

# Appendices

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**TAMPERE CONVENTION  
ON THE PROVISION OF TELECOMMUNICATION RESOURCES  
FOR DISASTER MITIGATION AND RELIEF OPERATIONS**

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**THE STATES PARTIES TO THIS CONVENTION,**

*Recognizing*

that the magnitude, complexity, frequency and impact of disasters are increasing at a dramatic rate, with particularly severe consequences in developing countries,

*recalling*

that humanitarian relief and assistance agencies require reliable, flexible telecommunication resources to perform their vital tasks,

*further recalling*

the essential role of telecommunication resources in facilitating the safety of humanitarian relief and assistance personnel,

*further recalling*

the vital role of broadcasting in disseminating accurate disaster information to at-risk populations,

*convinced*

that the effective, timely deployment of telecommunication resources and that rapid, efficient, accurate and truthful information flows are essential to reducing loss of life, human suffering and damage to property and the environment caused by disasters,

*concerned*

about the impact of disasters on communication facilities and information flows,

*aware*

of the special needs of the disaster-prone least developed countries for technical assistance to develop telecommunication resources for disaster mitigation and relief operations,

*reaffirming*

the absolute priority accorded emergency life-saving communications in more than fifty international regulatory instruments, including the Constitution of the International Telecommunication Union,

*noting*

the history of international cooperation and coordination in disaster mitigation and relief, including the demonstrated life-saving role played by the timely deployment and use of telecommunication resources,

*further noting*

the Proceedings of the International Conference on Disaster Communications (Geneva, 1990), addressing the power of telecommunication systems in disaster recovery and response,

*further noting*

the urgent call found in the Tampere Declaration on Disaster Communications (Tampere, 1991) for reliable telecommunication systems for disaster mitigation and disaster relief operations, and for an international Convention on Disaster Communications to facilitate such systems,

*further noting*

United Nations General Assembly Resolution 44/236, designating 1990-2000 the International Decade for Natural Disaster Reduction, and Resolution 46/182, calling for strengthened international coordination of humanitarian emergency assistance,

*further noting*

the prominent role given to communication resources in the Yokohama Strategy and Plan of Action for a Safer World, adopted by the World Conference on Natural Disaster Reduction (Yokohama, 1994),

*further noting*

Resolution 7 of the World Telecommunication Development Conference (Buenos Aires, 1994), endorsed by Resolution 36 of the Plenipotentiary Conference of the International Telecommunication Union (Kyoto, 1994), urging governments to take all practical steps for facilitating the rapid deployment and the effective use of telecommunication equipment for disaster mitigation and relief operations by reducing and, where possible, removing regulatory barriers and strengthening cooperation among States,

*further noting*

Resolution 644 of the World Radiocommunication Conference (Geneva, 1997), urging governments to give their full support to the adoption of this Convention and to its national implementation,

*further noting*

Resolution 19 of the World Telecommunication Development Conference (Valletta, 1998), urging governments to continue their examination of this Convention with a view to considering giving their full support to its adoption,

*further noting*

United Nations General Assembly Resolution 51/194, encouraging the development of a transparent and timely procedure for implementing effective disaster relief coordination arrangements, and of ReliefWeb as the global information system for the dissemination of reliable and timely information on emergencies and natural disasters,

*with reference*

to the conclusions of the Working Group on Emergency Telecommunications regarding the critical role of Telecommunications in disaster mitigation and relief,

*supported*

by the work of many States, United Nations entities, governmental, intergovernmental, and non-governmental organizations, humanitarian agencies, telecommunication equipment and service providers, media, universities and communication- and disaster-related organizations to improve and facilitate disaster-related communications,

*desiring*

to ensure the reliable, rapid availability of telecommunication resources for disaster mitigation and relief operations, and

*further desiring*

to facilitate international cooperation to mitigate the impact of disasters,

have agreed as follows:

## **ARTICLE 1**

### **Definitions**

Unless otherwise indicated by the context in which they are used, the terms set out below shall have the following meanings for the purposes of this Convention:

1 “State Party” means a State which has agreed to be bound by this Convention.

2 “Assisting State Party” means a State Party to this Convention providing telecommunication assistance pursuant hereto.

3 “Requesting State Party” means a State Party to this Convention requesting telecommunication assistance pursuant hereto.

4 “This Convention” means the Tampere Convention on the Provision of Telecommunication Resources for Disaster Mitigation and Relief Operations.

5 “The depositary” means the depositary for this Convention, as set forth in Article 16.

6 “Disaster” means a serious disruption of the functioning of society, posing a significant, widespread threat to human life, health, property or the environment, whether caused by accident, nature or human activity, and whether developing suddenly or as the result of complex, long-term processes.

7 “Disaster mitigation” means measures designed to prevent, predict, prepare for, respond to, monitor and/or mitigate the impact of, disasters.

8 “Health hazard” means a sudden outbreak of infectious disease, such as an epidemic or pandemic, or other event posing a significant threat to human life or health, which has the potential for triggering a disaster.

9 “Natural hazard” means an event or process, such as an earthquake, fire, flood, wind, landslide, avalanche, cyclone, tsunami, insect infestation, drought or volcanic eruption, which has the potential for triggering a disaster.

10 “Non-governmental organization” means any organization, including private and corporate entities, other than a State or governmental or intergovernmental organization, concerned with disaster mitigation and relief and/or the provision of telecommunication resources for disaster mitigation and relief.

11 “Non-State entity” means any entity, other than a State, including non-governmental organizations and the Red Cross and Red Crescent Movement, concerned with disaster mitigation and relief and/or the provision of telecommunication resources for disaster mitigation and relief.

12 “Relief operations” means those activities designed to reduce loss of life, human suffering and damage to property and/or the environment caused by a disaster.

13 “Telecommunication assistance” means the provision of telecommunication resources or other resources or support intended to facilitate the use of telecommunication resources.

14 “Telecommunication resources” means personnel, equipment, materials, information, training, radio-frequency spectrum, network or transmission capacity or other resources necessary to telecommunications.

15 “Telecommunications” means any transmission, emission, or reception of signs, signals, writing, images, sounds or intelligence of any nature, by wire, radio, optical fibre or other electromagnetic system.

## ARTICLE 2

### Coordination

1 The United Nations Emergency Relief Coordinator shall be the operational coordinator for this Convention and shall execute the responsibilities of the operational coordinator identified in Articles 3, 4, 6, 7, 8, and 9.

2 The operational coordinator shall seek the cooperation of other appropriate United Nations agencies, particularly the International Telecommunication Union, to assist it in fulfilling the objectives of this Convention, and, in particular, those responsibilities identified in Articles 8 and 9, and to provide necessary technical support, consistent with the purposes of those agencies.

3 The responsibilities of the operational coordinator under this Convention shall be limited to coordination activities of an international nature.

## ARTICLE 3

### General Provisions

1 The States Parties shall cooperate among themselves and with non-State entities and intergovernmental organizations, in accordance with the provisions of this Convention, to facilitate the use of telecommunication resources for disaster mitigation and relief.

2 Such use may include, but is not limited to:

- a) the deployment of terrestrial and satellite telecommunication equipment to predict, monitor and provide information concerning natural hazards, health hazards and disasters;
- b) the sharing of information about natural hazards, health hazards and disasters among the States Parties and with other States, non-State entities and intergovernmental organizations, and the dissemination of such information to the public, particularly to at-risk communities;

- c) the provision of prompt telecommunication assistance to mitigate the impact of a disaster; and
- d) the installation and operation of reliable, flexible telecommunication resources to be used by humanitarian relief and assistance organizations.

3 To facilitate such use, the States Parties may conclude additional multinational or bilateral agreements or arrangements.

