

MINE LINES

THE NEWSLETTER OF THE MINE WARFARE ASSOCIATION

<WWW.MINWARA.ORG>

August 2005

ANNOUNCING

THE 7TH INTERNATIONAL SYMPOSIUM ON

TECHNOLOGY AND THE MINE PROBLEM

MAY 2-5, 2006

NAVAL POSTGRADUATE SCHOOL
MONTEREY, CALIFORNIA

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LETTER FROM THE PRESIDENT

Our most recent MINWARA Spring 2005 regional conference in Panama City, FL appears to have been the most effective conference held. Our highest attendance to date included 255 government and industry members of the mine warfare community. The CNO (Admiral Vern Clark) initiated events with a banquet speech that motivated the community to “keep on charging”. The keynote speaker for our proceedings was COMNAVSURFFOR (Vice Admiral Terry Etnyre), who informed us of many initiatives to ensure enhanced introduction of the LCS and its mine warfare mission modules.

The mine warfare leadership team (OPNAV N75, PEO LMW, and COMINEWARCOM) provided a set of visions and concepts for present and future mine warfare, which were sensible and attainable. Their various remarks were consistent and demonstrated great constancy of purpose. The interaction with the leadership team and conference attendees was extensive, thoughtful, and productive. **Attendees left this conference with the most positive outlook seen since the conference series began in 1998.**

Overall, we appear to be running hard to close gaps in MCM capability. Anticipated reduction of dedicated MCM forces is recognized as a recapitalization measure and, accordingly, we must ensure rapid and effective introduction of LCS-based MCM capability to counter this potential, near term force reduction.

Conference attendees left extremely supportive of LCS-based MCM capability. We realized that MCM can “make or break” the LCS concept early in its life. We also agreed that we should provide whatever support (knowledge/experience) we can to the development of LCS-based ASW and SUW capabilities. LCS cannot prosper as a single mission ship. Conference briefings are posted at www.minwara.org.

Our next important event will be a Government – Industry Day gathering for an update on LCS-based MCM by USN leadership responsible for this capability and an Annual Members Meeting to review the state of the organization and elect officers and directors. More details on this event are included in the MINWARA news on page 5.

Planning is ongoing for the 7th International Monterey Symposium on Technology and the Mine Problem. This symposium will review the latest science and technology and research and development efforts (S&T/R&D) to deal with sea and land mines, including requirements and ongoing S&T for improvised explosive devices (IED). This Minelines issue includes a Call for Papers for the symposium.

As always, MINWARA remains engaged on a wide spectrum of mine warfare subjects.

John D. Pearson
RADM, USN (Ret)
President, MINWARA

MINWARA NEWS

2005: A WATERSHED YEAR IN LITTORAL AND MINE WARFARE ACQUISITION

By Program Executive Office, Littoral and Mine Warfare (PEO LMW)

PEO LMW and its partners – including the Assistant Secretary of the Navy (Research, Development and Acquisition); the U.S. Navy's Expeditionary Warfare Division; the Naval Sea Systems Command's warfare centers; industry and the fleet user community – are building a broad portfolio of acquisition successes.

“2005 has truly been an exciting year in mine warfare, and the Navy and industry acquisition team is proud to have played a part in changing the face of mine warfare,” Rear Admiral William E. Landay, III said. “The job of the government and industry acquisition team is to develop and field the systems and capabilities that Commander, Mine Warfare Command and the fleet need to execute the Navy's mine warfare vision.”

A series of production milestones have marked success in the mine warfare acquisition program. Several new mine countermeasures systems are now in production and soon will be available for fleet user evaluation. New systems in production include the AN/AQS-20A sonar mine detecting set; the AN/AES-1 Airborne Laser Mine Detection System (ALMDS); and the AN/WLD-1 Remote Minehunting System (RMS).

Gary Humes, Mine Warfare program manager with PEO LMW said: “The production of this new generation of mine countermeasures capabilities begins to realize decades of research and development aimed at providing an organic materiel solution that significantly improves the timeline for assured access within the littorals.”

On April 28 ASN(RDA), the Hon. John J. Young, Jr., approved the AN/AQS-20A for low rate initial production. In operation, the AQS-20A will be deployed from Sikorsky's MH-60S helicopter and from Lockheed Martin's RMS. Both the MH-60S helicopter and RMS are to be deployed aboard the Littoral Combat Ship, as well as aboard Flight IIA Arleigh Burke-class (DDG 51) destroyers. Additionally, the Navy has tested the AQS-20A from Sikorsky's MH-53E Sea Dragon heavy lift helicopter.

