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DEPARTMENT OF TRANSPORTATION
UNITED STATES COAST GUARD

MAILING ADDRESS:
U.S. COAST GUARD (G-OSR-4)
WASHINGTON, D.C. 20580
PHONE 202-426-1933

Jan 21, 1980

5600

Defense Technical Information Center
Cameron Station
Alexandria, VA 22314

Attn: DTIC/DDA

The following report is submitted for inclusion on your listing. Distribution on both sections is unlimited.

~~Emergency Response Communications Program~~

6 Federal and State Responses to the Emergency Response Communications Program. Draft Report, March 1979

Both sections of the report were completed by an ad hoc working group of the Interagency Committee on Search and Rescue (ICSAR).

D. H. Luzius

D. H. LUZIUS
By direction

11 Jan 79

file (12) 971
New 411 581



Interagency Committee on Search and Rescue
Rescue, Washington DC

FOREWORD

This booklet contains the responses that have been received prior to June 25 on the Emergency Response Communications Program Draft Report, March 1979. A brief summary of these responses has been prepared; Table I contains responses from the states and Table II contains responses from Federal agencies. While all comments have been addressed in the Final Report, some of the more pervasive comments require direct answers.

The subject of cost, cost-benefits, and funding was raised in many responses. Definitive answers to these comments require more detailed studies at both the Federal level and by the potential users themselves. These studies are a necessary part of the future program development.

Compatibility with existing systems and limited system usage concerned a number of potential users. As defined in the report, ERCS will be designed to satisfy a variety of user communications requirements. Thus, the system usage will be defined by each user group as an entity. Compatibility is achieved by interconnection with existing systems at tie points within the user's communications network.

A number of states indicated concern about the Federal/state relationship. It is intended that each user will purchase sufficient system capacity to meet his need from a central procurement agency. The authority of the Federal government to use this capacity in an emergency is defined in the Plan for Communications Support in Emergencies and Major Disasters, April 1977.

The Draft Report was sent to each state and territorial governor for review and comment. The report was also sent to a number of Congressmen, Federal agencies, and other organizations as shown in the mailing list.

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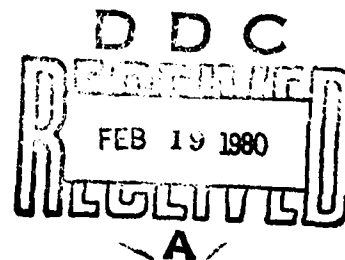


TABLE I
COMMENTS FROM STATES

STATE	COMMENT ON SYSTEM CONCEPT	PROBLEMS TO BE RESOLVED	COMMUNICATION SYSTEM IMPROVEMENT ACTIVITY
Alabama	Useful for EMS, backup and law enforcement	--	EMS experiment using ATS-3
Connecticut	Endorses concept	Cost; availability of Federal support; field coordination	--
Florida	--	Cost-effectiveness	Developing interstate coordination procedures
Hawaii	Solution to communication problems	Concerned about loss of DCPA proposal effort	--
Illinois	--	System management; use of 4-6 GHz?	--
Iowa	Could alleviate problems due to flood/tornado damage	--	--
Kansas	Meets requirements	Limited use (standby); addition to present systems; funding approach	--
Massachusetts	Endorses concept	--	Presented requirements based on current operational concepts
Minnesota	Endorses concept	System costs; time frame, Federal restrictions	--
Nevada	Vitaly interested; provides coverage in difficult areas due to topology	Operational time frame	Constructing microwave system
New York	In review	Followup on DCPA plans	--
Oregon	Covers major requirements	Compatibility with exist-systems; cost	--
Rhode Island	Meets requirements	--	--
Texas	All pertinent baseline information covered	Funding; system approach	Used ARRS during Wichita disaster
Virginia	Comprehensive report	Specific interfaces; spectrum usage, funding	Upgrade of state police VHF-FM system
Washington	Meets baseline requirements	Limited usage; cost	--
West Virginia	Need demonstrated; concept accomplishes goal	System reliability; time frame, cost	--
Puerto Rico	Positive, needed line of action	--	--
Pennsylvania	Program in concert with ongoing state planning	Available funding	Statewide planning, interested in experimental system using ATS
New Mexico	Potential to enhance existing state radio network capabilities	Cost, alternative systems, state-Federal user relationship	Existing systems being improved.

TABLE II
COMMENTS FROM FEDERAL AGENCIES

AGENCY	COMMENT
Department of Agriculture	Interested in concept; applicable to National Forest System Land responsibilities
Department of Commerce	Under review
Department of Defense	Policy issue; Federal/state prerogatives; program scope; recommends additional review and evaluation
Department of Health, Education and Welfare	All pertinent requirements adequately covered
Department of Transportation Federal Aviation Administration	Concept has considerable validity and merit; Recommends expanded activity to establish definitive needs for program
U.S. Coast Guard	Good start; provided definitive comments on report; report deficient in system cost-benefits analysis; recommends report be sent to NCS, FEMA, and NTIA, and other agencies as appropriate for further action
Highway Traffic Safety Administration	Recommended text change for clarification
Department of Energy	Proposed system needed; recent expansion of terrestrial system meets all planned needs
Department of Housing and Urban Development	Under review
Department of Interior	No baseline requirements available; program is attractive; system must be cost effective; recommended text changes
Federal Communications Commission	Supports program, sees no direct FCC requirement; suggests that spectrum allocation be predicated on funding assurance
Government Services Administration	Agrees with conclusion and endorses concept; recognizes additional studies are required; suggests delay until FEMA is ready
National Aeronautics and Space Administration	Considers requirements too general; specific system description premature; need for economic/marketing studies identified
U.S. Postal Service	Comprehensive report; the Postal Service has requirements in catastrophic emergencies
Defense Civil Preparedness Agency	Substantiates need for this type of system; report deficient in cost-benefit analysis; management plan questioned; recommended text changes
National Research Council	No requirements; provided four additional comments on report as follows: Vague cost benefits; alternative concepts study required Cost impact on users of an auxiliary system Needs additional analysis Laudable aim; report useful in developing general concept; financial, political and social program constraints; editorial review required

TABLE III
FEDERAL MAILING LIST

The Honorable Juanita M. Kreps
The Secretary of Commerce
Department of Commerce
Washington,

The Honorable Richard E. Wiley
Chairman
Federal Communications Commission
Washington, D.C. 20554

The Honorable Juanita M. Kreps
The Secretary of Commerce
Department of Commerce
Washington, D.C. 20230

Dr. Frank Press
Director
Office of Science and
Technology Policy (OSTP)
Washington, D.C. 20500

Dr. Robert A. Frosch
Administrator
National Aeronautics and
Space Administration (NASA)
Washington, D.C. 20546

Executive Agent
National Communication System
Attn: Mr. David Solomon
Rm 3E160
The Pentagon, Washington, D.C. 20301

The Honorable Cecil D. Andrus
The Secretary of the Interior
Department of the Interior
Washington, D.C. 20240

Director
Defense Civil Preparedness Agency
Attn: Mr. Bardyl Triana
Rm 3E346
The Pentagon, Washington, D.C. 20301

The Honorable Bob Bergland
The Secretary of Agriculture
Department of Agriculture
Washington, D.C. 20250

The Honorable Brock Adams
The Secretary of Transportation
The Department of Transportation
Washington, D.C. 20590

TABLE III (Cont'd)

The Honorable Ray Marshall
The Secretary of Labor
The Department of Labor
Washington, D.C. 20210

The Honorable Cyrus R. Vance
The Secretary of State
The Department of State
Washington, D.C. 20520

Dr. Phillip Handler
President
National Academy of Sciences
Constitution and 21st St., N.W.
Washington, D.C. 20418

Hilary Whittacher
Director of Emergency
Preparedness Projects
National Governors Association
Hall of State, Washington, D.C. 20001

Mr. Jim Gehrig
Senate Committee on Commerce,
Science and Transportation
5202 Dirksen Senate Office Bld.
Washington, D.C. 20510

Mr. Darrell Branscome
Subcommittee on Space Science
and Applications
Rm 2321
Rayburn House Office Building
Washington, D.C. 20515

Mr. Dennis Kelley
Box 153
Montrose, California 91020

The Honorable Thomas P. Dunne
Administrator
Federal Disaster Assistance Administration
Washington, D.C. 20036

111-1875 St. No.

TABLE III (Cont'd)

The Honorable W. Michael Blumenthal
The Secretary of The Treasury
Department of The Treasury
Washington, D.C. 20220

The Honorable Harold Brown
Secretary of Defense
Department of Defense
The Pentagon, Washington, D.C. 20301

The Honorable James R. Schlesinger
The Secretary of Energy
The Department of Energy
Washington, D.C. 20545

The Honorable Joseph A. Califano, Jr.
The Secretary of Health,
Education and Welfare (HEW)
The Department of Health,
Education and Welfare
Washington, D.C.

The Honorable Joel W. Solomon
Administrator
The General Services Administration
Washington, D.C. 20405

The Honorable Joseph A. Califano, Jr.
The Secretary of Health,
Education and Welfare
The Department of Health,
Education and Welfare (HEW)
Washington, D.C. 20201

The Honorable M. A. Wright
Chairman, Board of Governors
The U.S. Postal Service (USPS)
Washington, D.C. 20260

The Honorable Patricia B. Harris
The Secretary of Housing
and Urban Development (HUD)
Department of Housing
and Urban Development
Washington, D.C. 20410

The Honorable Langhorne McCook Bond
Administrator
Federal Aviation Administration (FAA)
Washington, D.C. 20591

The Honorable Griffin B. Bell
Attorney General of the United States
The Department of Justice
Washington, D.C. 20530

TABLE III (Cont'd)

Mr. Al Kimball
2463 Rayburn House Office Bldg.
Washington, D.C. 20515

per request of John Swain

Mr. Louis Krauthoff
1537 Longworth House Office Bldg.
Washington, D.C. 20515

Mr. Donald Kavanaugh
Project Director
Associated Public Safety
Communications Officers, Inc.
P.O. Box 669
New Smyrna Beach, Fla. 32069

Mr. Frank Adams
NASAR
c/o RCA Alascom
1901 North Moore Street
Arlington, VA 22209

Mr. J. Friebaum
NASA Headquarters, Rm 227
700 Independence Avenue
Washington, D.C. 20546

The Honorable Don Young
U.S. House of Representatives
1210 Longworth Building
Washington, D.C.

Major Hufnagel, USAF
SAFALG
Rm 4D865
The Pentagon, Washington, D.C. 20301

Dr. F. Koblwi
MITRE Corporation
1820 Dolley Madison Blvd.
McLean, VA 22102

TABLE III (Cont'd)

The Honorable Richard L. Ottinger
U.S. House of Representatives
240 Cannon Building
Washington, D.C. 20515

The Honorable Cyril E. King (I)
Governor of the Virgin Islands
Government House
Charlotte Amalie, St. Thomas
Virgin Islands, 00801

The Honorable Carlos Romero Barcelo (NPP)
Governor of Puerto Rico
La Fortaleza
San Juan, Puerto Rico 00902

The Honorable Lester L. Wolff
U.S. House of Representatives
2463 Rayburn Building
Washington, D.C. 20515

The Honorable Don Fuqua
U.S. House of Representatives
2266 Rayburn Building
Washington, D.C. 20515

The Honorable Lionel Van Deerlin
U.S. House of Representatives
2408 Rayburn Building
Washington, D.C. 20515



STATE
OF
ALABAMA

FOB JAMES
GOVERNOR
BOBBY A. DAVIS
DIRECTOR

OFFICE OF STATE PLANNING
AND FEDERAL PROGRAMS

3734 ATLANTA HIGHWAY
MONTGOMERY, ALABAMA 36130
(205) 832-6963/6964

April 4, 1979

Rear Adm. N. C. Venzke
Chairman
Interagency Committee on Search
and Rescue
U. S. Coast Guard
Washington, D.C. 20590

RE: Emergency Response Communications
Program

Dear Adm. Venzke:

Your letter to Governor James was sent to me for response.

We are very much interested in the Satellite Communications Program that is presented in your draft report, "Emergency Response Communications Program". Our principal interest in satellite communications is for emergency medical services in rural areas as well as backup communications in case of national or other disasters. We are also interested in this type communications for law enforcement.

Alabama, as you may know, is now involved with an on-going operational experiment with ATS-3 with the University of Southern Mississippi and the Acadian Ambulance Service in Lafayette, La. This involves EMS type communications with the transmission of telemetry by way of satellite in Jackson County, Al., Huntsville, Al., Hattisburg, Miss., and Lafayette, La. We feel the need for this type communications system and trust that this test will prove that satellite communications is the most economical available.

If we may be of further assistance, please do not hesitate to contact us.

Sincerely,

Ned N. Butler, Director
Office of Telecommunications

NNB:bb

cc: Gov. Fob James



STATE OF CONNECTICUT

DEPARTMENT OF PUBLIC SAFETY
OFFICE OF CIVIL PREPAREDNESS

April 19, 1979

Rear Admiral N. C. Venzke
Dept. of Transportation (G-OSR-4)
U. S. Coast Guard
Washington, D. C. 20590

Dear Admiral Venzke:


We have read and studied your draft report on the "Emergency Response Communications Program". We heartily endorse the objectives and solutions offered. It has been our contention for some time that communications can either cause emergency operations to solve problems and meet needs or the lack of it can create fear and panic. Our plan is to lend support to this program through FEMA.

