Canadian Mission Control Center
Canadian Beacon Registry

Beacon Manufacturers Workshop
Captain Keith Wohlgemuth
Outline

• CMCC & CBR Intro
• CBR Demo
• CBR Activity
• ABRC
• Beacon Anomalies
• What can you do to help?
• Contact Information and Questions
CMCC & CBR Intro - Canadian AOR
For the last year, we have only had 1 full time staff (plus 1 part time).

Stats are in separate slideshow for distribution.
The website is fully bilingual and fully accessible in accordance with common internet standards.

How well did this role out? We have had no major software bugs (little ones – yes).
Main page. Even though some of the screen captures are cropped, all pages maintain the same header.
Frequently Asked Questions

1. What is an emergency beacon?
2. What types of emergency beacons are there?
3. How does an emergency beacon work?
4. Is there any cost to registering an emergency beacon?
5. How do I know if my emergency beacon is a Canadian coded and what does it mean if it is not?
6. Why do I get my emergency beacon coded for Canada?
7. Can I purchase an emergency beacon in the US or another country outside Canada?
8. Why switch to a 406 MHz?
9. Will I get fined if accidentally activate an emergency beacon?
10. Will the emergency beacon activate if it battery is expired?
11. If my emergency beacon is not in use, can I leave it in a safe place such as the trunk of my vehicle?
12. How do I dispose my beacon?
13. I’ve heard that 406 MHz beacon equipment is very expensive to buy and quite cumbersome to operate. Do 406 MHz emergency beacons require 406 MHz beacon replacement?
14. Do I need to have a 406 MHz ELT on board my aircraft if I file a flight plan with TSB Canada?
15. What is the difference between an emergency beacon with Global Positioning System (GPS) and one without GPS?
16. Does having a GPS equipped emergency beacon improve search and rescue response times?
17. What is the Canadian Mission Control Centre (CMCC) and why was it established?
18. What is a Canadian Mission Control Centre (CMCC) and why was it established?
19. What is the CMCC and what does it do?
20. What is the CMCC and what does it do?
21. How do I register my emergency beacon?
22. Is the emergency beacon registration information released?
23. Do I need a station license or a documentation number to register an EPIRB?
24. Have I just purchased an emergency beacon from a manufacturer, does that mean it is already registered?
25. How do I register my emergency beacon when I purchase it?
26. Do I need to register my emergency beacon when I purchase it?
27. After I buy a new aircraft and use the emergency beacon from my old aircraft, do I need to register it?
28. Why do I get my 24-bit aircraft identifier number?
Once logged in, the tabs are always visible.
Beacon Information

User name: cmcc2@sarnet.dnd.ca (21667)

If you are registering a new beacon, you can enter your information here. If you have bought your beacon from a previously registered owner you will need to contact the Canadian Beacon Registry (CBR) to inform them of your purchase. They in turn can transfer all beacon information to your account. Once you’ve registered your beacon be sure to register emergency contacts to the beacon as well as where that beacon will be used. For example, on an aircraft, vessel or land activity.

To register a new beacon click on the ‘+ Add A Beacon link’.

To view registered beacon information, click on the beacon hexcode or nickname.

To edit information on a registered beacon, click on the beacon hexcode or nickname then click the edit link and follow the instructions given.

*** please add a minimum of two emergency contacts to your registration. Click on CONTACTS tab to add your emergency contacts. Once added, please attach them to the specific beacon that they correspond to. ****

Your Registered Beacons

<table>
<thead>
<tr>
<th>Hex code</th>
<th>Updated Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>2787B4000FFBF9F</td>
<td>Updated 3 January, 2012</td>
</tr>
<tr>
<td>278E6DA9B8FBFF</td>
<td>Updated 30 July, 2012</td>
</tr>
<tr>
<td>2794F1203F81FE0</td>
<td>Updated 3 January, 2012</td>
</tr>
</tbody>
</table>
Beacon info expanded.
Edit beacon.
Add beacon.
Contacts.
Edit / add contact. Top right screen capture is at the top if editing a contact.
Aircraft – aircraft info expanded.
Edit (add) aircraft.
Vessel tab, again same look and feel. Edit vessel (plus the common part at the top to remove or add a beacon to the vessel just like the aircraft page.)
Land use tab for detailed PLB use.
Land use tab for detailed PLB use.
Note appears after any save.
For admin and SAR responders only, we now have admin notes available.
Further details:

ELT’s with no 24 bit: Canadian coding requires ELTs to use serial user with 24 bit address. Those not matching this were verified for errors.

