

FOREWORD

In November 1996, the First Regional Workshop on Emergency Telecommunications for the Central American and Caribbean Region was organized by the United Nations Department of Humanitarian Affairs (UNDHA).

The workshop served a double purpose: first as a Forum in which experts from almost all countries, islands and territories in the Region discussed international cooperation; second but just as important, a Forum in which those responsible for disaster management and those responsible for telecommunications got to know each others needs and views. Corresponding to the two groups, respective regional organizations, the Caribbean Disaster Emergency Response Agency (CDERA) and the Caribbean Telecommunication Union (CTU), played lead roles in the workshop.

The Report on the Workshop is based on the notes of the rapporteur and contains, as Documents and Annexes, texts presented by participants. The conclusions and recommendations of the various Parallel Working Groups have been summarized in Annex 7.

The workshop would not have been possible without the financial contribution of the Swiss Government, who has provided most of the funding for the emergency telecommunications project of DHA since 1994. The telecommunications industry, equipment manufacturers and service providers, supported the event through the participation of experts and through sponsorships. The Secretariat of the CTU and the Trinidad office of the United Nations Development Programme (UNDP) ensured administrative support for the workshop. International organizations, including the International Telecommunication Union (ITU) and the International Amateur Radio Union (IARU), and regional organizations, in particular the Pan American Health Organization (PAHO) as well as individual experts from academic institutions and disaster management centres contributed most valuable inputs for all sessions.

On behalf of all participants we would like to express our sincere gratitude to all those, who made this event possible. This First Regional Workshop on Emergency Telecommunications was, beyond its importance for the Region, an important milestone on the way to a solution for the major problem still confronting all partners in humanitarian assistance: The regulatory barriers which, in many cases, still prevent the optimum use of what telecommunications technology makes available to those who work in the service of the most noble of causes - the prevention, and the alleviation of human suffering caused by disasters.

Geneva, 24 June 1997

*Hans Zimmermann,
United Nations Department of
Humanitarian Affairs (UNDHA).*

*Goli Farrell,
Secretariat of the Working Group on
Emergency Telecommunications (WGET).*

**First Regional Workshop on
Emergency Telecommunications for the
Central American and Caribbean Region**

Document G-1

Port of Spain, Trinidad and Tobago,
4 to 9 November 1996

Trinidad Hilton and Conference Centre

4 November 1996

LIST OF DOCUMENTS

General Documents:

- G-1** **List of Documents** for the First Regional Workshop on Emergency Telecommunications for the Central American and Caribbean Region.
- G-2** **Agenda and Schedule** of the First Regional Workshop on Emergency Telecommunications for the Central American and Caribbean Region, Port of Spain, 4 to 9 November 1996.
- G-3** **List of Participants** of the First Regional Workshop on Emergency Telecommunications for the Central American and Caribbean Region.
- G-4** **Summary of the Proceedings** of the First Regional Workshop on Emergency Telecommunications for the Central American and Caribbean Region, Port of Spain, 4 to 9 November 1997.

Documents for the Opening Session:

- OS-1** **Opening Statement**, by the President of the Caribbean Telecommunications Union, The Honourable Jeremiah Scott.
- OS-2** **Opening Statement**, by Mr. Jeremy Collymore, CDERA Coordinator.
- OS-3** **Opening Statement**, by Mr. Mohamed Harbi, Special Adviser to the ITU Secretary General, International Telecommunications Union, Geneva, Switzerland.
- OS-4** **Opening Statement**, by The Honourable Senator Brigadier Joseph Theodore, Minister of National Security.
- OS-5** **Opening Statement**, by Mr. Hans Zimmermann, United Nations Department of Humanitarian Affairs, Geneva, Switzerland.

Annexes:

- ANNEX 1** **Further Policy Considerations on Emergency Telecommunications.**
Discussions Points, by the CTU Secretariat.
- ANNEX 2** **Telecommunications Satellite Systems: "The Odyssey Satellite System and Disaster/Emergency Communications."** Presentation made by Mr. D.R. Grout, Director, Administration, Odyssey-Teleglobe, Montreal, Quebec.
- ANNEX 3** **Reprint of an Essay written for the Working Group on Emergency Telecommunications: "To what extent is the normal public cellular phone system of use in a disaster situation ?"**, by Mr Mark Wood, DRCF.
- ANNEX 4** **Social Science Research on Disaster Warnings: Previous Research and a Proposed Model for the Future,** by Dr. Dennis Wenger, Director, Hazard Reduction & Recovery Center, Texas A & M University.
- ANNEX 5** **NVI - The Disaster Relief Communications Foundation: "Near vertical incidence communications: A promising application for Disaster Communications. A summary of papers by experts in this mode.**
- ANNEX 6** **Los Angeles County Emergency Operations Center,** by Sam Snyder, Ph.D. and S/R Sergeant David L. Peltz.
- ANNEX 7** **Summary of Working Groups' Recommendations** prepared by John Scott, Centre for Public Communications, Arlington, VA, USA.

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AGENDA AND SCHEDULE

Monday, 4 November 1996

- 13.00 - 18.00** **Arrival of participants, Registration (at Savannah Lounge).**
- 18.00** **Meeting of Speakers and Sessions Chairpersons
(at Savannah Lounge).**
- 20.00 - 22.00** **Get-together (Savannah Terrace).**

Tuesday, 5 November 1996

- 09.00 - 09.45** **Opening Session:**
Chairman: Mr. Roderick Sanatan, Secretary General (CTU).
- National Anthem,
 - Welcome,
 - Statements by:
 - . Hon. Jeremiah Scott, President, CTU,
 - . Mr. J. Collymore, CDERA,
 - . Mr. Mohamed Harbi, ITU,
 - . Snr. Edgardo Acosta, PAHO,
 - . Mr. Hans Zimmermann, UN/DHA,
 - Address by Minister of National Security,
The Honourable Senator, Joseph Theodore.
 - Address by the Prime Minister of
Trinidad and Tobago, The Honourable Basdeo Panday.
- 09.45 - 10.15** **Coffee Break.**
- 10.15 - 10.30** **Special Presentation: "Amateur Radio, a National and International
Resource", by Snr. Eduardo Estrada, (Ecuador).**

10.35 - 12.00

First Plenary Session:

- "The Disaster Scenarios and Response Mechanisms in the Region - Case Study: "Hurricane Luis".
Chairman : Mr. Stephen Louis, Executive Director (CDERA).
- "The Exercise Region RAP: Use of Simulation Exercises to test Regional Emergency Communications".
Mr. Shelton De Four (Belize).
- "The Role of the Amateur Radio Service in Disaster Management: A model". Major Richard B. Reece (ODPEM).
- "Impact of the Hurricane Luis on Emergency Telecommunications in Dominica".
Mr. Cecil Shillingford (Dominica).
- "Emergency Broadcasting during Hurricane Luis".
Mr. Timothy James, Co-ordinator National Disaster (St. Lucia).

12.00 - 13.30

Lunch

13.30 - 15.50

Second Plenary Session:

Telecommunications Resources for Administering Emergencies in the CTU Countries (A role for Policy Makers, Regulators and Operators).

Chairman: Mr Roderick Sanatan, Secretary General (CTU).

- **Presentations:**
 - . "The Resource Context of Emergency Telecommunications in the CTU" by Mr. Roderick Sanatan.
 - . "Caribbean Meteorology and the use of Telecommunications", by Mr. Cyril Berridge, Director (CMO).
 - . "Structuring the Role of the Amateur Radio Services in Disaster Management", by Mr. Campbell Matthew, (Antigua and Barbuda).
 - . "Perspectives on the Role of National Carriers in Emergency Telecommunications", by Lincoln Robinson, (CANTO).
 - . "The Roles of Policy Makers, Regulators and Operators in Disaster Administration", by Oliver Finley.

- 5.50 - 16.20 Coffee Break.**
- 16.20 - 17.30 Parallel Working Groups:**
- A1:** Telecommunications Requirements of Disaster Mitigation and Response Mechanisms.
(Comments by Trinidad and Tobago, Mr. Winston Ragbir).
- B1:** The Vulnerability of Telecommunications Networks.
(comments by Grenada, Mr Oliver Finley):
- by natural disasters,
 - by "man - made disaster",
 - by other events (CME, etc.).
- C1:** Structuring the Role of the Amateur Radio Service in Management
- Case Study: The case of Antigua and Barbuda .

