.

FEMALE SPEAKER CASCADE GENERAL : We've tried some of those. We also are looking at our workers. We -- they have the absolute right to be treated with dignity and respect, and when you're a 47-year-old adult worker, you're not going to admit you can't read.

So, one of the things we would like to do is set the training up on an individual base through the computer system if we -- but again that all costs money, and as you all have so eloquently pointed out, we need to have some profits. We'd rather pay for technical training, not basic skills. So, these are some things that we're back here hoping that we can get some help from you guys so that we on the West Coast can stay in business, too.

Pat Bradshaw : I will tell you that, when we closed our shipyards, we had probably minimally a 40% illiteracy rate that we discovered as we tried to help these employees transition to other career fields.

So, what we were able to do, to do deal with this absolutely very personal issue, as

you suggest, is in our transition centers we work very closely with the local offices of the Department of Labor getting grants. You need to go to your state and find out how you get grant money through the Department of Labor to help with some of these skill remediations and absolutely setting it up privately, working with your training administrators and directors to set up some type of bank where people can come in and do their own assessment. It wasn't just reading, but it was the basic reading, writing, arithmetic, and we have continued those -- even the transition centers -- we've been able to keep some of the equipment and so forth.

Jim, I don't know if you've kept it at Norfolk so that the employees can continue to come in and even at their weekend -- if they can come in at a self-paced level, they can decide how quickly they might want to remediate themselves.

John Meese: Pat, if I may, I guess when you said you had a 40% illiteracy rate, the first thing that popped into my mind is that you have an overload of managers, but that probably isn't necessarily the problem.

Let me suggest that -- some of the things we have done jointly to try to correct the problem.

We have put out union management bulletins, so this is not something that's coming from the boss; it's coming from both sides, advising employees that, based on changes of work operations, they're going to be required to read their work assignments from computer cards, so they will have to be able to read and understand and react, that for anyone who believes that they may have a problem in this, that we will provide whatever training or schooling is necessary for reading/writing.

We have had joint training sessions where the union and the employer participates, not

necessarily as a trainer, but there to show that this is a joint effort on the parts of both parties to bring these employees into a position where they can keep their job, and as a final effort, we put out a joint notice that anyone that can't react to the newest -- newer work processes would have to either be taken out of their position, placed in one that they can perform or removed from employment.

One after another, we did this often enough so eventually we got through to all of the people that might have a problem.

Can you train them all? Well, frankly, you can't force many people to do too many things they don't want to do.

Were we 100% successful? No. Were we successful? Very much so, probably in a 70-75% range.

But it has to be a joint effort, in my opinion, if it's going to work, and also there has to be some incentives here that most people who can't read or write want to.

We've all watched some of the television shows about the supervisor who really refused to take a second promotion because he knew it would put him in a position where he'd be exposed to it. It is a stigma. We have to get over that point.

Really, this isn't something that I don't believe we can deal with in entirety here, but I will tell you that, if you and your top-flight representatives -- and I don't know who they may be -- work on this problem together, you will be successful. If you try to do it by yourself, you will have some success. There's a hell of a difference between those two points.

Betty Lucerno-Turner: I also wanted to comment -- I don't know if you're aware or have had any familiarity with the JTPA which was under the U.S. Department of Labor, the Job Training Partnership Act. That was replaced in August of 1998 with the Work Force Investment Act.

Now, that act -- the monies will filter down to the state level so, if you're not aware of the Work Force Investment Boards that are being probably put together in your states or beginning to be put together, that's where a lot of core services, intermediate services that your employees need, that's where you can tap into it, but I would suggest that you be actively involved and find out more about those work force investment boards at your state level.

Pat Bradshaw: Thank you.

Bill Skillman: One of the things you mentioned of not having enough people -- or whatever the reason was for your high age, I did a survey a couple months ago, and a lot of the people in the room were in the survey, and the average age in the work force in the shipyards that I surveyed was anywhere from about 38 to 52.

Surprisingly or not surprisingly, the ones that had good, viable apprenticeship training programs were the lower-age groupings. Obviously, they were able to bring people in.

One of the shipyards told me that they would put out a job announcement for, say, 20 welders, and they would get 200 applications and, when they were done reading through the applications, there were about 10 eligible applications. They couldn't even fill the ones they wanted even though they had more applications going.

So, one of the things I've been tossing around and working with other people is trying to bring in the shipbuilding industry -- in the areas around the shipbuilding -- get down to the high schools and to the trade schools. Start working on some school-to-work programs or welfare-to-work programs where you could actually take one of those workers that would like to work but just doesn't have the capability and get him the basics that you were talking about without you having to spend the money on it so that, when you got that person, they had some basic ideas of technical

writing and technical math, and they could go right into the trade skill training -- issues that you need them to take.

And that is something that the Work Force Investment Act, JTPA money that Betty mentioned can be used for, and we're looking into that area because we think it's -- you know, if we took it down to the high school level or trade school level, we think we could actually bring people into the work force that could be usable.

FEMALE SPEAKER: Yes, sir?

John Meese: I'm sorry -- one other item on that -- you talked about your problem supervisors -- and that's not unique, by the way -- for some of the reasons I mentioned and a hell of a lot that we haven't had time to talk about.

If you want supervisors to be full participants in this program, then you have to engineer the work so you can tell the supervisor what particular types of work will be teamed, how it will be teamed, what types of cross-training will be given, what types of cross-work will be assigned, how the supervisor will know whether or not he can safely make an assignment.

If you send things down to the supervisor without absolute specifics, you fail. You have to have someone in the process who knows what will work and what will not. In many cases, where we have this in other areas, we actually meet -- union and management meet and review work that's about to be performed, work that's coming into -- to look at this and say, "Okay, here's an assembly where we're going to need these types of crafts and these numbers." How do we arrange it, how do we get it, how do we get them so we can get people in there that actually can do a given amount of another craft's work so that, when work runs out in one place, it can be performed in another by the same people.

Secondly, you have to keep records; you have to know the types of work people can do. You have to know the different ways that they can be assigned to different teams because there's enough similarity.

If you get -- we reach this to the point that in Europe they have it -- people don't ask questions. An employee who comes in and sees that tomorrow there won't be enough work for the number of people on that team, literally goes to the computer and finds out what other work is being performed by other teams for which he's qualified and goes somewhere else -- doesn't have to be told.

Really, these are the types of things -- you have to do your job before you send it down to the first-line supervisor. If top management hasn't made real, honest and correct decisions, the process won't work.

Milan Racic: My question is directed at (indiscernible).

MikeMcNerney: Me --

Milan racic: Because it primarily deals with the repair, maintenance and overhaul. It is my understanding, since 1991 -- and I think we have to look at this from a little different perspective now -- it is my understanding since 1991 that U.S. Navy is sending a number of their ships outside to Japan to be repaired, not -- not emergency repairs but the routine repairs, routine overhauls and routine maintenance, and I think that has to be addressed. My understanding is that that was -- that happened as a result of the Gulf War, that the Japanese offered something there.

So, if this is not correct, I -- I should be told.

Bill Skillman: I wouldn't even consider commenting. I don't know that to be a fact. I'd never heard that before. It's probably not totally germane to our training sessions, but it is germane to the state of the industry.

MALE SPEAKER: Yeah, that's right.

MALE SPEAKER: Does anybody have a --

Mike McNerney: I can give a -- provide a brief comment, tying back into that.

One of the concerns that all the Navy shipyards have and one that we've had discussions with John as well -- in fact, we were talking about this very issue yesterday and that's -- there's two things that face the Naval shipyards that are unique.

One of them is we don't control how we get the work. There's a decision made by our Chief of Naval Operations, Atlantic Fleet and Pacific Fleet commanders and their respective -- we call them type commanders; they're the commanders of the different platform systems, the different type of platform, surface and undersea worker system. Those people are the ones that get the dollars, and then they make the decision on where they go. They choose whether they go to a Jiffy Lube or another place for an oil change. Where can I get that service that I need and get the maximum smoke for the dollar I spend on repair and overhaul, and the answer to that is where they can get it the cheapest, and the Chief of Naval Operations and Pacific Fleet commander have made decisions to put certain work overseas where they can get it cheaper than bringing it back to the Pacific, bringing it back to -- whether it's Pearl Harbor or San Diego or the West Coast.

So, it's an issue of dollars from that perspective.

And then the second thing I was going to touch upon -- referenced earlier -- the second thing that shipyards face -- that Naval shipyards face is the added burden they always carry -- have always carried, and that is the infrastructure costs of -- the cost of maintenance of infrastructure that they cannot ship.

Norfolk Naval Shipyard is a complex that employed 50,000 people in World War II.

It employs 6,000 people today, but it is still maintaining the same infrastructure and cannot ship.

We're looking at ways to reduce those infrastructure costs that we historically have rolled into our man-day rate charge-back to the customer such as leasing concepts, those types of things -- leasing certain facilities and real estate.

So, those are issues that don't tie directly to multi-skill and concerns we have today, but they do collectively affect the direction we're going.

I don't know if that helps answer --

John Meese: Well, there's three statutes which come into conflict a little bit. The Buy America provision of federal law, the 50% provision which says that 50% of the work of the Navy has to be done here, and a provision was added to that called the Home Porting Provision.

The Home Porting Provision was added basically to permit a ship to be overhauled at a home port other than the United States if that was a home port and it was the intent of this -- at least what was told Congress when they passed this by the Department of Defense and Navy and others was not to require an entire family to have to move from one place to another. In other words, the port was here; the sailors' family was here; if they moved the ship back to the United States to do the R&R, then they were going to have to move families. So much nonsense, really. Makes for good rhetoric, sounds good if you're going to make a report to Congress.

The reason they said they were doing it originally -- it was cheaper. It's not cheaper. It'd be cheaper to bring it back here if you want to know the truth about it.

If we didn't have the ridiculous expenses added on to what we do such as paying for the maintenance and upkeep of 70 buildings that have no people in it -- but that's aside.

You all remember the incident with the *Pueblo*. North Korea sees one of our ships

on the high seas. Seventeen years later, we were dickering to let them build one of them super-spy vessels. Won't have to capture it; we'll give it to them. And when I went to the Navy to discuss the matter, an admiral said to me, "Mr. Viess (ph), we can get it cheaper in Korea." And I said, "I believe, by god, we can get admirals cheaper in Korea, too," which ended the conversation, but that's what it's all about. It's money.

MR. HALES: I'm Tom Hales (ph) from NIOSH (ph). I wonder if the panel can help me with sort of a paradox I think I'm hearing. From one hand, I hear the industry saying that they're having trouble recruiting and retaining skilled workers. On the other hand, I hear four base closures, 60,000 skilled shipbuilding workers basically available in the market pool since 1996, and that's -- from what I understand, 50% of --

McNerney: '92 to '96.

Dr.Tom Hales: What happened to those people and why aren't those people available -- or are all those people finding other jobs or -- why is there that paradox?

Mike McNereny: Whether you take the West Coast or the East Coast, when we closed the Mare Island Naval Shipyard, we were successfully able to do that without a reduction in workers, and the reason we were able to do that was because we had an extremely aggressive outplacement program. The same with the Philadelphia Naval Shipyard. They had one RIF at the very end on the closure -- at closure, and prior to that, they intensified the outplacement activity at those locations to include not only retraining through JTPA -- access to JTPA funds which not only Mare Island, Long Beach Naval Shipyard, Philadelphia and Charleston all used, but many of those people sought employment -- sought and gained employment elsewhere in the private sector. Some did relocate, by the way, to other Navy shipyards.

For example, we had a migration of a number of people from Mare Island up to Puget Sound Naval Shipyard to fill voids and needed skill requirements in our remaining yards.

Some of the folks from Charleston and Philadelphia relocated to Norfolk (ph), but outside of that, many people just went out on the open market and found other jobs.

FEMALE SPEAKER: The other thing --

MALE SPEAKER: (Indiscernible.)

MALE SPEAKER: No.

MALE SPEAKER: Outside.

MALE SPEAKER: Many of them outside.

MALE SPEAKER: (Indiscernible.)

MALE SPEAKER: Yes.

MALE SPEAKER: (Indiscernible) people are reluctant (indiscernible).

MALE SPEAKER: Exactly.

FEMALE SPEAKER: We --

MALE SPEAKER: Many people in the Philadelphia area stayed right in the Philadelphia area, and many of them, by the way, are applicants in -- are members of the applicant pool for the Kvaerner revitalization.

MALE SPEAKER: What's the (indiscernible)?

Pat Bradshaw: Well, geography was a real dictator in how successful we were in actually finding employment for these people. If they were willing to move, the Department of Defense has a very aggressive priority placement program. Maybe you're familiar with that -- that requires every manager in the entire Department of Defense that, if you have a vacancy and you find

an employee on a list that matches those skills, you must take it out there; there is no debate. So, you must hire them.

So, we had opportunity to place them in other industrial parts of the Department of Defense that, even though they may have been downsizing in the future, they weren't immediately affected, and I think the other really effective thing that Mike mentioned was we really partnered very closely with the labor and the department at the national level, at the local level, and we were successful in getting a lot of JTPA funding for retraining and really spent a lot of time hand-holding and working with the workers to try to help them reskill themselves.

Mike McNerney: We faced a real interesting dilemma with the Pearl Harbor Naval Shipyard. They were getting ready to RIF 600 people. Now, dumping 600, 700 people out into the economy of the island of Oahu was not something our congressional delegations were very excited about.

The dilemma we also had was not only did we not have the work; we went to the Pacific Fleet who was very interested in not losing those skilled, so we created through the merging of a number of other organizations an intermediate maintenance facility, what we call the IMF, and we physically relocated those 600, 700 people over to the intermediate maintenance facility and then have subsequently since then merged the two back together into a pilot program where all intermediate and depot level maintenance is done at the shipyard.

And I have to tell you that never would have happened if it hadn't been for this gentleman and the cooperation of his metal trades council on the island, Hawaii Federal Employee Metal Trades Council.

MALE SPEAKER: Thank you, Mike.

Pat Bradshaw : I think we have time --

MALE SPEAKER: I'll remember the next time we have a meeting.

Pat Bradshaw : Time for one more question, Chuck.

MALE SPEAKER: I don't need the microphone. Thanks. Having worked in Hawaii, Pearl Harbor Shipyard, I appreciate the Hawaii effort, the Metal Trades Council. I'm (indiscernible). This is my (indiscernible). I hope I still have a job later. I am the training development manager. As I say it, I would like to address the issue of (indiscernible) which I have been involved in; there is no federal funding currently available for (indiscernible), 40% illiteracy rate (indiscernible) and the management (indiscernible). It's simply a function of our caste system and our (indiscernible) as an issue as we go forward.

I would like to say that in the last 20 years (indiscernible) re-engineering and revitalization and all of these initiatives that have come about -- we're actually trying to resurrect -- not revitalize, and I've seen it through the literature and I've seen it by reading that this process has happened at least three times in the last 20 years and a major viewpoint that I get (indiscernible) happens every time the cycle goes around is that no one seems to remember the (indiscernible) percent of the problems are caused not by the work force -- are caused by the management process (indiscernible) that don't get the materials (indiscernible) the training for the person on the job.

Pat Bradshaw: Thank you all very much. Chuck, let’s go to break.

POTENTIAL

POST WORKSHOP CONSENSUS ACTIONS

WORKFORCE DEVELOPMENT MULTI-SKILLED

- NAVSEA TO MAKE WORKER JOB DESCRIPTIONS AVAILABLE TO THE INDUSTRY FOR REFERENCE. (Pat Bradshaw – NAVSEA)

- PUBLISH A QUARTERLY STATUS OF THE NAVSEA and METAL TRADES ACTIVITY ON WORKFORCE DEVELOPMENT FOR OTHER INDUSTRY PARTICIPANTS TO POTENTIAL UTILIZE. (Pat Bradshaw – NAVSEA)

- IDENTIFY and SET-UP A FORUM FOR TOTAL INDUSTRY PARTICIPATION TO SHARE IDEAS and "BEST PRACTICES".

Suggested Workshop Follow-on Actions

This Workshop, its endorsements, the attendees and participants from various agencies, and the module presentations included in this report, are a valuable resource for identifying and achieving future improvements. You can initiate and conduct appropriate follow-on actions related to this module by choosing one or more of these suggested approaches:

A. Discuss items with your management, utilizing the published Workshop data as a resource;

B. Contact and work with those who attended and participated in the Workshop. Contact data is included in this report.

C. Participate in establishing industry meetings as a follow-on to this module;

D. Work with local, state, and federal agencies, utilizing the Workshop endorsements, presentation materials, and contact data as your reference source;

E. Utilize the Workshop endorsements as leverage for all levels of support, development, and implementation.

APPLICATIONS WORKSHEET

PRESENTATION: Workforce Development - Multi-Skilled

PRESENTOR: _____ **CONTACT DATA AVAILABLE** / _ /

WORKSHEET: For each presentation or panel discussion use this form to note how to enhance/clarify this presentation, to be applied to your organization. These notes can also be given directly to the workshop coordinator for enhancing the final AWorkshop Manual≅ and a copy for your working with your own staff. Fax or E-mail to workshop coordinator.

1. A STATEMENT AND UNDERSTANDING OF THE BEST PRACTICES:

2. GLOSSARY OF TERMS/SPECIFIC TERMS:

3. FEDERAL/STATE AND LOCAL LAWS:

4. COST MODEL:

A. HOW CAN WE APPLY IT?

B. ITEMS TO CLARIFY:

C. COSTS INVOLVED/PAYBACK CASH FLOW?

5. RECOMMENDED PLANS AND FOLLOW UP TIMES:

A. SP-5 PANEL PROJECT ABSTRACT: _____

B. FORM TEAMS WITHIN THE INDUSTRY WITH GOVERNMENT AGENCIES/INSURERS, TO SPECIFIC ISSUES:

C. BEGIN INDUSTRY EXCHANGE FORUMS: _____

D. COORDINATE WITH OTHER INDUSTRIES: _____

E. IN-HOUSE AND LOCAL COMMUNITY ACTIVITIES: _____

6. BIG PICTURE STRATEGIES: **NOTES:** _____

7. AREAS FOR GOVERNMENT ACTIONS: _____

8. COMPANY INTERNAL CHECKLIST:

Proof of Savings /_/ **Training** /_/ **Implementation** /_/

Buy-in Requirements:

Management /_/ **Labor** /_/ **Organizational** /_/
Cultural

File Listing

Directory: 26-4
Workforce Development Training

File Name	Description
26-4A	Participants and Module Overview
26-4B	Presentation
26-4D	Action Plan
26-4E	Application Worksheet
26-4-File List	File Listing

Day 1 Schedule/Presenters/Description of Modules

11:15 — 12:15 p.m.	Workforce Development — Multi-Skilled — Activity Content — Definitions & Issues

Lead: Lee Walker, Lee Walker & Associates, Consultant

Facilitator: Brienn Woods, Manager, Training & Development, NASSCO

Description of Module: Management and employees in all industries need to broaden and diversify skill levels to remain competitive in the world economy. This is especially true in the maritime industry. In June of 1996, NAVSEA and the MTD reached a precedent setting agreement on multi-skilling which clearly signifies a major shift in the paradigm of trade skill application in the public shipyards. This module will provide a forum for both management and labor to discuss their perspectives in reaching this change in approach to doing business. Shipyard representatives will also report practical application at public and private shipyards. A question and answer period will follow the discussion.

Workforce Development

This session is based on a National Shipbuilding Research Program (NSRP) project on developing and maintaining a skilled production workforce. Specifically the panel session will examine issues raised in the course of the research with respect to workforce organization, internal training, external training, maintenance of an acceptable hiring pool and the sharing of labor resources. The opening formal presentation for the panel will provide a synopsis of the focus areas and introduce tools developed by the project that can facilitate initiatives.

NOTE: This session seems much broader in scope than the opening session as described by Rich Bowers. I think the transition from narrow to broad can be effective.

Outline

I. Introduce Project 9-96-1
   - Purpose
   - Participants
   - Products
   - Work in progress

2. Discuss issues identified by project
   - Maintaining a hiring pool
   - Consortia based on region or product teaming
   - Changing work organization and practices
   - Sharing training resources
   - Sharing personnel resources
   - Using public training resources
   - Increasing the efficiency of internal training

3. Illustrate how standards constitute a necessary condition to convert the issues into initiatives.
   - illustrate with very brief examples from reports
   - illustrate with examples of work in progress and naval shipyard initiatives that have used early sets of standards

4. Moving forward
   - How do we institutionalize the standards so that they become an accepted resource
   - How do we expand coverage by the standards
   - How do we maintain the standards current
   - How do we insure a continuing flow of information to the community so that we strengthen the industry
   - Regional training efforts

Time line

• Formal Presentation	25 mins
• Comments/discussion by panel members	15 mins
• Audience participation for Follow-on	10 mins
Total	**50 mins**

Panel

I think that the same panel can be used for both workforce development sessions leading to a single final discussion and setting of initiatives. Panel for this work should include those government yards who have used some form of standards, private corporations that have multiple work sites and a regional training provider. Possibilities

- Dennis Huddy, PHNSY dhuddy@ns00.phnsy.navy.mil 808 471 0490
- Pat Bullard EBDiv pbullard@ebmail.gdeb.com 860 433 3826
- John Kish NNSY jkish@sy.nnsy.navy.mil 757 396 5280
- Joanna Jones BIW jmjones@biw.com 207 442 1100
- Halter?

Technical Requirements

Would like a projector that will project from a lap top otherwise need a classic overhead projector

POTENTIAL

POST WORKSHOP CONSENSUS ACTIONS

WORKFORCE DEVELOPMENT MULTI-SKILLED ACTIVITY CONTENT-DEFINITIONS & ISSUES

- PUBLICIZE ACTIVITY OF PROJECT ON THE Nsnet WEBSITE (Joanna Jones)
- CONDUCT WORKSHOPS at SMALLER SHIPYARDS. (Joanna Jones)
- ELICIT INDUSTRY ENDORSEMENT of PROJECT . (Joanna Jones)
- LOOK FOR PARTERSHIPS. (Joanna Jones)

CD available by contacting Mr. Walker at:

Lee Walker
Lee Walker Consultant
13773 Harpers Ferry Road
Purcellville, VA 20132
(540) 668-3497 ss564311@aol.com

Suggested Workshop Follow-on Actions

This Workshop, its endorsements, the attendees and participants from various agencies, and the module presentations included in this report, are a valuable resource for identifying and achieving future improvements. You can initiate and conduct appropriate follow-on actions related to this module by choosing one or more of these suggested approaches:

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APPLICATIONS WORKSHEET

PRESENTATION: Workforce Development - Training

PRESENTOR: _____ **CONTACT DATA AVAILABLE** / _ /

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A. SP-5 PANEL PROJECT ABSTRACT: _____

B. FORM TEAMS WITHIN THE INDUSTRY WITH GOVERNMENT AGENCIES/INSURERS, TO SPECIFIC ISSUES:

C. BEGIN INDUSTRY EXCHANGE FORUMS: _____

D. COORDINATE WITH OTHER INDUSTRIES: _____

E. IN-HOUSE AND LOCAL COMMUNITY ACTIVITIES: _____

6. BIG PICTURE STRATEGIES: NOTES: _____

7. AREAS FOR GOVERNMENT ACTIONS: _____

8. COMPANY INTERNAL CHECKLIST:

Proof of Savings /_/ **Training** /_/ **Implementation** /_/

Buy-in Requirements:

Management /_/ **Labor** /_/ **Organizational/ Cultural** /_/

File Listing

Directory: 26-5
Maritech ASE Overview

File Name	Description
26-5A	Participants
26-5B	Presentation
26-5-File List	File Listing

Day 1 Schedule/Presenters/Description of Modules

12:15 — 1:30 p.m.	Lunch Speaker – MARITECH ASE Overview

Lead: Ron Glover, Program Administrator, Advanced Technology Institute

NSRP / MARITECH ASE

National Workshop on Human Relations and Training

U. S. Navy Memorial
January 26-27, 1999

2

Proposed Evolution

NAVY National Shipbuilding Research Program (NSRP) 1970 - 1998

DARPA Maritime Technology (MARITECH) 1993 -1998

MARITECH Advanced Shipbuilding Enterprise (ASE) Program *run by* Reengineered NSRP Organization

3

Mission

Manage and focus national shipbuilding funding on technologies that will:

- **Reduce the cost of warships to the Navy, and**
- **Establish U.S. international shipbuilding competitiveness.**

4

Vision

By 2006, through collaborative development of product and process improvements, the U.S. shipbuilding industry will become a robust, self-sufficient industry that:

- ***Is recognized as able to build ships as efficiently and cost effectively as world competitive shipyards, and has captured a significantly increased share of commercial markets;***
- ***Has significantly reduced the cost of ships to the Navy, has adjusted to the substantial reduction in military construction, and has preserved the infrastructure to support Navy shipbuilding needs for the foreseeable future;***
- ***Continues to be characterized by customer satisfaction, safety, quality, environmental compliance with increasingly lean cost and cycle time.***

For the next five years (FY '99 - FY '03), the industry will seek partial government support of these collaborative initiatives.

5

MARITECH ADVANCED SHIPBUILDING ENTERPRISE

Strategic Investment Plan

THE U.S. SHIPBUILDING INDUSTRY

Sponsored by: The Executive Control Board of the National Shipbuilding Research Program

In Cooperation with: The Defense Advanced Research Projects Agency (DARPA), The U.S. Navy, and The U.S. Department of Transportation

14 AUGUST 1998

6

Commitment & Consensus

7

Challenges

- Material costs
- Stable, efficient processes
- Facilities
- Lack of market presence (large vessels)
- Business culture
  - Commercial standards and practices
  - Dual-Use yards
  - Supplier integration
  - Cost as a key driver

8

Key Drivers

- New Customers & Markets
- Reduce the Cost of Materials
- Improve Shipyard Productivity

9

Major Initiative Content

- Scope, Summary, Problem Statement
- Challenges
- Business Case
- Potential Solutions: *Sub-Initiatives*
- Investment Strategy
- Portfolio Mix
- Risks
- Crosscut Area Support Needs

10

The Major Initiatives

Shipyard Production Process Technologies

Business Process Technologies

Product Design and Material Technologies

Systems Technologies

Facilities and Tooling

Crosscut Initiatives

11

Crosscut Initiatives

Approaches, resources, and programs that apply to each of the other major initiatives, including tools to affect technology deployment as well as education and training.

