

WISCONSIN 800 MHz F.C.C. REGION NUMBER 45

REGIONAL PLAN



PREFACE

In December 1983, the United States Congress directed the Federal Communications Commission (FCC) to establish a plan to ensure that the communications needs of state and local public safety authorities would be met for the future. The Commission issued a Notice of Inquiry on March 7, 1984 and evaluated over three hundred comments from the public safety community and other interested parties.

These comments formed the basis for a Staff Report issued by the Commission's Private Radio Bureau on August 1, 1985. This report suggested various methods of meeting the communications needs of public safety. One option included was the allocation of additional frequencies at 821-825 MHz and 866-870 MHz.

The Commission issued an allocation order on September 19, 1986. Six megahertz of spectrum were selected in the 821-824 MHz and 866-869 MHz bands since they were adjacent to frequencies already being used for public safety purposes. However, while the Commission made this allocation, it also stipulated that the frequencies could not be used until a National Plan for spectrum utilization was adopted.

The Commission then established the National Public Safety Planning Advisory Committee (NPSPAC) in December, 1986. This committee had open membership and all interested parties were

invited to participate in its meetings. The Commission charged NPSPAC with the following tasks:

1. Identify communications requirements of public safety agencies.
2. Develop a scheme for efficient use of the new frequencies.
3. Develop a scheme to increase the utility of existing public safety frequencies.
4. Recommend the manner in which new technologies can be applied to public safety frequencies.
5. Recommend guidelines to ensure compliance with the National Plan.

NPSPAC submitted its Initial Report to the Commission on March, 1987. On May 15, 1987, the Commission issued a Notice of Proposed Rule Making proposing policies and rules for the National Plan. NPSPAC then issued its Final Report in September, 1987. On December 18, 1987 the Commission released a Report and Order regarding the development and implementation of a Public Safety National Plan. (General Docket No. 87-112).

In its introductory comments the Commission expresses its

belief that "while certain technical concerns must be addressed at the national level, the great diversity of needs in different areas of the country demand that input also be obtained at the State and Local levels." Thus, the United States was divided into Regions, primarily along State boundaries. A few large metropolitan areas petitioned for status as independent Planning Regions. The Commission subsequently granted this Petition and established fifty-five regions.

This document constitutes the Public Safety Communications Plan for Region No. 45: The Wisconsin Planning Region. It addresses the unique spectrum allocation requirements of public safety and other eligible authorities throughout the State of Wisconsin.

This plan is respectfully submitted to the Commission this 10th day of August, 1992 in conformance with the National Plan.

Richard Shulak, P.E.

Chairman

THE REGION

ESTABLISHMENT OF REGIONAL BOUNDARIES

For Public Safety Communications purposes, the Wisconsin Region (the Region) is the geographic area of the State of Wisconsin, excluding the eleven southeastern counties of Dane, Dodge, Jefferson, Kenosha, Milwaukee, Ozaukee, Racine, Rock, Walworth, Washington and Waukesha, which are a part of the Southern Lake Michigan Region.

The Wisconsin Region is comprised of sixty-one counties within the State of Wisconsin. Its approximately two and one-half million people represent a significant portion of the Nation's population.

Protecting the lives and property of these persons is a function of hundreds of Public Safety and Special Emergency agencies which are operated or regulated by a multitude of various political jurisdictions. Personal mobility and the proximity of communities in today's rural and metropolitan areas demand cooperation and coordination among these agencies. Mobile and portable radios provide the means for the myriad agencies involved to communicate with each other.

Radio communications also provide the means for each agency to accomplish its own individual, day-to-day operations. These communications must be reliable and free from interference from neighboring agencies. Therefore, frequencies must be assigned to agencies throughout a given area in a manner that makes inter-agency communication possible but prevents inter-agency interference.

Other issues to be considered when determining what area should comprise a Planning Region are: the continuing urbanization of outlying counties, the sophistication of radio technology, and most importantly, the amount of radio spectrum available to public safety agencies throughout the area.

Final boundaries for the Wisconsin Region, along county lines, were drawn as a result of the boundaries defined as the Southern Lake Michigan Region. This region includes eleven of the southeastern counties in the State of Wisconsin. The remaining Sixty-one counties which comprise the Wisconsin 800 MHz Planning Region are listed in Table 1, and shown in Figure 1.

