

NAVSEA P2 Working Group  
Bremerton, WA  
15-17 June 2004

**Tuesday 15 June 2004**

1. Welcome and Member Introductions - Ms. Deborah Verderame  
Program funding is being reduced. This is also happening within the entire Environmental Program at NAVSEA. Compliance is extremely important. Everyone needs to start thinking about ways to partner with other people and programs to get same P2 results so the program can continue without relying on HQ so much. Fresh ideas and information from the new people are necessary to move forward. See [Attachment 1](#) for a list of attendees. Complete meeting information and presentations are available on a CD and will be provided by contacting Ms. Kim Gray, BAE Systems, 202/203-6533 or [Kimberly.D.Gray@baesystems.com](mailto:Kimberly.D.Gray@baesystems.com).

2. P2 Program and Working Group Summary - Ms. Verderame and Mr. Tom Cook  
Mr. Cook worked on a large backlog of P2 products after Lt. JG. Jon Pentzien left. P2 WG Annual Report for 2003 is finished as well as the Target Chemical List Use Subcommittee Status Report was delivered ahead of schedule. NAVSEA Solvent Substitution Report phase 1 & 2 are complete. The P2 Desktop Guide is also in review. Chemical Cleaning & Descaling effort shows that east and west coasts are working closer together. The P2 in Contracting subcommittee produced a guidance letter, and the "P2 in Contracting" pamphlet is in review. The TRI letter to CNO and associated point paper are still in the management review process. NAVSEA Solvent uses survey identified a list of seven potentially hazardous solvent products that may be substituted with other environmental friendly products. One FY-05 initiative is to do a FASTT visit to Puget Sound Naval Shipyard. \$180 K is needed to do this. With dwindling funds we need to partner with other agencies to make P2 work throughout the Navy and all military installations.

Mr. Tom Scarano SEA 04RE is reviewing some of the above products. They are expected out shortly. When the products are approved by 04RE they will be posted on the NAVSEA P2 website. More detailed status of the Subcommittees will be provided later.

The P2 WG Charter and Membership Commitment Form were discussed. The P2 WG members were assigned an action to review and provide comments to Mr. Cook.

3. Portsmouth NSY (PNSY) P2 Status and Issues - Mr. Tim Dunn

A FASTT survey was completed with 32 recommendations. One recommendation has been implemented. The shipyard will save over \$14K on electroplating alone.

Reviewed what the shipyard has been doing to clean up their hazardous material messes caused by hydraulic and lube oil leaks in parts. PNSY has developed a new plug that is inserted into the hoses and fittings and keeps the old oil in the part. An injection molding will be made to fit each unique part. Duplicates will be made as required. This is also something that the surface fleet could also use. PNS will pursue an NSN for these items. In addition, Mr. Dunn with assistance from Ben Zlateff will place the technical need on the Pollution Abatement Ashore Program website.

Discussed EPCRA inspection at PNSY. The program had never been inspected before and findings were expected. However, none were found!

SERDP/ESTCP Conference on Painting and De-painting – NAVSEA needs a long-term picture of what our needs are in the future. What chemicals and solvents can be used that are less harmful to the environment? The attendees defined their long term needs as a one time

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painting system that doesn't require priming, wouldn't chip, contain hazardous materials, have good flow and leveling, would decontaminate itself, adhere well, inhibit corrosion, dry fast, and indicate when it is time to recoat. Not asking for much. Some mid-Term needs include chrome free system or process with corrosion resistance. Reduction or elimination of VOC/HAPs/TRI, and zero emissions is a goal for current coating systems. Near-Term needs are for a paint system that is easy to maintain, easy to remove and is long lasting.

4. NAVSEA Corporate HAZMAT Cradle to Grave Process - Mr. Charles Dunn

The Navy goal is to operate more like a business, and be more accountable. NAVSEA has developed a comprehensive HAZMAT management program based on CHRIMP. Implementation of CHRIMP requires joint, cooperative organizational efforts and integrates related aspects of HMCM, HAZCOM, P2 and HSMS.

All NAVSEA activities will be under CHRIMP to implement continuous responsible and compliant management including accountability and visibility of all tracked HM throughout the HAZMAT lifecycles. People and the environment won't be exposed more than necessary with everyone following the same processes and procedures. A process model has been developed by NAVSUP and accepted by the shipyards. The focus has been limited to shipyard but all NAVSEA activities will be involved in the near future, including the Warfare Centers. Some features include items having bar codes for tracking and costing. Process codes need to be transferable to new projects so different shops may use up excess HAZMAT. Great care must be used in the reassigning of process codes.

Future shipyard efforts include: finalize and sign NAVSEA/NAVSUP MOA; finalize and sign NAVSEA CHRIMP instruction; respective NSYs develop draft CHRIMP implementation MOAs/POAMs and forward to HQs for review; NSYs implement MOAs/POAMs; NSYs support MAT/HSMS interface efforts; and NSYs support HQ work pending issues.

Future HQ NAVSEA efforts include: develop and implement the NAVSEA corporate AUL approval process and mechanism by which it operates; develop and implement the NAVSEA Process Control Number (PCN) process; define PCNs, process for adding or deleting; etc., develop and implement standard metrics to measure CHRIMP program performance; continue interface support; continue to oversee implementations and improve same; local CHRIMP programs must also cover HM used by contractors.