4 The States Parties request the operational coordinator, in consultation with the International Telecommunication Union, the depositary, and other relevant United Nations entities and intergovernmental and non-governmental organizations, to use its best efforts, in accordance with the provisions of this Convention, to:

- a) develop, in consultation with the States Parties, model agreements that may be used to provide a foundation for multinational or bilateral agreements facilitating the provision of telecommunication resources for disaster mitigation and relief;
- b) make available model agreements, best practices and other relevant information to States Parties, other States, non-State entities and intergovernmental organizations concerning the provision of telecommunication resources for disaster mitigation and relief, by electronic means and other appropriate mechanisms;
- c) develop, operate, and maintain information collection and dissemination procedures and systems necessary for the implementation of the Convention; and
- d) inform States of the terms of this Convention, and to facilitate and support the cooperation among States Parties provided for herein.

5 The States Parties shall cooperate among themselves to improve the ability of governmental organizations, non-State entities and intergovernmental organizations to establish mechanisms for training in the handling and operation of equipment, and instruction courses in the development, design and construction of emergency telecommunication facilities for disaster prevention, monitoring and mitigation.

## **ARTICLE 4**

### **Provision of Telecommunication Assistance**

1 A State Party requiring telecommunication assistance for disaster mitigation and relief may request such assistance from any other State Party, either directly or through the operational coordinator. If the request is made through the operational coordinator, the operational coordinator shall immediately disseminate this information to all other appropriate States Parties. If the request is made directly to another State Party, the requesting State Party shall inform the operational coordinator as soon as possible.

2 A State Party requesting telecommunication assistance shall specify the scope and type of assistance required and those measures taken pursuant to Articles 5 and 9 of this Convention, and, when practicable, provide the State Party to which the request is directed and/or the operational coordinator with any other information necessary to determine the extent to which such State Party is able to meet the request.

3 Each State Party to which a request for telecommunication assistance is directed, either directly or through the operational coordinator, shall promptly determine and notify the requesting State Party whether it will render the assistance requested, directly or otherwise, and the scope of, and terms, conditions, restrictions and cost, if any, applicable to such assistance.



4 Each State Party determining to provide telecommunication assistance shall so inform the operational coordinator as soon as possible.

5 No telecommunication assistance shall be provided pursuant to this Convention without the consent of the requesting State Party. The requesting State Party shall retain the authority to reject all or part of any telecommunication assistance offered pursuant to this Convention in accordance with the requesting State Party's existing national law and policy.

6 The States Parties recognize the right of requesting States Parties to request telecommunication assistance directly from non-State entities and intergovernmental organizations, and the right of non-State entities and intergovernmental organizations, pursuant to the laws to which they are subject, to provide telecommunication assistance to requesting States Parties pursuant to this Article.

7 A non-State entity or intergovernmental organization may not be a "requesting State Party" and may not request telecommunication assistance under this Convention.

8 Nothing in this Convention shall interfere with the right of a State Party, under its national law, to direct, control, coordinate and supervise telecommunication assistance provided under this Convention within its territory.

## ARTICLE 5

### Privileges, Immunities, and Facilities

1 The requesting State Party shall, to the extent permitted by its national law, afford to persons, other than its nationals, and to organizations, other than those headquartered or domiciled within its territory, who act pursuant to this Convention to provide telecommunication assistance and who have been notified to, and accepted by, the requesting State Party, the necessary privileges, immunities, and facilities for the performance of their proper functions, including, but not limited to:

- a) immunity from arrest, detention and legal process, including criminal, civil and administrative jurisdiction of the requesting State Party, in respect of acts or omissions specifically and directly related to the provision of telecommunication assistance;
- b) exemption from taxation, duties or other charges, except for those which are normally incorporated in the price of goods or services, in respect of the performance of their assistance functions or on the equipment, materials and other property brought into or purchased in the territory of the requesting State Party for the purpose of providing telecommunication assistance under this Convention; and
- c) immunity from seizure, attachment or requisition of such equipment, materials and property.

2 The requesting State Party shall provide, to the extent of its capabilities, local facilities and services for the proper and effective administration of the telecommunication assistance, including ensuring that telecommunication equipment brought into its territory pursuant to this Convention shall be expeditiously licensed or shall be exempt from licensing in accordance with its domestic laws and regulations.

3 The requesting State Party shall ensure the protection of personnel, equipment and materials brought into its territory pursuant to this Convention.

4 Ownership of equipment and materials provided pursuant to this Convention shall be unaffected by their use under the terms of this Convention. The requesting State Party shall ensure the prompt return of such equipment, material and property to the proper assisting State Party.

5 The requesting State Party shall not direct the deployment or use of any telecommunication resources provided pursuant to this Convention for purposes not directly related to predicting, preparing for, responding to, monitoring, mitigating the impact of or providing relief during and following disasters.

6 Nothing in this Article shall require any requesting State Party to provide its nationals or permanent residents, or organizations headquartered or domiciled within its territory, with privileges and immunities.

7 Without prejudice to their privileges and immunities in accordance with this Article, all persons entering the territory of a State Party for the purpose of providing telecommunication assistance or otherwise facilitating the use of telecommunication resources pursuant to this Convention, and all organizations providing telecommunication assistance or otherwise facilitating the use of telecommunication resources pursuant to this Convention, have a duty to respect the laws and regulations of that State Party. Such persons and organizations also shall have a duty not to interfere in the domestic affairs of the State Party into whose territory they have entered.

8 Nothing in this Article shall prejudice the rights and obligations with respect to privileges and immunities afforded to persons and organizations participating directly or indirectly in telecommunication assistance, pursuant to other international agreements (including the Convention on the Privileges and Immunities of the United Nations, adopted by the General Assembly on 13 February 1946, and the Convention on the Privileges and Immunities of the Specialized Agencies, adopted by the General Assembly on 21 November 1947) or international law.

## **ARTICLE 6**

### **Termination of Assistance**

1 The requesting State Party or the assisting State Party may, at any time, terminate telecommunication assistance received or provided under Article 4 by providing notification in writing. Upon such notification, the States Parties involved shall consult with each other to provide for the proper and expeditious conclusion of the assistance, bearing in mind the impact of such termination on the risk to human life and ongoing disaster relief operations.

2 States Parties engaged in providing or receiving telecommunication assistance pursuant to this Convention shall remain subject to the terms of this Convention following the termination of such assistance.

3 Any State Party requesting termination of telecommunication assistance shall notify the operational coordinator of such request. The operational coordinator shall provide such assistance as is requested and necessary to facilitate the conclusion of the telecommunication assistance.

## ARTICLE 7

### Payment or Reimbursement of Costs or Fees

1 The States Parties may condition the provision of telecommunication assistance for disaster mitigation relief upon agreement to pay or reimburse specified costs or fees, always bearing in mind the contents of paragraph 8 of this Article.

2 When such condition exists, the States Parties shall set forth in writing, prior to the provision of telecommunication assistance:

- a) the requirement for payment or reimbursement;
- b) the amount of such payment or reimbursement or terms under which it shall be calculated; and
- c) any other terms, conditions or restrictions applicable to such payment or reimbursement, including, but not limited to, the currency in which such payment or reimbursement shall be made.

3 The requirements of paragraphs 2 b) and 2 c) of this Article may be satisfied by reference to published tariffs, rates or prices.

4 In order that the negotiation of payment and reimbursement agreements does not unduly delay the provision of telecommunication assistance, the operational coordinator shall develop, in consultation with the States Parties, a model payment and reimbursement agreement that may provide a foundation for the negotiation of payment and reimbursement obligations under this Article.

5 No State Party shall be obligated to make payment or reimbursement of costs or fees under this Convention without having first expressed its consent to the terms provided by an assisting State Party pursuant to paragraph 2 of this Article.

6 When the provision of telecommunication assistance is properly conditioned upon payment or reimbursement of costs or fees under this Article, such payment or reimbursement shall be provided promptly after the assisting State Party has presented its request for payment or reimbursement.

7 Funds paid or reimbursed by a requesting State Party in association with the provision of telecommunication assistance shall be freely transferable out of the jurisdiction of the requesting State Party and shall not be delayed or withheld.

