

Summary

The Caribbean Disaster Emergency Management Agency (CDEMA) is a regional inter-governmental agency for disaster management in the Caribbean Community (CARICOM).

CDEMA presently comprises nineteen (19) Participating States (PS): Anguilla, Antigua and Barbuda, Commonwealth of the Bahamas, Barbados, Belize, Cayman Islands, Commonwealth of Dominica, Grenada, Republic of Guyana, Haiti, Jamaica, Montserrat, St. Kitts & Nevis, Saint Lucia, St. Vincent & the Grenadines, Suriname, Republic of Trinidad & Tobago, Turks & Caicos Islands and the Virgin Islands (UK).



CDEMA Participating States

The RRMCS shall be deployed by the CARICOM Emergency Telecommunications Team (CETT). The CETT is a team of regional ICT and telecommunications professionals tasked to provide communications services to the Emergency Operations Centre (EOC) of an impacted state and the teams deployed for disaster response operations to that state. Each deployment of the CETT consists of a team of three (3) to four (4) persons.

The CARICOM Emergency Telecommunications Team (CETT)

The CARICOM Emergency Telecommunications Team is a group of regional Information and Communication Technology (ICT) and Telecommunications professionals who are tasked to provide communication services to disaster impacted States in support of the Regional Response Mechanism (RRM).

Each deployment of the CETT consists of three (3) to four (4) persons tasked with deploying solutions capable of providing resilient satellite, internet, video, voice, and data to support an Emergency Operations Centre (EOC) and teams deployed in response to disaster relief operations. There can be multiple CETTs deployed due to multi-state impacts.

The CETT provides the Regional Coordination Centre (RCC) with greater situational awareness on the ground by ensuring reliable, predictable and secure communication between the RCC, the deployed RRM teams and the EOC of the impacted state.

The RRMCS

Each RRMCS consists of two main parts –

- 1. A fixed unit [located in a secure location in the impacted state e.g. the EOC]. The fixed unit will be deployed and maintained by the CETT; and**
- 2. Six (6) mobile kits (referred to as the RRMCS mobile component). Each mobile kit shall be equipped to support a team that shall be deployed in the impacted state. Each team shall consist of at least 10 persons. The mobile kits would allow inter-team communication, intra-team communication and communication between the teams and the EOC.**

Each RRMCS = 1 X RRMCS fixed unit + 6 X RRMCS mobile kits (field team kits)