Raytheon Company's Tewksbury, Massachusetts-based Integrated Defense Systems business is the prime contractor for the AQS-20A development program. The program provides in excess of a three-fold improvement in area search rate by incorporating five different sonar sensors into a single, 21-inch diameter body to provide for the identification of bottom mines and the detection, localization and classification of bottom, close-tethered and volume mines.

During June, ASN(RDA) approved the ALMDS for low-rate initial production. ALMDS represents an important new achievement in the evolution of laser-based technologies for the mine warfare mission set. Electro-optical sensors provide powerful capability for locating sea mines at or near the water's surface, over large areas more rapidly than previously possible.

Integrated aboard the MH-60S helicopter, ALMDS uses a Light Detection and Ranging (LIDAR) blue-green laser. Working in concert with towed sonar systems, deployed from helicopters or surface vessels, ALMDS will detect, localize and classify near surface moored and floating sea mines.

Northrop Grumman Integrated Systems Division, Melbourne, Fla. developed the ALMDS. A total of 57 units are planned for production between 2005 and 2011. During the spring, the ALMDS program was nominated for *Aviation Week's* Program Excellence Award. This prestigious award, to be presented in November 2005, recognizes the complexity and demand for the highest standards in the defense and aerospace industry program leadership.

Also during June, ASN(RDA) approved the RMS for production, following at-sea testing, during which the RMS met or exceeded all its critical performance parameters. RMS will operate from Flight IIA Arleigh Burke-class (DDG 51) destroyers and the Littoral Combat Ship, towing an AQS-20A to provide continuous, unmanned, over-the-horizon mine detection capability.

Continued on next page

MINWARA NEWS

Continued from page 3

The RMS includes a diesel powered, semi-submersible vehicle – 23 feet long, four feet diameter – weighing 13,000 pounds. Lockheed Martin, Maritime Systems & Sensors, Undersea Systems in Syracuse, NY, is the prime contractor for the RMS program.

Progress also is being made in other elements of the mine warfare acquisition program, including the AN/ALQ-220 Organic Airborne and Surface Influence Sweep; the AN/ASQ-235 Airborne Mine Neutralization System; and the AN/AWS-2 Rapid Airborne Mine Clearance System. These systems will form core capabilities packaged for the new Littoral Combat Ship, now under construction at Marinette, Wis.

Over the next 18 months, the PEO LMW and its partners in mine warfare acquisition will field the first spiral of an assault breaching system – the Joint Direct Attack Munitions Assault Breaching System. Additionally, seven key modernization programs are underway for the dedicated force’s MCM-1-class ships. PEO LMW also will soon deliver the first certified Littoral Combat Ship mission module package.

Building on success supporting the Global War on Terrorism, PEO LMW’s Explosive Ordnance Disposal (EOD) program office recently passed a major milestone with approval for full-rate production of its Man Transportable Robotic System (MTRS).

“This approval represents a significant step forward for the EOD robotics program,” Commander Scott Stuart, EOD program manager said. “The MTRS program meets war fighters’ objectives, as defined by the Joint Service EOD community, for additional capabilities to defeat the threats posed by Improvised Explosive Devices (IEDs) and other hazards.”

The MTRS is a modified commercial, two-man portable system consisting of a robotic vehicle, which includes a manipulator and imaging sensors, and a control station. In production, the MTRS program will produce two robot variants: Foster-Miller, Inc.’s Talon IV and iRobot’s PackBot EOD. The robots are procured under indefinite delivery, indefinite quantity contracts funded by multiple service sponsors. Current inventory objectives are: U.S. Army—461 systems, U.S. Marine Corps—205, U.S. Navy—154 and U.S. Air Force—140, for a total of 960 systems.

In the field, Talon and PackBot MTRS units are equipped with a variety of sensors and tools to perform reconnaissance of danger areas and suspected IEDs. Robots also disrupt and disable unexploded ordnance and IEDs. In the event of an explosion, the robotic vehicle is positioned to take the damage that a human operator would face.

During 2004, the EOD Program Office successfully met the U.S. Central Command’s (USCENTCOM) requirements for small robotic systems to defeat the burgeoning threat from IEDs in Afghanistan and Iraq.

PEO LMW and its partners are part of a diverse acquisition community, developing, acquiring and maintaining operationally superior, affordable systems to provide assured access for U.S. and coalition forces through the littoral battle space. These include mine warfare, Littoral Combat Ship mission modules, EOD, unmanned undersea vehicles, maritime surveillance systems, anti-terrorism/force protection, and naval special warfare.

