

CMCC Backup of USMCC

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Capt Jamie Doucette, CMCC Chief Operator

doucettej@sarnet.dnd.ca 613-392-2811 X7265



USMCC Backup – AUMCC & CMCC

When USMCC at NSOF and Wallops are not available, C/S partners take over USMCC responsibilities:

- CMCC will assume USMCC national responsibilities
 - Alert messages will be sent in SIT 185 format to RCCs and SPOCs
 - RGDB data will not be included in alert messages
 - RGDB and IHDB may not be available
 - Message sequence numbers will change
 - RCCs/SPOCs will receive up to 4 missed pass messages per location
 - RCCs/SPOCs will not receive data from US LUTs (including MEOLUTs)
 - CMCC supports US special programs with limitations
- AUMCC will assume international (Nodal) responsibilities
 - AUMCC distributes data to MCCs in the WDDR for the USMCC
- CMCC still not yet LGM capable (currently can only provide data from Canada LUTs)

03/20/2024

Source: USMCC Backup, SAR Controllers Workshop 2024 (Beth Creamer)

Outline

- General Overview
- Review USMCC Messages Manual
- Examples
- Initiating CMCC Backup of USMCC
- Current software/network limitations and effect on procedures



General Overview

- CMCC and USMCC LEO/GEOLUTs provide mutually overlapping coverage
 - > Data from US LUTs will <u>not</u> be available
- CMCC is not yet LGM capable
 - MEO data will be forwarded from AUMCC when available
- Communications
 - Alert messages from CMCC will be in the <u>legacy</u> SIT 185 format
 - ▶ US National formats SIT 170-179 are not used
 - Comm Checks/Acknowledgement: Via AFTN or email primary please
 - Phone secondary
 - Means
 - USCG: Email/Fax (SFTP coming)
 - AFRCC/AKRCC: AFTN/Fax (Email backup)
 - SPOC: AFTN/Fax (Email backup)



a) <u>SIT 185 messages sent by the CMCC do not contain a site ID.</u> Use the 15 digit Beacon ID (field "CMCC REF" in Line "2") to associate different messages for the same beacon activation. View the Message Title (Line 1) to help determine if a new site was opened for a given beacon ID.

Use the beacon ID and activation time to update the USMCC Incident History Database (IHDB). The IHDB may not be available (or may not contain information on a specific beacon activation) depending on the USMCC failure.



b) CMCC personnel cannot close alert sites.

From 2.1.1 Alert Message Types, SIT 176 (406 BEACON SITE STATUS REPORT):

This message is sent when no message has been sent for a beacon within 30 minutes, or when an alert site closes due to age out or USMCC Operator action. An alert site closes if the beacon is not detected within 2 hours, if the beacon was detected by a USA MEOLUT with DOA position or a USA GEOLUT, or <u>6 hours otherwise</u>. An alert site also closes <u>if it has been open for 72 hours</u>. This message may be sent before or after position is confirmed.

c) SIT 185 messages sent by the CMCC do not contain registration data for USA beacons, since the <u>CMCC software does not have access to the USMCC</u> <u>Beacon Registration Database (RGDB)</u>. In addition, CMCC personnel do not have access to the USMCC RGDB. The USA <u>RCC should query the USMCC</u> <u>RGDB manually</u> for registration information about USA beacons. The RGDB may not be available, depending on the USMCC failure.



- d) Since the CMCC does not have access to the USMCC RGDB to determine if a beacon is registered, the <u>CMCC sends SIT 185 unlocated alerts for all</u> <u>serialized USA beacons</u>. In contrast, the USMCC sends unlocated alerts for serialized USA beacons only if the beacon is registered or contained in a USA special program.
- e) The CMCC sends <u>all SIT 185 unlocated alerts for USA beacons to the AFRCC</u>.



f) <u>Next Pass Times</u> (SIT 185, Line 10*) are generally provided based on mutual visibility of the satellite to Canadian LEOLUTs and the reported beacon location. The CMCC may also provide next pass times based on information received from the AUMCC for non-Canadian LEOLUTs (annotated on the message as "FOREIGN LUT"). Alert messages sent by the <u>USMCC do not provide next pass information</u>.