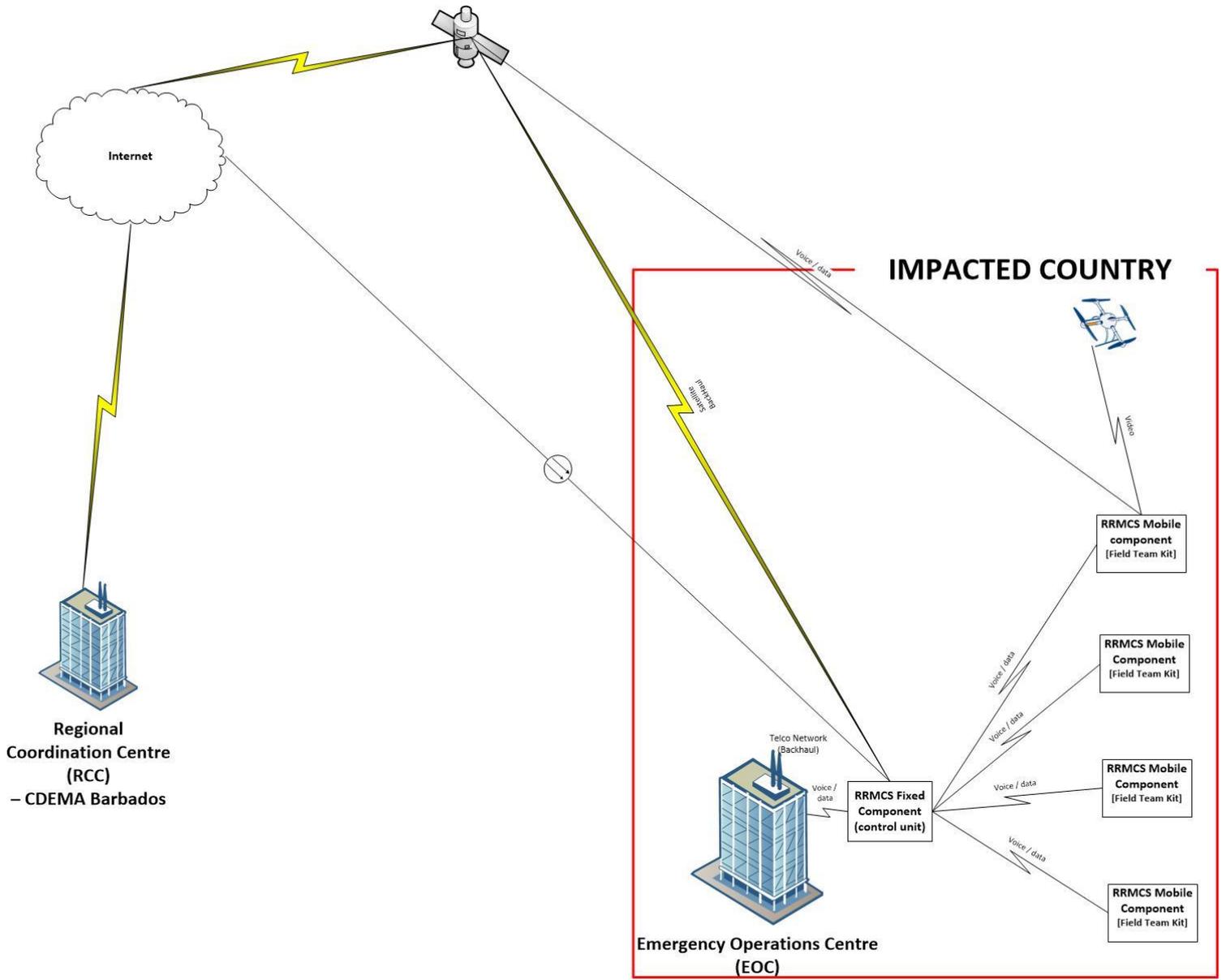


Diagram showing the RRMCs deployed in the field

Batch #1

1) Have you decided on the amount of Satellite Space Segment you will need to support the Main Office HUB and the 6 Portable Mobile Units.

Ultimately this should be determined by the bidder based on the requirements and the bidder's expertise.

2) Do you know the maximum number of Hand Devices each Portable Mobile unit will be required to support? Please see summary at the beginning of the responses to the questions.

3) How many stationary VOIP Devices will be assigned/required per Portable Mobile unit? Please see summary at the beginning of the responses to the questions.

4) Do you see a scenario of all 6 Portable Mobile units being used simultaneously? Yes, in the event of a serious multi-state impact and also training exercises.

5) How much Bandwidth/Speeds, Up and Down, is desired for each Portable Mobile unit? Ultimately this should be determined by the bidder based on the requirements and the bidder's expertise.

6) Have you given thought to having a Redundant HUB outside of Regional Coordination Center in the event it suffers damage? Please see summary at the beginning of the responses to the questions. We are open to this, please note that there are no right and wrong answers we are looking for innovative and sustainable solutions.

7) Are you open to a quote for a Redundant HUB to support Portable Mobile units in the field if the Regional Coordination Center is damaged from a Hurricane or other disaster? Please see summary at the beginning of the responses to the questions. We are open to this, please note that there are no right and wrong answers we are looking for innovative and sustainable solutions.

8) The current geographic location selected for the Regional Coordination Center?
Located in Barbados, Lat : 13.135335082990428, Long : -59.58509624004365

Batch#2

"To frame our questions, I want to state that we understand your requirements to be as follows: CDEMA is looking for a mission critical, wireless communications system that will provide enhanced situational awareness and communication capability to first responders through the deployment of a voice, video and data communication network during the coordination of single or multiple disaster scenarios. The system must be easily portable, power independent and available to be used anywhere, anytime, including being exposed to the most inclement conditions.

