

# The Aids to Navigation Bulletin

National Aids to Navigation School

Summer 2009

# National Aids to Navigation School

## US Coast Guard Training Center, Yorktown, Virginia

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ATON systems of the United States and its territories are established, operated, and maintained by the Coast Guard to assist mariners in locating their position and to warn of nearby dangers and obstructions. This is done for the benefit of commercial vessels, recreational boaters, and to support the operations of the Armed Forces. Title 14 of the US Code makes this a responsibility of the Coast Guard.

The Bulletin is published to support the individuals and units involved in providing a reliable ATON system for the mariner. The Bulletin seeks to meet the following objectives:

- To provide a means of circulating job skill information among ATON technicians,
- To increase the professionalism and knowledge of all ATON personnel,
- To act as a channel for information flow amidst the ATON servicing units, Sector Office staffs, District Office staffs, Headquarters staffs, and units, and
- To publish articles and photographs about people, units, or events which may be of general interest to the ATON community.

To satisfy these objectives, it's necessary for all who read the Bulletin to take an active part in determining its contents. If you have found a "better way" or performed a unique evolution, share it with other people in the ATON field. Submissions are welcome in any form. Articles and images may be submitted electronically to the editor via email at [tracy.m.speelhoffer@uscg.mil](mailto:tracy.m.speelhoffer@uscg.mil) or mailed to:

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Electronic submissions are preferred. Please keep photographs in original electronic form, and send them as separate files; do not imbed or copy them into word documents.

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[www.uscg.mil/tyorktown/ops/naton/index.shtm](http://www.uscg.mil/tyorktown/ops/naton/index.shtm)

### Deadlines for Articles:

Summer 2009 - Phonebook  
Fall 2009 - 15 September  
Winter 2009 - 15 January  
Spring 2010 - 15 April

**Volume 36, Number 3**

**On the Cover:** Then-SN Sean Peterson (now MST3 Sean Peterson) works an aid on CGC JAMES RANKIN (WLM 555)  
*Photo by PA1 John Edwards, PADET Baltimore*

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*USCGC BRISTOL BAY (WTGB 102) steams along with a full deckload.  
Photo contributed by BMI Kristian Sova.*

## **NATON Resources Page**

*by ETC Noel Stakes, NATON School*

Are you missing your copy of the DGPS Equipment Verification Job Aid? How about the Solar Design worksheet? Or how about the Technical Manual for the GCF-C2-1216-DGPS(V)1, Differential Global Positioning System? You can relax! Many of the handouts we distribute in class, and even some of the Powerpoints we use, are available on the NATON Resources Web Site:

<http://cgweb.tcyorktown.uscg.mil/NATON/download.asp>

This page is part of the Training Center Yorktown intranet, but anyone with CGDN access can get to the intranet by using the link above. At our site, you can find many of the manuals, job aids, and yes, even some of the Powerpoints used in our classes. They are free for the taking, and do not require stamps or any other kind of postage. All you need is a standard Coast Guard workstation hooked up to the intranet, and in the words of Emeril Lagasse, “BAMM,” you’re in! It’s painless—even the Powerpoints are easier when you can do them at your own pace!

In addition to course materials, we also post links to other interesting websites, useful tools we’ve received from other units, a link to the latest ATON Bulletin and 3 back issues, and even a narrated video of a buoy deck evolution! You never know what you might find on the NATON Resources Web Page! Along those lines, if you’ve developed a tool or found a web site that’s helpful to you, and think the rest of the fleet might find it useful, send it to someone here at NATON and we’ll post it on the site.

This is not a new web page, in fact it has been in place for several years, but it’s always good to get the word out there to those who didn’t know about it. The web page is a valuable source to use when brushing up on the standards of ATON, and provides you with a lot of materials should you want to do some training at your unit.

Something that IS new, however, is the capability to subscribe to updates on the website. That’s right, you can sign up to be alerted when something new has been added to our resources page. When you go to the resources page, on the right hand side of the screen you’ll see a box that says “Subscribe to the NATON Web Site!” Simply click on that box and follow the easy directions, and every time we add something to the site, including the latest issue of the ATON Bulletin, you’ll get an email letting you know!

Still can’t find what you’re looking for? Try the NATON Hotline at (757) 449-3681. This phone is a cell phone that is attached to one of the instructors 24/7. If the instructor who answers the phone can’t answer your question, he or she will find someone who can as soon as possible.

Home > NATON Resources May 12, 2009

## NATON Resources

Direct any questions concerning these downloads to: [NATON school](#)

**Welcome Aboard**

- [Welcome Aboard Package - zipped 19MB](#)
- [PCS Check In](#)

**Aid Positioning**

**Documents/Tools**

<ul style="list-style-type: none"><li>• <a href="#">AAPS Users Guide</a></li><li>• <a href="#">WAMS Completion Guide</a></li><li>• <a href="#">WAMS Completion Guide Nov 2000 Update</a></li><li>• <a href="#">Trimble Setup Instructions</a></li><li>• <a href="#">Leica Setup Instruction</a></li></ul>	<ul style="list-style-type: none"><li>• <a href="#">APR Verification Job Aid</a></li><li>• <a href="#">DGPS Verification Job Aid</a></li><li>• <a href="#">Positioning Fixed Aids Job Aid</a></li><li>• <a href="#">Vessel Configuration Job Aid</a></li><li>• <a href="#">Electronic DRF Parts I &amp; II</a></li></ul>
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**PowerPoints**

<ul style="list-style-type: none"><li>• <a href="#">Accuracy Classification</a></li><li>• <a href="#">Excursion</a></li><li>• <a href="#">Position Check Evaluations</a></li><li>• <a href="#">Positioning Fixed Aids</a></li><li>• <a href="#">Servicing Flowchart</a></li></ul>	<ul style="list-style-type: none"><li>• <a href="#">Discrepancy Response</a></li><li>• <a href="#">Legal Issues</a></li><li>• <a href="#">Positioning Policy</a></li><li>• <a href="#">Receiver Verification</a></li><li>• <a href="#">WAMS</a></li></ul>
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**Minor Aids**

**ANC-AC PowerPoints**

<ul style="list-style-type: none"><li>• <a href="#">AC ACFC</a></li><li>• <a href="#">AC Hardware Updated 11/05</a></li><li>• <a href="#">AC Lanterns</a></li><li>• <a href="#">AC Legalities - Updated 7/05</a></li><li>• <a href="#">AC Power Supplies</a></li><li>• <a href="#">AC RL-14</a></li></ul>	<ul style="list-style-type: none"><li>• <a href="#">AC SAC II</a></li><li>• <a href="#">AC RSB</a></li><li>• <a href="#">AC Sound - Updated 7/05</a></li><li>• <a href="#">Southfinder</a></li><li>• <a href="#">AC VRB</a></li><li>• <a href="#">AC DRE</a></li></ul>
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**Quick Links**

- [NATON Internet Site](#)
- [NATON Bulletin](#)

**Base Status**

Threat: Elev  
Infocon: (3)  
Fpcon: Alpha  
Hurrrcon: None

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*Click on this box and follow the simple instructions to receive an email when we add something new to the Resources web site—including the latest issue of the ATON Bulletin!*



## Purchasing ATON Safety Boots

by CWO CJ Brown, Office of Cutter Forces (CG-7513)

In some cases, the current standard uniform boot (CG Super Boot) does not meet the safety requirements needed to conduct ATON operations. There are many unique environments and jobs in the ATON community, and for this reason there are many different safety and ANSI/ASTM requirements that must be met. In certain situations, the boot has insufficient height for tall grassy and/or snake infested ATON environments, does not afford adequate protection for chainsaw use, and lacks a steel shank which assists in ladder climbing. Another concern is to standard footwear: due to inherently harsh buoy tender deck operations, constant water exposure and continuous boot abrasions/cuts are typical when working on deck or handling ATON gear.

Within the ATON and purchasing community there is a perceived inability to legally procure safety footwear appropriate for hazardous shipboard and/or land environments. ALCOAST 262/08 (reprinted at the end of this article) outlines policy for Coast Guard procurement and replacement of safety shoes and prescription eyewear for Coast Guard military and civilian personnel exposed to workplace hazards. This article is not creating policy but rather supporting the policies set forth in the Uniform Regulations Manual COMDINST M1020.6 (series) chapter 4.D and ALCOAST 262/08. ATON units should reference the previously mentioned manual and ALCOAST when the standard issued CG uniform boot is deemed ineffective for the mission being completed or when issued footwear is deemed unusable due to deterioration and needs replacing.

