



International Civil Aviation Organization

North American, Central American and Caribbean Office (NACC)

**First Eastern Caribbean Civil Aviation Technical Group Meeting
(E/CAR/CATG/1)**

Martinique, French Antilles, France, 19 to 21 June 2013

E/CAR/CATG/1 — DP/03

21/06/13

Agenda Item 4

Air Navigation Matters

4.2 Follow-up on the implementation of the NAM/CAR Regional Performance Based Air Navigation Plan (RPBANIP) in Eastern Caribbean:

- **Progress reports of the AIM, AGA, ATM, CNS, MET and SAR Committees**

SAR AD-HOC COMMITTEE REPORT

(Presented by the SAR Committee Rapporteur/Trinidad and Tobago)

SUMMARY

This Discussion Paper presents a Summary of Discussions that emanated from the Ad-hoc Group on matters which fell within the purview of the SAR Committee of the Eastern Caribbean Working Group at the First Eastern Caribbean Civil Aviation Technical Group Meeting (E/CAR/CATG/1).

References:

- Report of the Thirty-Third Eastern Caribbean Working Group Meeting (E/CAR/WG/33), Christ Church, Barbados, 4 to 8 June 2012
- Report of the Twenty Fourth Meeting of Directors of Civil Aviation of the Eastern Caribbean (E/CAR/DCA/24), Martinique, France, 2 to 5 October 2012;
- SAR Committee Report WP11 First Eastern Caribbean Civil Aviation Technical Group Meeting (E/CAR/CATG/1/WP11)

Strategic Objectives

This discussion paper is related to Strategic Objectives:

A. Safety – Enhance global civil aviation safety

C. Environmental Protection and Sustainable Development of Air Transport

1. Introduction

1.1 The First Eastern Caribbean Civil Aviation Technical Group Meeting formulated an Ad-hoc Group to deal with matters that fell within the purview of the Eastern Caribbean Working Group SAR Committee.

1.2 The Ad-hoc SAR Group constituted participants from the following States:

French Antilles, St. Lucia and Trinidad and Tobago.

1.3 Based on the tasks assigned, the Ad-hoc Group reviewed the relevant material contained in the Working and Information Papers within, which were draft recommendations, draft conclusions and other actions to be taken by States, Territories and International Organizations that belong to the Eastern Caribbean Group of the ICAO E/CAR Region.

1.4 The SAR Ad-hoc group noted the following conclusions from previous meetings for discussion:

E/CAR/WG

CONCLUSION 33/6

SAR ACTIVITIES IN THE E/CAR REGION

In order to promote and facilitate the SAR activities and to assist those E/CAR States that request it, that the SAR Committee Rapporteur (Rohan Garib, Trinidad and Tobago), in coordination with the SAR Committee members accomplishes the following tasks:

- a) Review and update existing SAR Agreements that include permission for SAR Units from other States to provide SAR assistance within the jurisdiction of another State;*
- b) Assist to establish proper coordination between civil and military authorities for efficient use of all SAR available resources;*
- c) Review SAR staffing requirements and response capacity within the PIARCO Flight Information Region (FIR);*
- d) Review other related activities to improve SAR services in the E/CAR and the PIARCO FIR; and*
- e) Inform on the progress of these tasks to the E/CAR/DCA/24.*

E/CAR/DCA

CONCLUSION 24/4

SAR ACTIVITIES AND IMPROVEMENTS IN THE E/CAR SUB-REGION

That in order to promote and facilitate implementation of SAR activities and improvements with the active participation of all SAR related entities in the E/CAR States/Territories:

- a) the E/CAR SAR Committee assist those E/CAR States/Territories that request to:*
 - i. review and update existing SAR Agreements that include permission for SAR Units from other States to provide SAR assistance within the jurisdiction of another State;*
 - ii. review other related activities to improve SAR services in the E/CAR sub-region and the PIARCO FIR; and*

b) *E/CAR States/Territories:*

- i. *in collaboration with the related national agencies, complete the SAR Matrix in Appendix B to WP/24 and submit it to the E/CAR SAR Committee Rapporteur (Mr. Rohan Garib, Trinidad and Tobago, rgarib@caa.gov.tt) by 31 January 2013, for analysis and preparation of a regional SAR status report;*
- ii. *establish proper coordination between civil and military authorities for efficient use of all available SAR resources; and*
- iii. *review SAR staffing requirements and response capacity within the PIARCO Flight Information Region (FIR).*

1.5 The Ad- Hoc group noted that improvements in Search and Rescue (SAR) Development in the region were accomplished, via updates of the SAR matrix and follow-up meetings (E/CAR/CATG/1 SAR Committee Report – WP/11).

1.6 The Ad-Hoc Group further noted that The Thirty-Third Eastern Caribbean Working Group Meeting resulted in the formulation of a SAR Ad-hoc group, which created an Action Plan to address pertinent issues with the Eastern Caribbean. The Action Plan included the following:

- a) update Point-of-Contacts list;
- b) follow-up on States submission of SAR Matrix;
- c) continue work to develop/amend Letters of Agreements (LOA's) between States;
- d) set up meetings with individual States and its respective agencies, with the intention of addressing individual challenges/issues that may be affecting the States; and
- e) harmonize the Individual and Regional Plans to meet the requirements of SAR for the E/CAR and the Piarco FIR.