In reviewing the report we note that Nuclear Facility accidents would be a suitable addition to table 1.1.

The cost and available federal support will be important to the states and will have an effect on our total participation. A factor to be worked out with FEMA will be the field coordination of the system. Will equipment be designated by region with additional equipment for each state dependent on it's needs and available funds?

We thank you for your work on the report and concur in all it's considerations.

Yours truly,


Frank Mancuso
State Director

FM/ad

cc: State Director
Governor Grasso
Tom Holcomb
K. Lappe
A. Hekking
CF

Phone: 566-4338

360 Broad Street — Hartford, Connecticut 06115

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STATE OF FLORIDA

DEPARTMENT OF

GENERAL SERVICES

Larson Building, Tallahassee 32301

Thomas R. Brown, Executive Director



DIVISIONS

- ADMINISTRATION
- BOND FINANCE
- BUILDING CONSTRUCTION AND PROPERTY MANAGEMENT
- COMMUNICATIONS
- ELECTRONIC DATA PROCESSING
- MOTOR POOL
- PURCHASING
- SECURITY
- SURPLUS PROPERTY

Please address reply to

Room 651, Larson Building
Division of Communications

April 10, 1979

Mr. N. C. Venzke
Rear Admiral, U. S. Coast Guard
Chairman, Interagency Committee
on Search and Rescue
Coast Guard Headquarters
Washington D. C. 20590

Dear Admiral Venzke:

The draft report entitled "Emergency Response Communications Program" sent to Governor Graham with your cover letter of March 15, 1979 has been referred to this Division.

Our comments have been previously presented at the State's review meeting in Raleigh, North Carolina on October 25, 1978. We appreciate this opportunity and thank you for your consideration in this matter.

If we may be of any service, please do not hesitate to contact me.

Sincerely,

Donald R. Allen, Director
Division of Communications

DRA/pyb/al

cc: Mr. Ronald Villella

Bob Graham
Governor

Jim Smith
Attorney General

George Frestone
Secretary of State

Gerard A. Lewis
Comptroller

B. G. ...
State Treasurer

David ...
Director of Health Services

Ralph ...
Commissioner of Education



EXECUTIVE CHAMBERS
STATE CAPITOL
HONOLULU, HAWAII 96813

EXECUTIVE CHAMBERS
HONOLULU

GEORGE R. ARIYOSHI
GOVERNOR

April 10, 1979

Rear Admiral N. C. Venzke, Chairman
Interagency Committee on Search and Rescue
U. S. Coast Guard
Department of Transportation
Washington, D. C. 20590

Dear Admiral Venzke:

Thank you for sending me the draft report, Emergency Response Communications Program. It is evident that the cooperative effort has resulted in an excellent study.

Hawaii is the only state in the Union that is completely surrounded by water. Communication is further hampered by rugged terrain ranging up to 13,796 feet above sea level, no inter-island telephone cables, very little redundancy in inter-island radiocommunication circuits and severe and unusual natural disasters. These factors contribute to making our direction and control communications some of the most difficult in the Nation.

I was very disappointed when I learned that the Defense Civil Preparedness Agency satellite proposal failed to materialize. If there is any other information we may provide, do not hesitate to ask.

With warm personal regards, I remain,

Yours very truly,


George R. Ariyoshi



STATE OF ILLINOIS
OFFICE OF THE GOVERNOR
SPRINGFIELD, 62706

JAMES R. THOMPSON
GOVERNOR

May 11, 1979

Rear Admiral N. C. Venzke
U. S. Coast Guard
Chairman, Interagency Committee
on Search and Rescue
Washington, D. C. 20590

Dear Admiral Venzke:

The Illinois Emergency Services and Disaster Agency has completed an in depth evaluation of the March, 1979¹, Draft Report on Emergency Response Communications Program prepared by Interagency Committee for Search and Rescue.

The proposed utilization of existing 4-6 GHz (C-band) Emergency Response Communications System (ERCS) satellite with attendant frequency congestion, clearance problems, associated complexity, excessive size and costs of compatible equipment leads to loss of control protocol and prioritization.

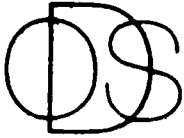
This draft digest portrays a costly burden on protective actions prior to their occurrence. An assessment of the potential user's willingness to pay for an emergency response communications satellite is void at this time.

Pre-existing protocols, lines of authority and working relationships within and between the many users must be addressed prior to implementation of operational hardware.

Sincerely,

James R. Thompson
GOVERNOR

JRT:mf



DEPARTMENT OF PUBLIC DEFENSE
OFFICE OF DISASTER SERVICES

STATE OF IOWA
LUCAS STATE OFFICE BUILDING
ROOM B-33
DES MOINES, IOWA 50319
PHONE: (515) 281-3231

ROBERT D RAY
GOVERNOR
BG JUNIOR H BURKHEAD
EXECUTIVE DIRECTOR
DONALD C HINMAN
DIRECTOR

August 17, 1978

Mr. Donald H. Luzius
Coast Guard Headquarters
(E-OSR-4173)
Washington, D.C. 20590

Dear Mr. Luzius:

The data requested by Major Huffnagel concerning property and casualty damages in Iowa caused by floods and tornadoes is enclosed.

For the Director, Office of Disaster Services

Henry J. Boccella
Emergency Planner

cc: Major Raymond I. Huffnagel USAF ✓

HJB/fh
Enclosure

TORNADO AND FLOOD DATA
1973 - 1978

<u>YEAR</u>	<u># -</u>	<u>CASUALTIES</u>	<u>INJURIES</u>	<u>PROPERTY DAMAGE</u>
<u>1973</u>	26	2	21	\$1.8 million
Includes:				
	Newton, June 4	0	0	\$100,000
	Moville, June 18	2	15	\$250,000
<u>1974</u>	25	3	117	\$29.5 million
Includes:				
	Ankeny, June 18	2	50	\$20.0 million
	Ryan, August 12	0	12	\$ 1.5 million
<u>1975</u>	24	0	0	\$500,000
(Mostly rural. Two systems during the summer did produce heavy rainfall which resulted in flooding. One person was killed and total damage figures amounted to \$2.0 million.)				
<u>1976</u>	18	0	17	\$8.6 million
Includes:				
	Jordan, June 13	0	9	\$3.2 million
	Minden, June 26	0	6	\$1.3 million
<u>1977</u>	32	0	23	\$8.1 million
Includes:				
	Fort Dodge, May 4	0	18	\$5.7 million
	Fort Madison, May 4 (flood)	0	0	\$971,000
<u>1978</u>	13	0	0	\$200,000
Includes:				
	Rock Rapids, July 6	0	0	approximately \$50,000

SUMMARY: The tornadoes specified in the above table did knock out communications, but communications relay was established with troopers without an hour of each incident. Loss of communications has not occurred in flooding situations.

STATE OF KANSAS



OFFICE OF THE GOVERNOR

State Capitol
Topeka 66612

John Carlin Governor

April 12, 1979

Rear Admiral Norman C. Venske
Chief, Office of Operations
U. S. Coast Guard
Washington, D. C. 20590

Dear Admiral Venske:

Thank you for the opportunity to review the proposed Emergency Response Communication Program. It appears that it meets the requirements that Kansas may have under situations that are envisioned.

We would be very hesitant in committing ourselves to such a program at this time, however. This hesitancy is based on the intended limited use and method of funding. The program as stated is for a single standby purpose and not day to day use in communicating. Therefore, this system is not a substitute for what we have, but is in addition to our present systems. From this stand point the costs anticipated from the described method of funding could be prohibitive, particularly at the State and local level, when coupled with day to day communication expenditures.

Sincerely,

A handwritten signature in cursive script that reads "John Carlin".

JOHN CARLIN
Governor

JC:cd



GEORGE A. LUCIANO
Secretary

The Commonwealth of Massachusetts

Executive Office of Public Safety

One Ashburton Place

Boston, Massachusetts 02108

April 23, 1979

Rear Admiral Norman C. Venzke
United States Coast Guard
Chairman, Interagency Committee on
Search and Rescue
Office of Operations
Commandant (G-O.S.R.)
Washington, DC 20591

Dear Admiral Venzke:

Governor Edward J. King has requested that I respond to your letter of March 15, 1979, regarding the Emergency Response Communication Program (ERCP). He also requested that I pass on his appreciation for your efforts on this program.

There are two staff agencies of the Commonwealth of Massachusetts with special interest in ERCP. They are the Massachusetts Civil Defense Agency and the Office of Telecommunications, Central Services Division, Executive Office for Administration and Finance.

We concur in the draft study and present the following requirements: For Civil Defense purposes, a base station for the Emergency Operating Center (EOC), two mobile units for allocation to public emergencies and a minimum of six portable units.

For the Commonwealth of Massachusetts, management responsibility is assigned to the Massachusetts Civil Defense Agency, which will work closely with our Office of Telecommunications as ERCP planning proceeds.

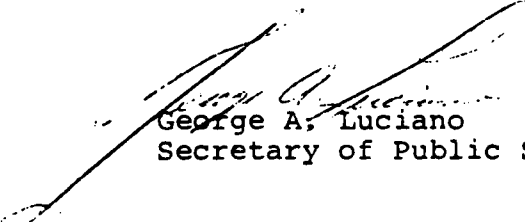
Rear Admiral Norman C. Venzke
April 23, 1979
Page Two

We look forward to future developments in this important program. Please address all future communications on the subject to:

Executive Office of Public Safety
John W. McCormack State Office Building
Room 2133
One Ashburton Place
Boston, Massachusetts 02108

Attention: George H. Tully,
Assistant Secretary

Sincerely yours,



George A. Luciano
Secretary of Public Safety

GAL/mrw

STATE OF MINNESOTA
OFFICE OF THE GOVERNOR

ST. PAUL, MINN.

May 7, 1979

Rear Admiral N. C. Venzke
United States Coast Guard
Department of Transportation
Washington, D.C. 20590

Dear Admiral Venzke:


Thank you for forwarding to me a copy of the draft report entitled "Emergency Response Communications Program." That draft has been circulated to a number of Minnesota State agencies, and their comments and questions are noted as follows:

1. The installation and utilization of a large mega-channel communications satellite would be invaluable in solving many of the past problems associated with emergency communications. Having the user communities (states) develop their own systems for channel usage, priorities, etc., would enable Minnesota to adapt this system to our own particular needs. Interfacing our existing communication resources (both radio and landline) with the satellite system would be very important--not only to the State, but also to its political subdivisions.
2. During the discussions concerning this satellite system, a number of questions arose which are probably unanswerable at this time but should nevertheless be raised. These questions relate to costs of the system and the associated ground equipment, time frame for system installation, maintenance of the ground equipment, any equipment furnished by Federal Agencies (FEMA) for use by the states, and possible Federal restrictions on system utilization. If possible, we would like to receive six additional copies of the attached "Draft Report" for further study by the involved State agencies.

Rear Admiral N. C. Venzke
May 7, 1979
Page Two

I hope that these comments will be of some assistance to you and that you will be able to provide the State with six additional copies of the "Draft Report."

Sincerely,


ALBERT H. QUIE
Governor

AHQ:ccm

24 APR 1979 OJK —
4 —



The State of Nevada
Executive Chamber

Robert List
Governor

Capitol Complex
Carson City, Nevada 89710

April 18, 1979

N. C. Venzke
Rear Admiral
Chairman, Interagency Committee
on Search and Rescue
U. S. Coast Guard
Washington, D.C. 20590

Dear Admiral Venzke:

Thank you for providing me a copy of your draft proposal for the Emergency Response Communications Program.

Please be advised that the State of Nevada is vitally interested in any program which would improve our emergency response capability. It appears that the satellite program might provide this enhancement and serve as an effective countermeasure to the line-of-sight problems associated with our topography.

You are probably aware that my office conducted a review of a similar project last December at the request of the Defense Civil Preparedness Agency. Although the DCPA project is now inactive, I believe our response to that project applies equally to the ERCP. Nevada is receptive to ERCP and would probably participate, contingent upon equipment costs and availability of funds. A factor which must be considered, however, is the time which would be required for this system to become operational. We are presently constructing a microwave system around the State which will improve our communications capability considerably, and which, for the most part, will be independent of commercial power.

Your courtesy in providing us the opportunity to review your proposal is appreciated. Should you or members of your command have any further questions regarding Nevada's participation, please do not hesitate to write again.

Sincerely,

ROBERT LIST
Governor



MIKE O'CALLAGHAN
Governor

STATE OF NEVADA MILITARY DEPARTMENT
CIVIL DEFENSE AND DISASTER AGENCY

Capitol Complex
2525 South Carson Street
Carson City, Nevada 89710



FLOYD L. EDSALL
The Adjutant General
ROBERT J. GREGORY
Director

October 4, 1978

Mr. Raymond J. Hufnagel
Chairman, Interagency Committee
on Search and Rescue
Office of the Assistant Secretary
Department of the Air Force
Washington, D. C. 20330

Dear Mr. Hufnagel:

Reference your memorandum of August 28, 1978, regarding requirements for presentation at the annual convention of the National Association on Search and Rescue.

