



**U. S. NAVY**  
**OCCUPATIONAL SAFETY AND HEALTH PROGRAM**  
**FISCAL YEAR 2004 ANNUAL**  
**AGENCY REPORT**

**PREPARED BY:**  
**CNO (09F)/COMMANDER, NAVAL SAFETY CENTER**



FY 2004 U.S. NAVY ANNUAL REPORT TO OSHA

**Fiscal Year:** 2004

**Name of Agency:** Department of the Navy

**Name of Component:** U.S. Navy

**Address** 2000 Navy Pentagon  
Washington, DC 20350-2000

**Number of employees covered by this report:** 178,397 Civilian Workforce

**Name of individual responsible for the Occupational Safety and Health Program:** RADM Richard E. Brooks, USN

**Title:** Special Assistant to the Chief of Naval Operations for Safety Matters (CNO 09F)/Commander, Naval Safety Center

**Address:** 2511 Jefferson Davis Highway, Suite 7400  
Arlington, VA 22202-3735

**Technical Points of Contact:** Joy Erdman, MS, CIH, CSP  
Safety and Occupational Health  
OPNAV Safety Liaison ( 09FB)  
(703) 602-2575

Alan Jacka  
Executive Assistant  
Occupational Safety and Health Directorate  
Naval Safety Center, Code 90A  
(757) 444-3520, ext. 7168

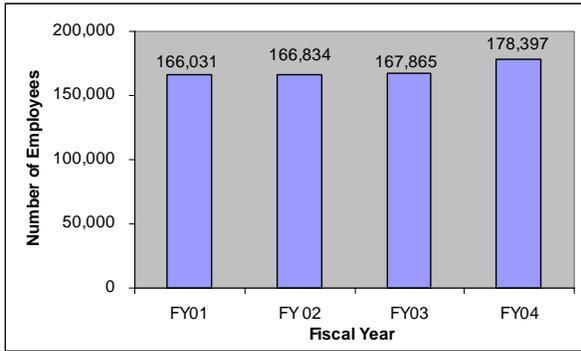
**Prepared by:** Gina Moore, BS  
Management Analyst  
OPNAV Safety Liaison (09FB)  
(703) 604-5434

**U.S. NAVY FISCAL YEAR 2004 ANNUAL AGENCY DETAILED REPORT**

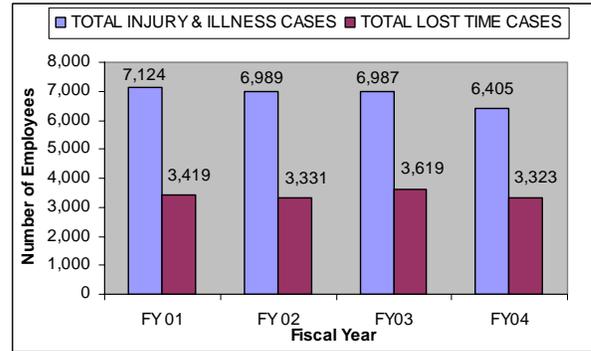
**1. STATISTICS**

**a. Display annual statistics for fatalities and lost time disabilities comparing with similar statistics for the previous three-year period. Data submitted to OWCP preferred. Display data in charts or tables.**

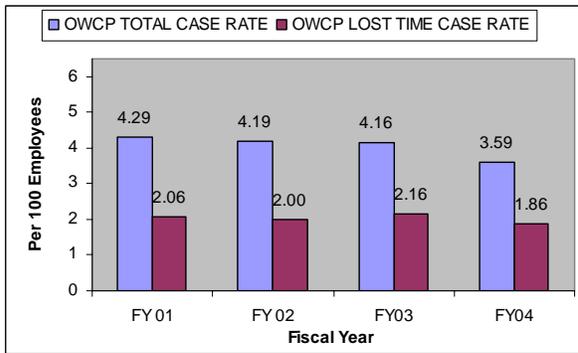
The U.S. Navy's workforce increased by approximately 10,000 employees from 166,031 in FY 2001 to an FY 2004 total of 178,397 (See Figure 1). The Navy reported 6,405 injury and illness cases in FY 2004, 3,323 of which were lost time cases (See Figure 2). This represents a decrease of approximately 8% from FY 2003. The actual injury and illness case rate was 3.59, and the lost time case rate was 1.86 (See Figure 3). Workers' compensation costs remain approximately the same (See Figure 4). More information on Injury and Illness data can be found in **Attachment A** and **Attachment B**.



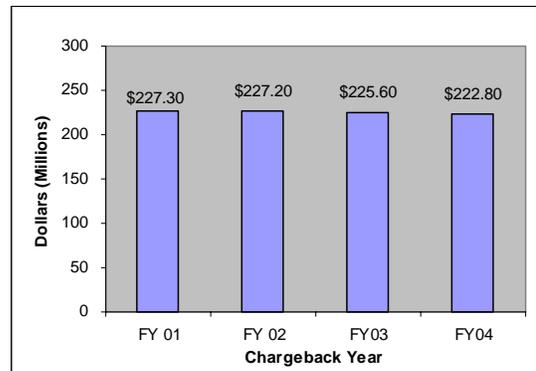
**Figure 1 - Number US Navy Employees  
FY 01 – FY 04**



**Figure 2 - US Navy Total Injury & Illness Cases/  
Total Lost Time Cases FY 01 – FY 04**



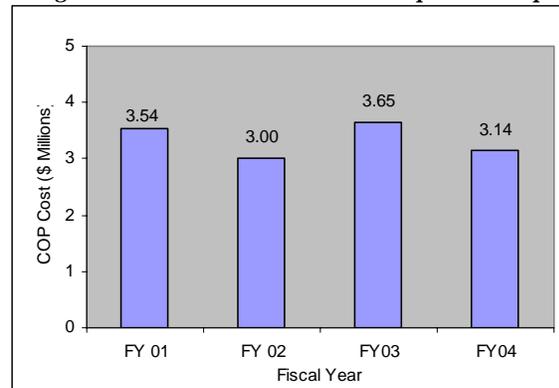
**Figure 3 – US Navy Total Injury & Illness Case  
Rate/Total Lost Time Case Rate FY 01 – FY 04**



**Figure 4 – US Navy Workers' Compensation  
Costs FY 01 – FY 04**

**b. Use agency data to display most recent OWCP chargeback and COP costs and compare with past three years.**

**Figure 5 – FY 2004 US Navy  
Continuation of Pay (COP) Data  
Comparison with Past Three Fiscal  
Years**



**c. Explain significant trends/major causes/ sources of fatalities/ lost time disabilities in last year(s).**

Reported data for the U.S. Navy revealed no significant changes or trends regarding disabilities. There were two U.S. Navy civilian fatalities at Navy workplaces in FY 2004. Note that the Navy does not track those fatalities reported by OWCP that occur after a long illness or that would primarily have been reported to close out a workers' compensation claim. A description of each incident and actions taken to prevent future occurrences follow:

- USS Constitution - Workers aloft used proper fall protection harnesses/lanyards *only while climbing*. Once on the worksite platform, the workers had a false sense of protection/security, and a common practice was to double the lanyard back upon itself and clip both ends to the worker's harness rings. A worker lost his footing and stepped through an open hole in the platform, falling 65 feet to his death. To prevent a recurrence, workers have been trained that working aloft requires lanyards to be in constant and positive connection to structures. Platform openings are being fitted with netting where possible.
- Naval Weapons Station Seal Beach, CA – Employee was electrocuted while working to restore high-voltage electrical service during unplanned power outage. Multiple electrical safety violations were noted that were most likely the result of complacency and a sense of urgency. The fatality occurred on a holiday weekend when the employee was working alone. Workers have received training to reinforce not working alone and adherence to precautions including lockout/tagout and high-voltage safety. The distribution system has been thoroughly scrutinized, and repairs are in progress to noted equipment deficiencies.

**2. SAFETY, HEALTH, AND RETURN-TO-EMPLOYMENT (SHARE) INITIATIVE**

**a. Provide detailed analysis of progress in meeting the four goals of the President's SHARE Initiative: (1) Reduce total injury & illness case rates by at least 3% per year; (2) Reduce lost time injury & illness case rates by at least 3% per year; (3) Improve the timely filing of notices of injury & illness by at least 5% per year; (4) Reduce lost production day rates due to injury & illness by at least 1% per year**

**Note:** Department of Labor combines U.S. Navy and U.S. Marine Corps data in SHARE goals. The U.S. Navy believes it would be beneficial to see these shown separately in the future, because the Navy and Marine Corps programs are managed independently.

DON exceeded SHARE goals in FY 2004. Especially significant were Total Case Rates and Lost Time Case Rates. Figure 6 below shows the Navy's progress in meeting each of the SHARE goals.

SHARE Metric & Goal	FY02	FY03	FY04
TCR Goal is a 3% reduction per year (-3.00 % per year)	-2.56%	-3.82%	-10.92%
LTCR Goal is a 3% reduction per year (-3.00 % per year)	-4.13%	+1.91%	-10.80%
Timeliness Goal is a 5% increase per year (+5.00 % per year)	-7.22%	+30.9%	+14.31%
LPDR Goal is a 1 % reduction per year (-1.00% per year)	-5.69%	-6.96%	-0.17%

**Notes:** Data in green indicates goal was met. Data in red indicates goal was not met.

Data Source: DoD SHARE Spreadsheet.

Would like to see DOL separate Navy and Marine Corps data.

**Figure 6 – U.S. Navy Progress in Meeting SHARE Goals**

**b. Describe programs established and initiatives launched by your agency in support of the Initiative. Discuss the successes or failures as a result of the implementation of these programs or initiatives, and explain how they improved the overall effectiveness of your agency's OSH program.**

In a similar effort to OSHA's SHARE initiative, the U.S. Navy has focused on the Secretary of Defense's (SECDEF) 50% Mishap Reduction Initiative. The SECDEF goals are comparable to the SHARE goals except that the numeric goal for DoD is much higher than the OSHA SHARE goal, and DoD has additional goals for aviation safety and traffic safety. The U.S. Navy initiatives to meet the 50% mishap reduction goals are described throughout the Accomplishments section of this report, Section 5.

**3. MOTOR VEHICLE/SEAT BELT SAFETY**

**a. *Include number of motor vehicle accidents experienced by civilian employees in FY 2004, while on official government business.***

There were 23 reported on-duty civilian motor vehicle accidents (mishaps) in FY 2004.

