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
CMCC & CBR Intro

- Officer in Charge: Maj Gilles Bourgoin
- Deputy OIC: Capt Keith Wohlgemuth
- CBR Manager: Ms. Angie Cornish

- ~ 23,500 as of last BMW (May 2011)
- ~ 27,000 as of now (15% increase)

(contact info at end of presentation)
• Rolled out on 17 Sept 2012
• Fully bilingual
• Fully accessible in accordance with current internet standards.
• How successful has the implementation been?
  – Old website – 1 to 2 calls per day on how to use the website.
  – New website – not 1 yet!!!
  – Normal usage rates.
Canadian Beacon Registry - Welcome

The Canadian Beacon Registry is an integral part of COSPAS-SARSAT, the search and rescue satellite system designed to provide distress alert and location data to search and rescue authorities. The Canadian Beacon Registry is co-located with the Canadian Mission Control Centre (CMCC) at CFB Trenton, for use by responders in search and rescue operations.

When a 406 MHz emergency beacon signal is received, search and rescue authorities at CMCC can retrieve information from a registration database. This includes beacon owner contact information, emergency contact information, and vessel/aircraft identifying characteristics and equipment. Having this information allows search and rescue services to respond appropriately.

********** FOR BEACON TRANSFERS, PLEASE CONTACT THE CANADIAN BEACON REGISTRY AT 1-877-406-7671 or Via email to cbr@sarnet.dnd.ca **********

Why Register a Beacon?

It is mandatory for all 406 MHz ELTs (Canadian Aviation Regulations 605.38) and EPIRBs (Ship Station (Radio) Technical Regulations, 1999) to be registered with the Canadian Beacon Registry. Ensuring that your 406 MHz PLB, ELT or EPIRB is registered, as well as updating the information regularly, will facilitate the task for search and rescue personnel in the event of a distress situation.

If you have a registered emergency beacon, it is important that the information be accurate. Please update the information in the registry:
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 Canadian coded and what does it mean if it is not?
6. How 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?
9. Will I get fined if I accidentally activate an emergency beacon?
10. Will the emergency beacon activate if its battery is expired?
11. If my emergency beacon is not in use, can I leave it in a safe place such as storage?
12. How do I decode my Beacon?
13. I’ve heard that 406 MHz homing equipment is very expensive to buy and quite cumbersome to operate. Do 406 MHz emergency beacons require 406 MHz homing equipment?
14. Do I need to have a 406 MHz ELT on board my aircraft if I file a flight plan with NAV 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 time?
17. When the Cospas-Sarsat system ceases to process the 121.5/243 MHz signals, will the Canadian Mission Control Centre (CMCC) still receive an alert during a distress situation?
18. Will homing devices such as man overboard devices (Maritime Survival Locator Devices - MSLDs) that use 121.5 MHz be affected by Cospas-Sarsat decision to terminate processing of the 121.5 MHz?
19. What happens if I haven’t purchased a 406 MHz emergency beacon to replace my 121.5 MHz beacon by February 1 2009?
20. Is it true that Cospas-Sarsat requires that 406 MHz emergency beacons do not send a signal in the first 50 seconds following activation, to minimize false alerts?
21. What is the MEOSAR system and what is the status of it?
22. Will GPS equipped emergency beacons - or location protocol beacons - become obsolete with MEOSAR?
23. If my emergency beacon is not registered, will search and rescue authorities at Canadian Mission Control Centre (CMCC) be advised if the beacon is activated?
24. Once I register my emergency beacon, will the registration expire?
25. Will someone send me a reminder to renew my registration?
26. To whom is my emergency beacon registration information released?
27. Do I need a ship station license or a documentation number to register an EPIRB?
28. I have just purchased an emergency beacon from a manufacturer. Doesn’t that mean it is already registered?
29. Will the dealer register my emergency beacon when I purchase it?
30. If I buy a new boat and use the emergency beacon from my old boat, do I need to register it?
31. If I sell my boat with an EPIRB, is it the new owner’s responsibility to update the beacon registration?
32. If I buy a new emergency beacon for my vessel, do I need to register it? My former emergency beacon was registered therefore, isn’t my information already in the registry?
33. How do I get my 24-bit aircraft identification number?
Owner Profile