Other future efforts include interfacing with Regional CHRIMP and FISC activities and shipyards, and being prepared and positioned for return of the Enterprise Resource Planning (ERP) project.

NAVSEA CHRIMP Partnering opportunities with P2 include continuing development work on the CHRIMP process and carrying its implementation to other NAVSEA field activities. This may include the target list chemicals (already managed by the WG) and a standard AUL process (both addressed via the CHRIMP OSHECM). CHRIMP was identified as a maintenance function to be included in the WG Charter. The P2WG would be an advocate organization, and continue work needed on definition and control of PCN assignments and metrics determinations.

5. Puget Sound NSY P2 Status - Mr. Dave Alguard

Recent program efforts included updating 40 instructions at the shipyard to include P2 processes and working to get HSMS on-line. PSNS also has a system to assist with evaluating HM. Material Label Evaluation (MLE) sheets are used to describe a requested product. HMIS Hazard Ratings include whether it's for marine use, "not to thin" instructions in the case of

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coatings, where to store, the manufacture name, and the MSDS number. The spec that requires the use of a certain product is also shown on the label. It also indicates the percentage of chemicals per container.

It was recommended that all shipyards identify or develop specs that use these products. The more yards that agree on a requested specification change the better the chance to get the necessary technical authority from NAVSEA. Mr. Alguard took several actions to provide information on this system to the P2 WG.

A self-audit turned up several ways to change the way PSNS stores or uses products, also ways to track HAZMAT and waste streams. It also identified a need to re-establish a P2 Committee. A command letter establishing the committee is in the approval process.

Some of the implemented P2 projects were presented. Digital radiography has been substituted for the old film process in nondestructive inspection. A Uni-Ram Solvent recycler has been obtained to reduce purchase and increase reuse of solvent for paint equipment clean up. It can recycle MEK and T-10 thinner for reuse. The solids are left in a disposable liner.

Efforts for the balance of 2004 include: form a functioning P2 Subcommittee; write the Washington State P2 Report; continue with the P2 review of instructions; task engineering codes with finding material substitutions for flagged hazardous material, and insure that a solvent recycling process is used for spray paint equipment cleaning.

6. NUWC Keyport Environmental, P2 Programs and Issues - Mr. Dean Kohn

Mr. Kohn, Environmental Director, shared information on implementing an ISO 14000 based Environmental Management System (EMS) that is tied to ISO 9000 requirements. He briefed the status of EMS implementation, provided some useful EMS tools, covered how P2 is integrated into EMS, and identified some remaining challenges.

7. Puget Sound Naval Shipyard ENVVEST Project - Steve Rupp

Mr. Steve Rupp, Environmental Manager, provided information on an ENVVEST project being implemented at PSNS. ENVVEST stands for ENVironmental inVESTment. ENVVEST has its origins in an Executive Order that was part of the former President Clinton's regulatory re-invention initiative. It was both an EPA and DoD initiative. The Executive Order directed federal agencies to work together to achieve cost effective environmental results while eliminating needless bureaucratic procedures. The PSNS Project ENVVEST has been an investment in its environmental future. The project was started in the summer of 2000 and PSNS has invested close to \$5 million dollars. It is a collective effort between the PSNS, the community, Government entities, and local tribes. They began with a model development and ecostudies that would build the framework for what would follow. The final goal is to receive a mutually acceptable and manageable Total Maximum Daily Load (TMDL) limit from Washington State Department of Ecology.

The project model has been linked with other models at the University of Washington to further predict what's going on in Puget Sound. Model results have compared favorably with several real life events.

Although mercury levels have dropped considerably, PCBs are still, and will remain a problem. They don't go away. These results were obtained by testing tissue from fish, sea cucumbers, and other marine life.

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Future work includes completing the Fecal Coliform TMDL Study and the Metals Sediment Verification Report, Developing the TMDL Study Plan for Organics and, continuing community participation.

8. COMNAV Region Northwest Environmental Perspective and Issues - Mr. Bob Campagna

Mr. Campagna gave an overview of Commander Naval Installations (CNI) Navy wide efforts to implement organizational changes. He covered the mission, organization, guiding business principles, Integrated Business Architecture, Business Case CNI Value Added, and performance metrics.

Mr. Campagna next covered the CNI efforts underway to analyze Enterprise-Wide Shore Environmental Alignment to foster a partnership between CNI, NAVFAC, Fleet Forces Command (FFC). The purpose of the effort was "...to analyze and identify process improvement to promptly deliver and manage shore enterprise-wide environmental compliance to support operational readiness". The guiding principles were to be program centric, capabilities based, eliminate layering and duplication, integrated facilities recapitalization, accelerate transformation, and maintain covenant with people. They used an integrated definition language (IDEF) model as an Activity-based modeling process to develop AS- Is and TO-BE models of an organization. The next steps in the process are to get CNI senior management approval, notify Regional commanders and EFDs, Conduct a second workshop, align assets to functions, prepare workforce shaping, and build an Implementation/Transition Plan.

Key players in this process include Admiral Weaver – CNI/N46, Admiral Herring – CRNW and Scott Markert - Environmental Director for CNI.