10. NEXT PASS TIMES (UTC): RESOLVED - NIL DOPPLER A - 15 JAN 24 2113 UTC FOREIGN LUT DOPPLER B - 15 JAN 24 1542 UTC FOREIGN LUT ENCODED - NIL



g) The <u>CMCC specially routes all alerts for USA-coded "national use" beacons</u> <u>to the AFRCC</u> in addition to routing the alerts based on location, whereas the USMCC specially routes USA-coded "national use" beacons that are allocated to USA government "special programs" to specific destinations per special program (based on agreements made by NOAA/USMCC with other USA government agencies). In this context, the CMCC defines a USA country code to be in the range of 366 to 369, whereas the USMCC may perform special routing based on any USA country code listed in Table 3.2.11.

SIT 185 messages from the CMCC for USA national use beacons will contain the following information:

16. REMARKS: USA CODED NATIONAL USE BEACON



h) The CMCC distributes unlocated alerts, Notifications of Country of Registration (NOCRs), and SSAS alerts for country codes for countries in the US service area per Annex 14, <u>except that the CMCC send NOCRs and</u> <u>unlocated alerts to the AFRCC where "US RCC"</u> is listed in Table 3.2.11.

Table on next slide.





Table 3.2.11: USA Country/Region Codes and Associated Alert Data Destinations

* Excludes unlocated alerts for SSAS beacons.

** Distribution is based on RGDB information and beacon type, as described below. When the CMCC backs up the USMCC, the CMCC sends NOCRs and unlocated alerts for this country code to the AFRCC. See section 2.1.6 for more information about alert messages sent during USMCC backup.

USMCC Messages Manual 2.1.6 Alert Messages Sent During USMCC Backup missed detection alert i) The CMCC sends a maximum of 4 missed LEOSAR satellite missed pass

i) The CMCC sends a maximum of 4 missed LEOSAR satellite missed pass messages per reported beacon location. The USMCC does not send missed pass messages but sends missed detection messages.

1.	DISTRESS COSPAS-SARSAT MISSED DETECTION ALERT
2.	MSG NO: 00088 REF No: E0E8D54334D34D1
3.	DETECTED AT: 14 JAN 20 2108 14 UTC BY SARSAT S12
4.	DETECTION FREQUENCY: 406.0364 MHz
5.	COUNTRY OF BEACON REGISTRATION: 775/ VENEZUELA
6.	USER CLASS:
	USER LOCATION EPIRB USER
	MMSI - LAST 6 DIGITS: 069000
7.	EMERGENCY CODE: NIL
8.	POSITIONS:
	RESOLVED - NIL
	DOPPLER A - 23 43.7 N 046 36.6 W PROBABILITY 50 PERCENT
	DOPPLER B - 18 30.4 N 069 51.9 W PROBABILITY 50 PERCENT
	ENCODED - NIL
9.	ENCODED POSITION PROVIDED BY: NIL
10.	NEXT PASS TIMES (UTC):
	RESOLVED - NIL
	DOPPLER A - 16 JAN 20 0927 UTC FOREIGN LUT
	DOPPLER B - NIL
	ENCODED - NIL
11.	HEX ID: E0E8D54334D34D1 HOMING SIGNAL 121.5 MHZ
12.	ACTIVATION TYPE: AUTOMATIC
13.	BEACON NUMBER ON AIRCRAFT OR VESSEL NO: 0
14.	OTHER ENCODED INFORMATION:
	MISSED BEACON DETECTION : E0E8D54334D34D1
15.	OPERATIONAL INFORMATION: WAS NOT DETECTED BY
	SARSAT S12/68701 LUT ID: CHURCHILL LEOLUT
16.	REMARKS: NIL
END	OF MESSAGE



j) The CMCC message title "MIRROR NOTIFICATION" indicates that ambiguity associated with Doppler position data has been resolved and that the resolved (confirmed) position is not in the SRR of the message destination.



k) While the USMCC sends alerts for EPIRBs in the AFRCC SRR and within 50 km of a USCG SRR to the USCG RCC (not the AFRCC), the CMCC would send these alerts to the AFRCC and send to the buffer USCG RCC per normal CMCC distribution rules.



l) SIT 185 messages sent by the CMCC do not contain the two-line SIT message header that is sent by the USMCC.