**b. *Indicate if agency has mechanism in place to track % of seat belt usage by employees. How is information tracked, usage percentage, number of employees involved in motor vehicle accidents in FY 2004 who were wearing seat belts and number who were not.***

As directed by Executive Order 13043 and Navy Traffic Safety Program Instruction (OPNAVINST 5100.12G), Paragraph 5.c.(2), military personnel are required to wear seat belts during the on- and off-duty operation of private motor vehicles or government vehicles, and civilian employees are required to wear seat belts during on-duty operation of a private or government motor vehicle and any time while on a government facility. Seat belt surveys are performed at entry points of various Navy installations worldwide. The survey encompasses Navy military and civilian personnel, Navy military dependents, and contractor personnel. Seat belt use percentages from the various installations are calculated to provide an annual seat belt use rate for the Navy. The combined Navy seat belt use rate for the CY03 survey totaled 93%. While this surpasses the national average of 79%, our results fall short of our 100% goal. On the positive side, there were some commands that had 100 percent usage.

In FY 2004, there were 23 on-duty motor vehicle mishaps involving Navy civilians. Four mishaps involved pedestrians struck by a motor vehicle. Of the 14 Navy civilian drivers involved in accidents, two were wearing a seat belt; it is unknown if a seat belt was worn by the other 12 drivers. There were five Navy civilian passengers involved in mishaps; only two were known to be wearing seat belts; for the other three, seat belt use is unknown.

**c. *Describe efforts taken to improve motor vehicle safety and seat belt usage. Submit copies of any informational materials describing programs or initiatives.***

The Navy promotes national driver safety campaigns (i.e., Click it or Ticket, You Drink, You Lose) and provides the American Automobile Association Driver Improvement Program. Traffic Safety Messages are transmitted to all Navy commands providing statistics and safe driving tips prior to holidays and/or as seasonal traffic safety messages.

"Click it or Ticket" is a high-visibility, law-enforcement campaign with the primary goal of increasing seat belt use nationwide and reducing the number of preventable fatalities and injuries. The "Click it or Ticket" law enforcement mobilization began nationally in 1994. The Navy and Marine Corps team has been proactively involved in this campaign since November 2002. More information is available at <http://www.safetycenter.navy.mil/ashore/motorvehicle/clickit/default.htm>

Historically, the Navy's Traffic Safety and Recreational Off-Duty Safety (RODS) Programs have been unfunded and given low priority at shore activities. To support SECDEF's 50% mishap reduction effort, funds have been committed to Traffic Safety and RODS at \$5M in FY-05 and similarly for future years. The Motorcycle Training "Bottom-up Review" identified where Navy regions need additional resources for their Traffic Safety Programs, including resources for training, support materials, instructional materials, paving/resurfacing/upkeep of ranges, training aids, and advertising. A Navy message in April 04 provided strong direction for reducing Traffic Safety and RODS fatalities. Examples of FY 2004 Traffic Safety initiatives Navy-wide are described in **Attachment C**.

**4. TRAINING - *Describe overall plan for assuring workers, supervisors, and committee members received appropriate job health and safety awareness and hazard recognitions information and training.***

The Naval Occupational Safety, Health, and Environmental Training Center (NAVOSHENVTRACEN) provides occupational health, safety, and environmental training to Sailors, Marines, and Department of

Defense civilian employees. NAVOSHENVTRACEN trained 8,800 students during FY 2004 convening 458 times for 51 offered courses. This training was primarily delivered in a traditional classroom setting; however interactive Video-TeleTraining, web-course training, and computer based training were also provided. For the first time in FY 2004, NAVOSHENVTRACEN was able to utilize the satellite based Government Educational Training Network (GETN) to both receive and deliver Federal agency training to Navy personnel. The first course retransmitted via GETN in April 2004 was a Homeland Defense Course for industrial hygienists. The overall impact of training is significant in making Navy personnel aware of safety and health hazards in their workplaces as well as helping them to understand procedures to follow to improve the quality and safety of their work and to prevent mishaps. Training courses offered by the NAVOSHENVTRACEN can be found at <http://www.safetycenter.navy.mil/training/catalog.htm>.

Safety and Occupational Health (SOH) training (separate from training offered by the NAVOSHENVTRACEN) is integrated into trade/skill training and is provided to management, supervisors, employees, and union representatives in each workplace. In FY 2004, as in prior years, Navy civilian and military personnel received training tailored to their individual needs, from awareness training to education required to attain and maintain competency in their technical area(s) of expertise. Junior and senior military officers receive SOH management training that has been incorporated into all levels of the Navy's leadership training. Shore activity personnel are provided additional educational opportunities, such as coursework on Navy OSH Program Management and Self-Assessment, to assist them in initiating and managing their own SOH programs.

The Navy Shore Safety Committee (SSC) chartered a Training & Education Working Group (T&E WG) to serve as the Navy technical and policy advisor to the SSC regarding Navy safety training. The T&E WG identifies and recommends safety training policy and execution of training to the SSC; as directed, or requested, reviews and comments on applicable OPNAV instructions; and as requested, recommends Navy positions on safety training. Projects begun in FY 2004 were: developing a Traffic Coordinator Course; developing a Recreation and Off-duty Safety Coordinator Course; revising NAVOSH Assessment Tools and Strategies (NATS) Course; reviewing off-the-shelf Web Courses for Navy training suitability; and Working a GETN schedule. Accomplishments of the T&E WG during FY 2004 included revising the Fall Protection Manager Course and the Confined Space Course.

## **5. ACCOMPLISHMENTS FY 2004**

**a. *Describe OSH program accomplishments and initiatives implemented to control trends and major causes or sources of fatalities and lost time disabilities and to improve overall OSH program. Discuss successes and/or failures as result of implementation of initiatives. Attach copy of any significant OSH policy or proclamation related to initiatives.*** [Listed Alphabetically]

**Acquisition Safety Webpages** - The *Acquisition Safety* web pages, begun in FY 2002, are posted on the Naval Safety Center website at <http://www.safetycenter.navy.mil/acquisition/default.htm>. Through these Acquisition Safety web pages, the Navy will promote the message that building systems safer the first time means fewer retrofits, fewer injuries, enhanced productivity, and reduced cost. In FY 2004, two new Acquisition Safety Challenges/Resources sections - **Fall Protection** and **Ventilation** - were completed and posted. Two special information sections were also completed and posted - **System Safety** and **Acquisition Safety General Resources**. In addition, three Acquisition Safety Challenges/Resources sections, **Confined Spaces**, **Heat Stress** and **Electrical Shock and Other Hazardous Energy Sources** were drafted for the web pages. Further information is provided in **Attachment D**.

**Anti-Terrorism Force Protection (AT/FP)** - FY 2004 Emergency Management accomplishments include:

- Drafted Emergency Management chapter in OPNAVINST 5100.23G, Navy Occupational Safety and Health Program Manual, identifying roles and responsibilities of safety and industrial hygiene personnel at Navy shore installations for emergency planning and response to man-made threats and natural disasters.
- Participated with the Interagency Working Group on Federal Workplace Emergencies.
- Reviewed and provided comments to the DoD Annual Report to Congress on AT/FP.
- Reviewed and provided comments to the Draft of DoD Biological Toxin Instruction 5210.XX, Minimum Standards for Safeguarding Biological Select Agents and Toxins (BSAT).

- Reviewed and commented on the Joint Program Executive Office, Chemical and Biological Defense, List of AT/FP Response Equipment.
- Provided written comments to the Joint Program Executive Office on a draft “Personal Protective Equipment Construct.”
- Completed an informational report on escape masks and NIOSH testing.

**DoD/Federal Councils and Committees** - During FY 2004, the Navy participated on the DoD Safety Oversight Council (DSOC) and DSOC task forces such as the Acquisition and Technology Task Force and the Industrial/Installation Task Force. Of particular interest regarding Navy participation on Federal councils is the award winning Naval Air Engineering Station (NAES) in Lakehurst, NJ. During FY 2004, NAES Lakehurst was selected by the Secretary of Defense as the 2004 Commander in Chief's Installation Excellence Award Winner. This award recognizes outstanding and innovative efforts of those who operate and maintain U.S. military installations. NAES Lakehurst has also won the Federal Safety & Health Council's OSHA Superior Performance Award six consecutive times, most recently in FY 2004. One way NAES Lakehurst continues to be a leader in OSH is through membership with organizations such as the Southern New Jersey Federal Safety and Health Council (SNJFSHC). This Council has won the Category I, National Recognition Award during each of the past seven years. In FY 2004, an SNJFSHC co-chair position was held by the NAES Lakehurst Safety Manager, and the SNJFSHC provided an Injury and Illness Reporting seminar based on the new reporting criteria from OSHA. The Council also accepted the NJ State Safety Council “Beacon of Safety” Award in FY 2004, the first time this award has been given to a Federal Government organization.

**Hazard Abatement Program** - The Navy's Mishap Prevention and Hazard Abatement (HA) Program funds mishap prevention initiatives and abatement of hazards for which local activities do not have sufficient funds and addresses hazards at multiple activities that can be corrected with common designs. The systematic identification, evaluation, and correction of hazards continue to improve Navy workplaces. Emphasis remains on prioritizing and correcting identified hazardous conditions with the highest degree of risk to ensure cost-effective use of available funds. The table below provides further details for HA funding from FY 2000 to FY 2010. **Attachment E** details critical FY 2004 HA accomplishments.

**NAVOSH MISHAP PREVENTION & HAZARD ABATEMENT FUNDING**

<b>FUNDING YEAR</b>	<b>APPROPRIATION</b>	<b>AUTHORIZATION (\$ Million)</b>	<b>OBLIGATED (\$ Million)</b>
FY 2000		14.7	12.3
FY 2001		13.6	12.5
FY 2002		14.1	12.0
FY 2003		13.5	12.8
FY 2004		13.5	10.0
FY 2005		13.0	
FY 2006	11.7		
FY 2007	11.1		
FY 2008	12.6		
FY 2009	11.9		
FY 2010	12.0		

**Notes:** Appropriation costs begin tracking in FY 2005.

**Appropriations FY 2006 - FY 2010** are extracted from Navy Accounting System Programming & Budgeting Information System (PBIS) table entitled *2004/Program 2004/Budget*

**Authorizations FY 2000 - FY 2005** are summarized from previous Annual Reports to OSHA.

**Authorization for FY 2006** is provided by PBIS table (see FY 2006 – FY 2010 explanation above).

**Obligations FY 2000 - FY 2003** are summarized from previous Annual Reports to OSHA.

**Obligation FY 2005** is provided by NAVFAC documentation.

**Integrated Safety Management System (ISMS)** - In 2002, Congress authorized funds for a safety demonstration program to improve the work safety record for civilians working at three Navy sites. At the end of this two-year project, one of the sites had demonstrated success by using ISMS practices borrowed

from private industry. The Navy Region Southeast pilot site at Naval Air Station (NAS), Key West successfully implemented ISMS and achieved reductions in serious injury rates, numbers of serious injuries, and in the total number of lost production days. In the spring of FY 2004, Congress authorized expansion of the ISMS project to include NAS Key West and seven other sites within Navy Region Southeast. Objectives include the need to align safety with the mission, promote the mission, and to obtain a self-sustaining long-term cultural change concerning mishap reduction and associated costs. The eight Navy demonstration sites have become better able to ensure a safe and healthful workplace by developing safety plans of action and on-site mentoring, completing safety performance appraisal elements, creating safety awards, establishing a return-to-work process, improving communication methodologies, and analyzing and integrating safety into operations. The project will conclude in FY 2006 with a report to Congress detailing the project's outcomes regarding accomplishments and lessons learned.