2. Discussion

2.1 The Ad-Hoc group placed emphasis on devising strategies to obtain the outstanding information from States who have not submitted the SAR Matrix/Check list.

2.2 The group was informed of the meeting between Trinidad and Tobago and the French Territories, comprising persons from French Guyana, Guadeloupe and Martinique, held in Trinidad and Tobago (Trinidad and Tobago Civil Aviation Authority Complex) on April 8-10, 2013. A follow up-meeting (to take place in the French Antilles before August 2013) will focus on the responsibility of Martinique, Guadeloupe, French Guiana and Trinidad and Tobago to conclude the respective Letters of Agreements.

2.3 France informed the group that they have identified a lack of SAR training/expertise within their ATM System. This would be addressed with conducting training with managers and supervisors soon. An operational SAR exercise/drill in the French Antilles is planned in October 2013.

2.4 The Ad-Hoc group was advised that Trinidad and Tobago has dedicated human resource to develop a Search and Rescue Unit (SRU). A Search and Rescue Co-ordinator has been identified (Mr Nicholas Mark). The SRU has a mandate to establish an Aeronautical Rescue Coordination Centre (ARCC) with the necessary equipment and is working towards obtaining the necessary training to develop human resource in Aeronautical SAR that meets International Standards and Recommended Practices.

2.5 The SRU has developed an action plan to meet the objectives of SAR - Nationally (Trinidad and Tobago) and Regionally (Piarco Flight Information Region). The Action Plan involves completion of a National SAR Plan and Operational Plan.

2.6 Trinidad and Tobago has piloted several SAR meetings with the relevant Stakeholders to assess their Operational capability that influence the SAR Plan. The SAR Plan would be tested by the last quarter of 2013.

2.7 It is the intention of the E/CAR SAR Committee, to develop a similar Regional SAR Plan and conduct test in due course. Trinidad and Tobago will assist individual States with the development of their SAR National and Operational Plans

2.8 Work is on-going to complete the letters of Agreements for all States within the Piarco FIR and adjacent States to the Piarco FIR.

2.9 The Ad-Hoc committee notes that the tasks resulting from E/CAR SAR Action plan remain valid.

2.10 The E/CAR SAR committee is seeking the assistance of ICAO to coordinate the exchange of expertise and experiences of other developed ARCCs to assist E/CAR States to implement and develop their respective ARCCs.

3. Suggested Action

3.1 The meeting is invited to:

- a) note the information presented in this discussion paper;
- b) note the information contained in ECAR/CATG/1 WP/11;
- c) urge E/CAR States/Territories to note the SAR Action Plan and give priority to fulfilling the tasks identified;
- d) request ICAO to facilitate the exchange of expertise and experiences between States with mature SAR organisations and E/CAR States to assist with the implementation SAR in E/CAR States;
- e) endorse the use of regularly scheduled teleconferences to facilitate the progress of the SAR Action Plan; and
- f) provide other recommendations to improve SAR services in the E/CAR Region.

**APPENDIX
SAR UPDATE**



**TRINIDAD AND TOBAGO
CIVIL AVIATION AUTHORITY**
CARONI NORTH BANK ROAD, PIARCO

STATUS UPDATE ON SAR DEVELOPMENT

1.0 BACKGROUND

- 1.1 The TTCAA is complying with ICAO's International Standards and Recommended Practices, Annex 12: states that all contracting States shall, individually or in cooperation with other States, arrange for the establishment and prompt provision of Search and Rescue Services within their territories to ensure that assistance is rendered to persons in distress. Such services shall be provided on a 24-hour basis.
- 1.2 The TTCAA embarked on a three (3) phase project:-
- a. To identify the most appropriate resources desired for Search and Rescue throughout the Piarco FIR.
 - b. The provision of legislation or memorandums of understanding. This therefore creates a means to open the channels that support the necessary infrastructure to ensure that our goal as an efficient ARCC is realized.
 - c. Tests and Exercises.

2.0 MILESTONES

Held meetings with:

- Trinidad and Tobago Coast Guard on **April 19 & 26, 2013**
- National Security Operation Center on **April 22, 2013**
- Trinidad and Tobago Fire Services on **April 29, 2013**
- Office of Disaster Preparedness Management on **April 29, 2013**
- Trinidad and Tobago Air Guard on **April 30, 2013**
- Trinidad and Tobago Light Aeroplane Club on **April 30, 2013**
- Bristow Caribbean Ltd on **May 01, 2013**

- National Helicopter Services Ltd on **May 29, 2013**

3.0 SAR Development

3.1 Develop a **Regional ARCC** that supports Search and Rescue efforts within the Piarco FIR.

Piarco's Aviation Rescue Coordination Center (ARCC) Development Plan

The ARCC is a unit developed for the coordination efforts aimed at relieving any aviation related distress. International Civil Aviation Organization (ICAO) International Standards and Recommended Practices, Annex 12 states that all contracting States shall, individually or in cooperation with other States, arrange for the establishment and prompt provision of search and rescue services within their territories to ensure that assistance is rendered to persons in distress. Such services shall be provided on a 24-hour basis.

Contracting States having accepted the responsibility to provide search and rescue services in such areas shall thereafter, individually or in cooperation with other States, arrange for the service to be established and provided in accordance with the provisions of this Annex. It is with keeping these guiding principles that an ARCC be developed. The following points are integral in this process.