**Purchase of appropriate safety boot:** Paragraph 2 of ALCOAST 262/08 establishes that a workplace assessment by “Safety & Health Professionals” is required to determine the need for and type of appropriate safety gear. The “Safety & Health Professionals” referenced in ALCOAST 262/08 are considered to be the Unit Safety Officer, Sector Safety Officer, or the MLC (kse) Safety and Environmental Health Officer (SEHO) detached to each District. Once an assessment is completed, the appropriate safety gear should be identified as a piece of organizational clothing/PPE asset. The PPE assessment shall be documented and filed as appropriate to be referenced during unit inspections. It is important to note that it is the unit’s responsibility to purchase a boot that meets the appropriate ANSI and/or ASTM standards along with consideration for the geographical location, environment and the specific ATON mission. Personal preference is not an acceptable reason to purchase a specific brand.

**Replacement of uniform boot:** Paragraph 2.A. of ALCOAST 262/08 establishes that except where the work environment causes an unusually high rate of deterioration, maintenance and replacement of the uniform safety boot is the member’s responsibility. That being said, it is understood that a member’s uniform safety boot is routinely damaged well ahead of the typical life cycle when working in ATON environments. When the working environment dam-



ages or degrades the boots to a degree where they no longer provide adequate and reliable safety protection, the member shall request a new pair from his/her supervisor. The supervisor shall inspect the boots for damage or deterioration and if appropriate will authorize a new pair of boots. Once the member receives a new pair of boots, the unserviceable boots will be turned into the supervisor and destroyed.

**Documentation for issuing and replacing footwear:** Chapter 4.D.of the Uniform Regulations Manual COMDINST 1020.6 (series) permits ATON (and other) units to acquire CG safety boots, or substitutes, under Organizational Clothing procedures and must be accounted for using the AF-538 form. These items are to be replaced on a turn in basis, that is, one turned in and one issued. The turned in footwear is deemed unusable and is destroyed.

It is important to note that safety footwear issued for ATON usage is only worn when conducting the specific ATON mission. Once the member completes that mission and shifts back to the uniform of the day, the appropriate footwear must be worn. For example, when changing back into the ODU at the ANT, the CG Super Boot is the only boot authorized to be worn. It is also important that when completing the purchase request the purpose of the boot procurement is clear. State that you are looking to purchase a **safety boot** to be worn while working the ATON mission. This must be clear because the only authorized **uniform boot** for procurement is the CG Super Boot.

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FM COMDT COGARD WASHINGTON DC//CG-11//  
TO ALCOAST  
BT

UNCLAS //N05100//  
ALCOAST 262/08  
COMDTNOTE 5100

SUBJ: COAST GUARD SAFETY POLICY AND PROCUREMENT PROCEDURES FOR SAFETY FOOTWEAR (SAFETY SHOES) AND PRESCRIPTION SAFETY EYEWEAR FOR CIVILIAN AND MILITARY MEMBERS

- A. OSHA STANDARDS FOR GENERAL INDUSTRY, 29 CFR 1910
- B. SAFETY AND ENVIRONMENTAL HEALTH MANUAL, COMDINST M5100.47
- C. BASIC PROGRAM ELEMENTS FOR FEDERAL EMPLOYEES OSHA, 29 CFR 1960
- D. RESCUE AND SURVIVAL SYSTEMS MANUAL, COMDINST M10470.10 (SERIES)
- E. AVIATION LIFE SUPPORT MANUAL, COMDINST M13520.1 (SERIES)
- F. UNIFORM REGULATIONS MANUAL, COMDINST M1020.6E (SERIES)
- G. MEDICAL MANUAL, COMDINST M6000.1, (SERIES)

1. DISCUSSION. THE COAST GUARD ACTIVELY STRIVES TO PROTECT ITS PERSONNEL BY ASSESSING AND CONTROLLING RISKS. THE BEST MEANS OF PROTECTING PERSONNEL FROM EXPOSURE TO HAZARDS IN THE WORKPLACE IS TO ELIMINATE OR MINIMIZE HAZARD EXPOSURE THROUGH ENGINEERING CONTROLS. IF THIS IS NOT FEASIBLE, ADMINISTRATIVE CONTROLS THAT REDUCE EMPLOYEE EXPOSURE TO THE HAZARD SHOULD BE IMPLEMENTED. IN SITUATIONS WHERE NEITHER OF THESE METHODS CAN BE EMPLOYED, REFERENCES A AND B REQUIRE THE EMPLOYER TO CONDUCT A HAZARD RISK ASSESSMENT AND IDENTIFY HAZARDS THAT ARE PRESENT. REFERENCE C, REQUIRES THE EMPLOYER PROVIDE APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT (PPE) TO AFFECTED EMPLOYEES AT RISK TO HAZARDOUS

EXPOSURES. THE EMPLOYER IS FURTHER REQUIRED TO TRAIN EMPLOYEES TO USE THE PPE AND ENFORCE ITS USAGE. EMPLOYEES ARE REQUIRED TO USE THE PROVIDED EQUIPMENT FOR THEIR PROTECTION. TO CLARIFY THE ACCEPTABILITY FOR UNITS TO PROVIDE SAFETY GEAR, THIS MESSAGE ESTABLISHES POLICY FOR COAST GUARD PROCUREMENT AND REPLACEMENT OF SAFETY SHOES AND PRESCRIPTION EYEWEAR FOR COAST GUARD MILITARY AND CIVILIAN PERSONNEL EXPOSED TO WORKPLACE HAZARDS REQUIRING THESE ITEMS.

2. POLICY. UNIT COMMANDING OFFICERS AND OFFICERS IN CHARGE SHALL ENSURE A WORKPLACE HAZARD RISK ASSESSMENT HAS BEEN CONDUCTED AT EACH WORKPLACE BY SAFETY AND HEALTH PROFESSIONALS, TO DETERMINE THE NEED FOR AND TYPE OF SAFETY FOOTWEAR AND EYEWEAR TO PROTECT EMPLOYEES. THIS POLICY CHANGE WILL BE REFLECTED IN REFERENCE B DURING THE NEXT REVISION. FOR HEADQUARTERS LEVEL SAFETY PROGRAMS (RESCUE AND SURVIVAL SYSTEMS, AVIATION LIFE SUPPORT, ORDNANCE), REFERENCES D AND E WILL APPLY.

A. MILITARY PERSONNEL. FOOTWEAR SHALL BE STANDARD UNIFORM SAFETY SHOES IN ACCORDANCE WITH REFERENCE F, UNLESS WORKPLACE HAZARD RISK ASSESSMENT INDICATES A SPECIALTY TYPE SHOE IS REQUIRED. EXCEPT WHERE THE WORK ENVIRONMENT CAUSES AN UNUSUALLY HIGH RATE OF DETERIORATION, MAINTENANCE AND REPLACEMENT OF SAFETY SHOES IS THE MEMBERS RESPONSIBILITY. SAFETY PRESCRIPTION EYEWEAR WILL BE PROVIDED PER REF G.

B. CIVILIAN PERSONNEL. CIVILIAN EMPLOYEES WORKING IN AREAS REQUIRING SAFETY FOOTWEAR OR EYEWEAR WILL BE PROVIDED THESE ITEMS USING STANDARD PROCUREMENT PROCEDURES INCLUDING THE REQUIREMENTS OF FEDERAL ACQUISITION REGULATION (FAR) PART 8. HOWEVER, CIVILIAN EMPLOYEES REQUIRED TO WEAR PRESCRIPTION SAFETY EYEWEAR MUST OBTAIN THE PRESCRIPTION AT THEIR OWN EXPENSE. THE SUPPLY SOURCE AND PROCUREMENT OF SAFETY FOOTWEAR AND EYEWEAR ARE NON-NEGOTIABLE IN COLLECTIVE BARGAINING AGREEMENTS.

3. EQUIPMENT SPECIFICATIONS AND REQUIREMENTS.

A. ALL PERSONNEL PROTECTIVE EQUIPMENT SHALL BE OF APPROPRIATE DESIGN AND CONSTRUCTION TO ENSURE THE SAFETY OF THE WORKER FOR THE PARTICULAR WORK PERFORMED. PERSONNEL SHALL USE ONLY THOSE ITEMS THAT HAVE BEEN RECOGNIZED AND APPROVED IN ACCORDANCE WITH THE FOLLOWING STANDARDS. SAFETY SHOES SHALL CONFORM TO THE REQUIREMENTS OF THE ASTM F2413-05 STANDARD. WHEN SAFETY SHOES EXHIBIT WEAR, SUCH THAT SAFETY PROTECTION IS NO LONGER AFFORDED, THE EMPLOYEE SHALL CONTACT THEIR SUPERVISOR AND REQUEST A REPLACEMENT PAIR. WHEN NEW SAFETY SHOES ARE PROVIDED IAW PARA. 2 ABOVE, THE OLD PAIR SHALL BE DESTROYED. FOR MILITARY PERSONNEL, PRESCRIPTION SAFETY EYEWEAR SHALL MEET ANSI Z87.1-1989 2003 HIGH IMPACT STANDARDS AND MAY BE PROVIDED WHEN CURRENT SAFETY EYEWEAR IS NO LONGER USABLE OR WHEN THE MEMBERS PRESCRIPTION CHANGES.