**Major Mishap Review** - The U.S. Navy began posting "Lessons Learned" from serious mishaps in the Fleet to the Naval Safety Center website in FY 2004. These postings are catalogued by month at <http://www.safetycenter.navy.mil/mishapreduction/lessonslearned/default.htm>. There were two U.S. Navy civilian fatalities at Navy workplaces in FY 2004. A description of each incident and actions taken to prevent future occurrences was discussed above in paragraph 1c.

**Mishap Reduction Initiatives** - The U.S. Navy achieved its DON FY 2004 goal to achieve 50% Mishap Reduction by the end of FY 2005 in the following areas: Navy Class A flight mishap rate; Navy afloat Class A mishap rate; and Navy operational mishap fatality rate. FY 2004 mishap reduction initiatives accomplished by the Commander Navy Installations (CNI) are described in **Attachment F**.

**Navy and Marine Corps Safety Council** - was established in FY 2004 as "an integrative, collaborative, and interactive forum of operator-level Navy and Marine Corps safety leaders, who will advise and recommend safety performance improvements to the Chief of Naval Operations, the Commandant of the Marine Corps, and the Deputy Assistant Secretary of the Navy for Safety." There are four teams under the Navy and Marine Corps Safety Council: Shore, Afloat, Aviation, and Ground Tactical (Operational). Accomplishments of the Shore and Afloat Safety Committees are described in **Attachment G**.

**OSHA Citation Website** - In FY 2004, the Navy continued to monitor OSHA citations issued to Navy commands. The citations are posted on an internal Navy website and detail identified hazards by installation, inspection date, type of inspection, standard(s) cited, and the abatement date. These tables assist all installations in identifying areas of potential illness and injury and support lessons learned from violations that have been cited previously for a substantially similar condition. The website is updated quarterly from data received from the Department of Labor. **Attachment H** is an example of a citation. There were 11 more OSHA inspections conducted in FY 2004 than in FY 2003, which may account for a slight increase in the number of citations. However, a comparison of data over the preceding four years demonstrates a noteworthy decrease in the number of total citations, with serious violations being reduced by more than 50 percent. Further information on citations is provided in **Attachment A**.

**OSHA Inspections Performed and Citations Issued**

Fiscal Year	Total # Inspections	Total # Citations	Willful	Repeat	Serious	Other
2004	29	26	0	1	20	5
2003	18	16	0	0	10	6
2002	23	34	0	3	23	8
2001	30	64	0	1	50	13

**Policy and Guidance** - During FY 2004, two safety instructions were revised and issued by the USN, OPNAV Instruction 3500.39B, Operational Risk Management, which can be viewed at [http://www.safetycenter.navy.mil/instructions/orm/3500\\_39B.pdf](http://www.safetycenter.navy.mil/instructions/orm/3500_39B.pdf) and OPNAV Instruction 3590.24D, Chief of Naval Operations Afloat Safety Awards Program, which can be viewed at <http://www.safetycenter.navy.mil/instructions/afloat/359024D.pdf>. In addition, three policy instruction updates were initiated in FY 2004: OPNAVINST 5100.23G, "Safety and Occupational Health Ashore" update was drafted to include new chapters on Fall Protection and Emergency Management; OPNAVINST 5100.28,

"Hazardous Materials Users' Guide for Forces Afloat" was drafted to help Sailors work safely with hazardous materials on ships and submarines; and OPNAVINST 5100.24A, "Systems Safety Program" is being updated to more effectively integrate safety and health into major acquisitions, such as ships, aircraft, submarines and weapons systems. These three Navy policy instructions will be finalized in FY 2005.

**Safety Success Stories** - During FY 2004, 11 new Success Stories were developed and posted on the public domain side of the Safety Center's website at <http://www.safetycenter.navy.mil/success/default.htm>. The stories communicate the Navy's commitment to the safety, health, and quality-of-life of our Navy personnel. The purpose of the Safety Success Stories is to keep Sailors, their families, Navy civilians, and the general public informed about what the Navy is doing to protect the military and civilian workforce from workplace fatalities, life-threatening injuries, illnesses, and crippling disabilities. The Safety Success Stories widely disseminate valuable lessons-learned and successful initiatives. In addition, they demonstrate the value added by safety and best business practices resulting in productivity gains and cost savings. Success stories in FY 2004 focused on areas such as ergonomics, traffic safety, fall protection, electrical hazards, and inhalation hazards. Additional information and summaries of the 11 Safety Success Stories posted in FY 2004 are provided in **Attachment I**.

**Studies** - In FY 2004, the Navy coordinated with the Center for Navy Analyses (CNA) to conduct a study on hearing loss among Navy military personnel, investigating factors that contribute to hearing loss and helping to focus efforts to mitigate risk and reduce the increasing incidence of military hearing loss, which currently exceeds \$100M a year to Navy veterans with hearing loss. CNA will determine, by building a data set and performing a statistical analysis, the extent to which individual demographic factors and history of workplace exposure explain hearing loss. The study is expected to be completed in FY 2005.

**WEB Enabled Safety System (WESS) Version 2** - The Navy's Mishap Reporting System, called the Web Enabled Safety System (WESS) underwent significant improvements in FY 2004 as part of Version 2. An extensive reports/data retrieval function was made available in FY 2004.

**b. Describe efforts in the following areas.**

***(1) Accomplishments for assessing the effectiveness of your agency's OSH program:***

- The U.S. Navy annually assesses the effectiveness of its OSH program by preparing the Annual Report to OSHA, identifying accomplishments and goals, and evaluating mishap performance.
- The Naval Inspector General makes an annual written summary of its evaluation of OSH performance at Navy sites. Fifteen oversight inspections made during FY 2004 summarized OSH performance at Navy shore activities. The report is distributed to senior Navy offices and is posted on the secure side of the Naval Safety Center website.
- The Navy has a "Safety Success Story" Website for capturing the most effective safety and health accomplishments to encourage sharing best technologies and optimizing mishap reduction. FY 2004 Success Stories are summarized in **Attachment I**.
- In FY 2004, the Navy selected a single safety management system, the Enterprise and Safety Application Management System (ESAMS) to be used at Navy installations worldwide. One of the modules in ESAMS is the self-assessment module that evaluates the effectiveness of safety programs at Navy shore activities. This automated system will greatly improve the Navy's capability to assess safety program performance effectively.

***(2) Accomplishments in the identification, assessment and resolution of safety and health problems, including system of (a) providing recognition to outstanding achievers and (b) establishing accountability and performance standards for managers, supervisors and employees.***

**(a)** To recognize outstanding efforts in risk management and mishap prevention, the CNO Safety and Occupational Health Shore Activity Awards Program provides recognition to a command with the best overall SOH program record; to activities for attaining excellent records in SOH; and to individual SOH professionals who have made significant contributions to a command/activity or overall Navy SOH program. The awards recognize outstanding contributions to operational readiness and conservation of resources through effective risk management. Added to outstanding safety records, activities selected must

have aggressive, innovative mishap prevention programs. Awards are made to one small, medium, and large activity in industrial and non-industrial categories. There are two CNO award categories presented to one military and one civilian manager and one civilian specialist/technician at the HQ, region, and individual activity level. The Secretary of the Navy has also developed safety awards, presented as official recognition of commendable safety records attained by activities. Secretary of the Navy activity awards are presented each fiscal year to Navy shore activities and fleet operational/support units located ashore, based on the overall quality of their safety programs and records. At the local level, activity commanding officers develop and implement an activity safety awards program applicable to their mission and operations.

(b) There are two major tools for establishing and tracking accountability. (1) Navy shore safety and health policy in OPNAVINST 5100.23 designates safety roles and responsibilities for managers, supervisors, and employees. (2) The ESAMS safety management system tracks accountability of supervisors and managers. For civilians, the system links supervisors' performance to the standard Federal government management performance elements.

***(3) Unique or significant accomplishments that your agency made in FY 2004 to enhance employee participation, involvement and consultation in the occupational safety and health program.***

Prior to FY 2004, employee involvement was a vulnerable aspect of the Navy's OSH program. Two Navy initiatives are helping to change this: (1) Expansion of the ESAMS, and (2) Initial efforts by select Navy activities to become recognized under the OSHA Voluntary Protection Program (VPP):

- In FY 2004, the ESAMS was selected for expansion across the CNI (i.e., a large portion of Navy shore activities). This system requires significant involvement by supervisors and rates their performance in this involvement. It has met with great success as it gives supervisors the tools to meet their requirements.
- In FY 2004, all four Naval Shipyards pursued attainment of the OSHA VPP. This program requires supervisor and employee involvement in OSH programs. It is expected that one or more Naval shipyards will be recognized as OSHA VPP sites in FY 2005.

**6. RESOURCES - Explain significant one-time or additional permanent resources allocated to the SOH program in FY 2004 for areas such as workplace HA, R&D, data systems, staffing, and training.**

There were no significant additional permanent resources allocated Navy-wide to the SOH program in FY 2004. There was a small "one-time" resource investment made in FY 2004 funding computer software programming for the Web Enabled Safety System (WESS) to improve mishap reporting.

**7. GOALS - Identify annual OSH plans, goals, and objectives, and significant OSH initiatives planned and programmed for FY 2005 and beyond. [Listed alphabetically]**

**Acquisition Safety** at <http://www.safetycenter.navy.mil/acquisition/default.htm>.

- Reinvigorate system safety to put safety up front in acquisition to identify and mitigate hazards.
- Add four additional Challenge/Resources sections to the Acquisition Safety web pages.
- Review DoD and Navy acquisition policy/guidance to ensure optimal integration of OSH guidelines.
- Increase Safety and Occupational Health (SOH) membership and participation in acquisition teams.
- Insert SOH criteria into acquisition process by identifying key areas, (e.g., ergonomics, noise, fall protection) and describing minimum acceptable criteria for system design and performance
- Place special emphasis on new ships (e.g., littoral combat ship (LCS) and aircraft carrier).