Wednesday, 6 November 1996

- 08.30 - 10.00 Telecommunications Satellite Systems.**
- Illustrated presentations by:
- The Iridium System,
 - The Odyssey Satellite System,
 - Orbcomm,
 - Comsat,
 - IDB.
- 10.30 - 12.30 Third Plenary Session:**
- Presentation of Results of Working Group Sessions A1, B1 and C1.
- 12.30 - 13.30 Lunch.**
- 13.30 - 16.30 Visit(s) to Installations/Institutions.**

Thursday, 7 November 1996

- 08,30 - 10.00 Fourth Plenary Session:**
- Regulatory and Policy Issues of Emergency Telecommunications :
GMPCS Issues.
Chairman: Mr. Mohamed Harbi, ITU.

- The Convention on the Provision of Telecommunications Resources for Disaster Mitigation and Relief Operations, by Professor Fred Cate. Comments: Mr. Hans Zimmermann.
 - Model Legislation for Disaster Preparedness and Response, by Professor A.R. Carnegie (UWI, Barbados).
- 10.00 - 10.30 Coffee Break.**
- 10.30 - 11.30 Special Plenary Session:**
- The Emergency Operations Centre in Los Angeles, Ca.
Presenters: Lt. Stephen Gattis and Sgt. James Coffmann.
- 11.30 - 12.30 Special Plenary Session:**
- Early Warning and Preparedness.
Presenter: Professor Dennis Wenger and Mr. John Scott.
Comments from Mr. Stephen Louis, CDERA.
- 12.30 - 13.30 Lunch.**
- 13.30 - 14.30 Parallel Working Groups:**
- A2:** The Trans-border use of Telecommunications equipment; licensing requirements. Chairman: Mr. Jean Arry Ceant.
Proposals from Mr. Christian Dowe (St. Kitts/Nevis).
 - B2:** Cost Effectiveness and Tariff Structures for
Emergency Telecommunications.
Comments from Jamaica/CANTO.
 - C2:** National Coordination Mechanisms among the Governmental
Agencies for Emergency Management and for Telecommunications
Services. Chairman: Mr. Stephen Louis.
- 14.30 - 14.45 Coffee Break.**
- 14.45 - 15.45 Parallel Working Groups:**
- A3:** Proposals for Improved Regional Mechanisms in
Telecommunications, presented by the CTU.
 - B3:** Recommendations for Compatibility and Standardisation,
proposed by CANTO.

- C3:** The role of the Internet in Regional Emergency Telecommunications in the Region.
Chairman: Mr. John Scott, PAHO.
Comments by Mr. Perry Mason, Saint Lucia, and Mr. Sylvester Vital, Dominica.

15.45 - 16.45 Fifth Plenary Session:

Presentation of the Recommendations of Working Groups A2, B2, C2.

17.00 Meeting of the Drafting Team.

Friday, 8 November, 1996

08.30 - 10.15 Presentations of equipment and Services by:

- T.S.T.T. , TESSCO, BARRET (La Boucan).
- Motorola (Savannah Lounge).

Special Presentation:

- NVIS propagation, by Mr. Mark Wood, DRCF.

10.15 - 10.45 Coffee Break

10.45 - 12.30 Sixth Plenary Session:

- Adoption of the Recommendations prepared by Working Groups A3, B3 and C3 together and possible revised version of recommendations submitted by Working Groups A1, B1, C1 and A2, B2, C2.

12.30 - 13.30 Lunch.

13.30 - 15.00 Seventh Plenary Session:

- Adoption of Recommendations.

Saturday, 9 November 1996

- Departure of Participants.

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4 - 9 November 1996

LIST OF PARTICIPANTS

Acosta, Edgardo (Dr.)
Coordinator
SUMA Project
Pan American Health Organization
(USA)
P.O. Box 3745
San José 1000
Costa Rica
Tel: (506)222-0618
Fax: 506 257 2139
E-mail: acostaed@Paho.org

Alfred, Theo
Member
Emergency Telecommunications
Committee
Trinidad and Tobago
P.O. Box 3272
Diego Martin
Trinidad, W.I.
Tel: (809) 636-2020/203 Ext.2212
Fax: (809) 636-0969

Been, Kingsley
National Disaster Co-ordinator
P.O. Box 227
Turks & Caicos, W.I.
Tel: (809) 946-1122
Fax: (809)946-2740

Berridge, Cyril
Coordinating Director
Regional Met. Services
Caribbean Meteorological
Organization
P.O. Box 461
Port of Spain
Trinidad, W.I.
Tel: (809) 624-4481
Fax: (809) 623-3634
E-mail: cebemo@carib-link.net

Brade, Juliette
National Disaster Co-ordinator
Disaster Preparedness Office
St. John's
Montserrat
Tel: (809) 491-7166/2465
Fax: (809) 491-2474
E-mail: Coc@Candev.ag

Brown, Arnel
Manager Commercial Affairs
TEL-EM- N.V.
36 Carnegie Rd.,
P.O. Box 160
PH' BURG
St. Maarten
Tel: 30020/76411
Fax: 599-5-25498

Burwell, B. Banks
Refugee Relief Worker
COMSAT
Mobile Telecommunications
6560 Rock
Spring Drive
Bethesda, MD 20817
USA
Tel: 301-214-3107
Fax: 301-214-7106

Calliste, Neville A.C.
Policy Consultant
Grenatel,
Grenada
St Vincent and Grenadines

Carnegie, Ralph (Prof.)
Executive Director
Caribbean Law Institute Centre
U.W.I.
Cave Hill
Barbados, W.I.
Tel: (246) 424-2054
Fax: (246) 424-4138

Cate, Fred (Prof.)
Professor,
Drafter of the Convention on
Disaster Comm.
Indiana University, School of Law
Bloomington
Indiana 47405-1001
USA
Tel: (812) 855-1161
Fax: (812) 855-0555
E-mail: FCATE@Indiana.EDU

Céant, Jean Arry
Directeur Général
Conseil National des
Télécommunications,
16 Avenue Marie Jeanne 16
Port Au-Prince
Haiti, W.I.
Tel: (509) 23-9229/(509) 22-0300
Fax: (509) 23-0579

Cheston, Aric
Manager, Emergency
Telecommunications Response
Programme
Iridium Inc.
1406 H. St NW
Washington D.C. 20005
USA
Tel: (202) 712.7648
Fax: (202) 712.7691
E-mail:
AricCheston@iridium.com.

Clarke, Eric
Planning Engineer
External Telecommunications Ltd.
Wilkey St.,
St. Michael
Barbados, W.I.
Tel: (246) 427-5200
Fax: (246) 427-5808
E-mail: CLARKE.E@bet.com.bb

Coffman, James (Sgt.)
Emergency Manager
Emergency Operations Bureau
Los Angeles County
Sheriff Department
1275 N Eastern Avenue
Los Angeles CA 90063
USA
Tel: (213) 980-2288
Fax: (213) 881-6898

Collymore, Jeremy
Regional Co-ordinator
Caribbean Disaster Emergency
Response Agency (CDERA)
Garrison,
St. Michael,
Barbados, W.I.
Tel: (246) 436-9651
Fax: (246) 437-7649
E-mail: CDERA@Caribsurf.Com

Crichlow, Sylvan
Amateur Radio Operator
Amateur Radio Society
P.O. Box 1167
Port of Spain
Trinidad, W.I.
Tel: (809) 636-3612

Cupid, Alwyn
National Disaster Co-ordinator
c/o Ministry of Housing
Kingstown
St. Vincent, W.I.
Tel: 456-2856/456-4260
Fax: 457 -2476

Defour, Shelton (Major)
Major
Belize Defense Force,
Airport Camp
Lady Ville,
Belize
Central America
Tel: 501-11-25-2174
Fax: 501-11-25-2175

Donawa, Noel
Director
International Amateur Radio Union,
Region 2, Area E,
98 Sapphire Drive
Diamond Vale
Trinidad, W.I.
Tel: (809) 637-4773
Fax: (809) 637-4773
E-mail: 9y4ned@tsst.net.tr

Dowe, Christian
Telecommunications Officer
Ministry of Communications, Works
and Public Utilities
Police Headquarters
Basseterre
St. Kitts and Nevis
Tel: 869-465-2241
Fax: 869-465-7078

Edwards, Arthur
Member
Emergency Telecommunications
Committee
Telecommunications Services of
Trinidad and Tobago
Laventille Work Centre
Eastern Main Road
Laventille
Trinidad, W.I.
Tel: (809) 623-4086

Estrada, Eduardo
Emergency Co-ordinator
International Amateur Radio Union,
Region 2,
P.O. Box 09-01-7648
Guayaquil
Ecuador
Tel: (593) 430-7243
Fax: (593) 430-7252
E-mail: EESTRADA@GU.PRO.EC

Farrell, Goli (Mrs.)
Consultant
United Nations (DHA),
Palais des Nations
CH -1211 Geneva 10
Switzerland
Tel: (+41-22)917-1455
Fax: (+41-22)917-0023
E-mail: GOLIFARRELL@ITU.INT

Farrell, Vincent Francis
Amateur Radio Operator
Trinidad and Tobago Amateur
Radio Society
P.O. Box 1167
Port of Spain
Trinidad, W.I.
Tel: (809) 636-7410

Ferdinand David
Manager
Cable and Wireless Transmission
Systems
P.O. Box 111
Castries
St. Lucia, W.I.
Tel: 453 - 9334
Fax: 453 - 9758
E-mail: FERDI@CANDW.LC

Finlay, Robert Oliver
Disaster Preparedness Co-ordinator
Grenada Telecommunications Ltd.
P.O. Box 119
St. George's
Grenada
Tel: 441-2235
Fax: 444-2883

Garro, Victor
Consultant
Pan American Health Organization
(PAHO) and World Health Organization (WHO),
Washington D.C./CR
USA
Tel: (506) 257-2141/(506) 256-8654
Fax: (506) 256-8654
E-mail:
VGarro@Zapote.cett.itcr.ac.cr.

