OPERATIONS PLAN FOR THE COSPAS-SARSAT INTERNATIONAL 406 MHz BEACON REGISTRATION DATABASE

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COSPAS **SARSAT**

OPERATIONS PLAN FOR THE COSPAS-SARSAT

INTERNATIONAL 406 MHz BEACON REGISTRATION DATABASE

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TABLE OF CONTENTS

TABLE OF CONTENTS (cont.)

page left blank

1.   INTRODUCTION

1.1   Purpose

This document details the Operations Plan for the International Beacon Registration Database (IBRD) for Cospas-Sarsat 406 MHz distress beacons, to include delimiting the database functions, principles of operation, roles and responsibilities, and system use and maintenance. The IBRD is provided and operated under the authority of the Cospas-Sarsat Council. In this document the name Cospas-Sarsat means the Cospas-Sarsat organisation and any body (including contractors) designated / appointed directly or indirectly by the Council.

1.2   Background

Cospas-Sarsat Participants operate a satellite system capable of detecting and locating distress alert transmissions from radio beacons operating at 121.5, 243 and 406 MHz. The beacon signals transmitted over 121.5 MHz and 243 MHz do not include any identification that can be processed by the receiving stations of the Cospas-Sarsat system. Therefore, there is no operational advantage to registering these types of beacons.

The Cospas-Sarsat 406 MHz system provides search and rescue (SAR) services with distress alerts that include the unique 15-character hexadecimal identification of the transmitting beacon. This beacon identification can be decoded to obtain information including:

a)   the type of beacon, i.e. aircraft Emergency Locator Transmitter (ELT), vessel Emergency Position Indicating Radio Beacon (EPIRB) or Personal Locator Beacon (PLB);

b)   the country code and identification data which form the unique beacon identification; and

c)   the type of auxiliary radio locating (homing) device.

If a beacon is properly registered, the 15-character hexadecimal identification of the beacon can be used to access additional information. Beacon registration databases can provide information of great use to SAR services, including:

a)   specific aircraft or vessel identification information;

b)   the make/model of aircraft or vessel in distress;

c)   communications equipment available; and

d)   the number of persons onboard.

Such information can be made available to SAR services only if the required information is provided to the registration authority by the beacon owner/operator.

Registration of 406 MHz beacons is required in accordance with international regulations on SAR established by the International Civil Aviation Organization (ICAO) and the International Maritime Organization (IMO), and registration information must be made available to SAR services on a 24-hour basis. A number of countries have made 406 MHz beacon registration mandatory and maintain national 406 MHz beacon registration databases.

However, despite the clear advantages of registration, a large number of 406 MHz beacons are not properly registered due to a lack of registration facilities in a number of countries. Furthermore, a number of beacon registries do not have 24-hour points-of-contact easily accessible by SAR services. The IBRD is freely available to users with no access to national registration facilities and to Administrations who wish to avail themselves of the facility to make their national beacon registration data more available to SAR services.

The IBRD provides various levels of access to:

  a)   beacon owners who wish to register their beacons;

  b)   Administrations who wish to make registration data available to international SAR services; and

  c)   SAR services that need to access beacon registration data to efficiently process distress alerts.

Cospas-Sarsat provides the IBRD solely for the purpose of assisting SAR Services in SAR operations. The IBRD is not intended to fulfil the obligation of national Administrations, as required by IMO and ICAO, to provide a national beacon registration facility.

1.3   Document Organisation

Section 2 provides a description of the database functions, services and the beacon registration data recorded.

Section 3 defines various roles in the operation and maintenance of the IBRD and the IBRD principles of operation. The responsibilities of User Administrations, Beacon Owners, SAR Services and the Database Administrator are defined. The specific responsibilities of various segments of Cospas-Sarsat are outlined.

Section 4 gives user instructions for various functions including registering a beacon, updating beacon information and fault reporting.

Section 5 describes the configuration management plan for the IBRD and provides procedures for addressing changes proposed by IBRD users.

1.4   Reference Documents

The following documents contain more detailed information on the operation of the Cospas-Sarsat system and the IBRD.

   a)   C/S G.003, Introduction to the Cospas-Sarsat System

   b)   C/S T.001, Specification for Cospas-Sarsat 406 MHz Distress Beacons

   c)   C/S D.001, IBRD Functional Requirements Document

   d)   C/S D.002, IBRD Software Maintenance Manual

   e)   C/S D.003, IBRD System Maintenance Manual

   f)   C/S D.005, IBRD Implementation Plan

- END OF SECTION 1 –

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2. DATABASE FUNCTIONS

IBRD functions include providing the means to enter, view, modify and query records in the database, ensuring that records are available, providing automated monitoring of the registration process, maintaining the database and generating various reports as required to manage the database.

Detailed requirements for IBRD functionality are specified in the document C/S D.001 "Functional Requirements for the Cospas-Sarsat International 406 MHz Beacon Registration Database".

In general, the IBRD will:

a)   provide a means for registering beacons individually;

b)   provide a means for bulk uploading multiple beacon registration records in a single operation by National Data Providers;

c)   accommodate all types of 406 MHz beacons, including EPIRBs, ELTs, and PLBs;

d)   decode bits 27-36 of the 406 MHz beacon identification code to determine the country code and only accept registrations from countries on the list of supported country codes;

e)   allow changes to the list of supported country codes and registration of beacons with unsupported country codes by the Database Administrator;

f)   store beacon registration information, including the 15 Hex ID of the beacon and additional information per the complete list of data elements provided as Annex B to document C/S D.001;

g)   automatically acknowledge initial registration and each registration modification;

h)   provide a user interface that allows changes to individual fields of beacon records to be tracked separately;

i)   provide access via the Internet to Data Providers, National Data Providers, SAR services and the Database Administrator, and provide these users with the capability to view records, create records, modify records, change beacon status, and query multiple records, as appropriate; and

j)   provide tools for statistical analysis of database operations and for listing of beacon registrations per country code.

- END OF SECTION 2 -

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3.   COSPAS-SARSAT IBRD OPERATIONS POLICY

Per IMO and ICAO regulations, it is the sole responsibility of States to provide the appropriate regulatory environment, facilities and resources that are required for an effective registration process. The IBRD is a means designed to assist with the registration process when, due to lack of resources, States have not implemented facilities that provide for a national register, or cannot make registration data available to SAR authorities on a 24 hour basis.

In providing the IBRD and making the IBRD available to States and users under their jurisdiction, Cospas-Sarsat does not accept or take over the specific responsibilities of States as stated by IMO and ICAO and declines all responsibilities or liabilities that might be associated with the registration of any data in the IBRD, or its availability or unavailability to SAR authorities. In particular, the IBRD has not been designed and is not intended to be the sole repository of 406 MHz beacon registration data available to SAR services. In this regard, Cospas-Sarsat does not provide any guaranty as to the continuous operation of the IBRD.

3.1   Data Accuracy and Integrity

The content of registration information stored in the IBRD is the responsibility of the person, organisation, or Administration that provided the information. Cospas-Sarsat does not accept any responsibility or liability in respect of the accuracy of registration information submitted by users.

Administrations and beacon owners are exclusively responsible for providing and updating beacon registration information. Therefore, Cospas-Sarsat will only accept beacon registrations and updates from Administrations and/or beacon owners.

Cospas-Sarsat will only accept beacon registrations submitted via the online facilities provided by the IBRD. Beacon registrations submitted in paper format or via other communication facilities will not be accepted.

Cospas-Sarsat will not enter beacon registration information into the IBRD on behalf of either beacon owners or Administrations.

Cospas-Sarsat will not modify beacon registration information, unless absolutely essential to repair a problem that, if not corrected, could damage the system or corrupt the database.

If, in the conduct of SAR operations, a SAR service provider advises Cospas-Sarsat that IBRD registration data is not correct, Cospas-Sarsat will not attempt to contact the associated registration data provider, nor will Cospas-Sarsat modify registration data based upon information provided by the SAR service provider.

Cospas-Sarsat will implement procedures to avoid where possible the loss or corruption of beacon registration data within the IBRD. Nevertheless, Cospas-Sarsat will not accept responsibility for any loss or corruption of registration information that may occur.

3.2   Specific National Data Provider Requirements

3.2.1   National Requirements or Regulations

Cospas-Sarsat recognises that Administrations may have national requirements or regulations concerning acceptable beacon models, beacon message coding options, beacon types, etc. However, Cospas-Sarsat will not provide facilities in the IBRD to accommodate or enforce such national requirements. Should an Administration wish to control these matters and still use the IBRD, the Administration should take responsibility for registering beacons with its country code (i.e., not allow beacon owners to register their beacons directly). This provides the Administration with the opportunity to confirm the suitability of the registration data, in terms of national requirements, before the registration data is submitted for inclusion in the IBRD.

3.2.2   Batch Processing

Cospas-Sarsat will allow Administrations the option of submitting multiple registrations (and updates) to the IBRD in a single file for batch processing. Should an Administration want to use this capability, the Administration would be responsible for providing the batch file in the exact format described, and submitting the file in a manner compatible with the IBRD. Cospas-Sarsat will not modify files provided by Administrations in order to render them compatible with the IBRD. Neither will Cospas-Sarsat modify the IBRD to accommodate other file structures.

Subject to a file being submitted for batch processing in accordance with the above, the IBRD will attempt to process the file, and send a report to the Administration detailing the results of the processing. It is the responsibility of the Administration to ensure that this report has been received, that any problems reported in the file are addressed, and to contact the IBRD Administrator if the file was not received.

3.2.3   IBRD Use When a National Register Also Exists

The IBRD was designed to be available to users when no national registration facilities have been implemented, and to Administrations who wish to avail themselves of the facility to make their national beacon registration data available to SAR services. An Administration that operates a beacon register at the national level may decide to periodically upload data to the IBRD. In this case, care must be taken to ensure that the data held in the IBRD is updated with the same periodicity as the national database.

3.3   Data Provider/Beacon Owner Policy

By default, Cospas-Sarsat will configure the IBRD to accept beacon registrations from beacon owners unless the Administration associated with the beacon's country code:

   a)   has advised Cospas-Sarsat that they are operating a national database with a 24-hour point of contact; or

   b)   has advised Cospas-Sarsat that they wish to control the registration of beacons with their country code.

If a beacon owner uses the facilities or services of a beacon agent to register a beacon, Cospas-Sarsat will still recognise the beacon owner as the legitimate data provider for the registration.

3.4   IBRD Availability and Support Services

The IBRD was developed to improve the effectiveness of Cospas-Sarsat alert data, and is offered for use "as provided". Cospas-Sarsat will support the operation of the IBRD on a best effort basis, but provides no guarantee in respect of its availability or performance.

Cospas-Sarsat will strive to maintain a high level of IBRD availability, and will implement maintenance and repair programmes as required. However, Cospas-Sarsat does not guarantee a minimum IBRD availability to Administrations, SAR services or beacon owners. Further, Cospas-Sarsat will not be responsible for damages or losses that may result from IBRD unavailability.

It is recognised that the first indication that the IBRD has ceased functioning may come from a database user, rather than it being detected by the database operator or manager. To address this possibility, Cospas-Sarsat will, on a best effort basis, arrange for a 24-hour point of contact to receive problem reports from users.

Cospas-Sarsat, on a best effort basis, will respond to requests for assistance by Administrations, SAR services and beacon owners. Support services provided by Cospas-Sarsat will only be offered during normal working hours, and subject to the availability and workload of the staff operating the database.

Cospas-Sarsat will provide access to the IBRD in four languages as described below:

   a)   only the English character set will be allowed for registration data entry;

   b)   the user interface used by SAR services for querying the database will be available in English only; and

   c)   the user interface used by data providers for registering beacons online will be available in English, French, Russian and Spanish.