The required system must be compatible for use in fixed, temporary and mobile implementations. It must accommodate various type of backhauls, including satellite, fibre, point-to-point wireless, wireless/camera equipped drones, etc. It must also be compatible for use in conjunction with other emergency wireless networks that may be deployed by other emergency agencies operating in the same area.

Six communication systems (including portable satellite capability) are required for deployment. Their networks must be capable of operating independently with the ability to merge autonomously into a single larger network if two or more networks come within signal distance of each other. "

1. Is our interpretation of your requirement as we have articulated it earlier in this letter, accurate? **Yes, your interpretation is accurate.**

Please note we have attempted to keep the RFP as open to interpretation as possible so as to provide leeway for innovative solutions.

2. What existing first responder equipment is the network required to support? **The list can include, but should not be limited to Laptops, Tablets, Radio (Analog & Digital), iOS and Android devices, satellite phones, BGANs**

3. What is the structure, location and capability of the existing centralized command post to which this mobile team would be communicating at a time of deployment? **Please see summary at the beginning of the responses to the questions. The mobile team will be communicating with the Emergency Operations Centre (EOC) in the impacted state and also the Regional Coordination Centre (RCC) in Barbados.**

4. Given that there are six teams to equip, how many first responders will there be on each team? **Please see summary at the beginning of the responses to the questions.**

The 6 RRMCS systems will be supported by 3 to 4 persons per RRMCS System. These persons are drawn from the CARICOM Emergency Telecommunications Team (CETT). The

CETT will support the fixed unit of the RRMCS. The first responders will be using the mobile kits.

5. How many of the first responders will require to be equipped? **Each RRMCS system should be robust enough to provide support to at least 6 operational response teams (approx. 60 persons) simultaneously.**

6. Is this tender designed to equip one team and be scalable up to and including six teams or to be proposed to equip six teams immediately? **Each RRMCS system should be designed to equip 6 operational teams. All 6 RRMCS Systems should be operational immediately.**

7. Would you foresee the teams being deployed across the region serviced by CDEMA simultaneously or on an as needed basis driven by the crisis at that time? **There is the possibility that the systems may strategically based around the regionally and that there could also be multiple/simultaneous deployments of 2 or more system at any one point in time.**

8. What sort of communication capability will first responders require? **Voice, video and data or a combination of those three? First Responders will require a combination of Voice, video and Data.**

9. Will the responders be expected to use their own existing systems or be provided with new equipment separate from this RFP? **The RFP is only expected to provide equipment to ensure communications between the deployed teams and the EOC and RCC. This equipment will be determined by the bidder.**

Responders will have their own laptops, tablets, drones, etc. which will be able to use the network for data transfer.

10. Over what distance and topography will a network be deployed? There is no reference to the details of the environment where this is to be deployed. Could it be urban, flat land, forested areas, hilly, water, etc. or any combination of same? **Please see summary at the beginning of the responses to the questions.**

The range and topography varies from state to state will mainly on the state impacted. The Operational area could be urban or rural or both.

11. Given that we are dealing with islands, will the system be used by first responders on maritime vessels, on ground vehicles, ATVs, helicopters, other modes of air transport, etc.? **Systems should be land based.**

12. Wireless/camera equipped drones are expensive but are invaluable in terrain that is signal challenging as we presume you well know. Will each of the teams be equipped with drones? **There is the possibility of teams being equipped with drones. This will be based on the teams function and the equipment will be independent of the RFP. Drones will be used according to operational requirement and availability. However, the drone footage should be able to be transmitted via the RRMCS.**

13. Will the drones be free-flying or tethered? **Drones are not part of the RFP, but the teams deploying may have both tethered or free-flying, the RRMCS should be able to ensure the drone footage can be transmitted to the EOC and RCC.**

14. Depending on the response to question 10, is it anticipate that the proposal will include the required infrastructure to support the drones including battery power sources, generators, secure transportation carriers as an example which may or may not be complete? **No the proposal will not require separate infrastructure for drones. The bidder does not need to provide any drones, they just need to ensure that drone footage can be sent via the solution.**