- Education and Training
- Technology Transfer
- Organizational Change
- Human Resources
- Environment, Safety & Health

12

Key Challenges

- Technology Transfer - Need additional attention given to training and culture change to make implementation plans successful
- Organizational Change - The willingness of the shipbuilding industry to abandon tradition and of shipyards to become true partners in the effort to become world-class

13

Key Challenges (Cont d)

- Environment, Safety & Health - Mitigating environmental impact through the entire life cycle of a ship, including the facilities that are used in its construction and repair. Maintaining a safe work environment while improving processes and employing new technologies
- Education and Training - The ability of the industry to invest sufficient resources in training; academia and industry cohesiveness; commercial designing skills improvement; continue toward multi-production work forces

14

Key Challenges (Cont d)

- Human Resources - The extent to which the human systems in the shipbuilding industry can adapt to quickly changing technology, the willingness and ability of human resource organizations to understand the evolving model of their function, and to adopt that model as one key to transformation of the human systems in shipyards

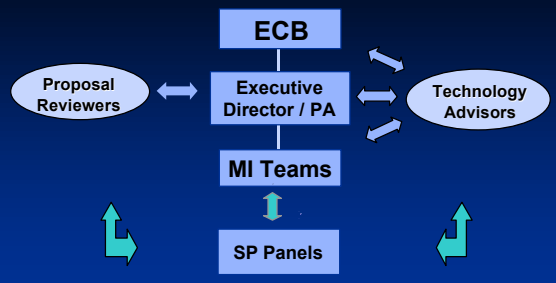
15

Business Case

- Facilitating successful implementation of technology is a very high priority of the Program.
- Crosscut Initiatives are enablers to ensure that the potential offered by investments in the other Major Initiatives is fully realized.

16

MARITECH ASE Organization



Objective Proposal Evaluation | Management | Inclusion / Outreach / Expertise / Networking

Panel Roles

- Networking
- Communication
- Idea generation
- Liaison with regulators
- Share best practices
- Identify & communicate needs
- Assessment of projects
- Technology transfer
- Annual State-of-the-Art Report
- Technical resources
  - RA preparation
  - SIP updating
  - Assist MI team
  - Focused task teams
- Mini-symposia
- Leverage other work
- Relationships (regulators, other industries, etc.)
- Personnel development
- Credible draw to get outside experts to meetings

18

Features of Participation

- Focus on teaming as a strategy to change the industry
- Minimize bureaucracy - more bang for the buck
- Integrated, diverse management / planning teams
- Foster innovation through competition of ideas
- Cost share required by Government
- Implementation in shipyards is the litmus test
- Avoid silos of information and people
- Proposals must include persuasive business case to earn scarce resources

19

Project Solicitation

- CBD Announcement
- Abstract option
- Annual Research Announcements
- Proposer s Conference and How-To kit
- Evaluation Criteria

20

Information Sources

- Strategic Investment Plan
- Briefings, conferences, trade shows
- Panel Participation
- Publications (printed and online)
- Pamphlets

Program info, Research Announcements, briefings

http://www.nsrp.org/

21

File Listing

Directory: 26-6
Workers Compensation

File Name	Description
26-6A	Participants and Module Overview
26-6EdLtr	Endorsement Letter – William Fricks
26-6B	*Presentations* 26-6B1 – Jack Shea – Electric Boat Corporation 26-6B2 – Richard Bowers – NAVSEA 26-6B3 – Richard Bowers – NAVSEA 26-6B4 – Jack Martone – DoL
26-6D	Action Plan
26-6E	Application Worksheet
26-6-File List	File Listing

NEWPORT NEWS SHIPBUILDING

WILLIAM P. FRICKS
Chairman and Chief Executive Officer

January 22, 1999

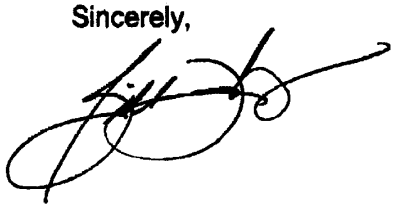
Dear NSRP Human Resources and Training Workshop Attendees:

Although my schedule would not allow me to attend, I want to express my support for the conference agenda.

The decline in both Navy and commercial shipbuilding and repair programs has resulted in a loss of a significant number of personnel with pertinent skills in our industry. If this trend continues, the basic infrastructure of our industry could be eroded to a critical point. I note that your program includes several panels that speak to strategies for attracting and maintaining experienced personnel. Your program also includes segments pertaining to other important areas of workforce development, safety, and workers' compensation. These are important issues for our industry and to our employees.

I am very supportive of initiatives of this type that help to maintain and strengthen the shipbuilding and repair industry in the U.S.

Sincerely,



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http:\\www.nns.com

Day 1 Schedule/Presenters/Description of Modules

1:30 — 3:00 p.m.	Workers Compensation

Lead: Barry Schram, President, BMS & Associates

Facilitator: Jack Shea, Chief of Workers' Compensation, General Dynamics/Electric Boat Corp.

Presenters/Panelists: Jack Martone, Administrator, DoL
Heather Kraus, Attorney, Semmes, Bowen & Semmes
Richard Bowers, Sr. Administrator Human Resources, NavSea
Jim Ellenberger, Manager, Health/Safety, AFL/CIO
Dr. T. Hales, NIOSH

Description of Module: This module will provide a forum to identify specific workers compensation cost drivers in the shipbuilding industry and suggest corrective measures. The Panelists will represent industry, labor, DoL, NavSea, and the medical and legal communities. The action items identified during the Workshop will be incorporated into the next phase of effort in this area, which will establish a Workers Compensation Cost Reduction Committee under an approved NSRP project. This Committee will continue the presentation and sharing of industry best practices in the area of workers compensation.

Presentations

26-6B1 Jack Shea, Electric Boat Corporation

26-6B2 Richard Bowers, NAVSEA

26-6B3 Richard Bowers, NAVSEA

26-6B4 Jack Martone, DoL

Workers' Compensation

Cost Containment

J. A. Shea
Electric Boat Corporation

Direct vs. Indirect Costs

- **Direct**
  - Disability
  - Medical
  - Legal Expenses
- **Indirect**
  - Lost time for medical treatment
  - Down time on the job
  - Damaged equipment
  - Spoiled material
  - Increased overtime
  - Decreased output
  - Continuation of employee benefits

Ratio = 4:1 indirect to direct costs

Workers' Compensation Cost Containment

THE TWO MOST EFFECTIVE WAYS TO REDUCE WORKERS COMPENSATION COSTS:

- **Reduce on-the-job injuries**
- **Expedite return to work**

Supervisor's Role

- Promote a safe, healthy work environment
- Ensure timely, accurate reporting of work-related injuries
- Assist in accident investigations
- Take appropriate corrective action
- Identify suitable alternate employment opportunities

Additional Steps

- Compile and disseminate loss (claim) data to department managers and supervisors
- Establish safety action teams
- Institute formal safety counseling program for "worst performers"
- Consider implementation of a "cost back" or "charge back" methodology

Case Management Program

- Early claims intervention
- Effective restricted duty program
- Case surveillance
- Vocational Rehabilitation
- Medical Management
- Long-term case resolution

Summary

- Employer needs to be proactive
- Top management support
- Effective lines of communication

National Shipbuilding Research Program (NSRP)
Human Resources Innovation Panel (SP-5)
Human Resources and Training Workshop

NAVSEA WORKERS' COMPENSATION PROGRAM PRESENTATION

Richard Bowers, Executive Assistant to the Director, Command Assistant for Human Resources, Naval Sea Systems Command (NAVSEA) will make a 5 minute presentation on the NAVSEA workers' compensation program.

This presentation will include the following information:

- NAVSEA's workers' compensation costs under the Federal Employees' Compensation Act is 22% of the entire DOD bill.

- 85% of these costs are generated by the Naval Shipyards.

- The closure of four Naval Shipyards, reductions in employment levels at the four remaining Shipyards, and an increased emphasis on safety and injury prevention at all NAVSEA activities has resulted in fewer new claims and reduced costs resulting from new claims. Costs of old claims continue to rise.

- To reduce overall FECA costs, NAVSEA is reviewing older cases and getting more recent decisions on the nature and extent of disabilities and returning people to work.

NAVSEA

Federal Employees' Compensation Act
Workers' Compensation Program

NAVSEA Costs and Trends

Richard Bowers
Executive Assistant to the Director,
Human Resources Programs

NAVSEA

Overview

- The Federal Employees' Compensation Act (FECA)
- The Naval Sea Systems Command (NAVSEA)
- NAVSEA FECA Costs and Trends

NAVSEA

FECA

- "THE" Federal employee workers' compensation system
- Administered by the DOL Office of Workers' Compensation Programs (OWCP)
- Pays compensation for lost wages, medical expenses and death annuity
- Compensation paid at 66% or 75% of salary
- Employer role in FECA process limited

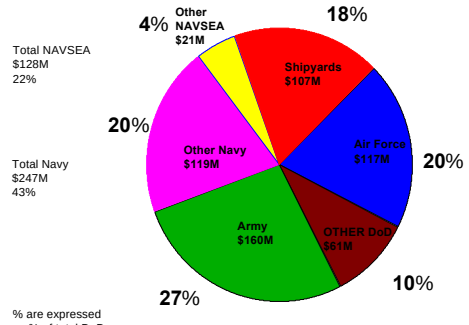
NAVSEA

NAVSEA

- HQ Staff and Program Executive Offices
- Naval Ordnance and Weapons Facilities
- Naval Shipyards
- Naval Surface Warfare Centers
- Naval Undersea Warfare Centers
- 23% of the total DOD FECA bill

NAVSEA

DOD FECA COSTS FOR CHARGEBACK YEAR 1997

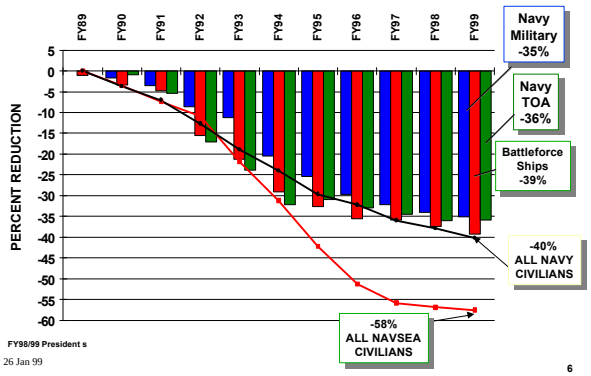


DOD total $586 Million

NAVSEA

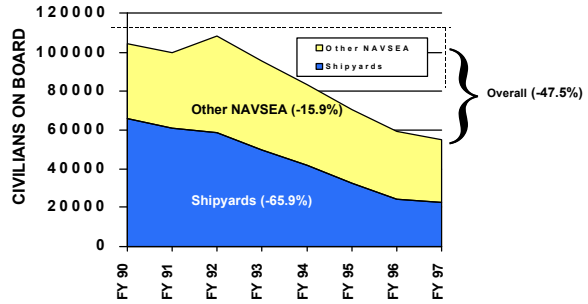
NAVSEA Command-Wide Reductions

Compared to Navy-Wide Metrics



NAVSEA

NAVSEA Workforce FY 90 - FY 97



26 Jan 99

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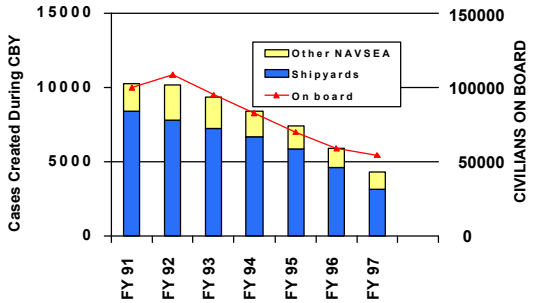
NAVSEA

NAVSEA FECA CASES CREATED DURING CHARGE BACK YEAR (CBY) CBY 91 - 97



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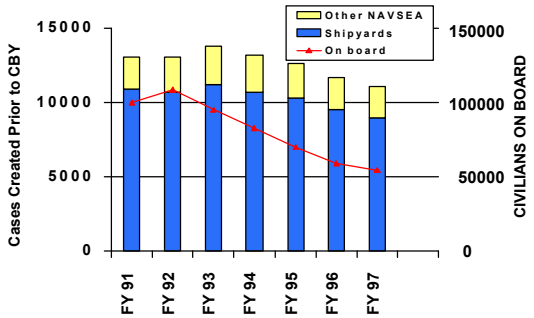
NAVSEA FECA CASES CREATED PRIOR TO CHARGE BACK YEAR (CBY) CBY 91 - 97



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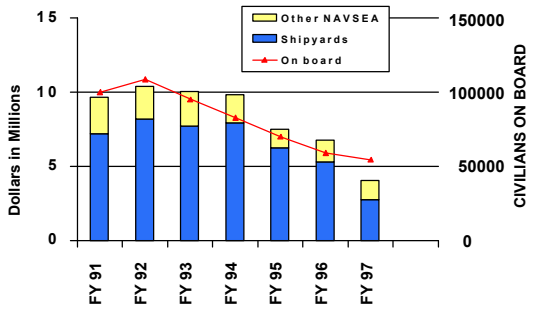
NAVSEA FECA COSTS CREATED DURING CHARGE BACK YEAR (CBY) CBY 91 - 97



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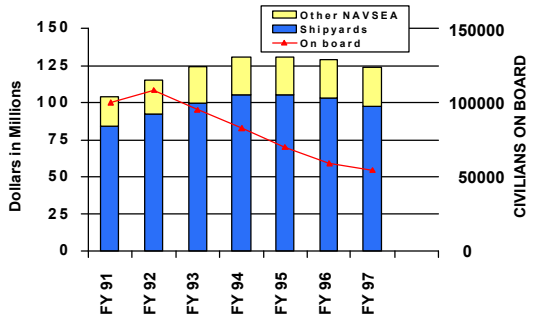
NAVSEA FECA COSTS CREATED PRIOR TO CHARGE BACK YEAR (CBY) CBY 91 - 97



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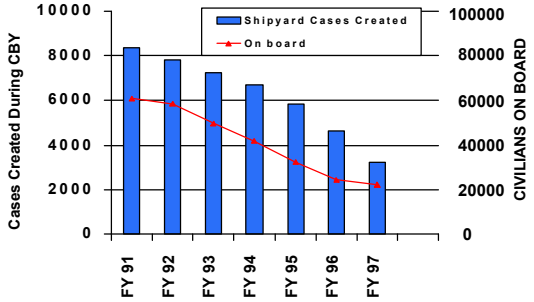
NAVSEA FECA CASES CREATED DURING CHARGE BACK YEAR (CBY) CBY 91 - 97



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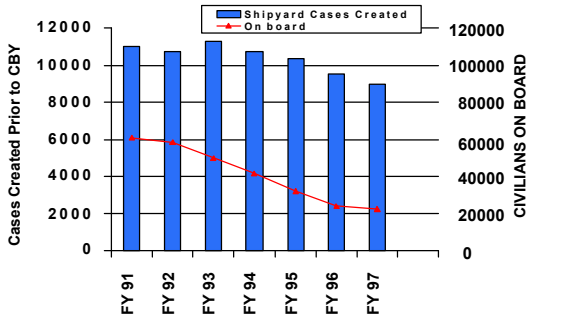
NAVSEA

NAVSEA FECA CASES CREATED PRIOR TO CHARGE BACK YEAR (CBY) CBY 91 - 97



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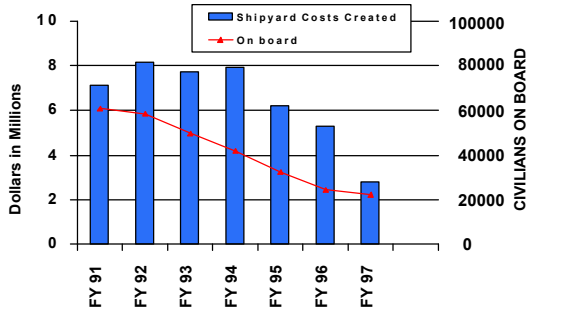

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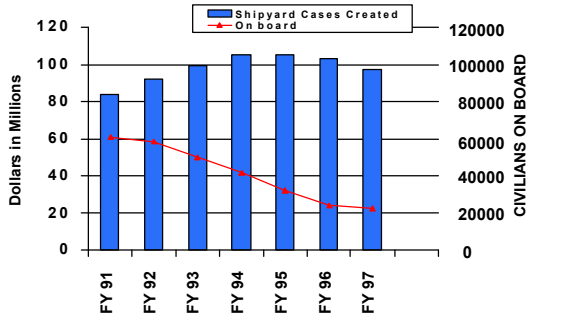

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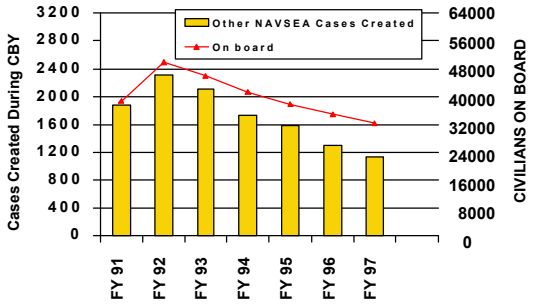

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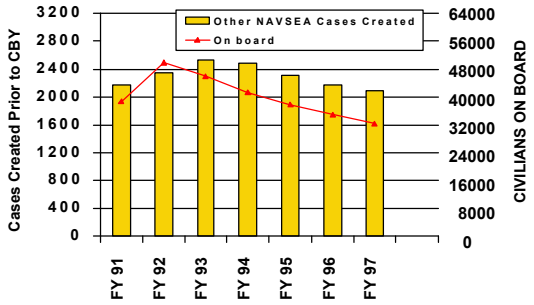

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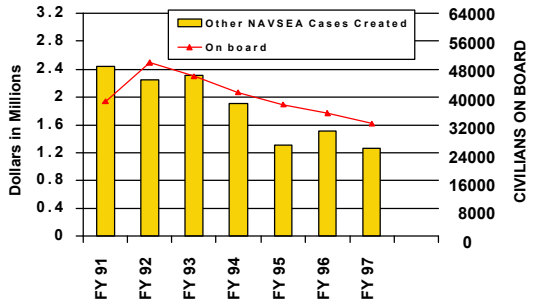

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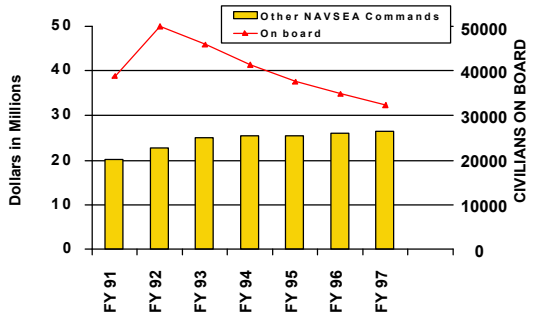

26 Jan 99

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NAVSEA

NAVSEA FECA Program

- Number of new FECA cases and costs associated with new cases is decreasing
- Decrease attributed to:
  - Increased emphasis on safety
  - Healthier work environment
  - Better FECA case administration

26 Jan 99

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NAVSEA

NAVSEA FECA Program

- Costs associated with old FECA cases are increasing
- Increase attributed to:
  - Cases involve more serious injuries/illnesses
  - Compensation COLA rates
  - Health care costs
  - Poor past FECA case administrative practices

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NAVSEA

NAVSEA FECA Program Action Agenda

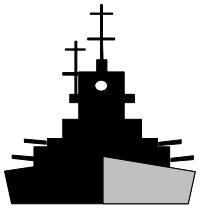
- Continue emphasis on safety and environment
- Continue aggressive FECA case management of new cases
- Realign FECA case cost liability as organizational changes occur
- Manage old cases and closed activity cases
  - NAVSEA East & West Coast FECA Site Offices

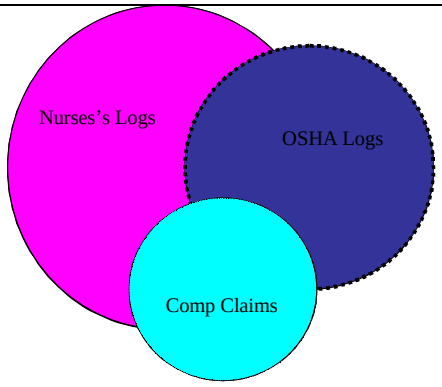
26 Jan 99

22

Injury and Illness Logs in the Shipbuilding Industry

Thomas Hales, MD, MPH
Steve Hudock, PhD
NIOSH





Relationship between various OSH Databases

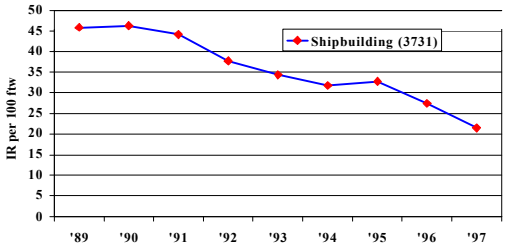
2

U.S. Data

- Bureau of Labor Statistics (BLS) - Annual Survey
- Individual companies report OSHA 200 Log data
- Subcontractors not included
- **Injuries:** recordable if they incurred:
  - Lost time ---LOC
  - Restricted work ---Job transfer
  - Medical treatment other than first aid
- **Illnesses:** all are recordable

3

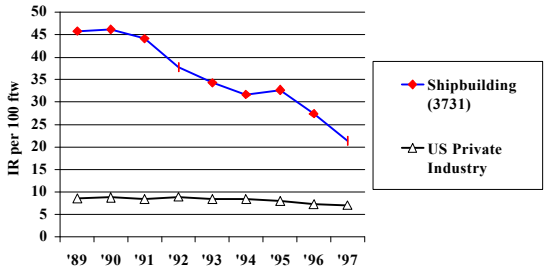
Recordable Injury and Illness Rate
U.S. Shipbuilding Industry, 1989 - 1997



Source: BLS

4

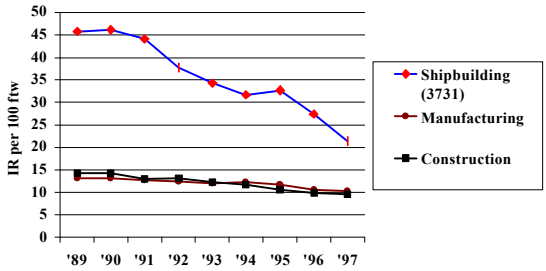
Recordable Injury and Illness Rate
by Industry, 1989-1997



Source: BLS

5

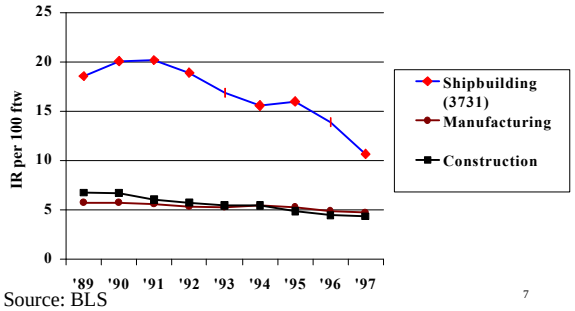
Recordable Injury and Illness Rate
by Industry, 1989-1997



Source: BLS

6

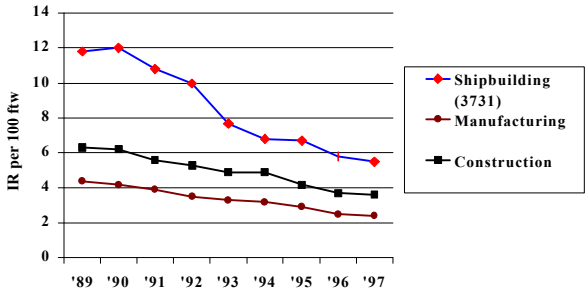
LWD Case Rate by Industry, 1989-1997



Source: BLS

7

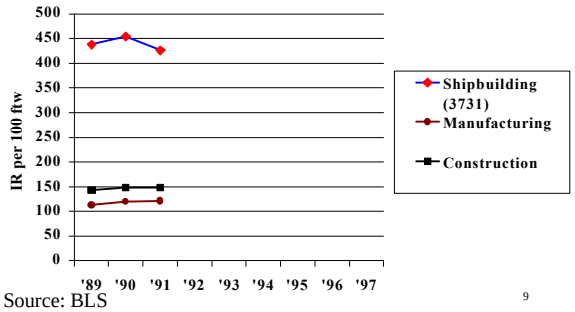
Days Away From Work Case Rate by Industry, 1989-1997



Source: BLS

8

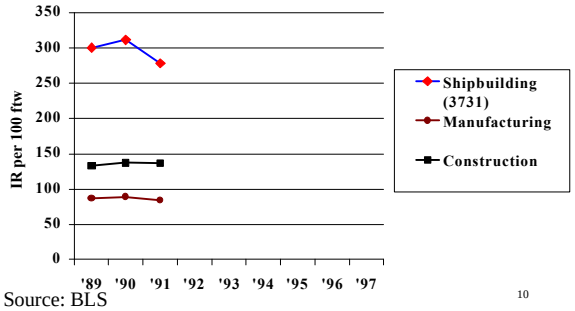
Total LWD Rate by Industry, 1989-1997



Source: BLS

9

Total Days Away from Work Rate by Industry, 1989-1997



Source: BLS

10

Japanese Data

- Data collected by the trade association, SAJ (Shipbuilding Association of Japan), who reports the data to the Ministry of Labor.
- SAJ is comprised of 18 medium/large shipbuilding companies (37 actual shipyards).
- Subcontractors included
- Only traumatic injuries are recorded.
- No conditions with a multifactorial etiology such as LBP.

11

Comparison of Data Collection

Japan

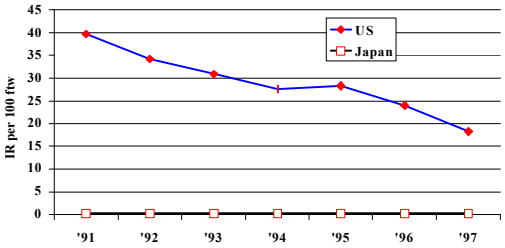
- Collected by SAJ
- 37 Yards/ 18 Companies
- Subcontractors included
- Injuries only
- LBP excluded

United States

- Collected by BLS
- Survey Sampling
- Subcontractors excluded
- Injuries and Illnesses
- LBP included

12

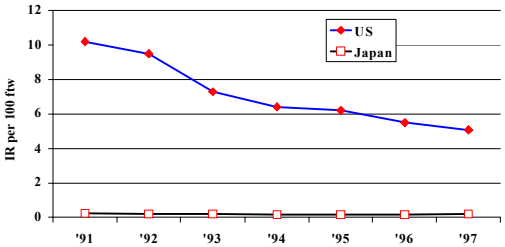
Recordable Injury Rate
Shipbuilding Industry, 1991 - 1997



Source: BLS & SAJ

13

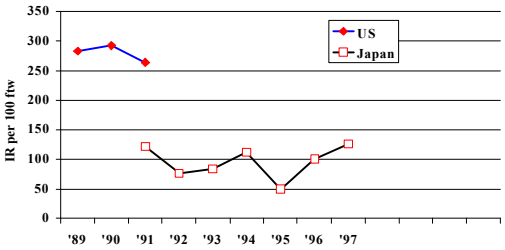
Days Away from Work Case Injury Rate
Shipbuilding Industry, 1991 - 1997



Source: BLS & SAJ

14

Total Days Away from Work Injury Rate
Shipbuilding Industry, 1991 - 1997



Source: BLS & SAJ; injury only

15

Possibile Reasons for Log Differences:

- Criteria for Recordability
- Deming Principles:
  - Productivity = Quality = Safety
  - Evidenced by:
    - Top management commitment (signs, visits, $)
    - 1% of workforce employed in safety depts
    - Never “operator error”
- Commercial vs. Military Vessels
  - Military vessels are more complex
  - Design changes
  - Cost-plus vs fixed price

16

What is the best way to reduce Workers Comp Costs?