For beacon registrations that are not under the control of Administrations, the IBRD includes a capability for reminding beacon owners via e-mail of the need to confirm the status of their registration details at regular intervals. If a beacon registration record does not include a legitimate e-mail address, Cospas-Sarsat will not attempt to confirm registration information. Cospas-Sarsat will track the results of automatic census programmes on a best effort basis.

3.5   Disclaimer

Cospas-Sarsat will not allow registration data to be entered into the IBRD or existing data to be modified until a disclaimer has been agreed by the prospective data provider (i.e., the beacon owner or the Administration). The disclaimer form will appear and will require acknowledgement before National Data Providers and Data Providers (beacon owners) can proceed with uploading of registration data.

The disclaimer text is provided at Annex B.

3.5.1   Data Provider Disclaimer

The disclaimer will advise the data provider, that:

a)   their beacon registration information may be made available to SAR services for SAR purposes, as required;

b)   their beacon registration information may be made available to the Administration designated by the country code of the beacon;

c)   although the database includes security features that limit the release of registration data to SAR services, Cospas-Sarsat will not be responsible for unauthorised access or unauthorised changes to registration data which may result from malicious activities;

d)   it is the data provider's responsibility for ensuring that registration data is correct and current;

e)   Cospas-Sarsat will, on a best effort basis, implement measures to protect the integrity of the data, however, Cospas-Sarsat does not guarantee that registration information will not be corrupted or lost;

f)   data providers are responsible for obtaining the permission of the persons identified as 24-hour point of contacts to submit their details for inclusion in the IBRD; and

g)   Cospas-Sarsat accepts no liability for loss of life or property that may result from inaccurate or incomplete data.

3.5.2 SAR Services Disclaimer

Cospas-Sarsat will not allow SAR services to query the database until they have:

a) confirmed that the registration data they obtain from the IBRD will be used for SAR purposes only; and

b) acknowledged that Cospas-Sarsat does not guarantee the accuracy or completeness of the data and accept no liability for loss of life or property which may result from inaccurate or incomplete data.

The disclaimer form will appear and will require acknowledgement before SAR Users can proceed with submitting queries.

- END OF SECTION 3 -

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4.   IBRD MANAGEMENT

4.1   Definition of Roles

The Cospas-Sarsat Council defines the Cospas-Sarsat policies for operating the IBRD, providing guidance and direction to the Database Administrator, as required.

The Joint Committee provides technical oversight of the IBRD, and makes recommendations to the Cospas-Sarsat Council as appropriate.

The Database Administrator, as designated by the Cospas-Sarsat Secretariat, is the main point of contact for administrative issues and contract management.

The Database Operator is the contractor selected by the Cospas-Sarsat Council for providing the web hosting facility and services.

Each national Administration should provide the Database Administrator with a National IBRD Point of Contact. For Cospas-Sarsat Participants, the National IBRD Point of Contact will be the Cospas-Sarsat Representative. For countries not associated with the Programme, Cospas-Sarsat will accept the National IBRD Point of Contact designated by either the IMO or ICAO official representative for that country.

4.2   Access and Passwords

Access to the IBRD database is validated for each user, depending on the user class, as follows:

a)   Data Provider: beacon "15 Hex ID" AND "password";

b)   National Data Provider, SAR services and maintenance facilities: "national user identification" AND "password"; and

c)   Database Administrator: "user identification" AND "password".

Level of access to the IBRD for each category of user is documented in Table 3.1 of document C/S D.001, Functional Requirements for the Cospas-Sarsat International 406 MHz Beacon Registration Database.

Beacon owners select their own password at time of beacon registration.

Administrations who elect to use the IBRD must request a national password from the Database Administrator. Detailed procedures for obtaining user identifications and passwords are contained in section 5.

The National IBRD Point of Contact is responsible for distribution of the password(s) to their National Data Providers, SAR Services, authorized shore based maintenance facilities and aircraft maintenance facilities, and ship and aircraft inspectors.

4.3   Special Procedures for Access to SSAS Beacon Registration Information

Currently Ship Security Alert System (SSAS) beacons are not allowed in the IBRD.

4.4   Responsibilities

The responsibilities of User Administrations, Beacon Owners, SAR Services, the Database Administrator and the Database Operator in the operation and use of the IBRD are defined in the sections below.

The content of registration information stored in the IBRD is the responsibility of the person, organisation, or Administration that provided the information. Cospas-Sarsat does not accept any responsibility or liability in respect of the accuracy of registration information submitted by users.

4.4.1   Administrations

It is the responsibility of Administrations to provide a capability for registering distress beacons, and making registration information available to SAR services on a 24-hour basis. The IBRD does not replace Administrations' responsibilities in this regard. All Administrations should notify Cospas-Sarsat of the details of their national 406 MHz beacon register and contact information for 24-hour access.

If Administrations wish to make use of the IBRD to register beacons with their country code, they need to notify Cospas-Sarsat of their decision either to control beacon registrations or to allow beacon owners within their jurisdiction to directly register beacons coded with their country code in the IBRD.

Administrations who do not wish to allow registering of beacons with their country code but will use the IBRD for SAR Services beacon registration information queries should so state when requesting National passwords from the IBRD Database Administrator (see section 5 for instructions on requesting passwords).

The National IBRD Point of Contact should notify the Database Administrator of the country's intent to use the IBRD for registering beacons with that country code and/or for SAR Service registration queries using text similar to that at Annex D.

The National IBRD Point of Contact should:

a)   request national user identification names and passwords for use by their:

-   National Data Providers (if required),

- SAR Services,

- authorized shore based maintenance facilities, ship and aircraft inspectors, and aircraft maintenance facilities;

b)   inform national users of the availability of the IBRD;

c)   distribute, as appropriate, the user identification names and passwords, as provided by the Database Administrator, to:

- National Data Providers (if required),

- SAR Services,

- authorized shore based maintenance facilities, ship and aircraft inspectors, and aircraft maintenance facilities;

d)   ensure that all data corresponding to their country code is input in a complete and accurate manner;

e)   correct beacon registration information, as appropriate; and

f)   perform the appropriate census to ensure that all data corresponding to their country code is updated at least every two years.

The National IBRD Point of Contact will serve as contact point for the Database Administrator and will be responsible for resolving any problems arising with registration of beacons with their country code and with the use of the IBRD.

National Data Providers may submit multiple registrations (and updates) to the IBRD in a single file for batch processing. The batch file submitted must be in the correct format and submitted in a manner compatible with IBRD operation, as documented in Annex C. After the file is submitted, the IBRD will attempt to process the file, and send a report to the National Data Provider detailing the results of the processing. The National Data Provider should:

-    ensure that this report has been received,

-    ensure that any problems reported in the file are addressed, and

-    contact the IBRD Administrator if the report is not received.

4.4.2   Beacon Owners

Subject to the provisions of section 3.1, Cospas-Sarsat will allow beacon owners to register their beacons and update existing registration information contained in the IBRD. Access to the registration information will be protected with user identification, in this case the beacon 15 Hex ID, and a password. Facilities are provided in the IBRD user interface to address forgotten passwords.

Beacon owners are responsible for ensuring that their beacon registration is accurate and current. Updates of beacon registration information should be accomplished as required or every two years at minimum.

Cospas-Sarsat does not accept any responsibility or liability in respect of the accuracy of registration information submitted by beacon owners or their agents.

4.4.3   SAR Services

SAR services can query the IBRD in support of SAR requirements. In order to log in to the IBRD, SAR Services must request distribution of their National SAR Services user identification and password, as allocated by the Database Administrator, to their National IBRD Point of Contact.

SAR services do not have the capability to directly modify any data contained in the IBRD. If, in the conduct of SAR operations, a SAR service discovers errors in IBRD registration data, it is their responsibility to inform either the data provider (beacon owner) or the responsible national administration.

4.4.4   Database Administrator

The Database Administrator functions are provided by the Cospas-Sarsat Secretariat. The Database Administrator manages and administers the IBRD in accordance with policy guidance and direction given by the Council. The Database Administrator manages the database web-hosting contract and directs the Database Operator on actions required to maintain the appropriate level of service to IBRD users.

The Database Administrator has the authority to take required actions to maintain IBRD availability, e.g. if an upgrade to the software underlying the IBRD application software impacts the availability of the IBRD application software, the Database Administrator will let a contract for appropriate upgrades to the IBRD application software.

4.4.4.1   General Responsibilities

The Database Administrator controls:

a)   changes to the list of supported country codes;

b)   allocation of passwords for National Administrations, including provision of forgotten passwords to National IBRD Points of Contact; and

c)   deactivation and reactivation of accounts of National Administrations.

The Database Administrator oversees the configuration management process described in Section 6 of this document.

4.4.4.2   View and Action User Fault Reports

Faults are reported to the Database Administrator's email or postal address identified in the IBRD user interface. The IBRD user interface provides users with a simple means of filling out a feedback form and forwarding it on-line.

The Database Administrator, on a best effort basis, will respond to requests for assistance by Administrations, SAR services and beacon owners. Support services provided by Cospas-Sarsat will only be offered during normal working hours, and subject to the availability and workload of the staff operating the database.

4.4.4.3   Monitoring and Reporting

The Database Administrator will process monthly reports from the Database Operator including details of security patches, virus protection, intrusion detection, COTS software upgrades and backups.

The Database Administrator, using tools provided in the IBRD application software, will prepare reports on system statistics and IBRD operations as directed by the Council.

4.4.4.4   Database Operations

The Database Operator, under the direction of the Database Administrator, will provide the following services:

a)   provision of computer hardware infrastructure adequate to support the IBRD requirements;

b)   provision of computer software adequate to support the IBRD requirements;

c)   upon delivery of the IBRD software, installation of the IBRD software and associated COTS software on the IBRD hardware;

d)   provision of Internet connectivity to ensure adequate connectivity to the IBRD;

e)   monitoring and reporting of system performance;

f)   backup services for the IBRD;

g)   virus protection and intruder detection;

h)   24/7 telephone and email support services to respond to database, hardware or communications failures;

i)   physical security and disaster recovery for the IBRD host site;

j)   remove beacon registration records from the IBRD that have not been confirmed or updated for more than 10 years, and archive those registration records for 10 additional years; and

k)   remove log files that are older than 180 days, archive log files every 45 days and retain archived log files for 10 years.

4.4.4.5   Database Operations Performance Standards

The services provided by the Database Operator shall comply with the following performance standards:

a)   IBRD service annual availability shall be at least 99.5%, and shall not remain continuously unavailable for time periods of more than 2 hours;

b)   daily incremental backup and weekly complete backup of the IBRD with monthly offsite media storage for a period of 10 years;

c)   technical support experts shall be available immediately during business hours and within1 hour after business hours;

d)   the IBRD is required to have the capability to accommodate the current and forecast 406 MHz beacon population, up to 1,000,000 records;

e)   the total processing time for recording data and transmitting a response to the Internet entry point shall not exceed 30 seconds;

f)   the response time for a SAR service query shall not exceed 30 seconds; and

g)   all requirements shall be met with up to 100 simultaneous users and one ongoing bulk data upload by a National Data Provider.

4.4.4.6   Database Operations Monitoring and Reporting

The Database Operator will monitor the system and report as directed to the Database Administrator on a monthly basis.

- END OF SECTION 4 -

5.   USER INSTRUCTIONS

The IBRD user interface was designed to be self-explanatory, guiding the user through the registration and query process with online help available at each step. Each input field, wherever possible, provides drop-down menus for user input. When possible, the list of entries is limited to allowable values and user input is checked for errors. When errors are detected, warnings are provided online.