Mr. Campagna completed his presentation by outlining the CNRNW Environmental Program, its organization, staff and future plans. By August 2004 he expects to have a plan in place to eliminate redundancy between NRNW and EFA NW by forming one service delivery team, maximize use of NRNW/EFA NW in-house labor (proven to be cheapest option), consolidate services (example: HW) and compete (gov't. and non-gov't.) for best price, contract surge requirements and capabilities, and consolidate contracts to leverage existing contracts.

9. Discussion: CNR NW Region NAVSEA related Issues

The three issues discussed during the course of the day were:

- A FASTT Team visit to PSNS
  - Mr. Campagna recommended that NAVSEA coordinate any visits with Mr. Scott Markert at CNI HQ. It is CNI's policy to provide standardized support across all regions. FASTT Team visits should be available to all activities within the regions.
- Incorporating PSNS into the P2 Equipment Program (PPEP)
  - Now that PSNS is partially mission funded, they should be eligible to participate in PPEP. Mr. Alguard and Mr. Steve Rupp of PSNS, and Mr. Campagna, CNRNW acknowledged this should be explored.
- Insure that NAVSEA Field Activity EMS interfaces with CRNW organization and services.
  - Keyport's EMS shows good coordination, project and services planning and provides metrics internally. Some of this information would be useful to CNRNW. NAVSEA 04RE will encourage cooperation and coordination with the region on this issue.

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10. Norfolk NSY P2 Status and Issues - Ms. Dianne Vogel

“Sustainability is Compliance” was the theme of the presentation. Sustainability is management of Natural (air, water and land), Built (green buildings – eco roofs), and Human and workforce assets. The products of Sustainability require a proactive shift from the whole concept of P2 from a program that just conducts clean up and maintains compliance toward integration of efforts towards asset management. Environmental goals are geared toward the organization or activity and not in fear of EPA and DEQ.

Status of the P2 Program Projects was presented next. NNSY took on the challenge of finding replacement chemicals to the top 16 worst chemicals in use from the TRI Report from 2002. So far they have found several possible replacements and are in the testing stages in several more. They are also exploring alternatives for products containing NAVSEA Target chemicals. These target chemicals include N-Butyl Alcohol, Toluene, Xylene, Ethylene Glycol, Methyl Ethyl Ketone, Methylene Chloride, and lead.

One effort being worked is substituting Propylene Glycol for Ethylene Glycol in Aircraft Arresting Gear Hydraulic Fluid. NNSY is working with NAVSEA 04RE to send a letter to NAVAIR requesting permission to substitute.

11. Pearl Harbor NSY/IMF P2 Status and Issues - Mr. Alan Mukai

One of the major initiatives at PHNSY is working to reduce copper limits and discharges to meet the current Hawaii State limits. A study is in progress to identify the source of copper discharges into dry-docks and harbor waters. The study will identify more Best Management Practices (BMP). They're sampling analysis plan has been approved by the State of Hawaii. Some BMP's include collecting all hydroblast water and testing it to determine the best disposal methods. They are also replacing copper seepage collection gutters with stainless steel gutters.

Hazardous Material Management is another initiative. The number of Hazmat lockers has gone from 500+ to around 300. The goal is to get down to 200 in the near future. Several lockers have been combined from different shops around Dry Dock 1 into one CHRIMP Locker for distribution. There is another CHRIMP Locker getting set up for Dry Dock 2.

The PPEP program is progressing well. Two steel grit blast and recovery systems arrived in March 2004. A two-pump vacuum pumping system is being tested. Other PPEP equipment received and being used include a Mini-Max Parts Cleaner, a Coolant Recycler, Digital Imaging Equipment, and Air-conditioned Hazardous Materials Storage Lockers.

12. OPEN FORUM

CHRIMP Issues – Issues brought up during the open forum are listed in Section 1 of [Attachment 2](#).

Shipyards Issues - Issues brought up during the open forum are listed in Section 2 of [Attachment 2](#).

13. WORKING SESSION

During this session, Ms. Verderame and Mr. Cook began a discussion on the future of the P2 WG. The ideas are captured in Section 3 of [Attachment 2](#).

New P2 subcommittees Mr. Cook/Ms. Verderame - This discussion was postponed until the last day.

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**WEDNESDAY 16 June 2004**

1. Administrative and Review of Agenda Ms. Deborah Verderame  
The adjustments to the agenda were reviewed.
2. Affirmative Procurement (AP) - Ms. Dianne Vogel Norfolk NSY  
Ms. Vogel provided information on how to set up and maintain AP Programs. Some key steps were to establish an AP team, assign specific responsibilities, develop a start-up plan, and measure progress. Use of the recently updated Affirmative Procurement Guide, NAVSUP P-728, is helpful. A useful point of contact is Pamela A Hillis, (301) 907 9878 ext 3015, [pamh@phe.com](mailto:pamh@phe.com), who wrote AP Guide. She reiterated the use of the “plan, do, check, act” regimen to insure program sustainability. The AP team should consist, at a minimum, representatives from Supply, Public Works, Contracting, Public Affairs, vehicle maintenance, and tenants.

Training is available at the AFCEE Web University: <http://webu.brooks.af.mil/webu/trainingsrc.asp>. A handout has instruction on how to download procurement training. This program is from the Air Force and is a free program available to everyone. More than just AP program is out there. There are also environmental training programs available at this site. Public awareness is essential to now what’s going on with affirmative procurement. AP can be done in 6 meetings over 6 month’s time. A Recovered Materials Determination form can be given to everybody who makes purchases. This is a form that you can give to an auditor to justify your costs and materials and it can be a measure of the performance of the program.