-/96203 00000/3660/20 006 1059--/170/366B-

**** 406 BEACON UNLOCATED FIRST ALERT ****

1. DISTRESS COSPAS-SARSAT UNLOCATED FIRST ALERT

16

2. MSG NO: 00382 REF No: ADC6655D9E75DD1

m) The CMCC Operator cannot remove one destination (RCC) from the distribution list for an alert site <u>without removing all destinations</u>. This means if 2 RCCs are receiving data for a site and one of the RCCs wants their messages suppressed for the site, the CMCC Operator will not be able to suppress messages for the one RCC without suppressing the messages for the other RCC.



n) SIT 185 messages sent by the <u>CMCC do not list the other message</u> <u>destinations</u>, whereas the USMCC provides a list of message recipients in "Supporting Information".



o) While the USMCC alert message includes the beacon registration data for the associated USA special program block registration ID when available, the CMCC cannot provide this information. As a result, <u>USA RCC personnel will</u> <u>not be able to access the appropriate beacon registration data for USA</u> <u>special program beacons that have a block registration</u>. See the section for "PROGRAM BLOCK REGISTRATION ID" in section 3.



p) When the LGM CMCC (which is not yet operational) re-establishes the confirmed position (i.e., the MCC Reference Position) without reference to the previous confirmed position, it includes this text in the alert message:

CONFIRMED POSITION WAS REESTABLISHED WITHOUT REFERENCE TO THE PREVIOUS CONFIRMED POSITION

When this occurs, and a new message destination is identified for subsequent alerts, the following text will be also be included in the alert message:

> A NEW MESSAGE DESTINATION HAS BEEN IDENTIFED FOR THE NEW CONFIRMED POSITION. SUBSEQUENT ALERTS WILL NO LONGER BE SENT TO THE PREVIOUS DESTINATION.



Note that the CMCC currently generates SIT 185 messages using the legacy term "Confirmed Position" instead of the new term "MCC Reference Position".

Note that the USMCC may also re-establish the MCC Reference Position without reference to the previous MCC Reference Position (as described in section 3.2.3.10), but the USMCC will not automatically change the message destination when this occurs.







q) The CMCC is not currently capable of distributing MEOSAR or SGB alerts. The CMCC does not recognize FGB ELT(DT)s, and thus distributes FGB ELT(DT) alerts as "unreliable beacon messages" based only on the Doppler location. If such a message originates from an FGB ELT(DT), any associated "Doppler positions" are likely to be unreliable due to the rapid aircraft motion. The 15-digit HEX ID in the SIT 185 message may be decoded using an appropriate tool (e.g., http://cospas-sarsat.int/en/beacons-pro/beacon-messagedecode-program-txsep/beacon-decode-2019) to help determine if the unreliable beacon message is associated with an FGB ELT(DT).

In addition, the CMCC is not capable of generating SIT 185 messages in the re-organized format specified in document C/S A.002, which contains 6 numbered message sections (lines) instead of 15.

Example

D1 received a 406 EPIRB for F/V REBECCA. There was no answer on the primary contact number, so contacted owner's wife. She answered and stated he had just left. The owner called back and stated that the beacon had gone off unexpectedly, and that he was turning it off. Recommended he check the bracket to ensure nothing was loose. Vessel will be fishing approximately 15-20NM off of Scituate Harbor today.