5.1   Procedures for Requesting User ID and Password

5.1.1   National Administrations

The Database Administrator will allocate user identifications and passwords to National IBRD Point of Contact. Passwords and user identifications will be sent to the National IBRD Point of Contact via regular post.

The password and user identification request must be provided in writing to the Database Administrator using the address and text similar to that provided at Annex D. The request should specify whether user identification and passwords are required for:

a)   National Data Providers for registration of beacons with their country code;

b)   SAR Services for IBRD queries;

c)   authorized shore based service facilities and inspectors.

It is the responsibility of the National IBRD Point of Contact to forward the user identification and password to their national SAR Services, Data Providers and authorized maintenance facilities and inspectors.

Provision of forgotten passwords or reactivation of the deactivated national accounts is accomplished through a written request from the National IBRD Point of Contact to the Database Administrator. Passwords or replacement passwords will not be allocated based upon a telephone or e-mail request. The Database Administrator will endeavour to respond to requests for passwords within 1 week of receiving the written request.

If the National IBRD Point of Contact notifies the Database Administrator that they prefer to control the registration of beacons in the IBRD at a national level, the Database Administrator will provide national user identification and a password that will allow only the National Data Provider to register and modify existing registrations of beacons with their country code. Beacons owners who attempt to register beacons with that country code will be provided with a pop up screen advising them of

appropriate contact information for beacon registration as provided by the National IBRD Point of Contact.

5.1.2   SAR Services

SAR Services will obtain a national user identification and password from their National IBRD Point of Contact.

5.1.3   Beacon Owners

Subject to receipt by the Database Administrator of National Administration authorization to directly register beacons with their country code in the IBRD, beacon owners have the capability to select their own password on-line. A password shall have a minimum of 8 characters, and be a combination of letters and figures. The user identification associated with the password is the beacon's 15 Hex ID.

Provision of forgotten beacon owner password and the reactivation of beacon owner accounts are possible via a password "challenge" question/answer process. Upon successful completion of the challenge question/answer process, the account is automatically reactivated. If required, the assigned password is automatically sent to the beacon owner using the e-mail address recorded in the beacon registration by that Data Provider.

5.2   Viewing and Modifying Beacon Registration Information

By logging in with the appropriate password, the various categories of Data Provider will be given appropriate access to beacon registration information as documented in Table 3.1 of document C/S D.001, Functional Requirements for the Cospas-Sarsat International 406 MHz Beacon Registration Database.

5.2.1   National Data Providers

National Administrations have the capability to modify beacon registrations associated with their country code. In order to accomplish this, the Administration should log into the IBRD using their National Data Provider user identification and password.

National Data Providers may submit beacon registration files in bulk using the procedure described at Annex C.

5.2.2   SAR Users

After logging on as a "SAR User" from the IBRD initial user interface screen using their national SAR User identification and password, SAR services are provided with a "SAR User Search Options" interface screen. To view beacon registration information for a given beacon Hex ID, the SAR User would provide the Hex ID in the "Beacon ID" box, select "Search", and then view the resulting beacon registration information.

SAR Users do not have the capability to modify beacon registration data.

5.2.3   Beacon Owners

Specific limitations apply for Data Provider's access to registered information. After logging in to the IBRD with the appropriate user identification and password, beacon owners are permitted to:

a)   view and modify registration records for their own beacons; and

b)   view and modify only one beacon registration record at a time.

5.2.4   Ship/Aircraft Surveyors and Inspectors

After logging in to the IBRD with the appropriate user identification and password, authorized ship/aircraft surveyors and shore-based maintenance (SBM), or aircraft maintenance providers can view beacon data and vehicle information, excluding beacon owner information. They cannot modify beacon registration information.

5.3   Submitting a Query

National Data Providers, SAR Services and authorised ship/aircraft surveyors and maintenance providers have the ability to submit search queries to the IBRD as described in document C/S D.001, Functional Requirements for the Cospas-Sarsat International 406 MHz Beacon Registration Database, Table 3.1.

After logging on as a "SAR User" from the IBRD initial user interface screen, the National Data Provider, SAR services and Database Administrator are provided with a "SAR User Search Options" user interface screen. This user interface allows a complex array of search options, including searches by beacon identification, vessel name, aircraft manufacturer, aircraft model, owner's name, registration number, radio call sign, vehicle type, beacon block ID, MMSI, last updated, last confirmation date and beacon status. Search results can be sorted by beacon ID, country code, beacon type, owner's name, vessel name or radio call sign.

5.4   Fault Reporting

Routine faults and performance improvement suggestions should be reported through the user feedback form provided by the IBRD user interface.

Database unavailability should be reported immediately, by telephone, to the Database Operator.

5.4.1   Database, Hardware or Communications Failure

The Database Operator is responsible for faults associated with lack of availability of the IBRD due to communications failure. The Database Operator provides 24/7 telephone and email support services to respond to database, hardware or communications failures. The Database Operator will have technical support experts available immediately during business hours, and will respond within 1 hour after business hours.

5.4.2   User Feedback

At the bottom of every IBRD screen, there is link to a user feedback survey. The feedback survey requires as mandatory input the fields "type of user" (Beacon Owner, National Data Provider, SAR Services, ship/aircraft surveyors and SBM providers, Database Administrator, Database Operator), "actions actually performed" (viewing, modifying, creating, querying, other), "feedback category" (content suggestions or corrections, questions, webmaster, other) and requests that the user provide further information including mailing address, phone number, and email address. The form then provides a text box, where problems encountered or suggestions for improvements/enhancements can be entered. Reports are stored within the IBRD. The Database Administrator views the reports periodically with MS Access or SQL query tools.

- END OF SECTION 5 -

6.   CONFIGURATION MANAGEMENT PROCESS

The Database Administrator will monitor the performance of the IBRD and report its status to the Cospas-Sarsat Council annually. Cospas-Sarsat, on a best effort basis, will implement changes to the IBRD to meet the performance requirements described in document C/S D.001. These may include, but are not limited to:

   a)   arranging for contracts to repair problems with the IBRD;

   b)   arranging for contracts to make improvements to the IBRD; and

   c)   monitoring the performance of the IBRD hosting services, and taking corrective action if required.

6.1   Description of the Change Control Process

The Database Administrator manages the change control process. IBRD issues will be identified through the user problem reports catalogued by the IBRD, based on the user feedback surveys described in section 5 of this document. Problems reported can be categorized as either functionality issues (e.g. suggestions for improvements to the user interface, including further choices for pull down menus) or performance problems (e.g. "I tried to log in and system was down", or "I lost my password"). Problems will be reviewed by a technical board to advise the Database Administrator on the priority, impact and possible side effects of proposed changes.

The Database Administrator has the authority to issue contracts in order to implement minor changes required to solve problems that require immediate attention in order to allow the IBRD to meet performance standards.

Major database modifications and improvements will be proposed by the Database Administrator at routine Cospas-Sarsat meetings and will require technical recommendation from the Joint Committee and Council approval. In this respect, the Joint Committee and Council act as the IBRD configuration control board.

The Database Administrator will control updates to the databases within the IBRD that contain:

   a)   the list of country codes for Administrations that have authorized use of the IBRD for direct beacon registration of beacons with their country code, and

   b)   the national points of contact and phone numbers for national database authorities for countries that have not authorized direct registration of beacons in the IBRD.

In addition, the Database Administrator will maintain a list of National IBRD Points of Contact for those Administrations that have requested access to the IBRD.

6.2 Changes Proposed by IBRD Users

IBRD users will submit change requests using the feedback form provided in the IBRD user interface. These change requests will be periodically reviewed and actioned by the Database Administrator.

6.2.1 Improvements, Enhancements and Adaptations

To address issues that do not require immediate attention yet require modification within the initial two-year period of operation, the Database Administrator will submit an annual report to the Joint Committee for technical discussion and recommendation to Council. The report will propose changes to the IBRD to improve its performance, enhance user services, or adapt the IBRD to changing requirements.

6.2.2 Emergency Changes

In case of a system outage, the Database Administrator will take immediate action to resolve problems, operating in accordance with Council guidance.

- END OF SECTION 6 -

ANNEX A

LIST OF ABBREVIATIONS AND ACRONYMS

COSPAS	Space system for the rescue of vessels in distress (Russian Federation)
COTS	Commercial off the shelf
C/S	Cospas-Sarsat
ELT	Emergency Locator Transmitter
EPIRB	Emergency Position Indicating Radio Beacon
FAX	Facsimile
FAQ	Frequently asked question
IBRD	International 406 MHz Beacon Registration Database
ICAO	International Civil Aviation Organization
ID	Identification
IMO	International Maritime Organization
IP	Internet protocol
ITU	International Telecommunication Union
MARS	Maritime mobile acces and retrieval system (ITU database)
MCC	Cospas-Sarsat Mission Control Centre
MHz	Megahertz
MMSI	Maritime Mobile Station Identity
POC	Point of contact
PLB	Personal Locator Beacon
RCC	Rescue Coordination Centre
SAR	Search and Rescue
SARSAT	Search and Rescue Satellite Aided Tracking system (Canada, France, USA)
SBM	Shore-based maintenance
SQL	Structured query language
TAC	Type approval certificate
15 Hex ID	15 hexadecimal character identification

- END OF ANNEX A -

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ANNEX B

<u>DISCLAIMER</u>

Important Notice to Data Providers

You must agree to the following statements before entering or modifying any International Beacon Registration Database (IBRD) registration record:

- The purpose of the IBRD is to assist SAR Services in carrying out their mission of search and rescue and false alert abatement. Although the information provided will become a matter of public record, there is no intent to circulate the information furnished beyond the National Administration designated by the country code of the beacon and to authorised SAR Services.

- Cospas-Sarsat is neither responsible nor liable for the accuracy of the data in the IBRD. The data provider is solely responsible for the source, accuracy, completeness and relevance of all information entered into the IBRD.

- Cospas-Sarsat will not be responsible for unauthorised access or unauthorised changes to IBRD registration data that may result from malicious activities. Cospas-Sarsat will, on a best effort basis, implement measures to protect the integrity of the data, however, Cospas-Sarsat does not guarantee that registration information will not be corrupted or lost.

- Cospas-Sarsat accepts no liability for loss of life or property that may result from inaccurate or incomplete data.

Important Notice to SAR Services

You must agree to the following statements before querying the IBRD:

- Registration data obtained from the IBRD will be used for Search and Rescue purposes only.

- Cospas-Sarsat does not guarantee the accuracy or completeness of the data and accepts no liability for loss of life or property that may result from inaccurate or incomplete data.

- END OF ANNEX B -

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ANNEX C

USER INSTRUCTIONS FOR PERFORMING A BATCH UPLOAD
BY A NATIONAL DATA PROVIDER

1. INTRODUCTION

1.1 Background

Registration of 406 MHz beacons is required in accordance with international regulations on SAR established by the International Civil Aviation Organization (ICAO) and the International Maritime Organization (IMO), and registration information must be made available to SAR services on a 24-hour basis. A number of countries have made 406 MHz beacon registration mandatory and maintain national 406 MHz beacon registration databases.

However, despite the clear advantages of registration, a large number of 406 MHz beacons are not properly registered due to a lack of registration facilities in a number of countries. Furthermore, a number of beacon registries do not have 24-hour points-of-contact easily accessible by SAR services. The International 406 MHz Beacon Registration Database (IBRD) is freely available to users with no access to national registration facilities and to Administrations who wish to avail themselves of the facility to make their national beacon registration data more available to SAR services.

The IBRD web site provides a specific method of access using a login and password for such Administrations or National Data Providers (NDP). The purpose of this special access is that it allows an NDP to control the entry and modifications for all beacons associated with their own National Administration. Specifically, these are beacons encoded with a specific subset of associated country codes (often only one).

