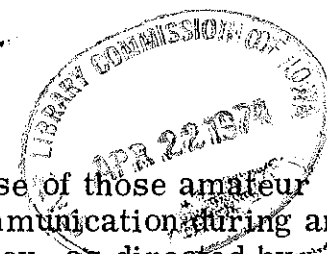


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IOWA CIVIL DEFENSE DIVISION
Lucas State Office Building
Room B-33
Des Moines, Iowa 50319

IOWA RADIO AMATEUR CIVIL EMERGENCY SERVICE (RACES)
OPERATIONS PLAN

1. GENERAL

- 
- a. This plan is designed to provide maximum use of those amateur frequencies earmarked for civil defense communication during an alert, natural disaster, or national emergency, as directed by Civil Defense authority. In normal use, RACES share these frequencies with the regular amateur service.
- b. The frequencies specified in this plan are in accordance with the "Manual for Radio Amateur Civil Emergency Service, (MP 60)," published by the Department of Defense, Defense Civil Preparedness Agency.

2. ORGANIZATION

- a. The RACES Radio networks are organized as follows:
- (1) STATE NETWORK - Will provide command and control communications between the State Civil Defense Emergency Operating Center (EOC) and the Civil Defense District Emergency Operating Centers (ANNEX A).
 - (2) AREA NETWORK - Will provide command and control communications between the District Emergency Operating Center and the County Emergency Operating Centers (ANNEX A).
 - (3) COUNTY NETWORK - Will provide command and control communications between county, town, and city EOC's.

3. RESPONSIBILITIES

- a. Each RACES network must have a Civil Defense RACES Officer. The State RACES Officer is directly responsible to the State Civil Defense Communications and Warning Officer. The Area RACES Officers are responsible to the State RACES Officer. County RACES Officers are responsible to County Civil Defense Directors. All RACES Officers are responsible for the organization, maintenance, readiness, and utilization of their RACES networks in accordance with the provisions of this plan.

- b. Certification of the Civil Defense RACES Officers for each RACES network is made on FCC Form 482. Such certification will be made by the Civil Defense authority of the area concerned. (State Director for State and Area Nets and County Director for County Nets.)
- c. The State RACES Officer and his alternate are appointed by the State Director on the recommendations of the State Civil Defense Communications and Warning Officer.
- d. Area RACES Officers and alternates are appointed by the State Civil Defense Communications and Warning Officer on the recommendation of the State RACES Officer.
- e. County RACES Officers and alternates are appointed by the County Director.
- f. The State Civil Defense Communications and Warning Officer will guide and assist Area RACES Officers in the formulation of Area RACES Plans. Completed plans are submitted in four copies (utilizing State Form No. IRP-2) to the State Director for approval. The State Director forwards three copies of the approved plan to the Defense Civil Preparedness Agency, Region Six for approval and submission to the Federal Communications Commission (FCC). The Area and County RACES Plan must include the following attachments to the State RACES Form No. IRP-2:
 - (1) Completed FCC Form 482 for each RACES Officer and alternate (IF NOT PREVIOUSLY SUBMITTED).
 - (2) Completed FCC Form 481 for each fixed station authorized for operation in the network (IF NOT PREVIOUSLY SUBMITTED).
- g. Civil Defense authorities will utilize local law enforcement agencies, if necessary, to determine the loyalty and general reliability of all Civil Defense RACES and amateur radio operators assigned operation duties in RACES networks. All operator personnel will be provided with Civil Defense identification cards signed by a proper Civil Defense authority.

4. NETWORK FREQUENCIES

Frequencies authorized for use in State, State Area, and County RACES networks are those specified in ANNEX B. Other frequencies are not authorized.

5. CIVIL DEFENSE AUTHORITY

The State Director is the legally appointed authority for all matters pertaining to the RACES networks utilized for Civil Defense in the State of Iowa. The authority for matters pertaining to RACES networks has been delegated to the Communications and Warning Officer.

6. OPERATING PROCEDURES

- a. Liaison between the Iowa State Civil Defense Headquarters and DCPA, Region Six is provided by State Civil Defense Headquarters. Messages may be exchanged between these respective points via telephone, teletype, radio, and messenger.
- b. All RACES stations and networks will operate in accordance with the State RACES Plan and the rules and regulations specified in Part 97, sub-part F, FCC Rules and Regulations.
- c. Specific operational procedures for State and State Area nets will be issued by the Iowa Civil Defense Division. Operational procedures for County RACES networks will be issued by the County Directors. In all cases, such procedures must comply with FCC Rules and Regulations governing RACES.

7. RACES STATION AUTHORIZATION

- a. Authority to operate a radio station in the RACES must be obtained from FCC through Civil Defense authorities.
- b. An authorization to operate a radio station in the RACES will be granted only to those individuals possessing a current amateur radio operator license, other than Technician or Novice Class, and an amateur radio station license.
- c. Each application for a station authorization or renewal must be submitted on FCC Form 481 to the State Office of Civil Defense. This form must be signed under oath by the applicant and countersigned by the appropriate RACES network officer. The State will submit this form to DCPA, Region Six for approval and submission to the FCC.