Processed Provided Provided Provided Prov	Normality of balance is the set of the se
SPECIAL STATUS: SPECIAL STATUS DATE: 31 AUG 2018 SPECIAL STATUS INFO: 8/31/18-phone-tmm this beacon is active. Owner accidentally changed status on the incorrect beacon.	
**** SUPPORTING INFORMATION **** USMCC PROCESSING TIME: 06 1059 JAN	
THIS ALERT MESSAGE IS BEING SENT TO: CGD01	24
ALERT MESSAGES FOR THIS SIGNAL PREVIOUSLY SENT TO: N/A	

/96204 00000/3660/20 006 1101 /171/3668 **** 406 BEACON LOCATED FIRST ALERT (POSITION INCONFIRMED) **** BEACON ID: ADCE0 22CE9 41001 SITE ID: 21683 **** DETECTION TIME AND POSITIONS FOR THE BEACON **** PROB EE SOL LATITUDE LONGITUDE DETECT TIME SAT NUM SOURCE SRR /BUFFER/BUFF_2 N/A N/A D 41 44.8N 069 47.1W 06 1059 JAN S11 003 CMCC CGD01 DETECTION FREQUENCY: 406.0252 MHZ FIRST DETECT TIME: 06 1059 JAN	No message header No message header Ms No: 00383 REF No: ADCE022CE941001 DETECTION FREQUENCY: 406.0252 MHz OUTRY OF BEACON REGISTRATION: 366/ USA USER CLASS: SERIAL USER LOCATION EPIRB (FLOAT FREE) SERIAL NO: 35642 MERGENCY CODE: NIL
<pre>**** BEACON ID CONTAINS THE FOLLOWING ENCODED INFORMATION **** COUNTRY : USA BEACON TYPE: EPIRB SERIAL CATEGORY II COUNTRY CODE: 366 CRAFT ID : SPECIFIC BEACON: MANUFACTURER: ACR MODEL : UNKNOWN SERIAL NUM : 35642 HOMING : 121.5 MHZ POSITION DEVICE: NIL POSITION RESOLUTION: NONE **** BEACON REGISTRATION DATABASE INFORMATION **** OWNER: Cameron, James 911 West Hill Rd. TEL 1: HOME 5554443333 Scituate MA TEL 2: CELL 5554443222 90210 USA TEL 3: EMAIL: james.cameron@gmail.com CONTACTS: Michelle Cameron Doug Cameron TEL 1: HOME 555443333 TEL 1: HOME 5554441111 TEL 2: CELL 5554446666 TEL 2: VESSEL NAME: REBECCA</pre>	RESOLVED - NIL DOPPLER A - 41 44.8 N 069 47.1 W PROBABILITY 50 PERCENT DOPPLER A - 41 44.8 N 069 47.1 W PROBABILITY 50 PERCENT DOPPLER B - 49 59.9 N 090 06.1 W PROBABILITY 50 PERCENT PROBOD - NIL 9. ENCODED POSITION PROVIDED BY: NIL 10. NEXT PASS TIMES (UTC): RESOLVED - NIL DOPPLER A - NIL DOPPLER A - NIL DOPPLER B - NIL 11. HEX ID: ADCE022CE941001 HOMING SIGNAL 121.5 MHZ 12. ACTIVATION TYPE: AUTOMATIC 13. BEACON NUMBER ON AIRCRAFT OR VESSEL NO: 14. OTHER ENCODED INFORMATION: NIL 15. OPERATIONAL INFORMATION: NIL 16. REMARKS: NIL END DE MESSAGE
TYPE: NON-POWER Life Raft LENGTH OVERALL (FT): 42 COLOR: White CAPACITY: 2 RADIC CALL SIGN: REGISTRATION NO: 979402 RADIO EQP: VHF INMARSAT NUMBER: CELLULAR NUMBER OF LIFE BOATS: 0 NUMBER OF LIFE BOATS: 0 HOME PORT PRIMARY SRR: CGD01 SECONDARY SRR: HOME PORT: Scituate Harbor Scituate MANUFACTURER: ACR MODEL NUMBER: UNKNOWN ACTIVATION TYPE: CAT1 (MANUAL AND AUTOMATIC) BEACON CONTAINS SVDR: NO	
DATE FIRST REGISTERED: 26 JUL 2013 DATE REG EXPIRES: 31 AUG 2020 DATE LAST UPDATED: 31 AUG 2018 REMARKS: SPECIAL STATUS: SPECIAL STATUS DATE: 31 AUG 2018 SPECIAL STATUS INFO: 8/31/18-phone-tmm this beacon is active. Owner accidentally changed status on the incorrect beacon. **** SUPPORTING INFORMATION **** USMCC PROCESSING TIME: 06 1101 JAN THIS ALERT MESSAGE IS BEING SENT TO: CGD01 ALERT MESSAGE SFOR THIS SIGNAL PREVIOUSLY SENT TO: CGD01 PREVIOUS MESSAGE INFORMATION: PROB EE SOL LATITUDE LONGITUDE DETECT TIME SAT NUM SOURCE SRR /BUFFEr/BUFF_2	25