8 In determining whether to condition the provision of telecommunication assistance upon an agreement to pay or reimburse specified costs or fees, the amount of such costs or fees, and the terms, conditions and restrictions associated with their payment or reimbursement, the States Parties shall take into account, among other relevant factors:

- a) United Nations principles concerning humanitarian assistance;
- b) the nature of the disaster, natural hazard or health hazard;
- c) the impact, or potential impact, of the disaster;
- d) the place of origin of the disaster;
- e) the area affected, or potentially affected, by the disaster;
- f) the occurrence of previous disasters and the likelihood of future disasters in the affected area;
- g) the capacity of each State affected by the disaster, natural hazard or health hazard to prepare for, or respond to, such event; and

- h) the needs of developing countries.

9 This Article shall also apply to those situations in which telecommunication assistance is provided by a non-State entity or intergovernmental organization, provided that:

- a) the requesting State Party has consented to, and has not terminated, such provision of telecommunication assistance for disaster mitigation and relief;
- b) the non-State entity or intergovernmental organization providing such telecommunication assistance has notified to the requesting State Party its adherence to this Article and Articles 4 and 5; and
- c) the application of this Article is not inconsistent with any other agreement concerning the relations between the requesting State Party and the non-State entity or intergovernmental organization providing such telecommunication assistance.

## **ARTICLE 8**

### **Telecommunication Assistance Information Inventory**

1 Each State Party shall notify the operational coordinator of its authority(ies):

- a) responsible for matters arising under the terms of this Convention and authorized to request, offer, accept and terminate telecommunication assistance; and
- b) competent to identify the governmental, intergovernmental and/or non-governmental resources which could be made available to facilitate the use of telecommunication resources for disaster mitigation and relief, including the provision of telecommunication assistance.

2 Each State Party shall endeavour to inform the operational coordinator promptly of any changes in the information provided pursuant to this Article.

3 The operational coordinator may accept notification from a non-State entity or intergovernmental organization of its procedures for authorization to offer and terminate telecommunication assistance as provided in this Article.

4 A State Party, non-State entity or intergovernmental organization may, at its discretion, include in the material it deposits with the operational coordinator information about specific telecommunication resources and about plans for the use those resources to respond to a request for telecommunication assistance from a requesting State Party.

5 The operational coordinator shall maintain copies of all lists of authorities, and shall expeditiously disseminate such material to the States Parties, to other States, and to appropriate non-State entities and intergovernmental organizations, unless a State Party, non-State entity or intergovernmental organization has previously specified, in writing, that distribution of its material be restricted.

6 The operational coordinator shall treat material deposited by non-State entities and intergovernmental organizations in a similar manner to material deposited by States Parties.

## ARTICLE 9

### Regulatory Barriers

1 The States Parties shall, when possible, and in conformity with their national law, reduce or remove regulatory barriers to the use of telecommunication resources for disaster mitigation and relief, including to the provision of telecommunication assistance.

2 Regulatory barriers may include, but are not limited to:

- a) regulations restricting the import or export of telecommunication equipment;
- b) regulations restricting the use of telecommunication equipment or of radio-frequency spectrum;
- c) regulations restricting the movement of personnel who operate telecommunication equipment or who are essential to its effective use;
- d) regulations restricting the transit of telecommunication resources into, out of and through the territory of a State Party; and
- e) delays in the administration of such regulations.

3 Reduction of regulatory barriers may take the form of, but shall not be limited to:

- a) revising regulations;
- b) exempting specified telecommunication resources from the application of those regulations during the use of such resources for disaster mitigation and relief;
- c) pre-clearance of telecommunication resources for use in disaster mitigation and relief, in compliance with those regulations;
- d) recognition of foreign type-approval of telecommunication equipment and/or operating licenses;
- e) expedited review of telecommunication resources for use in disaster mitigation and relief, in compliance with those regulations; and
- f) temporary waiver of those regulations for the use of telecommunication resources for disaster mitigation and relief.

4 Each State Party shall, at the request of any other State Party, and to the extent permitted by its national law, facilitate the transit into, out of and through its territory of personnel, equipment, materials and information involved in the use of telecommunication resources for disaster mitigation and relief.

5 Each State Party shall notify the operational coordinator and the other States Parties, directly or through the operational coordinator, of:

- a) measures taken, pursuant to this Convention, for reducing or removing such regulatory barriers;
- b) procedures available, pursuant to this Convention, to States Parties, other States, non-State entities and/or intergovernmental organizations for the exemption of specified telecommunication resources used for disaster mitigation and relief from the application of such regulations, pre-clearance or expedited review of such resources in compliance with applicable regulations, acceptance of foreign type-approval of such resources, or temporary waiver of regulations otherwise applicable to such resources; and
- c) the terms, conditions and restrictions, if any, associated with the use of such procedures.

6 The operational coordinator shall regularly and expeditiously make available to the States Parties, to other States, to non-State entities and to intergovernmental organizations an up-to-date listing of such measures, their scope, and the terms, conditions and restrictions, if any, associated with their use.

7 Nothing in this Article shall permit the violation or abrogation of obligations and responsibilities imposed by national law, international law, or multilateral or bilateral agreements, including obligations and responsibilities concerning customs and export controls.

## **ARTICLE 10**

### **Relationship to Other International Agreements**

1 This Convention shall not affect the rights and obligations of States Parties deriving from other international agreements or international law.

## **ARTICLE 11**

### **Dispute Settlement**

1 In the event of a dispute between States Parties concerning the interpretation or application of this Convention, the States Parties to the dispute shall consult each other for the purpose of settling the dispute. Such consultation shall begin promptly upon the written declaration, delivered by one State Party to another State Party, of the existence of a dispute under this Convention. The State Party making such a written declaration of the existence of a dispute shall promptly deliver a copy of such declaration to the depositary.

2 If a dispute between States Parties cannot be settled within six (6) months of the date of delivery of the written declaration to a State Party to the dispute, the States Parties to the dispute may request any other State Party, State, non-State entity or intergovernmental organization to use its good offices to facilitate settlement of the dispute.

3 If neither State Party seeks the good offices of another State Party, State, non-State entity or intergovernmental organization, or if the exercise of good offices fails to facilitate a settlement of the dispute within six (6) months of the request for such good offices being made, then either State Party to the dispute may:

- a) request that the dispute be submitted to binding arbitration; or
- b) submit the dispute to the International Court of Justice for decision, provided that both States Parties to the dispute have, at the time of signing, ratifying or acceding to this Convention, or at any time thereafter, accepted the jurisdiction of the International Court of Justice in respect of such disputes.

4 In the event that the respective States Parties to the dispute request that the dispute be submitted to binding arbitration and submit the dispute to the International Court of Justice for decision, the submission to the International Court of Justice shall have priority.

5 In the case of a dispute between a State Party requesting telecommunication assistance and a non-State entity or intergovernmental organization headquartered or domiciled outside of the territory of that State Party concerning the provision of telecommunication assistance under Article 4, the claim of the non-State entity or intergovernmental organization may be espoused directly by the State Party in which the

non-State entity or intergovernmental organization is headquartered or domiciled as a State-to-State claim under this Article, provided that such espousal is not inconsistent with any other agreement between the State Party and the non-State entity or intergovernmental organization involved in the dispute.

6 When signing, ratifying, accepting, approving or acceding to this Convention, a State may declare that it does not consider itself bound by either or both of the dispute settlement procedures provided for in paragraph 3 above. The other States Parties shall not be bound by a dispute settlement procedure provided for in paragraph 3 with respect to a State Party for which such a declaration is in force.

## ARTICLE 12

### Entry into Force

1 This Convention shall be open for signature by all States which are members of the United Nations or of the International Telecommunication Union at the Intergovernmental Conference on Emergency Telecommunications in Tampere on 18 June 1998, and thereafter at the headquarters of the United Nations, New York, from 22 June 1998 to 21 June 2003.

