



# **The Turks and Caicos Islands Telecommunications Emergency Preparation and Response Policy**

**Decision 2021-9**

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# 1. Introduction

1. Telecoms services play a vital role during disasters and emergencies. They enable access to emergency and rescue services, support relief operations, and help in the dissemination of alerts and updates.
2. However, telecoms infrastructure is also susceptible to damage during emergencies, which can hinder rescue and relief efforts. Careful planning, with agreed and documented policies and processes, is necessary to ensure continuity of voice and data services before, during, and in the aftermath of, disasters. In the Caribbean, where devastating hurricanes occur frequently, designing networks for physical resilience, and ensuring they are properly maintained, is critical.
3. The Telecommunications Commission ('the Commission') of the Turks & Caicos Islands ('TCI') has prepared this Telecommunications Emergency and Preparedness Response Policy ('TEPRP' or just 'the Policy') with the aim of ensuring that the Islands have resilient networks which can enable the availability and operability of telecoms services in disaster scenarios.
4. The TEPRP is intended to support DDME by setting specific obligations on licensed telecoms operators and the Commission, to help mitigate, prepare for, respond to, and recover from disasters and emergencies. A summary of the TEPRP obligations is also published separately as a stand alone document, and can be found at <https://telecommission.tc/commission-decisions-2021/>
5. The TEPRP sits within a legislative and administrative framework underpinned by the 2015 Disaster Management Ordinance, and coordinated by the Department of Disaster Management and Emergencies ('DDME') through its National Disaster Management Strategy and Plans.
6. The Commission has prepared this document with input from government agencies, licensed operators, and other stakeholders. It has considered experiences and learnings from previous emergencies and disasters, in particular the impacts on telecoms networks of hurricanes Irma and Maria in 2017. It has also taken account of international frameworks for emergency and disaster management, and has sought to import best practice to TCI in the Telecoms Emergency Policy where appropriate.
7. This document should be read alongside the TCI Emergency Preparedness Agreement ('EPA'), which governs infrastructure sharing arrangements between operators in the event of failure of any network.

## 2. Executive summary

8. The TCI's legislative and operational framework for disaster and emergency management is contained in a series of ordinances, operator licence<sup>1</sup> conditions, and various strategies, plans and sub-plans co-ordinated by DDME. This framework sets policies, roles and responsibilities in the event of a disaster<sup>2</sup>. Its aim is to save lives and protect property, through the creation, maintenance and embedding of a comprehensive disaster management plan<sup>3</sup>.
9. This document summarises the current disaster management framework *as it applies to the telecoms sector*. It focuses on the roles and obligations placed on licensed operators, on the Commission, and on DDME.
10. The TEPRP sets new obligations on telecoms network operators and the Commission, designed to ensure continuity of telecoms networks and services in disaster scenarios, and to help facilitate an effective and coordinated disaster response. The TEPRP must work alongside and support the existing disaster management framework.
11. The TEPRP obligations are grouped according to the 'mitigation', 'preparedness', 'response' and 'recovery' phases of disaster management, as described in ITU Guidelines for Telecommunication Emergency Plans<sup>4</sup>.
12. The TEPRP has been prepared taking account of international best practice and discussions with TCI stakeholders to build on and improve current TCI arrangements. Key components of this are:
  - ITU-D recommendations contained in the Guidelines.
  - The existing hurricane telecoms contingency plans, which are submitted annually by TCI operators to the Commission.

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<sup>1</sup> The operator-focused disaster and emergency management policies set out in this document are intended to apply to any licensed operator of a telecoms network or service in TCI. There are currently two active telecoms licensees: Digicel and Flow. Both are vertically integrated operators, whose licences encompass the network and service components of their business. Flow is dominant in the domestic fixed public telephone network market (including domestic termination of the fixed public international network). Where we use the term 'operator' in this document, in practical terms we currently mean Digicel and Flow. However, if other telecoms licensees become operational in the future, we would expect them to be similarly subject to all operator obligations set out in this TEPRP.

<sup>2</sup> In this document we use the term "disaster" as a shorthand to refer to both emergencies and disasters.

<sup>3</sup> <https://www.gov.tc/ddme/about-us/vision-and-mission>

<sup>4</sup> <https://www.itu.int/en/ITU-D/Emergency-Telecommunications/Pages/Publications/Guidelines-for-TEPRPs.aspx>

- Review of telecoms disaster management documentation from other countries, including Trinidad and Tobago<sup>5</sup>, Bahrain<sup>6</sup> and Samoa<sup>7</sup>.
- Discussions with TCI operators, DDME, and other stakeholders.

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<sup>5</sup>[http://www.odpm.gov.tt/sites/default/files/National%20Emergency%20Communications%20Plan%20Consultative%20Edition%2009\\_05\\_17.pdf](http://www.odpm.gov.tt/sites/default/files/National%20Emergency%20Communications%20Plan%20Consultative%20Edition%2009_05_17.pdf)

<sup>6</sup> [https://tra-website-prod-01.s3-me-south-1.amazonaws.com/Media/Documents/docs/20210503095233945\\_weostukv\\_tgi.pdf](https://tra-website-prod-01.s3-me-south-1.amazonaws.com/Media/Documents/docs/20210503095233945_weostukv_tgi.pdf)

<sup>7</sup> <https://www.regulator.gov.ws/images/NETP-2014.pdf>

### 3. The legislative and organisational framework for disaster management in TCI

#### Summary of the current TCI emergency and disaster management framework

13. This report and the TEPRP Obligations have been prepared following a comprehensive review of the existing disaster management and telecoms frameworks in the TCI, and are designed to be fully consistent with and complementary to them.
14. This section describes and examines the existing framework for disaster management in the TCI, and explains how the TEPRP interlocks with the framework and its various components.
15. The 2015 Disaster Management Ordinance<sup>8</sup> establishes the Department of Disaster Management and Emergencies ('DDME') as the primary body responsible for preparation and response to all hazard types in TCI. It sets out DDME's functions, and creates an extensive structure of committees to manage and coordinate disaster response (see section 3 for more details).
16. The 2015 Ordinance requires DDME to prepare a National Disaster Management Strategy, Plan and various sub-plans. This includes a prioritisation matrix for natural and manmade disasters, which identifies floods and hurricanes/tropical storms as the hazards most likely to occur in TCI. Some DDME plans contain telecoms-specific provisions. Further obligations can be found in the Universal Service Regulations of the Telecommunications Ordinance, and in telecoms operator licences.
17. The obligations contained within this existing framework relate to provision of free and uninterrupted 911 access, caller location information, network integrity and resilience, equipment registers, monitoring, stockpiling and restoration, and traffic management. The table below summarises these obligations.

**Table 1: Current emergency and disaster management obligations in TCI**

<b>Telecommunications Ordinance 2014: Universal</b>	<ul style="list-style-type: none"><li>• <b>Operators</b> must ensure that users can access emergency telecoms and call 911 (or another number specified by the Commission) free of charge. They must make caller location information available to</li></ul>
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<sup>8</sup> <http://online.fliphtml5.com/fizd/sdvb/#p=1>