**Anti-Terrorism Force Protection (AT/FP)/Emergency Management/Homeland Defense**

- Complete and issue Emergency Management policy in OPNAVINST 5100.23G, identifying roles and responsibilities of safety and industrial hygiene personnel at Navy shore installations for emergency planning and response to man-made threats and natural disasters.
- Participate with the Interagency Working Group on Federal Workplace Emergencies.
- Review and provide recommended comments to the draft DoD and Navy emergency mgt. documents.
- Promote improved respiratory protection, including assisting DoD to obtain an alternate OSHA standard for the Joint General Purpose Mask.

#### DoD/Federal Councils and Committees

- Participate on the DoD Safety Oversight Council (DSOC) and DSOC task forces such as the Acquisition and Technology Task Force and the Industrial/Installation Task Force.
- Participate on OSHA Federal Councils, as resources permit.

#### Hazard Abatement Program

- Execute Mishap Prevention and Hazard Abatement (HA) Projects, advocating a stronger return on investment focus in project selection (\$13M authorized, \$11.9M for projects).
- Prioritize and select FY 2006 Mishap Prevention and HA Projects, advocating a stronger return on investment focus in project selection (\$11.7M appropriated for projects).
- Continue to streamline the project process and find innovative ways to implement solutions globally.
- Continue emphasis on mishap prevention efforts (e.g., ergonomics).

#### Leadership

- Foster initiatives to enable top leadership to demonstrate their commitment to safety and occ. health.

#### Major Mishap Review

- Continue documenting “Lessons Learned” from serious mishaps in the Fleet and posting at <http://www.safetycenter.navy.mil/mishapreduction/lessonslearned/default.htm>.
- Continue to rigorously investigate work-related fatalities to prevent recurrence & improve workplaces.

#### Management System

- Implement the time and money saving ESAMS management system throughout Commander Naval Installations (CNI) and identify opportunities to expand to other Navy activities.

#### Navy and Marine Corps Safety Council

- Conduct Council meetings to advise and recommend safety performance improvements to the Chief of Naval Operations, and the Deputy Assistant Secretary of the Navy for Safety.
- Support efforts of the Navy and Marine Corps Shore and Afloat Safety Committees.

#### Occupational Health

- Use National Academy of Sciences suggestions to improve Navy health hazard assessments (HHAs).
- Increase occupational health/industrial hygiene involvement in the Navy acquisition safety process.
- Support the development of the Defense Occupational and Environmental Health Readiness System (DOEHRS) for industrial hygiene data capture and reporting and DOEHRS Hearing Conservation (HC) for early detection of hearing loss, noise exposure surveillance, and deployment readiness.
- Advise Navy and Marine Corps Safety Council on policy and technical issues related to Occupational Health Nursing, Medicine, Audiology, and Industrial Hygiene.

#### OSHA Citation Website

- Continue to monitor OSHA citations issued to Navy and post on an internal Navy website to assist all installations in identifying areas of potential risk.

#### Policy and Guidance

- Complete the update of OPNAVINST 5100.23G, "Safety and Occupational Health Ashore," to include new chapters on Fall Protection and Emergency Management.
- Complete OPNAVINST 5100.28, "Hazardous Materials Users' Guide for Forces Afloat," to help Sailors work more safely with hazardous materials on ships and submarines.
- Complete OPNAVINST 5100.24A, "Systems Safety Program," to more effectively integrate safety and health into major acquisitions, such as ships, aircraft, submarines and weapons systems.
- Update OPNAVINST 5100.8, "Navy Safety and Occupational Health Program," which assigns responsibilities for different SOH programs to various Navy organizations.
- Review DoD and SECNAV draft policy to ensure effective integration of safety.

- Review Congressional Bills and Federal regulations related to workplace safety and health.

**Safety Success Stories** at <http://www.safetycenter.navy.mil/success/default.htm>.

- Document ten success stories to continue documenting the Navy's commitment to the safety, health, and quality-of-life of our Navy personnel. In addition, demonstrate the value added by safety and best business practices resulting in productivity gains and cost savings.

**Studies**

- Complete the Naval Center for Navy Analyses (CNA) study on Navy military hearing loss, to reduce risk and cost, which currently exceeds \$100M a year to Navy vets with hearing loss.
- Develop a follow-on CNA study focused on reduction of hearing loss risk on Navy ships.
- Continue the Integrated Safety Management System (ISMS) pilot study throughout the Southeast Region, documenting accomplishments and lessons learned over the next two years.

**Traffic Safety**

- Increase traffic safety efforts through Shore Safety Committee, additional funding, increased mishap investigation, and other initiatives.

**Voluntary Protection Program (VPP)**

- Pursue OSHA VPP recognition at selected Navy activities (e.g., shipyards). VPP Star sites have an average mishap rate of 50% below their industry average rate.

**WEB Enabled Safety System (WESS)**

- Continue to improve the Navy's WESS for conformance with Federal recordkeeping improvements and to respond to customer requests for improvement.

**Workers' Compensation**

- Coordinate with Human Resources staff on their initiative to utilize centralized funding for reemployment of civilians who have been injured on the job.
- Coordinate with Human Resources to establish and fill full-time workers' compensation program manager positions, an action critical to reducing lost days due to injury.

**ATTACHMENTS**

Attachment A - USN Consolidated Injury/Illness Data Summary

Attachment B - Mishap Profiles and Workers' Compensation Trends

Attachment C - Examples of Traffic Safety Accomplishments in FY 2004

Attachment D - Acquisition Safety

Attachment E - Hazard Abatement

Attachment F - Commander Navy Installations Mishap Reduction Accomplishments for FY 2004

Attachment G - Shore Safety Committee & Afloat Safety Committee Accomplishments for FY 2004

Attachment H - Example of Citation from NAVSAFECEN Website

Attachment I - Safety Success Stories, Cost/Time Savings Table, and Executive Summaries

**Attachment A - USN Consolidated Injury/Illness Data Summary**

(Note: FY 99, 01,02 & 03 data are extracted from previous U.S. Navy Annual Reports to OSHA)

**TABLE 1: OWCP INJURY & ILLNESS DATA**

Number of employees is obtained from the Office of Civilian Personnel Management (OCPM).

*U.S. NAVY (USN)*

CATEGORY	FY 99	FY 00	FY 01	FY 02	FY 03	FY 04
Total Cases less 1 <sup>st</sup> Aid Cases	7,851	7,576	7,124	6,989	6,987	6,405 *
Fatalities **	4	8	1	1	0	2
Lost Time Cases	4,198	3,874	3,419	3,331	3,619	3,323 *
Avg. Number of Employees	188,543	169,168	166,031	166,834	167,865	178,397

\* These figures were prepared by the CPMS, ICUC Division from the Defense Portal Analysis Center (DefPAC).

\*\* The Navy does not track those fatalities reported by OWCP that occur after a long illness or that would primarily have been reported to close out a workers' compensation claim.

**TABLE 2: OWCP RATES OF INJURIES & ILLNESSES PER 100 EMPLOYEES**

This data is obtained from the USDOL OWCP database. USN rates are based on cases without first aid.

*U.S. NAVY (USN)*

CATEGORY	FY 99	FY 00	FY 01	FY 02	FY 03	FY 04
OWCP Total Case Rate	4.16	4.48	4.29	4.19	4.16	3.59
OWCP Lost Time Case Rate	2.23	2.29	2.06	2.00	2.16	1.86

**TABLE 3: WORKERS' COMPENSATION DATA – Average Cost Per Employee**

This data reflects the workers' compensation cost obtained from the USDOL OWCP database.

*U.S. NAVY (USN)*

CATEGORY	CBY 99	CBY 00	CBY 01	CBY 02	CBY 03	CBY 04
Chargeback Cases	25,256	24,184	23,526	23,325	19,535	21,866*
Total Cost (\$ Million)	221.6	222.3	227.3	227.2	225.6	222.8*
Total # Employees	188.5K	169.2K	166.0K	166.8K	167.9K	178.4
Avg. Cost per Case (\$)	8,774	9,192	9,662	9,740	11,549	10,190
Avg. Cost per Employee (\$)	1,176	1,314	1,369	1,362	1,344	1,249

\* These figures were prepared by the CPMS, ICUC Division from the USDOL OWCP Chargeback Bill.

**TABLE 4: CONTINUATION OF PAY (COP)**

This data reflects the COP data obtained from the Defense Finance & Accounting System (DFAS).

*U.S. NAVY (USN)*

<b>CATEGORY</b>	<b>FY 99</b>	<b>FY 00</b>	<b>FY 01</b>	<b>FY 02</b>	<b>FY 03</b>	<b>FY 04</b>
COP Cost (\$ Thousand)	4081.3	3739.6	3544.8	3007.5	3648.9	3140.4

**TABLE 5: OSHA CITATION SUMMARY – BY TYPE**

<b>CATEGORY</b>	<b>FY 00</b>	<b>FY01</b>	<b>FY 02</b>	<b>FY03</b>	<b>FY 04</b>
Number of inspections	36	25	23	18	29
Willful	0	0	0	0	0
Serious	50	45	32	10	20
Repeat	1	0	3	0	1
Other	13	11	9	6	5
Total Citations	64	56	44	16	26

**NOTE:** The top three OSHA citations were: Electrical (10) Hand tools (4) Machine Guarding (2)

ATTACHMENT B – FY 2004 MISHAP PROFILES (ONE OR MORE REPORTED LOST WORK DAYS) AND WORKERS' COMPENSATION TRENDS

**(TOTALS REPORTED NOT NORMALIZED FOR POPULATION)**

WORK TASK	FY 04	FY 03	SOURCE OF MISHAPS	FY 04	FY 03	MEDICAL DIAGNOSIS	FY 04	FY 03	BODY PART	FY 04	FY03
INDUSTRIAL	665	646	SLIPS/TRIPS/FALLS	430	402	SPRAINS, STRAINS	704	693	BACK	429	426
SERVICES	370	373	OVER-EXERTION	336	321	INJURIES TO MUSCLES, TENDONS, LIGAMENTS, JOINTS	71	191	FEET/ANKLES/LEGS/TOES	280	305
MISCELLANEOUS	273	331	BODILY CONDITIONS	264	263	TRAUMATIC INJURIES AND DISORDERS	241	171	WRISTS/HANDS/FINGERS	223	211
CONSTRUCTION	84	42	STRUCK BY/ STRUCK AGAINST	223	215	BRUISES AND CONTUSIONS	161	149	MULTIPLE BODY PARTS	137	188
CLERICAL	83	132	EXPOSURE TO	105	137	FRACTURES	128	126	KNEES	185	148
PROFESSIONAL/ TECHNICAL	57	79	BENDING/ CLIMBING/ REACHING/ TWISTING	79	92	CUTS/ ABRASIONS/ SCRATCHES/ LACERATIONS	107	104	TRUNK/CHEST	149	147
RECREATION	57	24	CONTACT WITH OBJECTS	76	87	BURNS	24	39	HEAD/FACE/EARS	155	139
WEAPONS	34	18	CAUGHT IN/ UNDER/ BETWEEN	63	63	BACK PAIN/HURT BACK	43	31	ARM	85	88
MEDICAL	20	31	MOTOR VEHICLE RELATED	18	48	ERGONOMIC INJURIES	13	9	BODY SYSTEMS	22	42
TRAVEL	18	30	REPETITIVE MOTION	31	45	EFFECTS OF ENVIRONMENTAL CONDITIONS	14	6	NECK	26	42
TRAINING	16	28	RUBBER OR ABRADED	30	17	RESPIRATORY SYSTEM DISEASES	11	3	PELVIC REGION	43	38
RESEARCH & DEVELOPMENT	9	19	FIRE/EXPLOSION-RELATED	4	10	STRESS	4	1			