PREVENTION

17

Injury and Illness Logs in the Shipbuilding Industry

Thomas Hales, MD, MPH
NIOSH

Introduction

Enacted in 1927, the Longshore and Harbor Workers' Compensation Act (LHWCA) provides compensation for lost wages, medical benefits, and rehabilitation services to Longshore, harbor and other maritime workers who are injured during their employment or who contract an occupational disease related to employment. Survivor benefits are also provided if the work- related injury or disease causes the employee's death. These benefits are paid directly by an authorized self-insured employer, through an authorized insurance carrier, or in particular circumstances, by an industry financed Special Fund.

In addition, LHWCA covers a variety of other employees through the following extensions to the Act:

- The Defense Base Act of August 16, 1941, provides the benefits of the LHWCA to employees on overseas military, air, or naval bases or other areas under a public works contract performed by contractors with agencies of the United States Government.

- The Nonappropriated Fund Instrumentalities Act of June 19, 1952, covers civilian employees in post exchanges, service clubs, etc. of the Armed Forces.

- The Outer Continental Shelf Lands Act of August 7, 1953, extended Longshore benefits to employees of firms working on the outer continental shelf of the United States engaged in exploration for and development of natural resources, such as offshore drilline. enterprises.

- The District of Columbia Workmen's Compensation Act (DCCA), passed by Congress on May 17, 1928, extended the coverage provided by the Longshore Act to private employment in the District of Columbia. Since the District of Columbia passed its own workers' compensation act effective July 26, 1982, OWCP handles claims only for injuries prior to that date.

Longshore compensation and medical benefits paid by insurance carriers and self-insurers totaled about $483 million in calendar year 1997.

Self-insured employer's payments totaled about $263 million, while insurance carriers paid about $220 million.

II. ADMINISTRATIVE AND OVERSIGHT ACTIVITIES DURING FY

A. Industry Activities

1. Payments Under sections 7 through 9 of the LHWCA, the employer and/or insurance carrier is responsible for providing compensation payments to employees, or their survivors, who incur a work-related injury resulting in disability or death. The employer and/or carrier also is responsible for providing any required medical treatment services related to a covered injury.

   During CY 1997 payments made by self-insured employers and insurance carriers for disability compensation totaled $ 338 million, while medical benefit payments were $ 145 million.

2. Cases Compensated At the end of FY 1998, a total of 16,176 maritime and other workers covered under the Act and its extensions, or their survivors, were in compensation payment status. The following table shows number of cases being compensated at the end of each year, beginning in FY 1976:

Cases Compensated Under LHWC
(FY 1976 - FY 1998)

FY	Cases at End of FY	FY	Cases at End of FY
1976	15,259	1989	18,455
1977	16,899	1990	18,889
1978	16,168	1991	19,423
1979	16,965	1992	19,228
1980	20,716	1993	18,426
1981	21,430	1994	
1982	20,869	1995	
1983	20,128	1996	
1984	18,746	1997	16,307
1985	18,471	1998	16,176
1986	19,402		
1987	19,066		
1988	17,393		

The above total number of cases includes Special Fund cases.

Beginning in FY 1988, cases under the District of Columbia Workmen's Compensation Act of 1928 previously handled by OWCP (where injury occurred prior to July 26, 1982) are excluded. Administration of these cases has been delegated to the District of Columbia government.

3. Lost-Time Injuries[1] The number of lost-time injuries reported by employers and insurance carriers during FY 1993 was 26,005 a difference of -640 from the previous year.

Lost-Time Injuries Reported Under LHWCA
(FY 1976 -- FY 1998)

FY	Lost-Time Injuries	FY	Lost-Time Injuries
1976	48,303	1989	38,253
1977	51,981	1990	40,650
1978	56,276	1991	41,537
1979	68,542	1992	36,577
1980	69,941	1993	33,164
1981	71,872	1994	
1982	64,810	1995	
1983	44,702	1996	
1984	38,332	1997	26,645
1985	40,858	1998	26,005
1986	41,299		
1987	43,100		
1988	40,528		

4. Insurance Section 32 of LHWCA requires that each employer covered by the Act or one of its extensions secure payment of compensation liabilities with either a private insurance carrier authorized by OWCP or by qualifying as a self- insurer to pay benefits directly to injured employees.

   In FY 1998 , approximately 410 insurance carriers and 430 self-insured employers were authorized to provide workers' compensation coverage under LHWCA. As shown in Table A-1 of Appendix, the proportion of compensation and benefit payments made under the Act made by self-insured employers during CY 1997 exceeded the proportion of payments made by insurance carriers once again.

[1] A lost-time injury is a job related injury which results in an employee's loss of one or more shifts of work. In addition, the definition also includes injuries where the employee is entitled to a schedule award under section 8(c).

There were a total of new applications for insurance authorization filed with OWCP during the year. Applications were received from insurance carriers, of which were approved and were denied. The remaining were from employers seeking to qualify as self-insurers; of these applications were approved, denied, and were closed or withdrawn.

5. Annual Adjustments in Compensation and maximum-minimum Payments Under section 10(f) of LHWCA, on October I of each year there is an adjustment to the benefits payable for permanent total disability or death. The increase each year is either the 2 percentage by which the National Average Weekly Wage (NAWW)[2] exceeds the previous NAWW, or 5 percent, whichever is less. In FY 1998 the NAWW increased 4.31 percent to a level of $435.88

   Sections 6(b) and 9(e) provide the maximum and minimum compensation payable under the Act. Disability compensation - death benefits are limited to a maximum amount equal to 200 percent of the NAWW, applicable at the time of injury or death, or the employee's full average weekly wage, whichever is less. The maximum weekly compensation rate corresponding to the NAWW for FY 1998 was $ 871.76.

   The minimum compensation payable for total disability is the lesser of 50 percent of the applicable NAWW ($ 435.88 in FY 1993) or the employee's average weekly wage at the time of injury.

   See Table A-2 of Appendix for the levels of annual compensation adjustments and the maximum and minimum compensation rates in effect during FY1998 and historically for the period subsequent to the 1972 amendments.

B. Special Funds

Two Special Funds are administered by OWCP under section 44 of the Act; the LHWCA Special Fund created under the original Act in 1927 and the Special Fund under the District of Columbia Workmen's Compensation Act of 1928 (DCCA). These Funds were established for the primary purpose of equitably distributing among all employers the liabilities associated with second injury claims (a second injury is an injury to a worker which, in combination with an existing permanent partial disability, results in the worker's increased permanent partial disability, permanent total disability, or death).

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[2]The National Average Weekly Wage (NAWW) is based on the national average weekly earnings for the three consecutive quarters ending each June 30 of production and nonsupervisory workers in private nonagricultural employment as determined by the Bureau of Labor Statistics.

Proceeds of the Special Funds are used for payments under: section 8(f) for second in'ury claims; section 10(h) for 3 initial and subsequent annual adjustments in compensation for permanent total disability or death from injuries which occurred prior to the 1972 amendments; sections 39(c) and 8(g) .for the procurement of medical and vocational rehabilitation services for permanently disabled employees and to provide a maintenance allowance to workers undergoing rehabilitation; section 18(b) for compensation to injured workers in cases of employer default; and section 7(e) for the cost of certain medical examinations.

The sources of payments into the Funds include: fines and penalties levied under the Act; payments by employers of $5,000 for each death case where there is no survivor entitled to the benefits; interest payments on Fund investments; and, by far the largest source, payment of annual assessments by self- insured employers and insurance carriers.

1. LHWCA and DCCA Funds' Activities The LHWCA Amendments of 1984 changed the assessment formula beginning in 1985 to more equitably distribute Fund costs so that insurance carriers and self-insurers who most heavily use the LHWCA Fund under section 8(f) would pay a proportionately higher assessment. This change in formula arose out of a growing concern with the growth of the Fund, primarily involving section 8(f) costs. This change in formula did not apply to the DCCA Special Fund assessment, which continues to be based strictly on pro rata share of compensation and medical payments during the preceding calendar year.

   While the growth in 8(f) expenditures of the LHWCA Fund continues, the increase in FY 98 of 6% percent was a continuation of the flattening of the growth rate. More than 91 percent of the $ 130 million in total Fund expenditures in PY 1998, or $ 119 million, represented payments to over 5,200 section 8 (f) cases.

   Approximately 98 percent of the receipts of the LHWCA Fund during FY 1998 ($116.3million out of a total of $118.4million) were assessments paid by self-insured employers and insurance carriers.

   FY 1998 expenditures of the DCCA Special Fund totaled $ 12.5 miIlion. As with the LHWCA Fund, the largest portion of the DCCA Fund expenditures (86 percent totaling $10.8 million) went towards compensation payments for 640 section 8(f) cases. Receipts were $ 12.3 million, about 99 percent of which came from assessments paid by employers and insurance carriers. During FY 1998 assessment payments received totaled $12.2 million.

   Compensation related expenditures for both Funds also include payments for annual adjustments in compensation for pre-1972 amendment (section 10(h)) cases. Fifth percent of 10(h) payments are paid by the Special Fund and 50 percent through DOL appropriations. FY 1998 payments to 10(h) cases accounted for approximately 2

percent ($2.7 million) and 6 percent ($ .8 million) of the total expenditures of the LHWCA and DCCA Funds, respectively.

In October 1998 the portion of section 10(h) payments funded by DOL appropriations, including the October I recurring adjustment, amounted to $ 128,117 per recurring bi-weekly payment period ($ 98,132 for the LHWCA appropriation and $29,985 for the DCCA appropriation).

These adjustments are being paid on a declining base number of pre-1972 amendment injury cases. As shown in the table below, the FY 1998 adjustment was applied to 697 section 10(h) cases, a decrease of about percent compared to the prior year.

Cases Receiving Annual Section 10(h) Adjustment

Adjust. Date	FY	DCCA	LHWCA	Total Cases
10/l/82	1983	374	1,211	1,585
10/l/83	1984	356	1,164	1,520
10/l/84	1985	346	1,129	1,475
10/1/85	1986	332	1,084	1,416
10/1/86	1987	313	1,023	1,336
10/l/87	1988	293	965	1,258
10/1/88	1989	280	919	1,199
10/1/89	1990	270	368	1,138
10/1/90	1991	264	826	1,090
10/1/91	1992	252	799	1,051
10/l/92	1993	237	758	995
10/l/93	1994	225	717	942
10/l/94	1995	210	677	887
10/1/95	1996	183	629	812
10/1/96	1997	187	595	782
10/l/97	1998	174	572	746
10/1/98	1999	164	533	697

2. Medical and Vocational Rehabilitation Medical and vocational rehabilitation and maintenance services are provided for in sections 39(c) and 8(g) of the Act, respectively. The rehabilitation program provides permanently disabled employees with early referral to and the benefit of required medical and vocational rehabilitation services to enhance an employee's chances for an early return to work.

   Special Fund expenditures authorized by OWCP for vocational and medical rehabilitation services were approximately $ 3.7 million in FY 1998. The largest single expenditure was $ 2.7 million in reimbursements for the retraining or job placement of injured workers as provided under section 39(c). The remainder of

Fund expenditures for rehabilitation services consisted of additional compensation in the form of a maintenance allowance provided under section 8(g) to workers undergoing vocational rehabilitation; and, under section 39(c), the salaries and expenses for rehabilitation specialists and procurement of prosthetic appliances and other medical apparatus.

3. Audit Results An annual audit of Special Fund accounts is required by section 44(j) of the Act. The audit is performed by a public accounting firm under contract to the Office of Inspector General.

   The FY audit reports for the LHWCA and DCCA Special Funds contain independent auditors' reports, financial statements, and reports on internal accounting controls and compliance activities.

   For both Funds, the auditor found that the financial statements are presented fairly and in accordance with generally accepted accounting principles for Federal agencies; and, for all items tested, the Division of Longshore and Harbor Workers' Compensation was in compliance with applicable laws, regulations, contracts and grants.

C. Longshore Program Operations

1. Case Processing There were lost-time injury cases closed at the district office level during FY . The number of open cases being processed for various reasons at the end of the year was . The pending inventory of cases was at the end of FY . The pending inventory consists of all cases in the offices requiring any type of action, including new cases to be docketed and cases requiring review or processing.

   During FY 1998, the Office of Administrative Law Judges (OALJ) received more than 3,500 new LHWCA/DCCA cases for formal hearings. These cases were in addition to an existing inventory from FY of cases, resulting in a total docket of cases at ALJ of over . There were nearly dispositions (cases closed) during the year, leaving a pending inventory at OALJ at the end of FY of approximatley cases.

   At the Benefits Review Board (BRB), over 450 new appeals under LHWCA/DCCA were received in FY The total case docket at BRB, including nearly cases pending from the previous year, was approximately . After a BRB decision was issued on more than cases, a pending inventory of about cases remained at the end of FY .

2. Organizational Structure and Staffing The LHWCA is administered by the Division of Longshore and Harbor Workers' Compensation within OWCP. During FY , DLHWC's total authorized staffing level was full-time equivalent (FTE) positions, a decrease of positions compared to the previous year.

   As shown in the following table, the National Office in Washington, DC had FTE positions while the remaining positions were located in DLHWC district offices.

FY Staffing and District Offices, by Region

DOL Region	Authorized FTE Positions	DLHWC District Offices
I (Boston)	15	Boston, MA
II (New York)	10	New York, NY
III (Philadelphia)	17	Philadelphia, PA Baltimore, MD Norfolk, VA
IV (Atlanta)	19	Jacksonville, FL
V (Chicago)	5	Chicago, IL
VI (Dallas)	21	New Orleans, LA Houston, TX
IX (San Francisco)	17	San Francisco, CA Long Beach, CA
Honolulu, HI X (Seattle)	12	Seattle, WA
TOTAL REGIONS		
National Office	___	
TOTAL		

The above numbers includes one vocational rehabilitation specialist in each Region, except Dallas, which has two.

3. Administration Costs Total expenditures for program operations and the overall administration of LHWCA were $ million in FY . These administrative costs include salaries and expenses for ESA and DOL management support services provided by the Office of the Solicitor (SOL), Office of the Inspector General (OIG), OALJ, and BRB.

   The following table shows the levels of staff and costs associated with the administration of-the-Act for the_past several years.

The Special Fund assessment is based on two figures, company paid compensation payments in the preceding calendar year, and Special Fund section 8(f) costs attributable to each company during the preceding calendar year.

Following the final assessment billing in July, the percentage of each of these figures paid in assessment by each company can be derived.

Following are the percentages for the past ten years:

Year	% of Comp. pymts.	% of 8(f) costs	Assess. year
1986	10.5%	55.1%	1987
1937	12.8%	64.8%	1988
1988	13.1%	67.9%	1989
1989	15.6%	81%	1990
1990	14.3%	74.6%	1991
1991	14.3%	72%	1992
1992	15.2%	64.6%	1993
1993	16.7%	71.9%	1994
1994	16.9%	68.1%	1995
1995	15.7%	61.2%	1996
1997	16.6	56.4	1998

These figures are important whenever decisions are made regarding claims handling. For example, when a decision is being made whether to make application for section 8(f) relief, the parties should be aware that for each year after the case goes into the Special Fund, the employer/carrier will save the 14.5% (ten year average) assessment on the compensation payments it will no longer make in that case, but the company's assessment will increase by 68.1% (ten year average) of what the Special Fund pay's to that claimant each year.

Likewise, in considering whether to settle a case for a lump sum under section 8(i) or to apply for section 8(f) relief, the employer/carrier should consider that a lump sum settlement will increase his next assessment by 14.5% of the settlement amount, but he will save the 68.1% of Special Fund payments each year resulting from placing the case into the Special Fund.

Obviously, the assessment consequences of claim handling decisions should be taken into account, and the above figures are the way to do it.

GROWTH OF SPECIAL FUND COSTS (000) (LS Only)

Fiscal Year	Sec. 8f	Sec. 10h	Sec. 39	Other
1976	$80	$2,654	$65	$236
1977	296	2,104	188	306
1978	1,071	2,049	396	298
1979	2,539	2,517	668	374
1980	5,688	2,776	1,052	628
1981	10,151	2,005	1,812	571
1982	16,124	4,539	1,980	979
1983	22,582	4,535	2,091	1,827
1984	30,746	3,418	2,474	488
1985	40,140	3,603	2,604	701
1986	46,371	3,254	2,511	705
1937	51,774	3,304	2,985	1,196
1988	54,686	3,083	3,520	2,968
1989	62,304	3,227	3,583	3,671
1990	71,589	3,073	4,267	1,868
1991	78,407	3,117	4,285	3,696
1992	86,312	2,937	4,392	3,690
1993	90,680	2,887	4,804	4,770
1994	95,856	2,829	4,228	4,699
1995	104,317	2,738	4,328	5,250
1996	108,000	2,681	4,423	4,409
1997	111,732	2,570	4,170	5,209
1998	118,496	2,699	3,719	4,634

Total Industry Compensation and Medical
Payments Under LHWCA
($ thousands)

Calendar Year	Self-Insurers	Carriers	Total
1984	$121,768	$229,379	$351,147
1985	132,275	208,155	340,430
1986	143,801	210,466	354,267
1987	172,518	205,526	378,044
1988	204,281	207,553	411,834
1989	211,148	206,549	417,697
1990	244,274	238,264	482,538
1991	256,003	243,120	499,123
1992	267,078	235,251	502,329
1993	265,700	240,449	506,149
1994	273,667	247,157	520,924
1995	261,558	238,261	499,819
1996	272,683	226,592	499,280
1997	263,300	219,400	482,000

GROWTH IN NUMBER OF
SPECIAL FUND SEC'CION 8(f) CASES

Fiscal Year	Cases Being Paid
1976	19
1977	44
1978	128
1979	297
1980	541
1981	834
1932	1,186
1983	1,555
1984	1,973
1985	2,513
1986	2,976
1987	3,264
1988	3,443
1989	3,692
1990	3,953
1991	4,266
1992	4,515
1993	4,652
1994	4,847
1995	5,002
1996	5,175
1997	5,209
1998	5,176

Total Industry Compensation and Medical
Payments Under LHWCA
($ thousands)

Calendar Year	Self-insurers	Carriers	Total
1984	$121,768	$229,379	$351,147
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1994	273,667	247,157	520,824
1995	261,558	238,261	499,819
1996	272,688	226,592	499,280
1997	263,300	219,400	482,000

GROWTH OF LS ASSESSMENTS

Year	Assessment	Reported Payments	
1973	$ 1,716,000	$ 33,208,084	
1974	2,102,883	46,453,175	
1975	2,610,000	65,414,353	
1976	2,600,000	89,265,301	
1977	3,725,000	110,584,751	
1978	4,250,000	130,137,625	
1979	6,930,000	161,629,067	
1980	8,000,000	204,829,274	
1981	18,000,000	224,862,703	
1982	30,323,000	263,319,323	
1983	31,623,778	282,881,851	
1984	40,215,191	320,408,600	
1985	52,372,675	315,693,780	
1986	55,188,365	232,103,000	*Comp only-'84 amend.
1987	59,458,857	246,519,000	
1988	66,118,212	257,621,000	
1989	75,989,000	290,538,000	
1990	91,969,000	294,873,000	
1991	94,500,000	331,004,000	
1992	97,300,000	340,141,000	
1993	102,500,000	336,379,000	
1994	116,000,000	346,490,000	
1995	118,000,000	360,566,000	
1996	113,000,000	347,127,157	
1997	110,000,000	350,711,000	
1993	111,000,000	334,320,000	

The Special Fund is established by section 44 of the Longshore Act. It was originally funded by Congressional appropriation and payment by carriers to the Fund in death cases with no eligible survivor. The annual assessment was added to the Act as part of the 1972 amendments.

The assessment is billed in two parts each year, in January and July. It is based on three factors - share of paid compensation losses in the preceding calendar year, share of attributable section 8f costs during the preceding calendar year, and the total needs of the Fund for the current calendar year. The share of attributable section 8f costs was added by the 1984 amendments, designed to more equitably distribute the cost of the Fund among heavy users. The formula is simply:

$$\left[\frac{\text{Indiv. Comp. Pd.}}{\text{Total Comp. Pd.}} + \frac{\text{Indiv. 8f Cos}}{\text{Total Sf Cost}} \right] \div 2 \times \text{Special Fund Requirement}$$

Section 8f costs account for almost 90% of total Fund costs. Assessments are high and growing higher.

POTENTIAL

POST WORKSHOP CONSENSUS ACTIONS

WORKERS COMPENSATION

- SET-UP INDUSTRY FORUM and INDUSTRY "WORKERS COMPENSATION COMMITTEE" in March/April time-frame. (George Potts – Electric Boat Corp)

- CHAIR OF WORKERS COMPENSATION COMMITTEE will ESTABLISH MEETINGS OF INDUSTRY AND DOL TO ADDRESS VARIOUS IMPROVEMENTS THAT CAN BE PURSUED INVOLVING the LONGSHOREMAN and HARBOR ACT. (CHAIRPERSON – TBD)

- WORK WITH THE INTERNATIONAL COMMUNITY TO COMPARE APPROPRIATE METRICS WITH THE OFFICE OF NAVAL RESEARCH. (CHAIRPERSON – TBD)

Suggested Workshop Follow-on Actions

This Workshop, its endorsements, the attendees and participants from various agencies, and the module presentations included in this report, are a valuable resource for identifying and achieving future improvements. You can initiate and conduct appropriate follow-on actions related to this module by choosing one or more of these suggested approaches:

A. Discuss items with your management, utilizing the published Workshop data as a resource;

B. Contact and work with those who attended and participated in the Workshop. Contact data is included in this report.

C. Participate in establishing industry meetings as a follow-on to this module;

D. Work with local, state, and federal agencies, utilizing the Workshop endorsements, presentation materials, and contact data as your reference source;

E. Utilize the Workshop endorsements as leverage for all levels of support, development, and implementation.

APPLICATIONS WORKSHEET

PRESENTATION: Workers Compensation

PRESENTOR: _____ **CONTACT DATA AVAILABLE** / _ /

WORKSHEET: For each presentation or panel discussion use this form to note how to enhance/clarify this presentation, to be applied to your organization. These notes can also be given directly to the workshop coordinator for enhancing the final AWorkshop Manual≅ and a copy for your working with your own staff. Fax or E-mail to workshop coordinator.

1. A STATEMENT AND UNDERSTANDING OF THE BEST PRACTICES:

2. GLOSSARY OF TERMS/SPECIFIC TERMS:

3. FEDERAL/STATE AND LOCAL LAWS:

4. COST MODEL:

A. HOW CAN WE APPLY IT?

B. ITEMS TO CLARIFY:

C. COSTS INVOLVED/PAYBACK CASH FLOW?

5. RECOMMENDED PLANS AND FOLLOW UP TIMES:

A. SP-5 PANEL PROJECT ABSTRACT: _____

B. FORM TEAMS WITHIN THE INDUSTRY WITH GOVERNMENT AGENCIES/INSURERS, TO SPECIFIC ISSUES:

C. BEGIN INDUSTRY EXCHANGE FORUMS: _____

D. COORDINATE WITH OTHER INDUSTRIES: _____

E. IN-HOUSE AND LOCAL COMMUNITY ACTIVITIES: _____

6. BIG PICTURE STRATEGIES: NOTES: _____

7. AREAS FOR GOVERNMENT ACTIONS: _____

8. COMPANY INTERNAL CHECKLIST:

Proof of Savings /_/ **Training** /_/ **Implementation** /_/

Buy-in Requirements:

Management /_/ **Labor** /_/ **Organizational/ Cultural** /_/

File Listing

Directory: 26-7
SHIIP Course for Change

File Name	Description
26-7A	Participants and Module Overview
26-7B	*Presentations* 26-7B1 – The Change Model 26-7B2 – The Feedback Loop 26-7B3 – Shipyard Manufacturing Operations 26-7B4 – Change Model: Commitment
26-7D	Action Plan
26-7E	Application Worksheet
26-7-File List	File Listing

Day 1 Schedule/Presenters/Description of Modules

3:15 — 5:15 p.m.	CHANGING COURSE WITH SHIIP

Lead: Joanna Jones, Director. Human Resources, Training & Development, Bath Iron Works

Facilitator: JoAnn Schindler, Sr. Consultant, Harshman & Associates

Presenters/Panelists: JoAnn Schindler, Sr. Consultant, Harshman & Associates
Cindy Butler, Sr. Consultant, Harshman & Associates
Joanna Jones, Director. Human Resources, Training & Development, Bath Iron Works
Brienn Woods, Manager, Training & Development, NASSCO
Shawn Wilkerson, Asst to Corporate Vice President – Government Programs, Avondale Industries, Inc.

Description of Module: This module will present and discuss the collaborative effort of six shipyards and their able consultant group. SHIIP (Shipbuilding Information Infrastructure Project) was sponsored by Maritech to focus on technology to simplify the engineering/design/production coupling for frontline workers. Involved was a 'Change Forum' to look at how shipyards need to change to become more competitive, and to develop shipyard-specific methods for change. The current products of the group will be demonstrated, with opportunities for your input and advice.

Presentations SHIIP Course for Change

26-7B1 The Change Model

26-7B2 The Feedback Loop

26-7B3 Shipyard Manufacturing Operations

26-7B4 Change Model: Commitment

The Change Model

Introduction:

This material is taken from Navigating Change A Guide Book created by the SHIIP Change Forum for use in dealing with change issues in U.S. Shipyards.