<p><b>Service Regulations</b></p>	<p>emergency service authorities as soon as practicable, to the extent technically feasible (para 19).</p> <ul style="list-style-type: none"> <li>• <b>The Commission</b> may specify obligations on operators to ensure the integrity of their network or availability of their service, and, in the event of emergency or catastrophe, or in cases of <i>force majeure</i>, the availability of public telecoms services throughout the TCI (para 22).</li> <li>• <b>Operators</b> must take all reasonable steps to ensure uninterrupted access to emergency telecoms services.</li> </ul>
<p><b>Digicel / Flow telecoms network operator licences</b></p>	<ul style="list-style-type: none"> <li>• <b>Operators</b> must provide access to emergency telecoms services by means of their networks, as prescribed by the Commission (Section 8 / 10 in Flow / Digicel licences respectively).</li> <li>• <b>Operators</b> shall use all reasonable endeavours to provide service on a provisional basis during any period of interruption through <i>Force Majeure</i> (Section 20 / 21 in Flow / Digicel licences).</li> </ul>
<p><b>The National Disaster Management Plan</b></p>	<ul style="list-style-type: none"> <li>• <b>Members of the Operations Group</b> and specified organisations must have durable equipment and backup capabilities.</li> <li>• <b>DDME</b> must compile/maintain/distribute a list of landline, mobile and satellite phone numbers, and radio frequencies.</li> <li>• <b>DDME</b> must monitor and test the effectiveness of existing emergency communication systems &amp; recommend improvements.</li> <li>• <b>DDME</b> is responsible for the functioning and maintenance of the NEOC emergency communications networks.</li> <li>• <b>The Emergency Communications Cluster</b> (a sub-Committee of ERCAL) is responsible for ensuring redundancy in national emergency communication.</li> </ul>
<p><b>The Earthquake Contingency Plan (Annex D) (DDME)</b></p>	<p>Names LIME (now Flow) and Digicel as the primary communications agencies for earthquake response. Annex D (which covers preparedness) sets out the following requirements:</p> <ul style="list-style-type: none"> <li>• <b>Operators</b> shall take steps to ensure the survivability of their respective essential infrastructure.</li> <li>• <b>Operators</b>, should, as far as possible, place telephone lines underground.</li> <li>• <b>Operators</b> shall promote redundancy through a plurality of systems.</li> <li>• <b>Operators</b> shall stockpile materials and equipment to facilitate a speedy restoration</li> <li>• <b>DDME</b> should establish MOUs with operators.</li> </ul> <p>However, these obligations appear to apply only to earthquakes, and not to other disaster types, such as hurricanes or typhoons.</p>

<p><b>Other relevant plans without telecoms-specific obligations</b></p>	<p>The following DDME plans contain only limited requirements for the telecoms sector. But their effective execution would rely in part on the availability of relevant communications plans.</p> <ul style="list-style-type: none"> <li>• <b>Disaster Relief Management Plan</b></li> <li>• <b>Draft National Hurricane Response Plan</b></li> <li>• <b>Tsunami Response sub-plan</b></li> <li>• <b>National External Affairs Plan</b> (this includes disaster contingency arrangements which might be relevant to telecoms, e.g. related to customs and immigration)</li> <li>• <b>Damage and Needs Assessment Plan</b> (telecoms and broadcasting are included as sectors for which a Detailed Sectoral Assessment Report would be provided after a disaster).</li> <li>• <b>Multi-Hazard Mitigation Plan</b> (this notes that critical intra-island and long distance/ international communications infrastructure is located on Providenciales and Grand Turk).</li> </ul>
<p><b>Future anticipated disaster management policies</b></p>	<ul style="list-style-type: none"> <li>• <b>DDME</b> is working on further provisions for the telecoms sector to be contained in: <ul style="list-style-type: none"> <li>○ The National Emergency Communications Policy (Policy)</li> <li>○ The National Emergency Communications Plan (NECP)</li> <li>○ The Emergency Communications Continuity of Operations Plan (ECCOP)</li> </ul> </li> <li>• <b>The Commission</b> is expected to include new provisions within the new (2021) network operator licences</li> </ul>

18. We now set out the existing framework for disaster management in the TCI in more detail.

**The Disaster Management Ordinance 2015**

19. The Ordinance<sup>9</sup> is the governing legislation which established the Department of Disaster Management and Emergencies (DDME) and its functions. It requires DDME to prepare a TCI National Disaster Management Plan and Strategy, which includes procedures for protecting and restoring national and international communications, and establishing communications links with overseas disaster management agencies.

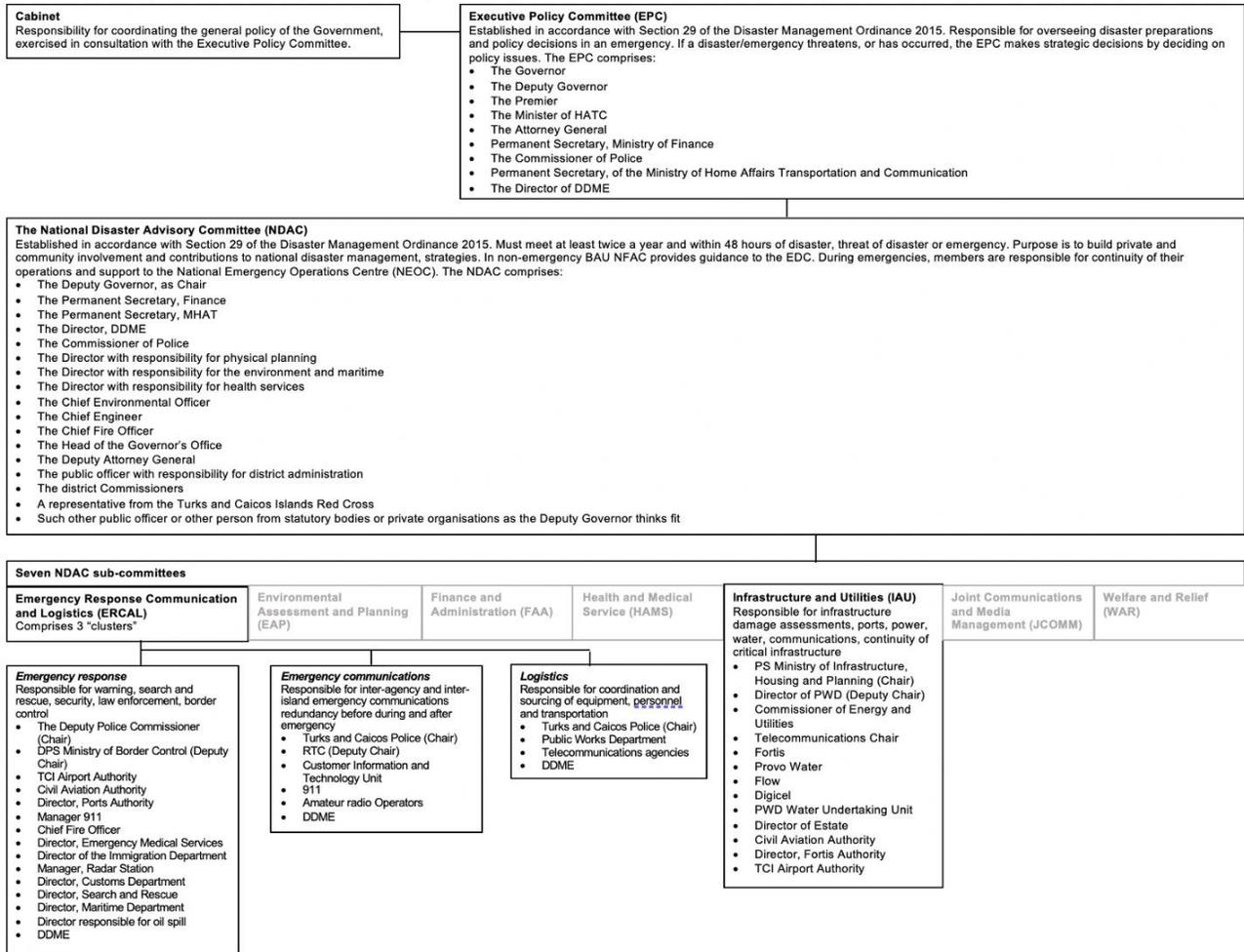
<sup>9</sup> <http://online.fliphtml5.com/fizd/sdvb/#p=1>

20. Part III of the Ordinance establishes a structure of Committees to manage and coordinate response in disaster and emergency scenarios.
- The TCI Cabinet is responsible for coordinating general disaster response policy, in consultation with the Executive Policy Committee ('EPC').
  - The EPC, made up of the heads of various public sector bodies, is responsible for overseeing disaster preparations and strategic response policies.
  - The National Disaster Advisory Committee takes a more operational role during disasters, and advises the EPC.
  - The NDAC sits above seven sub-committees, of which two are relevant to telecoms; Emergency Response Communication and Logistics ('ERCAL'), and Infrastructure and Logistics.
  - ERCAL then has further sub-committees responsible for Emergency Response, Emergency Communications and Logistics.

The structure as it applies to the telecoms sector is summarised in Figure 1 below.

# Figure 1: Schema of Disaster Management Committees and Groups established by Section III of the Disaster Management Ordinance

Grey sections = sections of the structure which do not directly concern the Telecommunications Sector (detail excluded for these sections)  
 This section is a visual summary of the structure or information and reference only.