The State of Nevada is presently installing a Statewide "Emergency Locator Transmitter Monitor Network". It is possible that the members of your Committee and the National Association may be interested in this system.

The system is expected to provide us a five- to eight-minute warning of an aircraft crash, when the ELT operates, in approximately 80% of the State's area, instead of the current five hours to ten days. When this system is operational, we are hoping to drastically reduce the time required to find lost aircraft and recover any survivors.

We will be unable to attend the convention. Therefore, we are attaching a brief description of the system, for your use as you may desire.

Thank you for your cooperation.

Very truly yours,


Robert J. Gregory
Director

RJG:nf



MIKE O'CALLAGHAN
Governor

STATE OF NEVADA MILITARY DEPARTMENT
CIVIL DEFENSE AND DISASTER AGENCY

Capital Complex
2525 South Carson Street
Carson City, Nevada 89710



FLOYD L. EDSALL
The Adjutant General
ROBERT J. GREGORY
Director

STATE OF NEVADA
EMERGENCY LOCATOR TRANSMITTER MONITOR PROGRAM

- I. PROGRAM DESCRIPTION - The State of Nevada Emergency Locator Transmitter (ELT) Monitor Program consists of placing very sensitive VHF Receivers on existing State of Nevada Microwave Sites. Most of these sites are at high altitudes from 7,000 to 10,000 feet and provide a very large area of coverage. Future plans are to expand the system on the State of Nevada Radio Repeater systems to expand the system coverage. The attached map shows the existing program and future expansion.

- II. TECHNICAL DESCRIPTION -
 - A. System - The VHF receivers used will be capable of detecting the audio signal from an ELT transmitter having a signal strength at the receiver location of less than 1.0 Microvolts. The Receiver will delay the alarm indication for approximately eight minutes and will then close a relay contact if the ELT signal is still present. This relay contact will be connected to the existing Microwave Alarm System. This Alarm System is scanned from a central point in Carson City approximately every 15 seconds. Any alarm received will be detected and appear on a display panel for that location. A 24 hour dispatch will then take appropriate action. The system does not present directional information as the value of this data would be very low due to the VHF bounce and if the location of reception of an ELT signal was known, a qualified search pilot should be able to find the source within thirty minutes. The main value of directional information would be in locating false ELT signals.

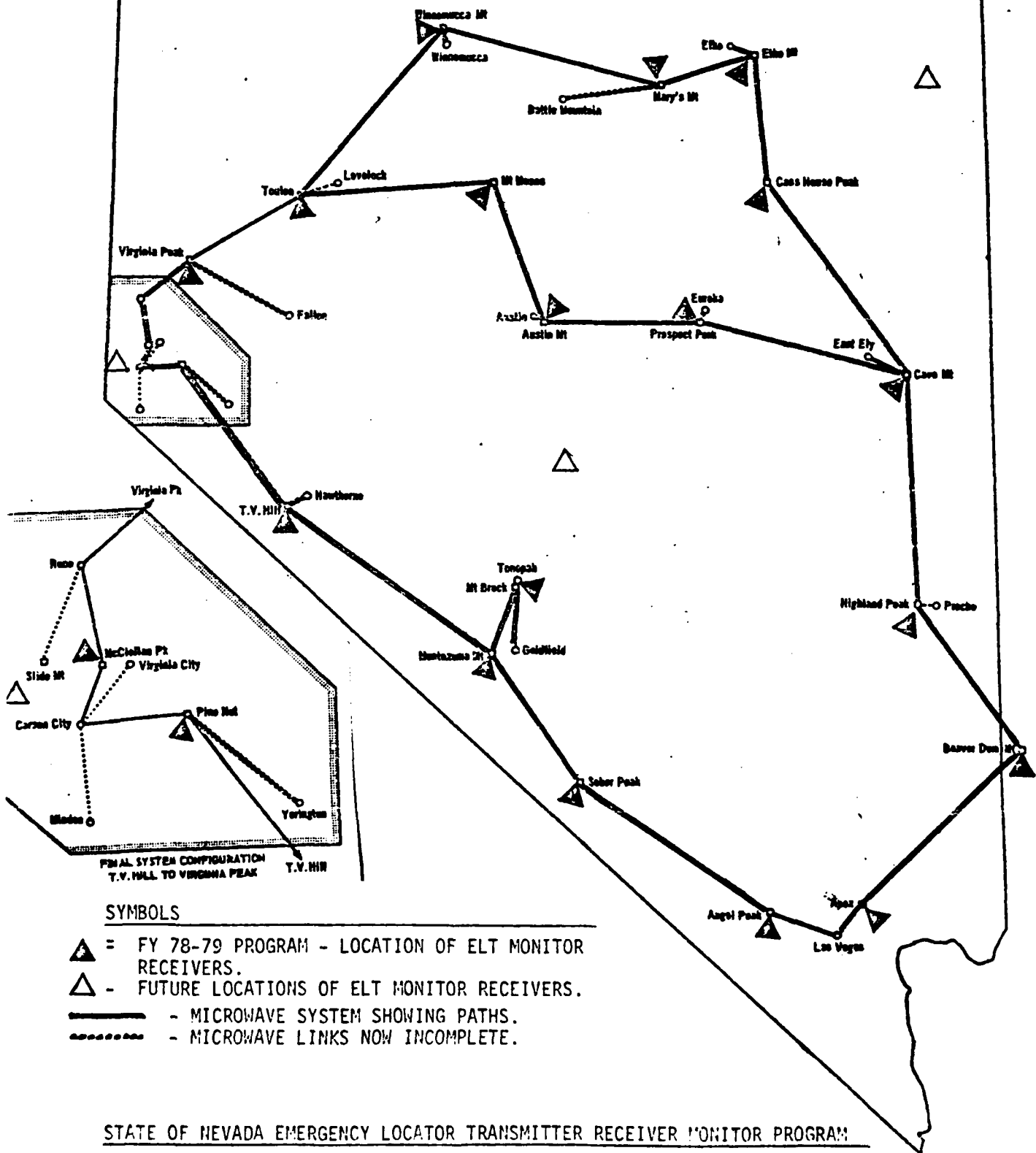
- III. EQUIPMENT - Equipment for this system will be purchased from commercial vendors. One vendor that will provide the receivers is "L-Tronics Inc., Santa Barbara, Calif." The vertical ground plane antennas used are available from both "Phelps Dodge" and "The Antenna Specialists Co.". The main requirements for these antennas are for ruggedized construction to take the icing and winds encountered on mountain top sites and a high angles of vertical reception along with omni-directional pattern.

- IV. TECHNICAL INFORMATION - Technical information concerning this system and experience gained can be from:





James F. Carpenter
Communication Officer
State of Nevada
Civil Defense and Disaster Agency
State Capitol
Carson City, Nevada 89701



STATE OF NEVADA ELT MONITOR PROGRAM



SYMBOLS

-  = FY 78-79 PROGRAM - LOCATION OF ELT MONITOR RECEIVERS.
-  - FUTURE LOCATIONS OF ELT MONITOR RECEIVERS.
-  - MICROWAVE SYSTEM SHOWING PATHS.
-  - MICROWAVE LINKS NOW INCOMPLETE.

STATE OF NEVADA EMERGENCY LOCATOR TRANSMITTER RECEIVER MONITOR PROGRAM



STATE OF NEW MEXICO

OFFICE OF THE GOVERNOR

SANTA FE

87503

BRUCE KING
GOVERNOR

June 8, 1979

Rear Admiral N. C. Venske
C/) Commandad
(G-0/73)
U.S. Coast Guard
Washington, DC 20590

Dear Admiral Venske:

Thank you for furnishing the March 1979 Draft Report on the proposed Emergency Response Communications Program. The report has been received and commented upon by appropriate agency staff members as follows.

It is felt the proposed system has the potential to enhance our existing State radio network capabilities. From our perspective, system enhancements would be:

1. Wide area coverage would be improved.
2. Direct links to isolated and uncovered areas would be possible.
3. A functioning back-up system would be promptly available when State systems are overloaded or unusable.
4. Contact and coordination with supporting federal agencies and private groups would be improved.
5. Capabilities of our existing State systems could be improved if frequencies used/selected are compatible with those the State are authorized to use.

Our review also identified some areas of concern which are conveyed to you as follows:

1. Initial operating and maintenance costs cannot be determined which preclude an analysis for cost effectiveness and determinations for participation at this time.

Rear Admiral N. C. Venske
June 8, 1979
Page Two

2. The concept of regional control and operation is probably viable, but serious emergency occurrences in other states will probably at least reduce system availability to New Mexico as our emergency occurrences may possibly receive a lower priority rating.
3. Other equipment may be available to improve our existing system's capabilities at equal or lower cost and allow us to retain full control of our operations and systems.
4. Our State-coordinated emergency response activities, on the average, do not involve large groups or areas, and participation in the program may not be justified if user costs are not equitably apportioned.
5. VHF frequencies are limited and the system may not be available when needed due to multi-emergency occurrences. In addition, the withdrawal of user authorizations may cause serious problems.
6. The system will be available to New Mexico for emergency purposes only as determined by the federal agency controller, and our participation may be difficult to justify due to costs and probable infrequent use.
7. To be cost effective and justifiable, the system must be fully used. During non-emergency periods, federal agencies will probably fully utilize the system as the states are limited to emergency use only. If user costs are apportioned on a when-and-as-used basis, our participation may be precluded.
8. Systems costs and program participation by New Mexico may not be justifiable unless federal funding or incentive matching programs are offered to enlist our support and participation.

Our existing radio systems have served the State adequately in past emergency occurrences and are being constantly improved to serve equally as well or better in the future. Likewise, we have not encountered serious problems in coordinating and working with supporting private groups and federal agencies. Emergency occurrences have been of short duration and small magnitude in comparison to other states.

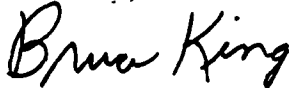
The conceptual description of the proposed system indicates many desirable capabilities will be available, and improved control and coordination of emergency responses will be possible. However, these enhancement factors affect our systems during emergency situations only. If our participation and subsequent use of the system is justified, sufficient equipment would probably be acquired in the long term to conduct operations in two separate areas of the State.

Rear Admiral N. C. Venske
June 8, 1979
Page Three

I hope these comments give you the information needed and suggest ways to improve the proposal and, thus, make it more useful to New Mexico. They are offered in a positive manner to assist in further development of the system's management and operation.

Please do not hesitate to advise me if you have any questions or require additional discussion on the report.

Sincerely,



BRUCE KING
Governor

BK:ajl



STATE OF NEW YORK
EXECUTIVE CHAMBER
ALBANY 12224

ROBERT J. MORGADO
SECRETARY TO THE GOVERNOR

April 9, 1979

Dear Admiral Venzke:

Governor Carey has asked me to thank you for your letter of March 15 and copy of the draft report on emergency response communications. The report is currently being reviewed by the Office of Disaster Preparedness of the State Division of Military and Naval Affairs and specific comments, as appropriate, will be provided by that agency.

Recently, the Defense Civil Preparedness Agency (DCPA) advised all governors that it was planning an emergency satellite communications system for disaster operations. Its plans involved providing each state with a fixed and mobile terminal. Unfortunately, Mr. Tirana, the DCPA Director, advised us not too long ago that the initial plans for such a system could not be implemented. I would assume that any interest of DCPA, either as a separate agency or as part of the Federal Emergency Management Agency, would be considered in the planning by the Interagency Committee for Search and Rescue ad hoc working group on emergency response communication program.

Sincerely,

A handwritten signature in cursive script, appearing to read "Robert J. Morgado".

Rear Admiral N. C. Venzke
Chairman
Interagency Committee on
Search and Rescue
U. S. Coast Guard
400 Seventh Street, S.W.
Washington, D. C. 20590

VICTOR ATIYEH
~~GOVERNOR~~
GOVERNOR



OFFICE OF THE GOVERNOR
STATE CAPITOL
SALEM, OREGON 97310

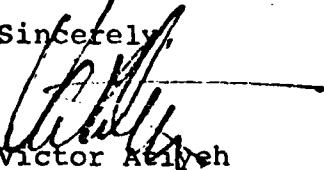
April 6, 1979

Rear Admiral N.C. Venzke, USCG
Chairman, Interagency Committee
on Search and Rescue
400 Seventh Street, S.W.
Room 7330
Washington, D.C. 20590

Dear Admiral Venzke:

The Emergency Response Communications Program draft report you recently sent to me covers the major baseline requirements Oregon believes necessary to handle emergency incidents and disaster relief operations. If we have any further concerns, it would be in the area of existing communications equipment compatiability and user costs, including maintenance charges.

Sincerely,


Victor Atiyeh
Governor

VA:bh



COMMONWEALTH OF PENNSYLVANIA
GOVERNOR'S OFFICE
HARRISBURG

ROBERT C WILBURN
SECRETARY OF BUDGET AND ADMINISTRATION

Rear Admiral N.C. Venzke
United States Coast Guard
Department of Transportation-Rm. 7330
400 Seventh St., S.W.
Washington, D.C. 20590

Dear Admiral Venzke:

In response to your letter dated March 15, 1979, I have asked my Director of Telecommunications (DOC), Mr. Richard C. Austin, to review your Emergency Response Communications Program. As far as the telecommunications aspects go, the program is in concert with our ongoing state planning. As to the response capability and incident rate, I find your data useful as an overview for a county-wide survey. Several facts should be discussed in light of your efforts in the area of Search and Rescue. These are as follows:

On December 21, 1977, Governor Shapp assigned a three-man committee to look into the satellite program, including both every day and emergency service, for the Commonwealth of Pennsylvania. Even though the Special Assistant to the Governor and the Counsel to the Governor, who were assigned to the committee, have left; my DOC is presently moving ahead in the embryonic stages of this program, as you will see in subsequent sections.