For more information on the Change Forum s products and services check out our web page at

www.harshman.**com/shiip**

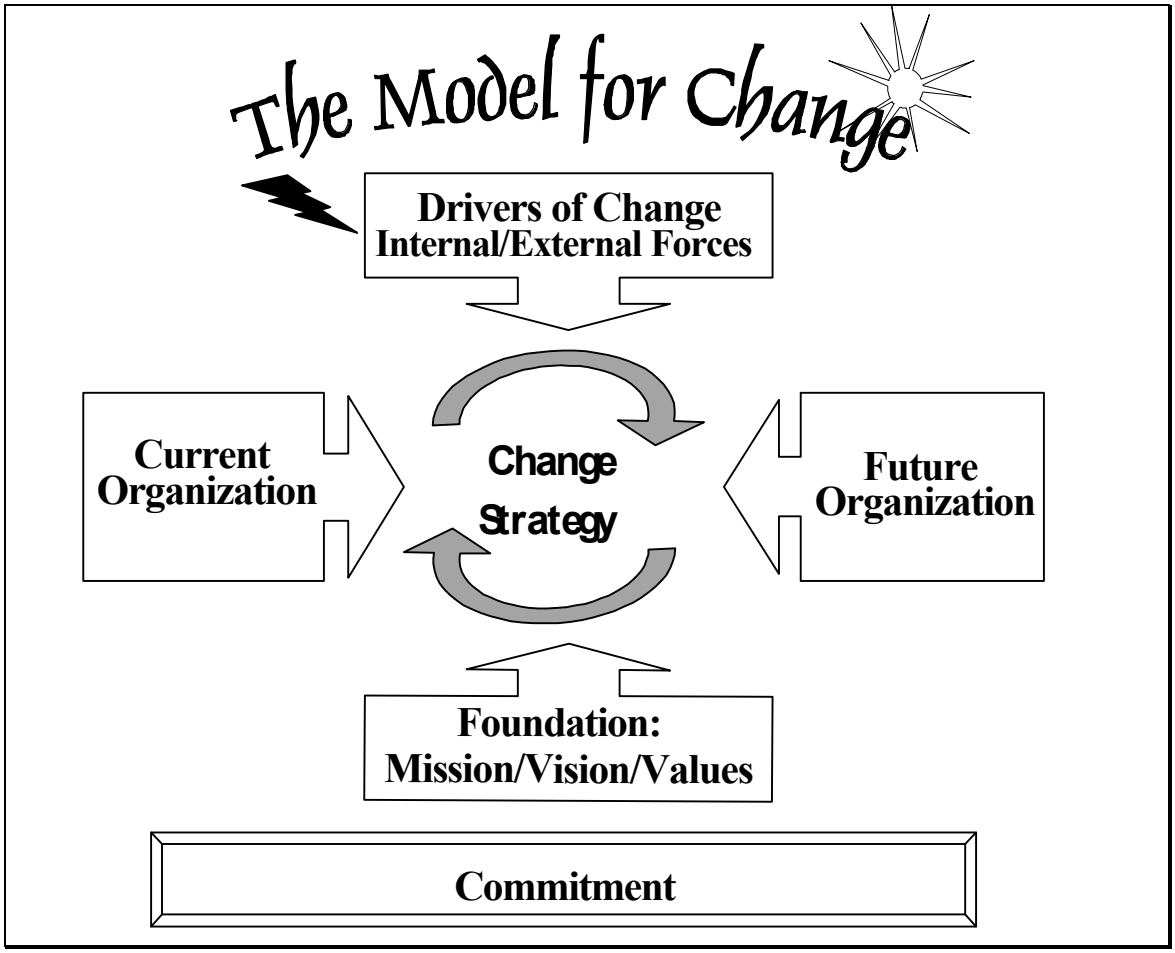
Change is a part of the day-to-day reality in any organization. As discussed in the prior chapter, the shipbuilding industry is no exception. Both internal and external drivers have created pressures for change that cannot be ignored if shipbuilding is to remain a viable industry in the United States.

So, now the question is how to effectively deal with change. Choosing either a passive (ignore it) or aggressive (control it) approach is both unrealistic and non-productive. Instead, we advocate a proactive/adaptive approach to change that encompasses the key elements of the process.

The term "process" is used deliberately because change cannot be restricted to a single activity or a fixed period of time. As such, it is a process of continually assessing, planning, implementing, monitoring, adjusting and reassessing. This does not mean that the process does not have focus or direction. On the contrary, the process is defined by five key elements:

1. The Drivers For Change: What is pushing on the organization to do business differently?
2. The Foundation of Mission/Vision/Values: What is the purpose, desired future and values of the organization?
3. The Current Organization: What is the "today" picture?
4. The Future Organization: What does the "future" picture look like and what is the gap between it and the current organization?
5. Commitment: What degree can and will the organization deliver on promises for action and resources to support the effort?

The change model presented on the following pages is based on years of experience in working with large and small scale change efforts both within and outside of the shipbuilding industry. The remaining pages explain each element of the model in more detail. Chapters 5 through 19 of the Guide Book contain hands-on information for working each element in more detail.

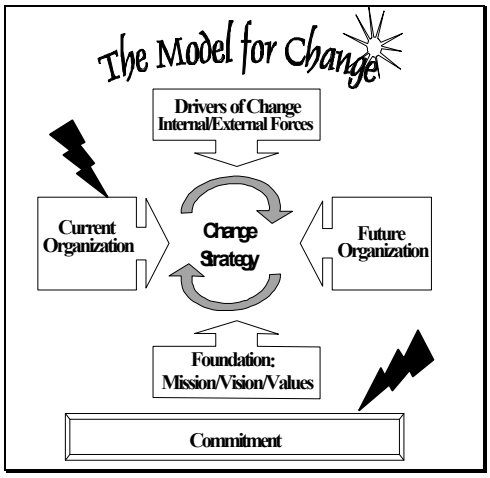


Drivers of Change: Internal and External Forces

(see Guide Book Chapter 5)

The drivers are the actions and conditions that create force or pressure on the organization. *External Drivers* include such things as product innovation, the competition, government (policies and funding), or industry changes such as a dramatic drop in oil prices. Any of these external forces could create a condition for change.

Internal Drivers include factors such as the introduction of new technology, the character/talent/morale of the workforce, interdepartmental relations, the leadership style of the new president, communication activities, the acquisition of a company or merger with another company, etc. These are events and conditions that are within or at the boundary of the organization rather than external to it.



Commitment (see Guide Book Chapter 6)

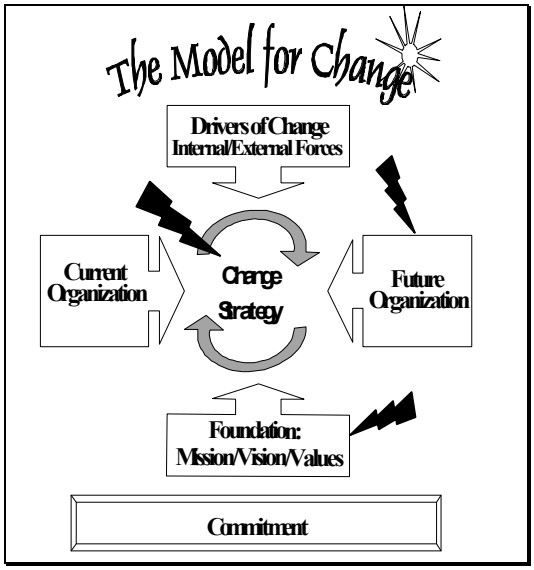
A commitment is a promise or pledge that something will be done. In the case of change, commitment includes the promise to provide (executive) support, resources, and direction to the process. In our experience, the commitment of organizational leadership is absolutely essential for change to occur in productive ways.[1] Although commitment alone does not guarantee success, the lack of commitment will almost surely increase the probability of failure.

In addition, if the change is complex and/or long-term rather than focused on a particular issue or opportunity, the commitment at the beginning of the effort will not be sufficient to get the job done at later stages of the effort. In these cases, there will be series of commitments over time, each based on successful progression of the change process through the preceding phase.

The Current Organization (see Guide Book Chapter 7)

It is essential that the organization have a clear, consensual picture of its characteristics and operation at present. What we find, typically, is that there are a number of different, but concurrent, pictures of the organization depending upon where one resides in the organizational structure and the role one plays in the organization. As a result, those who operate on their "image of the present" and who control critical resources tend to design and manage the change strategy as a function based on their view. If top management controls the strategy, the approach is often limited by the fact that their picture of the organization (especially in terms of the level at which the work gets done). Similarly, this type of control leads to a view that is often significantly different than that of first-line supervision, salaried staff, and hourly employees (and each of these stakeholders' pictures may be different than the others'). In order to develop a viable strategy and process for change, the organization needs a consensual picture from which to work and on which to base its plan and activities.

[1] By "leadership" we mean the leadership of the organization. If the change is significant or large scale, then the commitment must come from top management. If the change is more limited in scope or far less complex, then the commitment must come from the level of the organization responsible for the change. Of course, this level must have the blessing (translated authority) of the top to make and live up to this commitment. If the organization has a union or unions, then their commitment may be required for certain kinds or certain levels of change.



The Future Organization

(see Guide Book Chapter 8)

The future organization, where you want to go in terms of performance, is defined in terms of Critical Business Outcomes (CBOs). CBOs specify what the organization must achieve in order to be successful. CBOs are the targets toward which the present business strategy is aimed. CBOs could include such targets as levels of profitability, quality measures, costs, and the like. They provide the standards to be met. In addition, these outcomes are the guideposts toward which the change process must be aimed in order to be integrated with the overall business strategy.

Foundations: Mission/Vision/Values

(see Guide Book Chapters 9, 10 and 11)

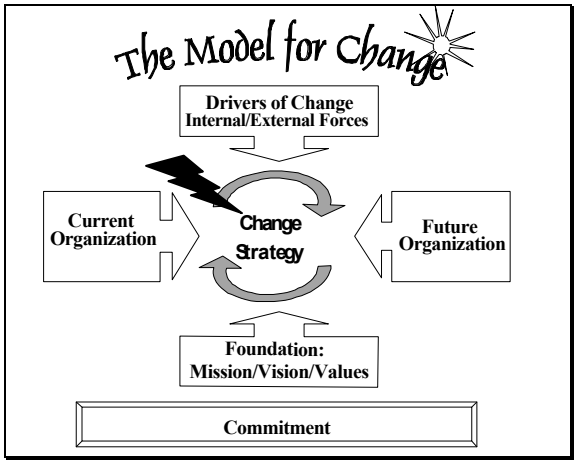
Foundations are the guideposts for change. Foundations include the organization's *mission* (the purpose for which the organization exists), the *vision* (what the organization wants to become, to achieve), and *values* (the fundamental principles that guide the organization and the behavior of its members). The foundations set direction (mission), provide something toward which to move (vision), and establish guidelines for how to behave along the way (values). The mission, vision, and values represent the basis for planning, leading, and evaluating the processes and outcomes of the organization's business strategy and change process.

The Change Strategy

The change strategy includes elements related to who manages change (the change management structure), change initiatives activities that help move the organization from the present to the critical business outcomes (change initiatives), and how the organization permanently incorporates the growth and development from change activities (learning).

A. The Change Structure (see Guide Book Chapter 12)

This is a group of people responsible for designing, implementing, overseeing, and evaluating change efforts in the organization. The committee(s) has(ve) strategic, design, and implementation oversight responsibilities. The role, membership, preparation, and activities of these committees are critical to the outcomes of a successful change effort.



B. Change Initiatives

The current model contains seven key change initiative areas. It may not be necessary to include every initiative in every change effort. In rare instances, there may only be a need to address one; almost always, however, there will be two or more that need to be considered. Which ones and how many are a product of each situation the organization encounters in the journey for change.

- **Communication & Information (see Guide Book Chapter 13)**
  Making internal communication more timely, relevant, open and honest; creating systems that deliver meaningful business information to front-line employees.

- **Leadership Development (see Guide Book Chapter 14)**
  Rethinking how work gets done means rethinking how people are managed and the role of leadership in the organization.

- **Employee Involvement & Teams (see Guide Book Chapter 15)**
  Emphasizing ways to get employees more deeply involved in the day-to-day running of their business.

- **Motivation (see Guide Book Chapter 16)**
  Updating and aligning reward and recognition systems to support and institutionalize change.

- **Business Education (see Guide Book Chapter 17)**
  Teaching people about the business and how their work relates to the "big picture."

- **Performance Improvement (see Guide Book Chapter 18)**
  Adopting a philosophy and set of skills for continuously improving upon fundamental indicators of performance.

- **Partnerships (see Guide Book Chapter 19)**
  Identifying key relationships and working together for mutual gains.

Conclusion

This chapter outlines the basic elements of change. The remainder of this Guide Book provide both the structure and content to help your shipyard be more effective in designing change efforts and in facilitating the achievement of business goals.

How to Use The Guide Book

Purpose of the Guide Book

The pace and magnitude of change in the shipbuilding industry is enormous. The Change Forum (a collaborative effort between six shipyards) was created to help shipyards successfully deal with the myriad of issues that come with designing and implementing change efforts. This Guide Book is one of the products developed by the Change Forum. It is intended to provide practical tools and advice for managing change.

Organization of the Guide Book

The Guide Book is comprised of 29 chapters that are divided into five major sections:

1. **Introduction (Chapters 1 4)**
   This section gives the user an overview regarding issues of change in the shipbuilding industry, an introduction to a model for designing and implementing change, and a series of shipyard scenarios to illustrate how the Guide Book can be used in addressing typical shipyard change issues.

2. **Change Model Elements (Chapters 5 11)**
   This section gives a detailed explanation of the major elements of the change model presented in Chapter 2.

3. **Change Strategy Elements (Chapters 12 19)**
   This section talks about seven separate, yet related, elements of the strategy for change. In addition, there is a chapter discussing the purpose and method for creating a structure to guide and support the change process.

4. **Change Management Issues (Chapters 20 26)**
   This section contains helpful information about the "how-to's" of change. Topics range from developing the plan to dealing with resistance and rescuing efforts in trouble. It is filled with "lessons learned" from a variety of U.S. Shipyards.

5. **Additional Resources (Chapter 27 29)**
   This section contains a chapter on "Frequently Asked Questions" as well as personal contact information and web site information for real-time support to address your additional questions or issues.

User Friendly Chapter Format

Chapters included in the three major sections on change are organized as follows:

- **Introduction:** This gives the reader a brief, easy to understand, introduction to the topic …
- **Example:** Each section offers examples to illustrate a concept or tool …
- **Getting Started:** We provide some ideas on how to take the first steps …
- **Lessons Learned:** Tips from various shipyard and other industry change efforts …
- **Tool Box:** A list of related tools that can be found in the Tool Box and a brief explanation as to the purpose of the tool …
- **Other Resources:** References to additional exercises, web sites, articles, videos and books …

Companion Tool Box

The Tool Box is a separate resource where you will find additional hand-outs, exercises, planning guides, etc. Any resource mentioned under the "Tool Box" heading in the Guide Book may be found here. Locating a specific tool is easy since the Tool Box is organized with the same chapter titles as the Guide Book. You are free to copy and/or modify any of these tools for use in your shipyard change efforts.

Relevant For Different Types of Change

The change model, strategy and management issues discussed in this Guide Book can be applied to large and small-scale change efforts. Whether you are looking at a large-scale process to create a more participative culture in your shipyard or a more focused effort aimed at solving a quality problem, the issues surrounding change are the same.

In addition, the information contained in this Guide Book can be used at various stages of a change effort. For example, the Guide Book can help enormously in the initially planning and design of the effort. Most shipyards have already embarked upon some types of major changes. In these cases, the Guide Book can provide a valuable perspective as to what can be done to sustain and/or strengthen these efforts. Finally, we've

Designed For Internal Leaders

also included a chapter specifically dealing with efforts "in trouble."

This Guide Book is designed to be used by a variety of internal "change agents." Shipyard leaders are people who typically initiate change. We use the term "leaders" in the broadest sense to include anyone in a management position as well as elected union leaders. Whatever your scope of responsibility (e.g., manager, project leader, union official) or area of expertise (e.g., design, engineering, human resources, materials, etc.) the Guide Book contains practical "hands-on" information for assisting with change efforts.

Where to Begin?

What s Missing?

The task of leading change is multifaceted. When the key factors are understood and addressed, change can happen. However, if any key factor is missing the effort creates unintended results. The chart below illustrates the relationship between the presence of key factors and the outcome of the effort. If your effort is missing a key factor (or more) take a look at the related Guide Book chapters for help.

Key Factors For Leading Change					Outcome
Vision	Skills	Incentives	Resources	Action plan	Change
	Skills	Incentives	Resources	Action Plan	Confusion
Vision		Incentives	Resources	Action plan	Anxiety
Vision	Skills		Resources	Action plan	Gradual Change
Vision	Skills	Incentives		Action plan	Frustration
Vision	Skills	Incentives	Resources		False Starts
Chapter 7, 8, 9, 10, 11	Chapter 13, 14, 15, 17, 18, 19	Chapter 5, 16, 23	Chapter 6, 12, 21	Chapter 20, 22, 24, 25, 26	

Need More Help?

Still need some guidance on where to begin? Take a look at the checklist for change listed below:

See Chapter 5	✓ Identify the drivers (internal and external) for change
See Chapter 6	✓ Get commitment from key players
See Chapter 7	✓ Assess the status of the current situation
See Chapter 8	✓ Describe the future state and critical outcomes
See Chapter 9	✓ Define the mission (purpose) of the effort
See Chapter 10	✓ Define larger vision
See Chapter 11	✓ Define and/or reflect the values

We believe any change effort must address these basic elements. If your effort has missed any of these steps, considering looking at those chapters firsts. Review the change model in Chapter 2 for a general overview.

See Chapter 12	✓ Assess need/design of change management structure
See Chapter 13	✓ Assess need and/or design communication strategy
See Chapter 14	✓ Assess need and/or design leadership development strategy
See Chapter 15	✓ Assess need and/or design employee involvement strategy
See Chapter 16	✓ Assess need and/or design motivation strategy
See Chapter 17	✓ Assess need and/or design business education strategy
See Chapter 18	✓ Assess need and/or design performance improvement strategy
See Chapter 19	✓ Assess need and/or design partnership strategy

Although the Guide Book offers seven change strategy elements, it is not necessary to include every element in every change effort. However, seldom does a change strategy have the intended results by employing only one of these elements. Which elements are you considering? Which are you missing?

See Chapter 20	✓ Develop the plan for change
See Chapter 21	✓ Identify resources to support the change effort
See Chapter 22	✓ Implement the plan
See Chapter 23	✓ Understand and address resistance to change
See Chapter 24	✓ Build in methods to sustain the change
See Chapter 25	✓ Evaluate the results of the effort
See Chapter 26	✓ Get troubled efforts back on track

These are typical change management issues. If you are in the early stages of a change effort, start with the chapters on

developing the plan and identifying resources. If you have an effort underway, take a look at the chapters on resistance, sustaining and evaluating change. All of these chapters are a "must read" for those involved with change efforts.

The Feedback Loop

A Customer Service Tool from the SHIIP Project Change Forum A Maritech Project

Since we contend that change is a constant, we conclude that the products and services of the Change Forum will constantly change. One of the major factors in monitoring and managing change is *feedback*. As such, we need to hear from the users of the Guide Book.

That's why we created ***The Feedback Loop.*** It is a communication and evaluation tool for users to provide feedback for us about the Change Forum's Guidebook, Resources, and Tools.

Please take a moment to fill out this form and send it to us. If you wish, there is an electronic form available on the Internet site at http://www.harshman.com/shiip.

Thanks for your help and support.

1. What did you like about the Guide Book and/or its components (Resources, Tools, etc.)?

2. What did you like least about the Guide Book and/or its components?

3. What would you change if you were in charge of publishing the Guide Book?

4. Do you have any other ideas or comments you would like to share with us?

Mail to: Carl L. Harshman • 6361 Clayton Road • St. Louis, MO 63117-1808 or fax to: (314) 721-0524.
Email to: harshman@mvp.net or use the electronic form at: http://www.harshman.com/shiip.

Shipyard Manufacturing Operations Scenario

In January 1997, Oceanic Shipyards acquired Nautical Designs, a competitor, located just 100 miles away on the same waterfront. Nautical Designs was established in the early 1900's, and well known for building the highest quality products, at a price that was often competitive, but usually at the high end of the spectrum. Oceanic has been in business for about 30 years, and has always been known for producing a good product for a good value. The two yards have competed on the same work on occasion, but each has it's own niche market.

Henry Topsider, president of the new company, O.N. Designs, has been working with his management team as well as OZ and Bully, a consulting firm, to develop a strategic plan to merge the two shipyards. They have been trying to determine which of the operations in each shipyard should be consolidated, closed, modified or left intact. Their major objectives are to: provide the best service to their government and commercial customers; avoid any major disruptions in operations; continue to build high quality products at competitive prices, leverage the strengths of both shipyards; retain their respective uniqueness and niche markets while expanding their customer base; continue to provide a solid return on investment to their shareholders; and ensure a productive, safe and positive work environment for employees while contributing to the local community.

One of the major challenges facing them involves the future of the manufacturing operations. Each shipyard has it's own electrical, pipe manufacturing, steel processing, machine and sheet metal shops as well as support services such as transportation, carpenters, manufacturing engineers and riggers. There are various factors to consider when determining if they should keep both manufacturing operations. If they do, there will need to be many modifications to the existing operations to ensure O.N. Designs meets company objectives. At present, neither manufacturing operation is at full capacity. Within the next two years it is expected that enough work could be available to operate both manufacturing operations at a minimum of 80% capacity each. This would require many changes in both shops and very competitive pricing, while maintaining or even improving overall quality standards.

The space allocated for manufacturing operations at Nautical Designs is probably 30-40 % more than required. To remain open, shop floors would have to be redesigned, processes would need to be altered and streamlined. Old machines must be unbolted and refurbished or thrown out. There have been no capital improvements made for over 20 years, however their lathe capacity is superior to Oceanic's.

Nautical's workforce is mature and highly skilled. The labor contract covering the workers at Nautical has provisions that restrict one trade performing the work of another trade. This impacts flexibility and thus cost of the final product. Nautical is also saddled with the expense of a previous benefit rate charge, which adds about 15% onto the labor rate. Additionally, morale of the workforce is not good. Although the company has been holding meetings to ask workers their opinions on how to make improvements on the

shop floor, the process has been slow and few recommendations have yet to be acted on. The company has had several layoffs in the last two years due to declining production and there are rumors that some manufacturing operations could close.

Oceanic's manufacturing operations are more modern. Their large machines are about the same age as Nautical's, and their small machines are newer. The manager boasts that "his people promote trade flexibility"; in fact people are paid more for learning and practicing new skills. In the last contract negotiations, the union and company were able to agree on ways to cross-train workers and compensate them accordingly. Although pay and benefits are the same at both shops, there are no previous benefit charges to calculate into the labor rates. People are nervous about what future changes may take place. However, they are relatively pleased with the buddy system that was implemented to promote training, as well as the manufacturing operations manager's "open book" communication style.

The decision about whether to close the manufacturing operations at Nautical is difficult for Henry Topsider. He is being pressured to increase the profitability of the Nautical operation and OZ and Bully have recommended that O.N. consolidate operations into one shop at the current Oceanic site over the next year. In this way they can navigate current low rate production, and begin to utilize the excess capacity at Oceanic in the future. If business improves drastically, they could out-source some work to smaller shipyards, and rehire workers previously employed with Nautical .

Henry, along with other members of his management team have known many of the employees from Nautical for several years. Henry knows there are many roadblocks to keeping both shops open, but he would like to delay the decision to close any of the Nautical operations for at least two years. His management team is involved in the bidding process for new work, and they are encouraged by future potential orders. Although there is still a natural tendency for the yards to compete, Henry thinks there is future opportunity to increase work for both manufacturing operations if they can find ways to reduce costs, eliminate redundancies and improve operations at Nautical. He also remembers the strike at Oceanic many years ago that caused them to outsource much of the manufacturing work. Henry realizes that keeping both shops may be a long-term competitive advantage for O.N. Designs.

Within the next six months O.N. Designs will be meeting with two potential new customers that could increase their business significantly. Additionally, they have scheduled time to talk to the leaders of the unions at Nautical about potential changes to trade flexibility. Both of these events offer opportunities for O.N. Designs to consider keeping both shops open.

Henry has asked you to advise him on how to proceed. He realizes that whatever the outcome, there will be many changes to navigate in the manufacturing operations at both locations over the next several months and this will have a major impact on the people. He would like to have a culture at both shipyards that would encourage workforce involvement in: the business strategy, keeping as many operations viable at each site as

possible, and maintaining jobs for as many people as possible. He knows that it will be critical to minimize the competitiveness between the shipyards and encourage the leaders at both to work together. Using the Guide Book as a reference, your team has been asked to outline your recommendations on what he should consider. Please refer to the appropriate section of the Guide Book and Tool Box as outlined on your handout.

Key Questions and Guide Book Links

1. Where should Henry start? How should Henry begin to move towards his vision for the future? What needs to be considered when developing a plan for change? Who needs to be involved?
   Section 20: Developing the Plan

2. What needs to be communicated about the future of the Manufacturing Operations? Who needs to know? How do we develop a communication plan? What factors should be considered as we develop a communication plan and think about the best ways to share information to internal and external stakeholders?
   Section 13: Communication/Information Strategies

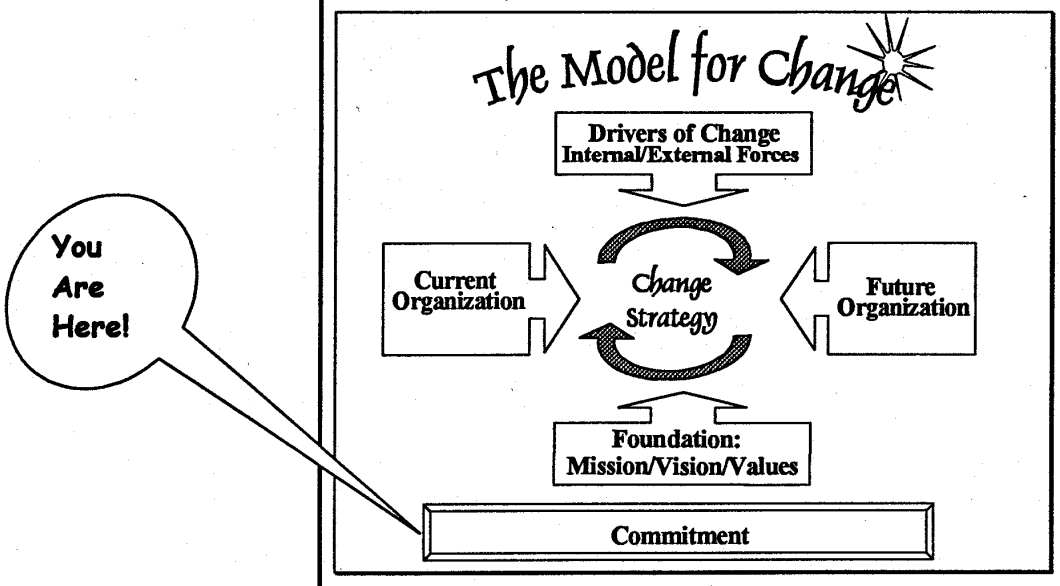
3. As changes are implemented at both sites, employees will be looking for guidance, support and information from both the company and union leaders. What characteristics or core competencies are important in the leadership at O.N. Designs as they move forward? How is this different from traditional shipyard leadership behavior? Why is it necessary for them to change? How will Henry and the top labor officials develop and coach their managers and union leaders?
   Section 14: Leadership Development Strategies

4. What types of resistance to changes in the manufacturing operations can O.N. Designs expect? Who will be resisting the changes? Why? What kind of strategies can O.N. Designs put in to place to influence and deal with the resistance by internal and external sources?
   Section 23: Resistance to Change

5. To be successful, company and union leadership will have to demonstrate on-going commitments to the changes they implement. What would these commitments look like? Compare and contrast the personal and collective commitments that must be made. How will these need to be reinforced over time?
   Section 6: Commitment

Chapter 6

Change Model: Commitment



Introduction:

Commitment is essentially a promise that something will be done. In the case of change, we are talking about the promise to provide support, resources, and direction to the process. In our experience, the commitment of organizational leadership is absolutely essential for change to occur in productive ways. Although, commitment alone does not guarantee success, the lack of commitment increases the probability of failure.