8. AUTHORIZED EMISSIONS

- a. Authorized emissions and their definitions follow:

<u>Symbol</u>		<u>Authorized Band Width</u>
(1) Ø. 1A1	Continuous wave telegraphy	100 Hertz
(2) 1. 1F1	Frequency shift telegraphy	1 KHZ
(3) 3A3A	Single side band telephone reduced carrier	3 KHZ
(4) 6A2	Telegraphy amplitude modulated at audio frequency	6 KHZ
(5) 6A3	Double side band telephony	6 KHZ
(6) 6A4	Amplitude modulated facsimile	6 KHZ
(7) 6F2	Telegraphy frequency modulated at audio frequency	6 KHZ
(8) 6F3	Narrow band frequency or phase modulated telephony	6 KHZ
(9) 20F3	*Wide band frequency or phase modulated telephony	20 KHZ

b. Ten (10) Meter Emission

- (1) 28.56 - 28.74 MHZ, Ø. 1A1, 6A3, 6F3, 6A4.
- (2) 29.46 - 29.64 MHZ, Ø. 1A1, 1. 1F1, 6A3, 6A4, 6F3.

c. Six (6) Meter Emission

- (1) 50.35 - 50.75 MHZ, Ø. 1A1, 6A2, 6F2, 6A3, 6F3, 6A4.
- (2) 53.35 - 53.75 MHZ, Ø. 1A1, 1. 1F1, 6A2, 6F2, 6A3, 6A4, 6F3, 20F3.
- (3) 53.30 MHZ, 20F3.

*NOTE: Although FCC Rules and Regulations authorizes the use of 40F3 for RACES operations, DCPA requires that the band width of this emission be either reduced to 20 KHZ or employ 6F3 emission in order to provide for additional channelization and prevent harmful interference to other stations in the RACES.

d. Two (2) Meter Emission

(1) 145.20 - 145.68 MHZ, Ø.1A1, 1.1F1, 6A2, 6F2, 6A3, 6A4,
6F3 (20F3 - limited use only).

(2) 146.82 - 147.33 MHZ, Ø.1A1, 1.1F1, 6A2, 6F2, 6A3, 6A4,
6F3 (20F3 - limited use only).

e. One and One-Quarter (1^{1/4}) Meter Emission

220.00 - 225.00 MHZ, Ø.1A1, 1.1F1, 6A2, 6F2, 6A3, 6F3, 6A4,
20F3.

9. LIST OF ANNEXES

ANNEXES: A - Diagram, State and State Area RACES Networks.
B - Quadrant and Channel Assignments.
C - Authorized Frequency Assignments.
D - State and Area Networks Operations SOP.
E - State Form No. IRP-2.


Henry J. Boccella

Communications and Warning Officer

APPROVED:


Albert R. Maricle

Director

DATE: January 11, 1973

ANNEX C AUTHORIZED FREQUENCY ASSIGNMENTS TO IA RACES PLAN

1. STATE NETWORK FREQUENCIES - STATE TO AREAS AND AREAS

3502.5 KHZ (Ø. 1A1, 1. 1F1)	Radiotelegraph	(State to Areas) PRIMARY
7099.0 KHZ (Ø. 1A1, 1. 1F1)	Radiotelegraph	(State to Areas) ALTERNATE
7124.0 KHZ (Ø. 1A1, 1. 1F1)	Radiotelegraph	(State to Areas) ALTERNATE
14050.5 KHZ (Ø. 1A1, 1. 1F1)	Radiotelegraph	(State to Areas or State to State)
21050.5 KHZ (Ø. 1A1, 1. 1F1)	Radiotelegraph	(State to Areas or State to State)
3990.5 KHZ (SSB - 3A3A; lower side band - Ø. 1A1, 1. 1F1)	Radiotelephone	(State to Areas) PRIMARY
3997.0 KHZ (Ø. 1A1, 3A3)	Radiotelephone	For use in emergency areas when required to make initial contact with military units.
53.30 MHZ (20F3)	Radiotelephone	For initial contacts with military units in emergency areas and for communications with military stations.

2. AREA NETWORK FREQUENCIES

a. Area frequencies are assigned as follows:

- (1) AREA 1 - Quadrant D, Channel 8, 10 meters - 29.58
6 meters - 53.435
2 meters - 145.665
- (2) AREA 2 - Quadrant B, Channel 10, 10 meters - 29.64
6 meters - 53.525
2 meters - 146.88
- (3) AREA 3 - Quadrant A, Channel 9, 10 meters - 29.59
6 meters - 53.45
2 meters - 145.68

- (4) AREA 4 - Quadrant D, Channel 7, 10 meters - 29.54
6 meters - 53.375
2 meters - 145.59
- (5) AREA 5 - Quadrant C, Channel 3, 10 meters - 28.66
6 meters - 50.51
2 meters - 145.35
- (6) AREA 6 - Quadrant C, Channel 9, 10 meters - 29.61
6 meters - 53.48
2 meters - 146.835
- (7) AREA 7 - Quadrant A, Channel 5, 10 meters - 28.72
6 meters - 50.60
2 meters - 145.44
- (8) AREA 8 - Quadrant D, Channel 4, 10 meters - 28.71
6 meters - 50.585
2 meters - 145.425
- (9) AREA 9 - Quadrant B, Channel 3, 10 meters - 28.65
6 meters - 50.495
2 meters - 145.335

3. MUTUAL AID INTERCOUNTY

- a. Frequency - 146.94 MHZ
- b. Disposition - To be used by any county to establish contact with an adjoining county during an emergency to expedite operations under mutual aid pacts.