Gattis, Stephen T. (Lt.)
Emergency Manager
Los Angeles County
Sheriff Department
4700 Ramona Blvd #144
Monterey Park
CA 91754-2169
USA
Tel: 213-526-5628
Fax: 213-264-7911
E-mail:
(W) SGATTIS@CO.LA.CA.US
(H) GATTIS @ GTE.NET

Gelman-Muravchik, Ovsei
(Prof.) Research Professor,
Advisor, National Civil Protection
System, Mexico
Instituto de Ingenieria, UNAM
Cd. Universitaria
Apdo. Postal 70-472
Coyoacan 04510
Mexico, D.F.
Tel: 525-622-8171
525-622-8132/33/34/35/36/37
Fax: 525-622-8091
525-616-1514
E-mail:
ogm@pumas.iingen.unam.mx

Gittens, Elinor
Researcher
Science Technology, Tertiary
Education and Telecommunications
Unit,
Office of the Prime Minister
Level 19,
Eric Williams Financial,
Independence Square
Port of Spain,
Trinidad, W.I.
Tel: (809) 627-9700
Fax: (809) 627-3444

Griffith, John
Co-ordinator
Institute of Marine Affairs
P.O. Box 3169
Carenage Post Office
Carenage
Port of Spain
Trinidad W.I.
Tel: (809) 634-4291-4
Fax: (809) 634-4433
E-mail: GRIFF@IMA.GOV.T.T.

Griffith, Livingstone
Telecommunications Services of
Trinidad and Tobago
Work Centre
Eastern Main Road
Laventille
Trinidad, W.I.
Tel: (809) 623-4086
Fax: (809) 627-0519

Grout, Derek
Director, Administration
Odyssey-Teleglobe
1000 De La Gauchetiere St. West,
Montreal,
Quebec
Tel: 1-514-868-8002
Fax: 1-514-868-8080
E-mail: dgrout@teleglobe.ca.

Gudge, Gulbert (Major)
Co-ordinator
National Frequency Management
Unit,
68 Hadfield Street,
Georgetown,
Guyana
Tel: 592-2-53054
Fax: 592-2-67661

Gunness, Balchan
Technical Assistant
Telecommunications Division,
Office of the Prime Minister
17A Abercromby St.,
Port of Spain,
Trinidad, W.I.
Tel: (809) 623-8060
Fax: (809)624-3869

Guptar, Krishna
Manager
Network Efficiency Restoration
Telecommunications Services of
Trinidad and Tobago
54 Frederick Street
Port of Spain,
Trinidad, W.I.
Tel: (809) 625-4431
Fax: (809) 624-6525
E-mail: nwm@tsst.net.tt

Harbi, Mohamed
Special Advisor to the Secretary-
General
International Telecommunication
Union, ITU
Palais des Nations
BP 820
1211 Geneva 20
Switzerland
Tel: (+41 22 73055-71)
Fax: (+41-22-7305137)
E-mail: harbi@itu.ch

Hart, Ian
Member
Emergency Telecommunications
Committee
53, Eastside Dr.
Otaheite South Oropouche
Trinidad, W.I.
Tel: (809) 677-5476
Fax: (809) 677-5476
E-mail: Canhard@Carib. Link.net

Herbert, Carl
Administrative Officer
N.E.M.A.
Old Telephone Building
Central St.,
Basseterre
St. Kitts and Nevis
Tel: 869-466-5100/6892
869-465-5982 (H)
Fax: 869-466-5310

Hernandez, Maurice
Amateur Radio Operator
Amateur Radio Society Trinidad
and Tobago
c/o Box 1167
P.O.S.
Trinidad, W.I.
Tel: (809) 637-5240
E-mail: 9y4HM@Trinidad.net

Herring, Tim
General Manager,
Land Mobile Division
Inmarsat
99 City Road
London W1Y 1AX
United Kingdom
Tel: 44-171-728-1736
Fax: 44-171-728-1193
E-mail: timherring@innarsat.org

Hewitt, Brian
Consultant
B.D. Hewitt & Co.
76 Abercromby Street
Port of Spain
Trinidad, W.I.
Tel: (809) 623-5402
Fax: (809) 625 - 5016

Jagdip, Deonanan
Safety Officer
PLIPDECO Trinidad
Orinoco Drive
Point Lisas
Couva
Trinidad W.I.
Tel: (809) 636-4023
Fax: (809) 679-2907

Jageosingh, Kenny
Member
Emergency Telecommunications
Committee (REACT)
Automatic Transmission Service &
Supplies Ltd.
1 French St.,
Port of Spain,
Trinidad W.I.
Tel: (809) - 625 -0107
Fax: (809) 625-0107

James, Timothy
National Disaster Co-ordinator
Office of Disaster Preparedness
P.O. Box 1517
Castries
St. Lucia
Tel: 1-758-452-3802
Fax: 1-758-453-2152
E-mail: JamesT@Candiv..LC

Johnson, Nicole Marie (Miss)
Co-ordinator
National Emergency Management
Agency (NEMA)
17-19 Abercromby Street
Port of Spain
Trinidad W.I.
Tel: (809) 623-2078/8004
Fax: (809) 625-8926
E-mail: nematt@wow.net

Joseph Peter
Amateur Radio Operator
Trinidad and Tobago Amateur Radio
Society
P.O. Box 1167
Port of Spain,
Trinidad, W.I.
Tel: (809) 665-7307

Joseph, Zephaniah
Telecommunications Officer
Ministry of Communications and
Works,
Lovers Lane
Plymouth
Montserrat
Tel: 664-491-8024
Fax: 664-491-7935
E-mail: josephz@candw.ag

Kemp, Charles
Engineer
Bahamas Telecommunications
Corporation (BATELCO)
JFK Drive
P.O. Box N3048
Nassau
Bahamas
Tel: 242-323-4911
Fax: 242-326-7474

Kesmodel, Robert
Director International
TESSCO Technologies Inc.
34 Loveton Circle Sparks
Maryland 21152
USA
Tel: 410-472-3200
Fax: 410-472-7575
E-mail: Kesmodel@Tessco.com

Khaloo Balchan
Telecommunications Member
R.E.A.C.T.
25 ¼ mm Naporima
Mayaro Rd.,
Rjo Claro
Trinidad W.I.
Tel: (809) 644-2795
Fax: (809) 630-8341 Ext. 4597

Kiron, Michael
Telecommunications Officer
Cayman Islands Government
Office of Telecommunications
Oven Robert Drive
Grand Cayman
Cayman Islands
Tel: 1-345-949-2919
Fax: 1-345-945-5091
E-mail: kir@candw.ky

Konrad, Kerry M.
Senior Sales Executive
Land Mobile Sales,
Comsat Mobile Communications,
6560 Rock Spring Drive
Bethesda, Maryland 20817
USA
Tel: 301 214 3104
Fax: 301 214 7205
E-mail: kerry.konrad@comsat.com

Kostris, George
Director, Caribbean Operations
Motorola
899 West Cypress Creek Road
Fort Lauderdale Fl. 33309
USA
Tel: 954-928-2029
Fax: 954-928-2090

Lau, Robert

Inspector of Telecom
Government of Curacao
Bureau Telecom
Groot Davelaa R. 139/140
P.O. Box 2047
Curacao N.A.
Tel: 599-9-365205
Fax: 599-9-365265

Lettsome, Donald

Assistant Secretary
Ministry of Communications &
Works
BVI Government
Road Town
Tortola
British Virgin Islands
Tel: (809) 494-3701 Ext. 2110
Fax: (809) 494-3873