In addition, if the change is complex and longer term, a single commitment may not be sufficient to get the job done. In these cases, there will be series of commitments over time, each based on successful progression of the change process through the preceding window of opportunity.

Examples:

"Focus on building an organization that values each person's growth and development... This signals a commitment to make each individual valuable as an employee even if it means they go to another organization to realize that full value."
-Thomas Gerrily, Dean, The Wharton School

Demonstrations of commitment can come in various forms. In some instances, companies and their respective labor unions incorporate a letter of understanding or memorandum of understanding to the labor agreement that articulates an intention and approach for creating a more participative workplace. The most dramatic examples of commitment, however, are demonstrated in the behaviors of the organization. Consider this:

- In 1996 Ford Motor Company refused seats for its Expedition sport utility vehicles from supplier plants that were being struck by the UAW. Ford refused because during the strike the seats were reportedly manufactured by replacement workers. This move, although met with disapproval by supplier plants, was consistent with the principles underlying Ford's and the UAW's conduct of business during the prior 15 years.

- In 1995 a northwest public utility district designed and implemented a leadership development program called "The Leadership Challenge" or "TLC." This program was designed to help the district's leaders (management and labor) develop the skills needed to operate in a more team-based environment. With deregulation on their doorstep, the district was faced with competition like never before. Getting employees more involved in the business was a key ingredient for meeting this challenge. The trainers for TLC were developed from inside the organization. The district committed time, facilities, supplies, etc. to support the effort. In addition, top leadership committed some personal sweat. If you stop by one of their TLC sessions you just might see it being conducted by one of the shop stewards or even the General Manager.

Getting Started:

Below is a list of questions that can be used in assessing the level of commitment for change. These questions can be used at any level, i.e., organizational (the shipyard) or business unit (a division or work team within the shipyard). Note the questions are broken out into two sections. The first set of questions taps into your personal level of commitment. The second set is designed to look at the organizational commitment to the effort.

Individual

"At the very heart of our circle of influence is our ability to make and keep commitments"
Stephen R. Covey

1. What's in it for me?
2. What do I want to accomplish? Why?
3. What do I risk by getting involved?
4. What do I risk by not getting involved?
5. What am I willing to do to make this effort a success?
6. What am I going to do when I encounter resistance?
7. Am I willing to change? What's my evidence?
8. What's within my circle of influence? What can I impact?
9. What would my commitment look like? What behaviors would I need to demonstrate?
10. What would diminish my level of commitment?

Collective

1. What's in it for us?
2. What do we want to accomplish? Why?
3. What do we need to do to make this effort a success? Are we willing to do it?
4. What do we need to stop doing to make this effort a success? Are we willing to do it?
5. What are our boundaries? What are we unwilling or unable to do to demonstrate commitment?
6. How will we behave with one another in a way that demonstrates our commitment?
7. Who do we need to demonstrate our commitment to and how will we do it?

Lessons Learned:

- **Get Insurance For Stormy Weather!**
  All change efforts go through ups and downs. Sometimes groups need a way to protect the fragile structure and relationship which develops as part of a change process. A "safety net" does not prevent anyone from leaving the effort if they so choose. It does, however, put a process in place that creates a mechanism to prevent a spur-of-the-moment act one regrets later. See the Tool Box section for a more detailed description for establishing a safety net.

- **Commitment Starts at Home!**
  So much of the time we wonder about the level of commitment of others, be it a supervisor, management, the union, etc. However, the question of commitment is also a very personal one. Before embarking on a change effort, be it large or small in scale, it is worth taking time to examine your personal level of commitment to the effort. (See the Tool Box for an exercise)

"The commitment has to be to the community within our workplace, not just to our own interests or our career. Our answer to the question, 'Are you here to build a career or to build an organization?' has to be clear and without hesitation...we are here first to build the organization."
-Peter Block, Stewardship, p. 36

- **Compliance is Not Commitment!**
  In the authoritarian model, compliance is valued. In times when the status quo is acceptable, compliance is good enough. However, in times of change it is not enough. Responding to external pressures of global competition, shrinking markets and increased customer demands means you need people to give 100%. That translates into commitment. This kind of drive comes from the inside as well as externally. It comes from understanding the vision, believing the vision is good for the overall enterprise, having a stake in the outcome and genuine opportunities to influence it along the way.

- **Demonstrate Your Commitment by Your Actions!**
  It's so simple and yet can be so difficult – employees need to see visible signs of commitment in the behavior of leadership. If employees do not perceive there is a commitment to the effort they will justifiably respond with resistance and skepticism. What demonstrates commitment? Ask employees! They will tell you and, in turn, you can tell them what you can (and cannot) do.

- **Don't Make Commitments You Can't Keep!**
  It probably goes without saying, but keeping commitments is a key to building trust. In your enthusiasm to move ahead, be careful not to make commitments you can't deliver. If the unexpected does arise, do what you can to keep the commitment anyway. If it becomes impossible, explain the situation completely and ask to be released from the commitment.

More Information:

Like to know more?
Check out these additional resources!

Tool Box

"Ask for my opinion and I'm flattered, ask for my involvement and I'm committed."
-Anonymous Employee

- **Safety Net**
  This tool explains the purpose and operation of a "safety net."

- **Values In Action**
  "Not walking the talk" is a big source of cynicism and skepticism in the workplace. This exercise gives you a method for starting conversations about what stated values mean and the behaviors demonstrate those values.

	▫ **NASSCO 2000 GRAM #3** This is an exercise NASSCO used to stimulate conversations between supervisors and employees about the meaning of specific Guiding Principles in the workplace. This issue features "commitment to our employees."
Exercises **Web Sites** **Articles** **Videos** **Books**	▫ **Commitment: If You Build It . . . Results Will Come** ADL Associates, 1998. ▫ **Leadership as an Art** Max DuPrete, Dell Publishing, NY, NY, 1989. ▫ **Why TQM Fails and What To Do About It** Mark Graham Brown, Darcey E. Hitchcock and Marsha L. Willard, Irwin Professional Publishing, 1994, pp. 5-20.

POST WORKSHOP CONSENSUS ACTIONS

SHIIP PROJECT

- PUBLISH A REAL-TIME ACTIVITY STATUS ON THE EXISTING CHANGE FORUM/SHIIP WEBSITE. LINK THIS SITE TO *NSNET*.

- CHANGE FORUM/SHIIP CONTINUE TO SOLICIT INPUTS FROM INDUSTRY TO ENHANCE THE VALUE OF THE SHIIP PROJECT.

- CHANGE FORUM DEVELOP METRICS TO MEASURE THE EFFECTIVENESS OF THE SHIIP PROJECT ONCE IT IS IMPLEMENTED.

Notes:

1. The SHIIP computer systems applications for the modules presented should continue to be demonstrated to shipyard top management. Specifically include demos on engineering, and planning of work for multi-skilled applications.

2. Demonstrate the application of SHIIP to Workers Compensation activities.

3. The SHIIP project should produce a demonstrated ability to incorporate on-line interactive training programs, with distribution throughout a shipyard and the industry.

4. The SHIIP project should ensure consistency with the points made by the keynote speakers and the participants at the Workshop.

Suggested Workshop Follow-on Actions

This Workshop, its endorsements, the attendees and participants from various agencies, and the module presentations included in this report, are a valuable resource for identifying and achieving future improvements. You can initiate and conduct appropriate follow-on actions related to this module by choosing one or more of these suggested approaches:

A. Discuss items with your management, utilizing the published Workshop data as a resource;

B. Contact and work with those who attended and participated in the Workshop. Contact data is included in this report.

C. Participate in establishing industry meetings as a follow-on to this module;

D. Work with local, state, and federal agencies, utilizing the Workshop endorsements, presentation materials, and contact data as your reference source;

E. Utilize the Workshop endorsements as leverage for all levels of support, development, and implementation.

APPLICATIONS WORKSHEET

PRESENTATION: Changing Course with SHIIP

PRESENTOR: _____ **CONTACT DATA AVAILABLE** / _ /

WORKSHEET: For each presentation or panel discussion use this form to note how to enhance/clarify this presentation, to be applied to your organization. These notes can also be given directly to the workshop coordinator for enhancing the final Workshop Manual and a copy for your working with your own staff. Fax or E-mail to workshop coordinator.

1. A STATEMENT AND UNDERSTANDING OF THE BEST PRACTICES:

2. GLOSSARY OF TERMS/SPECIFIC TERMS:

3. FEDERAL/STATE AND LOCAL LAWS:

4. COST MODEL:

A. HOW CAN WE APPLY IT?

B. ITEMS TO CLARIFY:

C. COSTS INVOLVED/PAYBACK CASH FLOW?

5. RECOMMENDED PLANS AND FOLLOW UP TIMES:

A. SP-5 PANEL PROJECT ABSTRACT: _____

B. FORM TEAMS WITHIN THE INDUSTRY WITH GOVERNMENT AGENCIES/INSURERS, TO SPECIFIC ISSUES:

C. BEGIN INDUSTRY EXCHANGE FORUMS: _____

D. COORDINATE WITH OTHER INDUSTRIES: _____

E. IN-HOUSE AND LOCAL COMMUNITY ACTIVITIES: _____

6. BIG PICTURE STRATEGIES: NOTES: _____

7. AREAS FOR GOVERNMENT ACTIONS: _____

8. COMPANY INTERNAL CHECKLIST:

Proof of Savings /_/ **Training** /_/ **Implementation** /_/

Buy-in Requirements:

Management /_/ **Labor** /_/ **Organizational/ Cultural** /_/

File Listing

Directory: 27- Day 2

File Name	Description
27-1	Opening Remarks – Chuck Rupy
27-2-AN	Opening Speaker – Admiral Nanos
27-2-JW	Opening Remarks – John Welch
27 Day 2-File List	File Listing
Sch d2	Schedule of Presenters – Day 2

Presenters — Day 2 (Wednesday, January 27, 1999)

Time	Topic
Workshop Host:	Chuck Rupy, Chairman, Panel SP-5, General Dynamics/Electric Boat
8:30 — 9:00 a.m.	Opening Remarks
	Admiral Peter Nanos, Commander, NavSea John Welch, President, General Dynamics/Electric Boat Corp.
9:00 — 10:30 a.m.	Forming the Ergonomics Partnership
Video Clip:	Dr. Linda Rosenstock, Director, NIOSH
Lead:	Dr. James McGlothlin, Associate Professor, Prudue University
Facilitator:	Chet Matthews, Corp Director, Safety & Environmental, Bath Iron Works
Presenters/Panelists:	Dr. Steve D. Hudock, Senior Safety Engineer, NIOSH James Thornton, Director, Environment, Safety and Health,Newport News Shipbuilding Karl Siegfried, Ergonomist, MEMIC Milan Racic, Administrator, International Brotherhood of Boilermakers Larry Libertore, Maritime Administrator, DoL/OSHA LCRD Stan Jossell, US Navy, NAVSEA Industrial Hygiene and Safety
10:45 — 11:45 a.m.	Shipyard Organization and Staffing
Lead/Facilitator:	Rick Thorpe, Executive Engineer & Principal Consultant,Kvaerner Mesa Marine, Inc.
Presenters/Panelists:	Ron McAlear, Corporate VP, Marketing, Avondale Laurie Deschamps, President, SPAR Associates David Heller, Naval Architect, MarAd Marylou Madden, Director of SE Campus, University of Alaska Doug Ward, Director of Business Development, Alaska Ship and Drydock
12:45 — 1:15 p.m.	MACOSH
Video Clip:	Richard Vortman, CEO, NASSCO
Lead/Facilitator:	Larry Reed, Director, NIOSH
Presenters/Panelists:	Larry Reed, Director, NIOSH Larry Liberatore, Maritime Admin, DoL/OSHA James Thornton, Director, Environment, Safety and Health, Newport News Shipbuilding

1:15 — 1:45 p.m.	Funding for Training
Lead Facilitator:	Steve Sullivan, V.P. Human Resources, Baltimore Marine Industries George Lang, Manager Human Resources, Baltimore Marine Industries, Inc.
Presenters/Panelists:	Alex Landsburg, MARAD Susannah B. Schiller, Special Assistant to Director, NIST-AIP Betty Lucero-Turner, National Administrator Apprenticeship Program, DoL/ETA Dale Hartford, Grand Lodge Representative, IAM & AW Patrick Bullard, Training Manager, Electric Boat

1:45 — 2:30 p.m.	Recruitment Strategies
Lead Facilitator:	Chuck Rupy, Chairman, Panel SP-5, General Dynamics/Electric Boat Corp.
Presenters/Panelists:	Milan Racic, Boilermakers International Brotherhood Cliff Cooley, Director, Human Resources, Halter Marine Joe Jarvis, Director, Training Avondale

2:30 — 3:00 p.m.	Wrap-up, finalize consensus action plans
Lead	Chuck Rupy, Chairman, Panel SP-5, General Dynamics/Electric Boat Corp.

Chuck Rupy That's my real job. Here, I'm the chairman of the SP-5 human resource panel of the National Shipbuilding Research Program. This is a co-sponsored workshop, co-sponsored, that is, between SP-5 and SP-9. SP-9 is the education and training panel of the NSRP. So, what we've talked about yesterday and we'll talk about today are some issues that are very critical to our industry, and as I mentioned yesterday, the key thing that we're going to be doing here is developing consensus action plans for these critical issues.

And so, it's important what we do here in the next two days, but it's more important what we do after we leave here, and fortunately we have money to execute plans after we leave here, and I think we have leadership that can be very successful.

We're not going to solve all the industry's problems, but in this age of affordability and so on, it's good for both our commercial interests as well as our military shipbuilding infrastructure to attack some of these processes and to improve upon them.

The major thing that we're all very appreciative of is the teamwork we have here. We have all the key government organizations that are part of this team, the shipyards; we have labor and, of course, management, and the Navy working with us. That's kind of a model on how things should be done.

So, we've been successful in a number of areas prior to this workshop, and we're going to build on that success subsequent to this workshop.

Now, today, I want to mention some of the endorsements of this workshop that -- for people that weren't here yesterday -- for instance, Trent Lott (ph) was going to be here as of a few months ago, and of course I mentioned yesterday he'd rather be here, in fact. He's kind of busy. But Trent Lott has a vested interest in the shipbuilding industry being healthy and had sent a letter of endorsement to us.

He's very interested in the consensus action plans that are developed as a result of this workshop, and we're not bashful individuals, and we have some personal connections with him, so we're going to hold his feet to the fire for anything that he can do to help us in executing these plans including potential funding sources.

So, that's some endorsements.

Yesterday, of course, we showed you Bill Frick (ph) from Newport News -- gave us a letter of endorsement. He's very interested in what happens here. Dick Vortman, from -- the president of NASSCO -- you'll see a videotape today from him. Allan Cameron from BIW and John Welsh from Electric Boat.

The industry is really behind what we're trying to do here, and like I said it's a good team effort between all the organizations.

Now, for the last 10 years in this program -- every once in awhile I've said, "Well, this isn't my real job" to the people in the NSRP program, so today I fortunately am able to introduce two people that are associated with my real job. The first speaker this morning will be Admiral Pete Nanos who is presently the commander of the NAV-C systems command which, as I mentioned yesterday, I think, if you ranked NAV-C in

the Fortune 500 pecking order, they'd be five or six probably in that list as far as responsibility of what they're managing for this country.

Peter Nanos certainly can handle that job. I knew the admiral in one of his previous lives when he was the director of the Strategic Systems program office which -- for those of you that are not aware of that -- was an awesome responsibility.

His organization, under his direction, had the responsibility to produce and maintain the strategic weapons system on the Trident submarines, the C4 and D5 missile programs which is the number-one leg to our nuclear triad, and many people have said that the end of the Cold War was partly responsible for us having that capability.

Chuck Rupy:

So, Admiral Nanos has the organizational abilities, technical abilities and personal abilities to direct the NAV-C systems command which is one of the financial sponsors for this program.

So, I always feel guilty when I ask the admiral to come out of the office 'cause he's very busy, so I really appreciate him being here to say a few words. Admiral?

ADMIRAL NANOS: Good morning. It's a pleasure to be here. I was just noticing -- this is a great exercise for anybody who wants to get into public speaking. They say, you know, you have to engage with the audience and keep eye contact, and you're all making it a real challenge this morning. It's a pretty broad spectrum.

It is a pleasure to be here. Frankly, I've been a booster of this particular activity -- many of you probably don't know, but I got involved in this as a push -- one of the organizations that was pushing towards this in the early '90s when I was president of the American Society of Naval Engineers. I was very, very interested in this program because I felt -- that was back when it was beginning to grow into ARPA (ph) because I felt that something had to be done about American shipbuilding, and that was when I was somewhat involved in shipbuilding in terms of one class of submarines, but now I have much broader responsibilities, and I'm even more convinced that this is extremely important.

I want to take a couple minutes to talk about what I think the background is and -- my way of encouraging people is to tell you the truth, straight and unvarnished and then tell you what I think you need to do to handle what I see ahead of us today, and when I say "we", I mean we in the shipbuilding industry, those of us who care about the American shipbuilding industry.

I think, if you talk about what's really going on today, it's change and challenge -- I guess are the two things that I would put up high on the list.

Of course, it's easy to say "change" and "challenge"; they're kind of buzz words, but I want to go into some detail.

First of all, the background. We're about, I think -- this data's about a week old, so it's hard to track, but I think we're down to about 316 ships in the Navy. When you hear the CNO talk, what he'll tell you is that we're making it at 316 ships; we're maintaining our tempo of operations which, by the way, hasn't really dropped since the Cold War.

But it's coming at great cost. The tempo of ops and the amount of work load associated with our ships is causing a fairly heavy strain on our quality of life -- and don't worry; I'll get from quality of life to shipbuilding and what you have to do before I'm done and do it only 13 and a half more minutes.

But the truth is, because of that strain, we were 18,000 people short last year in terms of what we needed to run the Navy, and there's a major effort on to deal with quality of life and reduce work load on ships and that's spawning a tremendous amount of investment in terms of things that will make ships easier to maintain and operate and drive the cost of ships down.

This translates into, among other things, an intense look at how do you make ships more maintenance-free, how do you get the paint systems, the mechanical systems and all to a level of perfection where we don't have to spend so many manhours, and how can we allow the crew to have more disposable time between six-month deployment so that -- I mean, I remember when I was on shipboard, the thing that really got to me was the deployments were bad enough, but the problem is, when you were home, you weren't home. You spent most of your time aboard ship fixing it for the next evolution.

So, there's a lot of investment going on there.

Now, let's go back to the 316 ships. We're going down to 300, and the CNO says that is an extremely important number and it's set in concrete because, if we get much below that, we really get into a death spiral.

Too many commitments, not enough ships, inability to recruit, and it just keeps going down from there.

So, we have to first of all maintain 300 ships, but if you do simple mathematics and you look at the budgets we have today and you recognize that a ship lasts about 30 years, 300 ships, 30-year service life tells you you have to be building about 10 a year. And we've gotten some plus-ups recently, but I keep eyeing the shipbuilding budget, and we're not up to at least 10 ships a year yet in the budgets. We're getting closer. We were a year or so ago at half that number. We're getting up to around three quarters of that number, but we're still not replacing them.

So, our ships have to be more affordable to maintain in the long term, i.e., less repair dollars, and by the way, we've got to procure more of them, and unless you believe that budgets are going to continue to expand without bound, that means we have to figure out how to deal with the price of the product.

One other thing that's a fallout of this -- if you look at where we're going, which is about 300 ships, and you recognize that these small shipbuilding numbers are going to maintain for awhile, it tells you that we're over capacity, that we have, for the amount of work that we have in our shipbuilding industry right now, given that the predominance of the work for the shipbuilding and ship repair industry is Navy work, we're over capacity.

Okay, I mean, these are hard truths, but it's the truth. The Navy work has gone down. Commercial work hasn't increased. Our industry is still running against the world.

Even if we take subsidies out of it, our industry is still running considerably more expensive than its counterparts in other parts of the world.

So, we have to look very critically at that particular set of circumstances and decide what is it we have to do about it.

Well, I think, if you ask, "What does the shipbuilding industry have to do today," first of all, it has to understand how it's going to increase its market share in the world. Navy work is going down and is probably not -- even though we hope to stabilize it at a sustainment for 300 ships, that's still considerably lower than what it's been in the past, and therefore, if we want to maintain the type of shipbuilding plant

that we have in this country -- and, oh, by the way, I'm a proponent of that -- we have to figure out how to get the business level up.

That means we have to take somebody else's business from them.

How are we going to do that? Well, we're not going to do that by lowering the wages of the American worker. I mean, that's pretty clear. And I don't think that's right. I mean, the fact of the matter is, when we're competing against countries that don't have the quality of life of workers that we have in this country, our immediate answer shouldn't be to emulate their quality of life. It should be how to figure out how to build ships within our quality of life and get it done.

This is a very complex question, and I believe the answer -- and a good part of the answer -- is in our cooperative efforts in terms of pursuing technology and pursuing the types of things that these initiatives that we're about here today have to bring us.

And that's why I was very interested in the National Shipbuilding Research Program because, first of all, it can get at the industrial technologies that you're going to need in order to be more competitive. It gives us an opportunity to understand where we can invest to make our world better in terms of shipbuilding, and in the case of these panels here today, human resources and training, I think it's important to recognize and to capitalize on the human part of this equation because buying machines, exploring new systems and technology won't get you there if you don't have a way to deal with the human aspect of it because at the bottom line machines don't build ships -- design and build ships. People design and build ships.

It doesn't matter how much you automate; you still have to have the guiding influence of our work force in order to get that done.

And I know that in the Maritech ASE initiative here, we put -- I know from the NAV-C side, we put some money in it. Some people would say we haven't put enough, but at least it's a start, and I'm a proponent of continuing and improving the investment.

The nine shipyards that are involved in this initiative -- it's a -- this initiative that's, I think, similar in my view to what happened in the semiconductor industry with Semitech, the banding together to reform an industry and make it more competitive.

The aspects of what you need to grapple with, I believe, in the human resource part of this -- training and retraining. How to lower the cost of that, how to make it more efficient.

As we come up with new systems to manufacture ships, how do we conduct the communication with our work force? How do we bring them -- the tools that they need, the information that they need, the training that they need, the guidance that they need on line?

We're worrying about this, by the way, shipboard because we're dealing with a much more volatile manpower situation than we have in the past, and the question is: How do we get procedures to people? How do we make sure they know how to use the modern systems? And as these modern systems change rapidly, because

of advancing technology, how do we continually retrain them or give them aids that help lessen the burden of retraining?

As we go towards some of the more modern techniques we're using -- for example, in the environment area where we're going to new adhesive and coating systems and trying to cut down the numbers of adhesives and coating systems, and we're trying to use things that are less volatile and have less environmental impact or health impact. We find out that some of these new procedures are very, very touchy technically.

I mean, we have situations where we put ships to sea and find all the paint systems in the tanks fail, and part of it has to do with application. Well, why didn't we apply it properly; it could have been temperature; it could have been bad luck; it could have been the fact that we just didn't quite get the training right.

In my last job in SP, we went in and had to change the paint system out on all the launchers in the Trident submarines. Well, I'll tell you, the new low-volatility paints -- it was a real trip. You had to do it very, very precisely in order to get anywhere near the longevity in the product you need.

So, the question is: How do we handle that? How do we partner with our work force in order to get this done? How do we get the training done properly? How do we attract -- make the quality of life and the benefits store work for us in this competitive environment -- good enough so that we can keep the best and the brightest working on Navy work?

I was recently down in Pascagoula. As you drove in the shipyard, it was clear that there was a lot of competition for the best welders and pipe people and steel workers down there because there's a tremendous resurgence in business for the offshore oil industry, and they're competing for our people. How do we keep our people lined up and make that attractive?

I think the future -- and the way we're going to have to attack this is the way we're attacking it here in partnership -- we are all going to be participants together in this business for a long time, and my commitment to you is to first of all come here and tell you the truth about what I think the prospects are, and I've told you those -- fewer ships, having to make them more affordable, having to make them less expensive so we can sustain the Navy -- that's important, the fact that the Navy part of the work load is probably not going to go up, at least not in the new construction area.

We will pick up some additional work in the repair area because part of the quality of life is that we're having shipyards today do what we used to have sailors do just so we can put less on the sailors' back, although in some cases, that will create other difficulties because we're reducing the number of crews in -- the number of people in crews and shipyards.

Although we're shifting that work to the private sector in many cases, it's still going to make the total problem no less difficult.

But I think the way out of this, the way we have to deal with this is for us to do our part, throw our money in with yours, your effort, get into partnerships, work partnerships both at this level, at the national level, work partnerships at the local level

between public shipyards and private yards. Public shipyards, by the way, I think they're something that are here to stay. A lot of folks think we'll just contract that out. I don't think that's the right thing to do. I think public yards in certain markets provide just the right amount of competitiveness to keep prices in line and make sure that we're all working together.

But on the other hand, that does not mean that the public yards and the private yards should not be partnering on these key initiatives because we're all doing the same sorts of work; we're all working with the same sorts of systems, and it seems to me the public, private partnership is the way to the future.

I've had a lot of success in my past career with that. It's something I hold great hope for in the future.

We have recently signed a memorandum of understanding between Newport News and Norfolk Naval Shipyard to explore a broad range of initiatives, and included in that is training, and if possible, the sharing of facilities.

What do I think the goal is of all this, and where should we set our sights?

Now, I could talk about the money all day long, but the even broader goal, I think, of this is we should be looking for market share for this country. We should be looking for more work.

I'm here confessing that that work can't be Navy because we're limited in our resources, but I'm here to tell you that I really want to support the efforts of the industry in terms of getting more of somebody else's work, and I think that's what we have to do.

And I recognize we're working at a severe financial penalty in many cases because of the subsidies that are given to foreign shipyards and the situation we face abroad. That does not mean we should ought not to push hard in that arena and try to get more market share, and I think this thrust, the people side of the equation, what makes the technical advances work and work well is an extremely important part of that.

And I just want you to know that I'm on your team for making that happen. Thank you very much.

(Applause.)

Admiral Nanos
Commander NAVSEA

Chuck Rupy: Thank you, Admiral. The next speaker is Mr. John Welch, and I can be accused now of brown-nosing 'cause he's my boss, but if you know me better, you know I'm not a brown-noser.

I've been at Electric Boat for about 35 years, and John Welch has been there about 10 years, so I've seen a number of the presidents come and go and many of the vice presidents and so on, and I think what's important to state about John is balance. I think John Welch brings to our industry and to our company, obviously, a balanced tack as far as his technical abilities, managerial abilities, personal abilities and, what's more important, integrity.

Working with Admiral Nanos' organization and so on -- it's a very warm and fuzzy feeling for the customer when they know that the program comes first, not necessarily the corporation, and I think Mr. Welch embraces that concept.

So, again, we're very pleased to have Mr. Welch take some time out of his schedule to endorse what we're doing here, and I'd like him to come say a few words.