PRELIMINARY ORGANIZATION

Monthly meetings for the planning process began in April of 1989. Deliberations on administrative and technical questions

TOTAL POPULATION PROJECTIONS BY COUNTY AND YEAR¹

	1980	1985	1990	1995	2000	2005	2010	2015	2020
ADAMS	13457	14660	15633	16687	17747	18839	19957	20874	21354
ASHLAND	16783	16934	17347	17721	18008	18250	18511	18774	18980
BARRON	38730	41022	42805	44331	45396	46287	47262	48241	48953
BAYFIELD	13822	13857	14344	14825	15233	15603	16029	16466	16766
BROWN	17580	185556	195793	205861	214987	223417	231548	238949	245077
BUFFALO	14309	14153	14440	14702	14850	14904	14918	14895	14814
BURNETT	12340	12898	13577	14269	14958	15690	16516	17255	17754
CALUMET	30867	33403	36143	39098	41932	44637	47366	49931	52006
CHIPPEWA	52127	53662	55932	58136	60013	61600	630717	64382	65348
CLARK	32910	32860	33636	34261	34499	34477	34400	34350	34279
COLUMBIA	43222	43581	45435	47283	48898	50312	51669	52822	53583
CRAWFORD	16556	16672	16878	17021	16983	16832	16672	16533	16385
DOOR	25029	26191	27420	28520	29476	30462	31577	32642	33420
DOUGLAS	44421	42750	42341	41917	41430	40952	40460	39921	39376
DUNN	34314	35292	36060	37175	38470	39935	41451	42931	44422
EAU CLAIRE	78805	83695	88362	93530	98954	104614	110295	115479	119856
FLORENCE	4172	4307	4456	4607	4728	4823	4913	4994	5037
FOND DU LAC	88964	90119	92017	93702	94871	95698	96313	96675	96780
FOREST	9044	9368	9741	10161	10517	10793	11035	11254	11409
GRANT	51736	52192	52990	53887	54668	55325	55840	56179	56379
GREEN	30012	30453	31099	31627	31935	32098	32180	32223	32242
GREEN LAKE	18370	19121	19824	20487	21062	21578	22109	22575	22887
IOWA	19802	20158	20829	21412	21750	21876	21944	22021	22029
IRON	6730	6418	6194	5953	5690	5443	5219	5018	4825
JACKSON	16831	16875	16954	16995	16929	16781	16587	16344	16036
JUNEAU	21037	21870	22740	23581	24310	24970	25643	26218	26540
KEWAUNEE	19539	20155	20836	21414	21793	22038	22248	22434	22541
LA CROSSE	91056	96632	100876	105275	109564	113958	118352	122348	125694
LAFAYETTE	17412	17412	17631	17763	17691	17485	17282	17112	16931
LANGLADE	19978	20281	20553	20801	20906	20892	20843	20743	20536
LINCOLN	26555	26813	27348	27831	28071	28090	27991	27803	27540
MANITOWOC	82918	82888	83242	83354	82871	82006	81036	80036	78965
MARATHON	111270	111807	114811	117301	118929	120010	120750	121186	121403
MARINETTE	39314	40268	41289	42093	42553	42854	43178	43472	43603
MARQUETTE	11672	12638	13261	13879	14464	15044	15692	16274	16633

TABLE # 1

TOTAL POPULATION PROJECTIONS BY COUNTY AND YEAR¹

	1980	1985	1990	1995	2000	2005	2010	2015	2020
MENOMINEE	3373	3835	4395	4978	5516	6005	6496	6983	7400
MONROE	35074	36233	37875	39498	40867	42055	43189	44209	44953
OCONTO	28947	30370	31653	32951	34032	34950	35833	36581	37050
ONEIDA	31216	32529	33990	35425	36569	37472	38267	38879	39140
OUTAGAMIE	128730	134460	140816	146406	150711	154201	157409	160185	162116
PEPIN	7477	7483	7587	7692	7709	7671	7619	7585	7552
PIERCE	31149	32186	33949	35882	37844	39837	41805	43611	45135
POLK	32351	34991	36991	39023	40923	42792	44804	46742	48272
PORTAGE	57420	61436	64403	67649	70987	74310	77514	80342	82690
PRICE	15788	16330	16895	17479	18024	18545	19083	19548	19845
RICHLAND	17476	17292	17349	17329	17189	17001	16849	16716	16537
RUSK	15589	15549	15912	16206	16365	16444	16489	16496	16425
ST CROIX	43262	46549	50177	53795	57030	59992	62878	65520	67704
SAUK	43469	45788	47586	49378	50969	52378	53663	54683	55302
SAWYER	12843	13763	14780	15985	17217	18436	19717	20915	21796
SHAWANO	35928	36764	37723	38676	39374	39844	40193	40420	40478
SHEBOYGAN	100935	102273	104253	105820	106749	107315	107706	107865	107689
TAYLOR	18817	19504	20317	21023	21454	21688	21873	22060	22177
WISCONSIN	26158	26675	27417	28194	28834	29271	29580	29803	29977
VERNON	25642	26303	26946	27436	27630	27627	27591	27558	27426
VILAS	16535	17415	18483	19730	21048	22435	23943	25299	26088
WASHBURN	13174	14172	15178	16174	17123	18133	19290	20383	21195
WAUPACA	42831	44776	46428	48124	49663	51111	52550	53827	54787
WAUSHARA	18526	19625	20594	21659	22747	23863	25033	26011	26540
WINNEBAGO	131772	136135	139970	143321	146040	148462	150669	152318	153250
WOOD	72799	75482	77993	80105	81465	82383	83139	83767	84188
TOTAL STATE	2,178,965	2,414,879	2,502,497	2,587,398	2,659,215	2,722,794	2,784,045	2,837,660	2,876,095

¹ Wisconsin Department of Administration Demographic Services Center, Wisconsin Population Projections 1980-2020, 5th. ed., June 1988.