## **The National Disaster Management Plan and sub-plans**

21. Section 13 of the 2015 Ordinance requires DDME to produce a National Disaster Management Strategy, Plan and sub-plans. These documents have been published, but appear incomplete as described below.
22. Some of the sub-plans contain provisions relating to the telecoms sector, whereas some do not. For example, the Earthquake Contingency Plan includes requirements which would be likely to provide risk mitigation in other disaster scenarios (i.e. they are not applicable just to earthquakes).
23. The Commission is aware that DDME is working on further provisions for the telecoms sector to be contained in:
  - The National Emergency Communications Policy (Policy)
  - The National Emergency Communications Plan (NECP)
  - The Emergency Communications Continuity of Operations Plan (ECCOP)The National Disaster Management Plan and its sub-plans are described in summary below.

### **The National Disaster Management Plan (draft 2018)**

24. The Plan<sup>10</sup> incorporates arrangements for disaster policy and operational coordination across government departments. This includes implementing the key organisational requirements of the Ordinance, and establishing the Disaster Management Committees (see Figure 1).
25. The Plan includes the following stipulations which are relevant to the telecoms sector:
  - All members of the Operations Group and tasked organisations within the National Plan must have durable equipment and backup capabilities.
  - DDME is responsible for compiling/maintaining/distributing a list of landline, mobile and satellite phone numbers as well as radio frequencies.
  - DDME is responsible for monitoring and testing the effectiveness of existing emergency communication systems and recommending improvements.
  - DDME is responsible for the functioning and maintenance of the NEOC emergency communications networks.

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<sup>10</sup> <https://drive.google.com/file/d/10mqsp2z8oF9PQ4La8rfUJNcJlgwKNYzw/view>

- The Emergency Communications Cluster (a sub-Committee of ERCAL) is responsible for ensuring redundancy in national emergency communication.
26. The Plan as published on the DDME website does not include the Governor's signature, and it is therefore unclear whether it is complete and formally effective.

**The Disaster Relief Management Plan** (draft 2018)

27. The Disaster Relief Management Plan<sup>11</sup> concerns the provision and distribution of emergency relief supplies and does not include content directly relevant to the TEPRP. However, effective execution of the Plan would rely in part on availability of relevant communications channels.

**The Multi-Hazard Mitigation Plan** (draft 2017)

28. The Multi-Hazard Mitigation Plan<sup>12</sup> includes a hazard prioritisation matrix which identifies floods and hurricanes/tropical storms as hazards highly likely to occur in TCI.
29. It notes that critical intra-island and long distance/international communications infrastructure is located on Providenciales and Grand Turk.
30. The Governor has not signed the Plan as published on the DDME website. It is therefore unclear whether it is complete and formally effective.

**The National External Affairs Plan** (version 2 2014)

31. The National External Affairs Plan<sup>13</sup> includes arrangements for some disaster contingencies which may be relevant to the telecoms sector, e.g. related to customs and immigration, but does not include any sector-specific requirements. However, effective execution of the Plan would rely in part on availability of relevant communications channels.
32. The Governor has not signed the Plan as published on the DDME website It is therefore unclear whether it is complete and formally effective.

**The Damage and Needs Assessment Plan** (draft 3 2014)

33. The Damage and Needs Assessment Plan<sup>14</sup> was prepared by consultants DRM International based in Mexico.
34. Whilst telecoms and broadcasting is included as a sector for which a Detailed Sectoral Assessment Report would be provided after a disaster, the Plan does not

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<sup>11</sup> [https://drive.google.com/file/d/1coa4Td\\_nwmY1uo7YvTclMjkogug9lvXL/view](https://drive.google.com/file/d/1coa4Td_nwmY1uo7YvTclMjkogug9lvXL/view)

<sup>12</sup> <https://drive.google.com/file/d/1J1X-IEXMldawqxdhIhzzDiFX5zpvij6B/view>

<sup>13</sup> <https://drive.google.com/file/d/0B2OA5e04oF2eNGFwbWZnbDV5VWM/view?resourcekey=0-Ql-MyaLTGFnLTMccjNpalq>

<sup>14</sup> <https://drive.google.com/file/d/0B2OA5e04oF2ed2RXYXdaSFhYdjQ/view?resourcekey=0-61o3QRUJALgWYwOEMbZjbw>

include requirements specific to the telecoms sector. However, effective execution of the Plan would rely in part on availability of relevant communications channels.

35. The Governor has not signed the Plan as published on the DDME website. It is therefore unclear whether it is complete and formally effective.

#### **The Earthquake Contingency Plan (draft 2017)**

36. A sub-plan of the National Disaster Management Plan, the Earthquake Contingency Plan<sup>15</sup> names LIME (now Flow) and Digicel as the primary communications agencies for earthquake response.
37. However, Annex D (which covers preparedness) sets out the following requirements for all three companies (before the merger of Flow and LIME):
- They shall take steps to ensure the survivability of their respective essential infrastructure.
  - As far as possible, telephone lines shall be placed underground.
  - They shall promote redundancy by having a plurality of systems.
  - They shall stockpile materials and equipment to facilitate a speedy restoration.
  - The DDME should establish MOUs with the telecoms providers.
38. In relation to the recovery phase (see Section 8 below for a description of the four phases of disaster management), the Plan requires that telecoms companies shall give priority to restoring the communications systems of disaster response institutions, and institute systems that allow them to control the volume of calls made on communications systems in disaster situations.
39. The Plan as published on the DDME website is labelled “final draft”, and it is therefore unclear whether it is complete and formally effective.

#### **The Draft National Hurricane Response Plan (draft 2018)**

40. The Draft National Hurricane Response Plan<sup>16</sup> appears incomplete and does not include requirements specific to the telecoms sector. However, effective execution of the Plan would rely in part on availability of relevant communications channels.

#### **The Tsunami Response sub-plan (draft 2018)**

41. The Tsunami Response Plan<sup>17</sup> appears to be incomplete and does not include any requirements specific to the telecoms sector. However, effective execution of the Plan would rely in part on availability of relevant communications channels.

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<sup>15</sup> <https://drive.google.com/file/d/1XijX6HicS-ix2sW6J1VwhGz1taDFEO0A/view>

<sup>16</sup> <https://drive.google.com/file/d/1-9GlvVNf-Nd1Hgcqdr7F08clbRX58ShY/view>

<sup>17</sup> [https://drive.google.com/file/d/1\\_G-ofMJUIZPVyrANEHi0shczTmpAOEDm/view](https://drive.google.com/file/d/1_G-ofMJUIZPVyrANEHi0shczTmpAOEDm/view)

## The Telecommunications Framework

42. The telecoms framework, comprising the Telecommunications Ordinance, Regulations and operator licences, is also relevant to emergency and disaster management. This is summarised below.

### The Telecommunications Ordinance (and subsidiary legislation) 2014

43. The Telecommunications Ordinance<sup>18</sup> is the primary legislation governing the establishment, functions, and activities of the Commission, and regulation of the sector. The Ordinance is supplemented by Regulations made under Section 65 which may be made to give effect to provisions of the Ordinance.
44. Neither the Ordinance nor the Regulations contain detailed provisions covering disasters and emergencies. However, the Universal Service Regulations are relevant to the TEPRP in that paragraph 19 requires access to emergency numbers free of charge through 911 and provision as soon as practicable to the emergency services of caller location information.
45. Paragraph 22 provides that the Commission may specify detailed requirements to ensure the integrity of networks or the availability of service and, in the event of emergency or catastrophe, or in cases of *force majeure*, to ensure the availability of public telecoms services throughout the TCI. It also requires service providers to take all reasonable steps to ensure uninterrupted access to emergency services.

### Digicel and Flow telecoms licences

46. Digicel<sup>19</sup> and Flow<sup>20</sup> hold telecoms licences. These include:
  - Obligations to provide access to emergency services (Section 8 in both telecoms licences).
  - Force Majeure clauses (Section 20 in the FLOW licence, Section 21 in the Digicel licence).

Both companies also hold spectrum licences which do not include disaster and emergency provisions.