/96214 00000/3660/20 006 1321 /176/366B

**** 406 BEACON NO DETECTION/SITE STATUS REPORT **** BEACON ID: ADCE0 22CE9 41001 SITE ID: 21683 (CLOSED - TIMEOUT)

**** CONFIRMED POSITION **** LATITUDE LONGITUDE DURATION SRR /BUFFER/BUFF_2 42 12.4N 070 39.9W 000.4 HRS CGD01

**** SUPPORTING INFORMATION **** USMCC PROCESSING TIME: 06 1321 JAN

THIS ALERT MESSAGE IS BEING SENT TO: CGD01,C2cen

ALERT MESSAGES FOR THIS SIGNAL PREVIOUSLY SENT TO: CGD01

PREVIOUS MESSAGE INFORMATION:

 PROB
 EE
 SOL
 LATITUDE
 LONGITUDE
 DETECT
 TIME
 SAT
 NUM
 SOURCE

 82
 N/A
 4
 13.3N
 070
 38.5W
 06
 1121
 JAN
 512
 011
 CMCC

 N/A
 N/A
 4
 2
 12.7N
 070
 27.7W
 06
 1113
 JAN
 MEO
 005
 HI-MEO

 89
 N/A
 A
 2
 10.3N
 070
 43.3W
 06
 1103
 JAN
 57
 010
 CMCC

 N/A
 N/A
 D
 42
 15.3N
 070
 52.1W
 06
 1105
 JAN
 MEO
 031
 FMCC

 N/A
 N/A
 D
 42
 15.3N
 070
 50.2W
 06
 1100
 JAN
 MEO
 031
 FMCC

CMCC will not issue an equivalent message.

Initiating CMCC Backup of USMCC

/00011 00000/3160/20 015 1522 /915/3661 / FROM: CMCC TO: AFRCC SUBJ: USMCC OUT OF SERVICE / CMCC INITIATING BACKUP PROCEDURE

THE USMCC IS OUT OF SERVICE. CMCC HAS ASSUMED RESPONSIBILITY OF SENDING ALERTS TO THE US RCCS, SPOCS, AND SSAS CONTACTS. DURING THIS BACKUP PERIOD, YOU WILL RECEIVE SARSAT ALERTS IN THE INTERNATIONAL SIT 185 FORMAT.

USCG RCCS WILL RECEIVE ALERTS VIA EMAIL. CMCC REQUESTS THAT YOU ACKNOWLEDGE EACH MESSAGE VIA A REPLY EMAIL. THERE IS NO REQUIREMENT TO ADD TEXT TO THE BODY OF THE MESSAGE AS THE SUBJECT LINE GIVES US THE INFORMATION REQUIRED TO KNOW WHICH MESSAGE YOU ARE ACKNOWLEDGING.

THERE WILL BE NO RECORDS CREATED IN THE INCIDENT HISTORY DATABASE (IHDB) AND CMCC DOES NOT HAVE THE ABILITY TO CLOSE SITES.

CMCC CANNOT ACCESS THE US REGISTRATION DATABASE (RGBD). US RCCS ARE REQUIRED TO DIRECTLY QUERY THE RGDB WHEN NEEDED. CMCC MAY CALL A US RCC TO REQUEST BEACON REGISTRATION INFORMATION FOR US BEACONS DETECTED IN CANADA.

NOTE THAT THE IHDB AND RGDB MAY NOT BE AVAILABLE.

PLEASE ACKNOWLEDGE RECEIPT OF THIS MESSAGE AS SOON AS POSSIBLE VIA EMAIL TO CMCC@sarnet.dnd.ca. ADDITIONAL CMCC CONTACT INFORMATION IS AT THE BOTTOM OF THIS MESSAGE.