ANNOUNCEMENT

MINWARA and SCOT are pleased to announce the publication of the **Anthology on Applications of Technology to Demining (1995-2005)**. Arrangements have been made for additional sets to be available on a “print on demand” basis at cost. Additional details are available on at <www.demine.org> and from the printer, Abrego Print, at (831) 333-9036.

MINWARA NEWS

MINE WARFARE ASSOCIATION (MINWARA) GOVERNMENT-INDUSTRY DAY

*Review of Development and Acquisition Status of Littoral Combat Ship (LCS)
And Mine Warfare Mission Modules*

October 20, 2005 (0900-1300) at Fort Myer Officers' Club, Arlington VA

MINWARA is pleased to announce the opportunity for key government officials and MINWARA corporate members to meet on an important subject. The intent of the meeting is to review the development and acquisition status of LCS and mine warfare mission modules. This is a followup to the Panama City MINWARA conference in May 2005 and the Congressional Naval Mine Warfare Caucus meeting in June 2005. Key government officials attending and/or providing presentations will include the following (list tentative at this time):

OSD
SECNAV DASN for Littoral and Mine Warfare
Opnav Surface Warfare Division (Opnav N76)
PEO, Ships
Office of Naval Research
Coastal Systems Station, Panama City FL

PEO, Littoral and Mine Warfare

Opnav Expeditionary Warfare Division (Opnav N75)
Commander, Mine Warfare Command

Dr. Paris Genalis
Mr. Roger Smith
RADM Mark Edwards
RADM Charlie Hamilton*
Dr. Doug Todoroff
CAPT Vito Jimenez
Mr. Dave Tubridy
RDML Bill Landay and*
Program Managers
MGEN Gordon Nash*
RDML Deborah Loewer*

* Confirmed, subject to unforeseen circumstances

We also intend to invite the CNO (ADM Mike Mullen) to provide opening remarks.

MINWARA corporate members are invited to attend (nominally, two representatives).

MINWARA officers and members of the Board of Directors are also invited to attend.

Representatives from DOD organizations, other than mentioned above, are also invited.

Please contact Mr. Lee Hunt (MINWARA Secretary) no later than October 10th at (703) 765-1046 or HuntLah@aol.com, if you plan to attend.

MINWARA hopes that government and industry will provide effective ideas and methodologies to further improve the development and acquisition process and products.

As an important adjunct to this meeting, **MINWARA** will hold its **annual members meeting** from 1330-1530 at the same venue. All individual and corporate members are encouraged to attend. The meeting will be your opportunity to elect the slate of officers and directors for MINWARA and provide guidance for future MINWARA efforts in support of mine warfare programs.

SEVENTH INTERNATIONAL SYMPOSIUM ON
TECHNOLOGY AND THE MINE PROBLEM
NAVAL POSTGRADUATE SCHOOL

CALL FOR PAPERS

The Seventh Monterey International Symposium on Technology and the Mine Problem is planned for May 2-5, 2006. The theme of this year's symposium will be MINES, IMPROVISED EXPLOSIVE DEVICES (IED's), and HARBOR PROTECTION/PORT SECURITY. We will continue our emphasis on technology and technical research that contribute to major systems applications in mine technology, naval mine warfare, land mine warfare, humanitarian demining, and unexploded ordnance (UXO) site remediation. The existing daily threat presented by IED's and the clearly recognized need for improved Naval Port Security and Harbor Protection demand that we broaden our scope to include the technologies and technical research that are focused on these real world asymmetric near term challenges.

We will set the stage with the best senior Department of Defense civilian and military officials that are available to address the results of current or recently completed operations, experiments, and tests. A discussion of existing requirements, status of programs of record, reports of funded Research and Development and P3I efforts, recognized needed capabilities, and the technical issues and challenges that must be overcome will further define the scope of the tasks which face us.

Once this stage is set, a number of technical papers will be selected for plenary session presentation, based on merit and potential breadth of application across more than one

application area. A peer review/refereeing process will be used for selection of submitted papers for both plenary and technical session presentation. As the primary focus of this symposium is technology, we expect that the lion's share of the presentations will be technology and technical research papers.

WE INVITE YOUR SUBMISSION OF TECHNOLOGY AND TECHNICAL RESEARCH PAPERS COVERING SUBJECTS DISCUSSED IN THIS INVITATION AND, PARTICULARLY, IN THOSE GENERAL TOPICS LISTED BELOW.

