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

May 2010
L. T. Yarbrough, U.S. Coast Guard
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
Operator Induced False Alerts

- 6% were EPIRBs deliberately taken out of bracket and naked of any control of the wet sensor
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
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
What has changed since 2007

- 3 new model EPIRBs have gone through C/S approval, and now have sufficient population to draw inference from.
What has changed since 2007

• 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.
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.
Naked EPIRBS

• 2 models have come to the market place with portable brackets.
  – Positive design steps to address Naked EPIRB false alerts.
Way Ahead
Feedback

• Improve feedback mechanism to Beacon manufacturers 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.
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.

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Questions?