Next Ms. Vogel shared the Lean Sigma Corporate Process model for Process Improvement. It can be used for cleaning house and streamlining. It shows how to continually improve work processes, make decisions based on data, and deliver the results our customers want. The six steps of this process include define, commit, characterize, improve, implement, and close.

Other projects that NNSY is exploring include a Just-In-Time paint procurement system with Sherwin Williams and a qualified recycling partnership with CNRMid-Atlantic for solid waste disposal

EPA proposals are still in review for what should and should not be included on recycling purchases under AP. The Contract’s department at NAVSEA wants to implement AP and asked how to do this? Ms. Vogel stated that it is necessary to go outside the immediate organization to educate all contract and purchasing agents. GSA provides items in their catalogs that list good products, but does not direct or emphasize affirmative procurement.

Recycled material doesn’t always work for all instances, but recycled products shouldn’t be determined non-useful based on the “I don’t want used products in my program.” Old school thinking just doesn’t work anymore.

3. NAVSEA 05M4 & P2 Afloat Initiatives Status / Issues - Mr. Kiet Ung and Bob Klimas  
Mr. Ung presented the status of the Submarine Hazardous Material Control and Management (HMC&M) and P2 projects.

Under HMC&M, a Submarine material control list (SMCL) was developed. The success of the Surface Ship program allowed this program to expand to submarines. Currently there are

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2727 items on website. SMRB is currently evaluating 1242 PMS items. Approx 50% have been completed for purchase. A web-based material certification management tool is being developed. Currently the target chemical list is not in use. Programs that generate atmospheric contaminants are the major concern. The SMCL website is available for use by the public. You can submit your material for review and approval. An email goes out to let the user know whether material is approved or disapproved.

Submarine HM Inventory Management System (SHIMS) - Continued providing SHIMS data conversion and troubleshooting support to boats. They partnered with a NAVOSH Mobile Training Team to provide another avenue for training.

Focusing on SHIMS Service Release #2 (June 2004). Lessons learned were provided to the fleet in a message R11658Z Dec 03. SPAWAR Preferred Product has been re-certified. It is being used to approve material before it can be ordered/used.

A CNO HM management Afloat business case analysis is being conducted. CNO/NAVSUP envisioned R-HICS as the only system for HMC&M functions. SHIMS will eventually be integrated into R-HICS and R-Supply (sub & surface ships ordering system). Financial and functionality analyses are being conducted at present.

Vertical Launch System (VLS) effluent R&D project is still waiting for approval. The project application is specific to the sub community. Tomahawk missile firings leave a residue in the launch tube. The resulting wastewater from the tubes is a disposal problem overseas. In addition the contaminants are in seawater, which is more difficult to treat and dispose of than fresh water. NSWCCD is tasked to find an appropriate treatment technology on tenders and at forward (OCONUS) deployed sites. Several potential technologies are available. A "sources sought" in the Commerce Business Daily is planned to identify additional technology candidates.

Submarine P2 project has several objectives. They include reducing submarine HM offloads, using commercial off-the-shelf equip, best management practices, substituting materials, rapidly transitioning solutions directly to the fleet, and facilitating homeport environmental compliance. Four submarines were assessed in FY03-FY04. 36 potential opportunities were identified including batteries, Monoethanolamine (MEA), Hydraulic system bucket, Battle lantern batteries, Laundry – Automatic dispenser. Presently opportunities are being investigated for inclusion in the Stakeholder's Selection Guide. Fast Track opportunities are being prepared for quick implementation. In the near term, development of the submarine P2 Technology Selection Guide will continue, Fleet input to the opportunity scoring model will be obtained and incorporated, and working in conjunction with SUBMEPP and Portsmouth NSY, new procurement opportunities will be identified.

Mr. Robert Klimas next provided information on the Planned Maintenance System (PMS) HM Minimization and Substitution Program. This effort supports Surface Ship Maintenance Effectiveness Review (SURFMER). Targeted Maintenance Requirement Cards (MRC) are being reviewed for HM. Presently they are being reviewed to remove the requirement to use JP-5 jet fuel for various shipboard cleaning procedures. The project first identifies a target HM and its use, then uses a SPMIG number to locate MRC cards that use that target HM, finds replacements, ranks replacements, then review MRC's and makes recommendations, and finally updates the MRC.

Possible source for target HM can be found in ship to shore HAZMINCEN offload data, NAVSAFECEN mishap data, Executive Order 13148 list, SURFMER Cycles, Level 1 laws and regulations, and Threshold level value (TLV) or personal exposure Limit (PEL) – any shifts? Increase in danger?

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During the substitute identification the first effort is eliminate the need for targeted HM. If that is not possible, appropriate substitute product(s) for the maintenance action are identified from various Shipboard HM minimization Program Reports, from technical document recommended alternatives, or from ISEA identified alternate materials.

While ranking the substitutes, various selection tools are used including NSWCCD Code 632 HM Screening Criteria, HM Substitution Algorithm (HMSA), or ISEA Application Experience. To date 320 MRCs have been identified with JP-5 specified for cleaning tasks. May recommend using an aqueous detergent instead. Will start a new target HM, diesel fuel used for marine degreasing, in July.