B. BOAT FORCES PROTECTIVE CLOTHING AND EQUIPMENT SHALL MEET SPECIFICATIONS LISTED IN REF D. FLIGHT CLOTHING SHALL MEET SPECIFICATIONS LISTED IN REF E.

4. FOR QUESTIONS CONCERNING PPE PROCUREMENT, CONTACT MR. MICHAEL L. SMITH, CG-1132 AT 202-475-5205, EMAIL MICHAEL.L.SMITH4(AT)USCG.MIL OR LT FRANCISCO ESTEVEZ, CG-843, AT 202-372-3656, EMAIL FRANCISCO.A.ESTEVEZ(AT)USCG.MIL.

5. CAPT. LORI A. MATHIEU, ACTING, DIRECTOR OF HEALTH, SAFETY AND WORK-LIFE SENDS.

6. INTERNET RELEASE IS AUTHORIZED.

## **Competencies and the ATON Professional**

*by BMCS R. Scott Pugh, Office of Cutter Forces (CG-751)*

After a review of existing competencies (Qualification Codes for the older crowd), it was determined that an oversight of crane operators had taken place. Buoy Deck Riggers and Buoy Deck Supervisors were amongst the certifications that would earn an individual a competency, but the person responsible for the safe and smooth operation of the crane and other equipment operated from the boom shack was left out of the competency crowd.

This oversight was recently corrected and all of the buoy deck crane operators are now eligible for an additional competency. In time the additional competency could help to compete for leadership positions within the black hull fleet. Having this competency, and any other competencies, in your file (Direct Access) may also put you ahead of the competition if a unit is in dire straits and in need of certain competencies.

It should also be noted that because EPM doesn't do competency based assignments, each member has the responsibility to earn the competencies assigned to any position they are assigned to. To do anything less is a dis-service to the member's future career, their current unit and the service as a whole. This means that if you are assigned as a BM1 to a WLB or WLM, you have a responsibility to earn the Buoy Deck Supervisor competency.

Personnel who have earned this competency, or their commands, will have to provide documentation to the Servicing Personnel Office or administrative staff for entry into Direct Access. If you used to be stationed aboard a buoy tender and were certified to operate the crane, provide that documentation to your command and the SPO should be able to enter the competency for you. Also, commands and individuals are encouraged to review the competency dictionary to see what other competencies they might be eligible for. Most boat crew related tasks will automatically get entered into DA once certified in the E-Training system. However, most Afloat and ATON related competencies will not. Below is a sample listing of some of the competencies that you and/or your crews might be eligible for; for a complete description and the requirements, refer to the competency dictionary. Some of them require more than just completion of the school.

Code	Title	Code	Title
ATNBDR	ATON Buoy Deck Rigger	ATNNC	Buoy Deck Supervisor
	Buoy Deck Crane Operator	ATNND	Construction Deck Supervisor
ATNNE	Minor Aid Tech (Basic)	ATNNK	Construct Tender Equip Oprtr
ATNNF	Minor Aid Tech (Adv)	ATNNL	Aid Positioner
OODLP	225 WLB U/W OOD		

Here is the website to access the competency dictionary:

<http://www.uscg.mil/hq/cg1/psc/da/CompetencyDictionary.xls>.

You can also search for "Competency Dictionary" in CGCentral.



## The Discontinuation of Johnston Atoll

by ENS Matthew Romano, USCGC KUKUI (WLB 203)

During the month of May, USCGC KUKUI discontinued District Fourteen's aids to navigation in Johnston Atoll, closing an important chapter in the history of the United States and Coast Guard Aids to Navigation. Additionally, this trip provided C2CEN an opportunity to test the new GPS Autonomous Point Positioning System (GAPPS) unit alongside a prototype Automated Aid Positioning System (AAPS) system, version 5.5.

Although one of the most isolated atolls in the world, Johnston Atoll served a vital role in United States history. The island was declared a federal bird refuge by President Coolidge in 1926. In 1934, President Roosevelt transferred control of Johnston Atoll to the Navy and established an airplane runway, seaplane base, and refueling station. It was later designated as a Naval Defensive Sea Area and Airspace Reservation and served as a nuclear weapons test site, missile launch site for spy satellites, chemical munitions storage facility and the site of the Johnston Atoll Chemical Agent Disposal System (JACADS). Jurisdiction of Johnston Atoll was transferred from the U.S. military to the U.S. Fish and Wildlife Service in 2003 and declared part of the Pacific Remote Islands Marine National Monument in early 2009.



*Aerial Picture of Johnston Island*



*U.S. Coast Guard LORAN Station  
Johnston Atoll patch*

The Coast Guard's association with Johnston Atoll began in the early 1940's, when the first aids to navigation were established there. A Coast Guard Long Range Aid to Navigation (LORAN) station was established on the atoll in 1957 and successfully operated until 1992, when the precision of Global Positioning System (GPS) left the station no longer necessary and too expensive to maintain. The station, in its 35 year existence, assisted in the navigation of numerous Coast Guard cutters and aircraft, enabling the safe execution of countless missions and operations. Additionally, the atoll was a frequent port call for Coast Guard cutters and an emergency landing airstrip for Coast Guard aircraft.





*KUKUI's Deck Force discontinuing Johnston Island Buoy 5*

Because of the jurisdictional transfer and a Waterway Analysis and Management System survey of the atoll, it was concluded that there was no longer a need for the aids to navigation in the harbor. It took KUKUI three days to discontinue the eighteen aids to navigation, concluding almost 70 years of Coast Guard service for Johnston harbor. KUKUI effectively utilized several methods to complete the disestablishment. In total, 5 buoys were recovered with the ship, 4 buoys with the dive team, and 9 dayboards and 2 ranges were removed with

ATON technicians. All that remains of the harbor now are a few concrete pylons and range towers.

Due to KUKUI's experience with GAPPS, C2CEN identified this ATON patrol as an ideal opportunity to test the prototype version of the GAPPS/AAPS system. Version 5.5 no longer requires a correction sheet to account for the 109.36 yard error associated with a GPS fix. Instead, the error calculation is hardwired into the system, avoiding the opportunity for human error. The new version is more portable, user-friendly, and compact and requires significantly less time for setup and execution. Having this system in a smallboat allows the positioning of any aid regardless of its geographical location or proximity to a DGPS site.

While KUKUI's patrol marked the end of an era for District Fourteen's Aids to Navigation on Johnston, it did provide a new beginning for the future of the Coast Guard's ATON methods of operation with the new GAPPS/AAPS interface.



*KUK I departing the Johnston Island pier for the last time*

## Eight Days in the Life of USCGC WILLOW

by ENS Isaac Slavitt, USCGC WILLOW (WLB 202)

At the end of May, WILLOW got underway for what all hands assumed would be a routine patrol. In fact, the next eight days would prove to be some of the most dynamic in the ship's recent past. By the end of the week-long trip, the ship would have participated in dive operations, commercial salvage, fisheries enforcement, discrepancy response, NOAA operations, and completion of an ATON project.



*Righting the PSU boat*

Barely 15 minutes after leaving her berth at Naval Station Newport on the foggy, windswept morning of May 27th, WILLOW got a call from District informing them of an overturned 25' PSU boat in the vicinity of Martha's Vineyard. Although happy to assist, there was one catch: the PSU boat had flipped over during a GUNNEX and had all three of her machine guns loaded and ready to fire. The ship returned to the pier, embarked a team of Navy Explosive Ordnance Disposal (EOD) divers, then shoved off again enroute to the overturned vessel.

Arriving on scene in the early evening, WILLOW relieved JEFFERSON ISLAND of her security watch and began drafting a plan to recover the 25'. After a quick brief with the bridge team, the EOD team suited up and hopped in the small boat for a dive into the frigid waters of Rhode Island Sound. After some tense waiting, the divers reported that they had made all weapons safe and had also managed to rig some slings around the boat for the ensuing lift effort.

The small boat passed the slings to the buoy deck and they were connected to the crane. The delicate process of righting the overturned boat began. By putting the crane at a high vertical angle and slewing it inboard, the Deck team managed to flip the boat upright without dragging it against the ship or applying too much force which, it was feared, could either damage the PSU boat's hull or re-capsize it in the other direction.

*The PSU boat sitting securely on deck*



Having safely recovered and secured the 25' on deck, WILLOW steamed overnight back to Newport. In a quick touch-and-go the next morning, the PSU boat was dropped off and the EOD team debarked. As the sun rose, WILLOW headed right back out for discrepancy response.