4. NATURAL AND CIVIL DISASTERS

During periods of natural or civil disasters, direct communications from the disaster area to the State EOC are authorized on the State radiotelephone network (3990.5 KHZ).

5. LIST OF APPENDICES

- APPENDICES:
- 1 - Area 1 County Frequencies
 - 2 - Area 2 County Frequencies
 - 3 - Area 3 County Frequencies
 - 4 - Area 4 County Frequencies
 - 5 - Area 5 County Frequencies
 - 6 - Area 6 County Frequencies
 - 7 - Area 7 County Frequencies
 - 8 - Area 8 County Frequencies
 - 9 - Area 9 County Frequencies

APPENDIX 1 (Area 1 County Frequencies) to ANNEX C (Authorized Frequency Assignments) to IA RACES Plan.

1. Area 1 county frequencies are assigned as follows:

<u>QUADRANT</u>	<u>COUNTY</u>	<u>METER BAND</u>	<u>CHANNEL</u>	<u>MEGAHERTZ</u>
A	Boone	10	8	29.55
		6	8	53.39
		2	8	145.62
		1 ¹ / ₄	8	220.870
D	Dallas	10	2	28.63
		6	2	50.465
		2	2	145.305
		1 ¹ / ₄	2	220.240
D	Jasper	10	4	28.71
		6	4	50.585
		2	4	145.425
		1 ¹ / ₄	4	220.480
B	Polk	10	9	29.60
		10	4	28.69
		6	4	50.555
		2	4	145.395
		1 ¹ / ₄	4	220.420
B	Story	10	1	28.57
		6	1	50.375
		2	1	145.215
		1 ¹ / ₄	1	220.060
D	Lucas	10	7	29.54
		6	7	53.375
		2	7	145.605
		1 ¹ / ₄	7	220.840
C	Wayne	10	7	29.53
		6	7	53.36
		2	7	145.59
		1 ¹ / ₄	7	220.810

APPENDIX 1 to ANNEX C to IA RACES (continued)

<u>QUADRANT</u>	<u>COUNTY</u>	<u>METER BAND</u>	<u>CHANNEL</u>	<u>MEGAHERTZ</u>
C	Clarke	10	8	29.57
		6	8	53.42
		2	8	145.65
		1 ¹ / ₄	8	220.930
D	Decatur	10	9	29.62
		6	9	53.495
		2	9	146.85
		1 ¹ / ₄	9	221.080
C	Marion	10	5	28.74
		6	5	50.63
		2	5	145.47
		1 ¹ / ₄	5	220.570
C	Warren	10	2	28.62
		6	2	50.45
		2	2	145.29
		1 ¹ / ₄	2	220.210
C	Ringgold	10	3	28.66
		6	3	50.51
		2	3	145.35
		1 ¹ / ₄	3	220.330
D	Union	10	1	28.59
		6	1	50.405
		2	1	145.245
		1 ¹ / ₄	1	220.120
D	Madison	10	3	28.67
		6	3	50.525
		2	3	145.365
		1 ¹ / ₄	3	220.360

APPENDIX 1 to ANNEX C to IA RACES (continued)

<u>QUADRANT</u>	<u>COUNTY</u>	<u>METER BAND</u>	<u>CHANNEL</u>	<u>MEGAHERTZ</u>
A	Marshall	10	2	28.60
		6	2	50.42
		2	2	145.26
		1 ¹ / ₄	2	220.150

APPENDIX 2 (Area 2 County Frequencies) to ANNEX C (Authorized Frequency Assignments) to IA RACES Plan.

1. Area 2 county frequencies are assigned as follows:

<u>QUADRANT</u>	<u>COUNTY</u>	<u>METER BAND</u>	<u>CHANNEL</u>	<u>MEGAHERTZ</u>
B	Chickasaw	10	1	28.57
		6	1	50.375
		2	1	145.215
		1 ¹ / ₄	1	220.060
A	Floyd	10	4	28.68
		6	4	50.54
		2	4	145.38
		1 ¹ / ₄	4	220.390
A	Howard	10	2	28.60
		6	2	50.42
		2	2	145.26
		1 ¹ / ₄	2	220.150
B	Mitchell	10	3	28.65
		6	3	50.495
		2	3	145.335
		1 ¹ / ₄	3	220.300
B	Allamakee	10	2	28.61
		6	2	50.435
		2	2	145.275
		1 ¹ / ₄	2	220.180
B	Winneshiek	10	4	28.69
		6	4	50.555
		2	4	145.395
		1 ¹ / ₄	4	220.420
C	Buchanan	10	5	28.74
		6	5	50.63
		2	5	145.47
		1 ¹ / ₄	5	220.570

APPENDIX 2 to ANNEX C to IA RACES (continued)