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<sup>18</sup> <http://www.telecommission.tc/content/root/files/20180323160710-14.02-Telecommunications-Ordinance.pdf>

<sup>19</sup> <http://www.telecommission.tc/content/root/files/20120321134208-Digicel-Signed-Amended-Telecom-Network-License-Jun-15-2011.pdf>

<sup>20</sup> <http://www.telecommission.tc/content/root/files/20090121130939-CW.pdf>

## 4. International approach to emergency preparedness, and best practice assessment

47. In this section we examine emergency and disaster management arrangements internationally and in overseas jurisdictions. We use this analysis to identify areas where TCI could improve its current framework, and make recommendations accordingly.

### ITU Guidelines for National Emergency Telecommunications Plans (2020)

48. The ITU Guidelines<sup>21</sup> contain comprehensive guidance on development of emergency plans specific to the telecoms sector which is highly relevant for development of the TEPRP and can be adapted to the TCI context.
49. Whilst the Guidelines are internationally recognised, they have not been widely adopted, though it is understood that a number of countries are working on National Emergency Telecommunications Plans (broadly equivalent to the TCI TEPRP) which are intended to be consistent with the Guidelines. We believe such initiatives are underway in Afghanistan, Bolivia, Ecuador, Peru, St Lucia, Somalia and Sudan, though completed documentation for these countries are not publicly available at present.
50. The ITU Guidelines provide a highly credible baseline framework from which to develop the TCI TEPRP, adapted for local conditions in TCI.
51. In Figure 2 we identify points of relevant best practice set out as recommendations in the ITU Guidelines. In the second column we assess the performance of the *existing* TCI framework against these recommendations. In the third column we assess the performance of the TCI framework after applying TEPRP obligations.
52. Figure 2 includes RAG analysis of the current approach in TCI. The RAG ratings should be interpreted as follows:

Red	TCI status falls significantly short of the ITU recommendation
Amber	TCI status falls short of the ITU recommendation
Green	TCI status meets or exceeds the ITU recommendation

<sup>21</sup> <https://www.itu.int/en/ITU-D/Emergency-Telecommunications/Documents/2020/TEPRP-guidelines.pdf>

**Table 3: Best practice gap analysis**

ITU Guidelines recommended approach	Gap between ITU Guidelines and CURRENT TCI status, and RAG rating	Gap between ITU Guidelines and TCI status AFTER applying TEPRP obligations
<p><b>ITU Recommendation 1:</b> The National Emergency Telecommunications Plan (TEPRP) should take into consideration current capabilities, coordination challenges, planned resiliency requirements, with an understanding of the country's overall risk for telecommunication/ICT infrastructure and contingency planning, taking into account that hazards and vulnerabilities will vary widely between regions or even within countries. This overall risk analysis, developed jointly with telecommunication/ICT operators, should include geographic maps depicting the risk and telecommunication/ICT landscapes of the country.</p>	<p>Whilst hazard maps exist, hazard mapping is not currently documented clearly for the telecoms sector.</p>	<p>The TEPRP Section 5 includes the vulnerability assessment developed by DDME which provides comprehensive and accurate hazard mapping.</p>
<p><b>ITU Recommendation 2:</b> The TEPRP should include a description of the phases of disaster management based on the national disaster risk management plan adopted within the country and describe how telecommunication/ICT will be supported/enabled in each of these phases. The TEPRP should be governed by a set of principles that include, among others, addressing the country's potential hazards, participation from all stakeholders, both public and private, and the identification of all the telecommunication/ICT facilities that are required for different emergencies.</p>	<p>Whilst the National Disaster Management Plan and sub-plans incorporate planning for the phases of disaster management, there is no focussed plan for the telecoms sector.</p>	<p>The TEPRP Section 7 sets contains a description of the phases of disaster management and activities to be undertaken by sector stakeholders in each phase.</p>
<p><b>ITU Recommendation 3:</b> The TEPRP should include clear administrative structures, processes and communication protocols essential to the satisfactory implementation of the plan, taking into account the specific needs, laws, regulations, institutions and other characteristics particular to a given country, including but not limited to, the national disaster risk management plan.</p>	<p>It may be appropriate to establish further administrative structures and arrangements for the telecoms sector since these are not covered in detail in the National Disaster Management Plan.</p>	<p>The TEPRP includes arrangements for resilience of communications. Administrative structures are established under the Disaster Management Ordinance (see Section 3), and there is no need to add to this.</p>
<p><b>ITU Recommendation 4:</b> Legislation and regulation regarding telecommunication/ICTs for disaster management should be in place or put in place and described in the TEPRP. Such legislation should provide high-level guidance on the development of the TEPRP, while still allowing regulatory flexibility during its construction and implementation.</p> <p>A description of the legislation, regulation, policies, and authorities related to telecommunication/ ICTs for disaster management must be included in the TEPRP.</p>	<p>The telecoms operator licences do not include specific measures to address emergency and disaster risks.</p>	<p>The Commission will amend operator licences (following public consultation and discussion with licence holders) to strengthen or clarify obligations in relation to disaster management, and to ensure the licences are consistent with the disaster management framework.</p>
<p><b>ITU Recommendation 5:</b> The TEPRP should contain information on all existing telecommunication/ ICT networks (public and private) available for use in a disaster event, a vulnerability and risk analysis of these telecommunication/ICT networks, and network contingency plans for when emergencies and disasters occur. This information should be periodically reviewed and updated.</p>	<p>There is no current centralised inventory of telecoms network facilities for use in emergency and disaster scenarios, though the operators do submit network information to the Commission.</p>	<p>The TEPRP includes arrangements for provision of network information to the Commission by licensed operators to create an inventory. The inventory will be held centrally and confidentially by the Commission.</p>
<p><b>ITU Recommendation 6:</b> Multi-hazard early warning systems should be designed and deployed, linking all hazard-monitoring systems when possible to take advantage of economies of scale and enhance sustainability and efficiency through a multipurpose user-centric framework. An inventory of such systems, together with the processes used to activate them, should be included in the TEPRP and periodically reviewed and updated.</p>	<p>Operators have warning protocols and arrangements in place.</p>	<p>Early warning systems are also envisaged in the Preparedness Phase and documented in the TEPRP.</p>
<p><b>ITU Recommendation 7:</b> The TEPRP should include a description of, and reference to, all international cooperation</p>	<p>A comprehensive listing of international agreements is not</p>	<p>The Commission will make separate recommendations to government</p>

and coordination treaties and bilateral agreements that the country has signed regarding disaster management. In particular, countries are encouraged to take steps to ratify and implement the Tampere Convention and to take the necessary actions to put plans, policies, and procedures in place at national and local level, to ensure that the Convention and any other disaster management agreements relating to telecommunication/ICTs will be effective in a disaster situation. Such policies are necessary regardless of whether or not a country has ratified the Tampere Convention.	currently in place. TCI is not a UN Member and hence not authorised to sign the Tampere Convention independently, but the UK may extend its ratification to the TCI if the TCI Government requests this.	outside of the TEPRP to review methods to reduce cost and administrative barriers for licensed operators when they import equipment for deployment in disasters and emergencies.
<b>ITU Recommendation 8:</b> The TEPRP should include a mechanism for enhancing training and capacity building for both the administrators leading emergency responses and the wider community using and providing telecommunication/ICTs in emergencies. This requires not only practice drills, training activities, tests and other exercises, but also the development of the curriculum for these activities and the evaluation and possible modification of any existing procedures and policies.	Each licensed operator currently undertakes emergency and disaster training activities.	The TEPRP includes requirements for training in relation to Standard Operating Procedures and Contingency Plans (see Section 7).
<b>ITU Recommendation 9:</b> The TEPRP should detail how to support continued availability of multiple forms of telecommunication/ICTs to provide messages and inform/alert impacted people, including those with specific needs, and marginalized communities. It is important to ensure that the TEPRP correctly describes, and appropriately responds to everyone's needs.	Operators currently use a limited set of communications tools to reach vulnerable customers.	The TEPRP requires operators to aim to identify vulnerable customers and to use multiple modes of communication to reach them
<b>ITU Recommendation 10:</b> Cybersecurity planning, defined to include prevention, detection, response, and recovery, should be included as a foundational requirement to ensure the confidentiality, integrity and availability of communications services to support emergency operations.	Operators have cyber-security arrangements in place and these should not be compromised in emergencies. These arrangements should be shared with the Commission annually.	Operators have cyber-security arrangements in place and these should not be compromised in emergencies. These arrangements should be shared with the Commission annually.
<b>ITU Recommendation 11:</b> Annual exercises should be held and the TEPRP should be updated after every drill and operation to incorporate lessons learned and be fully reviewed at least every three to five years.	Each licensed operator currently undertakes emergency and disaster drills.	The TEPRP includes requirements for drills in relation to Standard Operating Procedures and Contingency Plans (see Section 7).