WORK TASK	FY 04	FY 03	SOURCE OF MISHAPS	FY 04	FY 03	MEDICAL DIAGNOSIS	FY 04	FY 03	BODY PART	FY 04	FY03
			COLLISION BETWEEN VEHICLES OR EQUIPMENT	2	9						
OTHER	80	36	OTHER	105	80	OTHER	245	266	OTHER	32	15
TOTAL	1766	1789		1766	1789		1766	1789		1766	1789

## **ATTACHMENT C**

### **EXAMPLES OF TRAFFIC SAFETY ACCOMPLISHMENTS IN FY 2004**

- Navy Region Hawaii's Traffic Safety Council spearheaded a campaign to raise seat belt usage across the region. In addition to offering awareness training on benefits of seatbelt use and defensive driving courses targeted at personnel under age 26, security departments set up signs at various strategic base locations to remind personnel to buckle up. This success story can be seen in its entirety at <http://www.safetycenter.navy.mil/success/stories/0116.pdf>.
- At Point Mugu Naval Station in California, the Site Safety Manager outlined a draft motorcycle safety-training contract. Part of the contract was put into action and resulted in eliminating volunteer instructors, developing a standard operating practice, and improving the instruction method. Lessons learned from this attempt will be applied in future contracts.
- Naval Submarine Base Kings Bay Georgia completed a Memorandum of Understanding with the Georgia Department of Public Safety (GA DPS) in support of a monthly Motorcycle Rider Road and Street Skills course taught by certified state instructors on an on-site range maintained by GA DPS at no charge to the base. Other motorcycle safety initiatives included hosting a Naval Safety Center Traffic Safety Stand Down; providing AAA Driver Improvement Program training throughout the year; seatbelt compliance checks at gates with compliance increasing from 90% to 97% between FY 2000 and FY 2004; preparing "Think Before you Drink" cards for Sailors showing numbers to call for rides at no expense; and performing Driving Under the Influence (DUI) checks on weekends.
- Naval Air Station Atlanta partnered with the Cobb County Police Department, Dobbins Air Reserve Base and Marine Aircraft Group-42 during FY 2004 to provide motorcycle safety training and the Emergency Vehicle Operators Course to Sailors, Marines, and Civil Service workers.
- The Traffic Safety Manager for Commander Fleet Activity Yokosuka, Japan has visited ships underway before their arrival in Yokosuka (home ported units after being deployed for several months and newly arriving home ported ships) and conducted Traffic and Off-Duty Safety training. This training has raised the safety awareness of literally thousands of sailors.
- Commander Fleet Activity Sasebo, Japan implemented a Sasebo-wide Traffic Safety Committee to include representation from each command including afloat commands. Since its inception, Sasebo has had a 70% decline in DUI's, and minor motor vehicle accidents are on the decline. They continued the Critical Days of Summer campaign into the remainder of the year in order to keep the focus on off-duty and traffic safety.

## ATTACHMENT D - ACQUISITION SAFETY



**Naval  
Safety  
Center**

[Checklists](#) | [Downloads](#) | [Instructions](#) | [ORM](#) | [Presentations](#) | [Site Map](#) | [Search](#)

---

**Safety Divisions**

- [Afloat](#)
- [Ashore](#)
- [Aviation](#)
- [Media/Magazines](#)
- [Public Affairs](#)
- [Statistics](#)
- [Occupational Safety and Health](#)
- [ORM](#)

**Popular**

- [Photo of the Week](#)
- [Safe Tips](#)
- [1,001 Success Stories](#)
- [2005 Safety Planner](#)
- [Safety Posters](#)
- [ORM Cards](#)
- [Approach Magazine](#)
- [Introduction to ORM](#)
- [Ashore Magazine](#)

**Other Services**

- [Acquisition Safety](#)
- [Contact Us](#)
- [Checklists](#)
- [DoD Menu \(.mil\)](#)
- [Downloads](#)

### Acquisition Safety

Protecting our people is critical to our mission of national defense. We are dedicated to ensuring our Sailors and Marines are ready at all times to carry out their mission by providing them with safe and healthful work environments. One place to start is in acquisition.



**Resources**

Challenges	Program Elements
<ul style="list-style-type: none"> <li>• <a href="#">Confined Spaces</a></li> <li>• <a href="#">Ergonomics/HSI</a></li> <li>• <a href="#">Fall Protection</a></li> <li>• <a href="#">Noise</a></li> <li>• <a href="#">Ventilation</a></li> <li>• <a href="#">Vibration</a></li> </ul>	<ul style="list-style-type: none"> <li>• <a href="#">System Safety</a></li> </ul> <p style="text-align: center;"><b>General Resources</b></p> <ul style="list-style-type: none"> <li>• <a href="#">Acquisition Safety</a></li> </ul>

In FY 2004, two new Acquisition Safety Challenges - **Fall Protection** and **Ventilation** - were completed and posted to the public domain of the Naval Safety Center's Acquisition Safety web pages at <http://www.safetycenter.navy.mil/acquisition/default.htm>.

Two special information sections were also completed and posted - **System Safety** and **Acquisition Safety General Resources**. In addition, three Acquisition Safety Challenges, **Confined Spaces**, **Heat Stress** and **Electrical Shock and Other Hazardous Energy Sources** were drafted for the web pages. These sections will be finalized and posted in FY 2005. Background information and further details on acquisition safety and FY 2004 accomplishments are provided below.

The *Acquisition Safety* web pages were begun in FY 2002. The goal of this component of the Naval Safety Center website is to promote incorporation of safety and occupational health factors into all stages of the Defense Acquisition Process by discussing the challenges, communicating information on Best Practices, and sharing successful Navy acquisition safety and health initiatives. *Through these Acquisition Safety web pages, we strive to get out the message that building ship systems safer the first time means fewer retrofits, no injuries, enhanced productivity, and reduced cost.*

The Acquisition Safety web pages are a work in progress for addressing the most significant safety challenges facing the Defense Acquisition and Navy Occupational Safety and Health communities during planning of ship, weapons, and aircraft systems.

- |   |  |
|---|--|
| <ol style="list-style-type: none"> <li>1. <b>Noise</b></li> <li>2. <b>Vibration</b></li> <li>3. <b>Ergonomics/Human Factors Engineering (HFE)</b></li> <li>4. <b>Confined Space Entry</b></li> <li>5. <b>Heat Stress</b></li> </ol> | <ol style="list-style-type: none"> <li>6. <b>Falls</b></li> <li>7. <b>Industrial Ventilation (Control of Chemical Hazards)</b></li> <li>8. <b>Non-Ionizing Radiation</b></li> <li>9. <b>Electrical Shock and Other Hazardous Energy Sources</b></li> </ol> |
|---|--|

Each of the nine Safety Challenges to be featured in the web pages is approached from two perspectives: The Challenge and Resources/Best Practices. The **Challenge** sections define and discuss each safety risk and its consequences in terms of human, time, and material costs as well as military readiness. The **Best Practices** sections provide links to general information on each safety challenge topic, as well as resources on research studies, technology, Navy and DoD instructions, industry standards, and other acquisition websites containing information relevant to the specific safety challenge. The **Acquisition Safety Successes** will contain true success stories demonstrating how various Navy commands are meeting each acquisition safety challenge. We are relying on the Navy acquisition community to share its successes with us in order to protect our people and to help the acquisition community to reduce risks at minimal cost and on time.

The **Fall Protection** Safety Challenge, completed and posted to the Acquisition Safety web pages in FY 2004, provides a discussion of shipboard fall protection problems that impact design and acquisition of ship systems. Design challenges discussed include working aloft and over the side, confined spaces, tanks and voids, ladders and scaffolding. The section describes the potential consequences of deficiencies in fall protection design and provides recommendations for resolving these design challenges by building in fall protection during planning and design phases of ship acquisition. Most of this information addresses ships and ship systems, but it is relevant to virtually every procurement and acquisition program. The fall protection challenge emphasizes that the risk of falling from heights is inherent to Navy ship construction (drydocks) and aircraft maintenance sites and to any shipboard and shore facility work spaces containing scaffolds, platforms, weapons systems, auxiliary equipment, confined spaces, storage tanks, and other structures. The dangers of working at heights and the extra precautions needed to do so may mean that routine maintenance and inspections of equipment and structures that present fall hazards are carried out less frequently or may be less comprehensive than required. Recommended design innovations that can be incorporated during the planning and design phases are provision for secure handrails at tops of



Working at heights is an inherent part of

ladders and handrail extensions that can be collapsed when hatches are closed; use of control panels and displays at ground level ; and remote technology, like lamps that rotate downward for service and maintenance.

The **Ventilation** Safety Challenge discusses the critical need for well-designed and easily maintained shipboard ventilation systems to provide a safe and comfortable work environment and to protect sensitive equipment from potentially hazardous airborne contaminants, fires, explosions, and excessive heat, thus ensuring mission readiness. All components of ventilation systems such as fans, motors, ducts, dampers, air intakes and outlets, filters, and access panels, must work properly in order for the systems to operate safely and efficiently. Therefore, ventilation system design must be considered as an essential part of planning, development, and production of new shipboard equipment and systems and the facilities needed for their support. Shipboard ventilation system design and maintenance challenges include controlling heat

and humidity in laundries and galleys; providing adequate ventilation in shipboard hazardous material storerooms and workshops that use hazardous materials; monitoring ventilation components; and controlling ventilation system noise. Recommendations include: new ship design power and utilities architecture, which allows more space for ductwork, fans, and other ventilation equipment; use of improved local exhaust ventilation; application of human systems integration, which takes into consideration the needs of personnel living and working aboard ship and the work processes performed in particular spaces when designing ventilation system controls and displays; installation of advanced food service equipment that reduces the need for complicated ventilation systems; and installation of textile ductwork, which provides even air distribution throughout spaces.