<u>QUADRANT</u>	<u>COUNTY</u>	<u>METER BAND</u>	<u>CHANNEL</u>	<u>MEGAHERTZ</u>
C	Clayton	10	2	28.62
		6	2	50.45
		2	2	145.29
		1 ¹ / ₄	2	220.210
C	Fayette	10	1	28.58
		6	1	50.39
		2	1	145.23
		1 ¹ / ₄	1	220.090
D	Black Hawk	10	3	28.67
		6	3	50.525
		2	3	145.365
		1 ¹ / ₄	3	220.360
B	Bremer	10	5	28.73
		6	5	50.615
		2	5	145.455
		1 ¹ / ₄	5	220.540
A	Butler	10	1	28.56
		6	1	50.36
		2	1	145.20
		1 ¹ / ₄	1	220.030
C	Grundy	10	3	28.66
		6	3	50.51
		2	3	145.35
		1 ¹ / ₄	3	220.330
B	Delaware	10	6	29.48
		6	6	50.675
		2	6	145.515
		1 ¹ / ₄	6	220.660

APPENDIX 2 to ANNEX C to IA RACES (continued)

<u>QUADRANT</u>	<u>COUNTY</u>	<u>METER BAND</u>	<u>CHANNEL</u>	<u>MEGAHERTZ</u>
C	Dubuque	10	4	28.70
		6	4	50.57
		2	4	145.41
		1 ¹ / ₄	4	220.450

APPENDIX 3 (Area 3 County Frequencies) to ANNEX C (Authorized Frequency Assignments) to IA RACES Plan.

1. Area 3 county frequencies are assigned as follows:

<u>QUADRANT</u>	<u>COUNTY</u>	<u>METER BAND</u>	<u>CHANNEL</u>	<u>MEGAHERTZ</u>
A	Emmet	10	6	29.47
		6	6	50.66
		2	6	145.50
		1 ¹ / ₄	6	220.630
A	Lyon	10	1	28.56
		6	1	50.36
		2	1	145.20
		1 ¹ / ₄	1	220.030
A	Palo Alto	10	3	28.64
		6	3	50.48
		2	3	145.32
		1 ¹ / ₄	3	220.270
A	Sioux	10	2	28.60
		6	2	50.42
		2	2	145.26
		1 ¹ / ₄	2	220.150
B	Clay	10	3	28.65
		6	3	50.495
		2	3	145.335
		1 ¹ / ₄	3	220.300
B	Dickinson	10	2	28.61
		6	2	50.435
		2	2	145.275
		1 ¹ / ₄	2	220.180
B	O'Brien	10	4	28.69
		6	4	50.555
		2	4	145.395
		1 ¹ / ₄	4	220.420

APPENDIX 3 to ANNEX C to IA RACES (continued)

<u>QUADRANT</u>	<u>COUNTY</u>	<u>METER BAND</u>	<u>CHANNEL</u>	<u>MEGAHERTZ</u>
B	Osceola	10	1	28.57
		6	1	50.375
		2	1	145.215
		1 ¹ / ₄	1	220.060
B	Buena Vista	10	5	28.73
		6	5	50.615
		2	5	145.455
		1 ¹ / ₄	5	220.540
A	Cherokee	10	4	28.68
		6	4	50.54
		2	4	145.38
		1 ¹ / ₄	4	220.390
A	Ida	10	5	28.72
		6	5	50.60
		2	5	145.44
		1 ¹ / ₄	5	220.510
D	Sac	10	3	28.67
		6	3	50.525
		2	3	145.365
		1 ¹ / ₄	3	220.360
C	Calhoun	10	8	29.57
		6	8	53.42
		2	8	145.65
		1 ¹ / ₄	8	220.930
D	Plymouth	10	1	28.59
		6	1	50.405
		2	1	145.245
		1 ¹ / ₄	1	220.120

APPENDIX 3 to ANNEX C to IA RACES (continued)

<u>QUADRANT</u>	<u>COUNTY</u>	<u>METER BAND</u>	<u>CHANNEL</u>	<u>MEGAHERTZ</u>
D	Woodbury	10	2	28.63
		6	2	50.465
		2	2	145.305
		1 ¹ / ₄	2	220.240
<hr/>				
B	Pocahontas	10	10	29.64
		6	10	53.525
		2	10	146.88
		1 ¹ / ₄	10	221.140
<hr/>				

APPENDIX 4 (Area 4 County Frequencies) to ANNEX C (Authorized Frequency Assignments) to IA RACES Plan.

1. Area 4 county frequencies are assigned as follows:

<u>QUADRANT</u>	<u>COUNTY</u>	<u>METER BAND</u>	<u>CHANNEL</u>	<u>MEGAHERTZ</u>
A	Cass	10	9	29.59
		6	9	53.45
		2	9	145.68
		1 ¹ / ₄	9	220.990
D	Montgomery	10	2	28.63
		6	2	50.465
		2	2	145.305
		1 ¹ / ₄	2	220.240
C	Page	10	1	28.58
		6	1	50.39
		2	1	145.23
		1 ¹ / ₄	1	220.090
A	Adair	10	2	28.60
		6	2	50.42
		2	2	145.26
		1 ¹ / ₄	2	220.150
C	Adams	10	4	28.70
		6	4	50.57
		2	4	145.41
		1 ¹ / ₄	4	220.450
D	Fremont	10	8	29.58
		6	8	53.435
		2	8	145.665
		1 ¹ / ₄	8	220.960
A	Mills	10	4	28.68
		6	4	50.54
		2	4	145.38
		1 ¹ / ₄	4	220.390

APPENDIX 4 to ANNEX C to IA RACES (continued)

<u>QUADRANT</u>	<u>COUNTY</u>	<u>METER BAND</u>	<u>CHANNEL</u>	<u>MEGAHERTZ</u>
D	Pottawattamie	10	6	29.50
		6	6	50.705
		2	6	145.545
		1 ¹ / ₄	6	220.720
D	Taylor	10	4	28.71
		6	4	50.585
		2	4	145.425
		1 ¹ / ₄	4	220.480

APPENDIX 5 (Area 5 County Frequencies) to ANNEX C (Authorized Frequency Assignments) to IA RACES Plan.