## ITU Assessment of Emergency Telecommunications Plans and Systems in the Caribbean (2017)

53. This assessment<sup>22</sup> includes best practice benchmarks and SWOT analysis, including on resilience and back-up of communications systems. This analysis is at regional level, but has potential to be a useful resource in development of the TEPRP and e.g. as a checklist against TCI risks. It lists vulnerability of telecommunications infrastructure as a regional weakness.
54. The assessment contains a summary of the governing legislation and emergency communications arrangements for each Caribbean Disaster Emergency Management Agency ('CDEMA') member nation. Whilst TCI and its framework are included, the Report makes no specific observations for TCI.

<sup>22</sup> [https://www.itu.int/en/ITU-D/Regional-Presence/Americas/Documents/ACTVTS/DLV/ITU\\_Assessment\\_ET\\_Caribbean.pdf](https://www.itu.int/en/ITU-D/Regional-Presence/Americas/Documents/ACTVTS/DLV/ITU_Assessment_ET_Caribbean.pdf)

55. It also includes a section on lessons learned from the 2017 hurricane season, including in the aftermath of Hurricanes Irma and Maria, covering:
- Network resilience, with “before” and “after” status analysis.
  - Challenges encountered with resilience of emergency communications.
  - Access to external assistance.
  - Case studies using information from Anguilla and BVI.

### **CDEMA Regional Coordination Plan (2013)**

56. The Regional Coordination Plan (RCP)<sup>23</sup> sets out guidelines for regional responses and support to CARICOM Member States. This includes:
- coordination of information, including between Governments, NGOs, Regional and International organisations;
  - mobilization of disaster assistance where needed;
  - support for return to normality after a disaster.
57. The RCP includes Sub-Regional Focal Points (RSFPs), with TCI included in the north-western SRFP, located in Jamaica. It covers triggers and processes for SRFP activation.
58. The RCP does not cover telecoms-specific requirements, but does include components for which communications resilience would be an enabler, e.g. the provision of information from impacted countries to Regional Coordination Centres, including initial contact after a disaster (in the Response Phase), and daily damage and needs assessment reports.
59. CDEMA is an important stakeholder for all governments in the region as they prepare for emergency and disaster mitigation plans. TCI is a member of CDEMA.

### **Importation of essential telecoms equipment in emergencies**

60. Barriers to importation of telecoms equipment to address emergency and disaster needs should be as low as possible. The Tampere Convention<sup>24</sup> on the Provision of Telecommunications Resources for Disaster Mitigation and Relief Operations 1998 ('the Tampere Convention') is an international agreement aimed at facilitating

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<sup>23</sup> [https://drive.google.com/file/d/1EXZmRqA85aTPc3LniT-az4hYJl2\\_3OBh/view](https://drive.google.com/file/d/1EXZmRqA85aTPc3LniT-az4hYJl2_3OBh/view)

<sup>24</sup> [https://www.itu.int/en/ITU-D/Emergency-Telecommunications/Documents/Tampere\\_Convention/Tampere\\_convention.pdf](https://www.itu.int/en/ITU-D/Emergency-Telecommunications/Documents/Tampere_Convention/Tampere_convention.pdf)

transportation of communications equipment between signatory nations across borders for disaster relief. It provides a framework in which states and other agencies can reduce regulatory barriers to the use of telecommunications resources, including restrictions on import or export, the use of particular types of equipment, and the use of particular radio-frequency spectrums.

## 5. TCI hazard mapping

61. DDME has developed a Vulnerability Assessment for the TCI which we believe is highly appropriate for hazard mapping in the TEPRP. This approach is also consistent with the ITU Guidelines.
62. The DDME hazard map is reproduced in Figure 3 below. We do not propose to create a new bespoke map for the TEPRP.

**Figure 3: DDME Vulnerability Assessment for TCI**

VULNERABILITY ASSESSMENT							
Date completed:							
EVENT	PROBABILITY	HUMAN IMPACT	PROPERTY IMPACT	BUSINESS IMPACT	PRIMARY COMMUNICATIONS SYSTEMS AND EQUIPMENT AVAILABLE	SECONDARY COMMUNICATIONS SYSTEMS AND EQUIPMENT AVAILABLE	SCORE
	Likelihood of Occurrence	Possibility of Death or Injury	Possibility of Physical Losses and Damages	Interruption of Services	Internal systems and equipment Resources are sufficient to respond to and recover from threat	Extremal (community) resources are sufficient to respond to and recover from threat	
RATING	0=none 1=Very Low 2=Low 3=Moderate 4=High 5=Very High	0=none 1=Very Low 2=Low 3=Moderate 4=High 5=Very High	0=none 1=Very Low 2=Low 3=Moderate 4=High 5=Very High	0=none 1=Very Low 2=Low 3=Moderate 4=High 5=Very High	5=none 4=Very low 3=Low 2=Moderate 1=High	5=none 4=Very low 3=Low 2=Moderate 1=High	Total the scores for each hazard The lower the score, the less vulnerable your operation is to that incident

VULNERABILITY ASSESSMENT							
EVENT	PROBABILITY	HUMAN IMPACT	PROPERTY IMPACT	BUSINESS IMPACT	PRIMARY COMMUNICATIONS SYSTEMS & EQUIPMENT DAMAGE	SECONDARY COMMUNICATIONS SYSTEMS & EQUIPMENT DAMAGE	SCORE
	Likelihood of Occurrence	Possibility of Death or Injury	Possibility of Physical Losses and Damages	Interruption of Services	Internal (business) Resources are sufficient to respond to and recover from threat	Extremal (community) resources are sufficient to respond to and recover from threat	
Earthquakes	2	2	3	3	3	3	16
Hurricanes	5	5	5	5	3	3	26
Floods	4	4	4	2	1	1	16
Fires	2	2	4	5	1	1	15
Hazardous Materials	2	2	4	4	1	1	14
Vandalism-Theft	4	4	4	4	3	3	22
Lightning	5	5	5	5	3	3	26
Mains Power Outage	3	3	3	3	1	1	14
Damage to Antenna Systems	5	5	4	5	3	3	25
Structural Failure of Facility	5	5	5	5	3	3	26
Tsunami	2	5	5	5	4	4	25
Cruise Ship Incidents	3	3	1	3	1	1	11
Aircraft Emergency Incidents	4	4	4	5	1	1	19
Drought	3	2	1	2	1	1	10

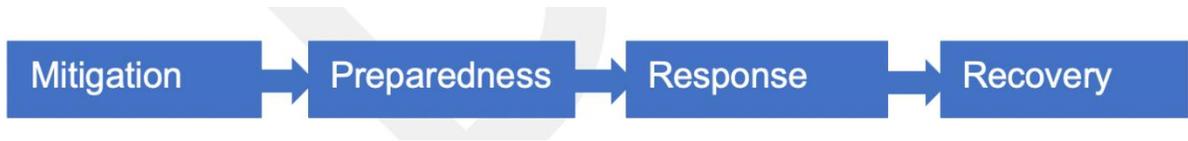
## 6. The telecommunications sector in TCI

63. TCI is a British Overseas Territory located in the northern Caribbean. It is a multi-island archipelago, with a population of around 43,000, located principally in Providenciales, Grand Turk, and North and South Caicos. It is recognised by the United Nations as a Small Island Developing State.
64. The TCI telecoms sector is primarily governed by the 2014 Telecommunications Ordinance, which, inter alia, establishes the functions, and activities of the Telecommunications Commission as the regulator.
65. The Commission has issued seven telecoms network licences, of which two - Digicel and Flow - are currently active in the provision of both fixed and mobile public voice and data services. The Commission has also issued multiple spectrum licences, for the provision of radio and mobile services.
66. Digicel and Flow are vertically integrated operators, whose licences encompass the network and service components of their business. The Commission has determined that Flow is dominant in the domestic fixed public telephone network market (including domestic termination of the fixed public international network).
67. In addition, Flow, Digicel, and Andrew's Communications, provide television services using a variety of hybrid fibre/copper and Multichannel Multipoint Distribution Service ('MMDS') distribution technologies.
68. As at the end of 2020, there were 8,445 fixed line subscriptions in TCI, which used a combination of Fibre To The Home and Very high-speed Digital Subscriber line (VDSL) technologies. At the same time, there were 46,115 mobile subscriptions (including both pay-as-you-go and pre-pay), which used a combination of 3G and 4G technologies.