15. Will there be multiple agencies attending a common incident(s)? If they have disparate wireless systems, will they require connectivity to the CDEMA wireless network? **Yes there will be multiple agencies attending common incident and it is expected that they will require connectivity to the RRMCSs**

16. What sort of encryption of signals, if any, will be required on the network and to what standard? **This will be left to the bidder, we should ensure that there is end to end encryption of data in-transit.**

17. Is the system anticipated to be deployed for sustained periods of time in complex and hazardous situations such as extreme weather, infrastructure damage, life safety threatening circumstances? **The systems are not expected to be deployed for sustained periods under such conditions as they will be used in response to disasters. Average duration would probably be 3 to 4 weeks.**

18. As to the requirements of performance bonds, is this a firm requirement as to the way you have described it? **Some flexibility is extended to the requirements however the bidder should stick as close to the performance requirements as possible.**

Batch #3

We are in the process of responding to RFP No.: GAC.1.1/03/30/2020 Selection of Supplier for: Regional Resilient Mobile Communications System (RRMCS) to enhance Emergency Telecommunications for CDEMA and would like to request the following clarifications.

1. Are there any specifications for the networking equipment other than mobile? **The bidder should feel free to provide a solution that fits the requirements.**
2. Is encryption required for communication? **Yes.**
3. Is local wireless LAN required for users in the same area? **Yes.**
4. Can you specify the NEMA rating for the networking equipment? **The solution should meet Type 4**
5. How many users are intended to be at each fixed and mobile site? **The fixed site can vary, possibly a maximum of 20 users. The mobile units cater for a team of 10 users.**
6. Voice and data were specified however what is the total maximum data estimated for transmitted per location at any time? **This will vary and we will be guided by your best estimates.**
7. Is video traffic also to be considered? **Yes, but this would be very limited.**
8. Is there Internet connectivity between Impacted Emergency Operations Centre and Regional Coordination Centre? **The assumption is that once there is an active internet connection the RRMCS would utilise it. If there is no internet connectivity then the RRMCS would utilise a satellite connection (or other alternate connection method) to provide internet access.**
9. Is there Point to Point Connectivity required between these Centres? **No dedicated connection is required.**
10. What are the GPS coordinates for these Centres? **The RCC is based in Barbados, The impacted EOC would be in whatever state is impacted.**
11. What is the Radio Frequency standard required to facilitate donor country interoperability? **Appropriate standards sanctioned by the International Telecommunications Union (ITU).**
12. Will Radio Frequency have the same standard for regional and international government owned communication networks interoperability? **Yes.**
13. What is the expected battery power talk time? **At least 8 hours.**
14. Does the system inherently have to be on the same band to facilitate CDEMA operations? **No.**

Batch # 4

1. List of CDEMA Member countries?

Please see summary at the beginning of the responses to the questions.

2. Do we quote Off Grid Power sources for the Portable mobile units? (NOTE: Portable Gasoline or Diesel generators previously operated are not normally accepted on Commercial Airlines)

Solar panels for charging and operating devices in the mobile kits would be sufficient.

3. Should we consider Portable Solar Generators?

This could be considered for the fixed unit. We would prefer renewable energy sources.

Batch #5

1. Bidding Data Sheet item ITB 1.1 – requesting confirmation that the name and ID number of the ICB is “GAC.1.1 /03/30/2020”. If not, can those details please be confirmed. **That is correct**

2. Under Part II Section VI Schedule of Requirements, the List of Goods and Delivery Schedule says “The Purchaser shall fill in this table”. Is the intent for the Purchaser or the Bidder to fill in this table? **Please refer to the Terms of Reference and the Technical Specifications for the information requested on this form**

3. Under Part II Section VI Schedule of Requirements, the List of Related Services and Completion Schedule says “The Purchaser shall fill in this table”. Is the intent for the Purchaser or the Bidder to fill in this table ? **Please refer to the Terms of Reference and the Technical Specifications for the information requested on this form**