2 A State may express its consent to be bound by this Convention:

- a) by signature (definitive signature);
- b) by signature subject to ratification, acceptance or approval followed by deposit of an instrument of ratification, acceptance or approval; or
- c) by deposit of an instrument of accession.

3 The Convention shall enter into force thirty (30) days after the deposit of instruments of ratification, acceptance, approval or accession or definitive signature of thirty (30) States.

4 For each State which signs definitively or deposits an instrument of ratification, acceptance, approval or accession, after the requirement set out in paragraph 3 of this Article has been fulfilled, this Convention shall enter into force thirty (30) days after the date of the definitive signature or consent to be bound.

## ARTICLE 13

### Amendments

1 A State Party may propose amendments to this Convention by submitting such amendments to the depositary, which shall circulate them to the other States Parties for approval.

2 The States Parties shall notify the depositary of their approval or disapproval of such proposed amendments within one hundred and eighty (180) days of their receipt.

3 Any amendment approved by two-thirds of all States Parties shall be laid down in a Protocol which is open for signature at the depositary by all States Parties.

4 The Protocol shall enter into force in the same manner as this Convention. For each State which signs the Protocol definitively or deposits an instrument of ratification, acceptance, approval or accession, after the requirements for the entry into force of the Protocol have been fulfilled, the Protocol shall enter into force for such State thirty (30) days after the date of the definitive signature or consent to be bound.

## **ARTICLE 14**

### **Reservations**

1 When definitively signing, ratifying or acceding to this Convention or any amendment hereto, a State Party may make reservations.

2 A State Party may at any time withdraw its prior reservation by written notification to the depositary. Such withdrawal of a reservation becomes effective immediately upon notification to the depositary.

## **ARTICLE 15**

### **Denunciation**

1 A State Party may denounce this Convention by written notification to the depositary.

2 Denunciation shall take effect ninety (90) days following the date of deposit of the written notification.

3 At the request of the denouncing State Party, all copies of the lists of authorities and of measures adopted and procedures available for reducing regulatory measures provided by any State Party denouncing this Convention shall be removed from use by the effective date of such denunciation.

## **ARTICLE 16**

### **Depositary**

1 The Secretary-General of the United Nations shall be the depositary of this Convention.

## **ARTICLE 17**

### **Authentic Texts**

1 The original of this Convention, of which the Arabic, Chinese, English, French, Russian and Spanish texts are equally authentic, shall be deposited with the depositary. Only the English, French and Spanish authentic texts will be made available for signature at Tampere on 18 June 1998. The depositary shall prepare the authentic texts in Arabic, Chinese and Russian as soon as possible thereafter.



## RECOMMENDATION 12 (Istanbul, 2002)

### **Consideration of disaster telecommunication needs in telecommunication development activities**

The World Telecommunication Development Conference (Istanbul, 2002),

*considering*

- a) the increasing number of disasters causing human suffering;
- b) the particular needs of developing countries and the special requirements of the inhabitants of remote areas;
- c) the potential of modern telecommunication technologies as an essential tool for disaster mitigation and relief operations,

*considering further*

the provisions of Nos. 17 and 191 of the ITU Constitution which state, respectively, that the Union shall promote the adoption of measures for ensuring the safety of life through the cooperation of telecommunication services, and that international telecommunication services must give absolute priority to all telecommunication concerning the safety of life,

*noting*

that the resilience of all telecommunication infrastructure depends on proper continuity planning at every stage of development and implementation of a network,

*noting further*

the necessity of an appropriate regulatory environment to ensure the full utilization of telecommunication networks in the above sense,

*recommends*

- 1 that administrations ensure proper consideration of disaster Telecommunications by the telecommunication service providers;
- 2 that the regulators ensure the inclusion of provision of Telecommunications as part of disaster mitigation and relief operations through appropriate national regulations;
- 3 that ITU-D study, as a matter of urgency, those aspects of Telecommunications that are relevant to disaster resilience and continuity,

*instructs the Director of the Telecommunication Development Bureau (BDT)*

to support administrators and regulators in the recommended activities by including appropriate measures into the work plan,

*invites the Secretary-General*

to bring this matter to the attention of the Plenipotentiary Conference for consideration.

## RESOLUTION 34 (Istanbul, 2002)

### **Telecommunication resources in the service of humanitarian assistance**

The World Telecommunication Development Conference (Istanbul, 2002),

*considering*

a) that the Intergovernmental Conference on Emergency Telecommunications (Tampere, 1998) (ICET-98) adopted the Convention on the Provision of Telecommunication Resources for Disaster Mitigation and Relief Operations (Tampere Convention);

b) that the Plenipotentiary Conference (Minneapolis, 1998), convinced that the Tampere Convention provides the necessary framework for the unhindered use of telecommunication resources for disaster mitigation and disaster relief operations, in its Resolution 36 (Rev.Minneapolis, 1998), urged Member States to work towards the earliest possible ratification of the Tampere Convention;

c) that the Valletta Declaration adopted at the World Telecommunication Development Conference (Valletta, 1998) included among a number of pressing issues, the importance of emergency Telecommunications and the need for an international convention on this subject;

d) that the World Radiocommunication Conference (Istanbul, 2000), in its Resolution 644, urged administrations to give their full support to the adoption and national implementation of the Tampere Convention;

e) that the second Tampere Conference on Disaster Communications (Tampere, 2001) (CDC-01) invited ITU to study the use of public mobile networks for early warning and the dissemination of emergency information and the operational aspects of emergency Telecommunications such as call prioritization,

*noting*

that activities are being undertaken at the international, regional and national levels within ITU and other relevant organizations to establish internationally agreed means to operate systems for public protection and disaster relief on a harmonized and coordinated basis,

*further noting*

the publication of the ITU-D Handbook on Disaster Communications and the adoption of Recommendation ITU-D 13 on Effective Utilization of the Amateur Services in Disaster Mitigation and Relief Operations,

*recognizing*

that the recent tragic events in the world clearly demonstrate the need for high-quality communications services to assist public safety and disaster relief agencies in minimizing risk to human life and to cover the necessary general public information and communication needs in such situations,

*resolves*

to invite ITU-D to continue to ensure that proper consideration be given to emergency Telecommunications as an element of telecommunication development, including, in close coordination and collaboration with ITU-R and ITU-T and other relevant international organizations, by facilitating and encouraging the use of decentralized means of communications that are appropriate and generally available, including those provided by the amateur radio service and satellite and terrestrial network services,

*instructs the Director of the Telecommunication Development Bureau (BDT)*

- 1 to support administrations in their work towards the implementation of this resolution and of the Tampere Convention;
- 2 to report to the next world telecommunication development conference on the status of implementation of the Convention,

*requests the Secretary-General*

to work closely with the office of the United Nations Emergency Relief Coordinator and other relevant external organizations with a view to further increasing the Union's involvement in, and support to, emergency communications, and to report on the outcome of related international conferences and meetings so that the Plenipotentiary Conference or the ITU Council may take any action that they deem necessary,

*invites*

the United Nations Emergency Relief Coordinator and the Working Group on Emergency Telecommunications and the other relevant external organizations or bodies to collaborate closely with ITU in work towards implementing this resolution and the Tampere Convention, and supporting administrations and international and regional telecommunication organizations in the implementation of the Convention,

*urges administrations*

to work towards the entry into force of the Tampere Convention by the timely ratification of the Convention by the appropriate national authorities\*.

\* NOTE – A minimum of 30 ratifications of the Tampere Convention is needed by the deadline of 21 June 2003.

