



The National Search And Rescue Committee

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Department of Homeland Security
Department of Defense
Department of Interior
Department of Commerce
Department of Transportation
Federal Communications Commission
National Aeronautics and Space Administration

MINUTES

Regular Session I-09
February 19, 2009
U. S. Coast Guard Headquarters
Washington, DC 20593-0001

INTRODUCTION

The meeting convened with CAPT David McBride, USCG, as Acting Chair. Enclosure (1) lists the attendees.

MINUTES

The Committee approved the minutes of the November 13, 2008 meeting.

MEMBER AGENCIES

a. Department of Commerce

Mr. Ajay Mehta (NOAA) reported that on February 1, 2009, Cospas-Sarsat had terminated all satellite processing of 121.5 MHz distress alerts; it now only processes alerts from 406 MHz beacons. So far there had been no negative political fallout from the action, although reports of 121.5 MHz alerts were still being received by aircraft in Canada and the U.S.

Mr. Chris O'Connors (NOAA) added that Canada had received a Mayday call with an audible 121.5 MHz alert and had dispatched a C-130 aircraft but was unable to find the distress. The SARSAT Joint Working Group had noted that Emergency Locator Transmitter (ELT) false alerts were increasing in number, and the Group plans to consult with the FAA on whether handling instructions could be implemented to reduce such alerts during ELT installations and maintenance. The greatest growth of beacons in the U.S. registration database has been due to new ELT registrations.

b. Department of Interior

Mr. Dean Ross (NPS) stated that the Park Service had treated about 3,700 patients during the President's inauguration; 252 were advanced life support cases and 51 were transported from the mall. The Park Service has been developing new SAR teams, including the EMS strike teams deployed in advance of the event; they worked out very well.

Once the new version of Emergency Support Function 9 (ESF #9) on search and rescue (SAR) is approved and the Committee's Inland SAR Addendum is finished, the Park Service will roll out updated SAR guidance for its personnel, including guidance on preventative SAR. The Park Service is also testing commercial communications products (Iridium and others) and will make the results available to the Committee when the tests are complete.

Mr. Ross also highlighted a Denali case, the highest ever rescue (17,000 feet), accomplished with the aid of two pararescue jumpers (PJs).

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c. National Aeronautics and Space Administration

NASA reported during the Working Group reports.

d. Department of Transportation

Mr. Eugene Jiggitts (FAA) had received a request for FAA assistance from the Coast Guard to remind pilots to properly report audible ELT alerts; he had passed the request to the Flight Standards staff, which had several means to address this issue.

e. Department of Defense

Mr. Dave Fuhrmann (AFRCC) reported that the number of 121.5 MHz ELT alerts were half what they were, but require twice the time for response due to additional effort needed to obtain information and plot locations. A single report from aircraft is not too helpful; what is needed are the location where the alert is first detected and the location where the signal is lost.

WORKING GROUPS

a. Research and Development

Mr. Rich Cole (representing NASA) reported that progress is continuing on the SAR Visualization Project that is intended to narrow the search area for downed aircraft when there is no known location. It is expected to be tested in an operational environment soon, and could best be demonstrated at the NASA SARLab at the Goddard Space Flight Center for anyone interested.

The Secretary stated that efforts to help install SAR equipment aboard GPS satellites (Distress Alerting Satellite System – DASS) had been underway for several years and that work on the civil requirements had been completed via the Interagency Forum on Operational Requirements (IFOR), making the way for review on the military side. IFOR is jointly chaired by DOT and the USAF. Mr. Cole added that IFOR had decided to recommend to the Chairman of the Joint Chiefs of Staff that civil SAR be a valid GPS constellation requirement.

The next phase will involve working the requirement through to the Joint Capabilities Integration Development System (JCIDS) for DoD approval and then obtain final approval. Meanwhile, DoD is considering comparable combat SAR requirements, which may help with the civil approval. Mr. Cole estimated that the process could take another 8-12 months.

