Homing & Intelligent Transmit Schedule Correspondence Group

Beacon Manufacturers Workshop
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Homing & On-Scene Locating

- Identify homing signal characteristics to support Search & Rescue operational goals
- Develop draft homing and on-scene location specifications for document Cospas-Sarsat (C/S) T.018
- Assess impact of defined homing signal characteristics on existing DF equipment
- Define interleaving schema to facilitate multiple homing signals (i.e. 121.5 MHz, 406 MHz, & AIS-SART)
- Develop interleaved homing signal draft specifications for document C/S T.018
Transmit Schedule

• Assess transmit schedule to meet requirements in document C/S G.008
  – Consider alternative transmit schedules
• Assess the effects of requirements on beacon battery
  – Allocation of battery capacity to functions
  – Trade-offs between performance, features, and capacity
  – Analyze alternative schedules impact on battery capacity
• Develop draft transmit schedule for inclusion in draft document C/S T.018
Activities Completed

• Defined 406 MHz homing signal characteristics
• Developed industry questionnaire to validate characteristics for an effective homing signal
• Presented draft specification of 406 MHz homing signal at C/S TG-1/2016 in April; gathered input
• Developed plan to assess impact of a reduced duty cycle on 121.5 MHz homing performance; four national administrations engaged in efforts
• Initial assessment of transmit requirements presented in document C/S G.008

5/25/2016
Future Work

- Conduct industry survey to validate effective 406 MHz homing signal characteristics
- Complete transmit schedule development
- Revise draft specification for 406 MHz homing signal for submission to Joint Committee (JC-30)
- Complete performance assessment of reduced duty cycle 121.5 MHz homing; report to JC-30 and ICAO/IMO Joint Working Group on SAR
- Complete battery capacity analysis
  - Complete function/performance/battery trade-off analysis
Direction Finding Research

• Engaged the U.S. Coast Guard Academy to investigate direction finding on a spread spectrum signal
• Work started in 2014; this is second year of analysis in direction finding a spread spectrum signal
• Professor Richard Hartnett and Ensign Ben Morseth have joined us to present this year’s results
Questions?

Thank you for your attention!