TABLE # 1

WISCONSIN 800 MHZ PLANNING REGION

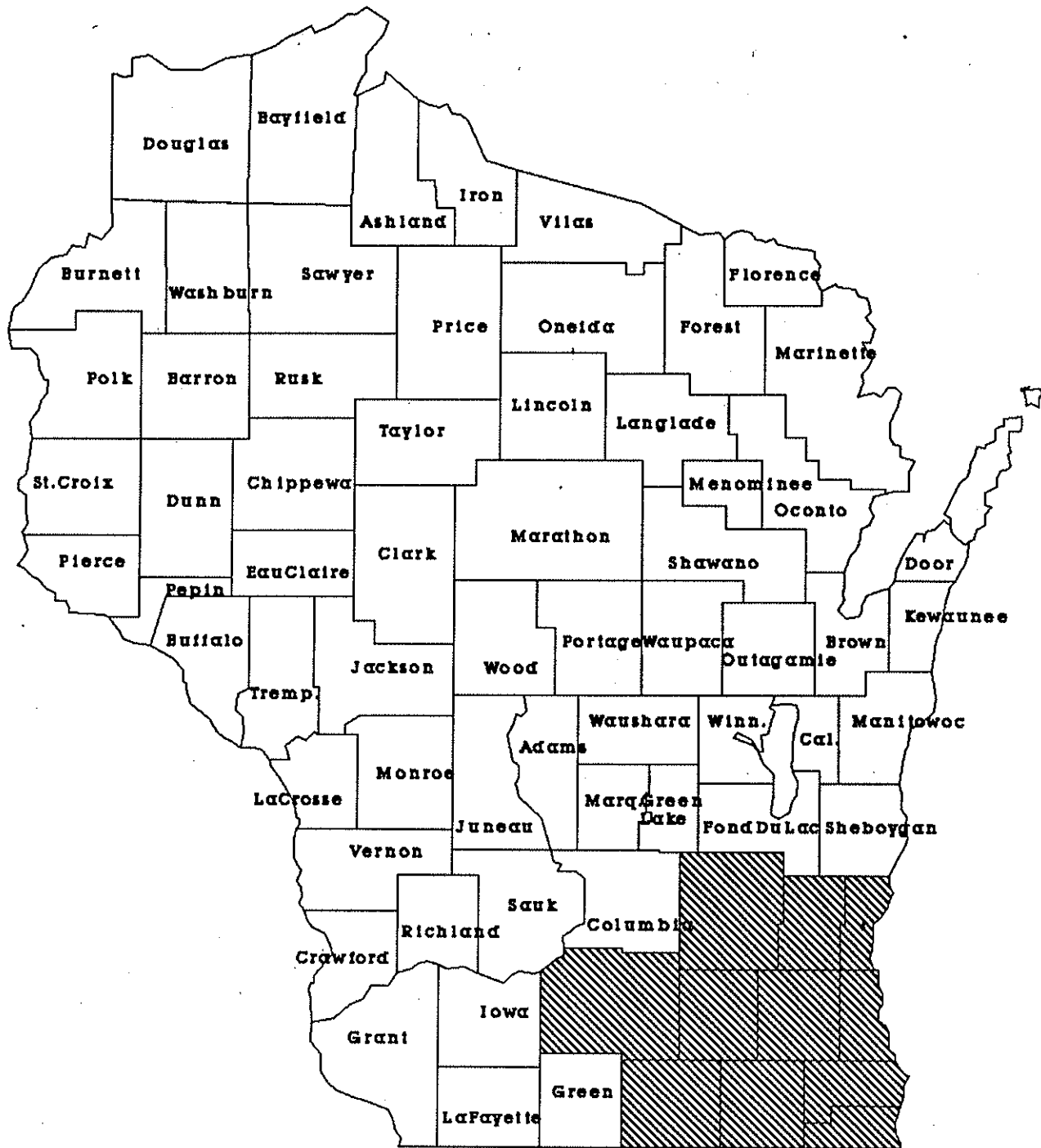


Figure 1

began at that time, using the Regional Planning Tasks published by NPSPAC as a functional basis for organizing small work groups. Thus, much of the groundwork had already been done prior to the formal creation of the Region.

In July, 1988, two individuals were designated by the Associated Public-Safety Communications Officers, Inc. (APCO) as Co-Convenors for the Region: Richard Shulak of Wisconsin DOT - State Patrol Communications and Carl Guse of the Dodge County Sheriff's Department (Wisconsin APCO Frequency Coordinator). They then prepared and published an announcement of the first official meeting for persons interested in participating in the planning process.