1.2 What is "Batch Upload"?

Some Administrations may have an existing Registration database, but still wish to use the IBRD to provide this data to SAR services around the world on a 24/7 basis. Others may wish to move their entire database to the IBRD and then maintain the data there. Whether the effort is a one time event, or performed on a periodic basis, there is a need to move a significant number of Registration records from one database into the other. To facilitate the process of transferring these records, the IBRD is equipped with a "batch upload" capability. This feature provides a mechanism for a large number of records to be entered into the IBRD database via an automated process.

It is logical to expect that the National database would in most cases contain different fields and in particular different field names, although the majority of the data content should match fairly well with the fields in the IBRD. The "batch upload" process itself is very easy to perform. However, the translation of fields and data content from an

external database format into the format of the IBRD will, in general, present the most difficult step in the effort.

This specification provides the details required for an NDP to upload multiple beacon registration records into the IBRD. The following sections discuss the database format (field by field specifications), the required text file format used in the upload file and finally the format for the resulting report.

1.3 The Complete Process

As mentioned, the key effort in this upload process, is the translation from the National database format to the one required for uploads to the IBRD. Specifically, this translation effort involves identifying the fields needed by the IBRD and mapping the data content from the format in the external database to the associated fields in the IBRD format. In addition, the IBRD requires that the remapped data fields be provided in a text file formatted in the eXtensible Mark-Up Language (XML) which uses the field names as defined in the IBRD schema.

Once the translation is ready, meaning that an XML file containing data records in the proper format has been created, the actual upload operation is fairly simple. In short, to upload an XML file containing registration records, the NDP would login to the IBRD web site, select the "upload" option and specify the local name and location of the file for uploading. Once the file is processed, a full report of the results is emailed to the NDP.

2. BEACON REGISTRATION RECORD SCHEMA

2.1 General Comments

The field-by-field specification listed in the table below is intended as a general-purpose database schema.

The data "type" and "size" columns are derived from the actual Microsoft SQL Server database used to store the IBRD records. These are to be interpreted as guidelines or perhaps upper limits, but not necessarily as hard specifications.

The actual database used by an individual NDP can use any underlying application and/or platform (e.g., Oracle, Microsoft Access, Paradox etc.) as long as the data type and fields sizes are translated in a basic common sense fashion. An example set of mappings for Microsoft Access is provided below following the general table schema. It may be useful to note that only a subset of the actual IBRD database fields appear in this listing. The fields identified here are those that are available in general for user input, via the user interface, or this bulk upload process.

Table Schema

Field Name	Type	Size	Description
BcnId15	char	15	Bits 26-85 of 406 MHz beacon message. Expressed as exactly 15 hexadecimal characters (0-9, A-F). Encoded position bits set to default values.
CSTACNumber	varchar nullable	10	Cospas-Sarsat beacon type approval certificate number
BeaconActivationMethod	char nullable	4	Activation capability of beacon (See BeaconActivationMethod in Section 3)
BeaconManufacturer	varchar nullable	48	Name of manufacturer of beacon
BeaconModel	varchar nullable	32	Model name of beacon
BeaconHomingDevice	varchar nullable	10	Frequency or type of homing device. (See BeaconHomingDevice in Section 3)
AdditionalBeaconData	varchar nullable	64	Any other information specific to the beacon that may be useful (e.g., manufacturers' serial number).
OwnerName	varchar	48	Full personal name, company name, or government agency name
Password	varchar	16	User password (Minimum of eight characters)
Address	varchar nullable	48	Owner's street or PO Box
City	varchar nullable	32	Owner's city
Province	varchar nullable	32	Owner's province/state
MailCode	varchar nullable	16	Owner's mailing postal code
MailCountry	varchar nullable	60	Owner's country
EmailAddress	varchar nullable	48	Owner's E-mail address
Phone1Num	varchar	24	Owner's phone number
Phone1Type	char	4	Owner's phone type (See PhoneType in Section 3)
Phone2Num	varchar nullable	24	Owner's phone number

Field Name	Type	Size	Description
Phone2Type	char nullable	4	Owner's phone type (See PhoneType in Section 3)
Phone3Num	varchar nullable	24	Owner's phone number
Phone3Type	char nullable	4	Owner's phone type (See PhoneType in Section 3)
Phone4Num	varchar nullable	24	Owner's phone number
Phone4Type	char nullable	4	Owner's phone type (See PhoneType in Section 3)
PrimaryContactName	varchar	48	Name of primary emergency point of contact
PrimaryContactAddressLine1	varchar nullable	80	First line of address for primary emergency point of contact (e.g., street, apartment, etc.)
PrimaryContactAddressLine2	varchar nullable	80	Second line of address for primary emergency point of contact (e.g., city, province, country)
PrimaryPhone1Num	varchar	24	Primary emergency contact's phone number
PrimaryPhone1Type	char	4	Primary emergency contact's phone type (See PhoneType in Section 3)
PrimaryPhone2Num	varchar nullable	24	Primary emergency contact's phone number
PrimaryPhone2Type	char nullable	4	Primary emergency contact's phone type (See PhoneType in Section 3)
PrimaryPhone3Num	varchar nullable	24	Primary emergency contact's phone number
PrimaryPhone3Type	char nullable	4	Primary emergency contact's phone type (See PhoneType in Section 3)
PrimaryPhone4Num	varchar nullable	24	Primary emergency contact's phone number
PrimaryPhone4Type	char nullable	4	Primary emergency contact's phone type (See PhoneType in Section 3)
AlternateContactName	varchar nullable	48	Name of second emergency point of contact
AlternateContactAddressLine1	varchar nullable	80	First line of address for alternate emergency point of contact (e.g., street, apartment, etc.)
AlternateContactAddressLine2	varchar nullable	80	Second line of address for alternate emergency point of contact (e.g., city, province, country)
AlternatePhone1Num	varchar nullable	24	Second emergency contact's phone number

Field Name	Type	Size	Description
AlternatePhone1Type	char nullable	4	Second emergency contact's phone type (See PhoneType in Section 3)
AlternatePhone2Num	varchar nullable	24	Second emergency contact's phone number
AlternatePhone2Type	char nullable	4	Second emergency contact's phone type (See PhoneType in Section 3)
AlternatePhone3Num	varchar nullable	24	Second emergency contact's phone number
AlternatePhone3Type	char nullable	4	Second emergency contact's phone type (See PhoneType in Section 3)
AlternatePhone4Num	varchar nullable	24	Second emergency contact's phone number
AlternatePhone4Type	char nullable	4	Second emergency contact's phone type (See PhoneType in Section 3)
ChallengeQuestion	varchar nullable	64	Challenge question user selected for supporting re-instatement of password
ChallengeResponse	varchar nullable	24	Challenge response user selected for challenge question for supporting re-instatement of password
AdditionalData	varchar nullable	255	Any other useful information about the beacon owner, the vehicle (e.g., tonnage, superstructure) and/or the specific usage of beacon.
VehicleType	varchar	48	Vehicle code for aircraft, vessel or personal use. (See EPIRBVehicleType, ELTVehicleType and PLBVehicleType in Section 3)
VehicleNationality[1]	smallint nullable	2	MID country code for vessel flag State or aircraft nationality of registration.
VehicleName[2]	varchar nullable	48	Name of vessel
VehicleManufacturer[3]	varchar nullable	48	Manufacturer of aircraft
VehicleModel[3]	varchar nullable	48	Model of aircraft
MMSI[2]	varchar nullable	9	Maritime Mobile Service Identity. Must be exactly 9 numerical characters (0-9) and extracted country code (first three characters) should match BeaconCountryCode
Callsign[2]	char nullable	10	Vessel radio call sign
VehicleRegistrationNumber[1]	varchar nullable	16	IMO number or national vessel/ aircraft registration number

Field Name	Type	Size	Description
Color[1]	varchar nullable	24	Color of vessel/aircraft
Length[1]	smallint nullable	2	Length of vessel/aircraft - Allowable range: 10 to 2000
Aircraft24BitAddress[3]	char nullable	6	24-bit address of the aircraft, expressed as 6 hexadecimal characters
PeopleCapacity[1]	smallint nullable	2	Vehicle capacity in numbers of people - Allowable range: 1 to 10000
VehicleCellularNum[2]	varchar nullable	24	Cellular Telephone associated with Vehicle
PhoneInmarsat[2]	varchar nullable	24	INMARSAT telephone number
RadioEquipment[1]	varchar nullable	32	Radio equipment on board vessel/aircraft or person (See RadioEquipment in Section 3)
SurvivalType1Num[1]	smallint nullable	2	Number of survival equipment
SurvivalType1Desc[1]	varchar nullable	64	Description of survival equipment
SurvivalType2Num[1]	smallint nullable	2	Number of survival equipment
SurvivalType2Desc[1]	varchar nullable	64	Description of survival equipment
AircraftOperatingAgency[3]	varchar nullable	64	Aircraft operating agency designator and operator's serial number.
UsageMoreInfo[4]	varchar nullable	24	Additional information pertaining to usage of PLB beacons (See UsageMoreInfo in Section 3)
SVDRPresent[2]	char nullable	1	Equipped with Simplified Voyage Data Recorder (Y/N)

[1] EPIRB and ELT only
[2] EPIRB only
[3] ELT only
[4] PLB only

2.3 Data Type Mappings to Microsoft Access

The following table presents the relationship between the above Microsoft SQL Server data types and the corresponding data types in Microsoft Access. These mappings are provided as an example, with the expectation that the concept can easily be extended to any database application (e.g., Oracle, Paradox etc.).

Microsoft SQL Server Data Type	Microsoft Access Data Type
char	Text, field size as given
smallint	Number, field size=integer
varchar	Text, field size as given

3. VALUES DICTATED BY INTERNAL CONFIGURATION

The following tables identify the valid values for specific data elements. These values, which must match entries in configuration tables within the IBRD, provide a mechanism for data lookup in the Web-based application to reduce data entry errors and supply user assistance.

3.1 BeaconActivationMethod

Field Name	Value - Meaning
BeaconActivationMethod	CAT0 - (no data provided)
	CAT1 - automatic or manual
	CAT2 - manual only

3.2 BeaconHomingDevice

Field Name	Value - Meaning
BeaconHomingDevice	1 - 121.5 MHz
	S - SART
	O - Other
	N – None

3.3 PhoneType

Field Name	Value - Meaning
PhoneType (variations)	HOME – Home WORK – Work / Place of Business CELL – Cellular / Mobile FAX – Facsimile OTHR – Other

3.4 RadioEquipment

When multiple radio equipment options are specified, a comma separates multiple values. The option "Other" is a placeholder for any appropriate text (total limit is 32 characters).

Field Name	Values
RadioEquipment	VHF, HF, MF, SSB, Other

3.5   ELTVehicleType

These values are assigned to the VehicleType field for aircrafts associated with ELT beacons. The option "Other" is a placeholder for any appropriate text.

Field Name	Values
VehicleType	Single-engine Propeller, Single-engine Jet, Multi-engine Propeller, Multi-engine Jet, Helicopter, Other

3.6   EPIRBVehicleType

These values are assigned to the VehicleType field for vessels associated with EPIRB beacons. The option "Other" is a placeholder for any appropriate text.

Field Name	Values
VehicleType	SAIL (prompts an entry for number of Masts. Text in database appears as "SAIL nn Masts"), POWER Fishing, POWER Tug, POWER Cargo, POWER Tanker, POWER Pleasure Craft, POWER "Other", NON-POWER Life Boat, NON-POWER Life Raft, NON-POWER "Other"

3.7   PLBVehicleType

These values are assigned to the VehicleType field for PLB beacons. The option "Other" is a placeholder for any appropriate text.