We met on August 1, 1978 with the Defense Civil Preparedness Agency group, headed by Major General A.T. Shtogren, giving them an overview of our telecommunications services and plans, in the preparation for the proposed FEMA satellite. My understanding is that this project is not dead due to a lack of sufficient funds.

On November 20 and 21, 1978, we hosted your organizations North-East meeting and gave Colonel James Butera and Major Ray Hofnagel a full day briefing on our emergency response communications program. At this meeting we had the communications jeep from March AFB, California on site for a live demonstration for the attending states.

now

A summary of our emergency response communications program follows. You will note that we are in concert with your planning, however are limited, as all government is, to the amount of money available for full scale implementation of "state-of-the-art" systems.

1) Our Pennsylvania Emergency Management Agency (PEMA) has dedicated teletype, radio, warning and emergency broadcast facilities to the three area headquarters and county PEMA offices. Special telephone services have been installed to assure total communications services. Special services are provided, depending on the situation, on emergency basis, within a very limited time period.

2) Telecommunications Management in the Office of Budget and Administration has been charged with the operational support of telecommunications in the time of emergency. In this respect, the Officer in charge of National Guard Communications is an engineer in our Emergency Medical telecommunications design group; the officer of the Air National Guard Communications Group is an engineer in our LEAA design group; our licensed amateur, (HAM) who activates the RACES network, is an engineer in our LEAA group, the engineer in charge of Telephone Company (56 independent plus Bell of Pa.) is in charge of our State telephone request activity, our DOC is the director of our management group of all telecommunications activity, etc.

In addition to the telecommunications operational function, in time of emergency; our Telecommunications Group is charged with the coordinated development of our Emergency Operations Center (EOC) concept. This means that each county or political sub-division that requests assistance for 911, REACT (CB-Ch. 9), LEAA (Police), EMS (Medical), or Fire Communications support will be supported by our Central Management Group under our DOC. Our State communications was centralized, into this same group, by an Executive Order from my office.

3) To cover our "state-of-the-art" planning, we have under studied a state-wide trunked, administrative radio network for all agencies, backed up by a spot beam satellite transponder with a 40 meg, beam concentrated in a three-hundred mile diameter covering Pennsylvania. NASA has been interested in providing this service, as an experiment, sometime around 1985. Basic requirements of this satellite transponder would cover:

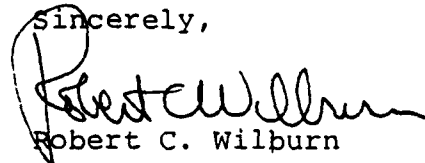
Telemetry: approximately 250 units state-wide on a mini computer scan. This would scan seismographic sensors for dam movement, hydro sensors for river and reservoir levels, thermal sensors for fire alarms in forests security services, special security vehicles for locations of vehicles in transit, etc.

Radio: One (1) 2-way channel for full-time, last channel of a trunked radio system including voice tone paging, and state-wide, if the FEMA or ICSR programs do not develop.

Video: One (1) channel (2 growth) - emergency TV from disaster area providing TV coverage for state headquarters in Harrisburg.

You can see that our telecommunications planning is in concert with your plans. I will be looking forward to your continued interest in our emergency systems. If you would like to discuss our planning any further, feel free to contact my DOC, Mr. Austin on (717) 787-5959, FTS 637-5959.

Sincerely,



Robert C. Wilburn

GOVERNMENT OF PUERTO RICO
STATE CIVIL DEFENSE AGENCY
BOX 5127, SAN JUAN, P. R. 00906



June 7, 1979

VII JUN 10 1979 AMERICO

Rear Admiral N.C. Venzke
Chairman, Interagency Committee on
Search and Rescue, U.S. Coast Guard
Department of Transportation
Washington, D.C. 20590

Dear Rear Admiral Venzke:

The Governor of Puerto Rico, Hon. Carlos Romero Barceló, has referred to our attention a copy of the draft report entitled Emergency Response Communications Program, March 1979, for our review and comments.

We have studied said report, and much to our satisfaction have found that it presents a positive and much needed line of action in the major obstacle to success in emergency response, communications.


As you must be well aware of, in Puerto Rico the Coast Guard has the responsibility for the coordination of all search and rescue operations for the coastal areas and high seas, while the State Civil Defense Agency carries the same responsibility for all inland emergency operations. During the past two years we have

June 7, 1979

developed very close working relationships and mutual assistance agreements, which have been successful largely due to our joint efforts and persistence. However, we have been hampered in our efforts by a lack of suitable intercommunications, prior to and during emergency situations.

The State Civil Defense Agency of Puerto Rico gives this project its most enthusiastic endorsement. You may count on our full cooperation in these matters of mutual interest in our mission for the safety and protection of all citizens.

Sincerely,


Angeles A. Mendoza
Commonwealth Directress

cc. Hon. Carlos Romero Barceló
Mr. Allan R. Zenowitz
Mr. Norman Steinlauf



Office of the Governor
La Fortaleza, San Juan, Puerto Rico

May 14, 1979

Rear Admiral N. C. Venzke
Chairman
Interagency Committee on
Search and Rescue
U. S. Coast Guard
Department of Transportation
Washington, D. C. 20590

Dear Rear Admiral Venzke:

I would like to acknowledge your recent letter with which you forwarded to me a copy of the draft report entitled Emergency Response Communications Program, March 1979. The draft report has been forwarded to Mrs. Angeles Mendoza, State Directress of the Office of Civil Defense for her review and possible comments. Mrs. Mendoza will forward any comments she might have directly to you.

Although your letter states that you wanted comments by April 23, I would like to inform you that the letter was received in my office on April 24, 1979.

We appreciate the opportunity to comment on this report.

Cordially,

Carlos Romero Barceló
Carlos Romero-Barceló



Oficina del Gobernador
La Fortaleza, San Juan, Puerto Rico, 10901

MEMORANDUM

A : Sra. Angeles Mendoza, Directora Estatal
Oficina de la Defensa Civil

De : Carlos Romero Barceló *CRB*

Asunto : Carta e informe del Contraalmirante N.C. Venzke
de la Guardia Costanera

Fecha : 7 de mayo de 1979

Adjunto copia de la carta y el informe que me enviara el
Contraalmirante N. C. Venzke. El Contraalmirante Venzke solicita se
le envíen comentarios relacionados con el informe titulado "Emergency
Response Communications Program".

Le agradeceré estudie este informe y favor de enviarle sus
comentarios respecto al mismo directamente al Contraalmirante Venzke.

Anexo



State of Rhode Island and Providence Plantations

EXECUTIVE CHAMBER, PROVIDENCE

J. Joseph Garrahy
Governor

May 1, 1979

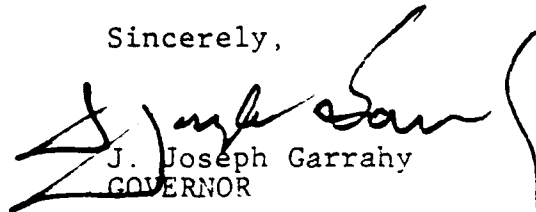
Rear Admiral N. C. Venzke
Chairman
Interagency Committee on Search
and Rescue
United States Coast Guard
Nassif Building
400 Seventh Street, S.W.
Washington, DC 20590

Dear Admiral Venzke:

Thank you for providing me with a draft copy of the March 1979 Report of the Interagency Committee on Search and Rescue.

Most of the recommendations outlined in the report seem to meet the requirements of the State of Rhode Island, but there appears to be need for a reconsideration with respect to expectations and precautions regarding nuclear power plant emergencies.

Sincerely,


J. Joseph Garrahy
GOVERNOR



WILLIAM P. CLEMENTS, JR.
GOVERNOR

OFFICE OF THE GOVERNOR
STATE CAPITOL
AUSTIN, TEXAS 78711

March 30, 1979

N. C. Venzke
Rear Admiral, U.S. Coast Guard
Coast Guard Marine & Air Emergency
Naval Air Station
Corpus Christi, TX 78419

Dear Admiral Venzke:

This is to acknowledge receipt of your recent correspondence to Governor William P. Clements, Jr.

Thank you for taking the time to contact us. Immediate attention will be given to your correspondence.

Sincerely,
John R. Tindall
Assistant for Communications

JRT:ah



DIVISION OF DISASTER EMERGENCY SERVICES
TEXAS DEPARTMENT OF PUBLIC SAFETY

WILLIAM P. CLEMENTS
Governor

5805 N. Lamar Blvd.
Box 4087
Austin, Texas 78773
512/452-0331, Ext. 2430

WILSON E. SPEIR
Director

M. P. BOWDEN
Coordinator

April 17, 1979

Rear Admiral N. C. Venske, U. S. Coast Guard
Chairman, Interagency Committee on Search and Rescue
400 7th Street S. W.
Washington, D. C. 20590

Dear Admiral Venske:

Governor Clements has asked this office to respond to your letter of 15 March 1979 concerning the Draft Report on the Emergency Response Communications Program.

As you are probably aware, ARRS made two units of the experimental system available to us during our recent disaster and they served a very critical purpose.

The report contains all pertinent base line information relevant to the Texas situation. I do, however, have some reservations concerning the funding for such a system at the state and local level.

I further believe that high speed-high frequency (2-30 Mhz) teletype or data links can reduce the hardware requirements considerably as well as reduce costs.

Sincerely,

Marion P. Bowden
State Coordinator

Frank T. Cox
Deputy Coordinator

FTC:bc

cc: Allen B. Clark, Governor's Office



COMMONWEALTH of VIRGINIA

State Office of Emergency and Energy Services

310 Turner Road
Richmond, Virginia 23225
(804) 745-3305

George L. Jones
State Coordinator

H. Kim Anderson
Deputy Coordinator

April 30, 1979

RADM N. C. Venzke, USCG
Chairman
Interagency Committee on Search
and Rescue
Department of Transportation
U. S. Coast Guard
Washington, DC 20590

Dear Admiral Venzke:

Governor Dalton has asked me to respond to your letter of March 15, 1979, concerning the report of the Interagency Committee on Search and Rescue "ad hoc" working group and their Emergency Response Communications Program. The report itself is comprehensive and I am pleased to include our comments below.

The report does not include a methodology to get around the requirements of FCC Rules and Regulations § 89.15(d) concerning the National Radio Quiet Zone, which protects government facilities at Sugar Grove and Green Bank, West Virginia. The provisions of this regulation govern virtually all radio communications above 50 Mhz. Our engineers tell us that the facilities are using obsolete technology and this has forced the Commonwealth and its political subdivisions to employ similar obsolete technology. Unless some change is made in the regulations concerning the National Quiet Zone, we see the same type problems developing in the use of satellite communications.

The report does not address the problem of spectrum source. The concept of low-density usage does not seem to fit the parameters used by the FCC in managing the public side of the communications spectrum and the idea of allocating federal IRAC controlled spectrum space would set a precedent of some magnitude. Spectrum space is presently the number one problem facing state and local governments in developing terrestrial systems. We cannot see any easing of the problem in simply going to satellites, even with trunking.

Funding availability is a major problem. Under the concept of the Industrial Fund, it appears that the states would have to fund 100% of their side of the system. This is especially true when you consider current DCPA moves to cut off Support Materials Funds to the states and localities and actions to terminate the

RADM N. C. Venzke, USCG
Page 2
April 30, 1979

LEAA Hardware Funding Program. The states have not been able to fund 100% of their terrestrial communications systems; there is little possibility that they will be able to 100% fund their side of a satellite communications system. The Commonwealth of Virginia, for example, is presently spending in excess of \$1,000,000 in upgrading the State Police VHF-FM Communications System with an expected design life of 25 years. Local governments throughout the Commonwealth are expending well in excess of this figure. Diverting monies needed for high-density terrestrial communications systems to fund limited use, low-density satellite communications does not seem to be a cost effective approach to us, no matter how efficient and desirable the satellite communications system may be. It is our view that, at least for the foreseeable future, any satellite communications system would be used to augment our existing terrestrial communications systems, not replace them.

We endorse the satellite communications system proposed by the Interagency Committee on Search and Rescue "ad hoc" working group in their Emergency Response Communications Program. However, without substantial federal funding assistance, it is doubtful that the Commonwealth of Virginia will be able to participate using only state funds.

If we may be of further assistance to you, the Interagency Committee on Search and Rescue, or the "ad hoc" working group on emergency response communications, please do not hesitate to call on us.

Sincerely,

George L. Jones

GLJ/NSM/nas



STATE OF
WASHINGTON

Dixy Lee Ray
Governor

OFFICE OF THE GOVERNOR

Legislative Building, Olympia, Washington 98504

April 19, 1979

N. C. Venzke
Rear Admiral, U.S. Coast Guard
Department of Transportation
Washington, D.C. 20590

Dear Admiral Venzke:

Thank you for the opportunity to review the draft report on the proposed Emergency Response Communications Program developed by the Interagency Committee for Search and Rescue.