(1) Meetings- Both internally and externally to cover the broad spectrum of individuals and coordination required.

(2) Training- It is recommended that this service be equipped with qualified individuals, who are certified in the skill performed. Courses and training should be continuous and are available internationally but with the right infrastructure can be facilitated by the Trinidad and Tobago Civil Aviation Training College.

(3) Research and Information- This can be achieved through weekly, monthly and bi-annual assessments. The data collected can aid in development of strategies to identify strengths and

reduce weaknesses. The data can also be used to specify training emphasis and archiving such data enables future endeavors with limited risks.

(4) Equipment- The main functions of the ARCC would be to coordinate through observation and information. To compliment such a task a communications network capable of relieving an aeronautical related distress needs to be implemented.

(5) Exercises- The purpose of which is to evaluate and recommend. There are three levels exercises would be performed:- (i) Communication exercises- This is very cost effective as it relates to simulated training via the necessary communication links needed to perform a search and rescue operation.

(ii) Coordination exercises- This would be executed by individual SRUs. The aim of this from an ARCC's standpoint would be to have factual data of a unit's capabilities and recommend practices for improvement.

(iii) Full Scale exercises- This exercise is an opportunity for SRUs to operate as a combined effort. The exercise should be dynamic and test the capabilities and also innovativeness of the Search and Rescue Mission Coordinators (SMC's). Based on this exercise the need for additional training may be recommended, capabilities stipulated and weaknesses identified.

3.2 Develop goals and objectives and communicate with the following States:

- Antigua and Bermuda
- Barbados
- Guadeloupe
- Grenada
- Martinique
- Montserrat

- St Kitts and Nevis
- St Lucia
- St Vincent and the Grenadines
- Trinidad and Tobago

3.3 Manage Resources to Meet Requirements

There are two basic types of management for the SAR system: administration and operations. Administration includes planning, organizing, coordinating, control, motivating, delegating, staffing, funding and assessing the SAR system to be managed by a Search and Rescue Coordinator (SC). SC's normally:

- Develop, co-ordinate, administer, review and evaluate plans, policies, procedures, standards and training requirements for SAR co-operation and co-ordination;
- Establish and support RCC and Rescue Sub-center (RSC) facilities;
- Support, assist and possibly chair the Search and Rescue Coordinating Committee (SARC);
- Promote SAR system effectiveness and commitment to SAR objectives;
- Work nationally and internationally to establish recognized SAR regions, close and effective working relationships, use of common procedures and expedient exchanges of SAR information;
- Coordinate plans and procedures with other organizational managers that support, participate in, or provide resources for SAR operations;
- Maintain SAR plans, manuals and other SAR directives;
- Establish and maintain liaison with appropriate SAR contacts, nationally, regionally and internationally;
- Develop the SAR budget and administer appropriated funds;
- Maintain SAR data, a SAR library and SAR case files;

- Compile SAR statistics and conduct and review SAR case studies;
- Develop SAR agreements and improved international SAR capabilities and procedures;
- Promote efficient and effective use of all available SAR resources;
- Improve SAR communications;
- Provide information to facility managers for operational performance standards and resource acquisition, geographic distribution and readiness status;
- Encourage joint training and exercises leading to development of improved SAR procedures and technology;
- Initiate, review, and evaluate SAR research and development efforts;
- Participate in SAR seminars and workshops;
- Promote safety programmes to decrease distress incidents;
- Develop contingency plans for SAR resources to respond to natural and man-made disasters;
- Supervise SAR programme training;
- Provide support services such as emergency fuelling or medical assistance;
- Develop procedures to provide critical incident stress counseling to SAR personnel; and
- Promote visits between SAR programme personnel and among RCC and RSC personnel and others with special expertise related to SAR or SAR support.

3.4 Create Search and Rescue Committee (SARC)

The SARC would be tasked with ensuring that the SAR capabilities are identified and met. The committee will compose of TTCAA employees from the departments of:-

- The office of the Director General
- The office of the Executive Manager Air Navigation Services
- Economic Regulations
- Corporate Secretary\ Legal Officer
- Safety Regulations
- Air Traffic Services (Tower and Area Control Center Operations)

3.5 Checklist for the development of an ATC ARCC

Programme Initiation

ITEM	TASK	ACTION OFFICE	DUE DATE	STATUS
1.	Commitment by Senior Management	Senior Management	Completed	Completed
2.	Briefing to familiarize Senior Management with Search and Rescue Regulations and Guidelines	Senior Management	Completed	Completed
3.	Development of a draft Search and Rescue plan	Senior Management	March 2013	Completed
4.	Development of goals and objectives	Senior Management	March 2013	Completed
5.	Communicate Search and Rescue objectives with Air Traffic Control staff	Senior Management	May 2013	Started
6.	Define the roles and responsibility of the Search and Rescue Coordinator	Senior Management	March 2013	Completed
7.	Appoint a Search and Rescue Coordinator	Senior Management	March 2013	Completed

8.	Arrange for Search and Rescue training of the Search and Rescue Coordinator	Senior Management	To be sourced June 2013	Not started
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Implementation of the Search and Rescue Committee