BEST REGARDS, CMCC OPERATOR

CMCC CONTACT INFORMATION: PHONE: (613) 965-7265 FAX: (613) 965-7494 EMAIL: CMCC@sarnet.dnd.ca /LASSIT /ENDMSG



/00011 00000/3160/20 015 1522 /915/3661 / FROM: CMCC TO: BERMUDA SUBJ: USMCC OUT OF SERVICE / CMCC INITIATING BACKUP PROCEDURE TEXTO ESPANOL SIGUE

SUBJECT: USMCC OUT OF SERVICE - CMCC INITIATING BACKUP PROCEDURE

THE USMCC IS OUT OF SERVICE. THE CANADIAN MISSION CONTROL CENTER (CMCC) HAS ASSUMED RESPONSIBILITY OF SENDING ALERTS TO THE US RCCS, SPOCS, AND SSAS CONTACTS. DURING THIS BACKUP PERIOD, YOU WILL RECEIVE SARSAT ALERTS IN SIT 185 FORMAT FROM CMCC. PLEASE ACKNOWLEDGE RECEIPT OF ALL ALERTS RECEIVED FROM CMCC USING ONE OF THE CONTACT METHODS BELOW (EMAIL PREFERRED).

THERE WILL BE NO RECORDS CREATED IN THE INCIDENT HISTORY DATABASE (IHDB). NOTE THAT THE IHDB MAY NOT BE AVAILABLE.

PLEASE ACKNOWLEDGE RECEIPT OF THIS MESSAGE FROM CMCC AS SOON AS POSSIBLE BY EMAIL (CMCC@sarnet.dnd.ca).

ASUNTO: USMCC FUERA DE SERVICIO - CMCC INICIA EL PROCEDIMIENTO DE COPIA DE SEGURIDAD

EL USMCC YA NO ESTA EN SERVICIO. EL CENTRO DE CONTROL DE LA MISIÓN CANADIENSE (CMCC) HA ASUMIDO LA RESPONSABILIDAD DE ENVIAR ALERTAS A LOS RCC DE LOS ESTADOS UNIDOS, SPOCS. Y CONTACTOS SSAS.DURANTE ESTE PERÍODO DE COPIA DE SEGURIDAD, RECIBA ALERTAS SARSAT EN SIT 185 DE CMCC. POR FAVOR ACUSAR RECIBO DE TODAS LAS ALERTAS RECIBIDAS DE CMCC UTILIZANDO UNO DE LOS MÉTODOS DE CONTACTO A CONTINUACIÓN (SE PREFIERE EL CORREO ELECTRÓNICO).

NO SE CREARÁN REGISTROS EN LA BASE DE DATOS DEL HISTORIAL DE INCIDENTES (IHDB). TENGA EN CUENTA QUE ES POSIBLE QUE EL IHDB NO ESTÉ DISPONIBLE.

POR FAVOR, ACUSE RECIBO DE ESTE MENSAJE DE CMCC TAN PRONTO COMO POSIBLE POR CORREO ELECTRÓNICO (CMCC@sarnet.dnd.ca)

BEST REGARDS / SALUDOS, CMCC OPERATOR

CMCC CONTACT INFORMATION: EMAIL/ CORREO ELECTRÓNICO: CMCC@sarnet.dnd.ca FAX / NUMERO DE FAX : (613) 965-7494 PHONE / TELEFONO: (613) 965-7265 (ENGLISH ONLY) /LASSIT /ENDMSG



Current Software/Network Limitations and Effect on Procedures

Email issues resolved since presentation

uscg.mil email servers blocking inbound sarnet.dnd.ca emails

- cmcc@sarnet.dnd.ca can receive from uscg.mil emails

LANTAREA fax machine unserviceable resolved since presentation

LANTAREA alerts routed through AFRCC (AFTN primary)





Questions?

Capt Jamie Doucette, CMCC Chief Operator

doucettej@sarnet.dnd.ca* 613-392-2811 X7265

*Receive-only for uscg.mil emails. Secondary jamie.doucette@ecn.forces.gc.ca