The program would meet all the base line requirements for Washington State's needs, though practically speaking, our use of the system would be limited, and then only for those few large scale operations that would be beyond existing capabilities. I would specifically be interested in knowing what you anticipate it might cost for the necessary equipment and station time. I feel that any monies available for emergency communications would better serve state needs by updating existing systems. The State of Washington supports your efforts and would certainly utilize such a system for those situations beyond state capabilities, requiring federal help.

I will look forward to receiving further progress reports as this program develops.

Sincerely,

Dixy Lee Ray
Governor



STATE OF WEST VIRGINIA
OFFICE OF EMERGENCY SERVICES
STATE CAPITOL BUILDING, ROOM EB-80
CHARLESTON, WEST VIRGINIA 25305

JOHN D. ROCKEFELLER IV
Governor

May 25, 1979

JOHN D. ANDERSON
Director

Admiral N. C. Venzke, Commandant
U. S. Coast Guard (G-0 #73)
Chairman, Interagency Committee on
Search and Rescue
Washington, D. C. 20590

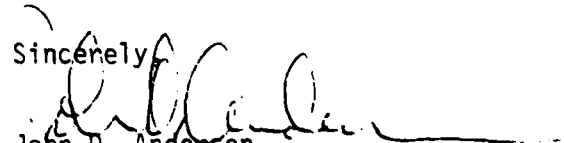
Dear Admiral Venzke:

As you know, the State of West Virginia is very conscious of the need for emergency response communications. I have reviewed the Draft Report concerning the emergency response communications program and I would like to offer the following comments:

1. The need for quick response emergency communications has been demonstrated.
2. The satellite concept should provide an acceptable means to accomplish the desired goal.
3. I agree that the proposed system should be almost impervious to weather related outages.
4. All complex electro-mechanical systems are subject to failure. What is the reliability factor for a system of this type? Satellite failure from any cause will make the entire system inoperative.
5. The time scale seems somewhat long, since several of the sub-systems must be designed and tested. Are we talking about five or ten years in the future?
6. What is the total user cost? At this point it appears that the cost cannot be closely approximated.

I hope my comments will be helpful. The State of West Virginia will follow the proposal with interest.

Sincerely,

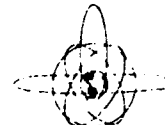

John D. Anderson
Director

JDA:rb

AIR FORCE COMMUNICATIONS SERVICE
ADVANCED SATELLITE REQUIREMENTS DIVISION



HO AFCS/XPQS
SCOTT AFB, IL. 62225
PH. 618-256-3476 AUTOVON 638-3478



20 Apr 79

MR. D. H. LUZIOUS
US Coast Guard (G-OSR-4)
Wash DC 20590

Doc :

ATTACHED ARE OUR
COMMENTS TO THE DRAFT
REPORT. APOLOGIES FOR NOT
SENDING TYPED COMMENTS BUT
I THINK YOU'LL UNDERSTAND THEM.

PLEASE SEND ME TWO
COPIES OF THE FINAL REPORT
AND ANY OTHER TECH. DESIGN
INFO WHICH MAY BE GENERATED.

A handwritten signature in cursive script, appearing to read "Martin H. Betzing".

MAJOR MARTIN H. BETZING
CHIEF, ADVANCED UNF SATCOM SYSTEMS

MAJOR BETZING AFCS/XPGS
(618) 256 3476

AFCS Comments to the
Emergency Response Communications Program
Draft Report, March 1979

Page 1-1, para 1.1, 8th line. First words should be "man-made" instead of "man-date".

Page 2-24, third para. Suggest paragraph be rewritten to emphasize that nuclear power-generating plant failures are possible but minimize the credit due to "exceptional precautions taken by responsible U.S. Agencies". This suggestion is made in light of the recent Three Mile Island power plant incident.

Page 3-4, figure 3.2. Additional narrative explanation appears needed to explain what the chart

really means. For example, are these the probabilities of survival for all ambulance calls or just for those calls which were verified after-the-fact as being medical emergencies. The concern is that the chart may be inaccurate if it is interpreted to mean that a person's chance for survival greatly decreases if an EMS team is not dispatched within 3 hours of each call for EMS because there are probably many cases when EMS support is provided ~~but does not~~ but the "emergency medical situations" do not threaten life.

Page 3-15, para b, 3rd line and
para c, 1st line. Change spelling
of "protable" to "portable".

Page 4-10, first line. Reference
is made to Figure 4.1 however
this figure is not included in report.

Page 4-10, para 4.2.1.2. For
the sake of clarification a sentence
should be added e.g., "The
actual antenna beamwidth, and
therefore size of the "spot" on
the earth, is a function
of frequency and satellite
antenna size."

Page 4-11, 3rd line. Reference is
made to Table 4.1 however Table

4.1 (on page 4-14) does not represent the channel assignments mentioned and no other table of channel assignments is included in the report. A channel assignment table should be included as an example.

page 4-11, second para, third line. Reference is made to Figure 4.5 however this figure is not included but should be.

page 4-12, para 4.2.2.1. Suggest that the type of shelter for the transportable earth stations not be limited just to S-280 shelters. Words could be changed from "S-280 shelter"

to "S-280 or similar ground
and air transportable shelters",

page 4-12a, Figure 4.3. This
figure is not an S-280 shelter
as mentioned in the preceding
narrative. Inclusion of a picture of
a S-280 shelter or mobilizers
may be helpful.

page 4-19, para 4.3.5. The
validity of the comment "--and
analog modulation was considered
and analog selected based on
minimizing system complexity
and thus cost." is questioned.
For a system of this type with

thousands of users and satellite switching, digital may be the most cost effective solution.

page 5-4, para 5.2.1, 6th line -
Reference is made to Figure 5.1 however it is not included in the report

Page 4-10, para 4.2.1.1. & para 4.2.1.2. of
the coverage is built up from an array of
55 beams with four distinct frequency
bands, the frequency reuse is 55 to 4 or
approximately 16 to 1. In other words
each frequency is used 16 times for
an array of 55 beams. However the
total spectral requirement is still only
four times that required for any
single beam. Suggest this topic
be clarified in the final report.

FEDERAL COMMUNICATIONS COMMISSION

WASHINGTON, D.C. 20554

April 30, 1979

IN REPLY REFER TO:

File 1100-A

Rear Admiral N. C. Venzke
Chairman, Interagency Committee
on Search and Rescue
U.S. Coast Guard Headquarters
Washington, D.C. 20590

Dear Admiral Venzke:

?

(now Ferris)

This is in response to your letter to former Chairman Richard Wiley dated March 15, 1979, and the draft report on a proposed Emergency Response Communications program prepared by a working group chartered by the Interagency Committee on Search and Rescue (ICSAR).

I support the efforts of you and ICSAR to improve the effectiveness of search and rescue activities and agree that adequate communications are essential in order to promote efficiency in this very important area. The FCC's possible use of such a system as is proposed would, in all likelihood, be minimal. Our search and rescue activity consists of providing radio direction finder bearings to search organizations such as the Coast Guard and assisting with radio direction finding efforts to locate downed aircraft. Our experience indicates that present land-line and terrestrial radio communications systems are adequate for our needs.

The communication needs of others directly involved in search and rescue are of more concern to the Commission. As you may know, this Commission provided in its proposal for the International Telecommunications Union (ITU) 1979 World Administrative Conference (WARC) for the possible "... implementation of a land mobile satellite service in some 20 MHz segment in the 806 - 890 MHz band." This proposal preserved the possibility of such a service but further action would, of course, depend on the results of the WARC treaty ratification and subsequent domestic proceedings. Should a proposal for the establishment of a land mobile satellite service be made an evaluation would have to be done of alternatives to the proposed program; these alternatives include existing or future terrestrial facilities. The competing needs for radio spectrum would also have to be studied. It is likely that for such a system, spectrum allocation would be predicated on an assurance of funding by the program participants.

-2-

Richard Smith, Commission representative to ICSAR is available if you need further information. He will keep the committee informed of the status of WARC proposals in this area. Your efforts and interest in search and rescue activities are genuinely appreciated.

Sincerely,

Charles D. Ferris
Chairman

FEDERAL OFFICE OF DISASTER ASSISTANCE ADMINISTRATION
WASHINGTON, D.C. 20391

MAY 29 1979

Rear Admiral Norman Venzke
Chairman
Interagency Committee on Search and Rescue
Department of Transportation
Washington, DC 20590

Dear Admiral Venzke:

DCPA's comments on the Emergency Response Communications Program (ERCP) Draft Report are herein provided.

The report substantiates the need for a low cost portable communications capability. It aggregates the requirements of the many thin route users, demonstrates technical feasibility, and identifies research and development requirements. It does not provide the rigid cost-effectiveness or cost-worth analysis to support further system development.

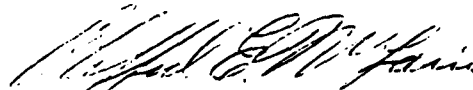
The proposed management and acquisition plan is complex. There is the serious question about the Federal Government selling communications services to State and local governments.

Specific modifications to the report are requested as follows:

1. Page 1-3, delete: trans/post attack
Reason: survivability of space segment is questionable in nuclear environment.
2. Page 1-6, delete: "survivable" in first paragraph
Reason: same as 1 above
3. Page 1-13, expand paragraph on DCPA activities to provide complete reasons for not awarding the contract.
4. Page 1-17, frequency allocation problems for satellite land mobile applications should be discussed with table 1.2.
5. Page 1-23, add HF Radio to table 1.3
Reason: fair evaluation of all alternative solutions.
6. Page 2-1, insert "non nuclear" after "post" in fourth paragraph.
Reason: same as 1 above
7. Page 2-6, substitute "Federal Disaster Assistance Administration" for "Office of Emergency Preparedness."
Reason: accuracy

Thank you for the opportunity to review the ERCP report. DCPA will continue to support efforts in this important communications area.

Sincerely,

A handwritten signature in cursive script, appearing to read "Clifford E. McLain".

Clifford E. McLain
Deputy Director



DEPARTMENT OF AGRICULTURE
OFFICE OF THE SECRETARY
WASHINGTON, D. C. 20250

May 2 1979

Rear Admiral N. C. Venzke
U.S. Coast Guard
Chairman, Interagency Committee
on Search and Rescue
Washington, D.C. 20590

Dear Admiral Venzke:

Thank you for the opportunity of reviewing the Emergency Response Communication Program draft report of March 1, 1979. I am very interested in emergency communication as it applies to National Forest System lands. May I give you some brief history of the National Forest System to support this interest.

In 1891, Congress authorized the creation of a National Forest, and authorized the Secretary of Agriculture to make such rules and regulations necessary for its protection, 16 U.S.C. 471. In 1905, Congress authorized the Secretary to execute or cause to execute all laws affecting National Forest lands, 16 U.S.C. 472. In 1897, 16 U.S.C. 551 authorized the Secretary to make provisions for the protection of the National Forest from fire and depredation, and also, to regulate their occupancy and use and to preserve the forest from destruction. In 1930, 16 U.S.C. 575 authorized the Secretary, "In cases of emergency, to search for lost persons in the National Forest and to transport persons seriously ill, injured, or who die...to interested parties or local authorities." Then in 1971, 16 U.S.C. 551a authorized the cooperation with any State or political subdivision in the enforcement or supervision of the laws or ordinances of a State or subdivision in connection with the administration, regulation, use, and occupancy of the National Forest. This briefly explains my responsibilities mandated by Congress relating to the protection of the resource and property of the National Forest System and for the safety and welfare of forest users.

In order to fulfill these responsibilities, the Forest Service is involved in approximately: 3,850 SAR missions affecting 5,600 persons who are either injured, lost, a fatality, or non-injury person; 14,000 forest fires; and 50,000 law enforcement cases annually.

Rear Admiral N. C. Venzke

2

These duties involve both ground and airborne capabilities. One of my problems in carrying out these responsibilities has been the present terrestrial communication system. I am interested in improving our efficiency and capability in emergency communication, and therefore, wish to be recognized in the Emergency Response Communication Program.

In light of the above, I suggest the following amendments:

Amend Table 2-2, "Principle Uses of Emergency Response Communications and Most Significant Uses" on page 2-7 to include the following: under column "User Agency" include "USDA-Forest Service" and under column "Major Use" include "Forest fires, Search and Rescue, Law enforcement emergencies, and Communication from/to undercover agents."

Amend Table 2-3, "Principal Agencies Responsibility for Mandatory Disaster Monitoring and Warning" on page 2-8 to include the following: under column "Responsible Agency," change "Forest Service" to "USDA-Forest Service."

Amend section 2.2.3, "Law Enforcement (cont.)" on page 2-34 by inserting after "Internal Revenue Service in the pursuit..." the following: "USDA-Forest Service in the pursuit and apprehension of violators in the area of its responsibility."

Amend "List of Abbreviations (cont.)," page xiii by including after USCG United States Coast Guard the following: "USDA United States Department of Agriculture."

Amend Table 2-1 (cont.), "Major Area, Classes, Application, End Use..." on page 2-5 by including in the "Application" column after "Nuclear Material Theft" the following: "Arson (forest fires)."

I will be glad to discuss further these suggested amendments if you feel it necessary.

