NOAA’s 406 MHz Beacon Registration Database (RGDB)

www.beaconregistration.noaa.gov
Online Usage Statistics

Registrations Entered/Updated
For Periods December ’08 to April ’10

Percentage of Registrations Entered/Updated By Beacon Owners Using The Internet
Total Registrations Entered/Updated
Initial Registrations
By Users

New Registrations Entries

0%
10%
20%
30%
40%
50%
60%
70%
80%

NOAA
Users

Beacon
Owners

Analysis of Current RGDB

New Registrations As Of April, 2010

New Registrations and Rate of Growth

- New Registrations
- Rate of Growth

Graph showing new registrations and rate of growth from 1990 to 2010.
Analysis of Current RGDB

Beacon Registrations Entered 1990 to 2009
Analysis of Current RGDB

ELT Initial Registrations By Month

Jan-07  Mar-07  May-07  Jul-07  Sep-07  Nov-07  Jan-08  Mar-08  May-08  Jul-08  Sep-08  Nov-08  Jan-09  Mar-09  May-09  Jul-09  Sep-09  Nov-09  Jan-10  Mar-10
Top 5 States for PLBs By Home Address

Top 5 States for PLBs

- FL
- CA
- AK
- NC
- WA
Analysis of Current RGDB

Registration Database Beacon Population Breakdown As of May 12, 2010

- EPIRB: 165,585 (60%)
- PLB: 65,063 (24%)
- ELT: 44,244 (16%)
- SSAS: 247 (0%)
Non-USA Mailing Countries

Top 10 Non-USA Mailing Countries
Initial Registrations 2007 - 2009

Canada, Afghanistan, Germany, UK, France, Australia, Trinidad and Tobago, Iraq, Brazil, Mexico
## RGDB Usage

### Registration Usage and Accuracy
As Reported In the IHDB
For Period January 1, 2009 to December 31, 2009

### Registration Usage

<table>
<thead>
<tr>
<th></th>
<th>Contributed to Case Resolution</th>
<th>Primary Means to Resolve Case</th>
<th>Total Usage</th>
<th>Registration Data Not Used</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distress</td>
<td>101</td>
<td>53</td>
<td>154</td>
<td>21</td>
<td>175</td>
</tr>
<tr>
<td>Non-Distress</td>
<td>702</td>
<td>2308</td>
<td>3010</td>
<td>87</td>
<td>3097</td>
</tr>
<tr>
<td>Ceased</td>
<td>189</td>
<td>108</td>
<td>297</td>
<td>234</td>
<td>531</td>
</tr>
<tr>
<td>Total</td>
<td>992</td>
<td>2469</td>
<td>3461</td>
<td>342</td>
<td>3803</td>
</tr>
</tbody>
</table>

Measure of Usage when Registration is available: 91%
Distress: 88.0%  Non-Distress: 97.2%  Ceased: 55.9%
## RGDB Accuracy

### Registration Accuracy

<table>
<thead>
<tr>
<th>Owner Info</th>
<th>Contact Info</th>
<th>Vessel Info</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Counts</strong></td>
<td><strong>Counts</strong></td>
<td><strong>Counts</strong></td>
</tr>
<tr>
<td><strong>Percentage</strong></td>
<td><strong>Percentage</strong></td>
<td><strong>Percentage</strong></td>
</tr>
<tr>
<td><strong>Marked As Accurate</strong></td>
<td>3040</td>
<td>2893</td>
</tr>
<tr>
<td>82.70%</td>
<td>81.65%</td>
<td>87.05%</td>
</tr>
<tr>
<td><strong>Marked As Not Accurate</strong></td>
<td>636</td>
<td>650</td>
</tr>
<tr>
<td>17.30%</td>
<td>18.35%</td>
<td>12.95%</td>
</tr>
<tr>
<td><strong>Totals When Verified</strong></td>
<td>3676</td>
<td>3543</td>
</tr>
<tr>
<td><strong>Marked As Not Verified</strong></td>
<td>142</td>
<td>268</td>
</tr>
<tr>
<td><strong>Not Marked</strong></td>
<td>38</td>
<td>45</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td>3856</td>
<td>3856</td>
</tr>
</tbody>
</table>

**Overall Accuracy when verified:** 83.8%
SARSAT Beacon Registration
National Oceanic and Atmospheric Administration
NSOF, E/SP3
4231 Suitland Road
Suitland, MD 20746

Phone: 301-817-4515
Toll free: 888-212-7283
Fax: 301-817-4565
Email: beacon.registration@noaa.gov
Mass Mailing Efforts

To identify cases where beacon ID registered with NOAA does not match beacon ID programmed into the unit