4. Part 4 Terms of Reference paragraph 1 – does the Purchaser have specific resolution requirements (high-definition ? if so please confirm) for “video imagery and other digital media in real-time”? This necessarily affects the capacity and design of the network. **There are no specific resolution requirements.**

5. Part 4 Terms of Reference paragraph 1 cross referenced to Technical Requirements A.1 penultimate paragraph - should bidders assume that 60 RRMCS users will need to be able to stream video at the same simultaneously? **No.**

Batch #6

1. Technical Specification A.1 RRMCS

While no specific technology is mentioned in this section of the solution description, can CDEMA outline what wireless spectrum can be assumed to be utilized and available for the RRMCS to use in the case of responding to the suggested disaster scenario. Also, is there a preferred communications technology CDEMA would prefer the RRMCS be deployed with?

The wireless spectrum to be used is left up to the bidder to best suit his/her proposal's needs. There is no preferred technology.

2. Technical Specification A.1 RRMCS

How long should the equipment be able to operate independent of grid power? Assuming some sort of fuel based power source is proposed, is it safe to assume CDEMA would be able to supply the gas/fuel requirements for general operations of the RRMCS?

The equipment should be able to operate for at least 24 hours independent of grid power. Yes, CDEMA will supply gas/fuel requirements for general operation of the RRMCS. The use of renewable energy sources are welcomed.

3. Technical Specification A.3 Deliverables

Can CDEMA suggest what is a minimum amount of appropriate bandwidth which would adequately connect one RRMCS to other sites?

This is left up to the bidder to suggest the best solution which fits their proposal.

4. Technical Specification A.3 Deliverables

Can CDEMA give some examples of devices that would be considered -> "technically compatible with emergency networks and devices used by personnel from other donor countries including United States and Canada in order to expedite coordinated relief efforts."

Interoperability is the key point here however, such devices could include - HF, VHF, UHF mobile and Base station Radios, laptops, Sat Phones, BGANs, GPS Devices, etc.

5. A.3.1 Table of Mandatory and Desirable Requirements for the RRMCS - #11

Please give an example with reference to the "backhaul connections" mentioned in this requirement.

Satellite, Fibre.

6. A.3.1 Table of Mandatory and Desirable Requirements for the RRMCS - #15

To assist in equipment specification, can CDEMA provide an example of a secure connection technology/interface that would be utilized to connect to other regional and international Government owned communication networks?

This is left up to the bidder as best suits their proposal however the RRMCS must have its own independent security. CDEMA will share connection protocols with the other parties based on the solution provided. This will ensure any connectivity will be based on compatibility with CDEMA's RRMCS.

7. A.3.1 Table of Mandatory and Desirable Requirements for the RRMCS - #16

"The intrinsically safe requirement refers to the proposed end-user devices or the transit case equipment? This requirement greatly limits the potential COTS availability of hardware equipment.

The intrinsically safe requirement refers to all equipment. The equipment must have the capacity and durability to withstand and be stored under tropical conditions in island states where the potential exposure to salt water is high as that is the nature of our region. Anything less reduces the lifespan of the equipment.

Also can CDEMA suggest an operating temperature range for the equipment? eg. give example of ""high humidity, high temperatures and potential exposure to salt water. What is the recommended operating temperature range of the equipment."

High humidity, etc refers to that found in Tropical regions i.e. the Caribbean and the bidder having noted this should use this as a factor when selecting equipment to fill their proposal.

8. A.3.1 Table of Mandatory and Desirable Requirements for the RRMCS - #18

Please confirm this does not mean that 3rd Party software applications might be installed on the RRMCS but rather there would be 3rd Party software applications and services.

Confirming that this means 3rd Party software applications and services (if required) to augment functionality.

9. Environmental Technical Specifications.

What temperature range? Humidity Range? Altitude of operation? Physical environment? Vibration ranges? Salinity?

MIL-STD-810G

10. Is there a specific frequency which the network will operate on? For example: Band 14

This is left up to the bidder in support of his/her proposal