Sincerely,

Bob Venzke
SECRET

Department of Energy
Washington, D.C. 20585

MAY 22 1979

N. C. Venzke, Rear Admiral, USCG
Chairman, Interagency Committee
on Search and Rescue
U.S. Coast Guard Headquarters
Washington, D.C. 20590

Dear Admiral Venzke:

On behalf of the Secretary, I am replying to your March 15, 1979, letter concerning the March 1979 draft report of the Interagency Committee for Search and Rescue ad hoc Working Group on Emergency Response Communication Program.

Members of the Policy and Evaluation Emergency Coordination Staff and Office of Computer Services and Telecommunications Management met with Colonel Raymond Hufnagel, USAF, who gave a summary of the background and activities that culminated in the draft report now under review. Since the Department of Energy (DOE) was not represented on the ad hoc working group, Colonel Hufnagel's briefing was very helpful and afforded an opportunity for our staff to ask questions about the emergency telecommunications capabilities being proposed.

DOE emergency communications systems have been and are being developed to meet needs unique to the DOE's emergency response plans and resources. The advantages of the satellite-mobile terrestrial type of system being proposed are superior to the ground based systems we have developed to provide the DOE with ground-to-ground and ground-to-air emergency radio communication. However, we are committed to our systems and could not now justify their termination in favor of another system.

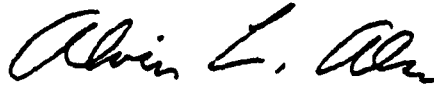
Four or five years ago we would have been in a position to seriously consider using a system similar to that proposed by the Emergency Response Communication Program. However, due to the nonavailability of a communications satellite system for use by our agency, we devoted our efforts to

the establishment of the systems we now operate or plan to have in operation. We determined at that time that to be cost effective the satellite system costs would have to be shared by a number of user Federal agencies and the system would need to be used for communications purposes in addition to emergencies.

We believe that the system proposed is needed and would fill a very important gap in the spectrum of emergency communications for use during major disasters and national emergencies as well as in the responses to accidents, search and rescue missions and other emergencies where communications are vital to taking prompt countermeasures.

It would be appreciated if we could be kept advised of future developments and would be pleased to have an appropriate member of the telecommunications staff attend future meetings of the ad hoc working group.

Sincerely,



Alvin L. Alm
Assistant Secretary
Policy and Evaluation

cc:
R. Lewis, CMST/AD



UNITED STATES DEPARTMENT OF COMMERCE
The Assistant Secretary for Communications
and Information
Washington, D.C. 20230

April 23, 1979

Rear Admiral Norman C. Venzke
Chief, Office of Operations
USCG, Headquarters
Washington, D.C. 20590

Dear Admiral Venzke:

Secretary Kreps has asked that we review and comment on the Interagency Committee for Search and Rescue Working Group's report on emergency response communications. As you know, my staff is participating in this important work.

We are currently preparing our comments, which will be forwarded shortly. I wish you every success in achieving improved emergency communications capability.

Sincerely,

Henry Geller



United States Department of the Interior

OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20240

Mr. N. C. Venzke
Rear Admiral
U.S. Coast Guard
Department of Transportation
Washington, D.C. 20590

Dear Admiral Venzke:

The Department of the Interior has reviewed with interest your Emergency Response Communications Program report of March 1979 and appreciates the opportunity to offer comments.

Many bureau operations within this Department are included in your list of uses as reflected in Table 1.1 of the report. However, there are some minor additions and revisions required in Tables 2-2 and 2-3 to better reflect Interior's user agencies and responsibilities for natural disaster monitoring and warning. They are as follows.

Table 2-2 should include the National Park Service with the following descriptive statements:

- Performance of search and rescue operations in National Park System areas.
- Response to man-made emergencies and natural disaster in National Park System areas.
- Management of medical emergencies in remote areas.
- Response to law enforcement emergencies and alerts of terrorists or protest activities.

These endeavors include the U.S. Park Police which should not be listed as a separate organizational unit as it is a unit of the National Park System.



Table 2-2 should include the Geological Survey as being delegated responsibility to provide warnings of geologic hazards.

Table 2-3 should be corrected to reflect:

Geophysical

Earthquakes	USGS	All States	General Public & Public Officials
Volcanic eruptions	USGS	Western States	General Public & Public Officials
Landslides, mudslides & subsidence	USGS	All States	General Public & Public Officials

The acronym, USGS, is the U.S. Geological Survey.

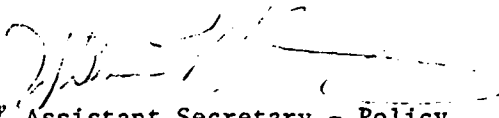
It is impossible at this time to set forth baseline requirements. This Department has not maintained complete statistics regarding search and rescue or disaster operations. Therefore, there is no standard by which this Department's requirements can be assessed. The draft report reflects that no one organization oversees the importance of a national endeavor to save human lives. To rely on the American Red Cross figure of 37,000 disasters in 1977 without qualifying the severity of each or on the National Park Service visitor count appears meaningless. Another statistic which is misleading is that of 80,000 deaths in the United States due to floods for the years 1971-1977--this exceeds those deaths occurring worldwide for that period of time.

The present communications systems within the Department have adequately covered our need in the contiguous 48 states. They have not been tested during periods of national or man-made disasters and do have limitations due to terrain and certain weather phenomena. The restricted range of the Emergency Response Communications Program does not take into account this Department's interests and responsibilities in the areas of the State of Alaska or the Islands of the Pacific Ocean where communications become extremely critical.

The ability of an emergency response communications system to augment existing systems rather than replacing them makes the program extremely attractive especially in times of disasters and emergencies, but the system must be cost-effective.

We regret that your specific request for baseline requirements cannot be met due to lack of statistical data. I am glad to have had this opportunity to forward the Department's comments.

Sincerely,



Acting Deputy Assistant Secretary - Policy,
Budget and Administration



DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20201

April 4, 1979

Rear Admiral N. C. Venzke, Chairman
Interagency Committee on Search and Rescue
U. S. Coast Guard
Washington, DC 20590

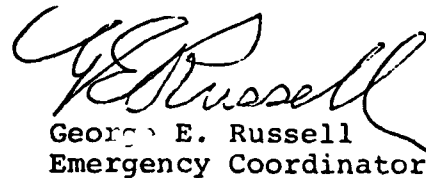
Dear Admiral Venzke:

Thank you for the draft report on the Emergency Response Communications Program.

We have reviewed the report and find that the requirements pertinent to this Department have been adequately considered. We are quite satisfied with the draft report and have no further comment.

I would appreciate it if you could send review copy of the report to Dr. David R. Boyd, Director, Division of Emergency Medical Services, U. S. Public Health Service, Room 1164 Federal Center Bldg. #3, 6525 Belcreat Road, Hyattsville, MD 20782.

Sincerely yours,


George E. Russell
Emergency Coordinator



DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
FEDERAL DISASTER ASSISTANCE ADMINISTRATION
WASHINGTON, D.C. 20410

OFFICE OF THE ADMINISTRATOR

IN REPLY REFER TO:

Rear Admiral N. C. Venzke
U. S. Coast Guard
7th and D Street, S. W.
Washington, D. C. 20590

Dear Admiral Venzke:

Secretary Harris has requested this office to respond to your letter of 15 March 1979 transmitting a copy of the draft report entitled, "Emergency Response Communications Program" detailing a consolidated communications system for Federal, State and local governments.

We appreciate the opportunity to have our program staff and communications technicians review this document. We will get our comments to you as soon as the review is completed.

Sincerely,

Buford A. Macklin
Director
Office of Administrative Services



DEPARTMENT OF TRANSPORTATION
UNITED STATES COAST GUARD

MAILING ADDRESS:
U.S. COAST GUARD (G-OSR-4)
WASHINGTON, D.C. 20590
PHONE 202-426-1933

• 5420/ICSAR

APR 23 1979

• Mr. George Selz
Operations Research Incorporated
1400 Spring Street
Silver Spring, Maryland 20910

Dear Mr. Selz:

Enclosed is a memorandum containing comments on the draft report of the ICSAR ad hoc working group on Emergency Response Communications Program. The copy of the report enclosed contains additional blue pencil edits and comments. If you desire further clarification on these comments, please contact Mr. D. H. Luzius, 426-1932 or LT R. F. CARLSON, 426-1345.

Sincerely,

JOHN C. FUECHSEL
Captain, U. S. Coast Guard
Acting Chief, Office of Operations

Encl: (1) Memorandum
(2) Marked-up draft



UNITED STATES GOVERNMENT

Memorandum

DEPARTMENT OF TRANSPORTATION
UNITED STATES COAST GUARD

6123

Serial-718-3-G-OTM

DATE:

20 APR 1979

SUBJECT: ERCP draft report, March 1979; Coast Guard comments regarding the

FROM : G-OTM

TO : G-OSR

1. The draft report on Emergency Response Communications has been reviewed. In general, it does a good job of stating the users problems with communications during disasters. It does not however, adequately treat the potential system costs and analysis of benefits to be derived from an operational system. I am also not in agreement with the recommendations which would have the Secretary of Transportation forward the report directly to the President for approval. It would be more appropriate for ICSAR to furnish the report to the NCS, FEMA and NTIA and other executive agencies as appropriate for further action.
2. The quote of page 1-22 is incomplete and as written does not make any sense.
3. On page 1-21 the report notes that statistical data concerning the number of persons in distress and the amount of national effort that goes into the rescue and recovery of the people is unavailable. On page 2-2 the report methodology indicates the determination of the impact to the U.S. economy in terms of this non-existent data. Further, page 2-3 of the report cites a conservative estimate of \$5 billion. Is this based on the non-existent data and methodology to be developed? The argument is inconsistent.
4. On page 2-11 the report states disaster can be alleviated by Emergency Response Communication. It is not clear how a communications system can reduce the cost of the damage caused by tornadoes, floods, etc, by the functions enumerated on page 2-11.
5. Page 2-28 states that stationing of paramedics on helicopters has lowered insurance rates and indicates insurance premiums saved would be far greater than the cost involved. This is not substantiated in the report. It is recommended that the report demonstrate the validity of this argument and identify the insurance company.

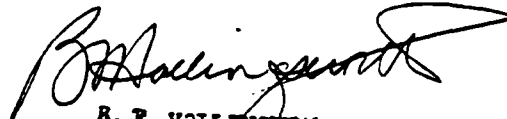
6. The U.S. Coast Guard should be added to the list of Law Enforcement agencies on the bottom of page 2-32 and the top on page 2-34. Coordination of Law Enforcement Communications involving the Coast Guard has been the subject of a recent GAO report ("The Coast Guards Role In Drug Interdiction -- how much is enough", report B-114851, dated 12 February 1979).

7. The analysis of potential Coast Guard savings on page 2-36 is overly simplistic and, as a result, is misleading. The amount the Coast Guard spends on Search and Rescue includes the costs of people and response resources (boats, planes, ships, helicopters, etc.). There is no opportunity for an add-on communications system to save \$6.2 million per year. Since communications is a multi-mission support program in the Coast Guard, I am unable to identify any potential cost savings.

8. Fig. 3.3 is confusing. As drawn the probability of success being one appears at both ends of the ordinate (a labeling problem no doubt 10^0 and $1-10^0$). If 10^0 is corrected to $1-10^0$ how can this point be plotted on a logarithmic scale ($\log 0^{---}$). Normal communication practice specifies traffic intensity in either Erlangs or CCS - is there a reason to differ from this convention?

9. Paragraph 1.3, "Background", on page 1-2 attempts to explain the assignment of SAR responsibilities by paraphrasing the National SAR Plan. In paraphrasing the Plan, accuracy and precision are lost. It is recommended paragraph be brought more closely in line with the original wording of the National SAR Plan.

10. Other comments, edits, typo corrections, marginal notes, etc., are marked on the copy of the report enclosed.


B. F. HOLLINGER

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

WASHINGTON, D.C. 20591



May 7, 1979

Rear Admiral N. C. Venzke
U. S. Coast Guard
Chairman, Interagency Committee
on Search and Rescue
400 7th Street, S.W.
Washington, D.C. 20591

Subject: Emergency Response Communications Program Report, March 1979

Dear Admiral Venzke:

We have reviewed the subject draft report and find that the basic proposal has considerable validity and merit from an Emergency Preparedness viewpoint.

However, there are a number of areas in the report which, in our opinion, require additional development from conceptual, technical and financial aspects.

I recommend that the ERCP ad hoc working group be re-instituted with broadened representation from other federal agencies, e.g., FAA, NCS, FEMA, etc. This expanded group should be tasked to explore the definitive needs for this program; technical feasibility; operational organization, financial programming and timing.

The FAA focal point for this program will be Col. Frank J. Tomlinson, Chief, Emergency Operations Staff (ATF-10).

I assure you that we are vitally interested in this humanitarian endeavor and offer our support.

Sincerely,

WILLIAM M. FLENER
Associate Administrator for
Air Traffic and Airway Facilities

Memorandum

SUBJECT: Suggested changes to the March 1979 Draft Report
of the ICSAR ad hoc Working Group on Emergency
Response Communication Program

DATE: April 16, 1979

In reply refer to:

FROM : C. J. Glass *CJ Glass*

TO : D.H. Luzius

I have reviewed the subject report with respect to the definition of communications requirements for emergency medical services. The text on page 2-28, Table 2-9, and conclusions drawn in the last paragraph on page 2-31 are misleading and in conflict with the information illustrated in Figure 3-2.