1. Area 5 county frequencies are assigned as follows:

<u>QUADRANT</u>	<u>COUNTY</u>	<u>METER BAND</u>	<u>CHANNEL</u>	<u>MEGAHERTZ</u>
C	Monroe	10	9	29.61
		6	9	53.48
		2	9	146.835
		1 ¹ / ₄	9	221.050
D	Wapello	10	1	28.59
		6	1	50.405
		2	1	145.245
		1 ¹ / ₄	1	220.120
B	Des Moines	10	3	28.65
		6	3	50.495
		* 6	8	53.405
		2	3	145.335
		1 ¹ / ₄	3	220.300
B	Henry	10	5	28.73
		6	5	50.615
		2	5	145.455
		1 ¹ / ₄	5	220.540
C	Jefferson	10	1	28.58
		6	1	50.39
		2	1	145.23
		1 ¹ / ₄	1	220.090
B	Washington	10	4	28.69
		6	4	50.555
		2	4	145.395
		1 ¹ / ₄	4	220.420
C	Lee	10	5	28.74
		6	5	50.63
		2	5	145.47
		1 ¹ / ₄	5	220.570

* NOTE: To be used only for mutual aid and coordination with Henderson County, Illinois.

APPENDIX 5 to ANNEX C to IA RACES (continued)

<u>QUADRANT</u>	<u>COUNTY</u>	<u>METER BAND</u>	<u>CHANNEL</u>	<u>MEGAHERTZ</u>
C	Louisa	10	8	29.57
		6	8	53.42
		2	8	145.65
		1 ¹ / ₄	8	220.930
D	Van Buren	10	3	28.67
		6	3	50.525
		2	3	145.365
		1 ¹ / ₄	3	220.360
D	Appanoose	10	5	29.46
		6	5	50.645
		2	5	145.485
		1 ¹ / ₄	5	220.600
C	Davis	10	6	29.49
		6	6	50.69
		2	6	145.53
		1 ¹ / ₄	6	220.690
B	Keokuk	10	6	29.48
		6	6	50.675
		2	6	145.515
		1 ¹ / ₄	6	220.660
D	Mahaska	10	6	29.50
		6	6	50.705
		2	6	145.545
		1 ¹ / ₄	6	220.720

APPENDIX 6 (Area 6 County Frequencies) to ANNEX C (Authorized Frequency Assignments) to IA RACES Plan.

1. Area 6 county frequencies are assigned as follows:

<u>QUADRANT</u>	<u>COUNTY</u>	<u>METER BAND</u>	<u>CHANNEL</u>	<u>MEGAHERTZ</u>
B	Cedar	10	7	29.52
		6	7	50.735
		2	7	145.575
		1 ¹ / ₄	7	220.780
B	Clinton	10	8	29.56
		6	8	53.405
		2	8	145.635
		1 ¹ / ₄	8	220.900
B	Jackson	10	9	29.60
		6	9	53.465
		2	9	146.82
		1 ¹ / ₄	9	221.020
C	Jones	10	6	29.49
		6	6	50.69
		2	6	145.53
		1 ¹ / ₄	6	220.690
B	Muscatine	10	10	29.64
		6	10	53.525
		2	10	146.88
		1 ¹ / ₄	10	221.140
C	Scott	10	7	29.53
		6	5	50.63
		6	7	53.36
		2	7	145.59
		1 ¹ / ₄	7	220.810

APPENDIX 7 (Area 7 County Frequencies) to ANNEX C (Authorized Frequency Assignments) to IA RACES Plan.

1. Area 7 county frequencies are assigned as follows:

<u>QUADRANT</u>	<u>COUNTY</u>	<u>METER BAND</u>	<u>CHANNEL</u>	<u>MEGAHERTZ</u>
A	Kossuth	10	2	28.60
		6	2	50.42
		2	2	145.26
		1 ¹ / ₄	2	220.150
B	Cerro Gordo	10	6	29.48
		6	6	50.675
		2	6	145.515
		1 ¹ / ₄	6	220.660
B	Hancock	10	7	29.52
		6	7	50.735
		2	7	145.575
		1 ¹ / ₄	7	220.780
B	Winnebago	10	8	29.56
		6	8	50.405
		2	8	145.635
		1 ¹ / ₄	8	220.900
A	Worth	10	8	29.55
		6	8	53.39
		2	8	145.62
		1 ¹ / ₄	8	220.870
B	Franklin	10	9	29.60
		6	9	53.465
		2	9	146.82
		1 ¹ / ₄	9	221.020
C	Hamilton	10	4	28.70
		6	4	50.57
		2	4	145.41
		1 ¹ / ₄	4	220.450