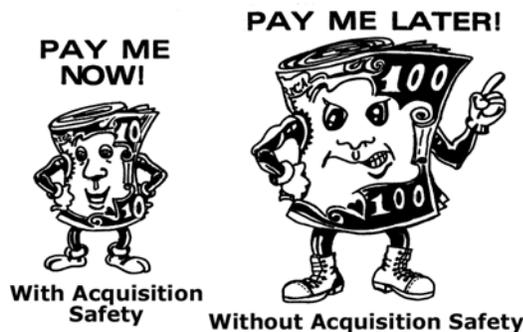


Simple ventilation systems can result from reduced

One of the new special sections of the Acquisition Safety web pages developed during FY 2004 is the **Acquisition Safety General Resources**, which provides links to interactive, on-line references to policy and discretionary best practice, acquisition knowledge portals, technology and logistics information, DoD and Navy acquisition policy guidance, and other valuable resources for acquisition safety.

The last section of the Acquisition Safety web pages to be completed in FY 2004 explores the disciplines of **System Safety** as it relates to the acquisition process. Acquisition programs can create unnecessary loss of life if risk factors are not identified and either eliminated or managed effectively in the developmental process and throughout the life of the system. The discipline of *System Safety* is the accepted methodology for identifying potential hazards during the design process and preventing hazards by addressing their root causes. The Department of Defense looks at System Safety as a means of reducing risk through early identification, analysis, elimination, and control of hazards. The *System Safety* approach addresses the significant safety challenges facing the Defense Acquisition and occupational safety and health communities during planning of ship, weapon, and aircraft systems, subsystems, and their interfaces.

**ACQUISITION SAFETY IS A  
SMART INVESTMENT**



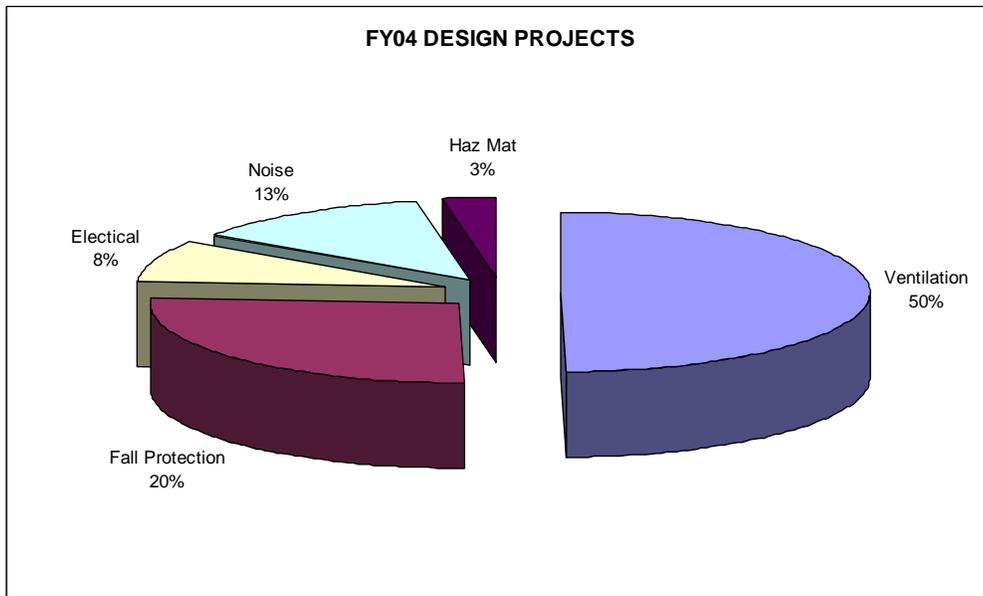
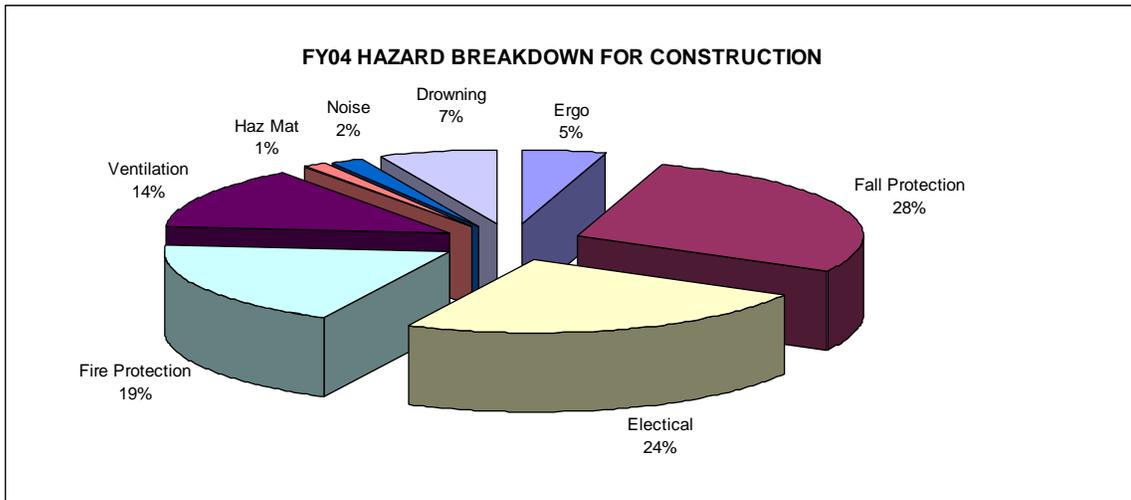
## ATTACHMENT E - HAZARD ABATEMENT

The Navy's Mishap Prevention and Hazard Abatement Program (HAP) is available to fund mishap prevention initiatives and abatement of hazards for which local activities do not have sufficient funds and to address hazards at multiple activities that can be corrected with common designs. The Navy OSH Program requires commands to identify workplace hazards during self-assessment, investigations, evaluations, oversight inspections, and through employee reports. The program also requires commands to evaluate and correct identified hazards. Navy commands were able to correct some identified workplace hazards in FY 2004 with funding secured through the Navy's Hazard Abatement Fund, administered by the Naval Facilities Engineering Command (NAVFAC). Priority for funding was given to areas connected with the highest degree of risk such as falls and electric shock.

In FY 2004, the Navy continued to make great progress in expanding the traditional scope of Hazard Abatement to address Mishap Prevention. In this way, exposures to occupational hazards can be prevented rather than treated as problems to be fixed after the fact. Examples of FY 2004 Mishap Prevention projects are:

- [Acquisition Safety Website](#) - The website was launched in FY 2002 to get out the message that building ship systems safer the first time is in effect a means of Mishap Prevention, which results in enhanced productivity and reduced cost. The Ventilation, System Safety, and Fall Protection sections were completed in FY 2004. The Heat Stress, Confined Spaces, and Electrical Shock and Other Hazardous Energy Sources sections are being finalized. The Acquisition Safety website provides a valuable tool to Navy and other acquisition program managers, systems engineers, and OSH professionals. The website helps to demonstrate how investing in acquisition safety provides greater return on investment by avoiding costly retrofits (see [Attachment C](#)).
- [Navy Fall Protection Program](#) - In FY 2004, the Navy Fall Protection Engineer with the Navy Hazard Abatement Program developed fall prevention policy for Navy-wide use, provided technical expertise to Navy activities to eliminate or reduce fall hazards, participated on the ANSI Z359 National Fall Protection Standards Committee, and completed the Navy Fall Protection Guide for Shore Facilities (to view the guide click on: [https://portal.navy.mil/pls/portal/docs/PAGE/NAVFAC/NAVFAC\\_WW\\_PP/NAVFAC\\_HQ\\_PP/NAVFAC\\_SF\\_PP/NAVFAC\\_SF\\_FALL/TAB109972/FALL03.PDF](https://portal.navy.mil/pls/portal/docs/PAGE/NAVFAC/NAVFAC_WW_PP/NAVFAC_HQ_PP/NAVFAC_SF_PP/NAVFAC_SF_FALL/TAB109972/FALL03.PDF))
- [Hearing Loss Study](#) - In FY 2004, the Center for Naval Analyses began a study to turn around the increasing number of cases and cost of hearing loss in the Navy, now over \$100 million per year.

Approximately **\$ 10 million** was obligated and implemented by the Naval Facilities Engineering Command to fund FY 2004 Hazard Abatement and Mishap Prevention Projects. **Sixty one** hazard abatement projects were approved for completion in FY 2004. The majority of these Hazard Abatement projects fit into the categories of falls, ergonomics, industrial ventilation, fire/egress, electrical, and drowning. The pie charts below illustrate cost percentages of FY 2004 Hazard Abatement projects by hazard category for construction and design projects.



**Examples of FY 2004 Hazard Abatement Projects**

A number of Hazard Abatement projects completed in FY 2004 were notable for their correction of high risk hazards, innovative techniques, numbers of personnel protected, and cost-effective use of available funds.

**Electrical:**

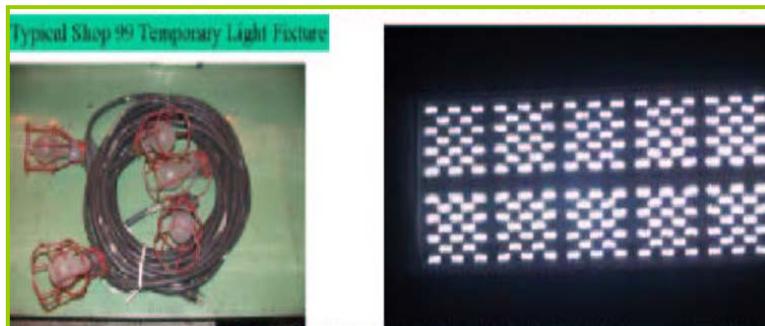
**Naval Air Station Joint Reserve Base New Orleans, LA:** Over a period of several years, the Air Traffic Control Tower lightning protection and electrical grounding systems had been degraded by numerous structural modifications made to the tower, air operations building, and the surrounding grounds. On at least ten occasions in the past year, lightning strikes in the vicinity of the airfield caused partial or

total disruption of airfield operations due to the loss of essential electronic equipment or systems. Of no less concern, the degraded systems posed an immediate personnel safety hazard in the presence of lightning. Hazard Abatement funds were allocated on a priority basis to design and implement completely new grounding and lightning protection systems that were later successfully installed with no disruption to air operations.