We hope to attract papers/presentations covering operational/field/experiment/testing events. Since our last symposium, operations in Afghanistan and Iraq, IED's, and the evolution of port security needs all offer experiences that should provide key insights on promising technologies and operational approaches that are most useful. Papers/presentations on environmental effects (sea and land) are also encouraged to better acquaint researchers with the nature of the technical challenges.

Please use the enclosed Abstract Submission Form on page 8. Note that we are requiring an extended abstract of three pages for this symposium to allow for a better refereeing process. Extended abstracts are required to be submitted by January 13, 2006.

Papers are sought in the following technology/technical research areas. Paper submissions in areas not listed will also be considered for applicability and presentation.

- | | |
|---|-----------------------------------|
| Operational/Field/Experiment/Testing experience (all areas) | |
| Environment (all areas) | |
| Sensors | Mines (land and sea) |
| Sensor processing/fusion | Disposal technologies |
| Fusing/Explosives (Energetics) | Reconnaissance/surveillance |
| Risk management | Unexploded Ordnance (UXO) issues |
| Robotic applications (including remote sensors) | |
| Unmanned systems | |
| System integration | |
| C4I issues | Modeling & Simulation (all areas) |
| Mission Definition (new missions) | Mine Countermeasures (harbors) |
| Hull Searches | IED detection/neutralization |
| IED remote destruction | IED self protection/mitigation |

PAPER SUBMISSION INSTRUCTIONS

ABSTRACT FORMAT

Abstracts

must be received by 01/13/2006

- Must be in English
- Extended abstracts (3 pages including figures) will be reviewed for possible plenary addresses

Abstract Text and Page Format

- 8 1/2" x 11" paper size
- MS Word
- 1 1/2" margins on all sides
- Single column
- Single spaced, left aligned
- 12 point type, Times Roman font
- Page numbering, headers & footers are not allowed
- Title and author in upper and lower case (not all caps)
- Title in 18 point type, centered (not all caps)
- Author's name and institution following title
- Author's name and institution in 14 point type, centered (not all caps)

PAPER FORMAT

Papers

must be received by 03/31/2006

- Must be in English
- Papers to be 10 pages or less including figures

Papers Text and Page Format

- 8 1/2" x 11" paper size
- MS Word
- 1 1/2" margins on all sides
- Single column
- Single spaced, left aligned
- 12 point type, Times Roman font
- Page numbering, headers & footers are not allowed
- Footnotes and Bibliographies at the end.
- Title and author in upper and lower case (not all caps)
- Title in 18 point type, centered (not all caps)
- Author's name and institution following title
- Author's name and institution in 14 point type, centered (not all caps)

TIPS TO MAKE YOUR PAPER LOOK GREAT

Figures, Graphs and Photos

- Eps or tif files at at least 200 dpi reproduce best in print
- Include copies of image files saved as one of the file formats above from within the native application.
- Label files with author's name figure number

Colors will be visible on the CD but not in print. If your colors don't provide enough contrast to be visible in grayscale, consider creating a separate file for print. Please make sure the media is appropriately marked and includes the corresponding author's name. The CD can accommodate animations and video if provided in Quicktime format.

IMPORTANT

Some authors prefer to submit a separate document for the CD in Acrobat (.pdf) format. When distilling a file to Acrobat (.pdf) please choose the "embed all fonts" feature.

When using a font for scientific characters other than Microsoft Math Type, please include a Macintosh PostScript version of the font. If that is not possible, please provide as much information about the font as possible such as the name, type, foundry, and point of distribution.

ABSTRACT/PAPER SUBMISSION FORM

Copy and mail or fax

ABSTRACT SUBMISSION

Abstracts

must be received by 1/13/2006

Please use this Submission Form. Abstracts without the Abstract Submission Form will be returned.

Format as indicated on page 7

Corresponding Author

Name: _____

Institution: _____

Address: _____

Day Phone: _____ Fax: _____

e-mail: _____

Presenting Author

Name: _____

Institution: _____

Address: _____

Day Phone: _____ Fax: _____

e-mail: _____

Send abstract with completed form to:

7th Mine Symposium
c/o Carol Long
The DMC Companies
824 Munras Ave., Ste C
Monterey CA 93940 USA

PAPER SUBMISSION

Papers

must be received by 3/31/2006

Format as indicated on page 7

Submit both a camera ready and computer files of your paper including the criteria below:

Platform:

- Mac Windows
 DOS Unix

Media:

- Disk 100MB Zip
 CD

Format:

MS Word Version _____

Figures:

- eps tiff

I feel this paper is most suited for inclusion in:

