

Name: Guidelines for Operators in Forming the
Telecommunication Emergency Plan

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1) Introduction:

As emergencies are unforeseeable in magnitude, time and place, it is important for the telecommunications operators in the Sultanate to be prepared for emergency situations by having their own emergency plan. According to the licenses issued to public network telecom operators, the operators shall submit to the Telecommunications Regulatory Authority (TRA) their "**Emergency Plan**" and shall update it upon request from the Regulatory Authority. In any case, and in accordance with Article 45 of the Telecom Regulatory Act, when natural disaster or exceptional public emergency accidents occur, the Minister of Transport and Communications may call upon all the telecommunications services and networks of any Licensee, and its employees who operate and maintain these services and networks, for the purpose of combating such disasters and accidents.

This document is meant to be as guidelines for Class-I operators who own public infrastructure telecommunications network to follow in forming their emergency plan (*will be referred as "operators" in the rest of the document*). The Emergency plan is to be submitted to the Regulatory Authority, and it should be reviewed regularly every year. When Emergency is declared by the relevant authority in the country, the operators should activate their telecommunications emergency plan which shall be formed in accordance with the guidelines mentioned in this document.

2) Emergency Telecommunications Plan Framework:

The International Telecommunications Union (ITU) has developed a framework for telecommunications emergency plan which reflects the four phases of disaster management:

- Prevention and Mitigation;
- Preparedness;
- Response;
- Recovery.

The "Emergency Plan" which is to be submitted to the TRA should include as a minimum the following items as explained below.

3) Prevention/mitigation Activities

The following elements may particularly be considered by the operators in their emergency plan as Prevention and Mitigation stage elements:

3.1) Internal Rules and Procedures:

Operators should submit to the TRA in their Emergency Plan their internal rules and procedures that govern the use of additional or exceptional powers in case of emergency. These rules and procedures should aim to grant the necessary powers to facilitate the provision and the movement of telecommunications services and telecommunication systems during emergencies and ensure the availability of essential services.

telecommunications services during an emergency, system overload or degradation of service.

3.2) Critical Infrastructure Protection:

Operators should identify, in their Emergency Plan, the critical infrastructure elements in their networks, identify the vulnerabilities, and identify the inter-dependency between telecommunications infrastructure and other infrastructures. The purpose of this is to establish a real-time ability to share information with TRA or any relevant authority the current status of infrastructure elements. Ultimately, the goal is to protect critical infrastructure by reducing the known vulnerabilities to minimum.

The following network vulnerabilities should be identified and assessed by the operators:

- Probable technical points of failure in case of disaster such as earthquake, lightning, floods, cyclones, fiber cuts or other emergencies that have a physical impact on telecommunications infrastructures.
- Interdependencies or support elements such as power supply, fuel access generators in case of power failure, and physical factors related to physical access to reach critical infrastructures.
- Lack of capacity, network overload or network degradation in time of disaster in order to take appropriate measures.

4) Preparedness Activities:

The following elements should in particular be considered by public network telecom operators for inclusion in their Emergency Plan before submission to the TRA as preparedness activities:

4.1) Developing Emergency Telecommunications Response Plans:

Operators should develop and maintain an emergency response plan, and include this plan in their overall Emergency Plan. This plan should include the activities and actions planned in advance on how to react to an emergency, how to minimize the consequences of the emergency and how to provide adequate support to first responders. The response plan should aim to:

- Mitigate and respond to the disruptive effects of emergencies on telecommunications.
- Facilitate the provision of appropriate telecommunications services or systems required in emergency response operations.
- Ensure the availability of basic telecommunications services to meet rescue emergency operations needs during periods of system overload or degradation, especially the requirements of public protection organizations which would be specified in advance. In this regard, TRA will distribute a list of important officials whose telephone number should be given priority during emergency situations when network congestions result in severe restrictions in making successful calls.