4. NUWC Newport P2 Status and Issues - Mr. Tom Cook

Mr. Cook next covered the P2 Program at NUWC Newport, RI. Completion of P2ADS reports have been completed with the following results:

- Maintaining a 65% diversion rate of solid waste
- No problem with shifting from CY to FY for solid waste
- Conflict in reporting guidance and reported results due to reporting format

Mr. Cook continues to work the format problem with NFESC. Presently it is impossible to separate the tenant data from the host data. The format is not going to change, and NFESC will not be able to report Claimant data. That makes the NAVSEA P2 Program P2ADS metric less and less reliable.

Notified by CNRNE that they plan to have NUWC Newport under the NAVSTA Newport HSMS System in 2 years. P2 Plan is being updated. The New plan will have a larger focus P2 opportunity assessment and success stories. All historical files were reviewed and purged and updates are on-going process. Most of the Target Chemical List chemicals have been in place for more than 3 years.

Working to tailor P2 Program focus to make it compatible with the compliance oriented environment of NAVSEA ESH audits but not lose sight of best management practices that yield lower compliance risk and cost savings.

The program is also working to buy smarter, use recycled products, and conserve energy with new construction and renovation techniques.

5. Chemical Cleaning and Descaling Subcommittee - Mr. Rich Kurz

Mr. Kurz announced this would be the final status report for this subcommittee. They have completed their assignment.

One Subcommittee meeting was held on 14 January 2004. The Heat exchanger/cooling system Universal Industrial Process Instruction (UIPI)-Revision B is at Naval Reactors for review and approval. It incorporates all latest experiences we've gained. The UIPI and process is being used at Puget Sound, Pearl Harbor, and Norfolk NSYs. The NSTM is also being revised. It incorporates chemical cleaning requirements, UIPI and the Commercial Item Description. It is at SEA 08 for final approval.

Chemical cleanings at PSNS, PHNSY and Northrop-Grumman/Newport News Shipbuilding included 21 sub seawater-cooling systems cleaned on 16 submarines. We are presently cleaning about three times more subs than surface ship systems. It was speculated that when the NSTM revision is signed off more people will know about this and will use it.

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There were some unusual applications tried including cleaning a depth sensor line, plumbing drain lines, ballast tank high pressure air control valve bodies and a shaft seal. They are not looking for applications, but if you find one, try it and pass along results.

Norfolk NSY also cleaned 4 main condensers and 8 turbo generators on the USS Roosevelt. A different suite of equipment developed locally was used. The wastewater was treated using the DAF units. NNSY Code 261 contacts are Mr. Jeff Harrison and Mr. Steve Grafton, phone (757) 396-3164. Paying close attention to UIPI procedure details is critical to success of cleaning.

A new chemical is being looked at right now to dissolve effluent without dissolving the pipes. If it passes the CID test the word will get out ASAP. All lessons learned to date have been included in Rev B to the UIPI.

A performance specification (CID) is available for use. Publication is pending approval at NAVSEA 04. Plans are for release of the final CID by Oct 2004. Approved products to date for all ships with CuNi systems include Rydlyme and Safe-D-Scale. For non-nuclear vessels with CuNi systems GOTAR-D, Dynamic Descaler, HERC "Pipe Klean®", UNITOR, and Free Flo 34 can be used.

The wastewater from the chemical cleanings is large and disposal costs can be expensive. Project #316 has been identified in the Navy Pollution abatement ashore program (Y 0817) to identify and evaluate alternative effluent treatment technologies. It was recommended that NAVSEA establish a Project Team to coordinate efforts in house and with NFESC who has the R & D Lead. Mr. Fred Tsao is the NAVSEA lead and Mr. Tom Judy at NSWC Carderock supports him. The progress and results of this effort will be coordinated with those for the Submarine VLS missile tube effluent treatment project also at NSWC CD.

A titanium and inconnel study has been initiated by NRL to determine the efficacy of chemical treatment of titanium or inconnel systems. The study will examine crevice corrosion potential, examine effects on galvanic couples, and determine if special procedure is required.

Mr. Kurz made the following recommendations: disband the Chemical Cleaning and Descaling Subcommittee, establish an Acid Waste Treatment technology sub-committee, and establish a Submarine Systems Chlorinator Implementation Subcommittee

6. SUPSHIP San Diego P2 Status and Issues (SWRMC) - Mr. Bert Torres

Mr. Torres, the Acting Environmental Manager for South West Regional Maintenance Center shared some of the current P2 initiative. They have begun using a Hurrifsafe 9065 aqueous parts washer at the SIMA RAST shop, at the Ordnance shop and at the Engine Shop. The active ingredient is Propylene Glycol n-Propyl Ether. It has a high evaporation rate, excellent ability to solubilize organic soils and it contains no HAPs. It has a VOC content of 10 gm/l at a 1:3 dilution or 50gm/l in concentrate. The pH range is 11.1-11.4; it has a rust inhibitor and no air permit is required. It is used in soak, spray, or manual operation and is compatible with Al, Cu, Mg, Ni, Ti, carbon and stainless steel.

The Hurrifsafe Parts Washer has replaced a Safety-Kleen® Immersion cleaner and cold parts cleaner in one process. It has also replaced a Safety-Kleen Parts Washers 6605, 6638 in two processes. The active ingredient for both of these parts washer was Naphtha, a flammable mixture of petroleum distillate, aromatic hydrocarbon, n-methyl pyrrolidinone (NMP). This is a carcinogen, which may cause skin and eye burns. It may be fatal if swolled, and is corrosive.