The Secretary said that Canada's pending offer to provide the DASS satellite equipment raises security issues that are also being addressed, although requirements validation is not tied to use of the Canadian equipment.

Mr. Cole and Mr. O'Connors both emphasized that the IFOR approval so far was conditional, and that additional study must be completed before an approval letter will be issued to the Coast Guard, which is acting on behalf of the Committee.

Mr. Mehta inquired about where the Committee had left off with NASA's work on synthetic aperture radar equipment aboard aircraft for locating downed aircraft. Mr. Al Knox (USCG) noted that the work had been progressing but the program had become unfunded by NASA. Mr. Mehta stated that NASA, NOAA and the USGS (U.S. Geological Survey) have been engaged with Canada on the military use of synthetic aperture radar aboard satellites that had been producing good resolution. The satellites get sufficient repeat coverage of geographic areas that suitable software could likely distinguish differences in before and after pictures in a way beneficial to SAR. He suggested that NASA may wish to continue its work in cooperation with Canada. Various agencies may be interested in the radar data and that if DoD is interested, it could contact Canada's Department of National Defense about supporting its requirements. Mr. Knox agreed to provide Mr. Mehta information on the Committee's earlier work.

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The FAA offered to provide an update on the Automatic Dependent Surveillance- Broadcast (ADS-B) at the next Committee meeting.

121.5 MHz Phase-Out

LCDR Katherine Niles (USCG) commented that the Coast Guard and Air Force had refreshed their guidance to rescue coordination center (RCC) staff on how to handle audible 121.5/243 MHz audible alerts. Mr. Richard Schaefer (USCG) said that the biggest problem is obtaining needed data (“airborne reports”) from overflying aircraft. Mr. Jiggitts said that all aircraft above 18,000 feet are required to communicate with air traffic control (ATC). RCC staff is being encouraged to request additional reports from aircraft via ATC when needed. ELT signals can be anywhere within a detecting aircraft’s range to the horizon.

CAPT McBride stated that countries such as Australia that had not required its vessels to switch to 406 MHz beacons would experience more extended searches.

Mr. Russ Levin (USCG) stated that the Coast Guard had tested airborne 406 MHz direction finding (DF) equipment and that the detection ranges had been consistently excellent.

Mr. John Swain (CAP) stated 200 Civil Air Patrol (CAP) aircraft had been equipped with 406 MHz DF units and ELTs, but with 550 airplanes in the fleet, many more installations are needed. All CAP aircraft can home on 121.5 MHz signals.

LCDR Niles commented that outreach efforts continue to urge the general aviation community to switch to 406 MHz ELTs. She mentioned several major exhibitions where SARSAT booths had been provided, and numerous articles that had been posted on websites or otherwise published. The Aircraft Owners and Pilots Association (AOPA) is repeating a survey to ensure awareness of the 121.5 MHz phase-out, and although the number of responses had not been high, so far the results indicate good awareness. The FAA released a notice recommending that pilots monitor 121.5 MHz and that owners upgrade to 406 MHz ELTs. The FCC issued a notice reminding the public that 121.5 MHz beacon alerts are no longer being processed by satellite.

*The Committee **approved** a recommendation from the 121.5 MHz Phase-out Working Group that the Group be discontinued now that satellite processing of 121.5/243 MHz signals had ended, and that any further relevant actions be undertaken by the Member Agencies or by the SARSAT Program Steering Group.*

Based on complaints that the FCC had received about illegal sale of 121.5 MHz EPIRBs, there had been confusion about 121.5 MHz man overboard devices not being the prohibited Class A, B and S 121.5 MHz EPIRBs. MOB devices are intended for homing and are not designed to send signals via satellites. Since the FCC still permits manufacture, sale, and use of 121.5 MOBs, it will release a Public Notice listing the 121.5 MHz devices that remain legal.

The Coast Guard had purchased five backpack 406 MHz DF devices that were simple to use on the ground.