MR. WELCH: Chuck told me he's retiring, so it doesn't do him any good.

It's a pleasure to be with you today, and I'm going to pick up on some of what Admiral Nanos said because I couldn't agree with it more because I think he really laid a challenge out for us, and that's indicative of the environment that we're operating in.

Some of my folks are here today, and see, I haven't been telling you all this stuff just because I made it up. It's really the environment that we're living in.

So, I'm going to talk to that a bit and talk about change because I think what some of the key themes that you have in this conference are focused on how we're going to deal with the work force, how we're going to work with the work force to figure out a better solution for the future, and I think you're doing exactly the right thing.

I think the Maritech advanced shipbuilding enterprise is key to the future of our industry because it will help us develop and adopt the advanced technologies we need to improve our commercial competitiveness 'cause we need that to help supplement what's going on on the Navy side.

It'll provide us with vital tools that are required to reduce the cost of naval shipbuilding. Additionally and just as importantly, the advanced shipbuilding enterprise is creating an environment that fosters cooperation and collaboration among competing domestic shipbuilding businesses.

More and more, we are realizing that, by combining our resources, we can accelerate the rate of improvement across the entire shipbuilding industry.

There's no doubt that a stronger united American shipbuilding enterprise will benefit both the Navy and the nation.

Being the president of Electric Boat, I'm sort of used as the example of different kinds of collaboration -- and a new attack submarine where we essentially are teaming to produce that with Newport News who's long been our primary competitor on the attack submarine business -- I can probably talk a little bit about what it's like to train steam mates and collaboration that you hadn't thought about before.

But why do we do that? There really was a necessity for much of what Admiral Nanos talked about. It was a necessity for the affordability of the submarines with the basic belief that, if we collaborated to make the ships more affordable, more ships would be bought, and there would be more work for both of us.

And so I always like to say that you woke up one morning and figured out that your real competition wasn't Newport News. Your competition was for very scarce defense dollars to build submarines and you had to go figure out a better equation to create more shipbuilding, and that also is a national necessity as well to support force level requirements.

So, you did it for affordability, to get more ships and a very scarce resource environment.

You also did it to share best practices -- I mean, to get that affordability, you had to be willing to share some of your crown jewels in the process. That was really difficult. I mean, I can tell you that the first time we took Newport News folks to Quantum Point and showed them how we bored holes in the reactor compartment bulkhead and some of the techniques that we used to do that, there were a lot of uncomfortable people working for Electric Boat at that time.

Went down and saw how Newport News did some of the things that they did and their eyes opened up and say, "Hmm, maybe this is two-way; we can benefit from it as well."

But I think one of the underlying things that's driving us to a lot of the collaboration that we do is that we can't afford to have each of us re-creating everything that's going on in the business, and I'll just give you an example.

In the new attack submarine, the integrated product data environment, i.e., the computer systems that link right from design analysis to the detailed design to the automated manufacturing nesting of parts -- or the investment that was made to bring that system up to the year 2000 kinds of capability over a eight, nine-year period was close to 100 million dollars. Not everybody can afford to go do that, so you need to share those lessons; you need to share that capability.

But underlying it is sort of a philosophy that says, "I'm willing to share 'cause I can't afford for all of us to create the capability. I need to learn as much as I can and then" -- especially if you're the guy that you think you're giving away the technology, then you've got to have a plan that says, "I'm going to keep going to the next level." So, you've always got to be looking behind your shoulder because somebody's coming and somebody's coming fast, and so that's the environment that we're in. It's a difficult environment to communicate to our employees; it's a difficult environment to communicate to management, but that's sort of the environment that we're in. We're going to share best practices, learn from it and then somehow take it to the next level.

We'll come back and talk about taking it to the next level 'cause to me the real key ingredient to take that to the next level of productivity is the people, and that's where each of us are different, and that's where, if you've really got a good labor-management relationship and you really have an empowered work force that's involved

in the process, you can go to that next level better than your competitor. Those aren't things that are easy to measure.

One thing I would talk about -- especially the collaboration's important at the design stage, and now it's not just collaboration between shipyards; it's collaboration between the shipbuilders and the maintainers, whether that's the fleet or whether that's the small repair yards because I will tell you that in the first two years of that design process, I will determine what it's going to cost to maintain that ship over its 30-year life, and we've got great people who know how to maintain ships, but how many times do you hear from them -- "You know, they designed it this way; this is the only way I can fix it; if they'd design it differently, maybe I could do it better," and you only have a very narrow window of opportunity and design process to get that stuff in there.

So, that's where the real life cycle cost savings occur that Admiral Nanos is looking for -- it's early in the design process; you've got to collaborate; you have to bring lots of people together to make sure that design is optimized for life cycle as well as for producibility.

Today, there are 23 fleet representatives at Electric Boat going through fleet level reviews on the design of the new attack submarine, and so the maintainers, the operators are sitting in those rooms today reviewing that process.

I think on -- especially on the ship repair side in the non-nuclear world, that's something that we need to think about -- how do we get those smaller repair yards involved up front in that design activity? That's a paradigm that we haven't necessarily thought through.

Safety and health, workers compensation, work force development and the other issues you're addressing in this workshop are critical to our overall effort to reduce the cost of warships to the Navy and reestablish American shipbuilding as a competitive force in international markets.

This overall effort is focused on improving the processes we use in several broad areas including business practices, manufacturing systems technology and design.

To enable these improvements, ASE has embarked on five initiatives and, as you know, they're called crosscut initiatives, individual initiatives which are being covered at this workshop apply to education and training, technology transfer, organizational change, human resources and environment, health and safety.

I wasn't here yesterday to hear the status that was provided on the ship project, and I understand they tried to feed you too much in too short a period of time. So, let me give you what I think the ship project's about.

You know, we're closely involved with the shipbuilding information infrastructure project or SHIIP which is particularly appropriate to mention since it embodies all of the enabling initiatives I just described.

Some of you heard this project discussed yesterday. In addition to EB, Avendale, Bath Iron Works, NASSCO, Todd Shipyards and Atlantic Marine are participating in the ship project.

We are now engaged in the development and deployment of a new shipbuilding methodology that addresses both people and organizational issues. This broad-based team is introducing, documenting and validating new shipbuilding processes as well as investigating and assessing the effectiveness of new organizational paradigms.

The objective of this project is nothing if not ambitious -- to transform the industry by effectively delivering to the work force a flow of information that's consistent and comprehensive -- the result, an empowered work force that's able to identify and implement efficiencies and costs savings ideas.

I'm always worried when we talk about best practices and industry is that we're going to go tell our people what the best practices are and tell them how to go do it. That's not what we're talking about with the ship projects. It's creating the information flow so they understand what those practices are, put them in their context for what they're doing, and they're telling us what we need to do to make that process more efficient. So, it's definitely two-way.

So, we can train until we're blue in the face and we probably don't do enough of that, but the real training may be more in some of the soft stuff for how we communicate, how we facilitate and how we really draw those ideas of out or people so that we can really optimize the processes.

For our people -- I think they're going to think it's great -- 'cause information is power, and I think that some of the things we're doing in the ship project will help demonstrate both to our people and to our management the real potential that's there.

I've told my people at EB before, and I really believe it, that this is where the real power and the real efficiency is going to have to come into the business. It's going to be through getting our people empowered to feel and take ownership for the process, understand why we're doing some of the things that we're doing, and have them bring that back to us in the form of a more efficient way of doing business.

I think this leads right into your next topic that you're going to talk about -- is the issue of recruitment.

One of the big issues that we've had to face at Electric Boat is that we've gone from -- as recently as 1991 -- 22,000 people to just 9,000 people today. And this has especially been felt on the waterfront. The Metal Trades Council in Gratin (ph) was 13,000 people in 1990; today it's 1,500. That's a big change.

But underlying all of that -- so, while you're trying to introduce and improve processes, while you're going through a major restructuring of the work force, it's a very difficult environment.

But underlying all of that in our business, and I look at this across all of the big six shipyards that I talked to -- is this whole issue of when are we going to -- and what is our process for starting to renew this work force because, if you're reducing, coming down in head count to the degree that we've had to in the naval business, you tend to do it by seniority, and so where's the next generation? How are you going to get them to come into this business?

In the 1970s, our experience -- over a four-year period -- we hired 25,000 people to deal with increased production of 688 and Trident-class submarines. After a four-year period, only 4,000 of them were still with us. Shipbuilding's not an easy business. Submarine shipbuilding isn't an easy business. You've got guys like Kevin Demine (ph) to yell at you, so there's that whole side of it.

But not everybody can work in this business, but in the 1970s we had a very robust commercial nuclear power industry and we had a major shipbuilding industry in this country to go draw from those resources. That's not there anymore.

So, the whole issue, even in a much smaller shipbuilding industry and how we renew the work force to bring people into the base with the right kinds of skills, be able to deal in a completely different work environment -- I think it's going to be a huge challenge.

To recruit people, what do you think you have to have? I think you have to have an attractive business. That puts a huge responsibility on the leadership to effectively communicate that there is a future in this business, albeit that you've gone through a lot of change and it's smaller; it's still a good business; it's technically challenging. You get paid a fair wage. I think that's going to be an issue -- you're not going to get around that. I agree with the admiral; you can't carry the burden of cost -- affordability on the back of the people.

But they need to understand all this pressure so they can help come through a lot of those issues.

I think the key is going to be an involved work force. If the work force is involved and feel that they're part of the solution, then I think it will be seen as an attractive place to come, and people will be willing to take that step.

If it's not -- if it's going to be seen as just a meat grinder and they're going to tell us what to do, and -- people will do that for awhile 'cause they need the pay, but their heart and soul won't be with you, and you need their heart and soul to really get to the next level.

It's a lot of emphasis on training and the introduction of knowledge to our people, and we really have to go take a hard look at that. Again, I'll say to you I think some of the training isn't necessarily in how to figure out how to run a design tool or how to visualize something down on the waterfront electronically so then you can go build it. A lot of it may be in some of the softer stuff which is how to treat people like human beings and create an effective coaching type of environment.

With that entry, you ought to have a good session on the next round.

At Electric Boat, we're fully committed to making the advanced shipbuilding enterprise a success. To this end, we have several representatives on major initiative teams and panels, many of which are here today. Jim Boudrous (ph), Carol Davis, Craig Coppage (ph), Rick Gishner (ph) and Rick Nelson, and our senior vice president, Mike Toner (ph), is serving as chairman of the executive control board of NSRP.

This morning, we're asking for your continued commitment from all versions -- whether it's from the big yards, the small yards, from labor, from the environmental, occupational, safety and health arena -- we all need to come together.

We're asking you to apply a level of intensity at your workshops that will result in aggressive recommendations for action. As Admiral Nanos has made so clear, affordability is the linchpin in the effort to make our industry viable and competitive. We need to keep that in mind at all times. We need to keep in mind the fact that the ultimate beneficiaries from an increased commercial workload will be the Navy, the nation and the taxpayer. It's absolutely key to maintaining a 300-ship Navy.

Your participation in these workshops will contribute directly toward the Maritech ASE's overall goals, specifically through the development of a consensus action plan for each module.

I look forward to getting the results from those action plans and speaking for the leadership of ASE and as well as the leadership of management of the multiple organizations that support NSRP. We look forward to your recommendations when we commit to you to take those to the next level 'cause it is absolutely critical to long-term well-being of our industry.

Thank you again for inviting me here today, and best of luck to you in your efforts.

(Applause.)

(End of tape.)

John Welch, President
General Dynamics/Electric Boat Corp.

File Listing

Directory: 27-3
Forming the Ergonomics Partnership

File Name	Description
27-3-VT	Video Tape Endorsement – Dr. Linda Rosenstock, Director, NIOSH
27-3A	Participants and Module Overview
27-3B	*Presentations* 27-3B1 – Dr. Stephen Hudock -- NIOSH 27-3B2 – LCDR Stanley Jossell, NAVSEA 27-3B3 – Proposal Abstract
27-3D	Action Plan
27-3E	Application Worksheet
27-3-File List	File Listing

MS. ROSENSTOCK: Welcome to the ergonomics partnership session of the National Shipbuilding Research Programs National Workshop on Human Resources and Training. I am Linda Rosenstock, Director of the National Institute for Occupational Safety and Health, NIOSH, the nation's lead agency responsible for research on prevention of job-related injuries, illnesses and deaths.

I am truly sorry I could not join you in person today, but I would like to extend my best wishes for a successful and informative workshop.

I also want to express my support for the efforts now underway in your industries to establish exciting, new research partnerships in the area of ergonomics and musculoskeletal injury.

NIOSH, which is part of the Department of Health and Human Services, places great value and partnering to advance the research that is critically needed for preventing job-related injuries and illnesses. Partnering is a wise strategy for all of us who want the best possible return for our investments in occupational health and safety research.

I am pleased that Steve Hudok (ph) will be with you today to discuss the collaborative ergonomic studies that we look forward to pursuing with several of you here and with other partners in labor and government.

Our discussions with you and your colleagues are only one example of several diverse partnerships that have been stimulated as a result of the National Occupational Research Agenda or NORA.

NORA, which was developed three years ago, with input and review from more than 500 outside organizations and individuals, provides a blueprint for the U.S. as a whole for research that will do the most to reduce occupational injuries and illnesses over the coming decade. Among the 21 NORA priority areas are the categories of control technology, musculoskeletal disorders of the upper extremities and lower back, and traumatic injuries. These are relevant issues for your industries and for the partnership that will be discussed here today.

Research in these areas is critical for protecting workers from injuries and illnesses that have great concern for us in the public health community and tremendous impact on corporate productivity and competitiveness.

This research builds on the fact that implementation of ergonomic principles already has a proven history of reducing workplace injuries and illness costs and increasing productivity in many industries.

The proposed collaborative research to be discussed here today promises similar benefits for the safety and health of your work force and for your company's productivity and competitive edge in the global market.

I invite each and every one of you to become active participants with us. Thank you.

(End of recording.)

Day 2 Schedule/Presenters/Description of Modules

9:00 — 10:30 a.m.	Forming the Ergonomics Partnership

Video Clip: Dr. Linda Rosenstock, Director. NIOSH

Lead: Dr. James McGlothlin, Associate Professor, Prudue University

Facilitator: Chet Matthews, Corp Director, Safety & Environmental, Bath Iron Works

Presenters/Panelists: Dr. Stephen Hudock, Sr. Safety Engineer, NIOSH
James Thornton, Director, Environment, Safety and Health, Newport News Shipbuilding
Karl Siegfried, Ergonomist, MEMIC
Milan Racic, Administrator, Boilermakers International Union
Larry Libertore, Maritime Administrator, DoL/OSHA
LCRD Stan Jossell, US Navy, NavSea, Industrial Hygiene and Safety

Description of Module: One of the major goals of the Ergonomics Partnership is to develop consensus ergonomic guidelines for the ship construction and repair industries. These consensus guidelines, developed jointly with labor, management and government involvement, would assist the shipbuilding industry in being more globally competitive, while reducing injuries and illnesses among its workers. The purpose of this module is to develop the framework to facilitate development of suitable ergonomic guidelines. These guidelines will be anchored by the action items derived from this module. Also, this module will help to focus recommendations that will reduce and eliminate job risk factors through better job design and safer and more efficient work practices.

Presentations

27-3B1 Dr. Stephen Hudock, NIOSH

27-3B2 SCDR Stanley Jossell, NAVSEA

27-3B3 Proposal Abstract

Ergonomics Partnership for the U.S. Shipbuilding and Repair Industries

Project Partners

- National Institute for Occupational Safety and Health (NIOSH), Centers for Disease Control and Prevention (CDC), Public Health Service, Department of Health and Human Services
- National Shipbuilding Research Program (NSRP)/Maritech Advanced Shipbuilding Enterprise

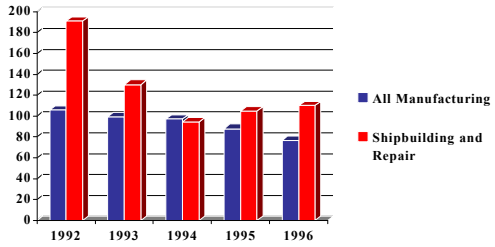
Project Partners (cont.)

- Labor:Boilermakers, IBEW, Metal Trades Council, AFL-CIO
- National Shipyard Association/Shipbuilders Council of America
- Maritime Advisory Committee for Occupational Safety and Health (MACOSH)
- Occupational Safety and Health Administration (OSHA)
- U.S. Navy, Naval Sea Systems Command (NAVSEA)
- U.S. Navy, Office of Naval Research, Maritime Industrial Practices (ONR)
- U.S. Coast Guard
- U.S. Maritime Administration (MARAD), Department of Transportation

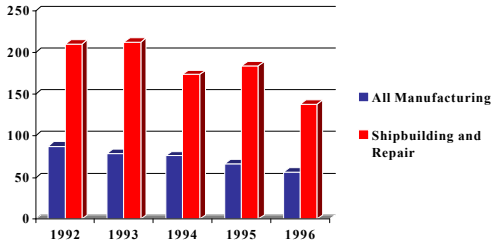
Why shipbuilding and repair?

- BLS (1994) ranks shipbuilding and repair in top ten for back injuries (174/10,000) and lower extremities (162/10,000) for all manufacturing industries.
- For period from 1992-1996, injury and illness rates for shipbuilding and repair averaged 165% higher than manufacturing average.

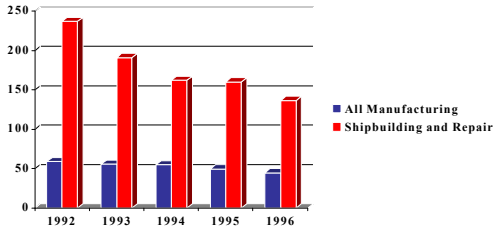
Upper Extremity Injury/Illness Incidence Rate per 10,000 Workers



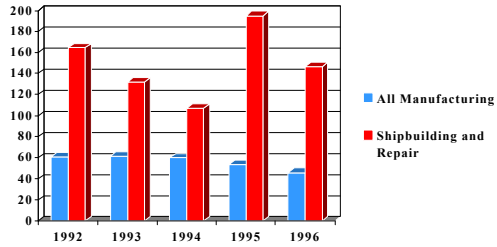
Back Injury/Illness Incidence Rate per 10,000 Workers



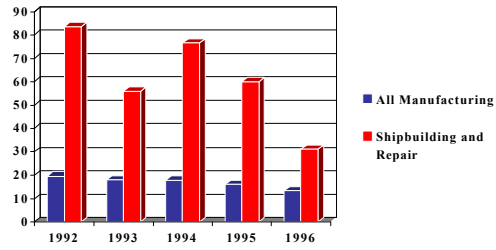
Lower Extremity Injury/Illness Incidence Rate per 10,000 Workers



Worker Motion or Position Injury Incidence Rate per 10,000 Workers



Hand Tools Injury Incidence Rate per 10,000 Workers



Focus of First Phase

- Conduct walk-through surveys of ship construction and repair yards to facilitate qualitative job risk factor assessments of the various trades
- Examine injury and illness databases to determine trade-specific incidence and severity rates
- Select 6-7 candidate yards at which to conduct ergonomic intervention studies

Location of 13 U.S. shipyards visited

U.S. Shipyards Visited

- Astoria Metal Corp. (CA)
- Bath Iron Works (ME)
- Cascade General (OR)
- Continental Maritime (CA)
- Electric Boat (CT, RI)
- Halter Marine (LA, MS)
- Ingalls Shipbuilding (MS)
- Jeffboat (IN)
- NASSCO (CA)
- Newport News Shipbuilding (VA)
- Puget Sound Naval Shipyard (WA)
- Todd Pacific (WA)

Location of 5 Japanese shipyards and 1 U.S. Navy ship repair facility visited in Japan

Japanese Shipyards Visited

- Ishikawajima- Harima Heavy Industries, Tokyo yard
- Sumitomo Heavy Industries, Yokosuka yard
- Mitsui Engineering and Shipbuilding, Tamano yard
- Sanoyas Hishino Meisho, Mizushima yard
- Mitsubishi Heavy Industries, Koyagi yard
- U.S. Navy, Yokuska Ship Repair Facility

Japanese shipyard visits arranged through the Shipbuilders' Association of Japan and the U.S. Navy, Office of Naval Research, Maritime Industrial Practices Program at the request of the National Shipbuilding Research Program

Benefits of Being Candidate Yard

- Sharing of ergonomic technology developed and implemented within industry
- Proactive approach toward developing ergonomic guidelines that could have a positive economic impact on the industry
- Identification of ergonomic problem jobs and quantitative analysis of tasks performed

Focus of Second Phase

- Develop homepage (with DSR) for ergonomic solutions within shipbuilding and repair industries based on Phase 1 site visits. [After completion turn over to Gulf Coast Region Maritime Technology Center -- University of New Orleans.]
- Quantify job risk factors in the various trades
- Recommend engineering and/or administrative controls to reduce the risk factors
- Conduct ergonomic interventions studies at the candidate shipyards given outside funding. [$500,000 over two years]

Shipyard Intervention Sites of NIOSH/SP-5 Ergonomics Study

- Bath Iron Works
- Continental Maritime
- Halter Marine Group
- Ingalls Shipbuilding
- Jeffboat
- Puget Sound Naval Shipyard
- Todd Pacific

Shipyard Attributes

	Commercial	Military	New Construction	Repair	Large	Medium	Small	Location
Bath Iron Works		X	X	X	X			Atlantic
Continental Maritime		X		X		X		Pacific
Halter Marine	X		X	X		X		Gulf
Ingalls		X	X	X	X			Gulf
Jeffboat	X		X	X		X		Inland
Todd Pacific	X		X	X		X		Pacific

Ergonomic Intervention Examples

Jeffboat: Welders in confined spaces between hulls in keel area of chemical tankers.

Continental Maritime: Study of selected power hand tools during repair of vessels

Focus of Third Phase

- Conduct post-intervention evaluations at the candidate yards
- Develop consensus voluntary guidelines for ergonomics for the ship construction and repair industries

Project Deliverables

- Consensus voluntary ergonomic guideline for shipbuilding and repair industries
- Website with ergonomic solutions and resources
- Personnel trained in ergonomic principles
- Mechanisms for building and repairing ships faster, at less cost and with fewer injuries
- Metric for using ergonomics as means of becoming globally more competitive
- Workshop for shipbuilding and repair industries focusing on implementation of industry-specific ergonomic guidelines

CNO Corporate Ergonomics Program

LCDR Stan Jossell, MSC, USN

1/27/99

Program Background

- 1989- Ergonomics Program began as Navy's Special emphasis back injury prevention program
- 1992-1994-Navy data showed doubling of injury rates of upper extremity strains and sprain
- 1995-Navy added ergonomics to existing back injury prevention program

Navy Corporate Ergonomics Plan (NCEP) Goals

- To prove Navy-wide that the NCEP makes
  - good business sense
  - -reduces injuries
  - -increases productivity/quality of work
- To improve quality of life
  - – retention
  - – morale

Current Ergonomic Shipboard Problems

- Unused Material Handling Devices
- Manual labor (working parties) vice mechanical intervention
- Paradigm thinking

Unused material handling devices

- **Apart of ship design: roller systems, stairway slides**
- **Not often used. Why?**
  - **Not properly maintained**
  - **Cumbersome, labor intensive to set up**
  - **Slower than working parties**

Mechanical systems

- **Apart of ship design: Conveyor/elevators, overhead rail systems**
  - **Requires training and certification prior to use**
  - **Overhead rail systems obstructed by cable and wires**

Other Ergo problems

- Office ergo issues everywhere including: poor control panel designs for weapons, navigation, radar, damage control systems, etc.
- Inadequate lighting
- Vibration from tools used in ship preservation (e.g., grinder, needle guns, etc.)
- Antiquated tools (poor design)

Other Ergo problems (cont)

- **Cleaning activities are done every spare moment with short handled brushes and dust pans**
- **Laundry workers work 12 hour shifts, 7 days/wk under extreme environmental conditions, lifting huge loads of wet laundry daily**
- **Racks have 2 inch mattresses that are years old, dirty and worn. Sailors essentially sleep on steel plates**

Paradigm Thinking

- **200 year philosophy**
- **"I did it this way, so will you"**

Solving the Problem

- **USS Enterprise --model site**
- **Established an Ergonomics Team**
  - **Comprised of sailors under the leadership of Safety and Medical professionals**
  - **Team trains everyone and covers: ergo awareness, early warning signs, exercise, body mechanics, basic principles, etc.**
  - **Ergo incorporated in to safety standdowns**

Solving the Problem

- **Establishing policy on the proper use of existing equipment (including maintenance, certification, repair, etc.)**
- **Policy governing work schedules, awareness, and hazards of WMSDs, collecting data to document WMSD cost to the Navy**
- **Purchasing properly designed equipment when replacing old equipment**

Solving the Problem

- **Procuring better mechanical equipment, including winches, cranes, lifts and adopting policy to ensure proper use and care.**

Future Goals

- Smartship Designers
- Ergo webpage: www.navosh.net
  - Click on programs
  - Click on Navy Corporate Ergonomics Case Studies

ABSTRACT TITLE: Ergonomic Interventions in the Construction and Repair of Ships

SUBMITTING ORGANIZATION: National Institute for Occupational Safety and Health, Centers for Disease Control and Prevention
POINTS OF CONTACT: Stephen D. Hudock, Ph.D., CSP, (513) 841-4385, sxh5@cdc.gov
James D. McGlothlin, Ph.D., CIH, CPE, (513) 841-4368, jdm3@cdc.gov
Laurence D. Reed, (513) 841-4221, ler3@cdc.gov

PROJECT ABSTRACT: Job risk factors for the trades, such as boilermakers, electricians, machinists, painters, pipefitters, riggers, and welders, are unique in the construction and repair of ships. It is imperative to have a realistic approach to meeting goals of OSHA safety and health initiatives, such as those under 29 CFR parts 1910, 1915, 1917, 1918 and 1926. OSHA is within a year of issuing draft guidelines for ergonomics for general industry. One of the major goals of this project is to develop consensus ergonomic guidelines for the ship construction and repair industries. The consensus guidelines, developed jointly with labor, management and government involvement, would assist the shipbuilding industry in being more globally competitive, while reducing injuries and illnesses among its workers.

Nested within these guidelines will be mechanisms to reduce or eliminate job risk factors through good job design and good work practices by developing engineering and administrative controls. The dissemination of this material and ergonomic guidelines, specifically for the ship construction and repair industries, will occur through Maritech ASE, MACOSH, NIOSH, Shipbuilders Council of America, labor organizations and the individual shipyards.

The latest survey of occupational injuries and illnesses (1994), by the Bureau of Labor Statistics, show that ship construction and repair ranks in the top ten (174/10,000) for back injuries for all manufacturing industries and in the top ten (162/10,000) for injuries to the lower extremities. Even more dramatically, when the rates are averaged over a five-year period (1992-1996), the injury and illness incidence rates for the ship building and repair industries average 165% higher than for all manufacturing industries. For the back, the incidence rates were 150% higher. For the shoulder, the rates were 156% higher. For the neck, the incidence rates were 394% higher and for the lower limbs, the incidence rates were 240% higher. By comparison, the upper extremity incidence rates were 34% higher than the manufacturing industry average. However, upper extremity incidence rates for manufacturing industries were 52% higher than for all industries. The high rates for these injuries and illnesses may be due to the dangerous nature of the work, the type of construction performed by the various trades, and/or the location in which the tasks need to be performed.