Lewis, Carl

Secretary-General
CANTO
67 Picton Street,
Newtown, Port of Spain
Trinidad, W.I.
Tel: (809) 622-7448
Fax: (809) 622-3751
E-mail: Canto@Wow.net

Louis, Stephen

Information Systems Manager
DERA
The Garrison
St. Michael
Barbados, W.I.
Tel: 246-436-9651
Fax: 246-437-7649
E-mail: cdera@Caribsurf.com

Magee, John

Sales Manager
Motorolla
899 W. Cypress Creek Road
Suite 200
Ft. Lauderdale, Fl. 33309
USA
Tel: 954-928-2015
Fax: 954-928-2013

Maikoo, Andre

Radio Operator
R.E.A.C.T.
116 Frederick Street
Port of Spain
Trinidad, W.I.
Tel: (809) 680-0146
Fax: (809) 623-2937
E-mail: bservice@tsstt.net.tt

Malone, Guy Lester

Telecommunications Officer
Ministry of Communication &
Works
Road Town
Tortola
British Virgin Islands
Tel: (809)494-3701 Ext. 3093
Fax: (809)494-6462

Mason, Perry

Telecommunications Officer
Ministry of Communications and
Works,
Miicoud Street
Castries
St. Lucia
Tel: (758) 452-4444
Fax: (758)453-2769
E-mail: MasonP@CandW.LC

Mathur, Mahendra (Col.)

Chief Co-ordinator
NEMA
17-19 Abercromby Street
Port of Spain
Trinidad, W.I.
Tel: (809)623-2078/8004
E-mail: nematt@Wow.net

Matthew Campbell

Telecommunications Consultant
Ministry of Public Works and
Communications
Queen Elizabeth Highway
St. John's
Antigua
Tel: (268) 462-1113
Fax: (268) 462-3225
E-mail: Matthewm@Candw.ag

Niffkeer, Irvine

Assistant Co-ordinator
National Emergency
Telecommunications Committee
Chase Village
Carapichaima
Trinidad, W.I.
Tel: (809) 673-0275
Fax: (809) 673-0275
E-mail: Berneiz@inidad.net

Noguera, Felipe

Chief Executive Officer
CAIC
Suite 351
Trinidad Hilton
Trinidad, W.I.
Tel: (809) 623-4830
Fax: (809) 623-6116
E-mail: Caic@Trinidad.net

Palm, Rick

Field Services Manager
ARRL
225 Main Street
Newinston, CT06111
USA
Tel: 860-594-0261
Fax: 860-594-0259
E-mail: rpalm@arrrl.org

Raghir, Winston

Director Telecommunications and
Chairman E.T.C.
Office of the Prime Minister
17A Abercromby Street
Port of Spain
Trinidad W.I.
Tel: (809) 623-8060
Fax: (809) 624-3869

Ramnarine, Deoraj

Consultant
Iridium LLC
7A Warner Street,
Newtown
Port of Spain
Trinidad W.I.
Tel: (809) 628-4039
Fax: (809) 622-8426

Reese, Richard (Major)
 Director-General
 Office of Disaster Preparedness
 and Emergency Management
 (ODPEM)
 12 Camp Road
 Kingston 4
 Jamaica, W.I.
 Tel: (809) 938-2529/928-5111-4
 Fax: (809) 928-5503

Robinson, Lincoln
 Technical Manager
 CANTO
 67 Picton Street
 Port of Spain
 Trinidad, W.I.
 Tel: (809)622-3770
 Fax: (809)622-3751
 E-mail: canto@Wow.net

Rolle, Davy Captain (N)
 Co-Chairman
 Emergency Communications
 Committee
 Royal Bahamas Defence Force,
 P.O. Box N - 3733
 Nassau
 Bahamas
 Tel: 242-325-8663
 Fax: 242-362-1374

Rollocks, Rawle
 Rapporteur
 MAS - COMM. Ltd.
 40 Eastern Main Road
 St. Augustine
 Trinidad W.I.
 Tel: (809)645-6459
 Fax: (809)645-6459

Rombley, Dennis
 General Manager
 Antelecom
 Cannegieter Street #26
 P.O. Box 160
 St. Maarten
 Netherlands Antilles
 Tel: 599-5-22407
 Fax: 599-5-24922

Romero, Javier
 General Manager/Technical Assistant
 Hondutel
 Honduras
 Colonia Los Dimendos
 Tegucigalpa
 Honduras
 Tel: (504) 36-7855
 Fax: (504) 38-5614
 E-mail: jromero@hondutel.hn.

Rudder, Arnim
 Amateur Radio Operator
 Trinidad and Tobago Amateur Radio
 Society
 P.O. Box 1167
 Port of Spain
 Trinidad W.I.
 Tel: (809) 637-9379

Sampson, Madonna
 Rapporteur
 Mass-Comm. Ltd.,
 40 Eastern Main Road,
 St. Augustine
 Trinidad W.I.
 Tel: (809) 645-6459
 Fax: (809) 623-6116
 E-mail: Caic@Trinidad.net

Sanatan, Roderick
 Secretary-General
 Caribbean Telecommunications
 Union
 17 Queens Park West
 Port of Spain
 Trinidad, W.I.
 Tel: (809) 628-3185
 Fax: (809) 628-6037
 E-mail: ctu@Trinidad.net

Scatliffe, Shane
 Telecommunications Officer
 Ministry of Communications and
 Works,
 Halifax Street
 Kingstown
 St. Vincent, W.I.
 Tel: (809) 457-2279
 E-mail: Shane@mcw.gov.vc

Scott, Jeremiah
 The Honorable Minister of
 Communications and Works, and
 President of the CTU
 Ministry of Communications and
 Works
 P.O. Box 1640
 Kingstown
 St. Vincent W.I.
 Tel: (809) 457-2039
 Fax: (809) 456-2168

Scott, John
 President
 Centre for Public Service
 Communications
 5315 Lee Highway
 Arlington, VA 22207
 USA
 Tel: 703-536-5642
 Fax: 703-536-5652
 E-mail: JCScott@access.digex..net

Shillingford, Cecil P.
 Assistant National Disaster Co-
 ordinator
 Office of Disaster Preparedness
 Ministry of Communications &
 Works,
 Government Headquarters,
 Roseau,
 Dominica
 Tel: (809) 448-2401 Ext.3234
 Fax: (809) 448-2883

Sue-Hong, Denis
 Manager
 Transmission Systems
 Telecommunication Services of
 Trinidad and Tobago
 1 Edward Street,
 Port of Spain
 Trinidad and Tobago
 Tel: (809) 625-4431
 Fax: (809) 623-0459
 E-mail: nwm@tsitt.net.tt

Thom, Judith
Technical Specialist
Caribbean Telecommunications
Union
17 Queen's Park West
Port of Spain,
Trinidad, W.I.
Tel: (809) 628-3185
Fax: (809) 628-6037
E-mail: ctu@trinidad.net

Thomas-Calliste, Joyce
National Disaster Co-ordinator
National Emergency Relief
Organization
Emergency Operations Centre
Fort Frederick
Richmond Hill
St. Georges
Grenada
Tel: 440-0838/8390
Fax: 440-6674
E-mail: nero@Caribsurf.com.

Thompson, Emmette
Police Constable Representing
the National Disaster Co-
ordinator, Anguilla
The Valley
Anguilla
P.O. Box 586
Tel: (809) 497-5666
Fax: (809) 497-3746

Ureña, Laura (Ms.)
Enc. Departamento Informatica
Direccion General de
Telecomunicaciones,
c/o Isabel la Catolica
No. 203
Santo Domingo, R.D.
Dominican Republic
Tel: (809) 688-8955
Fax: (809) 682-3493

Vital, Sylvester
Engineer
Ministry of Communications, Works
and Housing
Government Headquarters
Roseau,
Dominica
Tel: 448-2401 Ext. 3242/3347
Fax: 448-2883/448-4807

Ware, Graham
Manager, International Sales
Barrett Europe Ltd. UK / Australia
The Corner House
Market Street,
Alton, Hampshire GU34 1 HA
United Kingdom
Tel: +44-1420-542254
Fax: +44-1420-543373
E-mail: Barrett@Dial.Pipex.com

Wenger, Dennis
Professor
Hazard Reduction and Recovery
Center
Texas A & M University
College Statrow, TX 77843
USA
Tel: 409-845-7813
Fax: 409-845-5121
E-mail: wenger@archone.tamu.edu

White, Keith
Assistant Manager, Transmission
systems
Barbados External
Telecommunications Ltd.
Wilbey,
St. Michael
Barbados, W.I.
Tel: 246-431-6057/6058
Fax: 246-427-5808
E-mail: WHITE-K @BET.com.BB

Wood, Mark
Secretariat
UNDHA
2001 Jasmine Lane
Plano
Texas 75076
USA
Tel: 1-972-423-6134
E-mail:
Mark.Wood@cogatel.exu.ericsson.se.