NOTIFICATION OF ELIGIBLES

In General Docket No. 87-112, the FCC declared that since the Public Safety Radio Service and the Special Emergency Radio Service both play important roles in public safety, it is necessary to make both services eligible to operate in the 821-824/866-869 MHz bands. While recognizing that it may not be possible to grant requests for assignments to everyone, the Commission did conclude that membership on regional planning committees must be open to representatives from all potential user groups.

In accordance with the Report & Order, the Wisconsin Planning Region took the below listed steps to ensure that its membership was open to as broad a range of eligible participants as possible.

1. On February 22, 1989 the State of Wisconsin mailed the Announcement of the Initial Meeting to individual public safety agencies as well as professional organizations and associations of all eligible user groups. Notices were also mailed to Communications magazine, the Federal Emergency Management Agency and the Federal Communications Commission. The Announcement of Initial Meeting and the mailing list are contained in Appendix A.

2. On April 7, 1989 an Announcement of Initial Meeting notice was sent to the State of Wisconsin Law Enforcement Bulletin which is distributed to ALL Wisconsin Law Enforcement Agencies.

FORMATION OF THE PLANNING COMMITTEE

On April 28, 1989 a first official meeting of the Wisconsin 800 MHz Regional Planning Committee (the Committee) was held in Fond du Lac, Wisconsin. Mr. Richard Shulak was elected Chairman of the Committee and Mr. Richard Buggs volunteered to act as Secretary.

The agendas and minutes of this meeting and of all meetings succeeding it are included in Appendix B. Appendix C contains the names, affiliations, mailing addresses and phone numbers of meeting attendees.

REGIONAL PLAN REVIEW COMMITTEE (RPRC)

The Committee realizes that its work does not end with the submission of this Plan (e.g. future modifications to the Plan may be required, applications for radio systems proposed within the Region will need to be reviewed for compatibility with the Plan, implementation of these systems will require monitoring, and coordination with the National Plan will continue). Obviously, there must be a mechanism by which future tasks can be accomplished.

To provide this mechanism, the Committee of the Whole has established the Regional Plan Review Committee (RPRC) (See Appendix D). This committee will be composed of the Regional Planning Committee Chairman who will act as chair, the Frequency Advisory Committee Chairman and the chairs of the Regions three standing committees (Operational, Technical and Administrative). The RPRC will convene upon the Commission's approval of this Plan.

COORDINATION WITH ADJACENT REGIONS

There are seven planning regions which will be affected by the Wisconsin Plan. They consist of the Southern Lake Michigan Region (Region 54), the balance of Illinois (Region 13), Indiana (Region 16) and Michigan (Region 21) not included in Region 54, and the States of Minnesota (Region 22) and Iowa (Region 17).

In order to assure mutual cooperation and coordination with these surrounding Regions, the Wisconsin Region has taken the following steps:

- (1) Identified the regions
- (2) Assigned committee members from the Wisconsin Region to attend regional committee meetings in the regions.
- (3) Mailed meeting notifications to each region's chairperson.
- (4) Attended their region planning committee meetings when possible.
- (5) Sent plan to adjacent regions for their review and comments. (See Appendix I)

Communication among regions has thus been ever present during the drafting of this Plan. Implementation of each of the adjacent regional plans should likewise be coordinated through the mutual membership and cooperation of the planning committees.

CONFORMITY WITH THE NATIONAL PLAN

It is the expressed intent of the Committee to conform with the requirements of the National Plan as defined in paragraphs 11-40 of General Docket No. 87-112. This Plan is submitted to the Commission subject to the review process described in the Report and Order.

REVIEW PRIOR TO SUBMISSION

As work progressed on the Regional Planning Tasks, three subcommittees were formed to address issues relating to Administrative, Technical, and Operational matters. Sergeant Donald Sleik of the Winnebago Sheriff's Department chaired the Administrative subcommittee, Mr. Dan Eklof chaired the Technical subcommittee and Sergeant John Lampkin of the Green Bay Police Department chaired the Operations subcommittee. They codified their suggestions and wrote draft proposals on individual topics. After reaching a consensus within the subcommittee, their proposals were submitted to the Committee of the Whole for review

and approval. A majority vote by attending members was required for acceptance.

Upon acceptance of its content by the Committee, each draft was then forwarded to the Administrative subcommittee for collation. The complete final draft was then presented to the Committee of the Whole for a page by page review.

AUTHORITY

The Wisconsin 800 MHz Regional Planning Committee derives its authority to carry out activities required for composition and implementation of this Plan from the Federal Communications Commission's Report and Order General Docket No. 87-112 released on December 18, 1987.

NEEDS ANALYSIS

The Report & Order specifies that regional plans explain how the requirements of all eligible entities were considered. This section of the Plan describes how this specification has been met.

The regional plan for radio spectrum usage by public safety and other eligible entities in the area of Wisconsin not affected by the Southern Lake Michigan 800 MHz Regional Plan was drafted and assembled by the Wisconsin 800 MHz Regional Planning Committee.

The Wisconsin Regional Plan has been reviewed by committee representatives from participating eligibles who represent communications interests in the respective counties encompassed by the plan to ensure that Public Safety and other eligible entities had opportunity to participate in the development of the plan.