After several hours of steaming through Buzzards Bay, the crew shifted into ATON mode as the ship approached Hog Island Channel, the cramped waterway leading to the west side of the Cape Code Canal. Earlier in the week, one of the channel buoys had been reported as sinking. Sure enough, when WILLOW arrived on scene the beleaguered number "16" was listing heavily and sitting low in the water. After the sad-looking 7x17 was brought onto the buoy deck, water started draining out of a small hole near the swing arms which seemed to have been caused by chafing.

Having successfully deployed a relief, WILLOW made her way seaward to begin her Living Marine Resources Enforcement (LMRE) patrol. Over the next five days, the bridge team queried numerous fishing vessels in the waters off of Rhode Island and Massachusetts. Despite heavy fog throughout the week, the Boarding Team inspected six vessels and ended up issuing several violations for safety and crew citizenship standards. On the sixth day, WILLOW took on a team of NOAA technicians from a Station Provincetown small boat and headed north into the Boston Traffic Separation Scheme. The crew transitioned seamlessly back into ATON and spent the next two days hard at work. As part of an aid relocation project for District, four Boston Approach buoys were moved to new locations and one was replaced by a 3-meter discus NOAA data buoy. While in the Traffic Separation Scheme, one interesting piece of field intelligence was collected. To the dismay of the ship's Marine Mammal Officer, the bridge team observed that whales crossing Traffic Schemes blatantly disregard their give-way status under Rule 10 of the Navigation Rules, and were sighted in large numbers attempting to come close aboard the ship.

After days of low visibility details, tangled moorings, sporadic LE Bill settings, and late nights all around, all hands were ready for a few days inport. On the seventh evening, WILLOW began making way towards homeport. Moored up once again the following morning, a tired crew filtered off the ship for a few days of well-deserved rest before returning to sea for another LMRE patrol.

*WILLOW conducting the LMRE portion of their patrol*



## ELDERBERRY Takes Drastic Measures to Prevent “Disappearance” of Moorings on Mendenhall Bar

by BMCS James Madsen, USCGC ELDERBERRY (WLI 65401)

Mendenhall Bar in Juneau, Alaska has 18 seasonal buoys that mark an ever shifting channel. Last fall, buoys began to be found adrift without the moorings. Rather than make the 110 mile steam each way, ELDERBERRY initially put an ATON tech on a ferry to Juneau who found the mooring and replaced the buoy at low tide, when the buoys were “high and dry.” Shortly after that, another renegade buoy went missing, then another. Only these times, the moorings were not located. Within a month, the buoys were seasonally decommissioned.



*Testing the operation of the welding float with ELD-1*

In March of this year, Mendenhall Bar was once again marked by ELDERBERRY. The commissioning of Mendenhall Bar is one of the first signs of spring in Juneau. Within 2 weeks of the buoys being installed with all new chain and hardware, buoy 10B was found adrift. It was at this point that ELDERBERRY was certain that someone had discovered a better use for the moorings than anchoring buoys on Mendenhall Bar. At a previous unit that had a similar problem, the ELDERBERRY OIC used “Hammer Lock” shackles to secure the buoys. Those are expensive and hard to come by in Alaska, so the next best alternative was to weld the shackles.

Due to the nature of Mendenhall Bar being dry at low tide and current that runs on the bar, ELDERBERRY’s OIC decided not to take the cutter on the bar. This meant bringing each buoy



back to the cutter to have the shackles welded and then replace it back on the bar. This was a daunting task—clearly, there had to be better way. ELDERBERRY’s OIC and XPO brainstormed ideas and tried to think outside the box, when they realized the answer was right next door. The U.S. Forest Service has several pieces of floating dock that they use with a floating lodge in the

*Dropping the “spud” to hold ELD-1 and the barge’s position*



*ELDERBERRY crewmembers mark the location of the sinker before removing the buoy and its mooring to weld the shackles*

summer. After a quick consultation with the Forest Service, permission was granted to use a part of their floating dock for ELD-1 to push like a barge up Mendenhall Bar with ELDERBERRY's welder on it.

After arriving in Juneau, the "barge" was secured to ELD-1 and a quick test run was made. The next day, as the tide came in, so did ELD-1 and its "barge." ELD-1 would get as close as possible to the aid and drop a "spud" to hold position in the current. Then a

couple crew members would deploy to the buoy, mark the position of the sinker and bring the buoy and mooring to the waiting barge for welding before returning it to its position. Starting this evolution at low tide and working our way over the bar with the tide allowed the crew to do as little "chain hauling" as possible. Without a davit on the ELD-1, this would have meant a lot of back breaking work.

This "barge" idea proved very successful and added tremendous capability to ELDERBERRY's "shallow water operations."



*With the location of the sinker marked, the crewmembers haul the buoy and its mooring over to the welding barge.*



*Working the buoy on the welding barge*

# ANT New Orleans Conducts Post-Grounding Survey

by BMC Kevin Erwin, ANT New Orleans

ANT New Orleans conducted a post-grounding survey on the Mississippi River near the English Turn Bend on the morning of 11MAR09, after the 850ft M/V Saxonía Express (Great Britain flagged), who was up bound in the river, plowed aground at 8 knots around 0600 approximately 15 yards from light 79. ANT New Orleans crewmembers onboard the CG26201 verified that all aids to navigation in the area were watching properly. The grounding is under investigation. Weather may have been a contributing factor, as fog was present in the morning before sun up. The M/V Saxonía Express was returned to the river 6 hours later with the assistance of 3 tug boats. Following are some great shots of ANT New Orleans conducting the survey with the Saxonía Express in the background.



Photos taken by SN Lisa Berlanga/BMC Kevin Erwin

TANB Crew: BMC Kevin Erwin, MK2 Kendall Cook, EM3 Aaron Kindrick, SN Lisa Berlanga



Tower Climber: MK2 Kendall Cook



## BUSL Deck Locker Organization

by *BMCM James Bordell, ANT Cape May*

ANT Cape May recently devised a means of stowage for the deck lockers on the BUSL main deck that we want to share with the fleet. According to the BUSL Operators Handbook, certain tools and equipment must be stowed in each port and starboard locker. Just shoving the gear inside these lockers makes accessibility a nightmare. It ends up a disorganized mess, taking valuable time to locate any needed equipment.

Our solution was to fabricate liners to be placed inside the lockers. These are not bolted down so therefore don't interfere with the boat's stowage plan.

We constructed our liners using 1/4" aluminum plate. By cutting out notches to place tools or hang hooks, we made it a lot easier get all of the equipment inside the box.



*A liner made from 1/4" aluminum plate*

*Liners installed in the port and starboard deck lockers*



## All Aton are Not Created Equal

### *It's time to improve our ATON and Waterways performance metric*

*by CDR Mike Glander and ENS Jim Ellsworth, USCGC OAK (WLB 211)*

#### **The problem**

Aid availability is defined as the percentage of ATON watching properly over some time period. It is the Coast Guard's most important metric for measuring the output performance of the ATON program – as well as the ATON performance of individual units, sectors, and districts. While this metric has worked well enough for us in the past, it suffers from two significant shortcomings that should be addressed going forward: 1) it treats every aid as equally important, and 2) it does not have a visible enough link to waterway risk reduction.

What's wrong with measuring our performance by treating every navigational aid as equally important? For one thing, we can do better. The Coast Guard has always been a government leader in quality program measurement. We sell ourselves short with a metric that disregards what waterway users and ATON professionals understand well: some ATON are significantly more important than others.

The other problem with treating all aids as equally important is what performance analysts call "perverse incentive." A metric with perverse incentive can inadvertently reward poor decisions or punish good decisions. An example of how our current aid availability metric is thusly plagued is easy to imagine:

Think about a cutter that finds itself with only one day to fix several discrepancies before the start of an 8-week dockside Charlie period. It has discrepancies in two different corners of its AOR, but has time to visit only one. (To make it simple, we'll assume all the discrepancies are the same type: buoys off station.) Should the ship go north where it can bang out six discrepancy corrections, or south where it can fix two? The aid availability metric will reward the unit for going north. Easy enough. But what if the southern AOR is known to be more important? And what if the unit has been under the gun lately for having a low aid availability – would this unit be tempted to go north anyway? The plot thickens.

Of course, we rightfully trust our COs and OICs to make these calls. They have the judgment, experience, and integrity to do the right thing regardless of what a performance metric says; they are willingly accountable. All the more reason they deserve a performance metric that reflects their good decisions – not one that can so easily be at odds with their professional wisdom!



**An easy fix**

The Coast Guard has long had an excellent tool for informing discrepancy response decisions: the Discrepancy Reponse Factor (DRF) system. Since this tool is based on the notion that all aids are not equally important, it can easily be applied to our aid availability metric to eradicate the problems described above. An aid’s DRF1 value is a pre-calculated, historically proven, command reviewed measure of each aid’s importance. It is calculated using all the right criteria: waterway sensitivity, channel geometry, traffic characteristics, the aid’s purpose, etc.