## RESOLUTION 36 (Rev. Marrakesh, 2002)

### **Telecommunications in the service of humanitarian assistance**

The Plenipotentiary Conference of the International Telecommunication Union (Marrakesh, 2002),

*endorsing*

- a) Resolution 644 (Rev. WRC-2000) of the World Radiocommunication Conference (Istanbul, 2000) on telecommunication resources for disaster mitigation and relief operations;
- b) Resolution 34 (Istanbul, 2002) of the World Telecommunication Development Conference on telecommunication resources in the service of humanitarian assistance,

*considering*

- a) that the Intergovernmental Conference on Emergency Telecommunications (Tampere, 1998) adopted the Tampere Convention on the provision of telecommunication resources for disaster mitigation and relief operations;
- b) that the second Tampere Conference on Disaster Communications (Tampere, 2001) invited ITU to study the use of public mobile networks for early warning and the dissemination of emergency information, and the operational aspects of emergency Telecommunications such as call prioritization,

*noting*

that activities are being undertaken at the international, regional and national levels within ITU and other relevant organizations to establish internationally agreed means for the operation of systems for public protection and disaster relief on a harmonized and coordinated basis,

*recognizing*

- a) the seriousness and magnitude of potential disasters that may cause dramatic human suffering;
- b) that the recent tragic events in the world clearly demonstrate the need for high-quality communications services to assist public safety and disaster relief agencies in minimizing risk to human life and to cover the necessary general public information and communication needs in such situations,

*convinced*

that the unhindered use of telecommunication equipment and services is indispensable for the provision of effective and appropriate humanitarian assistance,

*further convinced*

that the Tampere Convention provides the necessary framework for such use of telecommunication resources,

*resolves to instruct the Secretary-General*

- 1 to work closely with the United Nations Emergency Relief Coordinator to support Member States which so request in their work towards their national adherence to the Tampere Convention,

2        upon entry into force of the Tampere Convention, and in close collaboration with the United Nations Emergency Relief Coordinator, to assist Member States which so request with the development of their practical arrangements for its implementation,

*urges Member States*

to work towards signature of the Tampere Convention prior to the deadline of 21 June 2003 and, as a matter of priority, ratification, acceptance, approval or accession to the Convention,

*further urges Member States Parties to the Tampere Convention*

to take all practical steps for the application of the Tampere Convention and to work closely with the operational coordinator as provided for therein.





INTERNATIONAL TELECOMMUNICATION UNION

**ITU-T**

TELECOMMUNICATION  
STANDARDIZATION SECTOR  
OF ITU

**E.106**

(10/2003)

SERIES E: OVERALL NETWORK OPERATION, TELEPHONE  
SERVICE, SERVICE OPERATION AND HUMAN FACTORS

International operation – General provisions concerning  
Administrations

---

**International Emergency Preference Scheme (IEPS)  
for disaster relief operations**

ITU-T Recommendation E.106

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## **ITU-T Recommendation E.106**

### **International Emergency Preference Scheme (IEPS) for disaster relief operations**

#### **Summary**

This Recommendation describes an international preference scheme for the use of public Telecommunications by national authorities for emergency and disaster relief operations. The International Emergency Preference Scheme for Disaster Relief Operations (IEPS) is needed when there is a crisis situation causing an increased demand for Telecommunications when use of the International Telephone Service may be restricted due to damage, reduced capacity, congestion or faults. In crisis situations there is a requirement for IEPS users of public Telecommunications to have preferential treatment.

#### **Source**

ITU-T Recommendation E.106 was approved by ITU-T Study Group 2 (2001-2004) under the WTSA Resolution 1 on 31 October 2003.

## FOREWORD

The International Telecommunication Union (ITU) is the United Nations specialized agency in the field of telecommunications. The ITU Telecommunication Standardization Sector (ITU-T) is a permanent organ of ITU. ITU-T is responsible for studying technical, operating and tariff questions and issuing Recommendations on them with a view to standardizing Telecommunications on a worldwide basis.

The World Telecommunication Standardization Assembly (WTSA), which meets every four years, establishes the topics for study by the ITU-T study groups which, in turn, produce Recommendations on these topics.

The approval of ITU-T Recommendations is covered by the procedure laid down in WTSA Resolution 1.

In some areas of information technology which fall within ITU-T's purview, the necessary standards are prepared on a collaborative basis with ISO and IEC.

## NOTE

In this Recommendation, the expression "Administration" is used for conciseness to indicate both a telecommunication administration and a recognized operating agency.

Compliance with this Recommendation is voluntary. However, the Recommendation may contain certain mandatory provisions (to ensure e.g. interoperability or applicability) and compliance with the Recommendation is achieved when all of these mandatory provisions are met. The words "shall" or some other obligatory language such as "must" and the negative equivalents are used to express requirements. The use of such words does not suggest that compliance with the Recommendation is required of any party.

## INTELLECTUAL PROPERTY RIGHTS

ITU draws attention to the possibility that the practice or implementation of this Recommendation may involve the use of a claimed Intellectual Property Right. ITU takes no position concerning the evidence, validity or applicability of claimed Intellectual Property Rights, whether asserted by ITU members or others outside of the Recommendation development process.

As of the date of approval of this Recommendation, ITU had not received notice of intellectual property, protected by patents, which may be required to implement this Recommendation. However, implementors are cautioned that this may not represent the latest information and are therefore strongly urged to consult the TSB patent database.

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## **Introduction**

In a crisis situation, there is a need for Telecommunications among IEPS users of public Telecommunications networks, such as the PSTN, ISDN or PLMN. These communications, which are regarded as essential, will be needed at the same time as the public will be attempting an increased number of calls during the period when the Telecommunications networks may be restricted due to damage, congestion or faults.

Many countries have, or are developing, national preference schemes to allow preferential treatment for such national traffic. However, during a crisis, it is important for an international support scheme to allow communications between the IEPS users in one country and their correspondents in another. The International Emergency Preference Scheme for Disaster Relief Operations (IEPS) addresses this international support scheme.

This preference scheme is only intended for use by IEPS users to be able to place calls with preference. Public emergency services, on the other hand, are intended for use by members of the general public to request services such as fire, police, and medical. They are often invoked by a short access code.

# ITU-T Recommendation E.106

## International Emergency Preference Scheme (IEPS) for disaster relief operations

### 1 Scope

The IEPS enables the use of public Telecommunications by national authorities for emergency and disaster relief operations. It allows users, authorized by national authorities, to have access to the International Telephone Service, as described in ITU-T Rec. E.105 [1], while this service is restricted either due to damage, congestion or faults, or any combination of these. This Recommendation describes the functional requirements, features, access and the operational management of the IEPS.

### 2 References

The following ITU-T Recommendations and other references contain provisions which, through reference in this text, constitute provisions of this Recommendation. At the time of publication, the editions indicated were valid. All Recommendations and other references are subject to revision; users of this Recommendation are therefore encouraged to investigate the possibility of applying the most recent edition of the Recommendations and other references listed below. A list of the currently valid ITU-T Recommendations is regularly published. The reference to a document within this Recommendation does not give it, as a stand-alone document, the status of a Recommendation.

[1] ITU-T Recommendation E.105 (1992), *International telephone service*.

### 3 Definitions

This Recommendation defines the following term:

**3.1 IEPS user:** User authorized by a national authority to have access to IEPS. The specific mechanism that a national authority uses to authorize a user is a national matter and is outside the scope of this Recommendation.

### 4 Abbreviations

This Recommendation uses the following abbreviations:

|      |  |
|------|--|
| HPC  | High Priority Call   |
| IEPS | International Emergency Preference Scheme for Disaster Relief Operations |
| ISDN | Integrated Services Digital Network                                      |
| PIN  | Personal Identification Number   |
| PLMN | Public Land Mobile Network   |
| PSTN | Public Switched Telephone Network  |
| RNMC | Restrictive Network Management Control                                   |

### 5 Overall functional requirements

The primary goal for IEPS is to support crisis management arrangements. IEPS should significantly increase the ability of IEPS users to initiate and complete their communications (voice and data) via the PSTN, ISDN or PLMN irrespective of the bearer technology.