Field Name	Values
VehicleType	Land Vehicle, Boat, Aircraft, None, Other

3.8 UsageMoreInfo

These values are assigned to the UsageMoreInfo field for PLB beacons. The option "Other" is a placeholder for any appropriate text.

Field Name	Values
UsageMoreInfo	Fishing, Hiking, Hunting, Other

4. XML TEXT FILE UPLOAD FORMAT

4.1 General Comments

The only format currently supported for uploading beacon registration records is XML (eXtensible Markup Language). The simple structure required by IBRD application processing is provided here but for any further details regarding XML, other relevant documentation should be consulted.

It is useful to note that the general structure discussed below is generated as the default output when exporting from Microsoft Access to XML (Microsoft Access 2002 or higher required for XML output). Specifically, if we assume that a table of registration data is created that uses the above schema and resides on a Microsoft Access platform, the following steps would produce an valid XML output for uploading beacon registration records:

a. Use the "export table" command (right click on highlighted table name)

b. Select XML for the "save as type option" (listed as "XML Documents (*.xml))

c. When prompted to "Select what information will be exported", the only check box that needs to "checked" is the labeled "Data (XML)".

Regardless of how the file for uploading beacon registration records is generated, e.g. using database tools or manually, the structure must adhere to several rules as discussed below. Appendix A contains a full processing example, providing both the XML input and the resulting report output.

Finally, the process of generating a valid XML format for uploading would be most simple if the National Database was built using the schema provided in Section 2, using Microsoft Access.

4.2   Structure

The file structure must contain essentially four XML elements. The first element and text line in the file provides the identification that indicates that this is an XML document. For example, if creating the XML structure from Microsoft Access, the following line is generated:

> <?xml version="1.0" encoding="UTF-8"?>

The entire rest of the file must be bracketed by a "dataroot" XML element.   For example, using the above technique involving Microsoft Access, the following line is generated just after the "<?xml…" line and the last line appears as follows. The only portion of the leading line of the element that is critical to IBRD processing is "<dataroot>".

> <dataroot xmlns:od="urn:schemas-microsoft-com:officedata">
> .
> .
> .
> </dataroot>

Within the above described "dataroot" element, individual registration records are designated by, and must be bracketed by, a "RegistrationDB406" XML element. In the Microsoft Access example we have been referencing, this XML element actually picks up the name of the table.   The table used in our example was specifically "RegistrationDB406", which would generate:

> <RegistrationDB406>
> .
> .
> .
> </RegistrationDB406>

Finally, between the ends of the "RegistrationDB406" XML element, we have all the fields,   specified   by   XML   elements   that   take   the   form <fieldname>fieldvalue</fieldname>. **It is very important to note that a missing field will indicate that the field is to be assigned a NULL (or blank) value in the database.** The importance of this detail cannot be overemphasized. If a given record already has valid values in the IBRD database and fields are omitted from an otherwise valid record in the XML file, **the valid values will be lost**. Therefore, it is imperative that all fields with non-blank values be uploaded, **regardless of whether** or not the value has changed since the last upload.

These rules are adhered to by the Microsoft Access XML export utility. Some examples of field name/value elements might appear as follows:

> <BcnId15>DAAD04E3BCC0877</BcnId15>
> <Password>testtest</Password>
> <BeaconActivationMethod>CAT1</BeaconActivationMethod>
> <OwnerName>John Doe</OwnerName>
> <MailCountry>Chile</MailCountry>
> .
> .
> .

5.   REPORTING FORMAT

5.1   General Comments

After any upload operation, a full report is emailed to the NDP. The purpose of the report is to provide the NDP with all the information necessary to monitor the processing sequence and to respond accordingly to correct and resubmit records as appropriate. Appendix A contains a full processing example, providing both the XML input and the resulting text Report output.

The bulk upload report is implemented in English because the fields names used in the database are constructed in English.

It is the responsibility of the NDP to contact the IBRD Administrator if the file is not received and to address any problems reported in the file, once it is received.

5.2   Structure

The report itself is constructed as a "running log" file. It contains only ASCII text, employing tab characters only to achieve some very limited formatting.   As each data record in the XML file is processed, field-by-field, this report logs the values found, errors when they occur and the result of the processing for each record. Based on a test for "existence in the database", information provided is either inserted as a new registration or used to update an existing record. When all records have been processed in the provided upload file, a brief summary is generated and appended to the report. The report file is then emailed to the NDP.

The meaning of text lines within the file is identified in part by the number of leading tab characters and/or the inclusion of a beacon identification code as the first element of the line. Specifically, as the record is dynamically loaded, major events in the ongoing load have one tab; lines that simply record the data values have two tabs. Lines referencing the disposition of the entire record and/or validation operations that involve more than a singular field or checks against configuration tables follow. All of these "record level"-processing lines start with the beacon identification code. In this fashion, the report simply cycles through the records listed in the XML file.   For

clarity, a blank line is inserted between each record processing sequence in the report and between the last record and the summary lines that follow.

A number of examples follow, providing possible report outputs and brief explanations.

Example 1:

This example shows the general sequence for the successful update to an existing record. Many other lines of the form "fieldname=fieldvalue" would appear and are replaced by dots to shorten the example.

There is a warning on the second to last line, but there are no errors. Hence, all the fields of the existing record were modified to reflect the data in this input record from the XML file (including the MMSI field that generated the warning).

Note that when a field is assigned to NULL (or blank), the output will appear as [NULL]. As discussed above, this assignment occurs when a blank value is provided, or more importantly when no line item for the fieldname is found.

```
            LOADING: Record(1)
                    BcnId15=DAAD04E3BCC0877
                    Password=testtest
                            .
                            .
                            .
                    AlternatePhone4Num=[NULL]
                    AlternatePhone4Type=[NULL]
DAAD04E3BCC0877UPDATE: preparing update for existing record.
DAAD04E3BCC0877WARNING: First three digits (727123123) for MMSI do not match beacon
country code (725).
DAAD04E3BCC0877UPDATE COMPLETED: Existing record successfully updated.
```

Example 2:

This example shows a case where the update to an existing record fails. A basic data content or format error has occurred. In this case, a numeric value is expected, but it has been provided as text ("ten" versus "10").

```
                    PeopleCapacity=ten
                BAD DATA: Value (ten) for PeopleCapacity is not numeric or exceeds range criteria
(0-10000)
                            .
                            .
                            .
DAAD0148EEC0801 UPDATE: preparing update for existing record.
DAAD0148EEC0801 FAILURE: One or more validation checks failed.
```

Example 3:

This example demonstrates that while one or more warning can occur, an error in any facet of the processing will result in a failed operation.

DAAD04E3BCC0816UPDATE: preparing update for existing record.
DAAD04E3BCC0816WARNING: Value (723) for VehicleNationality does not match beacon country code (725).
DAAD04E3BCC0816MISSING: Required Field: MMSI
DAAD04E3BCC0816FAILURE: Missing one or more required fields.

Example 4:

This example shows the successful creation of a new record in the database, again regardless of the one warning.

DAAE020F7141477   NEW: preparing to create new record.
DAAE020F7141477   WARNING: First three characters (V7WS7   ) for Callsign do not correspond
                                  to beacon country code (725).
DAAE020F7141477   CREATED: New record successfully created.

Example 5:

This example shows the simple case where the processing results in no warnings or errors.

5AAC3FE10AFFBFF UPDATE: preparing update for existing record.
5AAC3FE10AFFBFF UPDATE COMPLETED: Existing record successfully updated.

Example 6:

This example shows another type of validation failure. In this case, the provided value does not agree with those specified in the IBRD configuration tables. (The value should have been "HOME", not "HOM").

DAAD0148EEC0401 UPDATE: preparing update for existing record.
DAAD0148EEC0401 INVALID: Value (HOM) for Phone1Type is not among the IBRD configured settings.
DAAD0148EEC0401 FAILURE: One or more validation checks failed.

Example 7:

This example shows the key summary output for the entire upload process. Values are provided for the total number of records processed, the number of new records created and the number of existing records updated.

The number of failed records is clearly the difference between those processed and the sum of these two successful processing categories. (The numbers below apply to the six examples listed above).

        SUMMARY: Total Records Processed: 6

SUMMARY: Records Created: 1
SUMMARY: Records Updated: 2

Appendix A – Example Processing Sequence

XML File Provided by NDP

```
<?xml version="1.0" encoding="UTF-8"?>
<dataroot xmlns:od="urn:schemas-microsoft-com:officedata">
<RegistrationDB406>
<BcnId15>5AA834051CFFBFF</BcnId15>
<Password>testtest</Password>
<CSTACNumber>133</CSTACNumber>
<BeaconManufacturer>ARTEX</BeaconManufacturer>
<BeaconModel>110-406</BeaconModel>
<BeaconHomingDevice>S</BeaconHomingDevice>
<OwnerName>OHI AVYATIOM</OwnerName>
<Address>ISED BUSYNETS AVIECIOA</Address>
<MailCode>8058 Z</MailCode>
<MailCountry>Chile</MailCountry>
<EmailAddress>BeaconOwner@anywhere.com</EmailAddress>
<Phone1Num>23475248344</Phone1Num>
<Phone1Type>WORK</Phone1Type>
<VehicleType>Single Engine Propeller</VehicleType>
<VehicleManufacturer>RAYTHEON</VehicleManufacturer>
<VehicleModel>HAWKER 700B</VehicleModel>
<VehicleRegistrationNumber>5NSADK</VehicleRegistrationNumber>
<Color>WHITE/RED</Color>
<Length>0</Length>
<PeopleCapacity>7</PeopleCapacity>
<RadioEquipment>VHF,HF</RadioEquipment>
<PrimaryContactName>RESCOE MOYRDANETIO</PrimaryContactName>
<PrimaryPhone1Num>23474943343</PrimaryPhone1Num>
<PrimaryPhone1Type>HOME</PrimaryPhone1Type>
<ChallengeQuestion>What is the name of</ChallengeQuestion>
<ChallengeResponse>Fido</ChallengeResponse>
<VehicleNationality>725</VehicleNationality>
</RegistrationDB406>
<RegistrationDB406>
<BcnId15>DAAF4001ED4350D</BcnId15>
<Password>testtest</Password>
<BeaconManufacturer>AlliedSignal</BeaconManufacturer>
<BeaconModel>1234</BeaconModel>
<OwnerName>KILE PERAAAJJKA</OwnerName>
<Address>5050 AIAUAFD RD</Address>
<Province>SANTIAGO</Province>
<MailCode>4240A1</MailCode>
<MailCountry>Chile</MailCountry>
<EmailAddress>BeaconOwner@anywhere.com</EmailAddress>
<Phone1Num>532743959494</Phone1Num>
<Phone1Type>CELL</Phone1Type>
<VehicleType>Boat</VehicleType>
<UsageMoreInfo>Fishing</UsageMoreInfo>
<PrimaryContactName>OUAY YIAUAS</PrimaryContactName>
<PrimaryPhone1Num>454848848232</PrimaryPhone1Num>
<PrimaryPhone1Type>HOME</PrimaryPhone1Type>
<AdditionalData>LOOK FOR RED CANOE</AdditionalData>
<SVDRPresent>N</SVDRPresent>
</RegistrationDB406>
<RegistrationDB406>
<BcnId15>DAAD04E3BCC0877</BcnId15>
<Password>testtest</Password>
<BeaconActivationMethod>CAT1</BeaconActivationMethod>
<BeaconManufacturer>ALDEN</BeaconManufacturer>
<BeaconModel>SATFIND M3</BeaconModel>
```