Buoy A, with a DRF1 of 45, has more potential to reduce risk to the public than buoy B with its DRF1 of 24. All other things equal, the DRF system tells us to fix buoy A first. This aid is more important - the Coast Guard says so.

Yes, our DRF system is risk-based. This is a long-standing achievement upon which we should be proud to shed more light. As far as the Department of Homeland Security is concerned, reducing public risk is the most important aspect of government performance. (Reducing public risk is what Coast Guard ATON does – we know this.) But, to remain competitive as a government program, our ATON program must be able to *advertise* its risk-reducing value to the public by using powerful, risk-based metrics.

It will be a simple task to incorporate this valuable aid-importance information into our ATON metric because the DRF1 data already exists in our I-ATONIS database! (And the math is easier than Tinkertoys for the Coast Guard’s Business Intelligence gurus.) For now, let’s call this improved metric the Risk-Informed Aid Availability, or RIAA.

Here’s the RIAA for a unit that only has 3 aids. Its *least* important aid is discrepant.

Buoy A’s DRF1 = 48	48 x 1 = 48	
Buoy B’s DRF1 = 52	52 x 1 = 52	
Beacon C’s DRF1 = 23	23 x 0 = 0	(Beacon C is discrepant - not 100% available.)

$$RIAA = (48 + 52 + 0) / (48 + 52 + 23) = 100 / 123 = \mathbf{81\%}$$

This ATON unit has 81% of its total potential risk-reducing mojo watching properly.

If the same unit’s *most* important aid is discrepant:

Buoy A’s DRF1 = 48	48 x 1 = 48
Buoy B’s DRF1 = 52	52 x 0 = 0
Beacon C’s DRF1 = 23	23 x 1 = 23

$$\text{RIAA} = (48 + 0 + 23) / (48 + 52 + 23) = 71 / 123 = 57\%$$

Now, only 57% of the ATON unit's total risk-reducing superpowers are winking and blinking.

If we only look at traditional Aid Availability we get the same results for both cases...

$$\text{Aid Availability} = (1+1+0) / 3 = 2 / 3 = 66\%$$

... regardless of whether the most or least important aid(s) are discrepant. We can measure better than this!

### Ready to kick it up a notch?

An additional *future* enhancement to the metric could be the replacement of the “0”s and “1”s in the equations above with factors *between* 0 and 1 to reflect the seriousness of an ATON discrepancy. Here, we bring the DRF2 factor into the game: an aid discrepancy gets a 0 if the aid is completely missing, maybe a .5 if it is extinguished, and perhaps a .9 if the discrepancy is due to something minor such as a missing topmark. You get the idea.

To incorporate the DRF2 factor, however, the Coast Guard's Waterways program would first need to devise and approve the correct degradation factors. Neither I-ATONIS nor the existing DRF2 worksheet is equipped to describe the full range of discrepancies adequately enough for measurement purposes. Both are overdue for overhauls in this respect anyway, especially I-ATONIS, which is not even able to create fully accurate descriptions of all aid discrepancies for the District Local Notice to Mariners. Adding the DRF2 to the metric should wait.

### “But we can't / shouldn't / don't want to change the ATON metric!” (Circle one)

There are no good reasons for not continuously improving our performance metrics. However, here are three reasons that might be offered in this case:

*1. Aid availability is an IALA metric with international standards. We can't change it!*

IALA sets recommended minimum aid availabilities for ATON in three categories: 99.8% for ATON of “vital significance,” 99% for “important significance” and 97% for ATON of “necessary significance.” Indeed, *categorized aid availability* figures can be viewed in I-ATONIS for Coast Guard aids – and the categories are, in fact, determined by DRF1 limits. But the aid availability metric we are most familiar with, the one we hold up to represent our ATON program, kluges together *all* of our aids, regardless of importance. None of these minimum IALA standards apply to the manner in which we report regular Coast Guard aid availability. And no international association seeks to prescribe the manner in which the Coast

Guard measures its programs. IALA, in fact, recommends risk-based approaches, and would probably approve of a more visible link to risk reduction. One final note here: The RIAA metric being proposed in this article is similar to categorized aid availability. RIAA roles the math up into one comprehensive metric, whereas the categorized system is three or four separate metrics.

*2. We have all this historic data for regular aid availability. If we change the metric, we'll lose the ability to understand the trends or place our performance in proper context with respect to our past! Nay, we shall be adrift with nary a beacon to guide us!*

In the case of aid availability, nothing prevents us from creating a new-and-improved metric while simultaneously tracking the old one for comparison purposes. In fact, this is a good program measurement practice – and the electrons are free. An even better solution to this concern might be to capitalize on the fact that our DRF1 values are already databased and do not change significantly from year to year, which means we can incorporate the aid-importance data *retroactively*. Yes, we have the ability to hind cast with an improved measure to gain instant performance trend context. The analysts are salivating.

*3) Aid availability is not our main Waterways metric anymore, so we should not bother improving it. We now use the number of collisions, allissions, and groundings (CAG).*

It is true that the Coast Guard has associated the nation's annual number of collisions, allissions and groundings (the CAG metric) with our ATON program in high level government reports of outcome performance. However, aid availability is still advertised in conjunction with CAG in those reports. It has been very difficult for the Coast Guard to effectively prove a link between ATON performance and ultimate outcomes like annual CAG reduction. (We know the relationship is there, we just haven't been able to prove it.) This is why we still need a lower-level *output* metric like aid availability. In any case, output metrics are the most appropriate kind for reckoning our performance at the management level anyway.

## In Conclusion

We recommend the Office of Waterways Management (CG-541) work with Coast Guard Business Intelligence to create this ready-made RIAA metric and add it to I-ATONIS and our CGBI suites. We can immediately give our ATON units, Sectors, and District Waterways staffs a much improved metric for their management toolbox – at little to no cost. The Office of Performance Management and Assessment (CG-512) might also consider adopting such a metric for enterprise tracking and public performance reporting.

In the mean time, OAK's ENS Jim Ellsworth has developed an MS Query-tool to assist units in extracting and calculating their RIAA directly from I-ATONIS. The tool can be downloaded at [www.uscg.mil/d7/cgcOak/RIAA.asp](http://www.uscg.mil/d7/cgcOak/RIAA.asp)

Let us, therefore, no longer mumble *passively*, in a Napoleon Dynamite-type voice:

“\_\_\_ % of our ATON is available... just in case anyone wants to use them.”

Instead, let us shout, in an *active* voice:

**“Our ATON system is operating at \_\_\_% of its total waterway risk-reducing potential!”**

## Final Note:

Upon providing a courtesy professional review of this article prior to publication, ATON expert CDR Kevin Hanson observed, “If we adopt this new metric, all of our wildest dreams will come true.”

## References

“On Categorisation and Availability Objectives for Short Range Aids to Navigation – IALA Recommendation 0-130”, Edition 1. International Association of Marine Aids to Navigation and Lighthouse Authorities, December 2004

“DHS Annual Performance Report: Fiscal Years 2008-2010”, Department of Homeland Security, Office of the Chief Financial Officer, Program Analysis and Evaluation. January 15, 2009.



## CGC JAMES RANKIN's Own Sistine Chapel

by *LT Wayne Wallace, USCGC JAMES RANKIN (WLM 555)*

Several months ago, the crew of CGC JAMES RANKIN decided to take on a Community Beautification Project to get rid of some vulgar graffiti and replace it with the American Flag. As you can see in the "Before" photo, no doubt censored by the Bulletin's meticulous editor, the local artists had done quite a number on the bridge. Each time JAMES RANKIN headed out of Curtis Creek, we would always see the graffiti-marred bridge abutment just before passing under the I-695 draw bridge. It was very embarrassing when we had guests aboard, especially kids.

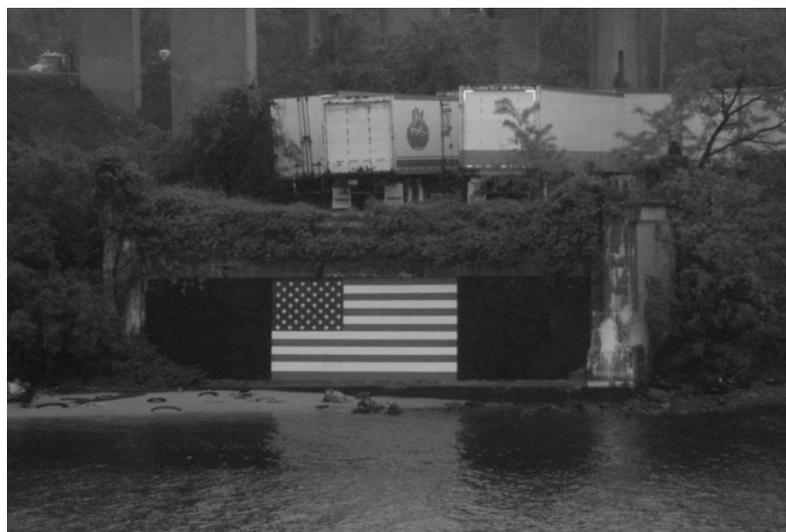
*Before...*



I thought about this project for a long time and came up with the idea to paint a mural of the American Flag. All the painting supplies were purchased by donations and our work of art was completed for just under \$200.00. We completed the project during the week of Earth Day and as of today...Old Glory remains proud and true, free of graffiti!