National preference schemes are intended for use in times of national crisis, but there could be occasions when an international preference scheme may need to be enabled while use of the respective national preference scheme would be unnecessary. An example of this is when intense international traffic is generated to a distant country in crisis. Therefore, international and national preference schemes need to be considered as independent and compatible.

IEPS users of a national preference scheme may not be eligible to gain access to the international scheme, but IEPS users of the international scheme should be able to use their own national preference scheme.

It is recognized that in some national systems, IEPS features may be permanently enabled.

IEPS users should be able to use their normal Telecommunications equipment in times of crisis. When making an IEPS call, the PSTN/ISDN/PLMN should not appear markedly different to an IEPS user.

Calls originated by IEPS users should be given priority through the networks involved when IEPS is enabled.

Under conditions of severe damage or congestion, countries should be able to effect network controls, particularly over incoming traffic, even though IEPS may have been invoked.

In order to ensure that an IEPS user can reliably call any other Telecommunications user, any restrictions to call completion should be overridden. This does not include pre-emption of any existing calls.

Access to public emergency services is not impacted by this Recommendation.

Countries may establish bilateral agreements with regard to the exchange of preference calls and the treatment of such calls.

Both the technical means and the management procedures for the initiation and operation of IEPS should be established and should be compatible with the existing national network traffic management schemes.

This preference scheme is only intended for use by IEPS users to be able to place calls with preference. Public emergency services, on the other hand, are intended for use by members of the general public to request services such as fire, police, and medical. They are often invoked by a short access code.

## **6 IEPS features**

Calls from IEPS users should be suitably marked (see Note 1) at the network entrance and such markings should be associated with the call to completion (i.e., EPS calls should be marked from end to end).

**NOTE 1 – Call Marking:** A specific identifying mark is associated with the call which prompts operational elements of the public switched network to provide advantages in signalling, switching and traffic routing over non-marked calls. Call marking facilities are available in modern signalling networks and these can be used by the Telecommunications providers to allow call completion advantages to preference user's calls.

**NOTE 2 –** The call marking, marking interpretation and the processing arrangements will have to be specified and fully agreed at the gateway points. Arrangements to transfer the marked signals would also need to be agreed with non-participating intermediate service providers of the transit networks.

The essential network features for the successful operation of IEPS are:

- a) priority dial tone;
- b) priority call setup, including priority queuing schemes; and
- c) exemption from restrictive management controls, such as call gapping.

A list of features that will enhance call completion are mentioned in Annex A.

All IEPS calls will be of the same call class such that there will be only one level of priority for IEPS calls, however, some implementations may provide enhanced service features by analyzing additional signalling information provided by the call initiator. For example, the country of call origination may have a multi-level preference scheme and may make an agreement with the country of call destination for this multi-level preference scheme to be mapped onto that of the country of destination. In such circumstances it is essential that the information relating to level of priority be carried transparently across the international network and presented to the destination network. Transit networks not supporting the IEPS concept should not be required to examine the preference information but should simply pass the signalling information without any change.

Pre-emption in the Public Network (i.e., terminating any existing call) should not be provided.

## 7 Operational management of the IEPS

Requests for enabling the IEPS should be coordinated between the involved countries. In each country, IEPS will be authorized by the national authority and it will be their responsibility to establish the necessary arrangements.

IEPS users are to be determined by national authorities. Some criteria a national authority may wish to consider for the selection of IEPS users can be found in Appendix I.

To optimize the success of these calls there should be exemption from any restrictive network management controls. There should be preferential access to network resources. These preferential calls might also circumvent terminating user-invoked network features that might prevent alerting such as, for example, do not disturb or call screening.

If a network element is not able to respond to the preferential call request, the routing of the call should not be adversely affected, nor should any preference indicators be removed.

## Annex A

### Features and techniques to enhance call completion

The features described in this annex may be used separately or in combination to increase the probability of the successful completion of calls, but IEPS is not necessarily dependent on them. The list is not exclusive and the use of these features is to be determined by each country, taking into account the capabilities of the networks being used.

| No. | Essential features for IEPS  | Feature requires call marking |
|-----|--|-------------------------------|
| 1   | Priority dial tone – wireline or wireless connections (Essential Line service)                             | No                            |
| 2   | Priority call setup message through signalling network with high priority call identifier (HPC identifier) | Yes                           |
| 3   | Priority indicator in bearer networks  | Yes                           |
| 4   | Exemption from restrictive network management controls, such as call gapping (Exemption from RNMC)         | Yes                           |

| No. | Optional features (F) and techniques (T) to enhance call completion  | Feature requires call marking   |
|-----|--|---------------------------------|
| 5   | Survivable access and egress from end user location to PSTN/ISDN/PLMN: (F)<br>a) Local exchange bypass; (T)<br>b) Diverse PSTN/ISDN access from cellular; (T)<br>c) Prescription override; (T)<br>d) Avoidance routing; (T)<br>e) Diverse routing. (T) | Yes<br>Yes<br>Yes<br>Yes<br>Yes |
| 6   | IEPS user verification (F)   | Yes                             |
| 7   | Special announcements on call progress (F)   | Yes                             |
| 8   | Special routing capabilities: (F)<br>a) Enhanced alternate routing; (T)  | Yes                             |

|    |                                     |     |
|----|-------------------------------------|-----|
|    | b) Trunk queuing; (T)               | Yes |
|    | c) Off-hook trunk waiting; (T)      | Yes |
|    | d) Dynamic trunk reservation; (T)   | Yes |
|    | e) Trunk sub-grouping; (T)          | Yes |
|    | f) Automatic call rerouting; (T)    | No  |
|    | g) PSTN/ISDN/PLMN partitioning. (T) | No  |
| 9  | Call forwarding (F)                 | Yes |
| 10 | Abbreviated dialling (F)            | No  |
| 11 | Attendant override (F)              | Yes |
| 12 | Authorization codes (F)             | No  |
| 13 | Automatic call distribution (F)     | No  |
| 14 | Call-by-call service selection (F)  | No  |
| 15 | Call pickup (F)                     | No  |
| 16 | Call transfer (F)                   | No  |
| 17 | Call waiting (F)                    | No  |
| 18 | Calling number identification (F)   | No  |

#### **A.1 Priority dial tone**

This is a service arrangement that enhances the ability of IEPS users to receive priority over other users for the reception of dial tone. This is a restrictive treatment of non-IEPS users. Note that access denial systems are an extreme form of restrictive treatment by limiting dial tone to permitted lines only.

#### **A.2 Priority call setup message through national and international signalling network with call identifier**

This is a method of marking and identifying IEPS calls. As the IEPS call progresses through the networks, this identifier would enable special routing and preferential treatment to ensure the higher probability of call completion.

#### **A.3 Priority indicator in bearer networks**

This is a method of marking and identifying IEPS connection set ups and should cause priority allocation of bearer resources. As the IEPS connection set up progresses through the networks, this identifier could enable special routing and preferential treatment to ensure the higher probability of connection establishment. The preferential allocation of bearer resources should be maintained throughout the duration of the call.

#### **A.4 Exemption from restrictive management controls**

Network management is a set of control measures used to prevent or control degradation of network service. These measures are either expansive or protective. Expansive measures increase call routing choices by providing more capability than normal to carry excess traffic. Protective measures limit calls going into a switch or trunk group. An IEPS call should be exempt from restrictive controls, but should still benefit from expansive controls.

#### **A.5 Survivable access and egress from end user location to PSTN/ISDN/PLMN**

Techniques that enhance survivable access from the end user to the PSTN/ISDN/PLMN are described in a to e.

##### **a) Local exchange bypass**

The use of direct access services to, or egress services from, Switched Networks by using either bulk, wideband, switched, point-to-point, or circuit-by-circuit services. These services are available



from providers such as cellular service providers, specialized service providers and satellite service providers.