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

**Your Profile**

GILLES BOURGOIN  
142 YUKON  
ASTRA ONTARIO  
K0K 3W0  
CANADA  
bourgoing@sarnet.dnd.ca

**Your Phone Numbers On File**

Work: CANADA (613) 965-7265

[Change Password]
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>Hexcode</th>
<th>Updated</th>
</tr>
</thead>
<tbody>
<tr>
<td>2787840000FFBFF</td>
<td>3 January, 2012</td>
</tr>
<tr>
<td>278E6DA9B8FFBFF</td>
<td>30 July, 2012</td>
</tr>
<tr>
<td>2794F1203F81FE0</td>
<td>3 January, 2012</td>
</tr>
<tr>
<td>Type</td>
<td>PLB [Edit]</td>
</tr>
<tr>
<td>---------------------------</td>
<td>------------</td>
</tr>
<tr>
<td>Current Status</td>
<td>Active and in Use</td>
</tr>
<tr>
<td>Current Location</td>
<td>TESTING (assignment)</td>
</tr>
</tbody>
</table>
| Emergency Contacts        | BRUCE WAYNE  
CMCC DUTY OPERATOR |
| 2794F1203F81FE0           | Updated 3 January, 2012 |
Beacon Information

- Hex Code: 278E6DA9B8FFBFF
- Type: PLB
- Manufacturer: ACR Electronics Inc
- Model: PLB-375 (ResQLink)
- Status: Active and in Use
- Date Registered: 2011-11-08 15:09:47.000
- Last Updated On: 2012-07-30 17:32:08.000

Comments:

Save

Cancel
The Hexcode and Checksum information can be found on the beacon you wish to register. The Checksum, while optional, will allow the system to verify that the Hexcode you have entered is in fact correct.
Your emergency contacts will receive the initial phone call from Search & Rescue should your beacon send a distress signal. It is therefore imperative that you keep your emergency contacts up to date.

To register a new contact, click the '+ Add A Contact'.

To view information about a registered contact, click on the contact's name.

To edit or update information about a registered contact, click the contact's name, then click the edit link.

**Edit Contact Information**

Beacon(s) assigned
No beacons assigned

+ Add A Contact

<table>
<thead>
<tr>
<th>Name</th>
<th>Updated</th>
</tr>
</thead>
<tbody>
<tr>
<td>BRUCE WAYNE</td>
<td>26 September, 2012</td>
</tr>
<tr>
<td>BRUCE WAYNE</td>
<td>26 September, 2012</td>
</tr>
<tr>
<td>CMCC DUTY OPERATOR</td>
<td>26 September, 2012</td>
</tr>
</tbody>
</table>

**Contact**

CMCC DUTY OPERATOR [Edit]

**Phone Numbers**

Work (613) 392-2811

**Contact For Beacon**

2787840000FFBFF
278E6DA9B8FFBFF
2794F1203F81FE0
Enter Contact Information

First Name
Last Name
First Language
Company
Address 1
Address 2
City
Country
Province/State
Postal Code
Email
Relationship
Comments

* - Required

Contact For Beacon

Beacons

Contact For Beacon

Save

Contact Number

NOTE Enter your contact numbers in the order you wish to be contacted.
1. E. first number on the list will be called first, second on the list will be contacted second, etc.

Phone Type
Country
Area Code
Phone Number
Extension

Phone Type
Country
Area Code
Phone Number
Extension

(Maximum 6 digits)
Aircraft Information

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

If you are registering an Emergency Locator Transmitter (ELT), you must have a registered aircraft to place this beacon on. This will give Search & Rescue some sort of indication of the type of aircraft that may be in distress.

To register a new aircraft, click on the '+ Add Aircraft' link and follow the instructions given.