Zimmermann, Hans
Senior Humanitarian Affairs Officer
United Nations (DHA),
Palais des Nations
1211 Geneva 10
Switzerland
Tel: (+41-22)917-3516
Fax: (+41-22)917-0023
E-mail:
hans.Zimmermann@ITU.CH

**First Regional Workshop on
Emergency Telecommunications
for the Central American and Caribbean Region**

Document G-4

Port of Spain, Trinidad and Tobago,
4 to 9 November 1996

Trinidad Hilton and Conference Centre

13 June 1997

SUMMARY OF THE PROCEEDINGS

During an unparalleled gathering of telecommunication experts, emergency Managers and Government officials from 30 countries and territories in this particularly disaster prone region, an extraordinarily rich exchange of information took place in seven Plenary Sessions and 3 sets of parallel Working Groups.

Official Opening Session:

See Opening Statements Documents
OS-1, OS-2, OS-3, OS-4, OS-5.

Special Session:

*The role of the Amateur Radio Service in
Emergency Telecommunications.*

Mr. Eduardo Estrada, Emergency Coordinator, International Amateur Radio Union (IARU), Region II, presented the numerous benefits of amateur radio both on national and international levels in providing communication in times of emergency. The IARU, representing more than two million amateur radio operators world-wide, enjoys observer status in a number of International Organizations including the International

Telecommunication Union (ITU), and is actively promoting the amateur radio and amateur satellite services. Referring on the wide range of disasters to which the region is prone, and to the fact that more than 800'000 amateur radio stations are registered in region II of the IARU, which includes the Americas and Hawaii,

Mr. Estrada emphasized the traditionally important role of the amateur radio service in emergency response throughout its history.

First Plenary Session:

*The Disaster Scenarios and the Response
Mechanisms in the Region.*

*The role of CDERA in regional
Emergency Telecommunications:*

A case study of hurricane Luis (1995) and an examination of structural and administrative challenges to amateur radio in the Caribbean dominated this session.

Mr. Stephen Louis, Information Systems Manager of the Caribbean Disaster Emergency Response Agency (CDERA), gave an overview of the

agency's activities since its establishment in 1991 by agreement of regional heads of Government, and of its specific interest in building and maintaining emergency telecommunications.

The main elements of CDERA in respect to emergency communications are:

- a) review of regional emergency telecommunications structures;
- b) facilitation of training;
- c) organization of simulation exercises;
- d) establishment of a CDERA Web site;
- e) collaboration with other agencies with common interest with a particular view on avoiding duplication of efforts.

Major Richard B. Reese, Director General, Jamaica's Office of Disaster Preparedness and Emergency Management (ODPEM), stated that Jamaica has made substantial progress in enhancing its emergency telecommunication system with all key response agencies, including the Jamaica Amateur Radio Association (JARA). He mentioned some weaknesses identified, including shortcomings in adequate planning and coordination among institutions, which resulted in increased operational costs due to unnecessary duplications. A glaring weakness is the lack of possibility for a duty-free importation of telecommunication equipment for JARA and Citizens' Band Clubs.

Major Reese called for closer cooperation and networking between district, parish, national and international levels, including an appropriate Memorandum of Understanding, for training of Jamaica's fire and police officers as radio operators and for free concessions for the import of equipment needed by JARA stations.

Major Shelton De Four, Belize Defence Force, described the two Regional RAP exercises conducted in 1994 and 1996 (with Grenada as the simulated emergency location in the latter), designed to test emergency telecommunication links between the organizations and individuals likely to be involved in operations. The exercises concentrated on information handling procedures through an emergency operations centre in all phases of a simulated disaster.

As a result of these RAP exercises, the following needs were identified:

- 1. the necessity of early liaison with private and public radio communicators for better synchronization;
- 2. the availability of alternative means of communication such as satellite links, back up radio links;
- 3. the appointment of personnel along operational rather than administrative lines;
- 4. a continuous disaster management training in areas such as education, public relations and organization and management of an Emergency Operations Centre (EOC);

5. the allocation of appropriate radio frequencies for emergency traffic;
6. the establishment of Standard Operations Procedures (SOP) upon the activation of an EOC;
7. a management accounting system to document reception and distribution of relief goods.

Advocating more future RAP exercises, Major De Four recommended in particular an examination of allocated radio frequencies and clarification of government expectations during a disaster.

Mr. Cecil Shillingford, Assistant National Disaster Coordinator, Office of Disaster Preparedness, Ministry of Communications & Works, Dominica, pointed out that during the passage of hurricane Luis in 1995 all communication systems, including commercial radio stations, were rendered inoperative due to heavy rains and lightning strokes. Amateur radio became the main carrier of local and international communications during the disaster. The operators went on foot, four wheel drive, and by sea, mostly accompanying government officials assessing damages.

Based on his recent first hand experiences during three major storms affecting Dominica, Cecil Shillingford recommended:

- a) establishment of close cooperation with the amateur radio fraternity;
- b) the installation of two repeater systems on the two highest points in Dominica;

- c) exploring alternative power sources such as solar and wind;
- d) including amateur radio as an integral part of public education with training programs in rural communities;
- e) deployment of a well planned network of HF and VHF radios with a maximum coverage of an entire island to the extent its topography permits this.

Mr. Timothy James, National Disaster Coordinator, St. Lucia, gave a graphic description of a similar experience during hurricane Luis, when the only voice from the disaster struck island of Montserrat was that of a amateur radio "ham" operator operating his station from under his bed.

Mr. Timothy James specifically recommended to ensure:

1. better coordination with neighbouring islands' facilities and an inter-island broadcast protocol;
2. availability of stand-by emergency power for radio stations;
3. assignment of amateur radio operators to all national disaster offices;
4. approaching UNESCO concerning low power broadcast facilities;
5. establishing links between the Caribbean News Agency (CANA) and national disaster offices to facilitate broadcast via CANA's satellite network.

Second Plenary Session:
Administering Emergency telecommunications in the Caribbean.

The Role of Policy Makers, Regulators and Operators:

Mr. Roderick Sanatan, Secretary-General, Caribbean Telecommunication Union (CTU) reported on the September 1996 Meeting of OAS-CITEL officials in which CTU sought support for emergency telecommunications. He listed the emergency telecommunications technologies employed by regional agencies, such as radio amateurs, national telecommunications carriers, defence forces, CDERA, PAHO, and the Caribbean Meteorological Organization with its recently installed VSAT network. Mr. Sanatan also spoke of the growing use of cellular services in emergencies and described the most common computer software used in the region such as Relief Supply Tracking System, SUMA and EIS.

Mr. Cyrill Berridge, Coordinating Director, Regional Met. Services, Caribbean Meteorological Organization (CMO), emphasized that meteorological services require such extensive telecommunication, that the World Meteorological Organization (WMO) maintains its own global telecom services with CMO using VSAT as part of WMO network. This allows the Meteorological Offices to function even when other links are down. For islands with no forecast offices there is a dial up system to get data via VSAT. The CMO is proposing the use of the Internet as back up to this system.

Mr. Campbell Mathew, Consultant, Ministry of Public Works and Communication, Antigua, told of amateur radio's role in Antigua and Barbuda during hurricanes Hugo and Louis. The key element was planning among local, regional and international radio operators. He stressed, that In the first 72 hours during and after a disaster the emphasis must be on providing links among disaster response agencies, while in the following 72 hours the focus shifts to the regional and international exchange of health and welfare messages. Campbell Mathews recommended a closer cooperation between amateur radio operators and the Red Cross in the delivery of such messages.

Mr. Lincoln Robinson, Technical Manager, Caribbean Association of National Telecommunication Operators (CANTO) reported on the preparation a Disaster Preparedness manual for the 33 member countries and expectations, that cellular roaming will facilitate in relief efforts.

Mr. Oliver Finley, Disaster Preparedness Coordinator, Grenada, called for partnership between the government and operators, better accountability of officers for resources under their control, and the need that disaster management be given priority at the highest policy level.

Third Plenary Session:
Presentation of the results of Parallel Working Groups A1 / B1 / C1.

(See Annex 7).

Fourth Plenary Session:
Regulatory and Policy issues of
Emergency Telecommunications.

Mr. Mohammed Harbi, Special Advisor to the Secretary-General, ITU, Geneva, Switzerland, gave a brief overview of International Telecommunications Union's remarkable history and used the opportunity to welcome Dominica who had become the 187th member of the ITU in October 1996. He then reported on the recent developments concerning the introduction of Global Mobile Personal Communication Systems (GMPCS), in particular the results of the World Telecommunication Policy Forum (WTPF) held in Geneva in October 1996. (See Opening Statement, Document OS-3).