4.2) Warning Systems:

Operators should explain in their Emergency Plan, as to how they can assist in alerting the public and disseminating information in regard to emergency as received only from the authorized officials in the country. Operators should be prepared for various mechanisms for dissemination of information including but not limited to the following:

- fax stream, automated attendant and SMS – to disseminate warning information to first responders and media outlets;
- Internet websites – to assist with dissemination of real time information and as a source of data for the public.

4.3) Inventory of Resources:

Operators should include in their Emergency Plan the necessary actions to be taken in order to ensure facilitating the provision of services and systems in response to immediate needs for extraordinary operations (disasters or exceptional public emergency incidents) or in replacing or re-habilitating equipment or networks destroyed or degraded. This may be done by explaining the relevant support arrangement with the suppliers of telecommunications systems in the country. This needs to be completed in advance as part of preparedness. In this regard, operators must know the vendors and suppliers of the telecommunications infrastructure networks. They should maintain a point of contact (POC) with those suppliers for urgent needs. Each operator shall also consider making mutual agreements with other operators for support in emergency situations. This should be indicated in the Emergency Plan.

4.4) Exercises and Training:

Operators should include in their Emergency Plan mechanism to exercises to be carried out by them in regard to various types of anticipated emergency situations. Exercises should aim to:

- evaluate the operators' emergency response plan, or a segment of the plan;
- give the employees a better understanding of their role during an emergency;
- facilitate collaboration between different players, inside and outside the organization;
- identify problems and recommend improvements leading to revision of the emergency telecommunications plan where necessary.

The Emergency Plan should include schedule of at least one exercise carried out in a year to buildup competences and readiness. These exercises shall be demonstrative and shall not result in network outages.

4.5) Emergency Operations Centre (EOC):

Each Operator should explain in their Emergency Plan the actions taken in regarding their own Emergency Operation Centre for telecommunications services. Emergency Operation Centre for telecommunications services should act as a communication point at the time of emergency. EOC staff should be trained

existing facilities to keep the EOC in a ready state. The EOC will coordinate or act as a facilitator in handling urgent requests made for telecommunication expertise, services or systems. The EOC should be easily contacted by the public and should have all contact with industry telecommunications partners, including names, fixed phone, cellular numbers, and e-mail addresses. The Emergency operation centre (EOC) should have an established back-up location fitted with telecommunications and ICT connections through more than one technology options.

4.6) Business Continuity Plan (BCP):

Operators should also include in their Emergency Plan a section demonstrating their Business Continuity Plan (BCP). The BCP should include all actions of how they could recover and restore partially or completely, the interrupted critical function(s)/ network elements at the time of Emergency within a predetermined time.

5) Response Activities:

5.1) Emergency Declaration:

Emergency Declaration in the country is the responsibility of the Government. Therefore, Operators shall only activate their Emergency if Emergency is declared by the competent authority in the country. Operators may also activate their Emergency Plan in case of major network or service failure in order to recover from service interruption. This should be ratified by the TRA.

5.2 Emergency Telecommunication Activation:

Operators should include in their Emergency Plan the actions and procedures to be taken for activating their Emergency Plans as soon as a major disaster occurs or about to occur, and/or emergency is declared in the country. Public network telecom operators should continuously monitor and evaluate the situation, provide support on matters related to emergency telecommunications, and facilitate the deployment of telecommunications services and systems in a pro-active approach.

As part of emergency activation, the Emergency Operation Centre of each Public network telecom operators should take the necessary actions in regard to facilitation in the provision of appropriate telecommunications services to ensure the availability of telecommunications to meet emergency requirements, especially the requirements for the public protection organizations which would be specified in advance.

6) Recovery Activities:

When the emergency is over, operators shall be ready to activate their business continuity plan to have immediate recovery of their networks and to ensure the availability of basic telecommunications services to the public. Recovery actions shall include the replacement of what has been destroyed and the rehabilitation of telecommunications networks in the affected areas. All these expected recovery actions shall be explained in the Emergency Plan to be submitted to the TRA. At the end of emergency, a review and update of the Emergency Plan shall also be carried out based on assessment of strength and weaknesses in the earlier plan.