ITEM	TASK	ACTION OFFICE	DUE DATE	STATUS
1.	Define roles and responsibilities of the Search and Rescue Committee members	Search and Rescue Coordinator	April 2013	Ongoing
2.	Create the Search and Rescue Committee	Search and Rescue Coordinator	May 2013	Ongoing
3.	Brief the Search and Rescue Committee of unit goals and the purpose of the Aeronautical Rescue Coordination Centre	Search and Rescue Coordinator	May 2013	Completed
4.	Arrange for the necessary training of Search and Rescue Committee members	Search and Rescue Coordinator	June 2013	Not started
5.	Assign tasks with specific outcomes and deadlines to Search and Rescue Committee members	Search and Rescue Coordinator	May 2013	Not started

Organizing

ITEM	TASK	ACTION OFFICE	DUE DATE	STATUS
1.	Create an Aeronautical Rescue Coordination Centre Operation Matrix	Search and Rescue Coordinator and SARC	May 2013	Started

2.	Create a Search and Rescue plan for an Aeronautical Rescue Coordination Centre	Search and Rescue Coordinator and SARC	June 2013	Ongoing
3.	Identify and schedule individual meetings with all stakeholders	Search and Rescue Coordinator and SARC	May 2013 April 2013	Ongoing
4.	Create an information chart about all Search and Rescue related units and their activities	Search and Rescue Coordinator and SARC	May 2013	Ongoing
5.	List the ICAO requirements for a Rescue Coordination Centre. Note where required standards are met and where improvements or changes are needed to be effective in the Local and Regional RCCs.	Search and Rescue Coordinator and SARC	July 2013	Ongoing
6.	List procedures used by all Search and Rescue Units Locally and Regionally	Search and Rescue Coordinator and SARC	July 2013	Not started
7.	List the roles and responsibilities of all units involved in a Search and Rescue plan. Note differences between actual responsibilities and that which is documented, as well as the lack of documented responsibilities	Search and Rescue Coordinator and SARC	July 2013	Ongoing

8.	List the skills and competencies needed to perform the duties and responsibilities described above. Note where tasks are not executed because of lack of training	Search and Rescue Coordinator and SARC	July 3013	Not started
9.	List existing documentation of all above	Search and Rescue Coordinator and SARC	July 2013	Not started

Trials/Drills

ITEM	TASK	ACTION OFFICE	DUE DATE	STATUS
1.	Communication exercises; Locally and Regionally	Search and Rescue Coordinator and SARC	July 2013	Not started
2.	Coordination exercises; between ARCC and individual Local SRUs and between Local and Regional SRUs.	Search and Rescue Coordinator and SARC	August 2013	Not started
3.	Full Scale exercises; JRCC and SRUs	Search and Rescue Coordinator and SARC	August 2013	Not started

4.0 Equipment AND TRAINING

- 4.1 Presently the Trinidad and Tobago Coast Guard has accepted an invitation to assist with the sourcing process for the desired equipment. It is also desirable that a visit to an established ARCC be accommodated at a date to be announced.

- 4.2 Training is also a key factor to note and facilities has been identified. Once confirmed a proposal would be presented.