New grounding and lightning protection systems At NAS JRB New Orleans reduced risks to personnel in the event of lightning strikes.

Pearl Harbor, HI: Three soft cables are used for power distribution for lighting. The cables are frequently damaged by frying, bending, and crushing and subsequently present a lethal shock hazard to personnel. The same is true with temporary lights used on the brows. The brows are subject to industrial traffic, wave/tide action, and rain, which increase the possibility of electrical shock. The solution was to change the 110V alternating current lights to a combination of directional fiber optic and low voltage lights. Fiber optic lights can concentrate light on a specific area with various types of fiber and multiple illuminators. New low voltage lights use one half the wattage, provide more illumination, and eliminates the electrical shock hazard. Project cost \$250K.



Temporary lighting (left) that presented lethal shock hazards was replaced with directional fiber optic and low voltage lights (right) that pose no shock hazards.

Fall Protection:

NAS JRB Fort Worth, TX: FAA safety standards dictate that burned out runway lamps must be immediately replaced or repaired. NAS JRB Fort Worth has approximately 300 light poles ranging from 65 to 100 feet high with an average of five lamps per pole. Maintenance personnel had been accessing the lights using non-OSHA compliant wire-rope or notched rail climbing devices, many of which were damaged or unusable, creating fall hazards. Hazard Abatement funds were allocated to develop a cost benefit analysis which determined that the most cost effective, long term solution was to procure a 120 foot, telescoping man lift, including Personal Protective Equipment, training, and 12 month's service and maintenance for less than \$200,000. As an added "no-cost" bonus, the lift can also be used to service over 1,000 lights and heaters, and provide access for overhead crane certification inspections in a variety of hangars used by the Texas Air National Guard, USMC, and USN squadrons; this alone will save Fort Worth over \$230,000 per year.



Maintenance personnel can now access lights on poles up to 120 feet high using telescoping man lift purchased with HA funds.

Naval Computer and Telecommunications Station Cutler, ME: Among the many safety issues at NCTS Cutler is providing safe access to “Rat’s Nests,” complexes of cables, connectors, insulators, and ice shields which extend 15 to 20 feet above the roof of 100 foot tall buildings. Workers are required to periodically inspect these components regardless of the sometimes extreme weather conditions in northern Maine. The inspection requirements presented slipping and fall hazards until Hazard Abatement funds were allocated to procure a man-lift with a 160 foot reach to safely service all six Rat’s Nests.



“Rat’s Nests (left) were hard to access particularly in extreme weather until a man lift (right) was purchased with Hazard Abatement funds.

Naval Inventory Control Point Mechanicsburg, PA: Overhead crane rails must be inspected annually to ensure their safety and to maintain the crane’s certification. In order to conduct these required inspections, workers must often tie off fall protection equipment to non-engineered anchor points or crawl along the crane rails with virtually no fall protection. Hazard Abatement funds were allocated to design and install OSHA compliant guardrails, swing gates, and gratings that allow workers to inspect the cranes and perform maintenance on the rails and crane mechanisms in a safe manner.



Newly installed OSHA compliant guardrails, swing gates, and gratings allow workers to safely inspect and perform maintenance on crane rails and mechanisms.

NAS JRB Fort Worth, TX: Washing aircraft requires workers to climb up on and walk along the fuselage or wings that are wet and slippery. Unless this is done inside a hangar, there is no fall protection available. For the wash areas at Fort Worth, resolving this was a two part problem. Hazard Abatement funds were allocated to first remove a 38 ton truss (including the concrete footings) to provide free access to the wash pads. Then two man-lifts were procured to enable workers to safely wash large aircraft such as the C-130 and C-40 and smaller aircraft such as the C-12 and F/A-18, without the risk of falling from the aircraft fuselages and wings.



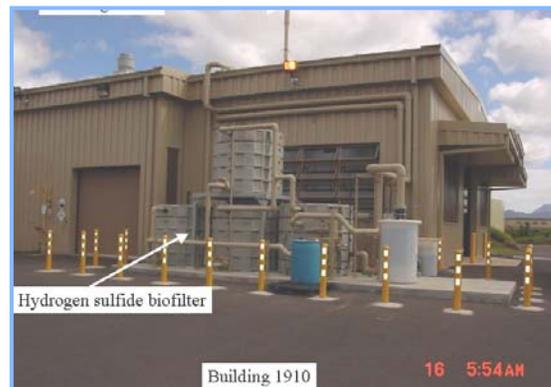
Two man-lifts were procured to enable workers to safely wash large aircraft without risk of falling from slippery fuselages or wings.

NAS Pensacola, FL: The Naval Aviation Museum has a hangar dedicated to the restoration of a wide variety of vintage aircraft that require work to be done at heights from 4 to 40 feet. Hazard Abatement funds were allocated to provide several fall protection systems. Crane beam trolleys, self-retracting lifelines, lanyards, and full body harnesses were provided for three cranes that were used along the full length of the hangar. For long-term projects and to supplement the crane systems, two complete scaffolding systems were provided, which included competent person training in assembly and certification for use. The final museum fall protection issue was resolved by procuring an electric powered man-lift with a 45 foot reach to: (1) wash aircraft outside the hangar; (2) perform maintenance on cranes and light fixtures inside the hangar; and (3) perform maintenance and repairs to aircraft in the museum where no cranes are available or the use of scaffolding is impractical.



Crane beam trolleys (left), scaffolding systems (middle), and an electric powered man lift (right) were purchased with Hazard Abatement funds to resolve fall hazard problems in the Naval Aviation Museum.

Pearl Harbor, HI: Evaluation of airborne contamination of toxic hydrogen sulfide (H<sub>2</sub>S) gas levels generated during the processing of oily wastewater showed H<sub>2</sub>S concentration levels in excess of the OSHA Permissible Exposure Limit of 20 ppm. Workers were potentially exposed while overseeing the operations, performing maintenance, and conducting tests of wastewater. The solution to this problem was to install local exhaust ventilation to capture the H<sub>2</sub>S gas at the point of generation. The ventilation system that was installed utilizes aerobic bio-filtration media to filter out the H<sub>2</sub>S. The bacteria in the media transform the H<sub>2</sub>S into a less toxic elemental sulfur. The spent media is non-hazardous and can be disposed of as solid waste. The workers' risk of inhalation exposures to hazardous concentration levels of H<sub>2</sub>S has been eliminated. Project cost was \$270K.



Workers in wastewater treatment plant (left) were at risk of exposure to hydrogen sulfide before a local exhaust system using an aerobic biofiltration media was installed (right).

## **ATTACHMENT F**

### **COMMANDER NAVY INSTALLATIONS MISHAP REDUCTION ACCOMPLISHMENTS FOR FY 2004**

In June 2004, Commander Navy Installations (CNI) released a *Reducing Preventable Mishaps* safety message requesting that regional commanders take actions to proactively promote and support mishap prevention plans, policies and initiatives. Each region was asked to:

- Provide region mishap reduction plans to CNI to include a Plan of Action and Milestones (POA&M) and descriptions of mishap prevention initiatives for reducing preventable accidents over the next two years.
- Conduct region-wide safety stand downs to communicate and implement mishap reduction plans and initiatives.
- Monitor and make monthly reports on the status and trends of mishap, injury, and lost work time records and make quarterly recommendations to CNI regarding evidence of successful mishap prevention initiatives or effective best industry practices.
- Ensure communication of “personal for” message from installation Commanding Officers to the chain-of-command explaining every on-duty, traffic-related, and recreational off-duty fatality and describing how prevention plans will be improved to avoid these tragedies in the future.
- Ensure all military and civilian personnel complete the Navy’s Operational Risk Management (ORM) e-learning course as a refresher within the next 12 months.
- Ensure all military personnel under 26 years of age complete an e-learning driver improvement course within the next 12 months.
- Implement safety policy and ensure strict enforcement with Navy traffic safety program requirements by activities, including monitoring of seat belt usage, motorcycle personal protective equipment (PPE), and compliance with motorcycle training requirements for on-base access.
- Establish and enforce rules to eliminate distractions during motor vehicle operation on base.

**ATTACHMENT G**  
**SHORE SAFETY COMMITTEE**  
**AND**  
**AFLOAT SAFETY COMMITTEE**  
**ACCOMPLISHMENTS FOR FY 2004**

**Shore Safety Committee**

- Commander Navy Installations (CNI) direction and Fleet Forces Command Message to Regional Security Managers on Traffic/Motorcycle Safety requirements and enforcement measures
- Navy Surgeon General's "Personal for" e-mail to Senior Naval Medicine Leaders on Safety and Mishap Reduction focusing on motor vehicle safety, on-the-job safety, workers' compensation and patient safety
- Lost Time Enterprise Team established by NAVAIR
- CNI Mishap Reduction Message To Regional Commanders
- VCNO message Aug 04 emphasizing "Safety Culture"
- CNI selected the Enterprise and Safety Application Management System (ESAMS) as the CNI safety management system
- Developed fall protection training requirements for two courses

**Afloat Safety Committee**

- Integrated Safety Programs into Command Excellence Programs
- Operational Risk Management Immersion training for Submarine Forces Units
- Conducted more surveys in FY 2004 than originally planned with more rigorous tracking of corrective actions
- Afloat community directed additional command-level reviews to raise safety awareness
- Improved data processing for better trend analysis
- Fleet Response Plan (FRP) requirement in OPNAVINST 5100.19D

**ATTACHMENT H - EXAMPLE OF CITATION POSTING**

<b>Installation</b>	<b>Inspection Date</b>	<b>Inspection Type</b>	<b>Violation Type</b>	<b>Standard Cited</b>	<b>Description</b>	<b>NAVOSH Reference</b>	<b>Abatement Date</b>	<b>Maximum private sector penalty</b>
NUWC, Keyport, WA	3/3/2004	Program - Planned	Serious	1910.133(a)(1)	<b>PPE</b> - The employer shall ensure that each affected employee uses appropriate eye or face protection when exposed to eye or face hazards from flying particles, molten metal, liquid chemicals, acids or caustic liquids, chemical gases or vapors, or potentially injurious light radiation.	OPNAVINST 5100.23F Chapter 20 Personal Protective Equipment	3/22/2004	\$25,000.00

## ATTACHMENT I – SAFETY SUCCESS STORIES

The *Safety Success Stories* web pages were developed and posted on the public domain portion of the Naval Safety Center website, [www.safetycenter.navy.mil](http://www.safetycenter.navy.mil) to communicate the Navy’s commitment to the safety and quality-of-life of our personnel. The purpose of the Success Stories is to inform Sailors, their families, Navy civilians, and the general public about what the Navy is doing to protect the military and civilian work force from workplace fatalities, life-threatening injuries and illnesses, and crippling disabilities. By providing real examples at Navy field activities, the stories widely disseminate valuable lessons-learned, innovative technologies, and successful programs and initiatives.