To view registered aircraft information, click on the aircraft tail number.

To edit information on registered aircraft, click on the tail number 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 Aircraft

Beacon(s) assigned
No beacons assigned

+ Add Aircraft

C-IOUF

Updated: 26 September, 2012

Tail Number: C-IOUF

Manufacturer: Cessna

Model: 172

Type: AEROPLANE

Beacons: 2787840000FFBFF
### Beacons

- **Beacons**: 27878400000FBBF
- **Remove Beacon**

### Attach Beacon
- **--Select--**

### Edit Registered Aircraft Information

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aircraft Serial Number</td>
<td>22324</td>
</tr>
<tr>
<td>Tail Number</td>
<td>CI0UF</td>
</tr>
<tr>
<td>Manufacturer</td>
<td>Cessna</td>
</tr>
<tr>
<td>Model</td>
<td>172</td>
</tr>
<tr>
<td>Type</td>
<td>AEROPLANE</td>
</tr>
<tr>
<td>Home Airport</td>
<td>Trenton Airport (CFB Trenton)</td>
</tr>
<tr>
<td>Propulsion Type</td>
<td>PISTON</td>
</tr>
<tr>
<td>Engines</td>
<td>1</td>
</tr>
<tr>
<td>Primary Colour</td>
<td>White</td>
</tr>
<tr>
<td>Secondary Colour</td>
<td>Red</td>
</tr>
<tr>
<td>Features</td>
<td>BLUE STRIPES - CF LOGO ON SIDE</td>
</tr>
<tr>
<td>Radio Equipment</td>
<td>VHF</td>
</tr>
<tr>
<td>Number of Crew</td>
<td>1</td>
</tr>
<tr>
<td>Number of Seats</td>
<td>5</td>
</tr>
<tr>
<td>Comments</td>
<td></td>
</tr>
</tbody>
</table>
Vessel Information

Vessel Name: FV KEN DRYDEN  
Call Sign: HABS  
Registration Number: 395679  
Home Harbour: TRENTON  
Number of Crew Members: 8  
Hull Colour: Black  
Sail Colour:  
Structure Colour: White  
Hull Type: FIBERGLASS - MONOHULL  
Vessel Type: FISHING - COMMERCIAL  
Propulsion Type: Power  
Propulsion Method: Inboard  
Special Features: SURVIVAL SUITS/LIFE RAFT/STANDARD KIT  
Length (meters): 27.00  
Tonnage: 15  
Radio Equipment: VHF/DSC -LORAN/ CAPTAIN CELL# 613-799-0000  
Inmarsat Number: 8814567890  
MMSI Number: 316000000  
Comments:  

If you are registering an Emergency Position Indicating Radio Beacon (EPIRB), you must have a registered vessel to place this beacon on. This will give Search & Rescue some sort of indication of the type of vessel that may be in distress.

To register a new vessel, click on the '+ Add Vessel' link.

To view registered vessel information, click on the vessel name.

To edit information on a registered vessel, click on the vessel name 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 Vessels

<table>
<thead>
<tr>
<th>Vessel Name</th>
<th>FV KEN DRYDEN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Call Sign</td>
<td>HABS</td>
</tr>
<tr>
<td>Vessel Type</td>
<td>FISHING - COMMERCIAL</td>
</tr>
<tr>
<td>MMSI Number</td>
<td>316000000</td>
</tr>
<tr>
<td>Beacons</td>
<td>2794F1203F81FE0</td>
</tr>
</tbody>
</table>

Updated: 26 September, 2012
Personal Activity Information

If you are registering an Personnel Locator Beacon (PLB), it is recommended that you indicate situations where you will be using your PLB. This will give Search & Rescue some sort of indication of the situation you may be in should they receive a distress signal. This can be done by registering your PLB Activity.

To register a new activity, click on the '+ Add PLB Activity' link and follow the instructions given.

To view registered PLB activity information, click on the Activity Name.