*...and After.*

*Photos by FSI  
Mark Grandjean*



## Old School

by CWO2 Michael Popelars, USCGC CYPRESS (WLB 210)

Even though the 180's are gone, it doesn't mean the lifejackets the Deck Force wore on them are gone as well. Onboard CYPRESS, we still use the Stearns Force II Type V work vest—just like the old days.

Many people don't realize that they are authorized for use on the buoy deck. As a matter of fact, Boat Forces is currently making changes to the Rescue and Survival Manual to address the use of the Type V. The Type V work vest rates 17 ½ lbs of buoyancy vice the 15 ½ lbs of buoyancy the Type III offers, and when you outfit it as per the R&S manual with a whistle and PML it is actually worn as a Type III. Use Maintenance Procedure Card 4-1 in the R&S manual for your Type V set up and required inspections.

The Type V PFD is composed of Unicellular Plastic Foam, and with its orange nylon coating it never fades. Another benefit of the Type V is that the grease wipes right off, as opposed to the Type III where the grease soaks in, giving the vest a permanent dirty greenish-orange tint. The work vest is very light, non restrictive and has no pockets, meaning you don't find all those old cigarette packs, dip cans and potato chip bags jammed in every pocket like you do on the Type III's. The back section of the vest also has a groove in the center of the back piece so that you can grasp and back up anyone working over the side.



*The groove in the back piece makes it easy to back up your shipmates on deck*



So, in conclusion, wear your Type V for deck work only onboard the cutter and leave your clean pretty Type III's in your R&S locker all decked out for the boarding teams and boat crews.

*CYPRESS crewmembers looking sharp in their Type V's*

## Joint Fog Detector/Air Visibility Sensor Study

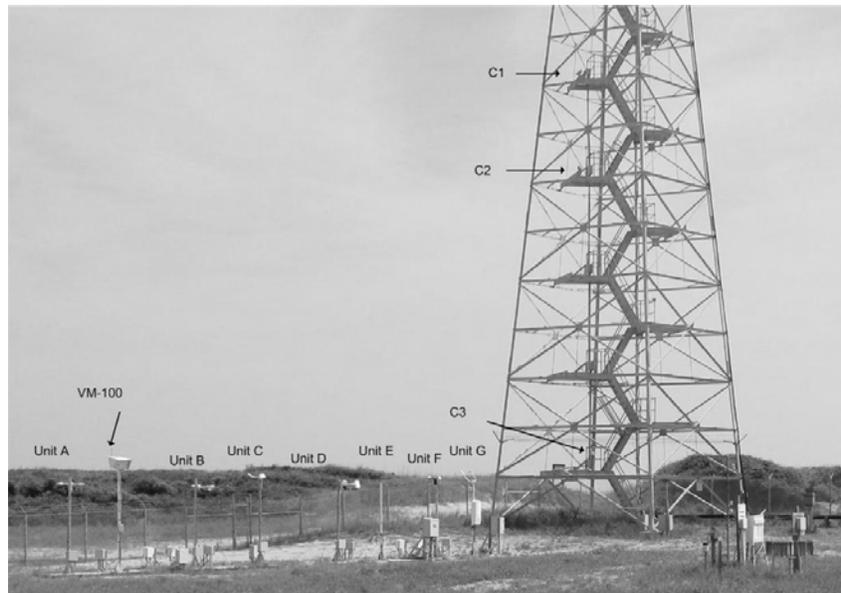
by Mr. Paul Lamczyk, C2CEN

Commencing in February 2008, C2CEN has entered into an agreement with the Army Corps of Engineer (ACOE) Field Research Facility (FRF) and National Oceanic and Atmospheric Administration's (NOAA) National Ocean Service (NOS) Center for Operational Oceanographic Products and Services (COOPS) to conduct a cooperative study to test air visibility sensors (otherwise known as fog detectors). The testing involves comparison of air visibility sensors from different manufacturers in support of USCG and COOPS operations. Currently, 5 different air visibility sensors (fog detectors) are being evaluated by C2CEN along with the VM-100. NOAA is also evaluating 2 short range (1-2 miles) air visibility sensors for use at airport runways.

The Field Research Facility (FRF) is an ACOE owned and operated facility located in Duck, NC about 10 miles north of Kitty Hawk. Among other research efforts, the ACOE FRF also conducts coastal and tidal impact studies. The initial fog detector evaluation period is for one year, beginning April 2009.

Fog Detector data will be collected in 6-minute averages, centered on reported time, every 6 minutes starting at the top of the hour (i.e., 0, 6, 12 ... minutes). Some fog detectors operate in polled mode and others in auto-transmit mode. Data recorded include visibility measurements for each instrument (in kilometers or miles). Local weather sensors will also record air temperature, humidity, wind speed and direction.

Three video cameras mounted on the FRF observation tower will also provide ground-truth data for verification of fog detector visibility readings. The camera elevations are 3.4, 15.5, and 19.5 m (11, 51, and 64 ft) above ground level. The upper two cameras are used for visibility estimates; the lowest camera is for viewing the immediate area around the sensors. Snapshot video images are also collected every 6 minutes at the mid-point of the visibility averages. These video images are recorded on a Digital Video Recorder for



Photograph showing arrangement of visibility sensors and cameras at the ACOE FRF in Duck, NC.

future analysis where it will be compared with the actual visibility readings so it can be determined if it was actually foggy when the fog detectors indicated a low visibility condition. A link to the ACOE FRF Visibility Study web page is available at: <http://frf.usace.army.mil/airvis/av.shtml>.

Data collected from this study will be used as supporting documentation for future procurements to replace the VM-100 fog detector.

## **Fog Detector Performance and Impact of Nearby Obstructions**

*by Mr. Paul Lamczyk, C2CEN*

The VM-100's performance (specifically false readings) can be adversely impacted by physical changes that occur within the line of sight of the fog detector's optical transmitter and receiver. These changes are caused when interference occurs between the transmitting source of light and receiver of backscatter. All visibility sensors require a clear line of sight from the optical transmitter and receiver elements and a certain distance from any vertical obstructions. This distance is dependent upon the specific fog detector equipment specifications. On the VM-100 the distance is 100 feet. If mounted too close to the vertical obstruction, light may be erroneously reflected to the receiver, giving a false indication of fog.

So, if a fog detector has been working properly when it was initially installed and is now causing the fog horn to energize on clear days, check the line of sight from the transmitter and receiver elements to see if an obstruction is currently in the way (e.g. excessive tree/shrub vegetation or newly constructed fence). In the case of Monterrey, the rocks forming the breakwater near the fog detector have caused an increase in the amount of ocean spray from the waves crashing on the breakwater rocks.

## Changes to Carmanah Lanterns

by Mr. Jon Grasson, CG-432A

There have been some significant changes to Carmanah lanterns over the past few months. This article summarizes those changes.

The 701 and 702 lanterns have been discontinued. They have been replaced by the 701-5 and 702-5 lanterns. The visual difference between the two is the latter has a top mounted solar panel. Carmanah sizing tables are available at: [http://www.uscg.mil/hq/cg4/cg432/docs/led\\_instructions/LEDInstructionsCarmanah701-5,702-5Rev5.pdf](http://www.uscg.mil/hq/cg4/cg432/docs/led_instructions/LEDInstructionsCarmanah701-5,702-5Rev5.pdf). The tables have been updated to reflect the new lantern types.

The low intensity setting of the 704-5 lantern has been adjusted after verification of production lanterns at the CG R&D Center. The “low” effective intensity values have been reduced, so please verify that your aids using this lantern are advertised correctly. See: [http://www.uscg.mil/hq/cg4/cg432/docs/led\\_instructions/Carmanah%20704-5%20Instructions%20v1%2003.pdf](http://www.uscg.mil/hq/cg4/cg432/docs/led_instructions/Carmanah%20704-5%20Instructions%20v1%2003.pdf) for the new intensity values.

The 708 lantern is approved for use by CG units & cutters. The capabilities of this lantern are detailed at: [http://www.uscg.mil/hq/cg4/cg432/docs/led\\_instructions/Carmanah%20708%20Instructions%20v1%2002.pdf](http://www.uscg.mil/hq/cg4/cg432/docs/led_instructions/Carmanah%20708%20Instructions%20v1%2002.pdf). Note that while the 708 is capable of matching the performance of the 701-5, 702-5 and 704-5 at the lower intensity settings, it is generally more economical to use the smaller lanterns if they meet the criteria of the solar sizing.