Mr. Knox advised that the Coast Guard and FAA had been looking at ways to fill the gaps of 121.5 MHz monitoring; he referred to an Automatic Weather Observation System (AWOS) located at some airports, adding that there is an updated version called super AWOS that includes a ground 121.5 MHz monitoring system. He suggested that the R&D Working Group consider reviewing this system for its potential SAR value.

b. Correspondence

The new Coast Guard Addendum is expected to be signed soon and posted on the Coast Guard SAR Program and NSARC websites.

ESF #9, which became effective in 2006, had been rewritten and submitted to NSARC members for clearance; it will be submitted to FEMA for adoption. This is the first of the *National Response*

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Framework ESFs to be revised. This version is simplified and clarifies matters related to this ESF's Primary Agencies.

The *Catastrophic Incident Search and Rescue Addendum* has been restructured and substantially enlarged based on experience over the past year and due to a number of additional topics now covered. It is now referred to as the CISAR Addendum." Geo-referencing material has been reviewed again, but will remain unchanged. The Addendum was nearly ready for clearance.

The Secretary wanted to do research reports for the Committee that will provide information on topics of particular interest. The reports will be posted on the NSARC website after suitable review. He plans one to discuss the SAR System and National Incident Management System, and another to discuss geo-referencing.

The Legal Addendum, National SAR Manual, and Inland SAR Addendum remain to be done.

PRESENTATIONS

Multi-mission Air Cushioned Craft (MACC)

The Secretary reviewed a presentation on behalf of Mr. Robert Kelly of SAIC on an MACC.

MACCs are hovercraft that can traverse land, water, swamps and marsh areas. They are manufactured worldwide for civil and military purposes and used for commercial activities and recreation.

Klett Consulting Group will develop a hovercraft to enhance emergency response and security capabilities for the Departments of Homeland Security (DHS) and Energy (DOE), and military capabilities of the Department of Defense (DoD). Hovercraft also plans to improve FEMA's emergency response capabilities where other modes of transport may be unsuitable. One design is about 10 x 35 feet and can carry about 35 persons.

Mr. Kelly can be contacted for more information at 757-618-5463.

RELEVANT ACTIVITIES

a. National Association for Search and Rescue (NASAR)

Mr. Dan Hourihan, NASAR President, noted that Mr. Knox had been re-elected to another three-year term on NASAR's Board of Directors (BOD). He emphasized the importance of NSARC filling its liaison position on the BOD, and suggested that a FEMA representative would be a logical next choice.

NASAR is a 10,000 member non-profit land SAR organization whose current strategic focus is developing training for best practices and improving the quality and delivery of its curriculum.

NASAR is attempting to improve connectivity from the local to the federal levels; part of this effort involves hosting an annual Federal-State SAR Coordinator Meeting, the next of which will take place during the two days preceding the annual NASAR Conference in Little Rock, AR which begins June 1st. NSARC Secretary is scheduled to discuss CISAR during the Conference.

Mr. Ross said that the Park Service is developing some all-hazard credentialing that State authorities could issue. Mr. Cole Brown (MD State Police) noted that credentialing and resource typing tend to be contentious at the local level.

b. National and International Activities

Mr. Dave Edwards (USCG) reviewed recent and upcoming activities and events.

Recent:

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- AFRICOM, DoD theater command for Africa, had requested a USCG SAR expert to support an information exchange with Ghana; in response the Coast Guard arranged for the U.S. Embassy to coordinate with Sweden on an ongoing SAR project to assist.
- In January, the International Maritime Organization's (IMO's) Communications, Search and Rescue Subcommittee (COMSAR) met in London. One issue discussed was a possible alternative to the 121.5 MHz homing signal on 406 MHz beacons. Mr. Edwards invited suggestions from NSARC members on information that could be adopted for international use, such as search planning guidance for audible 121.5 MHz alerts.