Unregistered ELT’s with 24 bit: Unregistered ELTs with a 24 bit encoded that were identified through Alerts and the ABRC were sent to the CBR who can quickly correlate to a specific Canadian aircraft and contact the owner for registration.

Mismatch ELT’s – Registered tail vs 24 Bit: When differences between the 24 bit encoded information (and the associated tail mark) and the aircraft tail number in the registration file were found, the reasoning was checked to verify the right beacon was registered to the right aircraft and beacon coding was correct.

Location protocol – not *FFBFF: Hex ids verified for default values in the registry files.

4th digit miscode: Typing errors have been noted when people enter a ‘0’ instead of a ‘D’ for the fourth character.
Mass mail out: A letter was mailed to all owners whose files had not been updated in the preceding year.
Mass emails: Similar to the mass mail outs, emails were sent to all owners who had files that had not been updated in the prior year.

Paper file verification: All paper files were verified to ensure the accurate entry of all data.

Beacon replacement with updated TAC: Beacons found that had been replaced with a newer model. The replacement beacon was recoded with the same information as the old beacon however, due to the new TAC number, the code changed and was not updated. Affected TAC numbers checked and corrected as required. The ABRC highlighted this issue.

Data cleansing preparing for new website: Detailed analysis of all fields to verify format and completeness of data for transition into new and more stringent database. Many bits of missing data found and corrected (ie phone numbers missing 1 or 2 numbers).

Ownership transfers: Many of the above activities generated replies from beacon owners that they had sold their beacon (and vessel / aircraft). These transfers were
completed.

Hex id pattern recognition: Many patterns identified to speed the recognition of improper codes. This helps ensure that more errors of many types are captured and corrected in registration files.
SOP’s and training package: General improvement in the service that we offer beacon owners. These

Through all of our efforts, we have been impressing on beacon owners the importance of accurate information. During times that we have found errors and alerted beacon owners requesting their help to correct it, they have been overwhelmingly impressed that we are watching their backs and correcting these errors. This has started to gain us an extremely positive reputation with owners = owners talk = more beacons registered.
This is the idea that we were ‘dreaming’ of at the last BMW in May 2011. Today, it is in the last parts of Beta Testing and will be soon moving into a more stabilised version.
First the response from the public: [insert email is in march from Angie]

Please remember that all of the CBR activity already discussed predates this software. These CBR activities have helped to correct outdated and invalid information and to condition the public to being asked to update their files.

How does it work: Automatically! It is a service running on one of our desktop computers (soon to migrated to a service on a server).

The Canadian test bursts on our backup LUT are compared to the registration database. If they are unregistered, the hex id is added to a list that is emailed to the CBR every two weeks for CBR follow-up. For the hex ids that are registered, the registration is checked for an email or fax and if it is current. An email (or fax if no email is available) is generated with a message to alert the owner that their test was received, there was xx bursts received in the last xx days, and that their file is up to date (not up to date). If it is not up to date, a sentence is added directing them to login to the website (or call the CBR) and update their file. For those that do not have either an email or fax, they are added to a list that is also emailed to the CBR every two weeks for manual follow-up.

We have a limit of one email/fax per day. The exception is that if we receive more than 30 bursts in a calendar day, we send another email.
(and cc our CMCC Duty Operator and the CBR) advising the excess test bursts that have been received.

Registration rate report – based on inverted frame bursts

Unregistered report – as detailed above

Fax report – summary of faxes sent is emailed to CBR every two weeks

Gives automatic end to end verification for the owner

User verifies beacon functions, is properly coded, registered, and up to date

User gains confidence

Identifies outdated files – The CBR is cc-ed on all emails. Also, if an email fails, the CBR is also alerted. These files are then tagged for manual follow-up.

Ultimately reduces workload by educating beacon users, allows for an automatic message to be distributed, and especially points beacon owners to do what we want (update their files) and do it online.
Beacon Anomalies

- Switching between Test protocol and real code
  - ELT’s (real and false alarm cases)
  - EPIRB (real distress and no distress – both with resources launched)
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• Random not user initiated continuous inverted frame sync (ABRC now alerting = CMCC or CBR follow-up)
What can Manufactures do?

• Support us so we can support YOUR customers!

• How?
  – Can you share the Canadian Hex ids (especially EPIRB and PLB) that you manufacture and their owners / contacts? If not, who are your vendors?
  – Vendors often have no information for owners and they call us instead. Once resellers educated, better registration.
  – Resellers do say to register the beacons!

• How can we help you?

Info – email to CBR

New registration forms will have info on back side. There will be two, one in English and one if French. We will have them posted on our website in the next few weeks as we have to have them translated.
Contact Information

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Questions