U.S. Coast Guard Report

CDR ERIN BOYLE, CG-SAR
20 September 2019
TOPICS

- GLOBAL AERONAUTICAL DISTRESS & SAFETY SYSTEM (GADSS)
- GLOBAL MARITIME DISTRESS & SAFETY SYSTEM (GMDSS)
- GALILEO RETURN LINK SERVICE (RLS)
- CORRESPONDENCE WORKING GROUP ON HOMING & INTELLIGENT TRANSMITTING SCHEDULE (HITS-CWG)
• HOMING & INTELLIGENT TRANSMITTING SCHEDULE CORRESPONDENCE WORKING GROUP (HITS-CWG)
HITS CWG

• CONSIDERED SINSIN PROPOSAL FOR ENHANCED BEACON LOCATION ACCURACY
  • SOUGHT COUNCIL OPINION (CSC-61) ON USE OF PROPRIETARY TECHNOLOGY; DUE TO INSUFFICIENT TIME, PAPER WAS NOT ADDRESSED
  • JOINT COMMITTEE (JC-33) DISCUSSED; RAISED ACTION ITEMS TO:
    • PERFORM LOCALIZATION TESTS IN AN ENVIRONMENT WITH SIGNIFICANT BLOCKAGE
    • SUBMIT A SUMMARY OF BENEFITS, COST ESTIMATES & IMPLEMENTATION TIMELINE TO COUNCIL (CSC-62)
HITS CWG

• **406 MHZ DIRECTION FINDING**
  • BOTH FGB AND SGB CAPABILITY DESIRED
  • NASA TESTED SGB SPREAD-SPECTRUM DF
  • ANTENNA & EQUIPMENT REPLACEMENT (SAME SIZE) REQUIRED FOR USCG SAR AIRCRAFT

• **406 MHZ HOMING SIGNAL DEVELOPMENT**
  • UPDATE PRESENTED AT COSPAS-SARSAT JOINT COMMITTEE (JC-33)
  • NO CONSENSUS ON REQUIREMENTS – HOLD ON CWG WORK
  • **121.5 MHZ HOMING – UNIVERSAL AGREEMENT OF NO DESIRE TO REMOVE**
• GLOBAL AERONAUTICAL DISTRESS & SAFETY SYSTEM (GADSS)
GADSS REQUIREMENTS

• AIRCRAFT TRACKING (AT): INT’L PAX/CARGO AIRCRAFT AUTOMATICALLY REPORTS POSITION EVERY 15 MINUTES OR LESS

• AUTONOMOUS DISTRESS TRACKING (ADT): IN DISTRESS EVENT, AUTOMATICALLY REPORTS POSITION EVERY MINUTE IN OCEANIC AREAS
  • IDENTIFY AIRCRAFT ACCIDENT SITE WITHIN 6 MILE RADIUS
  • IMPLEMENTATION DATE OF 01 JAN 2021
GADSS REQUIREMENTS

• GADSS INFORMATION MANAGEMENT
• DISTRESS TRACKING REPOSITORY (DTR):
  • NOW CALLED “LOCATION OF AN AIRCRAFT IN DISTRESS REPOSITORY (LADR)”
  • SECURE STORAGE FACILITY FOR POSITION/LOCATION DATA OF AIRCRAFT IN DISTRESS OR POTENTIALLY IN DISTRESS
  • SUPPORTS TIMELY ACCESS BY STAKEHOLDERS (OPERATOR, ATSU, RCC & OTHERS) TO AIRCRAFT EVENT DATA
  • NOT AN ALERTING MEANS
GADSS DEVELOPMENTS

• EUROCAE/RTCA UPDATED EMERGENCY LOCATOR TRANSMITTER (ELT) MINIMUM OPERATIONAL PERFORMANCE STANDARDS INCLUDE ELT(DT) – PUBLISHED JAN 2020
  • QUESTIONS/COMMENTS BEING ADDRESSED