SEARCH AND RESCUE

- TRINIDAD AND TOBAGO CIVIL AVIATION AUTHORITY



20TH June, 2013

PLARCO

AERNOAUTICAL RESCUE COORDINATION CENTER

SEARCH AND RESCUE PLAN

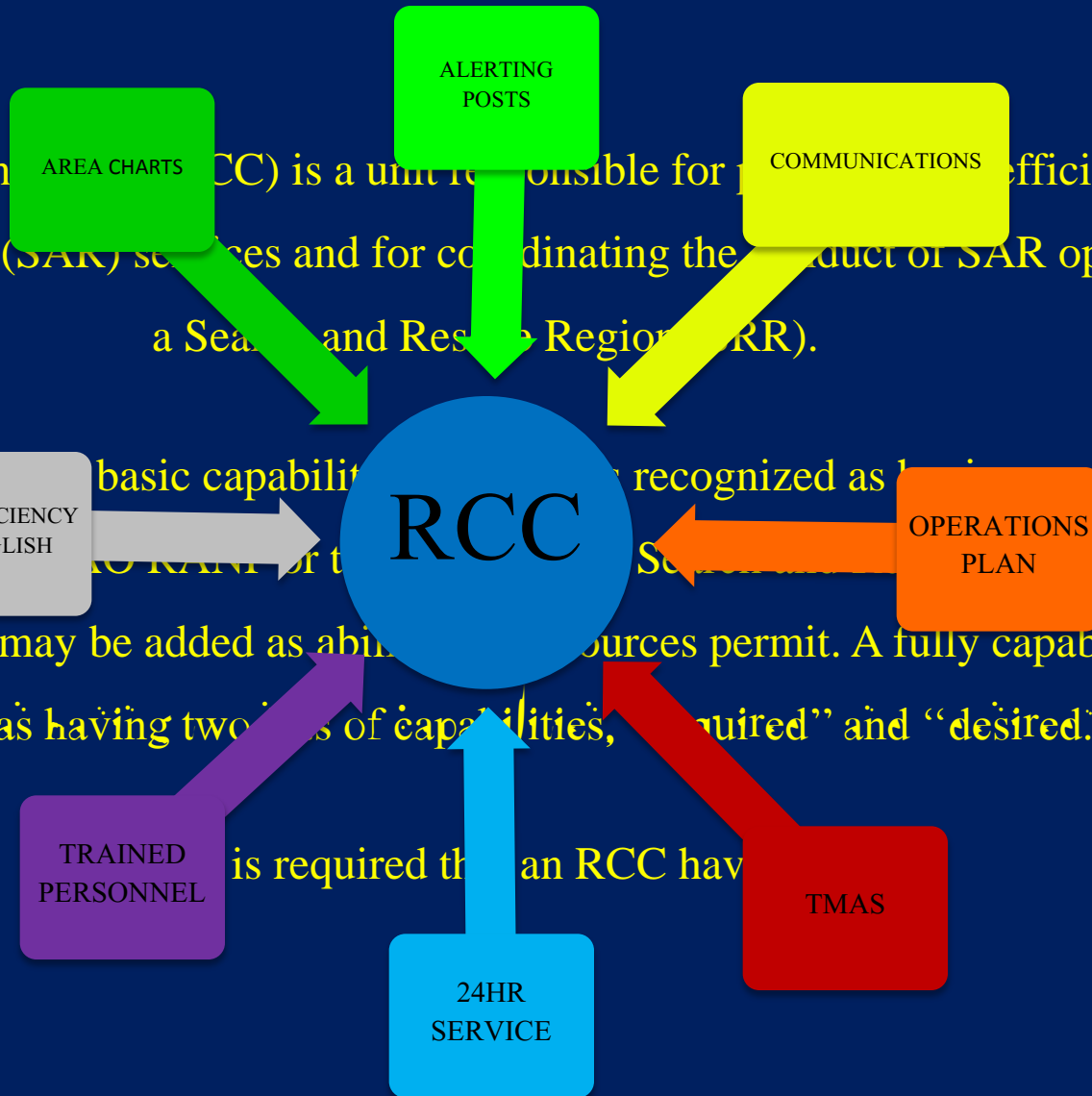




RESCUE COORDINATION CENTER (RCC)

A Rescue Coordination Center (RCC) is a unit responsible for an efficient organization of Search and Rescue (SAR) services and for coordinating the conduct of SAR operations within a Search and Rescue Region (SRR).

An RCC must have the following basic capabilities to be recognized as having responsibility for a SRR by listing it in the Aeronautical Information Publication (AIP) for that SRR. Additional or improved capabilities may be added as abilities and resources permit. A fully capable RCC may be viewed as having two sets of capabilities, "required" and "desired."





TRINIDAD AND TOBAGO OPERATIONAL MATRIX



COMPONENTS OF AN SAR OPERATIONAL MATRIX

Alerting Posts

- Alerting Posts are any facility intended to serve as an intermediary between an individual reporting an emergency and a RCC or RSC. Identify where, how many and what are their capabilities?

Search and Rescue Mission Coordinators

- The official temporarily assigned to coordinate response to an actual or apparent distress situation. Ensure all personnel are properly trained

Search and Rescue Units

- These are units composed of trained personnel and provided with equipment suitable for the expeditious conduct of SAR operations. Identify our Search and Rescue assets

On-site Coordinators and Aircraft Coordinators

- The OSC is the person designated to coordinate (from the scene of an Incident) Aeronautical SAR operations throughout the Piarco FIR.
- The ACO is a person or team who coordinates the involvement of multiple aircraft in SAR operations in support of the SMC and OSC.