## 7. TCI policy for the four phases of disaster management

### Introduction

69. The TEPRP identifies operator obligations which apply across the four phases of disasters as defined by the ITU: mitigation, preparedness, response and recovery. These phases are linked and should be seen as complementary.



70. The mitigation and preparedness phases are particularly close because they both address issues arising before a disaster has happened. It is fundamental that licensed operators should take continual appropriate measures to mitigate and prepare for disasters and incidents.

71. Triggers and notifications for the response and recovery phases will usually come from the Governor or DDME. However, licensed operators must also notify DDME and the Commission where they become aware of any major failure or disruption to critical national telecoms infrastructure. At this point operators should cooperate among themselves and share information to allow a coordinated disaster response.

72. This section sets out the TEPRP policies and obligations. It begins with a summary of the TEPRP Obligations in the mitigation, preparedness, response and recovery phases of an emergency. The Commission has also published this summary separately as a stand alone document to enable quick reference to its key requirements This can be found at <https://telecommission.tc/commission-decisions-2021/>. The section then sets out each of the TEPRP obligations in more detail.

### Summary of TEPRP obligations

1 MITIGATION	The mitigation phase aims to minimise the adverse effects of disaster events. This requires that operators should:
<b>Familiarity</b>	<ul style="list-style-type: none"> <li>• Ensure all senior management are familiar with the Disaster Management Ordinance, and have systems and processes in place to meet requirements therein.</li> </ul>
<b>Liaison</b>	<ul style="list-style-type: none"> <li>• Liaise with DDME on the TCI vulnerability assessment and ensure this is communicated to staff for disaster management purposes.</li> </ul>

	Ensure DDME includes up-to-date disaster telecoms arrangements in its preparedness communications to the TCI public.
<b>Contacts</b>	<ul style="list-style-type: none"> <li>• Prepare, maintain and disseminate contact directories for leadership team members, employees and contractors, who have key roles in disaster management. The detail of such directories and their distribution should be for each operator to decide according to their operational and leadership structures, but it is expected that they will include information on roles, rosters, alternate contacts, and ensure no single point of failure.</li> </ul>
<b>Notify</b>	<ul style="list-style-type: none"> <li>• Where operators become aware of a national or local incident which renders critical telecoms infrastructure inoperable, or which limits communications with emergency services, for more than 30 minutes, they must notify both DDME and the Commission immediately.</li> </ul>
<b>Import deployment</b>	<ul style="list-style-type: none"> <li>• Ensure that planning and operational activities include arrangements to deploy imported resources efficiently.</li> </ul>
<b>2 PREPAREDNESS</b>	<b>The preparedness phase plans for the effective management of emergencies and for prompt responses to affected communities. This includes establishing operating and contingency plans, infrastructure sharing arrangements, and early warning systems.</b>
<b>SOPs</b>	<ul style="list-style-type: none"> <li>• Licensed operators shall maintain Standard Operating Procedures (SOPs) to ensure availability of essential communications services as far as possible throughout the four phases of emergencies.</li> <li>• SOPs should include arrangements for the provision of essential facilities to maintain and support communications within and between government, Cabinet, EPC, NDAC and NDAC sub-Committees, first responders and other emergency services.</li> <li>• SOPs shall be tested through simulations and/or drills and communicated to all stakeholders who are required to collaborate in their execution.</li> <li>• All staff and other stakeholders involved in the execution of SOPs should be appropriately trained.</li> <li>• SOPs should incorporate contingency plans covering, inter-alia: <ul style="list-style-type: none"> <li>○ Arrangements for redundancy within each operator's network during emergencies.</li> </ul> </li> </ul>

	<ul style="list-style-type: none"> <li>○ Arrangements for carrying emergency calls and calls relating to disaster response and humanitarian relief efforts between networks (referencing the EPA).</li> <li>○ Ensuring resilience, maintenance, servicing, back-up, stress testing and security of emergency telecoms infrastructure for rapid deployment, including portable base stations, servers, generators, batteries, and IT equipment.</li> <li>○ Plans for deployment of emergency telecoms infrastructure.</li> <li>○ Arrangements for deployment of emergency resources (such as High Altitude Pseudo Satellites (HAPS)) and imported equipment.</li> <li>○ Plans to secure and clear business facilities and property (e.g, roof/doors/windows/drains), including identifying and prioritising repairs, leak proofing, hazard clearing, and availability of e.g. tarpaulins and sandbags.</li> <li>○ Plans for maintaining and distributing adequate stocks of tools, food, water and first aid supplies.</li> <li>○ Evacuation plans and protocols, including signposting of availability/safe location/fuelling of evacuation vehicles.</li> <li>○ Clear frameworks for speedy and flexible decision-making, including identification of command centres and protocols.</li> <li>○ Clear frameworks for communications, including availability of satellite handsets / other network handsets / two-way radios for key personnel in Grand Turk, North Caicos, and Providenciales.</li> <li>○ Situational awareness systems to provide up-to-date information.</li> <li>○ Staff / stakeholders involved in planning should be trained.</li> <li>● SOPs should be subject to annual tests/simulations/drills.</li> </ul>
<p><b>Asset inventory</b></p>	<ul style="list-style-type: none"> <li>● Licensed operators shall prepare and maintain an inventory of critical national telecoms infrastructure and services, including associated essential equipment and facilities.</li> <li>● This should include information by geographic location on: number of cells, availability of movable cell towers and other facilities to provide resilience, availability of power back-up systems (e.g. batteries or portable generators), network type and quality.</li> <li>● It should identify areas where facilities are vulnerable and/or network connectivity is poor. Inventories should be reviewed and updated regularly, and should be submitted annually by each operator to the Commission as part of the operator’s Disaster Preparedness Report.</li> </ul>

<p><b>Early warning and alert systems</b></p>	<ul style="list-style-type: none"> <li>• SOPs should incorporate disaster alert systems coordinated with the National Multi-Hazard Alert and National Broadcast Emergency Systems.</li> <li>• Alert systems should be harmonised and interoperable in accordance with systems and agreements established by the Government of the Turks and Caicos Islands for use in emergencies and disasters. This should include the Common Alerting Protocol (CAP) to disseminate information (e.g. cell or SMS broadcasts, websites) if this system is adopted by the Government.</li> <li>• Arrangements for alert responses should be documented in SOPs.</li> <li>• Staff operating alert systems should be appropriately trained.</li> <li>• Alert systems should be tested and assured at least once a year.</li> </ul>
<p><b>Arrangements to support people with specific needs</b></p>	<ul style="list-style-type: none"> <li>• Licensed operators should do everything they can to ensure that essential services remain available to all of their customers in emergency and disaster scenarios.</li> <li>• Operators should aim to identify vulnerable customers and those with specific communications needs during emergencies (e.g. those with hearing or sight difficulties, or older or digitally excluded people).</li> <li>• Operators should use multiple modes of communication to provide information before, during and after disasters, in order to reach as many of these people as possible.</li> <li>• They should incorporate these measures in their SOPs and contingency plans as appropriate.</li> </ul>
<p><b>Disaster Preparedness Report (DPR)</b></p>	<ul style="list-style-type: none"> <li>• Licensed operators shall submit a Disaster Preparedness Report to the Commission by 30 April each year, setting out their SOPs, asset inventories, contingency plans, early warning and alert systems, and arrangements to support people with specific needs.</li> </ul>
<p><b>Telecoms Sector Disaster Vulnerability Report (TSDVR)</b></p>	<ul style="list-style-type: none"> <li>• Having received operator Disaster Preparedness Reports, the Commission will prepare a Telecoms Sector Disaster Vulnerability Report (TSDVR) by 31 May each year.</li> <li>• In preparing the TSDVR the Commission may under section 36(g) of the Telecommunications Ordinance and clause 19 of the operators spectrum license visit operator sites and other installations to inspect equipment and validate reports.</li> </ul>

