Update to 2007 406 MHz EPIRB False Alerts Study

Why does US Coast Guard care about EPIRB False Alerts?

- 96% 406 MHz EPIRB Alerts are false

- 85% Resolved by RCCs with registration and good detective work

- Projected increase in EPIRB population will bring increase in number of false alerts

Why does US Coast Guard care about
EPIRB False Alerts?

- **$4.5** million in A/C time and fuel on 406 MHz EPIRB false alerts in 2009
- SAR crews put at risk
- SAR assets less available for actual distress
- Fatigues and dulls the SAR system

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Operator Induced False Alerts

- **10%** were attributed to **Testing** without following manufactures instructions, or other deliberate non-emergency activations

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Operator Induced False Alerts

- **6%** were EPIRBs deliberately taken out of bracket and naked of any control of the wet sensor

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EPIRB Bracket Failure

69% Caused by Failure of "The bracket decoupling function" to control the EPIRB

- Observed with Category I and II
- Manufactures, makes and models in the US registration data base were proportionally represented by False Alerts

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EPIRB Bracket Failure

69% Activated when bracket should have prevented activation

Failure of "The bracket decoupling function" to control the EPIRB

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Bracket problems observed in field by Coast Guard personnel

- Loose straps or mechanical holding device

- Missing pads or guides to hold beacons in place

- Missing or corroded magnets

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Bracket problems observed in field by Coast Guard personal (continued)

- Beacons being placed improperly in brackets by users

- Brackets not mounted in accordance with manufactures recommendations

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What has changed since 2007

- 3 new model EPIRBs have gone through C/S approval, and now have sufficient population to draw inference from.

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- 3 new model EPIRBs have gone through C/S approval, and now have sufficient population to draw inference from.

  - 2 have designs with bracket interface similar to previous models, only minor apparent changes to bracket / wet sensor interface.

  Result - No significant reduction in false alert rate.

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What has changed since 2007

- 3 new model EPIRBs have gone through C/S approval, and now have sufficient population to draw inference from.

  – 1 new EPIRB has system with robust features to address bracket interface issues.

  Result – significant reduction in false alert rate.

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Naked EPIRBS

- 2 models have come to the market place with portable brackets.
  - Positive design steps to address Naked EPIRB false alerts.

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Way Ahead

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Feedback

- Improve feedback mechanism to Beacon manufactures that provides as much detail as possible about:

  - exactly which Beacons have generated a False Alert. And

  - circumstances surrounding the event.

  - Consider providing IHDB access, or a limited and redacted version that excludes protected personal data.

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SC-110

- Changes to testing standards being incorporated in SC-110 will require more robust beacon / bracket interfaces.

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False Alerts

False Alerts are a drain on the health of the EPIRB Distress Alerting System

There is no one cause of EPIRB False Alerts, and there is no one fix for the problem However …

Several small corrective steps will make a positive difference in this problem

Questions?

L. T. Yarbrough, U.S. Coast Guard