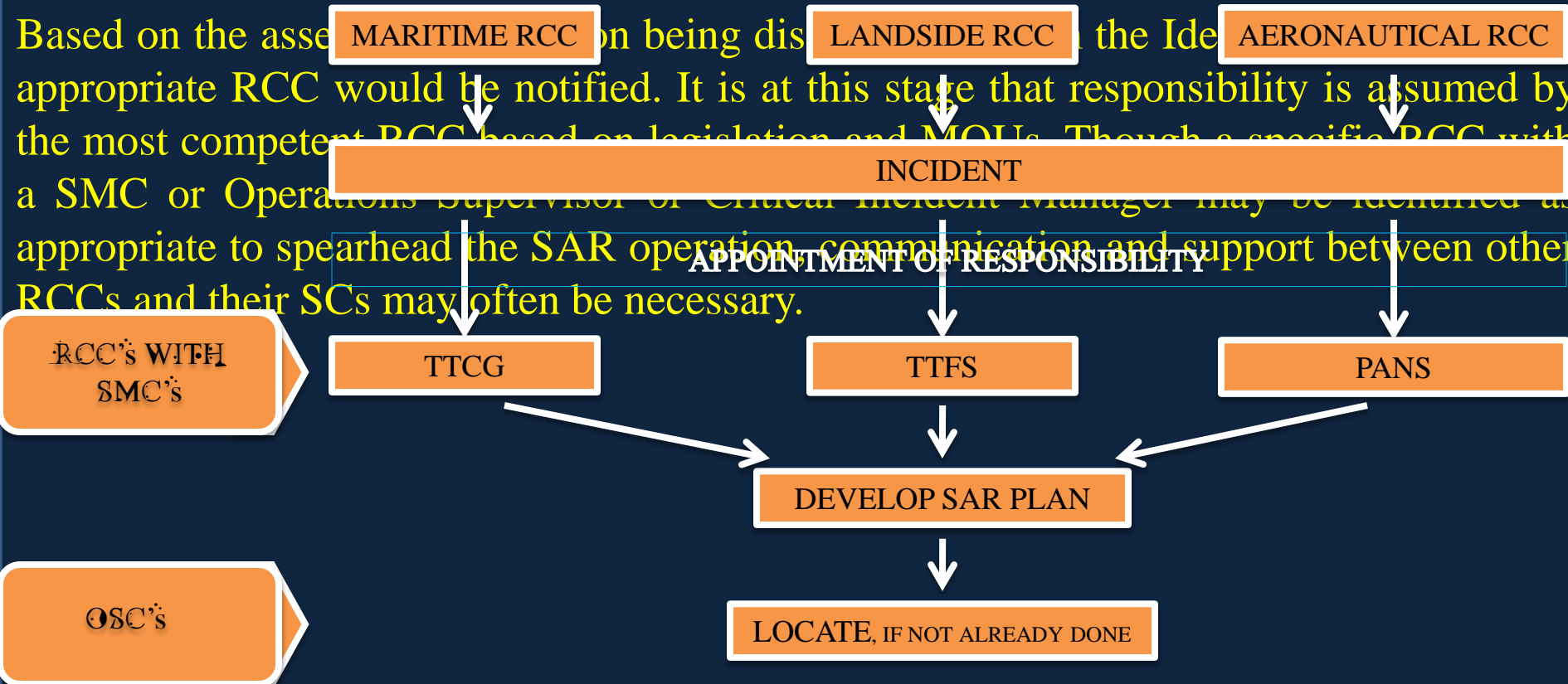


THE IDENTIFICATION STAGE



PLANNING AND DEPLOYMENT STAGE

Based on the assessment of the incident, the appropriate RCC would be notified. It is at this stage that responsibility is assumed by the most competent RCC based on legislation and MOUs. Though a specific RCC with a SMC or Operations Supervisor or Critical Incident Manager may be identified as appropriate to spearhead the SAR operation, communication and support between other RCCs and their SCs may often be necessary.





RECOVERY AND REMEDIAL STAGE

This is the final stage in our SAR Operational Model. It is the most informative stage as it provides information with regards to the outcome of the efforts by the SRU's and the effectiveness of the SMC. **LOCATE, IF NOT ALREADY DONE** Information about strengths and weaknesses, highlight potential treats to future operations, helps reduce risk which will increase efficiency and aid in cat... **RESCUE AND RECOVER** Programme Effectiveness for Preventing Loss of Life = $EFF(L) = \frac{LS}{LS + LLA}$

COORDINATE TO ESTABLISH RELIEF

Programme Effectiveness for Preventing Loss of Property = $EFF(P) = \frac{PLP}{PLP + PL}$

**SUMMARY OF THE EVENT
SURVIVORS, CASUALTIES AND DAMAGES**

Where: LS = Lives Saved

LLA = Lives Lost After Notification

PLP = Value of Property Loss Prevented (Calculated estimated amount of property loss that would have occurred had the SAR system not rendered assistance.)