<OwnerName>KEKA SMATJH</OwnerName>
<Address>BOS 726</Address>
<City>MAJURO</City>
<Province>MARSHALL ISLAND</Province>
<MailCode>96960</MailCode>
<MailCountry>Chile</MailCountry>
<EmailAddress>BeaconOwner@anywhere.com</EmailAddress>
<Phone1Num>6327254014</Phone1Num>
<Phone1Type>HOME</Phone1Type>
<Phone2Num>6327254654</Phone2Num>
<Phone2Type>WORK</Phone2Type>
<VehicleType>POWER Fishing</VehicleType>
<VehicleName>LASIDUDU 4</VehicleName>
<CallSign><![CDATA[V7WS7   ]]></CallSign>
<VehicleRegistrationNumber>XYZ083</VehicleRegistrationNumber>
<Color>Blue/Red</Color>
<MMSI>725001106</MMSI>
<PeopleCapacity>0</PeopleCapacity>
<PhoneInmarsat></PhoneInmarsat>
<RadioEquipment>VHF-FM,SSB</RadioEquipment>
<PrimaryContactName>LYSN MIMNY (511)</PrimaryContactName>
<PrimaryPhone1Num>6327254014</PrimaryPhone1Num>
<PrimaryPhone1Type>HOME</PrimaryPhone1Type>
<PrimaryPhone2Num>6327254654</PrimaryPhone2Num>
<PrimaryPhone2Type>WORK</PrimaryPhone2Type>
<AlternateContactName>W I DAGUL</AlternateContactName>
<AlternatePhone1Num>8387364624</AlternatePhone1Num>
<AlternatePhone1Type>HOME</AlternatePhone1Type>
<AdditionalData><![CDATA[ ]]></AdditionalData>
<VehicleCellularNum></VehicleCellularNum>
<ChallengeQuestion>What is the name of your pet?</ChallengeQuestion>
<ChallengeResponse>Fido</ChallengeResponse>
<VehicleNationality>710</VehicleNationality>
</RegistrationDB406>
<RegistrationDB406>
<BcnId15>DAAE020F7141477</BcnId15>
<Password>testtest</Password>
<BeaconActivationMethod>CAT2</BeaconActivationMethod>
<BeaconManufacturer>ACR</BeaconManufacturer>
<BeaconModel>RLB-32</BeaconModel>
<BeaconHomingDevice>S</BeaconHomingDevice>
<OwnerName>GRIAD JUCEEM DE</OwnerName>
<Address>PLITOANMOET 56</Address>
<City>2719 KK ZOETERMEER</City>
<Province></Province>
<MailCode></MailCode>
<MailCountry>Chile</MailCountry>
<EmailAddress>BeaconOwner@anywhere.com</EmailAddress>
<Phone1Num>33773641342</Phone1Num>
<Phone1Type>HOME</Phone1Type>
<Phone2Num>33775245341</Phone2Num>
<Phone2Type>WORK</Phone2Type>
<VehicleType>SAIL 1 Masts</VehicleType>
<VehicleName>ALSYONEM2</VehicleName>
<CallSign><![CDATA[   ]]></CallSign>
<VehicleRegistrationNumber>XX123XX</VehicleRegistrationNumber>
<Color></Color>
<MMSI>725001100</MMSI>
<PeopleCapacity>6</PeopleCapacity>
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<RadioEquipment>VHF</RadioEquipment>
<PrimaryContactName>GRIAD MUDYLOT PE</PrimaryContactName>

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<PrimaryPhone1Num>33773646943</PrimaryPhone1Num>
<PrimaryPhone1Type>HOME</PrimaryPhone1Type>
<AlternateContactName>GRIAD JUSEA TE</AlternateContactName>
<AlternatePhone1Num>33775743347</AlternatePhone1Num>
<AlternatePhone1Type>HOME</AlternatePhone1Type>
<AdditionalData></AdditionalData>
<VehicleCellularNum></VehicleCellularNum>
<ChallengeQuestion>What is the name of your pet?</ChallengeQuestion>
<ChallengeResponse>Fido</ChallengeResponse>
<VehicleNationality>725</VehicleNationality>
<SVDRPresent>N</SVDRPresent>
</RegistrationDB406>
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<BcnId15>DAAE021D1D01001</BcnId15>
<Password>testtest</Password>
<BeaconActivationMethod>CAT2</BeaconActivationMethod>
<BeaconManufacturer>ACR</BeaconManufacturer>
<BeaconModel>RLB 28</BeaconModel>
<OwnerName>VAS DIJM EENTREK MECTIAUS</OwnerName>
<Address>PO BOX 47EWETT HARHIUR</Address>
<City>AUCKLAND/NORTH ISLAND</City>
<Province>NEW ZEALAND</Province>
<MailCode></MailCode>
<MailCountry>Chile</MailCountry>
<EmailAddress>BeaconOwner@anywhere.com</EmailAddress>
<Phone1Num>034760476</Phone1Num>
<Phone1Type>HOME</Phone1Type>
<VehicleType>SAIL 2 Masts</VehicleType>
<VehicleName>OMIGO</VehicleName>
<VehicleRegistrationNumber>1135</VehicleRegistrationNumber>
<Color>WHITE</Color>
<MMSI>512001101</MMSI>
<PeopleCapacity>6</PeopleCapacity>
<PhoneInmarsat></PhoneInmarsat>
<RadioEquipment></RadioEquipment>
<PrimaryContactName>MR T KAUSYR</PrimaryContactName>
<PrimaryPhone1Num>6307444164</PrimaryPhone1Num>
<PrimaryPhone1Type>HOME</PrimaryPhone1Type>
<AlternateContactName>J SODHRUN</AlternateContactName>
<AlternatePhone1Num>9317054914</AlternatePhone1Num>
<AlternatePhone1Type>HOME</AlternatePhone1Type>
<VehicleCellularNum></VehicleCellularNum>
<ChallengeQuestion>What is the name of your pet?</ChallengeQuestion>
<ChallengeResponse>Fido</ChallengeResponse>
<VehicleNationality>725</VehicleNationality>
<SVDRPresent>Y</SVDRPresent>
</RegistrationDB406>
<RegistrationDB406>
<BcnId15>5AAC3FE10AFFBFF</BcnId15>
<Password>testtest</Password>
<BeaconActivationMethod>CAT1</BeaconActivationMethod>

<BeaconManufacturer>ARTEX</BeaconManufacturer>
<BeaconModel>120-406</BeaconModel>
<OwnerName>JON KOENEUA</OwnerName>
<Address>CASIDO MEE CARPAL</Address>
<City>LO BARNECHEA</City>
<Province>SANTIAGO</Province>
<MailCode>4240</MailCode>
<MailCountry>Chile</MailCountry>
<EmailAddress>BeaconOwner@anywhere.com</EmailAddress>
<Phone1Num>5327204034</Phone1Num>
<Phone1Type>HOME</Phone1Type>
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<Phone2Num>5327344244</Phone2Num>
<Phone2Type>WORK</Phone2Type>
<VehicleType>SAIL 1 Masts</VehicleType>
<VehicleName>COSODBA</VehicleName>
<CallSign><![CDATA[3GA825   ]]></CallSign>
<VehicleRegistrationNumber>23422223</VehicleRegistrationNumber>
<Color>WHITE</Color>
<Length>38</Length>
<MMSI>725001109</MMSI>
<PeopleCapacity>8</PeopleCapacity>
<PhoneInmarsat></PhoneInmarsat>
<RadioEquipment>VHF,HF</RadioEquipment>
<PrimaryContactName>CASSDEN VYN TOPT</PrimaryContactName>
<PrimaryPhone1Num>5327424524</PrimaryPhone1Num>
<PrimaryPhone1Type>HOME</PrimaryPhone1Type>
<PrimaryPhone2Num>5327344244</PrimaryPhone2Num>
<PrimaryPhone2Type>WORK</PrimaryPhone2Type>
<AlternateContactName>DASIOL MEEKET</AlternateContactName>
<AlternatePhone1Num>5327164854</AlternatePhone1Num>
<AlternatePhone1Type>HOME</AlternatePhone1Type>
<AlternatePhone2Num>5327344244</AlternatePhone2Num>
<AlternatePhone2Type>WORK</AlternatePhone2Type>
<AdditionalData></AdditionalData>
<VehicleCellularNum>5397214284</VehicleCellularNum>
<ChallengeQuestion>What is the name of your pet?</ChallengeQuestion>
<ChallengeResponse>Fido</ChallengeResponse>
<VehicleNationality>725</VehicleNationality>
<SVDRPresent>N</SVDRPresent>
</RegistrationDB406>
<RegistrationDB406>
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<Password>testtest</Password>
<BeaconActivationMethod>CAT1</BeaconActivationMethod>
<BeaconManufacturer>GUEST</BeaconManufacturer>
<BeaconModel>948-000001</BeaconModel>
<BeaconHomingDevice>1</BeaconHomingDevice>
<OwnerName>DGSMDVAUREEGTAPKERECGS DIENM</OwnerName>
<Address>KASAOLWUG 21 WP</Address>
<City>HELLEVOETSLUIS</City>
<Province></Province>
<MailCode>X12HG</MailCode>
<MailCountry>Chile</MailCountry>
<EmailAddress>BeaconOwner@anywhere.com</EmailAddress>
<Phone1Num>0387314584</Phone1Num>
<Phone1Type>HOME</Phone1Type>
<VehicleType>POWER (no data provided)</VehicleType>
<VehicleName>VLIEDTRUOE</VehicleName>
<CallSign>XQA129</CallSign>
<VehicleRegistrationNumber>1233446</VehicleRegistrationNumber>
<Color></Color>
<Length>3200</Length>
<MMSI>725001102</MMSI>
<PeopleCapacity>0</PeopleCapacity>
<PhoneInmarsat></PhoneInmarsat>
<RadioEquipment></RadioEquipment>
<PrimaryContactName>VLIEDTRUOE</PrimaryContactName>
<PrimaryPhone1Num>12312313912</PrimaryPhone1Num>
<PrimaryPhone1Type>OTHR</PrimaryPhone1Type>
<AlternateContactName></AlternateContactName>
<AdditionalData><![CDATA[ ]]></AdditionalData>
<VehicleCellularNum></VehicleCellularNum>
<ChallengeQuestion>What is the name of your pet?</ChallengeQuestion>
<ChallengeResponse>Fido</ChallengeResponse>
<VehicleNationality>725</VehicleNationality>

<SVDRPresent>N</SVDRPresent>
</RegistrationDB406>
</dataroot>
Text File Report Emailed to NDP
        LOADING: Record(1)