PROPOSED PROJECT: One of the major goals of this project is to develop consensus ergonomic guidelines for the ship construction and repair industries. In order to accomplish this goal, it is of paramount importance to determine if or where ergonomic interventions in the ship building and repair processes can lead to improvements in worker safety and productivity. In order to accomplish that task, preliminary injury and illness analysis will be performed for the data from a number of selected shipyards by an occupational physician and injury epidemiologist. This analysis will assist researchers and shipyards in identifying specific tasks or trades that would benefit most by being the recipient of a targeted ergonomic intervention. These interventions would address a number of different trades and tasks in order to be more representative of the overall ship building and repair industries. These targeted interventions will be followed by specific injury and illness analyses of those tasks, trades and processes studied to determine the effectiveness of the interventions in reducing the number and/or severity of those injuries and illnesses. Following the post-intervention analyses, the consensus ergonomic guidelines for the ship building and repair industries will be developed through the input and cooperation of shipyard management, labor and government.

Phase One: The preliminary phase of the project will take approximately 12 months to complete. The initial task will be the compilation and assessment of injury and illness rates of the various trades, with respect to stage in the ship construction or repair process for the participating shipyards. This task will be accomplished by an occupational physician and injury epidemiologist specializing in injury data analysis. Ergonomics engineers will quantitatively assess the implementation of ergonomics-related engineering and administrative controls at the participating yards. Targeted intervention studies will be conducted in 6 to 7 shipyards across the United States, focusing on various aspects of the ship construction and repair process. Examples of possible site-specific interventions include: an

intervention study on welders in confined spaces between hull plates in the keel area, and an intervention study on the use of handheld power tools used in the repair of ships, considering tool type, weight, and vibration patterns. A year-end report summarizing the preliminary data analysis of each of the ergonomic intervention studies will be written and distributed to the individual shipyards.

Phase Two: The second phase of the project will take approximately 18 months to complete. A post-intervention determination of the impact of the instituted engineering and administrative controls will be conducted through quantitative assessments of trades, tasks and processes studied. An evaluation of the injury and illness incidence and severity rates post-intervention will be conducted to determine if the interventions had a positive impact at each shipyard. Training programs will be developed to introduce the concepts of ergonomics to first-line supervisors within the shipyards. A similar program will be developed to introduce ergonomics to naval architects and marine engineers to enable them to incorporate ergonomics in the design and construction of ships as well as in usability issues when the ship is delivered to its customer. A consensus document containing ergonomic guidelines for the trades in ship construction and repair will be written incorporating the lessons learned from the targeted ergonomics intervention studies.

RELEVANCE TO MAJOR INITIATIVE AREAS: This ergonomics project is relevant to a number of the Major Initiative Areas listed in the Strategic Investment Plan of Maritech ASE. By implementing an ergonomics program at each shipyard, one will see increases in productivity and competitiveness and decreases in injury severity and Workers Compensation costs. The primary association of this project to a Major Initiative Area is in Facilities and Tooling, in particular the Safety, Health & Ergonomics area. A reduction in injury risk, a decrease in Workers Compensation costs and an increase in production have all been documented in cases where an ergonomics program has been implemented in various industries. Another area within Facilities and Tooling, Facility Maintenance, will also benefit from the ergonomics project. Confined spaces and awkward postures are relatively common in maintenance tasks. Training maintenance workers and supervisors in good work practices through the implementation of ergonomic principles should reduce risk of injury and Workers Compensation costs associated with the performance of these tasks.

This ergonomics project is also relevant to the Crosscut Initiatives area, in particular the Education and Training section and the Technology Transfer section. To fully incorporate an ergonomics program within a shipyard, a certain level of awareness of the subject must be made known to the workers and first-level supervisors. A short (4-hour) classroom orientation to ergonomics, including basic job risk factor identification will be developed for first-level supervisors. Application of the principles learned will be augmented by small interventions at various locations within the individual shipyards. Training in ergonomics is also relevant to naval architects and marine engineers who design components and layout of processes but may have a limited understanding of how the process is actually executed or the component installed. Several modules in design ergonomics will be developed to address these concerns. Another area within Crosscut Initiatives that is applicable to this project is Technology Transfer. NIOSH is currently developing a website on ergonomics in the shipbuilding industry. The addition of the interventions from the proposed studies will be added to the website to enhance the ergonomics solutions section of the website. Using this technology makes the information immediately accessible to whomever wishes to use it. In this manner, all shipyards may benefit from the ergonomic solutions developed and implemented by a single shipyard. The use of this website will lead to an increase in productivity, quality, and competitiveness in the global market.

The scope of this project also addresses two additional Major Initiative Areas: Shipyard Production Process Technologies -- Industrial Engineering; and Systems Technologies -- Advanced Design, Simulation, Analysis and Estimating. The practice of ergonomics can be broken into three distinct areas: shop floor ergonomics, production ergonomics, and design ergonomics. Shop-floor ergonomics include those employee ideas and recommendations that improve a single task or procedure at the worksite level. More importantly, the incorporation of ergonomics into the production processes will result in process improvements, increases in quality, safety, and productivity and reduced costs and cycle times. This concept of incorporating ergonomic principles into the ship building processes is quite evident in the construction of ships by Japanese shipbuilders. The final area to which this ergonomics project relates is in Systems Technologies. The use of simulation-based design to create virtual mockups of a block or unit early in the construction phase can lead to the development of optimal work practices, postures and techniques that can be utilized by the trades in the assembly of blocks or the outfitting of particular components.

This optimization of technique, posture and work practices will lead to increases in productivity, quality, safety, and global competitiveness.

DELIVERABLES: When this project is completed the following deliverables will be available to the ship building and repair industries: 1) ergonomic guidelines, 2) website with ergonomic solutions and resources, 3) trained personnel on ergonomic principles on three levels (shop floor, production and design ergonomics), 4) mechanisms for building and repairing ships faster, at less cost, and with fewer injuries, 5) a metric for using ergonomics as a means of becoming more globally competitive, and 6) a workshop for the ship building and repair industries that focuses on the implementation of the industry-specific ergonomic guidelines.

CONCLUSION: It is believed that by incorporating effective ergonomic guidelines designed specifically for the ship building and repair industries, shipyards will achieve increases in worker safety, productivity, and process quality, while reducing Workers Compensation and production costs. These benefits in combination can lead to reduced prices to the customer, whether commercial or military, and a better position within the global market.

NIOSH researchers have contacted key management and labor personnel in the following shipyards who have agreed to partner with NIOSH to achieve the goals mentioned above.

COOPERATING COMPANIES AND CONTACTS:
Bath Iron Works -- Chet Matthews
Continental Maritime -- Thomas F. Gibson
Halter Marine Industries -- Mike Davis
Ingalls Shipbuilding -- Tim Hammerstone
Jeffboat -- Steve Morris
Todd Pacific Shipyards -- Al Rainsberger

INTERESTED PARTIES:
Gulf Coast Region Maritime Technology Center -- John Crisp
Intl. Brotherhood of Boilermakers -- Milan Racic
MACOSH -- Larry Reed
NAVSEA -- Iona Evans
OSHA -- Larry Liberatore
Shipbuilders Council of America -- Susan Swatski

POST WORKSHOP CONSENSUS ACTIONS

FORMING AN ERGONOMIC PARTNERSHIP

- SP-5 WILL MAINTAIN A PROACTIVE POSITION TO DEVELOP A DRAFT ERGONOMICS STANDARD FOR THE DOMESTIC SHIPBUILDING AND SHIP REPAIR INDUSTRY.

- THE MAINE EMPLOYEES MUTUAL INSURANCE COMPANY IS FUNDED TO CONTINUE WORKING WITH NIOSH, AND TO POST RESULTS ON THE NIOSH WEBSITE UNTIL THE GULF COAST REGIONAL MARITIME TECHNOLOGY CENTER OR SOME OTHER INTERESTED PARTY TAKES OVER THIS WEBSITE.

- NIOSH WILL CONTINUE TO WORK WITH SP-5 AND THE INDUSTRY ONCE FUNDED VIA EITHER MARITECH-ASE AND/OR THE GULF COAST REGIONAL MARITIME TECHNOLOGY CENTER OR OTHER MECHANISMS.

- FINAL ACTION WILL PROVIDE SUPPORT TO OSHA IN DEVELOPING AN INDUSTRY-SPECIFIC DRAFT ERGONOMICS STANDARD.

Notes:

1. Both the NIOSH and the NAVSEA Ergonomics websites will be directed to MARITECH-ASE for industry distribution.

2. The NIOSH Ergonomics website is scheduled for release the second quarter of 1999. For more information contact Dr. Stephen Hudock, NIOSH at : "Hudock, Stephen D." <sxh5@cdc.gov>

Suggested Workshop Follow-on Actions

This Workshop, its endorsements, the attendees and participants from various agencies, and the module presentations included in this report, are a valuable resource for identifying and achieving future improvements. You can initiate and conduct appropriate follow-on actions related to this module by choosing one or more of these suggested approaches:

A. Discuss items with your management, utilizing the published Workshop data as a resource;

B. Contact and work with those who attended and participated in the Workshop. Contact data is included in this report.

C. Participate in establishing industry meetings as a follow-on to this module;

D. Work with local, state, and federal agencies, utilizing the Workshop endorsements, presentation materials, and contact data as your reference source;

E. Utilize the Workshop endorsements as leverage for all levels of support, development, and implementation.

APPLICATIONS WORKSHEET

PRESENTATION: Forming the Ergonomics Partnership

PRESENTOR: _____ **CONTACT DATA AVAILABLE** / _ /

WORKSHEET: For each presentation or panel discussion use this form to note how to enhance/clarify this presentation, to be applied to your organization. These notes can also be given directly to the workshop coordinator for enhancing the final Workshop Manual and a copy for your working with your own staff. Fax or E-mail to workshop coordinator.

1. A STATEMENT AND UNDERSTANDING OF THE BEST PRACTICES:

2. GLOSSARY OF TERMS/SPECIFIC TERMS:

3. FEDERAL/STATE AND LOCAL LAWS:

4. COST MODEL:

A. HOW CAN WE APPLY IT?

B. ITEMS TO CLARIFY:

C. COSTS INVOLVED/PAYBACK CASH FLOW?

5. RECOMMENDED PLANS AND FOLLOW UP TIMES:

A. SP-5 PANEL PROJECT ABSTRACT: _____

B. FORM TEAMS WITHIN THE INDUSTRY WITH GOVERNMENT AGENCIES/INSURERS, TO SPECIFIC ISSUES:

C. BEGIN INDUSTRY EXCHANGE FORUMS: _____

D. COORDINATE WITH OTHER INDUSTRIES: _____

E. IN-HOUSE AND LOCAL COMMUNITY ACTIVITIES: _____

6. BIG PICTURE STRATEGIES: NOTES: _____

7. AREAS FOR GOVERNMENT ACTIONS: _____

8. COMPANY INTERNAL CHECKLIST:

Proof of Savings /_/ **Training** /_/ **Implementation** /_/

Buy-in Requirements:

Management /_/ **Labor** /_/ **Organizational/ Cultural** /_/

File Listing

Directory: 27-4
Shipyard Organization and Staffing

File Name	Description
27-4-VT	Video Tape Endorsement – Mr. Allan Cameron, President, Bath Iron Works
27-4A	Participants and Module Overview
27-4B	Presentation
27-4D	Action Plan
27-4E	Application Worksheet
27-4-File List	File Listing

MR. CAMERON: Good afternoon. I'm Allan Cameron, the president of Bath Iron Works. I would like to take a minute to pass along my endorsement of the discussion that you are about to undertake regarding the subject of training for our work force.

As I'm sure that you're aware, a well-trained, skilled and adaptable work force is of paramount importance for a shipyard to be affordable as well as competitive. While work force training is important, it is also a costly element of our business.

Here at Bath Iron Works we invest heavily in our employees' skills through a combination of training avenues every year. Our 49-year-old manufacturing apprenticeship as well as the design apprenticeship program, trade-based skills classes, a continuously operating welding skill, CAD designer training and daily on-the-job training are some examples.

While ours is a large investment, it can never be large enough. Many European and Asian shipyards, as well as with your government and educational partners, spend significantly more than the U.S. shipbuilding and repair industry. They keep their employees on the cutting edge of technology advancements and process improvements.

U.S. shipyards are lagging behind, and we need to find ways to close that training and skills gap in order to increase our competitiveness. There

is a direct relationship between reducing the cost of building or repairing ships to training.

Some of our return-on-investment calculations suggest that training efforts focused on building or improving technical skills result in a 10-20% improvement in productivity. For a shipyard to make the total training investment on its own can be prohibitive. In order not to miss out on opportunities, we must investigate every avenue for potential funding sources.

This is why I wholeheartedly endorse the session that you're about to attend. I hope that you will identify some specific actions that can be employed to meet this challenge. I will be very interested in obtaining feedback from this session. Good luck.

Day 2 Schedule/Presenters/Description of Modules

10:45 — 11:45 a.m.	Shipyard Organization and Staffing

Lead / Facilitator: Rick Thorpe, Executive Engineer & Principal Consultant, Kvaerner Masa Marine

Presenters / Panelists: Ron McAlear, Corporate V.P., Avondale
Laurie Deschamps, President, SPAR Associates
David Heller, Naval Architect, MarAd
Marylou Madden, Director of SE Campus University of Alaska
Doug Ward, Director of Business Development, Alaska Ship and Drydock

Description of Module: A major goal of the NSRP SP-5 project on Shipyard Activity Based Cost Accounting done in 1996 was to measure and assess European versus North American work organization and staffing. It revealed that the most important factor for gaining commercial shipbuilding competitiveness was a staff of technically educated, quality people. Project results will be presented and examined. Issues will include:

- In today's competitive environment, can North American yards still design and build both military and commercial ships, as was done prior to the nineties?
- Should programs which encourage a close cooperation between industry and schools teaching ship design be supported by governments - local, state/province, and federal?

Shipbuilding

SHIPYARD ORGANIZATION, STAFFING AND EDUCATION

Panel Discussion
at the
National Workshop
on
Human Resources and Training
January 27, 1999

Panel Members

Shipbuilding

◆ Rick Thorpe	Kvaerner Masa Marine Leader/Facilitator
◆ Ron McAlear	Avondale Shipyard
◆ Laurie Deschamps	SPAR Associates
◆ David Heller	MARAD
◆ Mary Lou Madden	University of Alaska
◆ Doug Ward	Alaska Ship & Drydock

NSRP Shipyard Cost Model Project

Shipbuilding

A SP - 5 Project

- The Basic Research Document
- Joint Effort By
  - AMS
  - Kvaerner Masa Marine
  - SPAR Associates
- 3 Shipyards Participated
  - Avondale
  - Kvaerner Masa-Yards
  - St. John Shipbuilding

Acknowledgements

Shipbuilding

- Chuck Rudy — GD/EB
- Laurie Deschamps — Spar Associates
- Matt Reid — SJSL
- Ron McAlear — Avondale Shipyard

Kvaerner Masa Marine — KVÆRNER

4

NSRP SP-5 Project Research Methodology

Shipbuilding

- Quality Time at Four Yards
  - KMY (Helsinki & Turku) / Avondale / St. John
  - In Depth Open Interviews with Yard Management
  - Delphi Reiterative Interview Technique
- Activity Based Cost Accounting
  - Computerized Shipyard Modeling

Kvaerner Masa Marine — KVÆRNER

5

Basis for Cost Analysis

Shipbuilding

- Use a 40,000 DWT Product Carrier
- Prepare SWBS Costs
- Prepare PWBS Costs
- Structure a Northern European Yard to Build 3 Ships/Year
- Structure North American Yards - U.S. & Canada - to Do the Same
- Evaluate the Differences

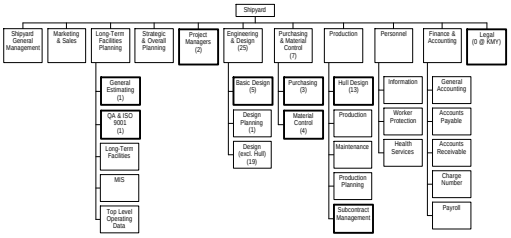
Kvaerner Masa Marine — KVÆRNER

6

Organization in Northern Europe

Shipbuilding

Shipyard Work Organization



Staffing in Europe

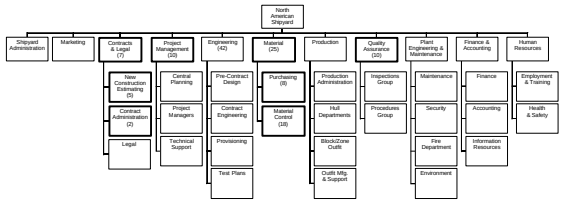
Shipbuilding

- One Estimator - P.T.
- Two Project Managers
- 38 Technical Persons
- 7 Total Material (3 Purchasing)
- Engineering Responsible for Material Cost
- No Legal / 1/2 QA
- Total “White Collar” Overhead Staff, 106 People
- Total Yard Employment = 916

Organization in America

Shipbuilding

Shipyard Work Organization



Staffing in America

Shipbuilding

- 5 Estimators
- 10 Person Projects Office
- 42 Technical Department
- 25 Total Material
- 2+ Contracts/Legal
- 10 QA
- Total "White Collar" 172 = 2/3 More
- Total Yard Employment = 1327

Kvaerner Masa Marine KVÆRNER

10

U.S. vs Northern Europe

Shipbuilding

TOTALS FOR U.S. & NORTHERN EUROPE	U.S.	N.E.
Total White Collar	172	106
Total Production Blue Collar	1,050	737
Production Services	105	74
Total Blue Collar	1,155	811
% White Collar to Blue Collar	14.89	13.07

Kvaerner Masa Marine KVÆRNER

11

Now We Add Canada

Shipbuilding

	Blue Collar	MGR	Support	Total White Collar
U.S.	1155	*NOT BROKEN OUT*		172
Northern Europe	811	68	38	106
Canadian	950	33.25	80	113.25

NOTE:

- White collar & blue collar totals are close - Canada is 7 - 17% higher
- Europe has higher MGR to support ratio

Kvaerner Masa Marine KVÆRNER

12

Approach to Teaming

Shipbuilding

USA: Complex Procedures

- Integrated Product & Process Integration
- Other Formal Team Approaches
- IPPD on LPD-17 Yields a 350 Person Project Office

Europe: A Natural Cross Disciplines Teaming at the Unit Block Assembly Level

Kvaerner Masa Marine

KVÆRNER

13

Kvaerner Masa-Yards Basic Teaming

Shipbuilding

Kvaerner Masa Marine

KVÆRNER

14

What Have We Learned

Shipbuilding

Basic Elements of International Shipbuilding Competitiveness

In order of importance:

1. Good, well educated people
2. Extensive market experience
3. Adequate capital investment
4. Technology

Kvaerner Masa Marine

KVÆRNER

15

People Factors

Shipbuilding

- Education & Training of Leadership
  - Almost all European managers are engineers
  - Nearly all European managers have at least a bachelor's in Navel Architecture
  - Many have a master's in Naval Architecture
  - Far East (Japan) has same highly educated staffs
- Past Working Environment
  - Government (U.S.) versus commercial (international) contracts
  - Offshore projects have the greatest commercial procedural bureaucracy
- Present Attitudes
  - Aggressive versus resigned due to decades of working on government contracts
  - Seeking, not resisting change
- Workforce Quality
  - Experienced shipyard workers versus poorly educated entry level workforce
  - Skilled & experienced U.S. workers are excellent

Shipbuilding Issue

Shipbuilding

Dual Use Vs Dedicated Yard

- 50s through 70s

  Nearly All Yards Were Dual Use
- 80s

  Dedication to the U.S. Government
- 90s

  Crawling back to commercial capability

Can the U.S. Yards Do It?

Actions Being Taken by SNAME

Shipbuilding

- Ship Design Education is a Major Concern by Advisory Public Service Committee
  - LYSNK Ship Design Competition
  - New PR Program to Increase Industry Awareness of Importance of NA & ME
  - Issue Paper in April Marine Technology

Recommendations for Shipyards & Educational Institutions

Shipbuilding

- Reward Technical Knowledge More Than Government Marketing Ability
- Industry to Increase Support to Education
- Academia to Give Greater Attention to Industry
- Aid Yards and Schools That Support Each Other

Education Summary (Continued)

Shipbuilding

- State of Education in U.S. Shipbuilding and Design has Retrogressed
  - During the 1960's BIW Only had One Production Management Staff Member Without a Bachelor Level Degree
  - Government Contracts Lead to Data, not Ship Production
  - P.R., Legal, Finance More Important Than Technical Knowledge

Recommendations

Shipbuilding

Return to the Way of the 1990's

- Emphasize Quality Ship Design and Engineering Basic Education
- Fund Advanced Education

Recommendations

Shipbuilding

Return to the Way of the 1960's

- Emphasize Quality Ship Design and Engineering Basic Education
- Fund Advanced Education

Kvaerner Masa Marine

KVÆRNER

22

POTENTIAL

POST WORKSHOP CONSENSUS ACTIONS

SHIPYARD ORGANIZATION AND STAFFING

- SCHEDULE A FORUM TO DISCUSS AND EMPHASIZE THE POTENTIAL GAINS BY APPLYING THIS MODULE FOR INFRASTRUCTURE CHANGE.

Suggested Workshop Follow-on Actions

This Workshop, its endorsements, the attendees and participants from various agencies, and the module presentations included in this report, are a valuable resource for identifying and achieving future improvements. You can initiate and conduct appropriate follow-on actions related to this module by choosing one or more of these suggested approaches:

A. Discuss items with your management, utilizing the published Workshop data as a resource;

B. Contact and work with those who attended and participated in the Workshop. Contact data is included in this report.

C. Participate in establishing industry meetings as a follow-on to this module;

D. Work with local, state, and federal agencies, utilizing the Workshop endorsements, presentation materials, and contact data as your reference source;

E. Utilize the Workshop endorsements as leverage for all levels of support, development, and implementation.

APPLICATIONS WORKSHEET

PRESENTATION: Shipyard Organization and Staffing

PRESENTOR: _____ **CONTACT DATA AVAILABLE** / _ /

WORKSHEET: For each presentation or panel discussion use this form to note how to enhance/clarify this presentation, to be applied to your organization. These notes can also be given directly to the workshop coordinator for enhancing the final Workshop Manual and a copy for your working with your own staff. Fax or E-mail to workshop coordinator.

1. A STATEMENT AND UNDERSTANDING OF THE BEST PRACTICES:

2. GLOSSARY OF TERMS/SPECIFIC TERMS:

3. FEDERAL/STATE AND LOCAL LAWS:

4. COST MODEL:

A. HOW CAN WE APPLY IT?

B. ITEMS TO CLARIFY:

C. COSTS INVOLVED/PAYBACK CASH FLOW?

5. RECOMMENDED PLANS AND FOLLOW UP TIMES:

A. SP-5 PANEL PROJECT ABSTRACT: _____

B. FORM TEAMS WITHIN THE INDUSTRY WITH GOVERNMENT AGENCIES/INSURERS, TO SPECIFIC ISSUES:

C. BEGIN INDUSTRY EXCHANGE FORUMS: _____

D. COORDINATE WITH OTHER INDUSTRIES: _____

E. IN-HOUSE AND LOCAL COMMUNITY ACTIVITIES: _____

6. BIG PICTURE STRATEGIES: NOTES: _____

7. AREAS FOR GOVERNMENT ACTIONS: _____

8. COMPANY INTERNAL CHECKLIST:

Proof of Savings /_/ **Training** /_/ **Implementation** /_/

Buy-in Requirements:

Management /_/ **Labor** /_/ **Organizational/ Cultural** /_/

File Listing

Directory: 27-5 MACOSH

File Name	Description
27-5-VT	Video Tape Endorsement – Mr. Richard Vortmann, President, NASSCO
27-5A	Participants and Module Overview
27-5B	Presentation
27-5D	Action Plan
27-5E	Application Worksheet
27-5-File List	File Listing

MR. VORTMAN: Good afternoon. I'm Dick Vortman, president of NASSCO out here in San Diego, and I wanted to take this opportunity to share with you some of my thoughts as you are about to have some discussions regarding the Maritime Advisory Committee on Safety and Health.

The U.S. shipbuilding and repair industry has a very real responsibility to maintain a safe and healthful workplace for all of our employees. We also have a responsibility to maintain competitive operations in order to afford continued careers with good wages and benefits for all those people.

These two objectives should not be viewed as conflicting, but they do require a careful optimization amongst them.

The MACOSH committee has offered an excellent vehicle for all industry participants, shipyard management, organized labor and government safety experts to meet together to exchange ideas and concerns on how to promote health and safety in the shipyard workplace.

Ideally, a committee such as this affords an opportunity for all the industry and vested interest groups including the government oversight function to openly discuss their individual positions to gain a true understanding of one another's perspectives and then to try to constructively work to what all participants can view as a win/win situation.

We could very easily make U.S. shipyards the safest and cleanest industrial sites in the world. All we would have to do is lock the gates and keep everybody out, and I say that in jest. Obviously, this would not be an acceptable solution by anybody's standards.

But we must be vigilant that we as a society are not unintentionally headed in that direction as a result of our implementing overly restrictive regulations and eventually so negatively impact the shipyard's competitiveness without a meaningful improvement in the safety and health of the shipyard employee that the work goes elsewhere for economic reasons, and the shipyard and its jobs cease to exist.

That is where the real value of committees such as MACOSH come (sic) in. The committee affords all elements of the industry the opportunity to fully discuss and understand the problems we are trying to solve and the ramifications of the alternative proposed solutions, and hopefully, through these constructive committee discussions, all participants can agree on effective win/win solutions to the challenges that we face in meeting our responsibilities to maintain a safe and healthy work environment for our people.

To date, I believe the committee has done a good job of fostering an understanding of the perspectives of all the interest groups. MACOSH has afforded everybody an excellent forum to share their perspectives and to evolve

to construct the regulations that meet the needs of the interest groups. The committee needs to continue its good work and to continue its efforts to constructively understand one another's position from the broadest perspective.

I am very encouraged you are all here to discuss the future of MACOSH and how much more it can accomplish by everybody working cooperatively together. I urge you to keep up the good work, and I thank all of you for your efforts.