	<ul style="list-style-type: none"> <li>• If the Commission identifies vulnerabilities, weaknesses and risks, it may direct operators to remedy these.</li> </ul>
<b>Emergency Preparedness Agreement (EPA)</b>	<ul style="list-style-type: none"> <li>• Licensed operators must agree (or the Commission will mandate) an EPA, covering the mutual use of infrastructure in order to maximise the availability of communication channels during times of emergency (as declared by the Governor) for the purpose of connecting calls relating to emergency calls, disaster response and humanitarian relief efforts. This will help with the targeting of supplies, resources and support to the most affected people in the most hard-hit areas, and with the management of logistics to help rebuild national infrastructure, as quickly as possible.</li> <li>• The EPA must be completed and agreed by the operators within 30 days after finalisation of the TEPRP, or the Commission will impose an EPA.</li> </ul>
<b>3 RESPONSE</b>	<b>The response phase takes place during a disaster, as declared by the Governor or DDME. It involves executing the preparedness phase plans. It aims to minimise loss of life, injury and damage to property and infrastructure, by minimising service disruption.</b>
<b>Coordination</b>	<ul style="list-style-type: none"> <li>• Response should be as speedy as possible, coordinated through the command (emergency operations) centre.</li> </ul>
<b>Rapidity</b>	<ul style="list-style-type: none"> <li>• SOPs, the EPA, contingency planning, and arrangements for customers with special needs should be activated as quickly as possible without operational, logistical, or administrative hurdles, which would slow appropriate responses to incidents.</li> </ul>
<b>Flexibility</b>	<ul style="list-style-type: none"> <li>• Responses should be capable of flexing to meet the specific needs of each disaster scenario. Response systems and processes should be designed to enable quick decision making, and to adjust and re-prioritise if needed in response to real-time situation changes.</li> </ul>
<b>4 RECOVERY</b>	<b>The recovery phase takes place after a disaster. It aims to restore health, as well as economic, physical, social, cultural and environmental assets. Recovery should take account of the operational needs of the telecoms sector, its stakeholders and the wider TCI community.</b>
<b>Restoration</b>	<ul style="list-style-type: none"> <li>• Restoration of network facilities should happen as fast as possible and to the extent possible.</li> </ul>

	<ul style="list-style-type: none"> <li>• Restoration should consider cost-effective improvements to reduce risk of damage to facilities and loss of services in the future.</li> </ul>
<b>Coordination</b>	<ul style="list-style-type: none"> <li>• Each operator should coordinate restoration work across all suppliers, contractors, citizens and locations, e.g: <ul style="list-style-type: none"> <li>○ Sharing situational awareness information to target, coordinate and prioritise repair work.</li> <li>○ Liaising between networks to ensure the connection of emergency calls, and calls to support disaster response and humanitarian relief efforts, and to support any directions by DDME or the Commission in times of emergency.</li> <li>○ Temporary facilities sharing under the EPA and/or national roaming arrangements to ensure that customers of both networks can access restored services as quickly as possible.</li> </ul> </li> </ul>
<b>Customer and citizen information</b>	<ul style="list-style-type: none"> <li>• Operators should do all they can to provide information on service restoration to customers and other citizens, working with stakeholders and through the National Disaster Management Plan framework.</li> </ul>
<b>Learning</b>	<ul style="list-style-type: none"> <li>• Operators should identify and report to the Commission on the main challenges experienced during the disaster, including damage levels, impact, response and recovery time, remedial actions within 90 days of declaration by the Governor of the ending of an emergency. This information should be used to improve disaster response and management plans.</li> </ul>

**Mitigation Phase**

73. In order to ensure that the TCI telecoms sector has made all possible preparations and has measures in place to mitigate risks arising from emergency and disasters, the Commission and licensed operators should:

- Ensure they are familiar with the requirements of the Disaster Management Ordinance, and have systems and processes in place to meet these requirements where this is needed.
- Ensure they are familiar with the requirements of the National Disaster Management Plan and sub-plans, and have systems and processes in place to meet these requirements where this is needed.

- Liaise with the DDME on the TCI vulnerability assessment and ensure this is communicated to staff who need to be familiar with it for emergency and disaster management purposes.
  - Operators should prepare, maintain and disseminate contact directories for leadership team members, employees and contractors, who have key roles in disaster management. The detail of such directories and their distribution should be for each operator to decide according to their operational and leadership structures, but it is expected that they will include information on roles, rosters, alternate contacts, and ensure no single point of failure.
  - Where operators become aware of a national or local incident which renders critical telecoms infrastructure inoperable, or which limits communications with emergency services, for more than 30 minutes, they must notify both DDME and the Commission immediately.
  - Ensure that planning and operational activities include arrangements to deploy imported resources efficiently.
74. All the phases of disaster management are linked and should be complementary to each other. However, the mitigation and preparedness phases can be seen as particularly close because they both address issues arising before an emergency or disaster has happened. For avoidance of doubt, these phases are not necessarily sequential, i.e. delivery of activities in the mitigation and preparedness phases can be undertaken in parallel.

## **Preparedness Phase**

75. Planning for the mitigation phase covers activities with the objective to prevent or reduce likelihood of emergencies and disasters. Requirements for this phase cover:
- Standard Operating Procedures.
  - Emergency Preparedness Agreement.
  - Early warning and alert systems and processes.
  - Arrangements to support people with specific needs.
76. Arrangements put in place in the preparedness phase should be capable of activation in the event of disasters and emergencies speedily and without operational, logistical or administrative hurdles which would slow appropriate responses to incidents.

## Standard Operating Procedures

77. The licensed operators shall develop and maintain Standard Operating Procedures (SOPs) for emergency and disaster response to ensure as far as possible that essential communications services are maintained and are available throughout emergencies and disasters, including back-up and contingency arrangements in each of the four phases.
- SOPs should include arrangements to provide essential facilities to maintain and support communications within and between government, Cabinet, EPC, NDAC and NDAC sub-Committees, first responders and other emergency services.
  - SOPs should be tested through simulations and/or drills and communicated to all stakeholders who are required to collaborate in their execution.
  - All staff and other stakeholders involved in the execution of SOPs should be trained.
  - SOPs should incorporate contingency plans covering, inter-alia:
    - Arrangements for redundancy within each operator's network during emergencies.
    - Arrangements for carrying emergency calls, and calls relating to disaster response and humanitarian relief efforts as identified by the Government, between networks (referencing the EPA).
    - Resilience, maintenance, servicing, stress testing and security of assets, including facilities, mobile base stations, generators, and batteries.
    - Plans for rapid, flexible and efficient deployment of secondary and back-up resources, including mobile generators, cells and batteries.
    - Arrangements for deployment of emergency resources (such as High Altitude Pseudo Satellites (HAPS)) and imported equipment.
    - Plans to secure property (e.g. roof/doors/windows), including identifying and prioritising repairs, leak proofing and sandbags.
    - Evacuation plans and protocols to be activated where needed to support employees and/or citizens.
    - Clear frameworks for speedy and flexible decision making, including ensuring that there is no single point of failure in communications protocols and that alternate contacts are identified.
    - Clear frameworks for communications in disaster and emergency response, including availability of satellite phones for key personnel.

- Clear situational awareness systems to ensure that stakeholders are provided with current information on damaged communications facilities and services as they need it to effectively do their jobs.
- Staff and stakeholders involved in planning should be trained
- The effectiveness of contingency plans should be tested through simulations and/or drills at least once a year.
- Unanticipated events to which responses have not been fully planned are likely to arise during the Response Phase (indeed they are inherent in disasters and emergencies). Contingency planning should recognise this in the design of response systems and processes which should be sufficiently flexible to adjust and re-prioritise in response to real-time situation changes.