**b) Diverse PSTN/ISDN access from PLMN**

This technique allows PLMNs to directly interconnect with other elements of PSTN/ISDN. This allows PLMN calls to be routed around failed or congested nodes. Network access diversity allows specifically identified calls to be routed to private or special purpose networks.

**c) Prescription override**

The ability to select an alternative carrier, e.g., by dialling a specific code or operating a selection key on the terminal instrument, or may be automatic for an IEPS call.

**d) Avoidance routing**

This technique, with limited availability, permits a user to enhance their survivability in PSTN/ISDN by directing the service provider to assign them to transmission facilities that avoid points of vulnerability such as earthquake zones or hurricane areas.

**e) Diverse routing**

This technique provides the user with a second route over physically separate facilities, which can be used if the primary route is unavailable.

#### **A.6 IEPS user verification**

This feature allows for the verification of the IEPS user. Personal Identification Numbers (PINs), line identification, authorization codes or call-back facilities could be used to verify the call as an authorized IEPS call.

#### **A.7 Special announcements on call progress**

This feature will provide recorded voice announcements to the user when calls cannot be completed or to provide problem and restoration information.

#### **A.8 Special routing capabilities**

Special routing capabilities that enhance call completion are described in a to g.

**a) Enhanced alternate routing**

Routing programs are used to provide special routing controls and paths within a network.

**b) Trunk queuing**

This technique would hold the IEPS call in queue until a trunk became available, then the first call in queue (the IEPS call) would have access to the next available trunk. The IEPS call would not receive an immediate “all trunks busy” tone.

**c) Off-hook trunk waiting**

This technique allows the IEPS caller to remain off-hook and the network continually searches, at predetermined intervals (i.e., several seconds) for an idle trunk if no idle trunk was found on the initial attempt.

**d) Dynamic trunk reservation**

This technique automatically reserves reservation of trunks for certain classes of calls under designated conditions. It could be implemented or activated in the following ways:

- IEPS calls could be allocated a variable number of trunks between switches according to demand;
- the use of network management control under predetermined conditions, to reserve trunks in an idle condition for the exclusive use of IEPS calls; and
- the designation of specific sub-groups within a trunk group that, under predetermined conditions, would be reserved for IEPS calls.

e) **Trunk sub-grouping**

This technique splits trunks into pre-assigned sub-groups; one for general use and another for IEPS use only. Under normal conditions, general use traffic could use either sub-group. During emergencies, only IEPS calls would use the IEPS sub-group. Overflow from the IEPS sub-group could be routed over the general use sub-group but the general calls would not be allowed to overflow to the IEPS sub-group.

f) **Automatic call rerouting**

This technique allows calls to be routed over other operator's networks.

g) **PSTN/ISDN/PLMN partitioning**

This is the use of hardware or software to separate traffic into specific functional groups for the purpose of providing special service capabilities such as enhanced call completion for IEPS calls.

**A.9 Call forwarding**

This feature enables calls to be rerouted automatically from one line to another, or to an attendant.

**A.10 Abbreviated dialling**

A feature by which a user can attempt a call by dialling a two- or three-digit code that instructs a database to obtain the actual desired number from a look-up table and transmit it into the network to connect the calling line to the called line.

**A.11 Attendant override**

A feature that allows the terminal equipment operator to interrupt a call that is in progress.

**A.12 Authorization codes**

Unique multi-digit codes used to allow an IEPS user privileged access to a network, system or device. If the code is validated the call is allowed to advance.

**A.13 Automatic call distribution**

A system designed to evenly distribute traffic by directing incoming calls over a group of terminals.

**A.14 Call-by-call service selection**

A feature that provides improved trunking efficiency between end-user location and end-office by allowing a variety of services to use the same trunk group and by distributing traffic over the total number of available trunks on a call-by-call basis.

**A.15 Call pickup**

This feature enables a connected extension to answer any ringing extension within an assigned call pickup group.

**A.16 Call transfer**

A feature whereby a call to a user's number is automatically transferred to one or more alternative numbers when the called number is busy or does not answer.

**A.17 Call waiting**

A feature that provides a distinctive audible tone to a busy user's line to notify the user when another caller is attempting to reach his/her number.

**A.18 Calling number identification**

A feature that provides the identification of the calling user's number by means of a visual or audible identification at the called terminal.

## **Appendix I**

### **Criteria for the selection of IEPS users**

IEPS users are to be determined by their national authorities. The criteria for selection that a national authority may wish to consider are listed as, but are not limited to, the following items:

- civil defense/"home defense", e.g., public warning systems;
- diplomatic and other vital governmental purposes;
- state security purposes including customs and immigration;
- emergency services by local authorities, including police, fire services, etc.;
- posts and Telecommunications service providers, for maintaining their service provision to other essential users;
- public utilities including energy, water supplies, etc.;
- medical services;
- air and sea rescue.

## **SERIES OF ITU-T RECOMMENDATIONS**

|                 |  |
|-----------------|--|
| Series A        | Organization of the work of ITU-T  |
| Series B        | Means of expression: definitions, symbols, classification  |
| Series C        | General telecommunication statistics   |
| Series D        | General tariff principles  |
| <b>Series E</b> | <b>Overall network operation, telephone service, service operation and human factors</b>                                       |
| Series F        | Non-telephone telecommunication services   |
| Series G        | Transmission systems and media, digital systems and networks   |
| Series H        | Audiovisual and multimedia systems   |
| Series I        | Integrated services digital network  |
| Series J        | Cable networks and transmission of television, sound programme and other multimedia signals                                    |
| Series K        | Protection against interference  |
| Series L        | Construction, installation and protection of cables and other elements of outside plant  |
| Series M        | TMN and network maintenance: international transmission systems, telephone circuits, telegraphy, facsimile and leased circuits |
| Series N        | Maintenance: international sound programme and television transmission circuits  |
| Series O        | Specifications of measuring equipment  |
| Series P        | Telephone transmission quality, telephone installations, local line networks   |
| Series Q        | Switching and signalling   |
| Series R        | Telegraph transmission   |
| Series S        | Telegraph services terminal equipment  |
| Series T        | Terminals for telematic services   |
| Series U        | Telegraph switching  |
| Series V        | Data communication over the telephone network  |
| Series X        | Data networks and open system communications   |
| Series Y        | Global information infrastructure, Internet protocol aspects and Next Generation Networks                                      |
| Series Z        | Languages and general software aspects for telecommunication systems   |

## Bibliography

- American Radio Relay League (ARRL), [www.arrl.org](http://www.arrl.org), technical reference books: The ARRL Antenna Book, Inc. fully searchable CD-rom, 20th edition 2004, Antenna Collection, Volumes 1 and 2.
- American Radio Relay League (ARRL), [www.arrl.org](http://www.arrl.org), Emergency Operations Manuals
- Andersen, Verner, and Hansen, Vivi N. (Ed.), *Proceedings of the International Emergency Management Society Conference 1997* (Copenhagen, 1997). Various papers on both technological and regulatory aspects of emergency management, including communications systems during disasters (421 p.).
- Anselmo, L., Laneve, G., Ulivieri, C., *Design of a Constellation of Small Satellites in Low Orbit for the Detection and Monitoring of Natural Disasters* (Paper presented at the 45th Congress of the International Astronautical Federation, IAF-94-A.6.056) (Jerusalem, 1994). Defines the requirements for small satellites in low orbits for non-continuous temporal hazards and disaster monitoring and related communication links, and concludes that such systems are feasible and complementary to high orbit and geo-stationary systems (9 p.).
- Asian Disaster Preparedness Center, Bangkok, *Managing Disasters in Asian and the Pacific. A review of Lessons Learned during the International Decade for Natural Disaster Reduction, 1999.*
- Benson, C. Disaster Management, Pro-poor Infrastructure Provision. Keysheet 2. Draft. Series in development by the Overseas Development Institute, London, on behalf of the UNITED Kingdom's Department for International Development, London: Overseas Development Institute, 2002.
- Borba, Gary, and Botterell, Art, *The Internet and Emergency Management: Two Articles from the Net* (in: The Australian Journal of Emergency Management, Vol. 10, No. 4, pp. 42-43, Mount Macedon, Australia, Summer 1995/96). In "The Internet and Disaster Response", Borba outlines some of the advantages, the problems, and the possible solutions of using the Internet for emergency traffic. In "Network Technology in the Practice of Emergency Management", Botterell explains the importance of constant reorganization of organizations (called Ameta-organisations) in the age of network technology, especially for quick responses in emergency management (3 p.).
- Braham, Mike, "Endeavouring to Prepare Life and Property: A Canadian Approach to Integrated and Comprehensive Emergency Management", *The Australian Journal of Emergency Management*, Vol. 11, No. 2, pp. 14-26, Mount Macedon, Australia, Winter 1995). Mentions emergency Telecommunications in the context of joint federal and state planning and response to emergencies in Canada (13 p.).
- Caribbean Disaster Emergency Response Agency (CDERA), *Activity Report: Regional Communications Exercise "Region RAP '94"* (Barbados, 1994). Describes the Exercise held in the Caribbean area in 1994 and the specific problems encountered in the use of Telecommunications in disaster relief, in particular regarding international networks on shortwave and via Inmarsat Standard C satellite links. Annex: Summary of impact of tropical storm "Debbie" on St. Lucia (9 p. + annex).