Upcoming:

- During March 30-31 a SAR Conference and Exhibition will be held near Washington, D.C. This commercial conference and exhibition will cover a broad range of civil SAR topics. The venue alternates annually between the US and UK. For more information, click the "Events" tab at: www.shephard.co.uk. Mr. Swain added that the annual conference has been improving and has broadened in scope to also cover military SAR. Mr. Swain will be speaking at the March Conference on behalf of CAP.
- A SAR meeting for North America, Caribbean and South America, Costa Rica will take place in May; the International Civil Aviation Organization (ICAO) is organizing it, and the FAA has asked the Coast Guard to coordinate the U.S. involvement. Others involved may include NOAA and DoD. Use of unmanned aircraft systems may be discussed.
- The State Department, NOAA, the National Science Foundation and the Coast Guard jointly advocate use of Arctic Shipping Guidelines for Antarctic waters as well. This and other safety matters will be part of an April 2009 Antarctic Treaty Meeting in Baltimore. Lifeboat standards, including carriage of locating and two-way maritime and aeronautical communications equipment in each lifeboat, will be discussed.
- There will be a mass rescue operations (MRO) exercise in Alaska in April that will use a Holland America cruise ship.

The ICAO-IMO Joint SAR Working Group, comprised of 16 aeronautical and maritime SAR experts, including one from the USCG and one from the USAF/AFRCC, fosters much of the SAR progress made at IMO and ICAO. The Group is restructuring the three-volume *International Aeronautical and Maritime Search and Rescue Manual* (IAMSAR Manual), and Mr. Edwards welcomed any views on this project.

c. Radio Technical Commission for Maritime Services (RTCM)

CAPT Jack Fuecshel (USCG retired) reported that RTCM's Special Committee 110:

- Had completed revision of the personal locator beacon (PLB) standard to improve the test method for signal characteristics; RTCM petitioned the FCC to reference the new standard;
- Is further refining position determination for PLBs equipped with GPS processors (location protocol beacons) and hopes to complete the amendment this year;
- Is considering performance standards for GPS processors in VHF handheld radios in response to a regulatory proposal that new marine VHF handheld radios include a GPS processor so distress alerts can include a position. The Coast Guard may require such radios to be carried aboard small commercial vessels without a fixed radio installation. The Coast Guard has proposed that International Telecommunications Union (ITU) standards provide for such a radio, and IMO had endorsed the proposal;

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- Supports Cospas-Sarsat through active participation and technical submissions to Expert Working Group and the Joint Committee meetings, and is considering technical issues related to beacons for the next generation satellite system; and
- Is looking at EPIRBs possibly using an Automatic Identification System (AIS) message for locating rather than a 121.5 MHz signal; the power now used for the 121.5 MHz signal might be better used for an AIS message that would make the EPIRB visible to commercial vessels equipped with AIS, while SAR forces home on 406 MHz. This was proposed to IMO, but some SAR organizations, while not objecting to adding AIS, are not yet committed to 406 MHz homing and are reluctant to lose the 121.5 MHz signal. Including 121.5 MHz and an AIS unit might be technically difficult and too costly.

RTCM's new Special Committee on the performance of satellite emergency notification and locating devices, such as SPOT, was scheduled to meet in February to develop standards for only the emergency notification and location functions of these devices.

RTCM's Annual Assembly Meeting and Conference will convene the week of May 3 in St. Pete Beach, FL, on marine communication and navigation safety. The RTCM Special Committees, the GMDSS Task Force, and the NOAA SARSAT Beacon Manufacturers Workshop will also meet there during the week. Information on meeting registration and hotel reservations is on the RTCM Website – rtcm.org.

d. Global Maritime Distress and Safety System (GMDSS) Task Force

CAPT Fuecshel highlighted the following Task Force items of interest:

- RDML Glenn (USCG) complimented the GMDSS Task Force and RTCM on their work and participated throughout the meeting;
- The Task Force was briefed on new Coast Guard rulemaking extending AIS requirements to about 17,000 additional vessels. A public meeting was scheduled for March 5th at USCG Headquarters, and the Task Force and RTCM intend to file comments by the April 15 due date;
- The National Marine Electronics Association (NMEA) has offered to host a master Maritime Mobile Service Identity (MMSI) registration database;
- The Task Force will petition the FCC to authorize use of marine VHF portable radios ashore in maritime areas;
- The Task Force will seek to better define the qualifications of technicians authorized to inspect and install GMDSS and other technical equipment; and
- The Task Force will further investigate the expanding use of cell phones in lieu of VHF radios for safety purposes, although use of radios is preferable.