The old process in the Engine and Boiler Shops used a sodium hydroxide solution: two 55 gal drums of solid pellets diluted in 800 gal of water. This was very corrosive, and could

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cause severe burns and permanent eye damage. It's hygroscopic, and requires the solution to be at high heat. It is used for carbon or stainless steel parts in a soak application method in a dip tank. In the RAST Shop and Ordnance Shop, the Safety-Kleen Immersion cleaner is the old way of parts cleaning. No sodium hydroxide solution is involved.

Another project is setting up dip tanks with EVAPO-RUST by Orison LLC. This was a product introduced to the P2 WG in the San Diego meeting in June 2003. The active ingredient is ammonia salt phosphonate and a sulfur containing surfactant. It is not a skin irritant, non-toxic and non-corrosive. The VOC content is non-measurable and it is used as a rust remover on ferrous materials. The Evaporust dip tank was developed as an additional step to the processes for rusted parts that the Hurrisafe could not remove or for any parts that developed flash rusting after the initial Hurrisafe parts degreasing and organic soil removal.

A Hurrisafe Renegade Parts Washer PCIMB4000 is portable for shipboard and shop use (approx. 20 gal capacities). PCIMB7000 (approx. 20 gal capacity) is an automatic version (works like a dishwasher) and is also portable.

Finally, four San Diego ship repair companies formed a partnership with Cal OSHA on 15 May 2004. The agreement is to work together to reduce on-the-job accidents and illness. It is in addition to an existing federal OSHA contract. The four companies include Continental Maritime/NNG, Southwest Marine, NASSCO/General Dynamics, and Pacific Ship Repair.

7. NFESC Pollution Prevention Abatement Status and Tech Projects - Mr. Charles Sokol  
Mr. Sokol provided information on current and completed technology evaluation projects. These included the RDT&E requirements development process update, a new NFESC technology surveillance process, and NFESC information products.

Current projects include Biological Detoxification of Oily Sludges, Best Management Practices for storm water runoff, production of biodiesel with used vegetable oil reactants, reduction of diesel engine emissions, optimizing oil-change intervals of DOD vehicles, a No Foam Unit (Mobile or Stationary) dye test, developing a methodology to identify and implement environmentally friendly solvents, evaluation of biobased solvents, and treatment of shipboard Pipe Flushing Acid Wastewater.

Other demonstrations underway in P2 and compliance include destruction of solvent based waste paint, low VOC barrier coatings for industrial maintenance, effect of air emissions from vehicles using biodiesel made from cooking grease, sustainable facilities for H-60 helicopter maintenance program, NoFoam unit for aircraft hangers, and alternatives to AFFF fire suppressant.

Mr. Skol gave more information regarding the Shore Environmental RDT&E Requirements Development process. This is a Web driven process that involves Navy-wide users to identify Environmental RDT&E needs. It can be accessed at <http://cws.nfesc.navy.mil/>. The second round of needs identification has just been completed. Thirty-six new needs were added to the eighty-six initial needs. NAVSEA's top needs included eliminating hazardous waste when acid cleaning ship and sub heat exchangers, eliminating volatile organic hazardous air pollutant solvents, and preventing copper contamination due to ship painting and hull cleaning activities.

NFESC is also conducting a technology survey. This is a new process which is under development to identify technologies available from other federal agencies, private industry and academia. The goal is to identify potential technologies and avoid duplicative RDT&E efforts. This is also a Web-based process.

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For more information:

- Pollution abatement ashore website <http://p2ashore.nfesc.navy.mil/>
- Joint Service Pollution Prevention Technical Library <http://p2library.nfesc.navy.mil>
- New Environmental Management System (EMS) Book
- EQI Fact Sheets – <http://enviro.nfesc.navy.mil/ps/eqifs/index.html>
- Currents Magazine

Resources can be found at:

- PPEP Book [www.lakehurst.navy.mil/p2/index.html](http://www.lakehurst.navy.mil/p2/index.html)
- Collaborative Web Site – <http://cws.nfesc.navy.mil>

NFESC – POCs are:

- ESC 423 – Kurt Buehler 805 982 4897, [kurt.buehler@navy.mil](mailto:kurt.buehler@navy.mil)
- PPEP – Dan Bojorquez 805 982 3425, [daniel.bojorquez@navy.mil](mailto:daniel.bojorquez@navy.mil)
- Pollution Abatement & Ashore Website, CWS – Eugene Wang 805 982 4291, [eugene.wang@navy.mil](mailto:eugene.wang@navy.mil)
- P2 Information, EQI Fact Sheets – Charles Sokol 805 982 5318, [charles.sokol@navy.mil](mailto:charles.sokol@navy.mil)

8. OPEN FORUM - Mr. Cook and Ms. Verderame

Ms. Verderame spoke about when P2WG first started back in 1996 with the purpose of getting the field activities together. In order to affect a wider influence and change, the ship and acquisition community was brought into the group. Acquisition has been a strong part of the P2WG for the past few years. The two main areas discussed during this forum were PEO Acquisition P2 Issues and Initiatives, and NAVSEA Field Activity P2 Issues and Initiatives. A summary of the issues discussed is included in Section 3 of [Attachment 2](#).