In accordance with Docket 87-112, the Associated Public Safety Communications Officers, Inc. (APCO) recommended to the FCC the appointment of a "Convenor" for the Wisconsin Region. Following statewide public notification to eligible entities, the

first meeting of interested parties was held in Fond du Lac, Wisconsin on April 28, 1989. At this meeting, the Regional Chairman was elected and a secretary appointed. Three standing committees were formed: Operations, Administrative and Technical.

Due to the expansive geographic area of the Wisconsin Region, travel distances and travel constraints precluded large-scale, joint regional meetings of eligibles. Therefore, in order to fulfill the intent of Docket 87-112 and attain the best possible statewide representation, the regional chairman and committee chairs (Administrative, Operations and Technical) traveled to key regional areas to hold meetings with local representatives.

A P P L I C A T I O N S

This section of the Plan describes the procedures for applying for a license to operate a radio system in the new spectrum; as well as, the process by which that application will be evaluated. Applications shall be submitted to the local frequency coordinator. The application shall be forwarded to the RPRC chair person. It is the intention of the RPRC to meet within thirty (30) days of the the date of the Commission's approval of this Plan.

APPLICATION REVIEW

Applications for licenses in the 821-824/866-869 MHz band will be subject to review by the RPRC. This review is required prior to formal submission of the application to the national APCO frequency coordination office. Applications may be rejected at the Regional level for non-conformance with this Plan.

APPLICATION PROCEDURES

Applications will be submitted to the local Frequency Advisory Committee Chairman. The Frequency Advisory Committee Chairman will review the application packet for completeness and

verify the eligibility of the applying organization. Incomplete applications or applications from agencies which are not considered by this Plan to be eligible for the limited spectrum will be returned to the applicant with the appropriate remarks. Copies of complete applications received from eligible public safety entities will be forwarded to the RPRC for evaluation.

INFORMATION REQUIRED

The current standardized APCO Frequency Coordination and FCC License Application forms will be used. In addition, the applicant will be required to furnish supplemental information in specific categories. These categories are enumerated (and briefly defined) on the following page. Each category has been assigned a numerical weight for application evaluation purposes. Category weights are contained in Appendix E.

1. Service --- what tasks or duties the agency is charged with accomplishing.

2. System Type --- In narrative form, a description of the radio system being proposed (trunked, conventional, voice, data, voice/data combined, etc.)

3. Intersystem Interoperability --- How agents of the applying organization will communicate with agents of different organizations.

4. Channel Loading Factors --- Equipment inventory totals, and the maximum number of mobile radios potentially in use at a given time.

5. Coverage Area --- Details of an engineering survey showing the radio coverage required for minimum coverage of jurisdictional boundaries.

6. Vacated Frequencies Returned --- Which frequencies the agency will release.

7. Implementation Schedule --- An explanation of any budgetary commitment and a proposed time frame for putting equipment into service.

The RPRC may request additional information any time during review to assist in evaluation.

APPLICATION EVALUATION

The Regional Plan Review Committee (RPRC) will review each application for its conformity to this Plan. Evaluations will be

based upon the seven factors mentioned above. A final point total will be determined by adding the points earned in each category as listed in Appendix E. The RPRC will base their recommendation for approval or rejection of the application upon the final point total.

Once an application has been reviewed it will be returned to the applicant for the appropriate action (e.g., filing, additional information required, modification, etc.).

ELIGIBILITY

Agencies applying for frequencies in the 821-824 and 866-869 MHz band will be prioritized according to the degree that the service(s) they provide is fundamental to the protection of life and property. Only Public Safety and Special Emergency Radio Service agencies are eligible to apply for a license in the 821-824/866-869 MHz band.

APPEAL PROCESS

Throughout the frequency allocation process, applicants are given opportunities to appeal decisions which have caused rejection of their application. The appeal process has three levels:

1. The Regional Plan Review Committee
2. Associated Public Safety Communications Officers, Inc.
3. The Federal Communications Commission

An applicant who decides to appeal a rejection should initiate that appeal immediately upon notification of the rejection. In the event that an appeal reaches the third level (FCC), the Commission's decision will be final and binding upon all parties.

S P E C T R U M U T I L I Z A T I O N

This portion of the Plan lays the foundation for the efficient and effective utilization of the spectrum. Its purpose is to guide the RPRC in the task of evaluating new applications for the use of radio frequencies in the 821-824/866-869 MHz bands.

TRUNKING

Applicants requesting licenses for five (5) or more channels will be required to trunk those channels. Exceptions to the rule will not be allowed unless an equally spectrum efficient technology is proposed or the applicant can otherwise demonstrate that trunking will not meet the specific operational requirements of the agency.

Applicants requesting licenses for four (4) or less channels may be permitted conventional operation. Small entities, with minimal requirements shall be required to join together in single systems whenever possible.