CAPT Fuecshel highlighted the following regarding IMO's COMSAR meeting held during February 19-23:

- The U.S. proposal for a handheld VHF-DSC with integral GPS moved ahead with a liaison statement to ITU which is developing specifications;
- The U.S. proposal for an EPIRB with AIS in lieu of the 121.5 MHz homing signal was received with interest but many countries were reluctant to give up the 121.5 MHz homer despite superior performance of AIS. This will be revisited in 2010;
- A U.S. proposal for GMDSS modernization was not discussed since it was not part of the approved Sub-committee work program. A U.S. paper to the IMO Maritime Safety Committee proposes that it be added to the COMSAR work program; and

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- During the meeting, Iridium announced its intent to seek approval as a GMDSS service provider. This would be especially welcomed since Iridium has full polar coverage, but the path to IMO approval is slow.

The next Task Force meeting will be on May 7th during the RTCM Annual Assembly.

e. Civil Air Patrol

Mr. Swain called attention to CAP's *Volunteer* publication and an article it contained on switching to 406 MHz ELTs. CAP is launching more often due to increased receipt of audible alerts. New CAP aircraft have 406 MHz ELTs.

CAP:

- Is distributing information on proper discarding of old ELTs;
- Provided ground teams for door-to-door checks during prolonged power outages caused by ice storms; and
- Is installing a new \$30 million repeater system at 540 high sites with USAF funds; it will handle encryption and have power backup.

Dr. Paul Schuda (CAP/NTSB) advised that the downed passenger aircraft that was short of the runway in Buffalo, NY (apparently due to icing) was carrying a new flight data recorder that provided extensive data on events before the crash.

OTHER BUSINESS

General comments were made about a recent C-Port conference; its next meeting will be in the Washington, DC area.

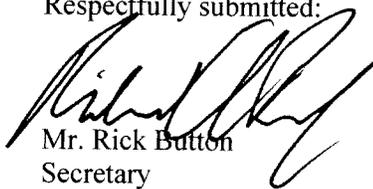
Mr. Levin advised that an unnamed company may develop an AIS device with a strobe light to wear on lifejackets.

Mr. Ross reported that the USGS LANDSAT system that records U.S. terrestrial data apparently intends to make its data and products available to the public once details can be worked out.

NEXT MEETING

NSARC's next regular meetings will be on July 24, 2009.

Respectfully submitted:


Mr. Rick Button
Secretary

Approved:


CAPT David McBride
Acting Chair

Date: May 21, 2009

May 21, 2009

Encl: List of Attendees

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Enclosure

LIST OF ATTENDEES

NSARC REGULAR SESSION I-09
FEBRUARY 19, 2009

NAME		AGENCY
BROWN	Cole	MD State Police
BUTTON	Rick	USCG
COLE	Rich	NASA
DAVALA	Chris, SGT	MD State Police
EDWARDS	Dave	USCG
FOSTER	Willie	USCG
FROST	Jack	USCG
FUECHSEL	Jack	GMDSS
FURHMANN	Dave	AFRCC
HILL	Terry	C-PORT
HOURIHAN	Dan	NASAR
JIGGITTS	Eugene	FAA
KNOX	Al	USCG
LEMON	Dan	SAR Consulting, Inc.
LEVIN	Russ	USCG
MADDOCK	Shawn, LT	NOAA
MCBRIDE	David, CAPT	USCG
MEHTA	Ajay	NOAA
MORGAN	Fiona	C-PORT
NILES	Kathy, LCDR	USCG
O'CONNORS	Chris	NOAA
PLUNKETT	Krah, LT	MD State Police
ROSS	Dean	NPS
SCHAEFER	Rich	USCG
SCHUDA	Paul, Dr.	CAP
SWAIN	John	CAP