All lanterns are being manufactured in Texas, so shipping costs and lead time should be reduced. All orders for lanterns and parts are now placed through regional sales managers. A list of managers is detailed at the end of the above mentioned instructions. These sales managers will honor the GSA Advantage prices detailed on <http://www.gsaadvantage.gov/> (type “Carmanah” under “keyword”). Returns and problems should be addressed to Brian O’Flynn at Carmanah in Victoria, BC Canada: [boflynn@carmanah.com](mailto:boflynn@carmanah.com), 250-412-8331.

A Carmanah sizing program is posted on our website at: <http://www.uscg.mil/hq/cg4/cg432/docs/software/Solar/Solar%20Sizing%20Programs%20and%20Tables.xls>. This program enables you to properly size, chose and compare the three series lanterns for all CG data sites and to our legacy (155mm lantern) equipment. This program can be used to size Carmanah lanterns for seasonal aids.

Note that all of the above links are available through the Ocean Engineering website: <http://www.uscg.mil/hq/cg4/cg432/>.

Please direct any questions to Jon Grasson at [jon.t.grasson@uscg.mil](mailto:jon.t.grasson@uscg.mil)., 202-475-5629.

## **New 120 VAC, 1000W Lamp**

*by Mr. Jon Grasson, CG-432A*

The 120 VAC, 1000 watt lamp manufactured by General Electric has been redesigned. The new lamp has a ceramic base and no outer glass envelope. Care must be exercised to not touch the lamp during installation; instead handle it from the base.

Installation, focusing and performance in the DCB-24/224, RL14 and classical lanterns are the same. The new lamp is presently undergoing life testing and at the time this article was written has completed 2000 hours life (the old lamp is rated at 3000 hours life). If the new lamp does not achieve 3000 hours life we will notify the field via message.



*Old Lamp*



*New Lamp*

The lamp is available via MILSTRIP from the ELC; NSN CG6240-00-905-7512. If you need assistance, contact your Training Team Chief, the NATON School, or COMDT (CG-432A).

## **Setting Up the Deck for a Stage Lift on the WLBB/WLB/WLM**

*by BMC Allen Hunter, NATON School*

When use of the chain inhaul winch is not possible, an alternative method of bringing the chain aboard the cutter is used. This method involves using the crane to hoist staged purchases of chain aboard, hence the name, “stage lift.” The Buoy Deck Training Team (BDTT) has recently received several calls regarding stage lifts. Stage lifts are somewhat of a dying art, but there are still some “old salts” out there who remember the way to do this. We in the ATON world need to teach our new people how to do stage lifts so that in the event we suffer an inhaul winch failure we don’t necessarily have to return to homeport.

The following procedure requires that the chain be secured in the mechanical chain stopper with the horse collar in place. Because of its design, the hydraulically actuated rising sheave/fixed plate chain stopper cannot be used for staged lifts. Buoy mooring chain should be in the "up and down" position prior to hoisting chain aboard. Have a crossdeck rigged in line with the mechanical stopper. Keep the buoy in line with the mechanical stopper if at all possible—this will make it easier.

### **HOISTING CHAIN AND SINKERS ABOARD, STAGE LIFT METHOD**

- a) The crane main hook is secured to the buoy chain inboard of the stopper utilizing a modeer shackle, rated lifting shackle, or sling.
- b) The chain is lifted by raising the hoist hook. When the limit of chain is reached, chain is re-engaged in the chain stopper by using the opposing crossdeck to pull chain into mechanical stopper.
- c) Between each pick with the hoist hook, the chain must be faked between the bull chain and the deck edge.
- d) Steps (a), (b) and (c) are repeated until the sinker is at the water’s edge and the chain is faked on deck (attached to the bull chain with rotten stops if needed). The buoy end of the chain shall be attached to the deck using a pelican hook or alloy shackle as an extra safety measure to keep the chain from running overboard. Another pelican is used to secure excess chain to the deck and serve as a back-up to the stopper (ensuring enough chain is left for a pick).
- e) The crane's hoist hook is then secured to the mooring chain inboard of the stopper and the horse collar is removed.
- f) The weight of the chain and sinker is taken off the chain





stopper using the crane and the sinker is lifted and maneuvered to the center of the buoy port until the cross-deck line(s) can be attached.

g) Using the crane and crossdeck, the sinker is slowly lifted and maneuvered up and over the deck edge to the desired location on the buoy deck. Keep an opposing angle between the crane and crossdeck to provide horizontal control.

h) The sinker is placed on dunnage and griped.

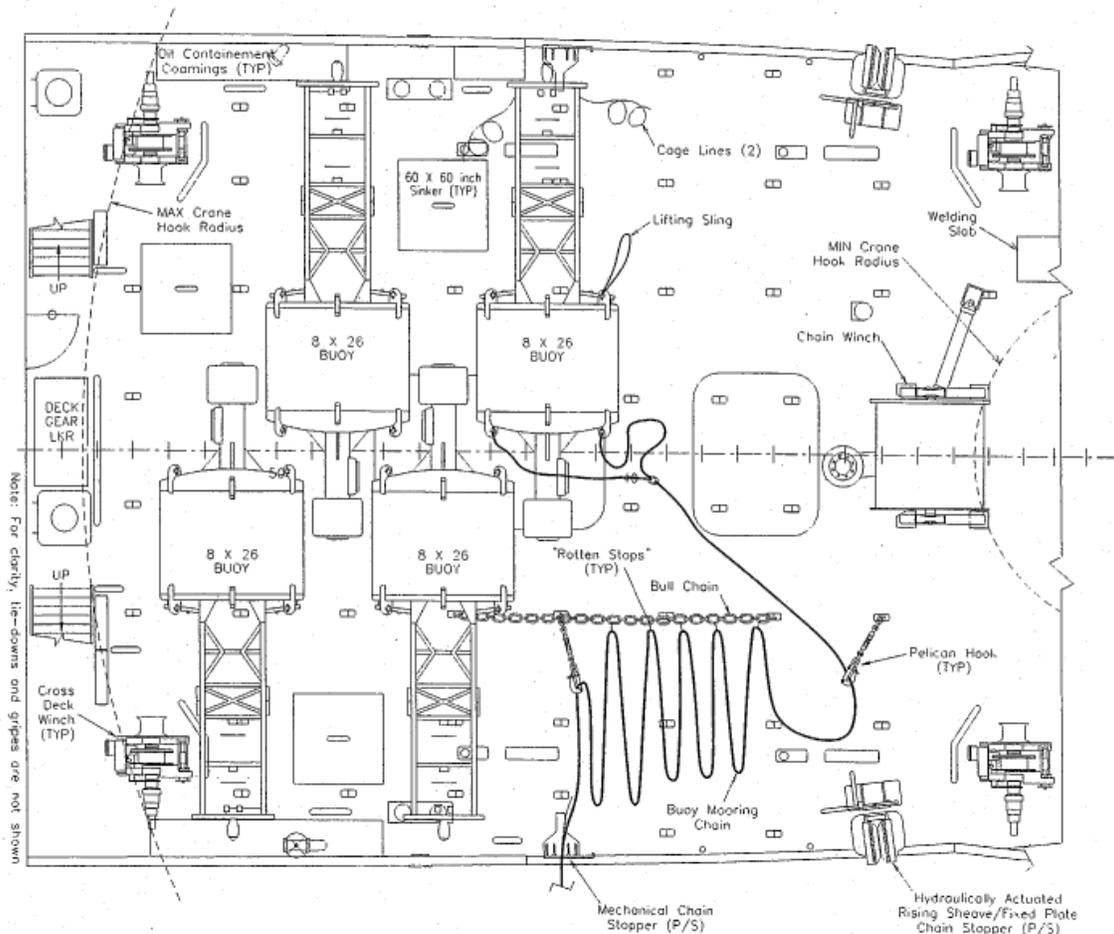
### HANGING SINKERS OVER THE SIDE

- a) The sinker is kept securely griped to the buoy deck until the crossdeck and the hoist hook are connected.
- b) If using new chain, the necessary amount of mooring chain is removed from the chain bins and attached to the sinker. The chain is faked between the bull chain and tied off with rotten stops and secured in pelican hooks so that it will not run overboard when the sinker is lowered over the side.
- c) The hoist hook is attached to the mooring chain.
- d) The slack is taken out of the crossdeck line.
- e) Disconnect the sinker gripes and drop the safety chain.
- f) Once you have an opposing lead between the crane and crossdeck, the sinker is hoisted over the side, pinned up against the hull and the crossdeck is removed.
- g) The sinker is maneuvered to the mechanical stopper and the chain is hogged in and seated. Once the chain stopper is taking the strain, the hoist hook is cleared.
- h) The sinker is now ready for deployment.
- i) Fake out any remaining mooring chain into bights between the bull chain and the buoy port and stop off to the bull chain using rotten stops.
- j) The mooring chain is secured to a second pelican hook near the buoy, leaving enough chain between the pelican hook and buoy to allow the buoy to be placed over the side and floated.
- k) The hoist hook is placed in the buoy lifting bail.
- l) Utilizing standard procedures, rig a cage line and the crossdeck to the buoy.
- m) When ready on deck and permission is granted from the bridge, the buoy end of the mooring chain is attached to the buoy.
- n) The buoy is ungriped, then hoisted and maneuvered to the buoy port while being kept under control by the crossdeck line(s) and the cage lines.