COVERAGE AREA

The desired coverage of a system is considered to be a

maximum of three (3) miles outside of the boundary of the applicant's jurisdiction. The maximum designed mean signal strength at this contour shall not exceed 40 dB μ (+40 dB above one microvolt per meter) measured with an antenna mounted no less than five feet (5') above ground. Petitions to provide coverage exceeding these parameters will be examined on a case by case basis. Overlap or extended coverage must be minimized even where agencies are proposing to intermix systems for cooperative and/or mutual aid purposes.

ADJACENT CHANNEL ASSIGNMENTS

Adjacent channel assignments will be made when it is determined that the two or more systems will NOT create a signal strength greater than +25 dB μ anywhere within their partners' boundaries.

CO-CHANNEL ASSIGNMENTS

Co-channel assignments will be made when it is determined that the two or more systems will NOT create a signal strength greater than +5 dB μ anywhere within the partners' co-channel boundary.

To achieve the most efficient use of the spectrum, distances between transmitters for co-channel reuse will not be held to a

seventy (70) mile separation in this Plan. Separation of co-channel transmitters will be determined by the coverage needs of the applicant, natural barriers for separation, antennae patterning and limited ERP's where possible.

CHANNEL LOADING CRITERIA

In this Plan, existing loading standards will be applied for voice communications: 70 mobiles per conventional channel, 100 mobiles per trunked channel. For all data only systems, the loading criteria will increase: 100 mobiles per conventional channel and 150 mobiles per trunked channel.

Agencies that support interoperability by permitting Federal use of their frequencies through S-160 (or equivalent) agreements, may augment their channel requirements by a maximum of 2% to account for the increased number of mobile units. Written documentation detailing the expected number of Federal radios involved will be required at the time of application.

In order to conserve spectrum, agencies must demonstrate that the number of radios potentially in use at one time meet the loading requirements. For example, a police department with 50 squad cars each containing a portable and a mobile radio does not signify a channel load of 100 units. Petitions to deviate from this rule will be considered by the RPRC on a case by case basis.

VACATED FREQUENCIES

It is anticipated that as public safety agencies implement 800 MHz radio systems, they will be able to vacate the VHF and UHF frequencies on which they previously operated. The RPRC will apply the three conditions governing frequency give-backs described in the Report and Order:

- (1) The new system fully replaces the functions of the old one.
- (2) The licensee has no other communications requirements that could be met through the use of the lower frequencies.
- (3) The new system has operated satisfactorily for long enough to allow a smooth transition from former operations and to demonstrate its reliability.

All agencies participating in the use of the new 800 MHz spectrum shall prepare and submit a plan for the abandonment of their currently licensed frequencies in the lower bands. The regional planning committees would have the freedom to consider below 800 MHz public safety bands in developing their regional plans, but the licensing of channels in these bands would continue to be conducted through existing frequency coordination procedures.

Frequencies which are to be abandoned by an agency shall not be handed down to another agency within the respective jurisdiction. It is recommended that any jurisdiction wishing to "hand down" frequencies to another agency submit the proper coordination and application forms with the document of release.

INITIAL SPECTRUM ALLOCATION

The methodology used to determine the spectrum allocations at the time of filing this Plan is contained in Appendix G. The allocation itself is contained in Appendix H.

TECHNICAL DESIGN CONSIDERATIONS

This section of the Plan discusses topics which must be considered when engineering a new system.

CHANNELING PLAN

The 25 kHz offset channeling plan established by the National Plan will be required of all systems to be licensed in the 821-824/866-869 MHz bands.

INTEROPERABILITY WITH ADJACENT LOWER BANDS

There are several agencies in the Region currently operating on frequencies in the 806-821/851-866 MHz bands. While most of these agencies may continue operating in the 806-821/851-866 MHz frequencies for several years, many of them will be looking to expand their systems into the new spectrum. Any application submitted under the auspices of this Plan must demonstrate technical ability to provide communication between new and existing systems.

Waivers for technical specifications on existing 800 MHz equipment will be considered on an individual basis.

SYSTEM DESIGN

When designing a system, engineers will be required to minimize the distance between transmitter sites by using a combination of limited Effective Radiated Power (ERP), tower height, type of terrain or any other factors which are technically feasible to minimize adjacent and co-channel interference. Information detailing the methodologies used (including calculations) must be included in the application.

DATA TRANSMISSION

The Wisconsin Region determined the use of radio frequencies for data transmissions was a large "growth" category among agencies in the Region. As stated in the Loading Criteria section of this Plan, data only transmissions, whether for emergency or routine messages, will demand a higher loading standard.

CELLULAR RADIO TECHNOLOGY

Trunking technology is presently considered the most spectrum efficient use of radio transmissions for public safety. Cellular radio technology has so far proven useful only for telephone communications. However, it may, with future technological improvements, prove useful for public safety. Agencies are cautioned that any proposal for the use of cellular

radio technology as an alternative to a trunked radio system must demonstrate that it can provide the same or greater degree of spectrum efficiency as trunking and handle communications in an emergency situation.