### **Network inventories**

78. Licensed operators shall prepare and maintain inventories of critical national telecoms infrastructure and services, including associated essential equipment and facilities. This should include geographic location, information on number of cells, availability of movable cell towers and other facilities to provide resilience, availability of power back-up systems (e.g. portable generators), network type and quality, and identify areas where facilities are vulnerable and/or network connectivity is poor. Inventories should be reviewed and updated regularly, and should be submitted annually by each licensed operator to the Commission as part of the operator's Disaster Preparedness Report.

### **Early warning and alert systems and processes**

79. SOP and contingency planning for the telecoms sector should incorporate systems of alerts for approaching or impending or possible emergencies and disasters. These systems should be linked to and coordinated with national alerts for the National Multi-Hazard Alert System established under Section 51 of the Disaster Management Ordinance and, as appropriate, the National Broadcast Emergency System under Section 52.
- Alert systems should be harmonised and interoperable in accordance with systems and agreements established by the Government of the Turks and Caicos Islands for use in emergencies and disasters. This should include the Common Alerting Protocol (CAP) to disseminate information (e.g. cell or SMS broadcasts, websites) if this system is adopted by the Government.
  - Arrangements for responding to alerts should be documented in the SOPs.
  - All staff and other stakeholders operating early warning/alert systems should be appropriately trained.

- Early warning/alert systems should be tested and assured as fully operational at least once a year.

### **Arrangements to support people with specific needs**

80. Licensed operators should do everything they can to ensure that essential services remain available to *all* their customers in emergency and disaster scenarios.
81. Operators should aim to identify vulnerable customers and those with with specific needs (e.g. those with hearing or sight difficulties, or older or digitally excluded people). They should use multiple modes of communication to provide information before, during and after disasters, in order to reach as many of these people as possible<sup>25</sup>. They should incorporate these measures in their SOPs and contingency plans as appropriate.

### **Disaster Preparedness Report**

82. Licensed operators shall submit a Disaster Preparedness Report (DPR) to the Commission by 30 April each year setting out their SOPs, asset inventories, contingency plans, early warning and alert systems, and arrangements to support people with specific needs.

### **Telecoms Sector Disaster Vulnerability Report**

83. Having received Disaster Preparedness Reports on time, the Commission will prepare a Telecoms Sector Disaster Vulnerability Report (TSDVR) by 31 May each year.
84. In preparing the TSDVR the Commission may visit operator sites and other installations to inspect equipment and validate reports.
85. If the Commission identifies vulnerabilities, weaknesses and risks, it may direct licensed operators to remedy these.

### **Emergency Preparedness Agreement (EPA)**

86. The Commission has considered experiences and learnings from previous emergencies and disasters, with a focus on the 2017 hurricane season and impacts in the TCI of hurricanes Irma and Maria. This included examination of the consequences of damage caused to international telecommunications systems by the 2017 hurricanes, which led to failure of some services. The Commission is working with the operators on measures to minimise the risk of recurrence of this problem, and has asked them to enter into an Emergency Preparedness Agreement for facilities sharing in emergencies and disasters.

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<sup>25</sup> The The ITU guidelines for National Emergency Telecoms plans set out a list of possible ways to improve communications with this group <https://www.itu.int/en/ITU-D/Emergency-Telecommunications/Documents/2020/TEPRP-guidelines.pdf>, page 47 and Annex 8

87. The licensed operators must agree (or the Commission will mandate) an EPA covering arrangements to share infrastructure in order to maximise the availability of communication channels during times of crisis for emergency calls, disaster response and humanitarian relief efforts. The EPA will help with the targeting of supplies, resources and support to the most affected people in the most hard-hit areas, and management of logistics to help rebuild national infrastructure, as quickly as possible. The EPA must be completed and agreed by the operators within 30 days after finalisation of the TEPRP, or the Commission will impose an EPA.

## **Response Phase**

88. The response phase is executed during a disaster or emergency and hence is critical to the minimisation of loss of life, injury and damage to property and infrastructure. It is also key to reducing any service disruption to a minimum.
89. Response activities should be deployed as speedily as possible. This means that plans developed in the Preparedness Phase should be deployed rapidly and flexibly.

### **Rapid deployment**

90. SOPs, the EPA, contingency planning, and arrangements for customers with special needs should be activated as quickly as possible without the need to overcome operational, logistical, or administrative hurdles which would slow appropriate responses to incidents.

### **Flexible deployment**

91. Each disaster and emergency scenario is different, and so the response should be capable of flexing to meet the specific needs of each situation. Response systems and processes should therefore be designed and operationalised to include quick decision making in the Response Phase to adjust and re-prioritise if needed in response to real-time situation changes.

## **Recovery Phase**

92. The Recovery Phase takes place after a disaster and hence may be organised with reference to a declaration of the ending of a disaster by the Governor under Section 53(7) of the Disaster Management Ordinance. However, activities in the Recovery Phase should not be formally linked to such declarations by the Governor and should also take account of the operational needs of the sector, its stakeholders and the community for restoration of services and other support.

93. The Recovery Phase should also ensure it is consistent and coordinated with execution of the Damage and Needs Assessment Plan.

### **Opportunities to improve resilience**

94. Restoration of network facilities should happen as quickly as possible.
95. Restoration should also consider whether cost effective improvements can be made to resilience of facilities and services to reduce the risk of damage to facilities and loss of services in the future.

### **Coordination of recovery activities**

96. Licensed operators should coordinate restoration activities as far as possible to ensure that services are re-instated in all locations and to all citizens as quickly as possible. For example, this might involve:
- Sharing situational awareness information to target and coordinate repair work.
  - Liaising between networks to optimise restoration work geographically, for example by agreeing restoration priority plans so that services are restored for customers of all operators as quickly as possible and work is not duplicated.
  - Temporary facilities sharing under the EPA and/or national roaming arrangements to ensure that customers of both networks can access restored services as quickly as possible.

### **Customer and citizen information**

97. Licensed operators should do all they can to provide information on service restoration to customers and other citizens in the Recovery Phase, working with other stakeholders and through the National Disaster Management Plan framework where appropriate.

### **Community support**

98. Licensed operators should do all they can to support communities in recovery work outside of the sector, for example by disseminating information on availability of critical facilities and services such as health services, food banks, and emergency shelter.

### **Lessons learned**

99. Licensed operators should identify and report to the Commission on the main challenges experienced during the disaster, including damage levels, impact, response and recovery time, remedial actions within 90 days of declaration by the Governor of the ending of an emergency. This information should be used to improve disaster response and management plans.

## Annex: Definitions

This document uses the following definitions.

- **Caribbean Disaster Emergency Management Agency (CDEMA):** a regional inter-governmental agency for disaster management in the Caribbean Community (CARICOM).
- **The Commission:** The Turks and Caicos Telecommunications Commission, established in 2004, through the enactment of the Telecommunications Ordinance 2004.
- **Department of Disaster Management and Emergencies (DDME):** created in 2001 to develop a comprehensive approach to disaster management, including providing warnings and coordinating response and recovery efforts.
- **Disaster Preparedness Report ('DPR'):** A report submitted annually by each licensed operator on or before 30 April setting out their standard operating procedures, asset inventories, contingency plans, early warning and alert systems, and arrangements to support people with specific needs.
- **Emergency Preparedness Agreement ('EPA'):** an agreement established by Licensed Operators governing infrastructure sharing arrangements between operators in the event of network failure.
- **ITU-D:** a division of the International Telecommunications Union which deals with use of telecoms to develop economies and society, and which provides guidance on the use of telecoms in disasters and emergencies.
- **Licensed Operator:** any operator licensed by the Commission to provide fixed and / or mobile voice and data service in TCI.
- **Regional Coordination Plan (RCP) 2013:** sets guidelines for regional emergency responses and support to CARICOM Member States. This includes:
- **Sub-Regional Focal Points (RSFPs)** set by the RCP, covering triggers and processes for RCP activation.
- **Telecommunications Emergency and Preparedness Response Policy:** ('TEPRP') sets rules and obligations on telecoms operators and the Commission, with the aim of ensuring continuity of networks and services in disaster scenarios, so these can be used optimally to support an effective and coordinated response.

- **Telecommunications Sector Disaster Vulnerability Report:** A report prepared annually by the Commission using information and data provided to them by licensed operators in the Disaster Preparedness Reports.