Mr. Mohamed Harbi mentioned in particular the good interaction between representatives of the private sector and administrators at the WTPF on facilitating early introduction of the new technology.

Professor Fred Cate, Indiana University, School of Law, outlined some of the salient features of the Convention on the Provision of Telecommunication Resources for Disaster Mitigation and Relief Operations and on the development of this document since the Tampere Declaration of 1990. While being an agreement among State Parties, the Convention will also facilitate the activities of non State Parties such as national and international, governmental and non governmental organizations as providers of telecommunications assistance. It will create a framework for dispute resolution, using the mechanisms of ITU and the United Nations.

The Convention, as well as the process leading to it, will serve as a model for future agreements, dispute resolutions, and measures that States might take to minimize regulatory barriers concerning humanitarian assistance.

Professor Fred Cate then provided a walk through of some of the articles of the Draft Convention, emphasizing Article 9 on the establishment of a telecommunications resource inventory and dispute resolution procedures.

Mr. Hans Zimmermann, Senior Humanitarian Affairs Officer, United Nations Department of Humanitarian Affairs, Geneva, outlined the further steps towards the adoption of the Convention which is now being circulated for comments to all ITU Member States under a cover letter of ITU Secretary-General. the significance of the Draft Convention and to give it the necessary support. An Intergovernmental Conference for the Adoption of the Convention will be convened in late 1997 or early 1998. The position of the representatives at the conference will depend on the instructions they receive from the Ministry of Foreign Affairs, and these instructions will be based. Emergency managers present at the workshop were therefore urged to ensure, that national telecommunications policy makers are aware of the importance of the Convention and give it their full support.

Professor Ralf Carnegie, Executive Director, Caribbean Law Institute, Barbados, indicated that CDERA has invited the Caribbean Law Institute to prepare a model legislation on disaster preparedness and response for its Member States.

He explained that the Draft Legislation will establish a disaster response advisory committee which should be chaired by the Prime Minister or the President. The importance of international agreements on disaster preparedness and response plus the possibility of bringing such a treaty into force during a disaster, was also pointed out.

Special Session:

The New Emergency Operations Centre in Los Angeles.

Lt. Stephen Gattis and Sgt. Dennis Coffman from Los Angeles County Police Dept. made a video presentation of the new Emergency Operations Centre (EOC) in Los Angeles (Annex 6 refers). Stephen Gattis described some of the recent disasters to which California has have been subject, to such as floods, fires, riots and earthquakes, and emphasized that the effectiveness of the EOC depends on its design, technology, and specially on trained personnel.

Sgt. Dennis Coffman explained the standardized terminologies and the disaster intelligence processing under Standard Emergency Management System (SEMS). Intelligence processing involves establishing a priority of need and response, based on a reconnaissance report to be compiled within the first thirty minutes after the impact of an event. A clear distinction needs to be made between the initial response phase, which is attending to death and destruction, and the longer term recovery phase. Emergency managers are encouraged to make an easy transition from response to recovery.

Professor Dennis Wenger presented his paper on early warning and communications (see Annex 4).

Mr. John Scott, Consultant, Pan American Health Organization, pointed to initiatives to improve its early warning system in 1997, with four broad goals:

1. to establish and gain acceptance by the international community of a coordinated doctrine on early warning systems;
2. to link technical detection and early warning;
3. to facilitate technology transfer;
4. to improve early warning capabilities for the 21st Century.

Stephen Louis discussed three issues in early warning:

1. the ability to identify danger early;
2. the medium of communication;
3. identification of the right audience to receive the message.

Stating that early warnings come mostly from meteorological services, Mr. Louis said their messages were too technical and that should be interpreted in order to be understandable for other than specialized users.

CDERA has taken the following initiatives on early warning:

1. development of a disaster information kit for the media;
2. preparation of short standard public information messages;
3. discussion on the introduction of a standard "Jingle" to announce alert broadcasts;

Fifth Plenary Session:

Presentation of the results of Parallel Working Groups A2 / B2 / C2.

Group A2

Recommendations:

The Emergency committee should include a customs representative and one from the regulatory body. Attempts should be made to secure from customs a waiver on duties for equipment during emergencies. It was suggested that each country enter into individual agreements with customs authorities.

Group B2

Cost Effectiveness and Tariff Structure:

Telecom administrators be approached by CANTO to negotiate an 800 number for emergencies and to allow early enforcement of tariff free arrangements.

Group C2

National coordinating Mechanisms:

Emergency managers and coordinators should have in place a national disaster plan with formal arrangements with all agencies. National Disaster Planning Committees should have representatives of all major interest groups and roles of agencies must match their existing resources and geographic location. Coordination should be ongoing and not only in times of emergency.

Sixth Plenary Session:

Discussion of Format and Content of the Final Document of the Workshop.

Recommendations of the Working Groups (see Annex 7) should serve should serve as guidelines for the follow-up activities by all partners in the region and should emphasize the need for increased cooperation not only between the different countries and territories of the region but just as much for closer collaboration between the national emergency managers and the corresponding national telecommunication authorities.

Closing session:

Mr. Stephen Louis thanked the sponsors and the organizers as well as the participants of a most productive workshop that generated many ideas that could be pursued immediately.

Mr. Mohammed Harbi stated that the workshop was a success because its subject was well defined, there was a high level of participation, a well appointed venue, and a firm commitment to implement all recommendations.

Mr. Kerry Konrad, Comsat, USA, said that he now recognized the gravity of regional concerns regarding licensing and cost of emergency telecommunications equipment and services. He consequently committed his Organization to ensuring the lowest possible cost for emergency telecommunication services and extended an invitation to all partners to participate in Comsat Training Sessions on the use of Inmarsat equipment and services.

Dr. Edgardo Acosta, PAHO, expressed his satisfaction that the region recognized the importance of amateur radio to the extent of integrating it into the regional emergency telecommunications infrastructures and response mechanisms.

Mr. Roderick Sanatan expressed his gratitude to DHA and to the office of the Prime Minister of Trinidad and Tobago, the planning committee, and the Point Lisas Port Development Company. He also thanked commercial partners and expressed a great deal of satisfaction about the large number and diversity of participants.

Mr. Hans Zimmermann of United Nations Department of Humanitarian Affairs offered his department's appreciation to all participants for their presentations and contributions, to the commercial partners for their generous support and to the CTU for arranging the secretarial support.

Speaking on behalf of all participants, Mr. Eric Clarke, Barbados External Telecommunications Ltd., thanked organizers for the opportunity to share experiences that increased their individual competence in responding to emergencies. He also thanked the private sector for their support.

Sgt. Dennis Coffman encouraged the group to keep working in the spirit of collaboration which is the essence of all disaster response.

Mr. Roderik Sanatan declared the workshop closed.

**First Regional Workshop on
Emergency Telecommunications
for the Central American and Caribbean Region**

Document OS-1

Port of Spain, Trinidad and Tobago,
4 to 9 November 1996

Trinidad Hilton and Conference Centre

5 November 1996

OPENING STATEMENT

by

**The President of the Caribbean Telecommunications Union,
The Honourable Jeremiah Scott**

Mr. Chairman, the Honourable Basdeo Panday,
Prime Minister of the Republic of Trinidad and Tobago,
The Honourable Joseph Theodore, Minister of National Security,
Mr. Jeremy Collymore, CDERA Coordinator,
Mr. Hans Zimmermann, UNDHA Representative,
Representative of PAHO,
Members of Diplomatic Corps,
Mr. Mohamed Harbi ITU,
Distinguished Ladies and Gentlemen,

It is indeed a pleasure, on behalf of the Caribbean Telecommunications Union which I have the honour to lead as President, for me to participate today in this multilateral global effort at providing for emergency telecommunications.

I am pleased that this activity is taking place in the country of the Headquarters of the CTU, the inter-governmental body set up in the Caribbean, and I am honoured by the participation of the head of the Government of Trinidad and Tobago, who is also the Minister responsible for Telecommunications.

This Regional Workshop recognises that the resources of all cohorts are required to impact on emergency issues:

- the International and Regional efforts,
- Disaster and Telecommunications Institutions,

- and, may I add, that there is a Special role for legal institutions. In fact, under the aegis of the CTU, we have secured the services of Professor Carnegie of the University of the West Indies, in Barbados, who will present, on Thursday, issues of model Legislation for Disaster Preparedness.

The continuing efforts of the Caribbean Governments through coordination in the CTU have seen the push by The Bahamas to get Disaster Telecommunications on the international agenda.