It is recommended that the text, starting with the 7th line from the bottom on page 2-28, be changed to read as indicated in the attached revision. Table 2-9 should be deleted and should be replaced by the illustration contained in Figure 3-2. The last paragraph on page 2-31 should be replaced by the attached text. Figure 3-2 should be retained since it illustrates the text that follows on page 3-5.

I have read the complete report but I am not prepared to comment on it in detail in writing.

Please let me know if I can be of further help in reviewing the subject report.



BUY U.S. SAVINGS BONDS REGULARLY ON THE PAYROLL SAVINGS PLAN

RECOMMENDED CHANGES TO MARCH 1979 DRAFT REPORT OF ICSAR ad hoc GROUP

Page 2-28, starting at the 7th line from the bottom of the page, change to read:

"Post mortem studies of automobile accident fatalities indicate that about 20 percent of the fatalities are instantaneous and about 26 percent of the non-instantaneous fatalities have a potential for survival if appropriate medical care is provided in a timely fashion. The death inducing injuries of the 26 percent can be categorized as critical injuries and decisive injuries. Critical injuries are those leading to heart stoppage or loss of breathing. For critical injuries, the patient must be treated within 5 minutes to be saved. Decisive injuries include progressive shock, massive hemorrhaging, thorax injury with progressive impairment of breathing, severe skull injury with aspiration of blood and vomitus, acute and traumatic brain injury, and widespread burns with impairment of vital organs. For decisive injuries, the time span for rendition of life saving medical treatment is from 20 minutes to 2 to 4 hours. Survival of decisive injuries is a minute to minute situation.

Analysis of the probability of survival of critical and decisive motor vehicle accident injuries can be represented by the relationship illustrated in Figure 2-9. The potential for survival if medical treatment is delayed beyond the "critical time period" is very low (5 - 10 percent). About 13 percent, that is, about one half of the savable accident fatalities, may be saved if appropriate medical treatment could be initiated within 20 minutes of the accident.

Figure 2-10 depicts typical delays incurred in urban and in rural areas. The following points emerge:"

Page 2-31, last paragraph, change to read:

"It is clear from the example illustrated in Figure 2-9 and from Figure 2-10 that a reduction in EMS response time in rural areas could produce a substantial reduction in accident fatalities, particularly in those accidents involving decisive injuries."



General
Services
Administration Washington, DC 20405

MAY 9 1979

Rear Admiral N. C. Venzke
U. S. Coast Guard
Department of Transportation
Washington, DC 20590

Dear Admiral Venzke:

Thank you for an opportunity to comment on the March 1979, draft report of the Interagency Committee for Search and Rescue (ICSAR) ad hoc group on the Emergency Response Communications Program.

We certainly agree with the conclusion that there is a national need for an improved Emergency Response Communications Program. We also endorse the concept of applying satellite technology to some of the requirements for emergency communications.

The report proposes a *single communications satellite system*, dedicated to serve all agencies, Federal and State, in all emergency situations imaginable. It does not address alternatives to complete reliance on satellites. It does not consider the use of commercially available services or the modifications to such systems to make them more responsive to emergency situations. It is probable that such a ubiquitous and versatile system, on an emergency standby basis, would not be cost effective.

We appreciate that the economic and design studies are yet to be made before a final program decision is made. I am sure that some of the functional requirements of the participating agencies will also have to be more specifically defined.

E. O. 11051, as amended, indicates that planning and policy direction for use of the Nation's telecommunications resources presently rest with the Administrator of General Services. These responsibilities are delegated to the Director, Federal Preparedness Agency. In addition, E. O. 11490, as amended, provides that Continuity of Government preparedness activities will be under the direction of the Administrator of General Services, a function also delegated to the Federal Preparedness Agency. The President's Reorganization

Rear Admiral N. C. Venzke
U. S. Coast Guard
Department of Transportation
Washington, DC 20590

Dear Admiral Venzke:

Thank you for an opportunity to comment on the March 1979, draft report of the Interagency Committee for Search and Rescue (ICSAR) ad hoc group on the Emergency Response Communications Program.

We certainly agree with the conclusion that there is a national need for an improved Emergency Response Communications Program. We also endorse the concept of applying satellite technology to some of the requirements for emergency communications.

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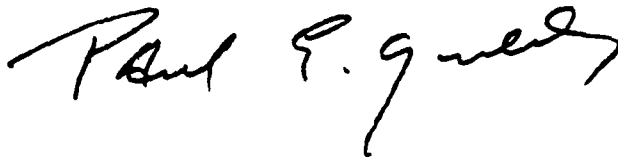
E. O. 11051, as amended, indicates that planning and policy direction for use of the Nation's telecommunications resources presently rest with the Administrator of General Services. These responsibilities are delegated to the Director, Federal Preparedness Agency. In addition, E. O. 11490, as amended, provides that Continuity of Government preparedness activities will be under the direction of the Administrator of General Services, a function also delegated to the Federal Preparedness Agency. The President's Reorganization

Plan 3 transfers these functions from the Administrator of General Services to the Federal Emergency Management Agency. As such, it is particularly inappropriate at this time to propose an across the board emergency communications system.

We recognize your interest in expeditiously implementing this proposal in the near term. To attempt to do so without an explicit determination by the Director, FEMA, that such a system will fit appropriately into his plans for that agency and other departments and agencies of the executive branch subject to his policy guidance, will possibly be seen as an inappropriate intrusion into his area of responsibility.

We strongly suggest, therefore, that all action on this project be held in abeyance until appropriate direction and approval is provided by the Director, FEMA, in coordination with those agencies with special responsibility for communications procurement and operation.

Sincerely,

A handwritten signature in cursive script, appearing to read "Paul F. G. [unclear]". The signature is written in dark ink and is positioned below the typed name "Sincerely,".



National Aeronautics and
Space Administration

Washington, D C
20546

Office of the Administrator

MAY 8 1979

Rear Admiral N. C. Venzke, USCG
Chairman, Interagency Committee on
Search and Rescue
Department of Transportation
Washington, DC 20590

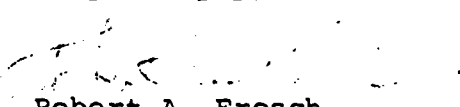
Dear Admiral Venzke:

This concerns your letter of March 15, 1979, request-
ing comments on the draft report on Emergency Response
Communications.

NASA's comments have been conveyed directly to the
Ad Hoc Working Group Chairman. In summary, they addressed:
user requirements, which were considered too general;
systems description, which was considered prematurely too
specific; and economic/marketing studies. The latter,
being prepared by NASA, had not been completed in time for
inclusion in the draft. It is my understanding that sub-
stantial progress has been made in all three areas and
will be reflected in the redraft of this document now
underway.

NASA will continue to assist in the development of
this document and will also continue its participation on
the Ad Hoc Interagency Working Group on Emergency Response
Communications.

Very truly yours,


Robert A. Frosch
Administrator

TO: John McElroy
FROM: 6211/B. E. LeRoy
SUBJECT: Comments on ICSAR Emergency Response Communications Draft Report

I have reviewed the draft report and submit the following comments for your consideration.

Requirements:

No specific service requirements for participating agencies are substantiated in the report. That is, a detailed analysis trading voice, FAX, teletype and video services for the performance of specific emergency activities has not been performed. In addition, the number of channels required for a satellite system is given without the supporting basis of a traffic flow analysis.

A general methodology for assessment of economic value and general characteristics of an Emergency Response Communications System (ERCS) is given in Section 2.1 (p.2-2). While the report attempts to follow the steps given, only steps one and two are treated in depth. A "competitive analysis" of systems or mixes of systems is lacking.

Of the 29 applications of the ERCS given in table 2-1, 11 or 38% are addressable by NOAA which operates its own communications systems. Fifteen (15) applications, or 52%, involve a "warning or alert" function from the ERCS. This activity has been addressed by NOAA and LeRC in a joint Disaster Warning program and found unacceptable for satellite

implementation - even when the warned population was the general public and receivers numbered in the millions. A smaller warned population would further reduce the economic attractiveness of satellites. In addition, previous interagency working groups have established the NOAA weather radio system as the logical, cost effective system for performing warning activities.

Systems level requirements for the ERCS are given in section 1.7 (p. 1-22).

They are:

- No line-of-sight limits
- Long-range
- Mobility
- Flexible capacity
- Low cost

The report indicates that only a satellite solution can address all of these requirements, but no further detail on these requirements are offered. Some comments on these requirements are necessary. The "no line-of-sight" requirement can be accomplished by radio techniques using relay stations (see enclosed ad). Second, a satellite does have line-of-sight problems. There is no guarantee that buildings, mountains, tall trees, etc. will not block the terminal line-of-sight to the satellite. Trees do provide substantial attenuation in the UHF frequency region considered in the report (see report by ITS on UHF attenuation).

The "long-range" requirement is a necessity for some applications. However, of the 29 ERCS applications identified, 16 (or 55%) are of small local area type applying generally short-range communications.

The remaining 13 applications should be examined to determine if short-range communications interfaced with long-range communications would be adequate.

The requirement for flexible capacity is not defined further in the report. One should note, however, that a dedicated satellite system is fixed in capacity, whereas the use of commercial communications facilities can offer capacity on an "as-needed" basis.

Costs

The conceptual system definition includes the following elements:

- Large S/C (~ 9,000 lb. with ~120' antennas)
 - 500 SCPC narrowband channels
 - 50 SCPC wideband channels
 - Priority, channel switched, baseband processing
- 20,000 users
 - 20,000 SCPC terminal (small)
 - 100 earth stations

Examining the space segment alone, no existing satellites of this size have been constructed for communications, and so all cost estimates are subject to interpretation. Nonetheless, a study for LeRC by Fairchild/Hiller presents the most complete assessment of operational costs for satellites to date. The upper limit of the study was Shuttle/IUS capability of 5,000 lb. The yearly space segment charge for this satellite is ~\$40M. Assuming this scales by the square root of the weight ratio, the yearly cost for the ERCS space segment would be ~\$54M. Certainly this is a rough estimate, based on 1976 dollars and does not include amortization of high technology items.

A 10-year life cycle cost would be in excess of \$500M. For comparison, a study performed for LeRC by CSC on a satellite disaster warning and communications system concluded that a 10-year life cycle cost for a 8,000 lb. satellite with 15 kW BOL power is ~\$700M (1974 dollars). Space segment development costs for the ERCS can be estimated at three to four times the yearly operations cost or from \$150M to \$200M.

Current commercial C-band transponder charges are less than \$1 M/yr. (~\$800K). Thus, even at a premium rate, a transponder on all nine U.S. DOMSATS could be obtained for ~\$9M/yr. If all transponders were approximately the same in frequency pass band, the system-to-system interference problem for small terminals might be alleviated. The ERCS program could be directed toward obtaining emergency mobile allocations for C-band.

Finally, the report expresses optimism on ERCS satellite system cost based on a paper by Ivan Bekey in Astronautics and Aeronautics. Mr. Bekey concludes that a satellite-based personal communications system is less costly than an equivalent terrestrial system by a factor of 10. This conclusion is based on serving a population of 25 million. The ERCS report incorrectly concludes that the advantage to satellite systems is even greater since the ERCS system is smaller. In fact, the cost per user increases as fewer user markets are served. Mr. Bekey's costs are \$2.3B for 10 year service to 25M users - a yearly cost of \$9/user. At \$9/user/year the ERCS revenue would be \$1.8M for 10 years - not enough to pay for the first design study. A more realistic figure for a 10 year ERCS is total program cost of \$1.5B to \$2B. At \$900/user/year

user cost is \$2,500 - this is more than twice the expected user charge for AT&T's cellular network.

As a side note, the CSC disaster warning study concluded that a terrestrial "spotter network" of 100,000 terminals was less costly than a satellite based equivalent. In the CSC study, the comparison was not artificially constrained - each system operated at its most efficient frequency band, unlike the Bekey comparisons.

Technology

The satellite ERCS employs a large ($\sim 120'$) offset parabola and full baseband channel processor, operating at VHF or UHF frequencies. The antenna appears to pose a significant development problem. To date, no antenna of that size has been fabricated to my knowledge. In addition, all previous deployable antennas have been center fed configurations - not offset configurations. The offset configuration presents a unique set of structural/thermal design problems for large antennas.

The necessity for a full baseband processor is not substantiated by the requirements presented in the report. In fact, the decode/recode capability appears unacceptable in a high security environment. Security - random codes, scramblers, etc. ~~would appear to be better~~ handled on the ground. To satisfy the requirement for compatibility, common FM/SCPC would suffice. To increase performance, digital modulation could supply increased noise immunity and each channel could be demodulated and re-modulated, however, the decode/recode feature seems unnecessary. The most challenging conceptual system tasks appear to be development of a

requires a switch matrix of $\approx (500)^2$ elements - a size not commercially viable in the near term. The controller must keep track of all channel connections and their priority status, perform preemptions when required, and be programmable as priorities vary. The alternative to on-board switch control is ground-based control. Since the ERCS concept incorporates channel switching, the switching speed need not be fast and "order wire" techniques for establishing connections have been proven in other systems. Ground-based system control appears feasible and sufficient.