- Operational/Field/Experiment/Testing experience (all areas)
 Environment (all areas) Sensors
 Mines (land and sea) Sensor processing/fusion
 Disposal technologies Fusing/Explosives (Energetics)
 Reconnaissance/surveillance
 Risk management
 Unexploded Ordnance (UXO) issues
 Robotic applications (including remote sensors)
 Unmanned systems System integration
 C4I issues
 Modeling & Simulation (all areas)
 Mission Definition (new missions)
 Mine Countermeasures (harbors)
 Hull Searches
 IED detection/neutralization
 IED remote destruction
 IED self protection/mitigation

PLEASE MAKE SURE ALL MEDIA IS MARKED WITH THE CORRESPONDING AUTHOR'S NAME. ALL FILES MUST BE DISINFECTED FOR COMPUTER VIRUSES.

If you have any questions, please contact: The DMC Companies <carol@DMCcompanies.com> (831) 373-0508

MEMBERSHIP APPLICATION

The Mine Warfare Association
c/o The DMC Companies

824 Munras Ave., Suite C, Monterey CA 93940, phone: (831) 373-0508, e-mail: carol@dmccompanies.com

**Copy, fill in and
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Concerning all aspects of Sea-Land Mine Warfare and Explosive Ordnance Disposal.



Date _____

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CLASS OF MEMBERSHIP

(All schedules except Life Membership are on an annual basis)

Individual Memberships

- Student \$25
- Annual Membership \$50
- Life Membership \$500

Corporate or Foundation Memberships

- | | | |
|-----------------------------------|-------------------|---------------|
| <input type="checkbox"/> Bronze | \$500 | (Life/Annual) |
| <input type="checkbox"/> Silver | \$1000 | (0/2) |
| <input type="checkbox"/> Gold | \$2000 | (0/4) |
| <input type="checkbox"/> Platinum | \$5000 or Greater | (1/2) |
| | | (2/2) |

The level of membership (Bronze, etc.) selected by a prospective corporate member determines the number of Life and Annual memberships awarded upon application for a particular calendar year (January 1 through December 31). The Bronze level would be awarded zero life memberships and two annual memberships for the year of membership. The Platinum level would be awarded 2 life memberships and 2 annual memberships for the year of membership.

The new membership recipients (life and annual) for the corporation should be designated upon corporate membership application. They will be added, in our database, to prior life membership recipients (where applicable) for the corporation. Life and annual membership recipients may be individuals by name and/or corporate position.

Corporate membership should not be confused with event corporate sponsorship. We, separately invite corporations to be event sponsors for our conferences and symposia. This may include exhibits, receptions, banquet tables, etc. offered at varying prices for the event. Platinum corporate members are not charged a fee for one exhibit space at an event.

The corporate membership benefits for the various membership levels are listed at www.minwara.org. Hopefully, this clarifies any confusion on these issues.

PROFESSIONAL INTERESTS

Operational:

- | | |
|--|---|
| <input type="checkbox"/> Naval | <input type="checkbox"/> Land |
| <input type="checkbox"/> Demining | <input type="checkbox"/> Research and Development |
| <input type="checkbox"/> Management | <input type="checkbox"/> Economics |
| <input type="checkbox"/> Field Work | <input type="checkbox"/> Fundraising |
| <input type="checkbox"/> Unexploded Ordnance | <input type="checkbox"/> Public Education |

Geophysical Interests:

- | | |
|-------------------------------------|--|
| <input type="checkbox"/> Land | <input type="checkbox"/> Beach |
| <input type="checkbox"/> Surf Zone | <input type="checkbox"/> Shallow Water |
| <input type="checkbox"/> Deep Water | |

Language skills (Please specify): _____

Willingness to Serve MINWARA:

- | | |
|--|-------------------------------------|
| <input type="checkbox"/> Board Member | <input type="checkbox"/> Officer |
| <input type="checkbox"/> Conference Organizer | <input type="checkbox"/> Membership |
| <input type="checkbox"/> Clerical Assistance | <input type="checkbox"/> Corporate |
| <input type="checkbox"/> Fundraising | <input type="checkbox"/> Presenter |
| <input type="checkbox"/> Other (Please specify): _____ | |

Method of payment:

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| <input type="checkbox"/> Check | <input type="checkbox"/> Money Order |
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Remittance: U.S Dollars Check or Money Order payable to Mine Warfare Association. Please note that VISA government credit cards issued by Bank of America with account numbers beginning with 4486 1200 are not authorized for use.

Please use another vehicle for payment.

MINE LINES

C/O THE DMC COMPANIES

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