- Emails and postal letters to owners of approximately 235,000 beacons
- Check beacon ID registered with NOAA with UIN provided by manufacturer/installer
- Check registration information
Mass Mailing Efforts Results
As of 4/30/10

- 60 incorrect beacon IDs due to beacon owners’ errors online
- 15 incorrect beacon IDs due to beacon owners’ errors on paper
- 14 incorrect beacon IDs due to transfer of ELT to another aircraft using an electronic interface
- 11 incorrect beacon IDs due to data entry errors at NOAA
- 1 incorrect beacon ID because the manufacturer provided an incorrect ID
- 16 incorrect beacon IDs where cause was undetermined between data entry errors at NOAA or beacon owners’ errors on paper
Mass Mailing Efforts Results
(Typical Errors)

- Character 8 was entered rather than a B or vice versa
- Character 0 was entered rather than a D or vice versa
- Character C was entered rather than a 0 or vice versa
- Two adjacent characters were transposed when entered
- UINs of some ELTs are based on information provided by an electronic interface on the aircraft. If ELT is moved from an aircraft to an another aircraft, the UIN will change. This will lead to an incorrect registration if the ELT was previously registered.
• Currency increased briefly from March 09 thru October 09 by almost 3%
• Owners are more conscientious about checking the UIN on the beacon against the ID registered with NOAA
  • Increase in unsolicited calls received indicating registered UINs are correct
Other Measures NOAA has taken

- Operational letters updated to emphasize importance of checking the beacon ID registered with NOAA is identical to the manufacturer/installed programmed UIN
- New registrations and change of ownership registrations entered by NOAA data entry personnel are also checked by other operational personnel
- Owners of beacon IDs that are questionable (i.e., not readable, incomplete, different from the manufacturer sticker) are called to verify the ID.
- Changed RGDB interface to separate the 15 character beacon ID into 3 blocks of 5 to make it more readable
Proposed Actions for Beacon Manufacturers

- Add a checksum

- When a beacon is registered a check sum value is entered along with the 15 hexadecimal characters of the beacon ID. Using same algorithm as the beacon manufacturer, the RGDB calculates the check sum of the entered 15 Hex ID and compares the result to the entered checksum. If values disagree, it is assumed the user had made an error (either in the beacon identification code and/or the checksum) and re-entry continues until the two checksums agree.

- Display all beacon IDs in 3 groups of 5
  - printed products
  - all labels

- Pre-printed UINs on registration forms
New Registration forms (draft)

Official 406 MHz EPIRB Registration Form

EPIRB Information

Beacon ID (Unique Identifier Number)

Checksum

☐ Category I (Automatic Deployment)
☐ Category II (Manual Deployment)

EPIRB Manufacturer __________________________
Model No. __________________________

Purpose of EPIRB Registration

☐ New Registration  ☐ Change of Registration Information  ☐ Replacement of Decal Only
☐ Renewal of Registration  ☐ Replacement for a previously registered EPIRB
☐ Change of Ownership  Please enter the old unique ID number [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]
Suggestions On How Beacon Manufacturers Can Help

- Provide to NOAA the following:
  - Your arithmetic formula to determine correct beacon ID for an owner when an owner contacts NOAA
    - serial number calculator for various protocols you use
  - A listing of any beacons you receive from an owner which you will not return back to the same owner
    - beacons serviced
    - beacons returned
NOAA will allow the use of SARSAT’s business reply permit by manufacturers for printing envelopes for owners to return beacon registration forms to NOAA.

- Manufacturers will need to print envelopes that replicate the following image.

- NOAA will bear the mailing cost of envelopes sent to NOAA.

- Any questions prior to use, please call LT Shawn Maddock at 301.817.3892.
NOAA’s Business Reply Envelope Sample

BUSINESS REPLY MAIL
FIRST-CLASS MAIL PERMIT NO. 7411 SUITLAND, MD
POSTAGE WILL BE PAID BY ADDRESSEE

SARSAT BEACON REGISTRATION
NOAA
NSOF, E/SP3
4231 SUITLAND RD
SUITLAND, MD 20746-9900
Suggestions On How Beacon Manufacturers Can Help

- Contact NOAA immediately when an issue arises which has a direct impact on beacon owners

  - Duplicate beacon ID encoded into beacons
  - Mislabeling of beacon IDs on forms or beacons
  - Any recalls you may have for beacons you have manufactured

- Manufacturers and Service Centers verify NOAA decal currency and remind the owner, if appropriate, to update the beacon’s registration with NOAA

- Inform owners who have vessel information, tail number, MMSI, and radio call sign, encoded into beacon of the importance of recoding the beacon and updating the registration when the beacon is swapped from one vessel to another vessel or swapped from one aircraft to another