- o) The buoy is slid out of the buoy port, bottom first. When the bottom is outboard with the body resting against the buoy port sill, the cage line is shifted.
- p) The buoy is then lowered so that the center of the body is even with the buoy port sill.
- q) The crossdeck is removed.
- r) The chain stopper's back-up pelican hook is released. The mooring chain should lead clear to the second pelican.
- s) When given the command to set the buoy, trip the mechanical chain stopper, allowing the mooring chain to run overboard; breaking the rotten stops until it fetches up on the second pelican (ensure enough chain is available so the sinker will hit the bottom).
- t) The buoy is lowered into the water and the hoist hook is cleared.
- u) The second pelican hook is tripped, allowing the remaining mooring chain to fall over the side.
- v) The cage line is released and brought back aboard. The buoy is now successfully deployed.
- w) The safety chain is reinstalled.

Hopefully these steps and photos will help you envision the process, and this diagram will give you a better understanding of how to set up and work a buoy with the mechanical stopper. This takes practice. If you have questions, please call—the NATON BDTT is here to help you!



## Storing Your LED Lanterns on a WLM

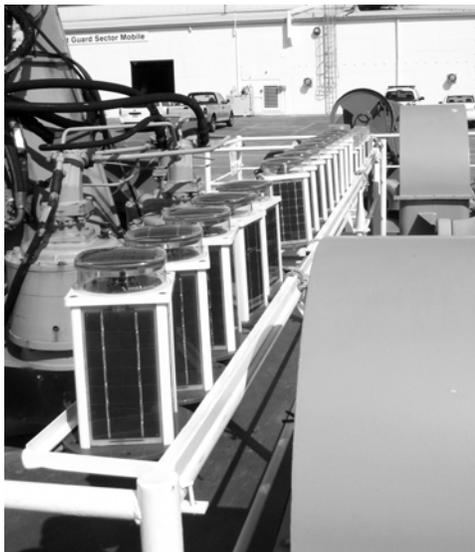
by DC2 Clifford Morgan, USCGC BARBARA MABRITY (WLM 559) and BMC Jason Wyglendowski, NATON School

It never seems to matter how new or how big our ships are, there never seems to be enough space to store our gear. DC2 Clifford J. Morgan of CGC BARBARA MABRITY has found a great space saver that keeps your LED lanterns charged up! This was done by the ship's force, looks great and best of all takes up no previously used space. Please read the write up done by DC2 and look at the pictures of their innovation to see if you agree.

The rack is made of 316 stainless steel angle and flat bar. It is a simple rack design. 2 pieces of angle, a 1 ½" piece and a 1" piece are welded together and connected at each end, leaving a channel just big enough for the lip of the Carmanahs to slide through. The larger piece of angle is a solid piece forming the bottom and the top piece is installed in 3 sections, forming the top and leaving 2 openings for the Carmanahs to be inserted into and slid



over. The openings can be closed with a toggle bolt, line, clamp, etc. Or, if the rack is made just right with close enough tolerances, then the Carmanahs won't actually slide with the roll of the ship—the bases would have to be physically pushed to move. This has worked for us—we have gone through some rough seas (for a 175'), and they have not moved. We still tie a rope over the openings just in case. We had a bolt but it took longer to remove them so the deck department just likes to tie it up. After completion the rack holds between 21-23 Carmanahs, depending on whether or not you tie them down in the opening space.



The rack wasn't really hard to build; the hardest thing was

keeping the longer pieces of angle to stay straight during the welding process, especially because the length of the metal required that all the work take place on the uneven buoy deck.



## Message from the NATON Helm

*by LCDR Brian Huff, NATON School*

Ahoy ATON Professionals!

By now you are enjoying the great calendar that LTJG Speelhoffer constructed for you...and I'm sure you were so excited that you flipped forward to see what the year holds ahead—did you happen to study the August Picture? Yep, that's our history. We as ATON Professionals are descendants of the Lighthouse Service. That pennant flew over the Roanoke River Lighthouse, and many others like it.

This August 7<sup>th</sup>, pause to pay respect to those who served before us. Let us never forget where we came from, and continue to improve our service, our legacy and our professionalism. Thanks to the efforts led by LCDR Mike Davanzo, below is the legislation from the House of Representatives last year, recognizing August 7<sup>th</sup>, 1789.

Thank you for the great work you do—be safe and enjoy YOUR holiday!

110<sup>TH</sup> CONGRESS  
2<sup>D</sup> SESSION

# H. RES. 1382

Honoring the heritage of the Coast Guard.

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## IN THE HOUSE OF REPRESENTATIVES

JULY 29, 2008

Mr. OBERSTAR (for himself, Mr. MICA, Mr. CUMMINGS, Mr. LATOURETTE, Mr. BAIRD, Mr. BISHOP of New York, Ms. CORRINE BROWN of Florida, Mr. COBLE, Mr. HIGGINS, Mr. LARSEN of Washington, Mr. LOBIONDO, Mr. TAYLOR, and Mr. YOUNG of Alaska) submitted the following resolution; which was referred to the Committee on Transportation and Infrastructure



# RESOLUTION

Honoring the heritage of the Coast Guard.

Whereas the Coast Guard, including its predecessor organizations, has a long and distinguished heritage dating back to the very first Congress in 1789;

Whereas the Coast Guard is now in its 219th year of protecting the coast, saving life and property, protecting the environment, and ensuring the safety of life and property at sea;

Whereas the Coast Guard and its predecessor organizations have been responsible for safe navigation since Congress—

(1) authorized “the necessary support, maintenance and repairs of all lighthouse, beacons, buoys”, and specifically authorized the construction of the first Federal lighthouse at the mouth of the Chesapeake Bay, on August 7, 1789; and

(2) established the Lighthouse Board on October 9, 1852;

Whereas the Coast Guard and its predecessor organizations have, since September 1, 1789, been responsible for registering (documenting) vessels of the United States;

Whereas the Coast Guard and its predecessor organizations have protected the coast since Congress authorized the President to build and equip ten revenue cutters, on August 4, 1790, which were to be paid for from “duties on goods, wares and merchandise, imported into the United States, and on the tonnage of ships or vessels”;

Whereas the Coast Guard and its predecessor organizations have inspected vessels since Congress adopted, on July 7, 1838, an Act “to provide better security of the lives of passengers on board of vessels propelled in whole or in part by steam”, thus beginning the Steamboat Inspection Service;

Whereas the Coast Guard and its predecessor organizations have conducted lifesaving operations along our coasts since Congress first appropriated funding for life-saving equipment for the use of volunteers on August 14, 1848, the first lifesaving stations were authorized on June 20, 1874, and the Life-Saving Service was established by Act of Congress on June 19, 1878;

Whereas the Coast Guard and its predecessor organizations have had “superintendence of all commercial marine and merchant seamen of the United States . . .”; been “charged with the supervision of the laws relating to the admeasurement of vessels, and the assigning of signal letters thereto, and designating their official number . . .”;

and “annually prepare and publish a list of vessels of the United States . . .” since Congress established Shipping Commissioners on June 7, 1872, and established the Bureau of Navigation on July 5, 1884;

Whereas the Revenue Cutter Service and the Life-Saving Service were merged, by Act of Congress signed into law on January 28, 1915, to form the Coast Guard as an agency of the Department of the Treasury;

Whereas the Lighthouse Service became part of the Coast Guard on July 1, 1939, as part of a government reorganization plan adopted by Congress on April 3, 1939;

Whereas the Bureau of Marine Inspection and Navigation (a merger of the Steamboat Inspection Service and the Bureau of Navigation) became part of the Coast Guard in another reorganization in July 1946;

Whereas the Coast Guard was transferred from the Department of the Treasury to the newly established Department of Transportation on April 1, 1967; and



Whereas the Coast Guard was transferred to the newly established Department of Homeland Security in March 2003: Now, therefore, be it

1        *Resolved*, That the House of Representatives recog-  
2 nizes and honors all the men and women of the Coast  
3 Guard and its predecessor organizations since August 7,  
4 1789.



# National Aids to Navigation School



## AFTER HOURS Technical Support Hotline

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Call for after hours and weekend technical support questions!

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