In the Fairchild study for LeRC, a satellite-based mobile radio telephone was analyzed. In this concept, a double hop was required to connect two mobiles - all switching and system control was ground-based. Thus, all high technology system elements were centrally located (as in the ERCS concept) but ground-based. The analysis concluded that an Atlas/Centaur class satellite with 30' or 60' antenna enabled lowest user cost ($\sim \$2,500/\text{yr.}$) when the number of users was 20,000.

Programmatic and Policy

1. Industry and carrier responses to OSTP inquiries indicate that emergency communications services do require development but the proper Government role is to stimulate the private sector to provide those services as opposed to a Government-based service development program.
2. The recommended agency roles are:
 - TIA .. Management policy
 - establishment of user group

FEMA - Program management

- user fund management for commercial operation after test and evaluation

NASA - R&D agency

- first launch and system test

Under this structure NASA should require carrier involvement during the R&D phase or it is unlikely that system transfer to the private sector can be accomplished. Should that system transfer fail, there are no alternatives but to have a Government-operated service or to cease service. An alternative structure is to have NASA perform R&D at subsystem level (i.e.) antenna, switch etc. and have carrier/supplier teams perform systems level test and evaluation at no risk.

3. It is recommended in the ERCS report that R&D activities be initiated by release of an RFP (for what is not stated) consisting of the ERCS report and legal "boilerplate". The release of the ERCS report in any contractual matter would clearly preclude analysis of alternate system concepts - or for that matter, any service offering other than satellite-based services, since the report concludes that satellite service is the only means of meeting service needs. This recommendation should be rejected.

General Comment

The ERCS report appears to have been written by satellite communications supporters. However, they also appear enamored by what satellites can do as opposed to what satellites should do and what is logical to do.

The ERCS report concludes that satellite systems are the best service method - and once having decided that concluded that a high technology system is required. While satellites do offer geographical coverage advantages and are suited to rural mobile service, there appears to be no requirement for a high technology solution.

It is recommended that user agencies concentrate on service requirements in a manner that allows realistic service system trade-offs to be performed under the direction of technology experts - whether industry or Government-based.



OFFICE OF THE ASSISTANT SECRETARY OF DEFENSE
WASHINGTON, D. C. 20301

7 MAY REC'D

OSR-41

COMMUNICATIONS, COMMAND,
CONTROL, AND INTELLIGENCE

3 MAY 1979

Rear Admiral N. C. Venzke
U.S. Coast Guard
Chairman, Interagency Committee
on Search and Rescue
Department of Transportation
Washington, D.C. 20590

Dear Admiral Venzke:

Thank you for your March 15 letter forwarding copies of the Emergency Response Communications Program draft report of March 1979 for our review and comment.

Our review of that draft revealed two areas of major concern to this office. The first of these areas involves a serious policy issue. The program described does not seem to recognize a distinction between Federal and state prerogatives, which may prevent any further development efforts if not adequately addressed. In this regard, Section 2-411 of Executive Order 12046 assigns to the Secretary of Commerce coordination responsibilities for Federal telecommunications assistance to state and local governments. The organizational arrangements identified in the draft report are also quite deficient in recognizing the appropriate roles and missions of Federal departments and agencies in this and other national security and emergency preparedness telecommunications policy and management areas.

The second area of concern is related to the policy area; that is, the broad unbounded scope of the Emergency Response Communications Program.

The program presented is designed to do all things at all levels, ranging from locating a lost hunter to coordination of a Presidentially declared major disaster area type situation. The detailed analysis to identify valid requirements and the communications shortfalls incident to this continuum of situations does not seem to be included in the report. Existing communications systems which form the foundation for national level disasters and emergency communications support today are discounted in favor of a totally new satellite system which may not be presently within state of the art. The cost of such an endeavor can not be supported by the analysis contained in this report.

Therefore, while the March 1979 draft may contain a plausible requirement for emergency communications augmentation, the total system presented does not seem to be technically feasible nor economically justifiable at the present time. Rather than further continuing the efforts of this ad hoc group, we recommend that the Secretary of Transportation forward a letter report of this perceived requirement to the National Security Council for further review. This will allow the Executive Office of the President staffs with responsibilities in the areas of national security and emergency preparedness policy and management, i.e., National Security Council, Office of Science and Technology Policy, and Office of Management and Budget to review this proposal and assign required review and evaluation actions to appropriate government organizations. As a minimum, we assume that the National Communications System, the National Telecommunications and Information Administration, and the Federal Emergency Management Agency would jointly develop whatever program is required.

Enclosed is a copy of the White House July 5, 1978, Memorandum and a copy of the National Plan for Communications Support in Emergencies and Major Disasters, March 1979, for your review. These documents, which have a bearing on this subject, reflect the policy and management structure that is already established in this area and which currently provides a solid foundation on which approved programs and concepts could be developed.

Sincerely,

D. L. Solomon
Deputy Assistant Secretary of Defense
(Technical Policy and Operations)

Enclosures 2



THE POSTMASTER GENERAL
Washington, DC 20260

April 12, 1979

Dear Admiral Venzke:

This is in response to your letter of March 15, addressed to Mr. M.A. Wright, Chairman of the Board, U.S. Postal Service, asking for our comments on the draft report "Emergency Response Communications Program," and to outline our baseline requirements within the program.

The U.S. Postal Service was not represented on either the Interagency Committee on Search and Rescue nor the ad hoc working group developing the emergency response communications program and we provided no input to the draft report. However, in our review of the report we find it comprehensive in covering known emergency situations in which the U.S. Postal Service could be involved. We noted the draft report specifically references the law enforcement arm of the Postal Service, the Postal Inspection Service. We believe reference should also be made to the operational aspect of moving priority mail in major or catastrophic emergency situations.

Our baseline requirements in catastrophic emergencies, such as those resulting from acts of war, nuclear accidents, natural disasters, etc., will be the replacement of destroyed communication channels and networks utilized to maintain operational control of the mail handling system. These communication channels are primarily between Postal Service Headquarters, our five Regional Headquarters, and two classified locations. Either or both of the classified locations will be activated in the event of any disaster that destroys or makes inoperable Postal Service Headquarters. In addition to the foregoing and of localized importance are the communication channels between each of the Regional Headquarters and its subordinate major mail handling facilities.

For any technical information you may require from us,
please have your technical staff contact Mr. Harvey I.
Mellion, General Manager, Telecommunications Division,
Headquarters, U.S. Postal Service, Washington, D.C.
20260, telephone number (202) 245-4996.

Sincerely,

William F. Bolger

Rear Admiral N. C. Venzke
Chairman, Interagency Committee on
Search and Rescue
400 7th Street, S.W.
Washington, D.C. 20590

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NATIONAL RESEARCH COUNCIL
COMMISSION ON SOCIOTECHNICAL SYSTEMS

2101 Constitution Avenue Washington, D. C. 20418 (202) 389-6331

April 23, 1979

RADM N. C. Venzke
Commandant (G-0)
U.S. Coast Guard
400 7th Street, S.W.
Washington, DC 20590

Dear Admiral Venzke:

Recently you sent a copy of the report on "Emergency Response Communication Program" to Dr. Handler, which was referred to me for reply.

The National Research Council does not have a standing committee which is directly concerned with this subject, and we are not able to provide you with a formal Academy response. We do, however, have several members of our professional staff who are highly knowledgeable in the areas of emergency medical services, communication systems, and emergency preparedness. Their personal comments are enclosed for your interest.

Please let us know if we can be of further assistance.

Sincerely,


Edward Epremian
Executive Director

Enclosures

Subject: COMMENT ON REPORT ON "EMERGENCY RESPONSE COMMUNICATIONS PROGRAM"

The report leans hard in the direction of a specialized communications satellite system for emergency use only. If occurs to us that in a serious emergency situation all the relevant ~~communications, civil and military (including satellites) would be preempted for emergency use.~~ The various ~~communications resources~~ of our country are ~~extensive and constantly growing.~~ I'd like to have a balanced study of how these existing and planned communications resources (including satellites) can be utilized in emergencies before we resort to another expensive specialized satellite system.

Among other weaknesses of the report are the following:

- The study is vague on the significant cost of such a system versus its benefits.
- Who and how would the 20,000 ground terminals in the system be tested to be sure that they would be operative in an emergency? Would it not be cheaper and more reliable to preempt an operating system when an emergency occurred?

The report makes a number of assumptions on the lives and property to be saved through the use of the system that seems to be of questionable validity.

The report has the ring of a group of space and emergency enthusiasts attempting to generate a major expensive taxpayer-supported project. I advise caution in endorsing it.

Subject: Emergency Response Communication Program

As proposed, the "users" would be responsible, through a FEMA-managed fund, for operational costs and for purchase of local equipment. The primary users are identified as rural -- areas now served primarily by volunteer squads, operating independently or as parts of usually loosely organized EMS systems (the Acadian Ambulance Company, mentioned in the report, is unique).

Given the difficulty which most rural EMS systems are now having in making the transition from federal grants to local funding, it is difficult to see how they could add the costs of participation in an auxiliary and infrequently used disaster and search and rescue communications system. It would seem that the user costs would have to be borne directly by the state governments, which are all looking for ways to economize, or perhaps from some other source entirely, such as insurance companies, which might refund to state governments or to FEMA the difference in rates were they to reduce premiums appropriately. (An actual reduction in rates would probably be difficult to recover from the users.)

The role of such a communication system for disasters is clear. Less clear is its role in search and rescue, except as providing a means of communication from radio dead spots, once the rescuers have arrived on the scene.

SUBJECT: Draft - Comments on Report on Emergency Response Communications Program
March 1979

I have reviewed the subject report and have some misgivings about its conclusions and about whether it has fulfilled its purpose. I find the report to be supporting rationale for a satellite communications system to serve the needs of search and rescue together with other disaster situations. The entire report appears to be written in a way that justifies a satellite communications system. Although I believe that satellite communications may very well have a role to play in disaster communications, this report (despite the inclusion of a few statistics) fails to develop essential communications requirements or to examine very critically the satellite system it proposes.

On page 1-2, the report states that its objective is to develop user requirements and to demonstrate economic feasibility. I am unconvinced that user requirements have really been developed. No real distinction is made between the way an emergency creates undue demands on the normal existing systems, and the situation where an emergency prevents existing systems from functioning. The authors of the report may understand this distinction but they do not talk about it.

In principle, each emergency service provides for its own communications but these may prove inadequate to establish the coordination required to deal with disasters or to tap mobile assistance when that is required. This report might have established a framework for understanding the particular demands of disaster communications but on these fundamental issues the report is silent.

Equally serious is the lack of a critical appraisal of the solution that the working group is proposing. The authors would like you to believe that by

offering connectivities not normally available, a satellite communications system can solve heretofore insoluble problems. There are a number of fallacies in that argument which are not addressed in the report. The system proposed would provide 10 operating channels to users within a circle on the earth with a 360 mile diameter. Ten channels is an extremely small fraction of the communications that now takes place within such a circle. However many users could be accommodated on 10 channels of a trunked system (described on page 4-2), the capacity would be drastically reduced by restricting access to channels (as described on page 4-6). These discrepancies leave me to believe that the proposed system has not been subjected to very vigorous analysis.

SUBJECT: Comments on the "Emergency Response Communications Program"
Draft Report, dated March 1979.

General Comments

→ The basic aim of this study--to develop a more effective, integrated emergency communication system--is laudable and should be heartily endorsed. The report is also useful in developing a general concept for such a system, in outlining the rationale and general need for such a system, and in providing some useful background data. But the study also has some serious deficiencies:

(1) An adequate systems analysis on this subject must start with the functional requirements for emergency communication--i.e., who needs to communicate with whom, when, where, on what subjects, and under what time constraints? The report states that the ad hoc working group "was tasked to identify user requirements at all levels of severity and government" (p. ii), but it does not identify the user's functional requirements in sufficient detail to justify the technological facilities that are recommended. The report concentrates attention on the technologies of communication but pays insufficient attention to the social

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INTERAGENCY COMMITTEE FOR SEARCH AND RESCUE WASHINGTON DC F/G 17/2.1
FEDERAL AND STATE RESPONSES TO THE EMERGENCY RESPONSE COMMUNICA--ETC(U)
JUN 79

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Memorandum
April 20, 1979
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organizational needs and channels for communicating emergency information. In that sense, it places the technological cart before the informational horse--a frequent error in the history of telecommunications planning. As frequently happens, the technical, hardware specialists appear to have dominated in this telecommunications analysis.

→ (2) The serious problems of financial, political, and social feasibility in implementing this communications program are either ignored or given short shrift. The report seems to assume that the potential users will quickly accept the need for this system and come forth with the necessary endorsement and funding. That seems to me to be a naive point of view. The rural and remote areas that would benefit most from this proposed system are least able to give financial support to the system. Although the report says that it addresses the problems of 'showing political viability,' and 'demonstrating economic feasibility' (~~pp. 1-2~~) in designing the system, it really fails to give cognizance to the likely political, economic, and social constraints that will come into play in efforts to implement the program.

• The report needs a major editorial overhaul. It is filled with ungrammatical sentences, unnecessary technical jargon, inadequately labelled tables and charts, and misspelled words.