Day 2 Schedule/Presenters/Description of Modules

12:45 — 1:15 p.m.	MACOSH

Video Clip: Richard Vortman, CEO, NASSCO

Lead / Facilitator: Larry Reed, Director, NIOSH

Presenters / Panelists: Larry Reed, Director, NIOSH
Larry Liberatore, Maritime Admin, DoL/OSHA
James Thorntob, Director, Environment, Safety and Health, Newport News Shipbuilding

Description of Module: This module will summarize the activities and accomplishments of the OSHA Marine Advisory Committee on Occupational Safety and Health since its original charter was established in 1995. The following key points will be addressed:

- A more streamlined process for OSHA marine standards, including consensus rulemaking;
- More effective programs for enforcement;
- Better leveraged training and outreach programs; and
- Providing a facilitated forum for discussion of OS&H problems in the Maritime Industry.

MACOSH

Successful Maritime Partnerships With Industry/Labor/Government

Introduction

- Charter
- Mission

MACOSH Products/Success Stories

- OS&H Program Draft Standard
- SP-5/NIOSH Ergonomics Study
- Shipyard Digest/Longshore Digest

MACOSH Products/Success Stories (continued)

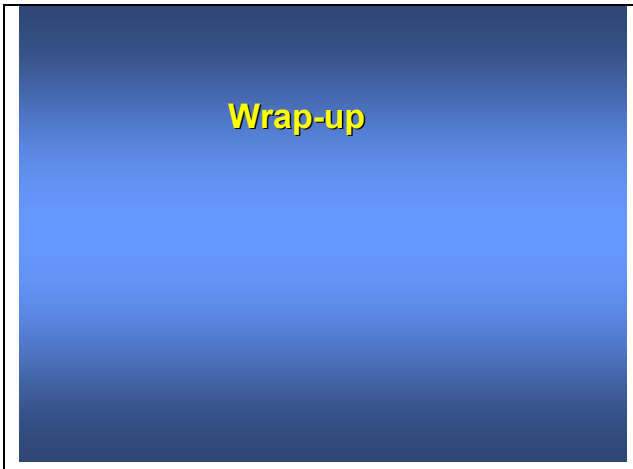
- Shipyard Fire Protection Neg/Reg
- Input on OSHA Initiatives

Future Plans

- Partner/Leverage OSHA Programs
- Help OSHA Achieve Strategic Plan (15% Decrease Injuries/Illnesses)
- Assist OSHA in Developing Maritime Standards
- Mentoring Program for Compliance Officers

Future Plans (continued)

- Focused Regionalized Training
- One-stop Shopping
- Help OSHA Modernize OTI Maritime Courses


Wrap-up

POTENTIAL

POST WORKSHOP CONSENSUS ACTIONS

MACOSH COMMITTEE

- DEVELOP A WEBPAGE AND ANY OTHER COMMUNICATION VEHICLE TO PUBLISH THE COMMITTEE'S ACTIVITY. (Larry Reed – NIOSH)

- SP-5 WILL ALSO HIGHLIGHT THE VARIOUS MACOSH ACTIVITIES AT THEIR MEETINGS AND MEETING REPORTS AND INPUTS TO Nsnet.

Suggested Workshop Follow-on Actions

This Workshop, its endorsements, the attendees and participants from various agencies, and the module presentations included in this report, are a valuable resource for identifying and achieving future improvements. You can initiate and conduct appropriate follow-on actions related to this module by choosing one or more of these suggested approaches:

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E. Utilize the Workshop endorsements as leverage for all levels of support, development, and implementation.

APPLICATIONS WORKSHEET

PRESENTATION: MACOSH

PRESENTOR: _____ **CONTACT DATA AVAILABLE** ☐

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3. FEDERAL/STATE AND LOCAL LAWS:

4. COST MODEL:

A. HOW CAN WE APPLY IT?

B. ITEMS TO CLARIFY:

C. COSTS INVOLVED/PAYBACK CASH FLOW?

5. RECOMMENDED PLANS AND FOLLOW UP TIMES:

A. SP-5 PANEL PROJECT ABSTRACT: _____

B. FORM TEAMS WITHIN THE INDUSTRY WITH GOVERNMENT AGENCIES/INSURERS, TO SPECIFIC ISSUES:

C. BEGIN INDUSTRY EXCHANGE FORUMS: _____

D. COORDINATE WITH OTHER INDUSTRIES: _____

E. IN-HOUSE AND LOCAL COMMUNITY ACTIVITIES: _____

6. BIG PICTURE STRATEGIES: NOTES: _____

7. AREAS FOR GOVERNMENT ACTIONS: _____

8. COMPANY INTERNAL CHECKLIST:

Proof of Savings ☐ **Training** ☐ **Implementation** ☐

Buy-in Requirements:

Management ☐ **Labor** ☐ **Organizational/ Cultural** ☐

File Listing

Directory: 27-6
Funding for Training

File Name	Description
27-6A	Participants and Module Overview
27-6B	*Presentations* 27-6B2 – Alexander C. Landsburg, MARAD 27-6B3 – Susannah Schiller, NIST-AIP
27-6D	Action Plan
27-6E	Application Worksheet
27-6-File List	File Listing

Day 2 Schedule/Presenters/Description of Modules

1:15 — 1:45 p.m.	Funding for Training
Lead Facilitator:	Steve Sullivan, V.P. Human Resources, Baltimore Marine Industries George Lang, Manager Human Resources, Baltimore Marine Industries, Inc.
Presenters/Panelists:	Alex Landsburg, MARAD Susannah B. Schiller, Special Assistant to Director, DoC/NIST Betty Lucero-Turner, National Administrator Apprenticeship Program, DoL/ETA Dale Hartford, Grand Lodge Representative, IAM & AW Patrick Bullard, Training Manager, Electric Boat
Description of Module:	Many U.S. shipyards today have hiring needs that must be met via training because prospective employees who already possess the necessary skills are not available in sufficient numbers. Shipyard apprenticeship and training programs are heavily subsidized (if not nationalized) in many nations prominent in the global shipyard industry. U.S. shipyards are forced to incorporate new employee training costs into their operating expense budgets, further hampering in their efforts to achieve international competitiveness. Efforts to offset those costs with the assistance of Federal, state, and local subsidies are widespread and have enjoyed varying degrees of success. This module will survey the known sources and forms of such assistance so that the Federal sources will be known to all. State and local means of such assistance will be compared and contrasted, and may suggest some new approaches.

Presentations

27-6B2 Alexander C. Landsburg, MARAD

27-6B3 Susannah Schiller, NIST-AIP

Shipyard/Ship Repair Training Opportunities

Alexander C. Landsburg
Maritime Administration
NSRP Workshop 1/26-27/99

Funding for Training

- Department of Labor Best Source
  - Workforce Investment Act of 1998
  - Apprenticeship Program
  - School to Work Program
  - Job Corps
  - Job Bank
  - Welfare to Work
  - Worker Dislocation and Assistance

MARAD Focus

- Mariner Training
  - US Merchant Marine Academy
  - State and Union Schools
  - Information Brochure on Training
- USMMA Degree in "Shipyard and Marine Engineering Management"
  - Six week internship at shipyard
  - Only such degree available
- SOCP Video from BP on Shipyard Safety

Garrett Morgan Technology and Transportation Futures Program

- DOT Wide Initiative
  - Inspire youth to train for jobs in the 21st century
  - Community College and Technical schools
  - Life Long Learning
  - Partner with industry
  - No funding - but good hearts and interest!
  - Web Site to engage students
    - http://education.dot.gov

Maritime Administration/DOT 2/18/99 4

Future Possibilities

- Many Possibilities
  - MARAD Brochure on Training for Shipyard Jobs?
  - DOT Partnered Schools
  - Community College/Technical School Partnering
  - Work with Dept. of Labor or Education via Garrett Morgan Program
  - New Directions in Education and Training?

Maritime Administration/DOT 2/18/99 5

NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY

atp™

ADVANCED TECHNOLOGY PROGRAM

In a fiercely competitive world of global markets, some of the best, most promising new technologies can get lost. Too risky for venture capital, they are dropped entirely or fall to more aggressive foreign competitors.

"We felt firsthand the impact of capital scarcity when attempting to obtain venture funding ... the technology was not matured sufficiently to guarantee near-term producibility and profits. The award from ATP was a Godsend to us."

The **Advanced Technology Program** (ATP) helps you develop the technologies you need to bring new, innovative products to market. The scientific and engineering advances you need for dramatic improvements in process or manufacturing technologies. The technical edge for today's markets.

HOW?

The ATP provides funding to support critical research needed to develop key commercial technologies.

- ***High-risk*** technologies, where success may mean overcoming significant technical obstacles.
- ***Enabling*** technologies, where success can mean substantial competitive and economic benefits for U.S. industry.

HOW MUCH?

For an individual company, the ATP can fund up to $2,000,000 in research on a given project, subject to some cost sharing. Projects must be completed within three years.

Two or more companies may propose a joint research venture under the ATP. Joint venture projects may run as long as five years, and the ATP can fund up to half of the R&D costs.

ATP funding is provided through cooperative research agreements with the National Institute of Standards and Technology. In addition to funding, the ATP can help you link up with on-going research work at NIST or other federal laboratories if it can help ensure the success of your projects.

Wondering if your company's technology qualifies? We've backed a broad range of innovative research projects, in which promising economic potential is virtually the only common ingredient:

- thick-film processing technology to build high-temperature superconductor components for communications equipment
- a revolutionary new design for high-precision, multi-axis machine tools
- a microfabricated chip incorporating synthetic DNA probes for an automated, low-cost DNA sequencer

"In my opinion, the ATP is currently the best vehicle for supporting and tapping the creativity and market knowledge inherent in the Silicon Valley and other such areas around the country."

- generic software technology to restore, enhance, or digitally reformat moving pictures
- a methodology for producing animal-derived extracellular biomaterials to support the regeneration of tissues and glands
- a prototype electro-optical disk drive using quantum-level "electron trapping optical memory"

Contact:
Susannah B. Schiffler
Special Assistant to the Director
Advanced Technology Program
United States Department of Commerce
Tel: (301) 975-2852 / Fax: (301) 869-1150
Email: susannah.schiller@nist.gov

WHEN?

The ATP does not request projects on particular research topics. In fact, the ATP invites project proposals from any and all areas of technology. **You** suggest projects to the ATP. However, the ATP will accept proposals only during specific competitions, which are announced in the Commerce Business Daily.

"The improvements we are making with the ATP award will give us a 12- to 18-month lead over our nearest competitors. And in the field of computers, that's a lifetime."

CRITERIA?

Candidate ATP projects are evaluated both for technological and economic merit. Selection criteria include:

- the scientific and technical merit of the proposal
  - » innovations in the technology
  - » high technical risk and feasibility
  - » quality of the R&D plan
- potential, broad-based economic benefits of the proposal
  - » economic benefits
  - » need for ATP funding
  - » pathways to economic benefit

"One nice thing about the ATP (as opposed to other government programs) is that it allowed us to protect proprietary information, plus we can publish what we like."

INTERESTED?

Contact ATP for more information about competitions or the procedures for submitting program ideas:

On the World Wide Web:
http://www.atp.nist.gov

By email:
atp@nist.gov

By phone:
1-800-ATP-FUND
1-800-287-3863

By writing:

Advanced Technology Program
National Institute of Standards and Technology
100 Bureau Drive, Stop 4701
Gaithersburg, MD 20899-4701

Updated November 1998

U.S. Department of Commerce
Technology Administration
National Institute of
Standards and Technology

atp TM
ADVANCED TECHNOLOGY PROGRAM

ADVANCED TECHNOLOGY PROGRAM

NIST

POTENTIAL

POST WORKSHOP CONSENSUS ACTIONS

FUNDING SOURCES FOR TRAINING

- THERE WILL BE A WORKSHOP CONVENED TO DEFINE OBJECTIVES AND PLANS AND TO SHARE "BEST PRACTICES" TO GO AFTER FUNDING SOURCES. (Joanna Jones – BIW)

Suggested Workshop Follow-on Actions

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E. Utilize the Workshop endorsements as leverage for all levels of support, development, and implementation.

APPLICATIONS WORKSHEET

PRESENTATION: Funding for Training

PRESENTOR: _____ **CONTACT DATA AVAILABLE** ☐

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5. RECOMMENDED PLANS AND FOLLOW UP TIMES:

A. SP-5 PANEL PROJECT ABSTRACT: _____

B. FORM TEAMS WITHIN THE INDUSTRY WITH GOVERNMENT AGENCIES/INSURERS, TO SPECIFIC ISSUES:

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7. AREAS FOR GOVERNMENT ACTIONS: _____

8. COMPANY INTERNAL CHECKLIST:

Proof of Savings ☐ **Training** ☐ **Implementation** ☐

Buy-in Requirements:

Management ☐ **Labor** ☐ **Organizational/ Cultural** ☐

File Listing

Directory: 27-7
Recruitment Strategies

File Name	Description
27-7A	Participants and Module Overview
27-7B	Presentation, Cliff Cooley
27-7D	Action Plan
27-7E	Application Worksheet
27-7-File List	File Listing

Day 2 Schedule/Presenters/Description of Modules

1:45 — 2:30 p.m.	Recruitment Strategies

Lead Facilitator: Chuck Rupy, Chairman, Panel SP-5, General Dynamics/Electric Boat Corp.

Presenters/Panelists: Milan Racic, Boilermakers International Brotherhood
Cliff Cooley, Director, Human Resources, Halter Marine
Joe Jarvis, Director, Training Avondale

Description of Module: A myriad of management and technical skills are required to support the design, construction and repair of sophisticated military and commercial ships. To maintain the personnel that possess these skills is a critical challenge to our industry, with the complimentary challenge of recruiting new people to meet the demands of performing our work. This module will develop a post workshop action plan to establish the most innovative initiatives to both retain as well as recruit key personnel for our industry.

The Next Generation of Shipbuilders ?

Newspaper Headlines

“Workers, where are you?”

“Raises, Incentives and the Promise of Steady Work Aren’t Enough”

“Demand Outstrips Supply of Workers”

“Now Hiring – Welders, Shipfitters, Tackers”

“Wages Rising With Demand for Skilled Workers”

“Shortage: Gulf Oil Boom Produces More Jobs Than Workers”

“Local Newspaper Ads – ‘Who’s Who’ for Shipyards”

I. Critical Shortage of Qualified Shipbuilders

- Lost generation of 80s
- Shift to other industries
- Strong economy

Employment trend in U.S. Private Sector Shipyard since 1981 Lost 48% of workforce lowest since 1950

II. Reversing the Trend

- ***Aggressive Recruitment Program***
  Major Media Blitz
  Billboard Campaign
  Job Hotline Network
  Job Fairs
  Contract Labor

  Recruitment of High School Level
  Builds Interest and Awareness
  Provides Insight to Career Opportunities
  Showcase Growth & Good Paying Jobs

III. Training is the Future

- ***Successful Training Program***
  Creative and Imaginative
  Flexible
  Commitment of Management

  Screening and Evaluation
  Assessment to Identify Skills Gap
  Identify Candidates
  Enthusiasm and Work Ethic

  Non-Traditional Customized Training
  Specific to Need
  Open Entry/Exit
  Generally Short, Intense Program
  Soft Skills and Hard Skills

Halter Marine Training Center

- 11,000 Square Foot State-of-the-Art Training Center
- Accommodate Up to 40 Employees
- Train New and Existing Employees
- Instruction Includes Craft Training, Trade Math, Communication Skills, Work Ethic, Metric
- Administration and Supervisor Training

POTENTIAL

POST WORKSHOP CONSENSUS ACTIONS

RECRUITMENT STRATEGIES

- THERE WILL BE A SPECIAL MEETING SETUP IN THE WASHINGTON D.C. AREA TO "BRAINSTORM" THE MOST SUCCESSFUL STRATEGIES AND TO EXPLORE ANY INNOVATIVE STRATEGIES THAT MIGHT BE APPLIED. (Steve Sullivan)

Suggested Workshop Follow-on Actions

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APPLICATIONS WORKSHEET

PRESENTATION: Recruitment Strategies

PRESENTOR: _____ **CONTACT DATA AVAILABLE** ☐

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6. BIG PICTURE STRATEGIES: NOTES: _____

7. AREAS FOR GOVERNMENT ACTIONS: _____

8. COMPANY INTERNAL CHECKLIST:

Proof of Savings ☐ **Training** ☐ **Implementation** ☐

Buy-in Requirements:

Management ☐ **Labor** ☐ **Organizational/ Cultural** ☐

File Listing

Directory: 27-8
Consensus Action Plan
Summary Action Plan

File Name	Description
27-8D	Summary Action Plans
27-8E	Wrap Up Application Worksheet
27-8-File List	File Listing

Summary of Action Plans

POTENTIAL
POST WORKSHOP CONSENSUS ACTIONS

Suggested Workshop Follow-on Actions

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WORKFORCE DEVELOPMENT MULTI-SKILLED

- NAVSEA TO MAKE WORKER JOB DESCRIPTIONS AVAILABLE TO THE INDUSTRY FOR REFERENCE. (PAT BRADSHAW – NAVSEA)
- PUBLISH A QUARTERLY STATUS OF THE NAVSEA and METAL TRADES ACTIVITY ON WORKFORCE DEVELOPMENT FOR OTHER INDUSTRY PARTICIPANTS TO POTENTIAL UTILIZE. (Pat Bradshaw – NAVSEA)
- IDENTIFY and SET-UP A FORUM FOR TOTAL INDUSTRY PARTICIPATION TO SHARE IDEAS and "BEST PRACTICES".

WORKFORCE DEVELOPMENT MULTI-SKILLED ACTIVITY CONTENT-DEFINITIONS & ISSUES

- PUBLICIZE ACTIVITY OF PROJECT ON THE Nsnet WEBSITE (Joanna Jones)
- CONDUCT WORKSHOPS at SMALLER SHIPYARDS. (Joanna Jones)
- ELICIT INDUSTRY ENDORSEMENT of PROJECT . (Joanna Jones)
- LOOK FOR PARTERSHIPS. (Joanna Jones)

CD available by contacting Mr. Walker at:

Lee Walker
Lee Walker Consultant
13773 Harpers Ferry Road
Purcellville, VA 20132
(540) 668-3497
ss564311@aol.com

WORKERS COMPENSATION

- SET-UP INDUSTRY FORUM and INDUSTRY "WORKERS COMPENSATION COMMITTEE" in March/April time-frame.
  (George Potts – Electric Boat Corp)

- CHAIR OF WORKERS COMPENSATION COMMITTEE will ESTABLISH MEETINGS OF INDUSTRY AND DOL TO ADDRESS VARIOUS IMPROVEMENTS THAT CAN BE PURSUED INVOLVING the LONGSHOREMAN and HARBOR ACT.
  (CHAIRPERSON – TBD)

- WORK WITH THE INTERNATIONAL COMMUNITY TO COMPARE APPROPRIATE METRICS WITH THE OFFICE OF NAVAL RESEARCH.
  (CHAIRPERSON – TBD)

SHIIP PROJECT

- PUBLISH A REAL-TIME ACTIVITY STATUS ON THE EXISTING CHANGE FORUM/SHIIP WEBSITE. LINK THIS SITE TO *NSNET*.

- CHANGE FORUM/SHIIP CONTINUE TO SOLICIT INPUTS FROM INDUSTRY TO ENHANCE THE VALUE OF THE SHIIP PROJECT.

- CHANGE FORUM DEVELOP METRICS TO MEASURE THE EFFECTIVENESS OF THE SHIIP PROJECT ONCE IT IS IMPLEMENTED.

Notes:

1. The SHIIP computer systems applications for the modules presented should continue to be demonstrated to shipyard top management. Specifically include demos on engineering, and planning of work for multi-skilled applications.

2. Demonstrate the application of SHIIP to Workers Compensation activities.

3. The SHIIP project should produce a demonstrated ability to incorporate on-line interactive training programs, with distribution throughout a shipyard and the industry.

4. The SHIIP project should ensure consistency with the points made by the keynote speakers and the participants at the Workshop.

FORMING AN ERGONOMIC PARTNERSHIP

- SP-5 WILL MAINTAIN A PROACTIVE POSITION TO DEVELOP A DRAFT ERGONOMICS STANDARD FOR THE DOMESTIC SHIPBUILDING AND SHIP REPAIR INDUSTRY.

- THE MAINE EMPLOYEES MUTUAL INSURANCE COMPANY IS FUNDED TO CONTINUE WORKING WITH NIOSH, AND TO POST RESULTS ON THE NIOSH WEBSITE UNTIL THE GULF COAST REGIONAL MARITIME TECHNOLOGY CENTER OR SOME OTHER INTERESTED PARTY TAKES OVER THIS WEBSITE.

- NIOSH WILL CONTINUE TO WORK WITH SP-5 AND THE INDUSTRY ONCE FUNDED VIA EITHER MARITECH-ASE AND/OR THE GULF COAST REGIONAL MARITIME TECHNOLOGY CENTER OR OTHER MECHANISMS.

- FINAL ACTION WILL PROVIDE SUPPORT TO OSHA IN DEVELOPING AN INDUSTRY-SPECIFIC DRAFT ERGONOMICS STANDARD.

SHIPYARD ORGANIZATION AND STAFFING

- SCHEDULE A FORUM TO DISCUSS AND EMPHASIS THE POTENTIAL GAINS BY APPLYING THIS MODULE FOR INFRASTRUCTURE CHANGE.

MACOSH COMMITTEE

- DEVELOP A WEBPAGE AND ANY OTHER COMMUNICATION VEHICLE TO PUBLISH THE COMMITTEE'S ACTIVITY. (Larry Reed – NIOSH)

- SP-5 WILL ALSO HIGHLIGHT THE VARIOUS MACOSH ACTIVITIES AT THEIR MEETINGS AND MEETING REPORTS AND INPUTS TO Nsnet.

FUNDING SOURCES FOR TRAINING

- THERE WILL BE A WORKSHOP CONVENED TO DEFINE OBJECTIVES AND PLANS AND TO SHARE “BEST PRACTICES” TO GO AFTER FUNDING SOURCES. (Joanna Jones – BIW)

RECRUITMENT STRATEGIES

- THERE WILL BE A SPECIAL MEETING SETUP IN THE WASHINGTON D.C. AREA TO “BRAINSTORM” THE MOST SUCCESSFUL STRATEGIES AND TO EXPLORE ANY INNOVATIVE STRATEGIES THAT MIGHT BE APPLIED. (Steve Sullivan)

APPLICATIONS WORKSHEET

PRESENTATION: WrapUp Action Plans

PRESENTOR: _____ **CONTACT DATA AVAILABLE** ☐

WORKSHEET: For each presentation or panel discussion use this form to note how to enhance/clarify this presentation, to be applied to your organization. These notes can also be given directly to the workshop coordinator for enhancing the final Workshop Manual and a copy for your working with your own staff. Fax or E-mail to workshop coordinator.

1. A STATEMENT AND UNDERSTANDING OF THE BEST PRACTICES:

2. GLOSSARY OF TERMS/SPECIFIC TERMS:

3. FEDERAL/STATE AND LOCAL LAWS:

4. COST MODEL:

A. HOW CAN WE APPLY IT?

B. ITEMS TO CLARIFY:

C. COSTS INVOLVED/PAYBACK CASH FLOW?

5. RECOMMENDED PLANS AND FOLLOW UP TIMES:

A. SP-5 PANEL PROJECT ABSTRACT: _____

B. FORM TEAMS WITHIN THE INDUSTRY WITH GOVERNMENT AGENCIES/INSURERS, TO SPECIFIC ISSUES:

C. BEGIN INDUSTRY EXCHANGE FORUMS: _____

D. COORDINATE WITH OTHER INDUSTRIES: _____

E. IN-HOUSE AND LOCAL COMMUNITY ACTIVITIES: _____

6. BIG PICTURE STRATEGIES: NOTES: _____

7. AREAS FOR GOVERNMENT ACTIONS: _____

8. COMPANY INTERNAL CHECKLIST:

Proof of Savings ☐ **Training** ☐ **Implementation** ☐

Buy-in Requirements:

Management ☐ **Labor** ☐ **Organizational/ Cultural** ☐

File Listing

Directory: Appendix

File Name	Description
Ack	Acknowledgement
App-File List	File Listing
CDA&P	Contact Directory of all Attendees and Participants
Exhibitors	Exhibitor Data Sheets
HOE	Workshop Handout Evaluation

ACKNOWLEDGEMENTS

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- Charles F. Rupy, Electric Boat Corporation, Chairman, SPC Panel SP-5, Workshop Mentor and Master of Ceremonies;
- George Potts, Electric Boat Corporation, for Workshop planning and arrangements;
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- Barry M. Schram, President, BMS and Associates, Inc., Project Manager;
- Rodney A. Robinson, President, R-P-M and Associates, Inc., Assistant to the Project Manager.

NATIONAL WORKSHOP ON
HUMAN RESOURCES AND TRAINING
JAN 26/27, 1999

OVERALL EVALUATION

A ON THE TOPICS DISCUSSED:

IMPORTANCE OF SUBJECT AREAS?
HIGHEST_____
NEXT _____

DO YOU FAVOR IDEAS EXPRESSED DURING THE WORKSHOP?
YES/NO _____ **COMMENTS** _____
_____

YOUR PRINCIPAL INTEREST IN THESE AREAS? _____

B - ON WORKSHOP FOLLOW-UP PLANNING AND ACTIONS:

DO YOU WANT TO PARTICIPATE? - YES/NO? _____

CONTACT INFORMATION
NAME _____
COMPANY _____
ADDRESS _____
_____
_____
PHONE _____
FAX _____
E-MAIL _____

C TWO MOST SIGNIFICANT ACTION ITEMS EMERGING FROM WORKSHOP?
1 - _____
_____
2 - _____
_____

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and
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U.S. Department of Transportation
Outlook for the U.S. Shipbuilding and Repair Industry
Maritime Administration

Internet: http://marad.dot.gov

U.S. Department of Transportation
MARAD Publications
Maritime Administration

Internet: http://marad.dot.gov
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U.S. Department of Transportation
Maritime Labor-Management Affiliations Guide
Maritime Administration
MAR 250, Room 7302
400 Seventh Street, SW
Washington, D.C. 20590

Tel: 202-366-2646
Internet: http://marad.dot.gov

U.S. Department of Transportation
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Maritime Administration

Internet: http://marad.dot.gov

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www.socp.org

U.S. Department of Labor
America's One-Stop Career Center System
Tel: 215-596-6336
Internet: http://www.doleta.gov
America's Job Bank: http://www.ajb.dni.us
America's Talent Bank: http://www.atb.org

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Employment and Training Administration
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Room S-4206
Washington, D.C. 20210

U.S. Department of Labor
Welfare-to-Work Grants
Washington, D.C.

Internet: http://wtw.doleta.gov

National Institute for Occupational Safety and Health
4676 Columbia Parkway
Cincinnati, OH 45226-1998

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Fax: 513-533-8573
Internet: http://www.cdc.gov/niosh

U.S. Department of Education
National School-to-Work Learning Center
U.S. Department of Labor
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Washington, D.C. 20024

Tel: 1-800-251-7236
Fax: 202-488-7395
Internet: www.stw.ed.gov

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A National Workshop On

Human Resources and Training

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Washington, D.C.

Sponsored by

The National Shipbuilding Research Program

Human Resource Innovation Panel
(SP-5)

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