                BcnId15=5AA834051CFFBFF
                Password=testtest
                ChallengeQuestion=What is the name of
                ChallengeResponse=Fido
                CSTACNumber=133
                BeaconActivationMethod=[NULL]
                BeaconManufacturer=ARTEX
                BeaconModel=110-406
                BeaconHomingDevice=S
                AdditionalBeaconData=[NULL]
                OwnerName=OHI AVYATIOM
                Address=ISED BUSYNETS AVIECIOA
                City=[NULL]
                State=[NULL]
                ZipCode=[NULL]
                Province=[NULL]
                MailCode=8058 Z
                MailCountry=Chile
                EmailAddress=BeaconOwner@anywhere.com
                Phone1Num=23475248344
                Phone1Type=WORK
                Phone2Num=[NULL]
                Phone2Type=[NULL]
                Phone3Num=[NULL]
                Phone3Type=[NULL]
                Phone4Num=[NULL]
                Phone4Type=[NULL]
                VehicleType=Single Engine Propeller
                VehicleUsage=[NULL]
                UsageMoreInfo=[NULL]
                VehicleName=[NULL]
                VehicleManufacturer=RAYTHEON
                VehicleModel=HAWKER 700B
                CallSign=[NULL]
                VehicleRegistrationNumber=5NSADK
                Color=WHITE/RED
                Length=0
                MMSI=[NULL]
                PeopleCapacity=7
                PhoneInmarsat=[NULL]
                RadioEquipment=VHF,HF
                SurvivalType1Num=[NULL]
                SurvivalType2Num=[NULL]
                SurvivalType1Desc=[NULL]
                SurvivalType2Desc=[NULL]
                VehicleCellularNum=[NULL]
                Aircraft24BitAddress=[NULL]
                AircraftOperatingAgency=[NULL]
                VehicleNationality=725
                SVDRPresent=[NULL]
                AdditionalData=[NULL]
                PrimaryContactName=RESCOE MOYRDANETIO
                PrimaryContactAddressLine1=[NULL]
                PrimaryContactAddressLine2=[NULL]
                PrimaryPhone1Num=23474943343
                PrimaryPhone1Type=HOME
                PrimaryPhone2Num=[NULL]
                PrimaryPhone2Type=[NULL]

```
                    PrimaryPhone3Num=[NULL]
                    PrimaryPhone3Type=[NULL]
                    PrimaryPhone4Num=[NULL]
                    PrimaryPhone4Type=[NULL]
                    AlternateContactName=[NULL]
                    AlternateContactAddressLine1=[NULL]
                    AlternateContactAddressLine2=[NULL]
                    AlternatePhone1Num=[NULL]
                    AlternatePhone1Type=[NULL]
                    AlternatePhone2Num=[NULL]
                    AlternatePhone2Type=[NULL]
                    AlternatePhone3Num=[NULL]
                    AlternatePhone3Type=[NULL]
                    AlternatePhone4Num=[NULL]
                    AlternatePhone4Type=[NULL]
5AA834051CFFBFF         UPDATE: preparing update for existing record.
5AA834051CFFBFF         UPDATE COMPLETED: Existing record successfully updated.

        LOADING: Record(2)
                    BcnId15=DAAF4001ED4350D
                    Password=testtest
                    ChallengeQuestion=[NULL]
                    ChallengeResponse=[NULL]
                    CSTACNumber=[NULL]
                    BeaconActivationMethod=[NULL]
                    BeaconManufacturer=AlliedSignal
                    BeaconModel=1234
                    BeaconHomingDevice=[NULL]
                    AdditionalBeaconData=[NULL]
                    OwnerName=KILE PERAAAJJKA
                    Address=5050 AIAUAFD RD
                    City=[NULL]
                    State=[NULL]
                    ZipCode=[NULL]
                    Province=SANTIAGO
                    MailCode=4240A1
                    MailCountry=Chile
                    EmailAddress=BeaconOwner@anywhere.com
                    Phone1Num=532743959494
                    Phone1Type=CELL
                    Phone2Num=[NULL]
                    Phone2Type=[NULL]
                    Phone3Num=[NULL]
                    Phone3Type=[NULL]
                    Phone4Num=[NULL]
                    Phone4Type=[NULL]
                    VehicleType=Boat
                    VehicleUsage=[NULL]
                    UsageMoreInfo=Fishing
                    VehicleName=[NULL]
                    VehicleManufacturer=[NULL]
                    VehicleModel=[NULL]
                    CallSign=[NULL]
                    VehicleRegistrationNumber=[NULL]
                    Color=[NULL]
                    Length=[NULL]
                    MMSI=[NULL]
                    PeopleCapacity=[NULL]
                    PhoneInmarsat=[NULL]
                    RadioEquipment=[NULL]
                    SurvivalType1Num=[NULL]
                    SurvivalType2Num=[NULL]
                    SurvivalType1Desc=[NULL]
                    SurvivalType2Desc=[NULL]
```

VehicleCellularNum=[NULL]
Aircraft24BitAddress=[NULL]
AircraftOperatingAgency=[NULL]
VehicleNationality=[NULL]
SVDRPresent=N
AdditionalData=LOOK FOR RED CANOE
PrimaryContactName=OUAY YIAUAS
PrimaryContactAddressLine1=[NULL]
PrimaryContactAddressLine2=[NULL]
PrimaryPhone1Num=454848848232
PrimaryPhone1Type=HOME
PrimaryPhone2Num=[NULL]
PrimaryPhone2Type=[NULL]
PrimaryPhone3Num=[NULL]
PrimaryPhone3Type=[NULL]
PrimaryPhone4Num=[NULL]
PrimaryPhone4Type=[NULL]
AlternateContactName=[NULL]
AlternateContactAddressLine1=[NULL]
AlternateContactAddressLine2=[NULL]
AlternatePhone1Num=[NULL]
AlternatePhone1Type=[NULL]
AlternatePhone2Num=[NULL]
AlternatePhone2Type=[NULL]
AlternatePhone3Num=[NULL]
AlternatePhone3Type=[NULL]
AlternatePhone4Num=[NULL]
AlternatePhone4Type=[NULL]
DAAF4001ED4350D   NEW: preparing to create new record.
DAAF4001ED4350D   CREATED: New record successfully created.

        LOADING: Record(3)
                BcnId15=DAAD04E3BCC0877
                Password=testtest
                ChallengeQuestion=What is the name of your pet?
                ChallengeResponse=Fido
                CSTACNumber=[NULL]
                BeaconActivationMethod=CAT1
                BeaconManufacturer=ALDEN
                BeaconModel=SATFIND M3
                BeaconHomingDevice=[NULL]
                AdditionalBeaconData=[NULL]
                OwnerName=KEKA SMATJH
                Address=BOS 726
                City=MAJURO
                State=[NULL]
                ZipCode=[NULL]
                Province=MARSHALL ISLAND
                MailCode=96960
                MailCountry=Chile
                EmailAddress=BeaconOwner@anywhere.com
                Phone1Num=6327254014
                Phone1Type=HOME
                Phone2Num=6327254654
                Phone2Type=WORK
                Phone3Num=[NULL]
                Phone3Type=[NULL]
                Phone4Num=[NULL]
                Phone4Type=[NULL]
                VehicleType=POWER Fishing
                VehicleUsage=[NULL]
                UsageMoreInfo=[NULL]
                VehicleName=LASIDUDU 4
                VehicleManufacturer=[NULL]

```
            VehicleModel=[NULL]
            CallSign=V7WS7
            VehicleRegistrationNumber=XYZ083
            Color=Blue/Red
            Length=85
            MMSI=725001106
            PeopleCapacity=0
            PhoneInmarsat=[NULL]
            RadioEquipment=VHF-FM,SSB
            SurvivalType1Num=[NULL]
            SurvivalType2Num=[NULL]
            SurvivalType1Desc=[NULL]
            SurvivalType2Desc=[NULL]
            VehicleCellularNum=[NULL]
            Aircraft24BitAddress=[NULL]
            AircraftOperatingAgency=[NULL]
            VehicleNationality=710
            SVDRPresent=[NULL]
            AdditionalData=
            PrimaryContactName=LYSN MIMNY (511)
            PrimaryContactAddressLine1=[NULL]
            PrimaryContactAddressLine2=[NULL]
            PrimaryPhone1Num=6327254014
            PrimaryPhone1Type=HOME
            PrimaryPhone2Num=6327254654
            PrimaryPhone2Type=WORK
            PrimaryPhone3Num=[NULL]
            PrimaryPhone3Type=[NULL]
            PrimaryPhone4Num=[NULL]
            PrimaryPhone4Type=[NULL]
            AlternateContactName=W I DAGUL
            AlternateContactAddressLine1=[NULL]
            AlternateContactAddressLine2=[NULL]
            AlternatePhone1Num=8387364624
            AlternatePhone1Type=HOME
            AlternatePhone2Num=[NULL]
            AlternatePhone2Type=[NULL]
            AlternatePhone3Num=[NULL]
            AlternatePhone3Type=[NULL]
            AlternatePhone4Num=[NULL]
            AlternatePhone4Type=[NULL]
DAAD04E3BCC0877        NEW: preparing to create new record.
DAAD04E3BCC0877        WARNING: First three characters(V7WS7   ) for Callsign do not correspond to beacon country
code(725).
DAAD04E3BCC0877        WARNING: Value(710) for VehicleNationality does not match beacon country code(725).
DAAD04E3BCC0877        CREATED: New record successfully created.

        LOADING: Record(4)
            BcnId15=DAAE020F7141477
            Password=testtest
            ChallengeQuestion=What is the name of your pet?
            ChallengeResponse=Fido
            CSTACNumber=[NULL]
            BeaconActivationMethod=CAT2
            BeaconManufacturer=ACR
            BeaconModel=RLB-32
            BeaconHomingDevice=S
            AdditionalBeaconData=[NULL]
            OwnerName=GRIAD JUCEEM DE
            Address=PLITOANMOET 56
            City=2719 KK ZOETERMEER
            State=[NULL]
            ZipCode=[NULL]
            Province=[NULL]
```

```
                    MailCode=[NULL]
                    MailCountry=Chile
                    EmailAddress=BeaconOwner@anywhere.com
                    Phone1Num=33773641342
                    Phone1Type=HOME
                    Phone2Num=33775245341
                    Phone2Type=WORK
                    Phone3Num=[NULL]
                    Phone3Type=[NULL]
                    Phone4Num=[NULL]
                    Phone4Type=[NULL]
                    VehicleType=SAIL 1 Masts
                    VehicleUsage=[NULL]
                    UsageMoreInfo=[NULL]
                    VehicleName=ALSYONEM2
                    VehicleManufacturer=[NULL]
                    VehicleModel=[NULL]
                    CallSign=
                    VehicleRegistrationNumber=XX123XX
                    Color=[NULL]
                    Length=40
                    MMSI=725001100
                    PeopleCapacity=6
                    PhoneInmarsat=[NULL]
                    RadioEquipment=VHF
                    SurvivalType1Num=[NULL]
                    SurvivalType2Num=[NULL]
                    SurvivalType1Desc=[NULL]
                    SurvivalType2Desc=[NULL]
                    VehicleCellularNum=[NULL]
                    Aircraft24BitAddress=[NULL]
                    AircraftOperatingAgency=[NULL]
                    VehicleNationality=725
                    SVDRPresent=N
                    AdditionalData=[NULL]
                    PrimaryContactName=GRIAD MUDYLOT PE
                    PrimaryContactAddressLine1=[NULL]
                    PrimaryContactAddressLine2=[NULL]
                    PrimaryPhone1Num=33773646943
                    PrimaryPhone1Type=HOME
                    PrimaryPhone2Num=[NULL]
                    PrimaryPhone2Type=[NULL]
                    PrimaryPhone3Num=[NULL]
                    PrimaryPhone3Type=[NULL]
                    PrimaryPhone4Num=[NULL]
                    PrimaryPhone4Type=[NULL]
                    AlternateContactName=GRIAD JUSEA TE
                    AlternateContactAddressLine1=[NULL]
                    AlternateContactAddressLine2=[NULL]
                    AlternatePhone1Num=33775743347
                    AlternatePhone1Type=HOME
                    AlternatePhone2Num=[NULL]
                    AlternatePhone2Type=[NULL]
                    AlternatePhone3Num=[NULL]
                    AlternatePhone3Type=[NULL]
                    AlternatePhone4Num=[NULL]
                    AlternatePhone4Type=[NULL]
DAAE020F7141477        NEW: preparing to create new record.
DAAE020F7141477        CREATED: New record successfully created.

        LOADING: Record(5)
                    BcnId15=DAAE021D1D01001
                    Password=testtest
                    ChallengeQuestion=What is the name of your pet?
```