MOBILE SATELLITE SERVICE (MSS)

During incidents of major proportions such as airliner crashes, earthquakes, tornadoes, floods, forest fires or nuclear reactor calamities, public safety requirements might include the need for long-range communications in and out of a disaster area. The planned Mobile Satellite Service (MSS) may prove to be a viable alternative to land based systems in these situations, once technical innovations are developed which will provide uni-directed or corridor-driven communications over a lengthy distance. This service should be restricted to frequencies above 960 MHz, however, and licensing in the Public Safety spectrum shall be limited to public safety eligibles only.

AIRCRAFT TO GROUND COMMUNICATIONS

The use of any 800 MHz radio in an aircraft shall be restricted. Air to ground transmissions shall be limited to a maximum effective radiated power (ERP) of one (1) Watt.* Unless system design dictates otherwise, tactical transmissions shall be on the mobile relay output or talk-around frequencies only.

Co-channel and adjacent channel users are not required to provide protection to airborne users. No transmissions on limited area channels are allowed above 2,000 feet AGL. In addition, no transmissions are allowed above 5,000 feet AGL even on wide area mutual aid channels.

* Aircraft will be permitted to utilize additional power under 500 feet AGL.

INTEROPERABILITY CONSIDERATIONS

This section of the Plan outlines the steps taken by the Committee to permit Federal, State and Local agencies to coordinate their activities during an emergency or disaster situation.

INTERSYSTEM INTEROPERABILITY

The intent of this Plan is to enhance interagency communication. Extensive mutual aid communication networks already exist throughout the Region. The National Plan has now set aside five (5) channels in the new spectrum for mutual aid. Agencies applying for licenses in the 821-824 and 866-869 MHz bands will be required to explain how they will implement the new Common Channels. They will also be required to explain how they will maintain intercommunication with their neighboring agencies who do not implement the Common Channels but still are dependent upon the applying agency for assistance in an emergency.

COMMON CHANNELS

The Common Channels used in this Region comply with the National Plan and consist of one (1) calling channel and four (4) tactical channels (TAC 1 through TAC 4). (See Table 2).

MUTUAL AID CHANNELS

<u>USAGE</u>	<u>FREQUENCY</u>
Calling Channel	821.0125 MHz *
	866.0125 MHz **
Tactical Channel #1	821.5125 MHz *
	866.5125 MHz **
Tactical Channel #2	822.0125 MHz *
	867.0125 MHz **
Tactical Channel #3	822.5125 MHz *
	867.5125 MHz **
Tactical Channel #4	823.0125 MHz *
	868.0125 MHz **

* = Mobile Frequencies

** = Base Frequencies

T A B L E # 2

Communications on Common Channels use a two-tier structure: initial contact (calling) and working (tactical) channels. These channels are not to be used for daily operations.

The Common Channels are restricted to required intercommunications among agencies that do not have access to other compatible communications channels. A "Primary Dispatch Center" will assign one or more tactical channels for the duration of a specific emergency or incident requiring multi-agency communications.

Because of the wide variance of voice codes among agencies ("ten" signals, alpha-numeric codes, etc.), plain English will be used on the Common Channels. The Primary Dispatch Center, with full support of the Regional Committee, will monitor radio traffic, discipline and resolve serious or chronic infractions.

PRIMARY DISPATCH CENTER

The State of Wisconsin will develop a program to implement the National Calling Channel and Tactical Channels with base stations at their sites. Primary Dispatch Centers will be designated by the RPRC as deemed necessary. They will ensure that interoperable tactical channel mobile relays exist in specific areas of the Region. The mobile relay stations will provide the required number of working channels within the Region

necessary to assure interoperable communications between Federal, State and Local Government agencies involved in an emergency. Other services shall participate, as required, to ensure the public's safety.

Agencies involved in an incident will be subject to the Regional rules on inter-agency communication. Radio transmissions will be made in accordance with the directions of the Primary Dispatch Center or controlling agency.

CALLING CHANNEL

Calling Channel base stations will be configured as mobile relays, strategically located to assure complete regional coverage and connected by a suitable network to Primary Dispatch Centers. Simplex operation of the base frequency (866.0125 MHz) will be permitted on the Calling Channel to establish initial contact between agencies for the purpose of determining which Tactical Channel(s) to use for the duration of an incident.

Depending on geographical size and population density, several networks may be necessary to cover the outer areas of the Region. Primary Dispatch Centers and agencies operating base/control stations in the area shall monitor the Calling Channel to provide assistance and/or assign a Tactical Channel to requesting field units.

The Calling Channel shall be used only to make initial contact with other agencies in the Region or with the Primary Dispatch Center in that section of the Region. After contact is established, a tactical or other mutual aid channel must be expeditiously agreed upon or be assigned by the Primary Dispatch Center. The Calling Channel shall not be used as a working channel. It shall be vacated as soon as possible.