9. WORKING SESSION

This working session focused on the Acid Waste Treatment Technology Project. Guests were Mr. Duy Pham, PSNS Code 106.3 and Mr. Paul Stirling, PSNS Code 260.5.

The NFESC Shipboard Pipe Flushing Acid Waste FY04 & 0817 program review presentation prepared by Dr. Richard Lee was reviewed. The objective of this project is to develop an integrated pier side system for recycle, reuse, and treatment of acid or heavy metal wastewater generated from shipboard seawater heat exchanger pipe flushing operations. The system will be a portable integrated pier side system to recycle and reuse the chemical solution and to treat the waste to meet dischargeable limits.

The planned approach is:

- Visit operation sites and gather wastewater samples for pollutants characterization
- Develop process performance and design parameters for recycle, reuse, and treatment to meet the discharge limits
- Initial COTS technology alternative evaluation
- Design and fabricate a selected prototype system
- Conduct a Dem/Val at a selected shipyard
- Deliver a proven operation system to the end user
- Prepare an implementation document, User Data Package

Expected DOD Benefits include a 75% reduction of fresh water and chemical cost, a

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\$ 1 M annual savings at each shipyard from disposal of shipboard pipe flushing HW, and reduce liability for chemical spills, accidents or mis-handling en route to the vendor's processing facility.

Key NAVSEA project personnel include:

- Fred Tsao, NAVSEA 05M32, 202/ 476-2886 NAVSEA Lead
- Mr. Paul Stirling, NSY Puget Sound Code 260.5, 360/ 476-2886
- Mr. Tom Judy, NSWC Code 632, 301/ 227-5240
- Mr. Dave Cartwright, NAVSEA 07T, 202/ 781-1183
- Mr. Frank Reyes NAVSSES, NSWCCD, 215/ 897-1642
- Mr. Johnston Ma, PHNSY C/260, 808/ 473-8000 ext. 2546
- Mr. Tim Dunn, Portsmouth NSY C/103.1, 207/ 438-3831

Technical Accomplishments to date include obtained historical wastewater lab test data, visited two operation sites and collected wastewater samples for lab analytical tests, established collaborative effort with NSWCCD, and identified potential users.

Funding profile and principle performers are shown below:

	FY04	FY05	FY06
NFESC	80K	145K	105K
NSWCCD	30K	30K	30K
COTS		40K	60K
Test Site		20K	5K
Total	110K	235K	200K

A brief discussion of the project followed. It was decided that more NAVSEA involvement would be premature at this time. Closer coordination will be required when the performance and design parameters will be developed in July-August 2004.

The issues raised during this session are captured in Section 5 of [Attachment 2](#).

10. Action Items were reviewed and are included in [Attachment 3](#)

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**THURSDAY 17 June 2004**

1. Review of Agenda - Mr. Tom Cook

Adjustments and additions to the agenda were reviewed.

2. Joint Services VOC/HAP Reduction Effort - Mr. Ben Zlateff

Mr. Zlateff provided status of the survey on general purpose cleaning solvent uses at NAVSEA activities. The results were provided in the "Cleaning Solvent Processes and Usage at NAVSEA Activities for 2002 - Phase 2 Report" dated April 2004 and were summarized here.

The goal of the project is "... to comply with executive directives to reduce and/or eliminate cleaning solvents containing and contributing significant VOCs and HAPS to the environment". The objectives listed below were formulated and completed during years 2002 to 2004:

- Establish baseline of solvent usage
- Identify specific products most utilized
- Target products with significant VOCs/HAPs
- Identify process categories for these products
- Target "common" process categories at shipyards
- Identify stakeholders

Baseline of general cleaning solvent use at 5 NAVSEA activities during CY01 include:

- GP Cleaning solvents 280,000 lbs.
- VOC constituents of above 266,000 lbs.
- HAPs potential released – 43,000 lbs.

Significant product used in CY-02 were identified as:

- T-10 thinner 56,330 lbs.
- Isopropyl Alcohol 17,421 lbs.
- Sigma 90-30 thinner 4,041 lbs.
- Dope & lacquer thinner lbs 2,508 lbs.

The following 5 chemicals were associated with the above products (containing significant HAPs and /or VOCs) constituted 77% of the targeted products.

- N-Butyl Alcohol\* 32,627 lbs.
- Xylene\* 26,670 lbs.
- Isopropyl Alcohol 20,189 lbs.
- MEK\* 1,084 lbs.
- Toluene\* 776 lbs.

Process Categories Identified which use the above products include:

- Degreasing, wipe cleaning (ID-02-06) 25,544 lbs.
- Painting, multiple operations (ID-05-00) 56,050 lbs.
- Spray painting, airless (ID-05-02) 6,839 lbs.
- Brush/roller painting (ID-05-05) 10,554 lbs.

Technical requirements found include:

- Navy Ships Technical Manual (NSTM) Chapter 631-T-10 Thinner\*
- Mil Standard 767 – Isopropyl Alcohol
- Traditional use – Both Products

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Mr. Tim Dunn commented that he did a thorough review of NSTM CH 631 and could not find where T-10 Thinner was required or listed. Therefore, traditional use with local control is probably the technical driver for this product.