PL = Value of Property Lost

INCOMING DISTRESS CALL/SIGNAL/REPORT

ALERTING POST
WITH SRU'S

Coast Guard

Police
Service

Fire
Service

Port
Authority

ODPM

Piarco Air
Navigation
Service

NSOC

Information Ascertained

MARITIME RCC

LANDSIDE RCC

AERONAUTICAL RCC

INCIDENT

APPOINTMENT OF RESPONSIBILITY

RCC'S WITH SMC'S

TTCG

TTFS

PANS

DEVELOP SAR PLAN

LOCATE, IF NOT ALREADY DONE

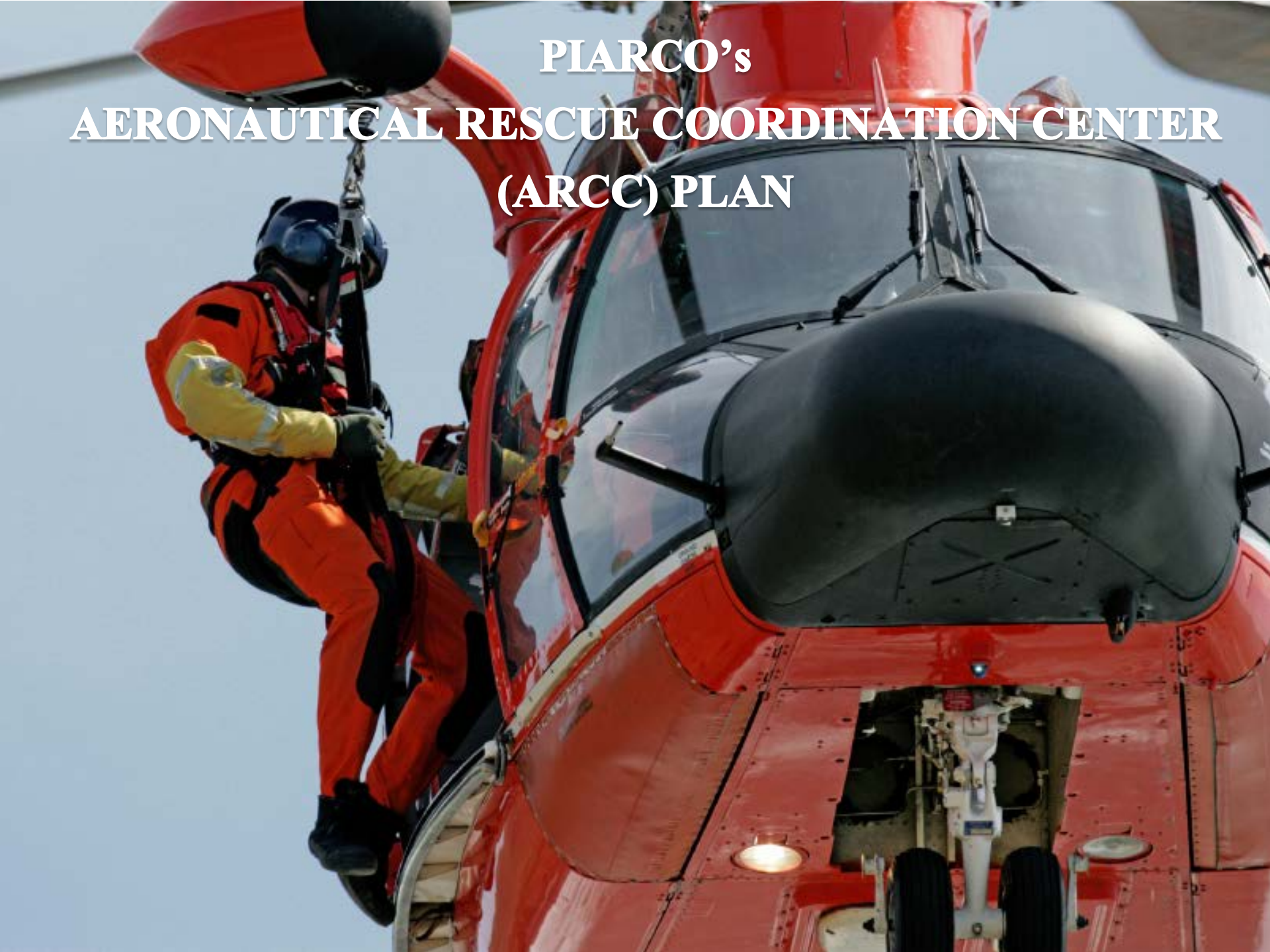
RESCUE AND RECOVER

COORDINATE TO ESTABLISH RELIEF

OSC'S

SUMMARY OF THE EVENT
SURVIVORS, CASUALTIES AND DAMAGES

**PLARCO's
AERONAUTICAL RESCUE COORDINATION CENTER
(ARCC) PLAN**



STEP 1: IDENTIFY THE STAKEHOLDERS

Ministry of Finance

Ministry of Transport

Office of the Prime Minister

Ministry of Foreign Affairs

Ministry of National Security

Ministry of Legal Affairs

Ministry of Health

Airline Operators

Private SAR Contractors

STEP 2: CREATE A PIARCO SEARCH AND RESCUE COMMITTEE (PSARC)