- Cate, Fred H. (Ed.), *Harnessing the Power of Communications to Avert Disasters and Save Lives, International Disaster Communications*, The Annenberg Washington Program, Communications Policy Studies, Northwestern University (Washington DC, 1994). Articles on emergency Telecommunications and information, including report on the Roundtable on the Media, Scientific Information and Disasters at the IDNDR Yokohama Conference, authors: Webster D., Vessey R., Aponte J., Wenham, B., Rattien S. (62 p.).
- Cate, Fred, *Communications and Disaster Mitigation, information paper for the Scientific and Technical Committee of the International Decade for Natural Disaster Reduction* (Washington DC, 1995). An analysis of the application of state-of-the-art Telecommunications technologies to disaster mitigation, based on a critical evaluation of the experience in recent disasters (35 p.).
- DHA, United Nations Department of Humanitarian Affairs, *Internationally Agreed Glossary of Basic Terms Related to Disaster Management* (Geneva, 1992). English – French – Spanish Glossary, including agreed definition of terms such as Disaster, Mitigation, Remote Sensing, Relief, Mobile Satellite Communication System (Satcom) etc. (83 p.).
- Ewald, Steve, *ARES Field Manual*, (published by the American Radio Relay League), (Newington, CT 2000). A field manual on the Amateur Radio Emergency Service. (p. 76 + annexes)
- Ewald, Steve, *The ARRL Emergency Coordinator's Manual*, (published by the American Radio Relay League), (Newington, CT, 1997). A manual for amateur radio emergency coordinators (p. 65 + annexes).
- IFRC, International Federation of Red Cross and Red Crescent Societies, *Emergency Response Unit "Telecommunications"* (Geneva, 1995). A manuscript describing the tasks and structure of the Emergency Response Unit "Telecommunications"; attached are an outline of the related training programme, a list of standard frequencies for emergency response units and a list of standard equipment (33 p.).
- ITU (Ed.), *Special Session S.5: Emergency Telecommunications* (Report of the Special Session S.5 of the Americas Telecom 96 Strategies Summit, Rio de Janeiro, June 1996). Discusses, *inter alia*, field experience and role of amateur radio in emergency Telecommunications (4 p.).
- ITU, Radio Regulations, (2003).
- ITU, Recommendation ITU-R M.1032, Technical and operational characteristics of land mobile systems using multi-channel access techniques without a central controller, (1994).
- ITU, Recommendation ITU-R M.1042, Disaster communications in the amateur and amateur-satellite services, (1998).
- ITU, Recommendation ITU-R P.1144, Guide to the propagation methods of Radiocommunication Study Group 3, (2000).
- ITU, ITU-R, World Radio Conference (WRC-97) Resolution 644.
- ITU, ITU-T, Recommendation E.106, International Emergency Preference Scheme for disaster relief operations, 2003.
- ITU, ITU-T, Supplement 47 to ITU-T Q-series Recommendations, Emergency services for IMT-2000 networks – Requirements for harmonization and convergence, 2003.
- ITU, ITU-T Recommendation H.460.4, Call priority services for multimedia, 2002.
- ITU, Report ITU-R M.2014, Spectrum efficient digital land mobile systems for dispatch traffic, (1998). Includes technical characteristics of systems known as APCO Project 25, DIMRS, EDACS, FHMNA, IDRA, TETRA and TETRAPOL.

ITU, ITU-D, World Telecommunication Development Conference (2002) Resolution 34.

ITU, ITU-D, World Telecommunication Development Conference (2002), Recommendation 12.

ITU, ITU-D, Handbook on Disaster Communications, 1998-2002.

ITU, Plenipotentiary Conference (2002), Resolution 36.

Lucot, Jean Paul, *Management des Telecommunications dans les Organismes de Secours Internationaux* (Geneva, 1990). Comprehensive description of Telecommunications systems, mainly of ICRC and IFRC, with references to regulatory issues (336 p. + annexes).

Office of Foreign Disaster Assistance (OFDA / USAID) (Ed.), *Field Operations Guide*, (Washington DC, 1994). Contains instructions regarding assessment of damage to Telecommunications infrastructure and for field Telecommunications of OFDA/DART teams during emergencies (pocket size, approx. 300 p.).

Parada, Carlos with Gariott, Gary and Green, Janet, *The Essential Internet: Basics for international NGOs*, Washington, 1997. This handbook gives some indications how (tele-) communications could be used by NGOs. It also contains a chapter about telecommunication technology in assistance of disaster responses, points out in this context the regulatory problems as well as the technology which could be chosen for disaster communications and gives some examples of the real life (160 p.), also available: Spanish version.

UNCRD United Nations Centre for Regional Development, *The Socioeconomic Impact of Disasters*, Report and Summary of Proceedings of the fourth International Research and Training Seminar on Regional Development Planning for Disaster Prevention (Nagoya, Japan, 1990). Case studies on the impact of disasters on infrastructure and resulting impact on businesses in the affected area (181 p.).

UNHCR, United Nations High Commissioner for Refugees, UNHCR Procedure for Radio Communication (Geneva, 1995). A brief instruction for users of mobile VHF and HF voice radio communications in the field, including checklists, emergency instructions, list of procedure words and the ICAO spelling alphabet (18 p.).

Winer, Ben, Forest fires in Vietnam, UNED/ISDR, Stakeholder Forum for Our Common Future: Week1: Impact of natural hazards on development and how to reverse vulnerability to disasters.

World Meteorological Organization (WMO), Comprehensive Risk Assessment for Natural Hazards, WMO/TD No. 955.

## List of Key Websites

1. [http://www.itu.int/itu-d/ldc/emergency\\_com.html](http://www.itu.int/itu-d/ldc/emergency_com.html)
2. <http://www.itu.int/ITU-T/studygroups/com16/ets/index.html>
3. <http://www.itu.int/ITU-T/special-projects/pcptdr/index.html>
4. <http://www.itu.int/ITU-R/study-groups/rsg8/rwp8a/index.asp>
5. [www.reliefweb.int/telecoms](http://www.reliefweb.int/telecoms)
6. <http://www.emtel.etsi.org/>
7. [www.arrl.org/cce](http://www.arrl.org/cce)
8. <http://www.law.indiana.edu/webinit/disaster>
9. <http://pswac.ntia.doc.gov/pubsafe/index.htm>
10. <http://spectrum.ic.gc.ca/urgent/index.html>
11. <http://www.ecomm.bc.ca/>