To edit information on registered activity, click on the activity name 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 Land Activity

<table>
<thead>
<tr>
<th>Nickname / Activity</th>
<th>CMCC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test Activity</td>
<td></td>
</tr>
</tbody>
</table>

Additional Information

This beacon is held in CMCC and is made available for sign out by CMCC and JRCC Trenton members. It is occasionally used for testing. Either way, the CMCC Operator will have further information and trip plans.

Beacons

278E6DA9B8FFBFF
Beacons

Beacons: 278E6DA9B8FFBFF

Attach Beacon: --Select--

Save

How do you use your PLB?

* - Required

Nickname / Activity for this PLB: CMCC

Activities

Land
- Hiking
- Fishing
- Mountain Climbing
- Hunting
- Details

Sea
- Boating
- Kayaking
- Fishing
- Sailing
- Details

Air
- Handgliding
- Flying
- Ultralight
- Details

Additional Information: This beacon is held in CMCC and is made available for sign out by CMCC and JRCC Trenton members. It is occasionally used for testing.
Registered Contacts

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

Contact information updated
Complete

Your emergency contacts will receive the initial phone call from Search & Rescue should your beacon send a distress signal. It is therefore imperative that you keep your emergency contacts up to date.

To register a new contact, click the '+ Add A Contact'.

To View information about a registered contact, click on the contact's name.

To edit or update information about a registered contact, click the contact's name, then click the edit link.

Edit Contact Information

BRUCE WAYNE

Updated: 26 September, 2012

Contact
BRUCE WAYNE [Edit]

Phone Numbers
Cellular (613) 444-5555
Register Contact For Owner

Owner Information

Search by Owner Name
bourgoin
Search

Search by Company Name
Search

Admin Notes Only
Add Note

Click to check for noteswohlgemuthk(28-Sep-12)> Test

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National Defence Défense nationale

Canadian Beacon Registry
www.cbr-rcb.ca
CBR Activity

- ELT’s with no 24 bit
- Unregistered ELT’s with 24 bit
- Mismatch ELT’s – Registered tail vs 24 Bit
- Location protocol – not *FFBFF
- 4\textsuperscript{th} digit miscode
- Mass mail out
CBR Activity

- Mass emails
- Paper file verification
- Beacon replacement with updated TAC
- Data cleansing preparing for new website
- Ownership transfers
- Hex id pattern recognition
CBR Activity

• CBR SOPs and training package
  – Acceptable practices (ie exchange of information)
  – Tracking of unregistered beacons
  – Pattern recognition
  – Peer verification of CBR inputs
  – Improving CBR service to all of our customers

• Improving stats
ABRC – BMW 2011 slide: What we are proposing

- Registration rate report
- Automatic end to end verification
- User verifies beacon functions, is properly coded and is properly registered
- User gains confidence
ABRC – Beta phase Feb 12
Automatic Beacon Registry Checker

- Registration rate report
- Unregistered report
- Fax report
- Gives automatic end to end verification
- User verifies beacon functions, is properly coded, registered, and up to date
- User gains confidence
- Identifies outdated files
- Reduces workload

LUTs → Test burst → HEX → Time → Reg? → No → CBR search owners asking to register → Email or fax owner with file is / is not up to date.

Yes → Updated CBR → Owner updates file 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)
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)

• 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?
Contact Information

Canadian Beacon Registry
  c/o CMCC
  8 Wing Trenton
  PO Box 1000 Station Forces
  Astra, Ontario  K0K 3W0
  cbr@sarnet.dnd.ca    www.cbr-rcb.ca

Ms. Angie Cornish
  CBR Manager
  613-965-3716
  cornisha@sarnet.dnd.ca

CMCC:
  Major Gilles Bourgoin
  Officer in Charge
  613-965-4148
  cell: 613-391-1390
  bourgoing@sarnet.dnd.ca

  Captain Keith Wohlgemuth
  Deputy Officer in Charge
  613-965-7174
  cell: 613-242-3836
  wohlgemuthk@sarnet.dnd.ca
Questions