More recently, in CITEL, in the Organization of American States, the CTU delegates were successful in placing Emergency Telecommunications Programmes in the new Plan of Action for the Americas.

From the telecommunication side, I want to give special mention to the Amateur Radio Services and the Entities - as providers of network infrastructures. Both these groups have special tasks in emergencies, and have done us proud in the Caribbean during many a crisis.

In the future, we should look forward to many multidisciplinary issues as the economics of disaster effects, multilateral solutions to the new global satellite systems and response to the needs of developing countries. In fact, we welcome the discussions from the ITU where recently the first World Telecommunications Policy Forum discussed these issues.

Mr. Chairman, it is pleasing to note, too, how the CTU has grown from an obscure, minuscule organization into one which commands the respect of all the international and regional and governments, and trust that we shall continue to grow and deliver the services which we are charged to perform. Because we are all Island States surrounded by huge marine resources, which influence our way of life, the CTU successfully piloted an initiative with Inmarsat to ensure safety provided at sea for our seaman, who exploit the sea for a livelihood.

Finally, Mr. Chairman, at the discussions here in port of Spain, this week, the CTU is collaborating in supporting the 1997 International Convention on Disaster Communication.

I thank you.

**First Regional Workshop on
Emergency Telecommunications
for the Central American and Caribbean Region**

Document OS-2

Port of Spain, Trinidad and Tobago,
4 to 9 November 1996

Trinidad Hilton and Conference Centre

5 November 1996

OPENING STATEMENT

by

**Mr. Jeremy Collymore,
CDERA Coordinator**

Salutations,

The Caribbean Disaster Emergency Response Agency (CDERA) is pleased to be involved in this Regional Workshop on Emergency Telecommunications, both as a participant and as a partner in its organization along with the United Nations Department of Humanitarian Affairs and the Caribbean Telecommunications Union (CTU). This is the third time a regional workshop of this nature is being held in the Caribbean - the previous ones having been organized by the Pan American Disaster Preparedness and Prevention Project (PCDPPP) in 1989 and CDERA in 1993. The current workshop is the largest to date however, in terms of the number of participants, the number of countries and organizations presented and the range of topics to be covered.

I wish to commend UN/DHA for taking the initiative to organize this workshop, particularly since it is the first major activity held by DHA in the english-speaking Caribbean since the department was created. I am aware that the intention to hold this workshop has been expressed nearly three years ago and would like to recognize the efforts of Mr. Hans Zimmermann and other members of the Inter-Agency Working Group on Emergency Telecommunications (WGET) in bringing the plans to fruition.

This is also the first time that DHA has collaborated so closely with regional interests in the Caribbean. I would hope that this is an indication of a greater involvement in the region in the future.

I also recognize the important role played by the CTU as a co-organizer in coordinating the participation of the telecommunications sector and in executing the local arrangements for hosting the workshop.

The agreement establishing CDERA explicitly identifies the establishment and maintenance of appropriate emergency communications systems among the agency's responsibilities. Given the importance of food communications to disaster management - particularly disaster preparedness and response activities, development of regional emergency telecommunications capability has always been accorded high priority on CDERA's work programme.

The emergency telecommunication activities undertaken by CDERA will be discussed during the course of the workshop, but the following gives an indication of the type of the nature and scope.

In 1993, CDERA executed a regional emergency telecommunications project which was funded by the Canadian International Development Agency (CIDA) and with technical input from the ITU. This project led to the publication of a number of documents to provide guidance to disaster management officials and others on matters such as emergency telecommunications procedures, developing national emergency telecommunications plans and managing emergency communications centres. It also included the hosting of a workshop which brought together the telecommunication officers and national disaster coordinators of participating states to discuss a number of relevant issues.

Over the years, CDERA has been able to secure from the ITU, a limited number of fellowships for persons from the region to attend selected training courses of the United States Telecommunications Training Institute (USTTI). The purpose of this is to develop skills in key technical areas which are of vital importance to emergency communications.

We have also collaborated with service providers, particularly INMARSAT which has provided significant support to us, in testing the suitability of satellite communications systems for disaster and emergency use.

In addition to executing specific activities, CDERA maintains an information and Communication Systems Advisory Committee, which is made up of a number of disaster management and communications professionals from the region. This Committee meets on a regular basis to review the agency's plans and activities. This ensures that the effect of any developments - for example changes in technology and government policies - which can materially affect the agency's plans are taken into consideration.

It has always been CDERA's policy to collaborate, wherever practical, with organizations who share similar interests and objectives to achieve common goals. While this policy has been applied in the execution of our telecommunications activities as in all other areas, we hope that the depth and breadth of representation at this workshop signals even greater scope for collaboration.

During the past two decades, the practice of disaster management as a professional discipline has changed significantly at the national, regional and international levels, there now much more emphasis on efficiency, cost effectiveness, inter-agency coordination and on

establishing clear links between disaster management and development. These changes have inevitably led to changes in the telecommunications requirements for disaster management, making it that much more important that the activities of all the relevant parties - disaster officials, telecommunications officials, the telecommunications industry and so forth - are kept in sync with each other.

I want to draw particular attention to the need for close collaboration between national disaster coordinators and their counterparts - the regulators - in developing sound policies and establishing arrangements for reliable emergency communications systems at the national level. These parties should as far as possible, have common positions on how best to use available resources such as those available through the commercial service providers or the amateur radio community.

At the regional level, we believe that this workshop creates the opportunity for more fruitful cooperation between the CTU and CDERA. There is considerable mutual benefit to be achieved from this and I invite the CTU to join us in seeking ways to harmonize our agendas in areas of common interest in order to make the most of the opportunities available to us.

The presence of several representatives of telecommunication service providers from within and outside the region is by no means insignificant. We depend on the industry to provide us with reliable services and to bring to us the benefits being derived from the rapid development of technology. Several firms have made and continue to make a deliberate effort to improve emergency communications capability. I take the high level of industry representation here to be a strong indication of commitment, and I look forward to hearing of plans and actions that will confirm that commitment.

I am also pleased that the amateur radio community is represented as we agree with the view that it is an under-utilized resource. The difficulty that often arises is in finding a structured way to involve "Hams" in disaster management activities especially at the regional level where thus far it has not been possible to identify a unified body through which to collaborate.

We have with us this week, representatives from several countries other than CDERA participating states, among them, our Latin American neighbours. I am sure that the exchange of views with you will be fruitful and may even open further avenues for cooperation between CDERA members and other countries in the region.

Finally, I would like to thank the national disaster organizations of CDERA participating states for making the effort to be represented here. I urge all participants to take full advantage of the forum created by this workshop and wish all successful workshop.

Thank you.

**First Regional Workshop on
Emergency Telecommunications
for the Central American and Caribbean Region**

Document OS-3

Port of Spain, Trinidad and Tobago,
4 to 9 November 1996

Trinidad Hilton and Conference Centre

5 November 1996

OPENING STATEMENT

by

**Mr. Mohamed Harbi,
Special Adviser to the ITU Secretary General,
International Telecommunications Union
Geneva, Switzerland.**

1996 for Emergency Telecommunications can be considered a strategic year for the following reasons:

1. the Draft 3 of the International Convention on Emergency Telecommunications has been finalized;
2. the subject of the Emergency Telecommunications has been dealt with in many forums (Telecom Rio, Worldaid'96, Abidjan, Port of Spain, and other) and is now highly visible;
3. the ITU Council in June 96 agreed that the ITU will play an active role in the future Convention.

This workshop at Port of Spain will be, in history of Emergency Telecommunications, one of the major steps towards the adoption of an International Convention. Why the Need for an International Convention?

International aid and relief is generally provided by specialized relief agencies, but their telecommunications needs are currently hampered by regulatory, licensing and other barriers. In many countries, the importation and the use of telecommunications equipment for disasters and emergencies is treated in the same way as importation and use of commercial equipment. Some of the problems include:

- regulatory, licensing and customs barriers which are costly, slow down the importation and operation of communications equipment, or make impossible effective use of available telecommunications equipment;
- lack of national telecommunications assistance plans and inventories of telecommunications resources, slowing down appropriate disaster and emergency response;
- organizational barriers which slow down exchange of relevant information.

The Convention on the Provision of Telecommunications Resources for Disaster Mitigation and Relief Operations is a framework to enable participating States to take all practical steps towards the rapid deployment and the effective use of terrestrial and satellite telecommunications systems and equipment in emergencies and disasters. Thursday morning in the 4th Plenary session, detailed information will be given on this subject.

Your Excellency, The Prime Minister, Excellencies, your participation this morning in this Opening Session is highly representative of the strategic interest of your Government to deal with the matter of Emergency Telecommunications in practical way.