APPENDIX 7 to ANNEX C to IA RACES (continued)

<u>QUADRANT</u>	<u>COUNTY</u>	<u>METER BAND</u>	<u>CHANNEL</u>	<u>MEGAHERTZ</u>
D	Hardin	10	5	29.46
		6	5	50.645
		2	5	145.485
		1 ¹ / ₄	5	220.600
A	Wright	10	9	29.59
		6	9	53.45
		2	9	145.68
		1 ¹ / ₄	9	220.990
A	Humboldt	10	10	29.63
		6	10	53.51
		2	10	146.865
		1 ¹ / ₄	10	221.110
D	Webster	10	6	29.50
		6	6	50.705
		2	6	145.545
		1 ¹ / ₄	6	220.720

APPENDIX 8 (Area 8 County Frequencies) to ANNEX C (Authorized Frequency Assignments) to IA RACES Plan.

1. Area 8 county frequencies are assigned as follows:

<u>QUADRANT</u>	<u>COUNTY</u>	<u>METER BAND</u>	<u>CHANNEL</u>	<u>MEGAHERTZ</u>
A	Harrison	10	10	29.63
		6	10	53.51
		2	10	146.865
		1 ¹ / ₄	10	221.110
A	Shelby	10	1	28.56
		6	1	50.36
		2	1	145.20
		1 ¹ / ₄	1	220.030
B	Greene	10	1	28.57
		6	1	50.375
		2	1	145.215
		1 ¹ / ₄	1	220.060
A	Guthrie	10	3	28.64
		6	3	50.48
		2	3	145.32
		1 ¹ / ₄	3	220.270
D	Audubon	10	5	29.46
		6	5	50.645
		2	5	145.485
		1 ¹ / ₄	5	220.600
A	Carroll	10	7	29.51
		6	7	50.72
		2	7	145.56
		1 ¹ / ₄	7	220.750
A	Crawford	10	6	29.47
		6	6	50.66
		2	6	145.50
		1 ¹ / ₄	6	220.630

APPENDIX 8 to ANNEX C to IA RACES (continued)

<u>QUADRANT</u>	<u>COUNTY</u>	<u>METER BAND</u>	<u>CHANNEL</u>	<u>MEGAHERTZ</u>
D	Monona	10	9	29.62
		6	9	53.495
		2	9	146.85
		1 ¹ / ₄	9	221.080

APPENDIX 9 (Area 9 County Frequencies) to ANNEX C (Authorized Frequency Assignments) to IA RACES Plan.

1. Area 9 county frequencies are assigned as follows:

<u>QUADRANT</u>	<u>COUNTY</u>	<u>METER BAND</u>	<u>CHANNEL</u>	<u>MEGAHERTZ</u>
A	Benton	10	3	28.64
		6	3	50.48
		2	3	145.32
		1 ¹ / ₄	3	220.270
B	Tama	10	2	28.61
		6	2	50.435
		2	2	145.275
		1 ¹ / ₄	2	220.180
B	Linn	10	1	28.57
		6	1	50.375
		2	1	145.215
		1 ¹ / ₄	1	220.060
C	Johnson	10	2	28.62
		6	2	50.45
		2	2	145.29
		1 ¹ / ₄	2	220.210
D	Iowa	10	2	28.63
		6	2	50.465
		2	2	145.305
		1 ¹ / ₄	2	220.240
C	Poweshiek	10	4	28.70
		6	4	50.57
		2	4	145.41
		1 ¹ / ₄	4	220.450

ANNEX D (OPERATIONS SOP) to IA RACES PLAN

1. OPERATING PROCEDURES

A. State and Area Nets are operated as directed networks. Under this principle no station shall transmit any signal, message, or other communication except with the permission of the control station of the network. A station may, however, transmit such signals as may be necessary to alert or make contact with the control station or to transmit actual Civil Defense communications if the control station and alert net control station are inoperable.

B. RADIOTELEPHONE

(1) Transmission on radiotelephone circuits should be in a moderate tone of voice and with natural emphasis on each word. Fast, excited, or loud speech will require repetition and therefore waste time. Transmissions will be as brief as possible consistent with clearness. Special effort should be made at all times to enunciate distinctly. Content of transmissions should be planned beforehand to eliminate periods of unmodulated carrier. Words should be spoken in uninterrupted sentences, except when messages are being transmitted. At such times, the speaker must keep in mind the time required to write the message and must not send more than one medium length phrase before pausing a sufficient length of time to permit the writing of the phrase.

(2) Prologue for opening of a RACES net:

"This is (Call Letters), (State, Area, County) net control station in the Radio Amateur Civil Emergency Service, operating on (assigned frequency) by authority of the Federal Communications Commission and the Iowa Director of Civil Defense. This is a directed net, alerted for the purpose of (a test, exercise, and emergency).

"Those not directly concerned with this RACES (test, exercise, emergency) are requested to keep this frequency clear."