The examples of OSH successes reported in the Safety Success Stories also demonstrate the value added by safety and best business practices, and how such initiatives result in productivity gains and cost savings. An additional feature of the Success Stories web pages is the [Safety Stories Cost/Time Savings Chart](#) (see chart on page E-3 below), which highlights in table form the challenges, improvements, and cost, time and labor savings of selected stories. The *Safety Stories Cost/Time Savings Chart* helps the Navy to build the “business case for safety.” A conservative estimate is that for every dollar invested in safety, the return is between three and ten dollars.

**In FY 2004, 11 new stories were posted to the *Safety Success Stories* web pages.** The stories focused on numerous OSH areas of concern, such as ergonomics, traffic safety, fall protection, electrical hazards, and inhalation hazards. Summaries of two stories are provided as examples:

First, a Traffic Safety Council study showed seatbelt usage at Navy Region Hawaii installations to be at 91 percent for motorists exiting base gates. Navy Commands across the Region joined forces through information campaigns and training seminars to raise that number to 100 percent. The main goal of the campaign was to protect all personnel riding in motor vehicles on the installations from motor vehicle mishaps, the number one cause of death and disability in the military service.

Base security departments have set up electronic signs that read “Seatbelts save lives - Buckle-up” at different locations around base gates to remind workers and visitors to wear their seatbelts and to drive safely on and off the base. In addition, local commands place signs supplied by the Naval Safety Center that say, “Buckle Up Now” at the most advantageous locations for observation by both staff and students departing primary buildings. Each command also offers defensive driving training targeted at Navy personnel under 26 years of age, full time vehicle operators, personnel cited for specific serious violations, and personnel involved in motor vehicle accidents. E-mail messages are also utilized extensively to further support the campaign to educate base personnel on the need to buckle up.



\*\*\*\*\*

Second, Naval Medical Center San Diego pharmacy technicians who work at the lotion *compounding station* were once required to lift the heavy containers of compounding mixture over shoulder height to transfer the mixture into a hopper for dispensing the lotion into individual prescription bottles. The technician also had to stand and balance on a stepstool while transferring the mixture in order to reach the lotion-dispensing hopper. Lifting the compounding mixture above shoulder height and scraping the bowl with a spatula burdened technicians’ backs and shoulders, putting the technicians at risk of developing work-related musculoskeletal disorders, or WMSDs. In addition, climbing and standing on a stepstool during the transfer put technicians at risk of falling.

Naval Medical Center San Diego participated in an Ergonomics Risk Assessment Project funded by the Navy's Hazard Abatement and Mishap Prevention Program to improve occupational health and safety conditions by identifying ergonomic risk factors in the workplace and implementing suitable ergonomic solutions. The results of the overall ergonomic assessment indicated the presence of ergonomic risk factors in the pharmacy's compounding station.

An ergonomist analyzed the lotion compounding process and work station and teamed with the safety department and pharmacy staff to determine the suitability of



commercially available products to reduce the lifting and fall hazards in the Naval Medical Center pharmacy. The team decided on a hydraulic *scissiors lift table* that would lower the hopper for the transfer task, and then raise the hopper for dispensing. The *scissiors lift table* is adjustable to allow the technician to function in a neutral working posture, regardless of his or her height or reach.

A pharmacy technician now transfers a full bowl of lotion by sliding it from the mixing table onto a wheeled cart, then pushing the cart to the *lift table*. A hydraulic piston lowers the hopper to the height of the cart so that the technician easily transfers the lotion into the hopper at waist height instead of lifting and balancing the heavy load above shoulder height. After transferring the lotion into the dispenser hopper, the technician hydraulically adjusts the lift table to dispense lotion into individual four to eight-ounce containers at about chest height.

Hydraulic *scissiors lift table* can be lowered for transfer of lotion into the hopper

The *scissiors lift table* substantially minimizes the risk of WMSDs among pharmacy technicians in the compounding station by removing the risks from their everyday tasks due to heavy lifting.

Because the lift table is adjustable to each technician's height, the laboratory stepstool is no longer needed for transferring lotion into the hopper. Removing the need to stand on a stepstool eliminates the risk of falls associated with that work task.

The return on investment of this ergonomic and safety intervention over the projected ten-year life cycle of the *lift table* is estimated to be as much as \$149,000.00 through avoidance of costs associated with lost time injuries, including medical treatment and rehabilitation of injured pharmacy technicians and training of replacement technicians.

\*\*\*\*\*

The *Safety Success Stories* web pages fulfilled our FY 2004 goals to advertise our successes and to further the occupational safety and health initiative by sharing the ideas, skills, technology, and programs that continually improve the work environment of Navy personnel. The additional focus on improving productivity and providing cost savings was also clearly demonstrated, as shown in the representative sample in the table below. Following the table are executive summaries of the 11 Safety Success Stories posted in FY 2004.

***SAFETY SUCCESS STORIES  
COST/TIME SAVINGS FY 2004***

<i>ACTIVITY</i>	<b>CHALLENGE</b>	<b>IMPROVEMENT</b>	<b>COST SAVINGS</b>	<b>TIME/LABOR SAVINGS</b>
NMC San Diego, CA	Lifting over shoulder height in pharmacy lotion compounding station 	Hydraulic scissors lift table adjusts to height of technician	\$149,000 over ten-year life cycle of table	Increased efficiency and decreased downtime by reducing incidence of WMSDs among pharmacy technicians
PNSY Kittery, ME	Drydock fall protection perimeter in need of update 	Installed new guardrail system that is safer and easier to install and maintain than old post and chain system	Cost saving for manufacturing and installation was about 25%	Decrease in costs over operating/maintaining outdated system expected to be over 50%. Maintenance cost savings now equal over \$10,000 per year

**EXECUTIVE SUMMARY FOR FY 2004 SAFETY SUCCESS STORIES**

[Note: If reading an electronic file of this report, click on title to view a story]

[Pearl Harbor- Navy Region Hawaii Personnel Clicking In](#) - Navy Region Hawaii's Traffic Safety Council spearheaded a campaign to raise seat belt usage across the region. In addition to offering awareness training on benefits of seatbelt use and defensive driving courses targeted at personnel under age 26, security departments set up signs at various strategic base locations to remind personnel to buckle up.

[Naval Medical Center San Diego Pharmacy Resolves Ergonomic Risks of Prolonged Standing](#) - Pharmacy Technicians used to be at risk of developing work-related musculoskeletal disorders due to prolonged standing and awkward working postures at walk-up prescription kiosks. Through the Navy's Hazard Abatement and Mishap Prevention Program, ergonomic solutions such as anti-fatigue matting and sit/stand stools were found to alleviate risk factors.

[Naval Medical Center San Diego Resolves Risk of Lifting Injuries in Pharmacy Compounding Station](#) - Pharmacy Technicians used to risk developing work-related musculoskeletal disorders due to lifting and transferring heavy containers of lotion compounds above shoulder height. The Navy's Hazard Abatement and Mishap Prevention Program approved and purchased a hydraulic scissors lift table that adjusts to suit each technician's height and reach.

[Naval Facilities Engineering Command \(NAVFAC\) Eliminates Fall Hazards in Sewage Pumping Stations at Naval Air Station \(NAS\) Meridian, MS](#) - NAS Meridian's Safety Office identified fall hazards in their

underground sewage pumping stations. Using Hazard Abatement Program funding, the NAVFAC engineered and installed fall protection modifications to ladders, guardrails, swing gates, gauges and meters, and anchorages for confined space rescue systems that minimize the risk of falls from elevations in pumping stations.

[Naval Facilities Engineering Command \(NAVFAC\) Industrial Hygienist Assists in the Clean Up and Restoration of Flooded Naval Reserve Center \(NRC\) Baltimore](#) - NAVFAC sent an industrial hygienist and an environmental contractor to assess hurricane damage to NRC Baltimore and plan for the repair and restoration of the facility. The industrial hygienist identified the health risks due to flooding and supervised the clean up, thereby preventing exposures to mold and black water pollutants while minimizing property damage.

[Worker Initiative and Best Practices at Naval Air Station \(NAS\) Kingsville Prevent a High Voltage Mishap](#) - NAS Kingsville's Occupational Safety and Health Department initiated a shift in the perception of the responsibility for safety to managers and employees by integrating private industry Best Practices into the Navy OSH Program. A work crew confirmed the success of the Initiative when they prevented a high voltage mishap by taking the lead in identifying and controlling an unanticipated hazard.

[USS John F. Kennedy's Medical Officer and Three Hospital Corpsmen Save a Life](#) - During an Extended Selected Restricted Availability, a medical officer and three USS Kennedy Hospital Corpsmen put their Navy medical training to the test when they rescued a critically injured contract worker who had fallen vertically, more than 20 feet, into an ordnance storage compartment.

[Dry-dock Guardrails Protect Workers from Falls at Portsmouth Naval Shipyard Kittery, Maine](#) - NAVFAC SW designed and installed rigid guardrails to replace an outdated fall protection system at the top of a PNSY Kittery dry-dock. The Navy's Hazard Abatement Program funded the guardrail replacement project to minimize the fall hazard associated with working near dry-docks. The guardrails were installed at a substantial cost and time savings, considerably decreasing the cost of maintaining a fall prevention guardrail system.

[Crane Fall Hazard Abatement at Naval Inventory Control Point \(NAVICP\) Mechanicsburg, Pa](#) - NAVICP Mechanicsburg was approved by the Navy's Hazard Abatement Program for funding to abate fall hazards on its 60-foot high bridge crane. Guard rails, catwalks, and laddercages now supplement the use of fall arrest gear to protect maintenance personnel, crane operators and inspectors from the risk of falling from heights.

[Industrial Hygiene Teams with PWC to Expedite Railcar Restoration at Naval Weapons Station, Earle, NJ](#) - An industrial hygiene survey verified the presence of asbestos in railcars scheduled to transport ordnance to the fleet in support of Operation Iraqi Freedom. Asbestos removal was expedited to meet the Navy's requirements while protecting workers and the environment from asbestos contamination.

[Regional Training Center \(RTC\) Great Lakes Develops Safety Boots that Prevent Musculoskeletal Disorders and Injuries](#) - The Medical Department at RTC Great Lakes recognized a link between the safety boots issued to new recruits and foot and leg injuries experienced by recruits during basic training. Following an extensive study, the Navy developed a much improved replacement boot that prevents foot injuries while meeting the Navy's strict safety footwear requirements.