Let us take seriously our responsibility and work together to meet next year, hopefully in Geneva, to adopt and sign the International Convention of Emergency Telecommunications.

I wish you every success for this workshop.

**First Regional Workshop on
Emergency Telecommunications
for the Central American and Caribbean Region**

Document OS-4

Port of Spain, Trinidad and Tobago,
4 to 9 November 1996

Trinidad Hilton and Conference Centre

5 November 1996

OPENING STATEMENT

by

**The Honourable Senator Brigadier Joseph Theodore,
Minister of National Security.**

Mr. Chairman, Honourable Prime Minister,
Representatives of the United Nations Department of Humanitarian Affairs,
The Caribbean Disaster Emergency Relief Agency,
The International Telecommunications Union, and the Caribbean Telecommunication Union,
Other Distinguished Participants,
Ladies and Gentlemen,

I am very pleased that you have invited me here this morning at the Opening of the "First Regional Workshop on Emergency Telecommunications for the Central American and Caribbean Region".

Allow me to extend a warm welcome to all the participants and representatives of Organizations from the Caribbean and Central American Region who are present here today.

This is an important Workshop in many respects. The very fact that it is taking place, is a recognition of the critical importance of telecommunication in disaster management.

Picture for example, the significant level of property damage, human suffering and even deaths, which are brought about by the passage of a hurricane, or the occurrence of a flood or earthquake in the Region.

In such situations, emergency services are expected to respond quickly to contain damage and save lives.

Underlying this expectation, however, is the assumption that there is some functioning telecommunication system in place to monitor the situation and disseminate information around the Region and elsewhere.

I am sure that you are all aware of the implications of there not being efficient telecommunications equipment and networks even at the stage when the disaster is merely at threat. Information needs to be shared among nations: whether it be the progress of a hurricane towards our shores or the state of an impending volcanic eruption.

Regional Seminars and Workshops represent excellent opportunities for promoting inter-governmental cooperation and coordination of activities across national borders.

I have no doubt that this Workshop will achieve its very laudable objectives of strengthening cooperation among States in the Caribbean and Central American Region and encouraging them to work towards devising a collective position in the area of Emergency Telecommunications and Disaster Management.

From a perusal of your Programme of Activities, it appears that all the parties needed to advance cooperation in the area of Emergency telecommunications are represented here.

I take this opportunity to commend the Secretariat of the Working Group on Emergency Telecommunications, the Caribbean Telecommunications Union, the Caribbean Disaster Emergency Response Agency, and the International Telecommunications Union for the foresight displayed in organizing this Workshop and I trust that your deliberations will be fruitful.

Thank you Ladies and Gentlemen.

**First Regional Workshop on
Emergency Telecommunications for the
Central American and Caribbean Region**

Document OS-5

Port of Spain, Trinidad and Tobago,
4 to 9 November 1996

Trinidad Hilton and Conference Centre

5 November 1996

OPENING STATEMENT

by

**Mr. Hans Zimmermann,
United Nations Department of Humanitarian Affairs
Geneva, Switzerland.**

Your Excellency the Prime Minister,
Excellencies,
Distinguished Representatives of International Organizations,
Ladies and Gentlemen,
Dear Friends,

On behalf of the United Nations Department of Humanitarian Affairs, I have the honour and the great pleasure to welcome you to the Opening Session of the Regional Workshop on Emergency Telecommunications for the Caribbean and Central American Region. Let me, first of all, express our sincere gratitude to the host country, the Republic of Trinidad and Tobago, and to our partners in the organization of this event, the Caribbean Telecommunication Union and the Caribbean Disaster Emergency Response Agency, for their hospitality and for their excellent preparatory work. Let me also extend my thanks to the main sponsor for the workshop, the Government of Switzerland, and to our commercial partners. But let me, most of all, say "thank you" to the people of the host country for the warm and generous welcome extended to us.

The subject of this Regional Conference is dominated by contrasts:

The natural beauty of the Region makes it, with good reasons, the number one dream destination for tourists from all over the world. Nature, however, which has blessed it so generously, is at the same time affecting it with disasters. I know, that there are people in this audience who have been dealing with the impact of floods and hurricanes only days ago.

The rapid development of telecommunication technologies provides the emergency managers with increasingly effective equipment and networks. These tools for disaster mitigation and relief are, however, all too often not only beyond the means of those who need them most, but much of what we begin to take for granted is far more vulnerable than we generally acknowledge.

The regulatory environment of today's telecommunications is characterized by key workds such as de-regulation, global access and global roaming. Regulatory barriers remain, at the same time, a major obstacle when it comes to communication in the service of international humanitarian assistance.

These key issues will stand in the center of this workshop. We shall have a unique opportunity for multiple learning processes: Emergency Managers will define their requirements and will share their experiences; Telecommunication Managers will tell us about the possibilities, but also the limitations of their systems; Legal Eexperts will advise us on still existing restrictions, but also on ways to improve trans-border cooperation, and, last but not least, Commercial Partners will help us to better understand the possibilities offered by the new technologies and will provide us with a view towards the future.

One aspect, however, is not dominated by contrast: nothing else than a strong determination to cooperate in the service of humanitarian work could bring together people from virtually all the States and Territories of such a large Region. On the list of participants, I count 30 nationalities, and experts from as far away as Europe and Australia bring this number to 36. These numbers would not mean much, were it not for the very high professional level of the participants, which demonstrates the importance given to the subject and to the workshop. Nothing could demonstrate this better, than the presence in this Opening Session of the most distinguished speakers, whom I now have the great honour to introduce.

**First Regional Workshop on
Emergency Telecommunications for the
Central American and Caribbean Region**

ANNEX 1

Port of Spain, Trinidad and Tobago,
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Trinidad Hilton and Conference Centre

4 November 1996

**FURTHER POLICY CONSIDERATIONS ON
EMERGENCY TELECOMMUNICATIONS**
Discussions Points
by the CTU Secretariat

1. Infrastructure Impact

The Caribbean archipelago rests in a cliff hanging environment of hurricanes and earthquakes.

In recent years, there has been massive damage to the countries through natural hazards. Impacts on the public infrastructure are severe, require huge sums for critical reinvestment, and impact on the carrying-capacity of the national system to weather the crisis - human and financial.

Recent management agencies to do disaster planning at national and regional levels have been combining, with support from the emergency areas of telecommunications.

2. The resource dynamic

At national and regional levels, the use of cooperative mechanisms have driven the process:

- i) A regional response management outfit (CDERA) - the Caribbean Disaster Emergency Response Agency.
- ii) The use of active social communications resources - amateur radio services, through the development (incomplete) of a protocol, can offer services. We note, in the Americas Region, the acceptance since 1995 of the Lima Convention for Ham Operators and the training programmes developed by the IARU. We need more of this type of training in the Americas.
- iii) the global dynamic through the work of WGET - the international group which is building-up a practical mechanism from Tampere, to Buenos Aires, to Kyoto into a proposed Convention.

It is a welcome line of support between the local and multilateral process.

3. The Universal Access Issue

- (a) Technology and Systems: we note the beginnings of WARC 'MOB' 87 and its concern for the global land and maritime distress signal system, the pioneering mobile satellite services development of Inmarsat and the 1994 WTDC Resolution.

There is clearly a contribution of technology applications in the multilateral system of the ITU proposed for consideration of wider humanitarian need.

Even as we search for appropriate regulatory frameworks for transborder movement of equipment for emergency telecommunications, we note that the core issue is universal access of humanity to systems (infrastructure and services), which are required in times of emergency.

- (b) We may extend this right to emergency telecommunications - by refocussing the approaches of telemedicine (in times of disaster) and all types of IT (Information Technology) which can support disaster reduction.

4. Development Conference Agenda Issue

We view that some developing countries have had some experience with Inmarsat terminals in emergency access, and have some exposure to mobile satellite services.

On ongoing agenda item will relate to the transborder use of mobile earth stations and terminals in times of emergency by (global) intergovernmental operators or global private operators - What Regulatory practice can be proposed? What kind of cost-effective cooperation can be developed?

5. Links with the GMPCS

The Tampere Declaration envisages the maximisation of communication networks (including equipment and services) for transborder use.

We note that apparent parallel between the growth in cellular mobile services and GMPCS - where the issue of regulatory regimes and cost of service are likely to emerge.

We also note that further technical issues will arise - e.g. problems of standards and protocols, traffic competition and use of the PSTN, conflict with Spectrum needs of terrestrial services, customs duties on mobile earth stations (whither the GATS?).

Therefore, we support the proposal for the ITU Policy Forum suggesting additional voluntary principles to guide national regulators and GMPCS operators, in the light of the concerns of developing countries (regional approaches, model agreements).