STEP 3: IDENTIFY, ANALYZE, IMPLEMENT OR CHANGE EVERYTHING OPERATIONALLY SUITED

Rescue Coordinating Centers or Rescue Sub-centers

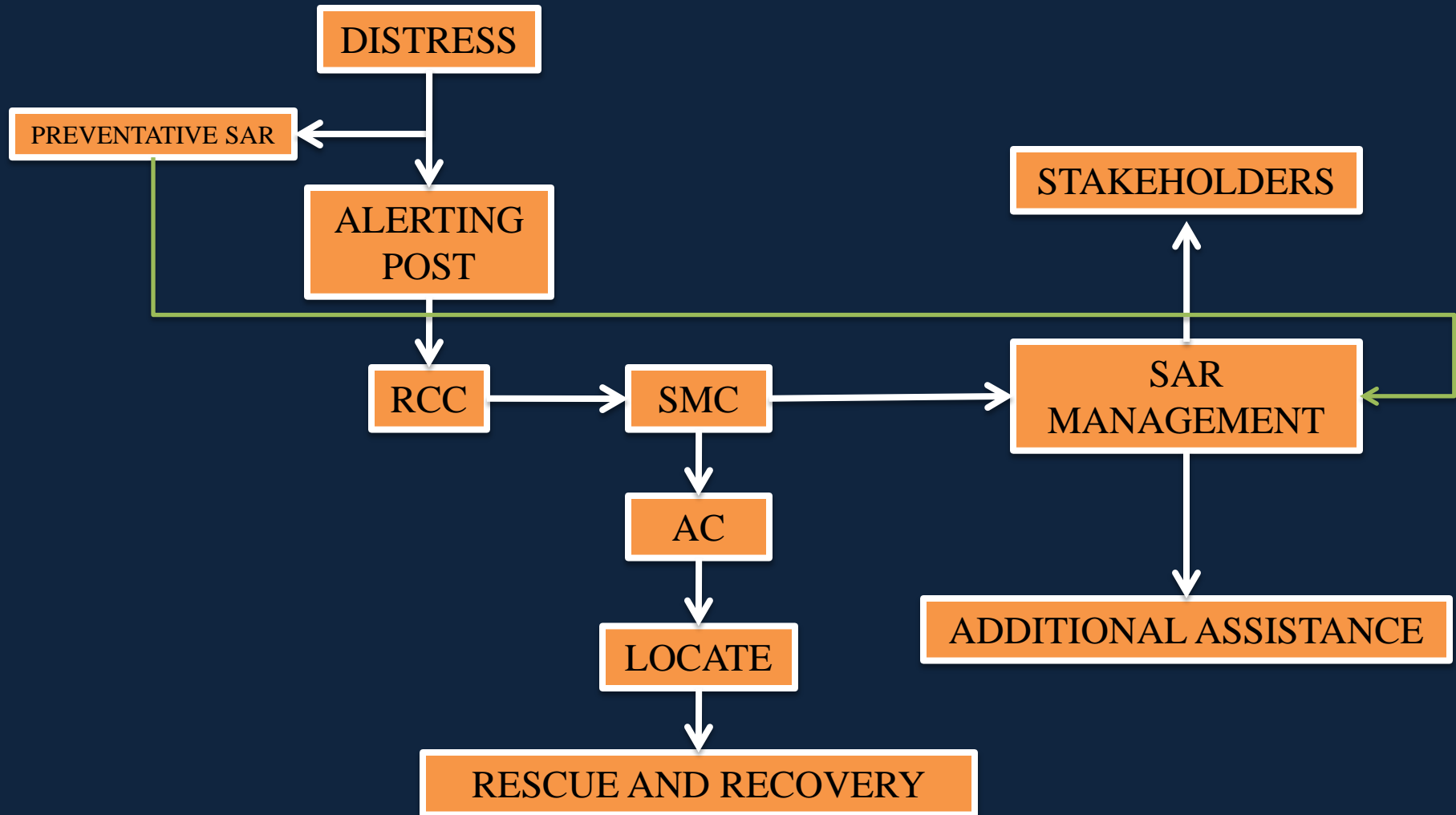
Alerting Posts

Search and Rescue Mission Coordinators

Search and Rescue Units

On-site Coordinators and Aircraft Coordinators

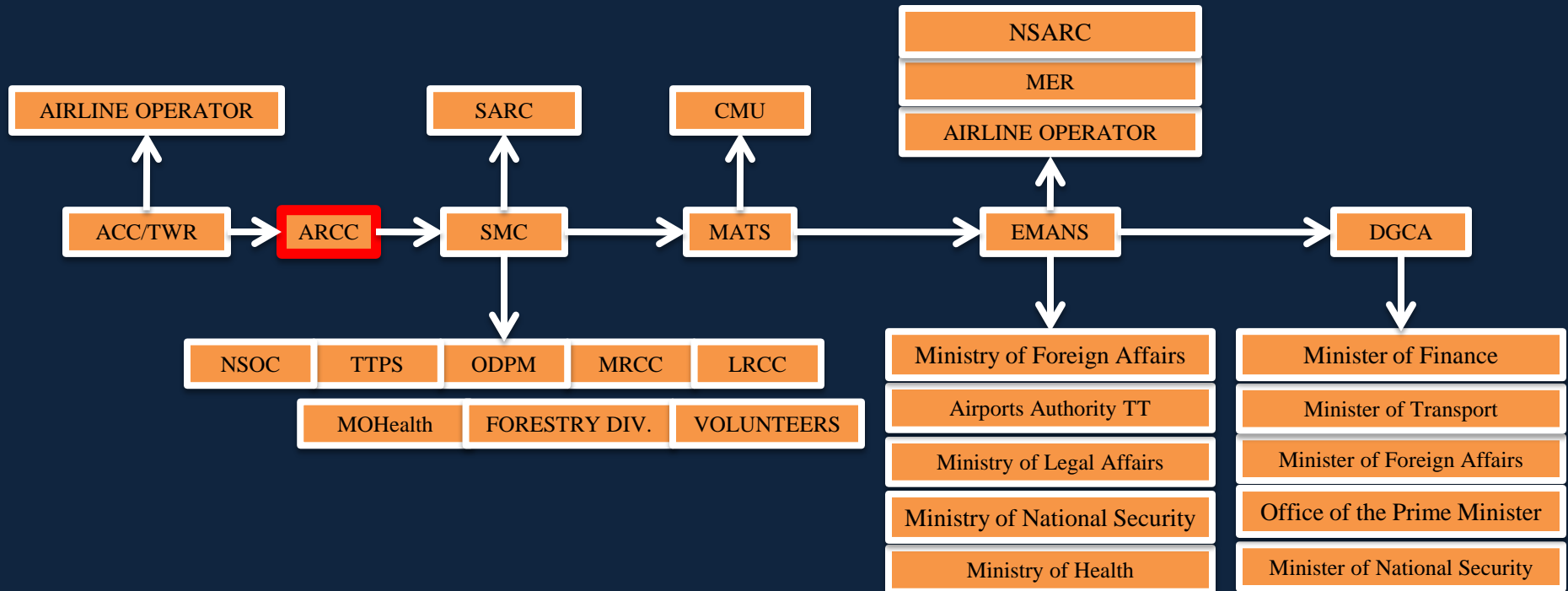
ARCC SEARCH AND RESCUE PLAN



A SAR plan may be supported by legislation or regulations if necessary, or may be a self-supporting memorandum of understanding (MOU) between appropriate agencies. Ratification of an MOU at the Ministry level recognizes the importance of SAR, while allowing for an easier revision process than higher level agreements would allow.



PIARCO ARCC SEARCH AND RESCUE PLAN





THANK YOU FOR YOUR
ATTENTION



RESCUE COORDINATION CENTER (RCC)