ChallengeResponse=Fido
CSTACNumber=[NULL]
BeaconActivationMethod=CAT2
BeaconManufacturer=ACR
BeaconModel=RLB 28
BeaconHomingDevice=[NULL]
AdditionalBeaconData=[NULL]
OwnerName=VAS DIJM EENTREK MECTIAUS
Address=PO BOX 47EWETT HARHIUR
City=AUCKLAND/NORTH ISLAND
State=[NULL]
ZipCode=[NULL]
Province=NEW ZEALAND
MailCode=[NULL]
MailCountry=Chile
EmailAddress=BeaconOwner@anywhere.com
Phone1Num=034760476
Phone1Type=HOME
Phone2Num=[NULL]
Phone2Type=[NULL]
Phone3Num=[NULL]
Phone3Type=[NULL]
Phone4Num=[NULL]
Phone4Type=[NULL]
VehicleType=SAIL 2 Masts
VehicleUsage=[NULL]
UsageMoreInfo=[NULL]
VehicleName=OMIGO
VehicleManufacturer=[NULL]
VehicleModel=[NULL]
CallSign=[NULL]
VehicleRegistrationNumber=1135
Color=WHITE
Length=45
MMSI=512001101
PeopleCapacity=6
PhoneInmarsat=[NULL]
RadioEquipment=[NULL]
SurvivalType1Num=[NULL]
SurvivalType2Num=[NULL]
SurvivalType1Desc=[NULL]
SurvivalType2Desc=[NULL]
VehicleCellularNum=[NULL]
Aircraft24BitAddress=[NULL]
AircraftOperatingAgency=[NULL]
VehicleNationality=725
SVDRPresent=Y
AdditionalData=[NULL]
PrimaryContactName=MR T KAUSYR
PrimaryContactAddressLine1=[NULL]
PrimaryContactAddressLine2=[NULL]
PrimaryPhone1Num=6307444164
PrimaryPhone1Type=HOME
PrimaryPhone2Num=[NULL]
PrimaryPhone2Type=[NULL]
PrimaryPhone3Num=[NULL]
PrimaryPhone3Type=[NULL]
PrimaryPhone4Num=[NULL]
PrimaryPhone4Type=[NULL]
AlternateContactName=J SODHRUN
AlternateContactAddressLine1=[NULL]
AlternateContactAddressLine2=[NULL]
AlternatePhone1Num=9317054914
AlternatePhone1Type=HOME

```
                    AlternatePhone2Num=[NULL]
                    AlternatePhone2Type=[NULL]
                    AlternatePhone3Num=[NULL]
                    AlternatePhone3Type=[NULL]
                    AlternatePhone4Num=[NULL]
                    AlternatePhone4Type=[NULL]
DAAE021D1D01001         UPDATE: preparing update for existing record.
DAAE021D1D01001         WARNING: First three digits(512001101) for MMSI do not match beacon country code(725).
DAAE021D1D01001         MISSING: Required Field:  CallSign
DAAE021D1D01001         FAILURE: Missing one or more required fields.

        LOADING: Record(6)
                    BcnId15=5AAC3FE10AFFBFF
                    Password=testtest
                    ChallengeQuestion=What is the name of your pet?
                    ChallengeResponse=Fido
                    CSTACNumber=[NULL]
                    BeaconActivationMethod=CAT1
                    BeaconManufacturer=ARTEX
                    BeaconModel=120-406
                    BeaconHomingDevice=[NULL]
                    AdditionalBeaconData=[NULL]
                    OwnerName=JON KOENEUA
                    Address=CASIDO MEE CARPAL
                    City=LO BARNECHEA
                    State=[NULL]
                    ZipCode=[NULL]
                    Province=SANTIAGO
                    MailCode=4240
                    MailCountry=Chile
                    EmailAddress=BeaconOwner@anywhere.com
                    Phone1Num=5327204034
                    Phone1Type=HOME
                    Phone2Num=5327344244
                    Phone2Type=WORK
                    Phone3Num=[NULL]
                    Phone3Type=[NULL]
                    Phone4Num=[NULL]
                    Phone4Type=[NULL]
                    VehicleType=SAIL 1 Masts
                    VehicleUsage=[NULL]
                    UsageMoreInfo=[NULL]
                    VehicleName=COSODBA
                    VehicleManufacturer=[NULL]
                    VehicleModel=[NULL]
                    CallSign=3GA825
                    VehicleRegistrationNumber=23422223
                    Color=WHITE
                    Length=38
                    MMSI=725001109
                    PeopleCapacity=8
                    PhoneInmarsat=[NULL]
                    RadioEquipment=VHF,HF
                    SurvivalType1Num=[NULL]
                    SurvivalType2Num=[NULL]
                    SurvivalType1Desc=[NULL]
                    SurvivalType2Desc=[NULL]
                    VehicleCellularNum=5397214284
                    Aircraft24BitAddress=[NULL]
                    AircraftOperatingAgency=[NULL]
                    VehicleNationality=725
                    SVDRPresent=N
                    AdditionalData=[NULL]
                    PrimaryContactName=CASSDEN VYN TOPT
```

                PrimaryContactAddressLine1=[NULL]
                PrimaryContactAddressLine2=[NULL]
                PrimaryPhone1Num=5327424524
                PrimaryPhone1Type=HOME
                PrimaryPhone2Num=5327344244
                PrimaryPhone2Type=WORK
                PrimaryPhone3Num=[NULL]
                PrimaryPhone3Type=[NULL]
                PrimaryPhone4Num=[NULL]
                PrimaryPhone4Type=[NULL]
                AlternateContactName=DASIOL MEEKET
                AlternateContactAddressLine1=[NULL]
                AlternateContactAddressLine2=[NULL]
                AlternatePhone1Num=5327164854
                AlternatePhone1Type=HOME
                AlternatePhone2Num=5327344244
                AlternatePhone2Type=WORK
                AlternatePhone3Num=[NULL]
                AlternatePhone3Type=[NULL]
                AlternatePhone4Num=[NULL]
                AlternatePhone4Type=[NULL]
5AAC3FE10AFFBFF   UPDATE: preparing update for existing record.
5AAC3FE10AFFBFF   UPDATE COMPLETED: Existing record successfully updated.

        LOADING: Record(7)
                BcnId15=DAAD0148EEC0801
                Password=testtest
                ChallengeQuestion=What is the name of your pet?
                ChallengeResponse=Fido
                CSTACNumber=[NULL]
                BeaconActivationMethod=CAT1
                BeaconManufacturer=GUEST
                BeaconModel=948-000001
                BeaconHomingDevice=1
                AdditionalBeaconData=[NULL]
                OwnerName=DGSMDVAUREEGTAPKERECGS DIENM
                Address=KASAOLWUG 21 WP
                City=HELLEVOETSLUIS
                State=[NULL]
                ZipCode=[NULL]
                Province=[NULL]
                MailCode=X12HG
                MailCountry=Chile
                EmailAddress=BeaconOwner@anywhere.com
                Phone1Num=0387314584
                Phone1Type=HOME
                Phone2Num=[NULL]
                Phone2Type=[NULL]
                Phone3Num=[NULL]
                Phone3Type=[NULL]
                Phone4Num=[NULL]
                Phone4Type=[NULL]
                VehicleType=POWER (no data provided)
                VehicleUsage=[NULL]
                UsageMoreInfo=[NULL]
                VehicleName=VLIEDTRUOE
                VehicleManufacturer=[NULL]
                VehicleModel=[NULL]
                CallSign=XQA129
                VehicleRegistrationNumber=1233446
                Color=[NULL]
                Length=3200
        BAD DATA: Value(3200) for Length is not numeric or exceeds range criteria(0-2000)
                MMSI=725001102

```
                    PeopleCapacity=0
                    PhoneInmarsat=[NULL]
                    RadioEquipment=[NULL]
                    SurvivalType1Num=[NULL]
                    SurvivalType2Num=[NULL]
                    SurvivalType1Desc=[NULL]
                    SurvivalType2Desc=[NULL]
                    VehicleCellularNum=[NULL]
                    Aircraft24BitAddress=[NULL]
                    AircraftOperatingAgency=[NULL]
                    VehicleNationality=725
                    SVDRPresent=N
                    AdditionalData=
                    PrimaryContactName=VLIEDTRUOE
                    PrimaryContactAddressLine1=[NULL]
                    PrimaryContactAddressLine2=[NULL]
                    PrimaryPhone1Num=12312313912
                    PrimaryPhone1Type=OTHR
                    PrimaryPhone2Num=[NULL]
                    PrimaryPhone2Type=[NULL]
                    PrimaryPhone3Num=[NULL]
                    PrimaryPhone3Type=[NULL]
                    PrimaryPhone4Num=[NULL]
                    PrimaryPhone4Type=[NULL]
                    AlternateContactName=[NULL]
                    AlternateContactAddressLine1=[NULL]
                    AlternateContactAddressLine2=[NULL]
                    AlternatePhone1Num=[NULL]
                    AlternatePhone1Type=[NULL]
                    AlternatePhone2Num=[NULL]
                    AlternatePhone2Type=[NULL]
                    AlternatePhone3Num=[NULL]
                    AlternatePhone3Type=[NULL]
                    AlternatePhone4Num=[NULL]
                    AlternatePhone4Type=[NULL]
DAAD0148EEC0801        NEW: preparing to create new record.
DAAD0148EEC0801        FAILURE: Bad data was found in one or more fields in this record.

          SUMMARY: Total Records Processed: 7
          SUMMARY: Records Created: 3
          SUMMARY: Records Updated: 2
```

- END OF ANNEX C -

ANNEX D

**NOTIFICATION OF INTENT TO USE THE IBRD
AND REQUEST FOR IBRD USER IDENTIFICATION AND PASSWORD
FOR GOVERNMENT AUTHORITIES**

PLEASE SELECT **ONLY ONE** OF THE FOLLOWING OPTIONS:

☐ Registration information for beacons encoded with our country code of the types indicated in the table below will be registered in the IBRD at 406registration.com by our National Data Provider.

Circle one or more		
ELT	EPIRB	PLB

The National Data Provider indicated below will collect registration information from beacon owners and upload it to 406registration.com on behalf of the beacon owner:

Country Code(s)*	Country Name:		
Authority Operating National Registry:			
Full Address:			
Phone:	Fax:	Email:	Website:

_____ **OR** _____

☐ Beacons encoded with country code(s)*_____ of the types indicated in the table below will be registered in the IBRD at 406registration.com directly by individual beacon owners.

Circle one or more		
ELT	EPIRB	PLB

_____ **OR** _____

☐ _____(country name) operates a national beacon registry for beacons encoded with country code(s)*_____. I do not wish for beacons with these MIDs to be registered at 406registration.com.

* This is the numeric code(s) assigned to your country by the ITU. For a complete list of MID "country codes" visit:
http://www.itu.int/online/mms/glad/cga_mids.sh?lng=E

For all inquiries pertaining to beacon registration, including maritime (EPIRB), aviation, (ELT) and personal locator beacons (PLB), I designate the following person as our single National IBRD Point of Contact:

Name	
Full Address:	
Phone:	Fax:	Email:

The Cospas-Sarsat Secretariat will issue passwords only to this contact, who will also be the responsible authority controlling access (and ensuring proper authorization) for our country's data in the IBRD and for disseminating IBRD passwords to authorized persons

CERTIFICATION

I _____(Name, Title) certify that I am the Cospas-Sarsat Representative or the National IMO or ICAO Representative for
_____(country).

Signature:_____   Date :_____

Upon completion and signature of this form, please return to the Cospas-Sarsat Secretariat by
email attachment (mail@Cospas-Sarsat.int) or Fax (+1 514 954 6750).

- END OF ANNEX D –

- END OF DOCUMENT -