• COSPAS/SARSAT DEVELOPED ELT FOR DISTRESS TRACKING [ELT(DT)]
  • PROCEDURES & GROUND DISTRIBUTION SHOULD BE READY TO MEET JAN 2021 IMPLEMENTATION DATE
GADSS DEVELOPMENTS

• ICAO/IMO JOINT WORKING GROUP ON SEARCH & RESCUE MET FROM 9-13 SEP 2019
  • JWG AFFIRMED NEED FOR POST-DISTRESS EVENT LOCATING SIGNAL TO ENABLE SAR UNITS TO LOCATE EVENT SITE IN A TIMELY & EFFICIENT MANNER TO ASSIST SURVIVORS
  • JWG AFFIRMED POSITION INFORMATION (LAT, LONG) SHOULD BE PROVIDED IN THE FORMAT RECOMMENDED IN THE IAMSAR MANUAL
GADSS DEVELOPMENTS

• ICAO ASSEMBLY (40TH SESSION)
  • MEETING 24 SEP – 04 OCT IN MONTREAL
  • TECHNICAL COMMISSION TO CONSIDER GADSS MATTERS
    • IMPLEMENTATION GUIDANCE
    • IMPLEMENTATION SCHEDULE
    • ANTICIPATE RESULTS AVAILABLE IN NOV/DEC
• GLOBAL MARITIME DISTRESS & SAFETY SYSTEM (GMDSS)
GMDSS DEVELOPMENTS

• REVISED EPIRB PERFORMANCE STANDARDS COMPLETED AT IMO SUB-COMMITTEE FOR NAVIGATION, COMMUNICATIONS AND SEARCH & RESCUE (NCSR 6)

• SUBMITTED TO AND APPROVED BY MARITIME SAFETY COMMITTEE (MSC) IN JUNE 2019
  • MSC RESOLUTION 471(101)
GMDSS DEVELOPMENTS

• MSC RESOLUTION 471(101) UPDATED
  FLOAT-FREE EPIRB PERFORMANCE STANDARDS:
  • ADDS GLOBAL NAVIGATION SATELLITE SYSTEM (GNSS) RECEIVER + 5 MINUTE REFRESH RATE
  • ADDS AN AUTOMATIC IDENTIFICATION SYSTEM (AIS) LOCATING SIGNAL
  • FLASHING LIGHT VISIBLE TO BOTH EYE AND NIGHT VISION DEVICES
• RTCM TO REVIEW AND UPDATE RTCM 11000.4 STANDARD AS NECESSARY
GMDSS MODERNIZATION

• NCSR 7 WILL BE UPDATING EPIRB RELATED CIRCULARS:
  • MSC/CIRC.1039 – GUIDELINES FOR SHORE-BASED MAINTENANCE OF SATELLITE EPIRBs
  • MSC/CIRC.1040 – GUIDELINES ON ANNUAL TESTING OF 406MHZ SATELLITE EPIRBs
  • DRAFTS PREPARED AT IMO/ITU EXPERTS GROUP
  • IEC CURRENTLY UPDATING 61097-2 TO ALIGN WITH & REFLECT RESOLUTION 471(101)
• GALILEO RETURN LINK SERVICE (RLS)
RETURN LINK SERVICE

• GALILEO RETURN LINK SERVICE (RLS)
  • TYPE-1 ACKNOWLEDGMENT
    • COSPAS/SARSAT SUPPORTING TYPE 1 MESSAGES
    • SYSTEM MAY BE READY AS EARLY END OF 2019
  • USCG CONCERNS:
    • LACK OF PROGRAM TRANSPARENCY
    • RECENT GALILEO OUTAGE & SERVICE ROBUSTNESS
    • INCOMPLETE WORLDWIDE COVERAGE
    • AT THIS TIME, RLS NOT ENDORSED FOR U.S. BEACONS
    • CONTINUING EVALUATION VIA COSPAS-SARSAT EXPERTS WORKING GROUP
QUESTIONS?

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