(3) Contact between stations is initially established with a call consisting of--

ANNEX D to IA RACES (continued)

- (a) Call sign of the called station.
- (b) "THIS IS."
- (c) Call sign of the calling station.
- (d) "OVER"

EXAMPLE:

"W2ABC this is W2XYZ. OVER." The called station replies by saying:

"W2XYZ this is W2ABC. OVER." Prior to OVER, the stations may insert additional information as the situation may require.

- (4) After contact has been established, and exchange of transmissions can take place without further identification provided that each transmission is not more than three minutes in length and that identification signs are transmitted at least every ten minutes. Except during brief transmission exchanges, each transmission shall end with one of the two following words:

WORD

MEANING

OVER

My transmission to you is ended, and I expect a response from you.

OUT

My transmission to you is ended, and no response is required or expected.

- (5) At the end of a series of transmissions, the call sign of the called station and the calling station is repeated as follows:

W2ABC from W2XYZ OUT.

W2XYZ from W2ABC OUT.

- (6) When engaged in network operation, after a station has been fully identified at least once, further identification by that station may be accomplished by abbreviated call signs or other distinctive signals.

EXAMPLE: WAØCIQ (State) this is WØCIN (Area 3) over.

- (7) In network operation, a station shall request permission to contact the Net Control Station by saying: "This is XYZ."

If the Net Control Station wishes him to speak, he says: "XYZ, OVER." (If the NCS understood the call letters).

If NCS did not understand which station called, he will say: "Breaking station, OVER."

Whereupon the breaking station says: "This is XYZ (state reason for call), OVER."

If the NCS does not wish the breaking station to transmit at this time, he will say: "XYZ, wait" or "Breaking station, wait."

He will give the breaking station permission to transmit at the earliest possible opportunity. If the breaking station has urgent traffic or other such business to conduct, he will say: "This is XYZ, URGENT, OVER."

- (8) If a member station cannot "break in" to the NCS because transmissions of other stations do not permit sufficient pause, he can signal his desires to the NCS by the "carrier break" system. He does this by transmitting his carrier for a fraction of a second. This will heterodyne with the carrier of any other transmission to produce a "dot." One dot will mean "call me at your convenience." Two dots will mean "call me as soon as possible." Three dots will be used to signal an emergency.
- (9) All transmissions must be preceded by listening on the net frequency to positively determine what operations are in progress. When it is necessary and permissible to enter the net, it is done by "break-in" procedures described above.
- (10) The proper time for a station to break in is determined by the relative priority of the business of the breaking station as compared to the current traffic on the net. A station with a message for immediate delivery may break in on any exchange of transmission other than the handling of a message of greater priority. It will usually be advisable to wait for the completion of a message being transmitted. Although the timing of break-ins is a matter of judgment, it is not difficult for an alert operator to conduct himself satisfactorily in this regard.

- (11) During emergency operations, transmissions shall be momentarily halted at least once every two minutes to permit break-in stations to be heard. During training sessions, transmissions as long as three minutes can be used. These pauses shall be used during the transmission of lengthy messages which will give the receiving station an opportunity to ask for "fills" (message repeats) if necessary.
 - (a) A phone station will provide the required momentary interruption by saying "break" (to indicate that the transmission is incomplete), and then turning off his carrier for a few seconds. If in the pause there is no transmission (other than from the station being worked), then the exchange of transmission will continue. If there is a breaking station, the NCS will take charge to determine the station identity, business, and to issue the necessary instructions. The NCS can take control at any break-in pause and will always do so when a "carrier break" type of signal has been heard prior to the pause in transmission.

C. RADIO TELEGRAPH

- (1) Speed - All transmission of net business must be sent at the highest speed at which all member stations can make accurate written copy. All transmissions of messages should be at the highest speed that the receiving operator can make accurate copy.
- (2) Prosigns:
 - (a) Procedure signs (prosigns) consisting of one or more letters or characters or combination thereof are used to facilitate communication by conveying, in condensed form, certain frequently used orders, instructions, request and information relating to communications. An overscore (line over two or more letters) indicates that the letters overscored are to be transmitted as a single character (no pause between letters).
 - (b) Many commonly used words are abbreviated in CW transmissions concerning the conduct of net operations. Such abbreviations are not to be substituted for the full spelling in messages.

(3) "Q" Signals:

- (a) "Q" signals are used to represent all or part of questions and answers commonly needed in radiotelegraph communications. When followed by a question mark (IMI), the meaning takes the form of a question.
- (b) Readability: To determine how well a receiving station understands a CW transmission, the question is asked as follows:

"QRKIMI." The answer is: R1, or R2, or R5 as the case may be, based on the following definitions.

R1 - Unreadable.

R2 - Barely readable, occasional words distinguishable.

R3 - Readable with difficulty.

R4 - Readable with practically no difficulty.

R5 - Perfectly readable.

- (c) "On" signals are used to provide clearness and brevity in connection with those questions and answers required for the operation of the network.

- (4) Break-In: A CW station can usually be interrupted during the frequent natural pauses in the transmission. If such occurs, the NCS will take charge of the situation. CW stations will call for fills and provide an interruption in lengthy messages by sending "B."