Summary and Conclusions of the report were as follows:

- No low VOC solvents currently being used  
(P2 WG recommendation to change to “At the time of solvents studied not many low VOCs are being used)
- Traditional Use – rather than mil-specs drive on-going solvent choices.
- Target T-10 thinner for substitution on painting, multiple operations (ID-05-00)
- Target isopropyl alcohol for substitution on degreasing and wipe cleaning (ID-02-06)  
(P2 WG comment- this requirement is driven by the nuclear propulsion program. It should be asked, “Is it possible to change this??”, before going too far.)

Future Efforts include:

- Identify specific processes (not just categories) for 2 targeted solvents
- Identify validation sites or stakeholders
- Document prior attempts at substitution
- Identify 2 (minimum) substitution candidates per targeted solvent
- Evaluate candidates utilizing Joint Services Substitution Methodology
- Test candidates meeting substitution criteria utilizing Test Methodology

P2 WG recommends the following factors be considered:

- Insure SEA 08 buy in to process change for Isopropyl Alcohol (Mr. Dick Fox)
- Possible test bed – PSNS. It is convenient to survey team.
- Identify process, location, user, quantity and then query to see if it applies to other shipyards.
- Common thread in regards to JSSSWG effort – NAVAIR POC is Ms. Dayle Dierks.

Note: \*Chemical identified on NAVSEA Target Chemical List

### 3. WORKING SESSION - Mr. Tim Dunn and Kiet Ung

Mr. Tim Dunn provided a status of the Target Chemical Use Subcommittee, its purpose and accomplishments. The subcommittee was formed to address the problem of Navy operations from ship construction, maintenance, repair to disposal continued to use chemicals identified in the NAVSEA Target Chemical List letter (NAVSEA ltr 5090 Ser 04R/09, dated 03 April 2003). The objective of the subcommittee is to develop a systematic approach to maintain and use the Target Chemical List.

Official Membership shows a large list of participants but not a lot of attendance at phone conferences. Army is very interested.

The subcommittee has completed a “NAVSEA Field Activity Target Chemical User Status Report” in April 2004. Key points in the report include:

- Most consistent heavy use were: Ethylene Glycol, N-Butyl Alcohol, Methyl Ethyl Ketone, Xylene, and Toluene
- Gathered specific product and process data relating to the use of the above 5 target chemicals
- A table of process codes, process title, and technical drivers regarding the 5 chemicals above was also provided

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The subcommittee also developed a spreadsheet that prioritized the TCL based on the following factors:

- Relative toxicity based on TLV of parent chemical
  - Public and employee perception value
  - Usage quantity value
  - Regulatory prohibition drivers
  - Regulatory risk value
  - Ease of elimination value (Include Work load and the cost to sell it)
  - Disposal quantity value
- P2 WG recommends adding to the factors the following considerations:
- Establish minimum TLV levels (i.e. Norfolk level is 377(mg/l))
  - Acquisition concerns need to be considered.
  - Life Cycle Cost aspects including personnel protection equipment
  - Increased efficiency
  - Lower chemical cost
  - Lower labor cost
  - Higher regulatory compliance

After weighting the factors, the list was ranked by TCL members. The Prioritized List of target chemicals is as follows:

- Lead and lead compounds
- Toluene
- Ethylene glycol
- Methyl Ethyl Ketone
- Xylene
- Chromium and compounds
- Benzene
- Cadmium and compounds
- 1,1,1-trichloroethane (methyl chloroform)
- N-Butyl alcohol
- Mercury and compounds
- 1, 1,2-trichloro-1, 2, 2-trifluoroethane (CFC 113, Freon 113)
- Methylene chloride (dichloromethane)
- Zinc chromate
- Beryllium and compounds
- Carbon tetrachloride

Mr. Dunn then offered some prospective partnering opportunities. NDCEE (through CTC) is currently working on zinc chromate reduction and elimination. The TCL Subcommittee could possibly work with them on MEK reduction. The subcommittee could possibly work with NAVAIR on using Ethylene Glycol in arresting gear, NAVFAC on using Ethylene Glycol in antifreeze and heat exchange fluids, and SUBMEPP to use Ethylene Glycol in submarine diesels. Finally, SERDP and ESTCP is currently developing statements of need for coatings and decoating. These are based on data received during a SERDP and ESTCP conference held 26-27 May 2004.

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The near term plan is to:

- Develop standard NAVSEA wide TCL criteria
- Establish formal policy on use of the TCL to include Acquisition and In-Service programs and Facilities
- Assist and track TCL implementation
- Develop master road map to address all chemicals on the TCL

Some recommendations from the P2 WG were:

- Get PEO Carriers involved and determine what is on their list and use it
- Determine how to publicize that the TCL is out and available

The next discussion item on the agenda was to review the Target Chemical Use Deliverables list. Because there were no attendees from Acquisition programs, the discussion was tabled until the next subcommittee meeting.

4. OPEN FORUM - Carry Over Issues Mr. Cook and Ms. Verderame

A summary of the discussion of the day's items and issues is included in [Attachement 2](#).

5. Review Action Items, Plan Next Meeting

Action items were reviewed and are included in [Attachment 3](#). The due dates were arbitrarily assigned for accomplishment by the end of July 2004. Actionee's are requested to review and provide new due dates if the action cannot be completed by that time.

The next meeting will be held in Washington DC 19-21 October 2004. It was believed that it would encourage attendance from the Acquisition Programs if it were held locally and it would reduce the use of already scarce travel funding.