2. NCS AUTHORITY

- a. The authority of the NCS extends only to the operation of the net on the air and is in no way concerned with interior administration of the stations. Within its scope, however, the authority of the NCS is absolute, its decisions are final, and its instructions must be strictly and immediately complied with.
- b. Success or failure of actual net operations depends on keeping the net in order and operating swiftly and smoothly by exercising the powers invested in the NCS for this purpose. NCS may break into the net at any time if, in his opinion, it is necessary to aid the functioning of the net. NCS must keep a running, written record of stations in the net and the traffic they have for transmission. The

ANNEX D to IA RACES (continued)

NCS derives his authority from the appropriate Civil Defense Radio Officer in charge of the particular RACES network and is responsible to that officer for proper conduct of the net.

3. MESSAGE HANDLING

- a. Message format is the responsibility of local Civil Defense authorities. A suggested format is the one utilized by the "American Radio Relay League." This radiogram is a preprinted form adapted for message handling and transmission. It is, however, the duty of the Civil Defense Radio Officer to suggest message forms that are conducive to rapid and accurate transmission of information. A message form must include the essential elements of address and text.
- b. If the originating station operator finds the message to be improperly made out (insufficient address, etc.), he will return it to the originating authority for revision.
- c. It is important that each message be in written form and authorized by competent Civil Defense authority for transmission for the following reasons:
 - (1) Greater ease and accuracy of transmission.
 - (2) To facilitate the accurate transmission of repeats when the receiving station so requests.
 - (3) To fix responsibility for message authorization on competent Civil Defense authority other than the station operator. It is recognized that an operator may be authorized to originate Civil Defense messages as a function apart from his RACES operating duties.
- d. In mobile and hand-held operation, there will be a tendency to request transmission of messages given verbally to the operator. This is undesirable and should be kept at an absolute minimum.

4. RADIO STATION LOGS

- a. Radio station logs must be kept in accordance with the following procedures:

ANNEX D to IA RACES (continued)

- (1) Fixed Stations. Logs shall show--
 - (a) Name and address of licensee, call letters, and unit number (if any), name of RACES network, and input power. This data is entered only once or whenever changed, with each change being dated.
 - (b) Date and time at beginning and end of each operating period, purpose of such operation, and frequencies or bands of operation.
 - (c) Identification of all units contacted or called during the operating period.
 - (d) The signature of the person in charge of the station and the signature of each operator must be shown giving the dates and times of the beginning and end of each duty period for each person. Each page of the log, in addition to the first page, must show the signatures, dates, and times of those in charge and actually operating.
 - (e) At the completion of each operating period, a summary describing the nature of the operation, an estimate of the record traffic handled, and a report on any unusual delays in message delivery shall be entered in the log.
 - (f) There shall be no erasure or obliterations of entries. Corrections are made by crossing out the erroneous part and initialing and dating the correction.
- b. Mobiles and portables are exempt from log-keeping when the required entries are made at another station in the network.
- c. The current log shall be kept at the operating position. The remainder shall be kept for one year by the Radio Officer, except that portions covering operations during actual emergencies shall not be destroyed unless permission to do so is given by the ECC.
- d. Logs are to be made available for inspection upon reasonable request of any authorized representative of the FCC and FCDA.

SUPPLEMENT TO
IOWA RACES COMMUNICATIONS OPERATIONS PLAN

COUNTY _____

(Name of Local Civil Defense Organization)

RACES COMMUNICATIONS PLAN

(Submit four copies to the Iowa State Civil Defense Division, Lucas State Office Building, Room B-33, Des Moines, Iowa 50319)

1. City or Area _____
Civil Defense Director _____
Official Title _____
Address _____
2. Communications Officer (if applicable) _____
Official Title _____
Address _____
If licensed radio operator, list commercial or amateur licenses now held

Other qualifications _____

3. Radio Officer _____
Official Title _____
Address _____
Radio licenses now held _____
Other qualifications _____

ANNEX E to IA RACES Plan (continued)

4. Name of RACES network under control of above radio officer _____

Location of control station _____

Control station call letters _____

Control station licensed to _____

Address _____

License expires (date) _____

Purpose of proposed network: To provide radio communication for the city and county such as to connect with the State Net Control Station or Area _____, to provide radio communication to the Civil Defense agencies that require them, and to provide radio communication to relief agencies in times of any disaster.

5. Location of fixed stations in network: (Must be operating on frequencies as assigned in ANNEX C. Affix additional sheet if necessary.)

Location	Call Letters	Location	Call Letters
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

6. Number of portable stations _____

Number of mobile stations _____

Number of qualified operations (a) required _____

(b) available _____

7. Personnel

(Name of Local Civil Defense Organization)

will make use of local law enforcement agencies to determine the loyalty and general reliability of all Civil Defense radio officers, station licensees, and radio operators used in the operation of RACES networks. All operator personnel will be furnished with a Civil Defense identification card, signed by a proper Civil Defense authority. Facilities available for determining the loyalty and reliability of such personnel are as follows: local city police files, county sheriff's files, local school authorities, Iowa Bureau of Investigation.

ANNEX E to IA RACES Plan (continued)

8. Stipulation

This plan, when approved by the State Director of Civil Defense, shall become a part of the State Plan and shall comply with all requirements of the Iowa RACES Plan.

9. Frequency Assignments

The frequencies listed herein were determined by reference to the Iowa RACES Operations Plan.

Local Civil Defense Director

State Civil Defense Director

Date