TACTICAL CHANNELS (TAC 1 THROUGH TAC 4)

Tactical Channels are reserved for agencies involved in multi-agency communications during emergencies or other occurrences requiring interoperable communications. Tactical Channels, like the Calling Channel, will be strategically located to provide maximum coverage throughout the Region. Design criteria will limit TAC Channel coverage to permit multiple re-use of the channels within the Region, as required, in coordination with adjacent regions to prevent or minimize interference.

TAC Channel coverage design shall ensure that at least one channel is available for each section of the Region. Multi-agency communications events will be coordinated by the Primary Dispatch Center or assigned to the controlling agency. The coordinating agency shall relinquish control of the channels when the incident is cleared.

CROSS SYSTEM PATCHES

Cross system patches to existing day to day systems, other mutual aid channels or long range communications systems must be manually controlled. Automatic patches are not permitted. Cross system patches are normally handled by the Primary Dispatch Center in the section of the Region involved.

IMPLEMENTATION

IMPLEMENTATION SCHEDULES

Many of the eligibles for these frequencies are units of Local or State Government. The nature of governmental planning and budgeting, combined with difficult revenue constraints, prohibits these eligibles from implementing newer technology systems in the normal time required by the FCC Rule (8 month conventional/12 months trunked).¹ In many cases, public safety systems will require multi-year phased implementation schedules requiring construction times three to five times longer than private or commercial systems. Regional, wide area and statewide systems as allowed and encouraged by the plan will certainly require these longer periods to construct.

In view of these known situations, this plan establishes an extended implementation schedule ("slow growth") in accordance with the below cited FCC rules and regulations. This extended implementation schedule is available to all eligible applicants by stating "Slow Growth" on the license application. The applicants will be further required to submit documentation showing the funding, construction and implementation schedule proposed for the system. Proposed systems must adhere to the channel loading requirements as contained on Page 21 of this plan

For all other purposes, the FCC rules shall govern, specifically section 90.629 as it applies to the requirements for extended implementation schedules.

¹FCC Rules and Regulations S 90.155(a) and S 90.631(c)

APPENDIX E

Application Evaluation Criteria



APPLICATION EVALUATION CRITERIA

CATEGORY WEIGHTS

1. SERVICE: 0 to 100 POINTS

Eligible services have been grouped into the following three priority levels. Each level has a predetermined maximum number of points associated with it. In the case of a "multiple-service" system, the application must state the number of mobiles assigned to each service. The percentages resulting from these totals will determine the total number of points awarded.

PRIORITY LEVEL I: MAXIMUM OF 100 POINTS

Public Safety Radio Service Licenses providing protection of life and property.

PRIORITY LEVEL II: MAXIMUM OF 65 POINTS

Public Safety Radio Licenses providing protection of property only.

PRIORITY LEVEL III: MAXIMUM OF 35 POINTS

Special Emergency Radio Service Licenses

2. SYSTEM TYPE: 0 to 50 Points

From 0 to 50 points can be earned in this category based on the degree of spectrum efficiency demonstrated for the system. The more spectrum efficient a system is, the more points the application earns.

Information relating to the system's technology such as trunked or conventional operation and voice and/or data usage must be provided. The narrative should also discuss how utilization of these features will result in an efficient use of the spectrum. Furthermore, details regarding any other enhancements to the system must be provided. The application must also state whether the system is being proposed as a single agency-single service, a multiple agency-single service or a multiple agency-multiple service operation.

3. INTERSYSTEM OPERABILITY: 0 to 100 POINTS

An application will be awarded from 0 to 50 based on its description of how the 800 MHz mobile radios will maintain and/or increase mutual aid capabilities. The fact that the five common frequencies are included in a plan earns no points as this

is a mandate of the National Plan. However, an applicant may earn up to 50 additional points on the initial and all subsequent applications for including fixed equipment necessary for the operation of the common channels in a specific area(s) of the Region.

4. CHANNEL LOADING FACTORS: 10 to 50 POINTS

Applications will receive between 10 and 50 points for proposing a number of mobile units that meet the Channel Loading Requirements mandated by this plan. Consideration will take into account the feasibility of operating the number of mobiles proposed.

5. COVERAGE AREA: 10 to 50 POINTS

Scoring in this category will be based on two factors:

1. Compliance with the parameters described in the TECHNICAL DESIGN CONSIDERATIONS of this plan.
2. Channel reuse potential.

6. VACATED FREQUENCIES RETURNED: 0 TO 100 POINTS

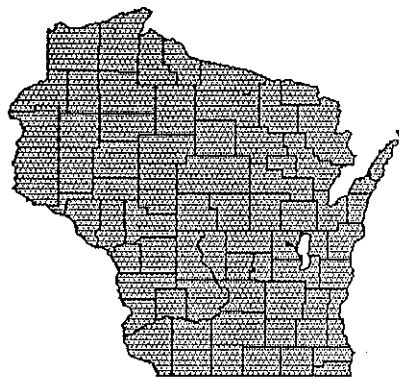
The applicant will earn from 0 to 100 points depending on the number of vacated frequencies returned and the availability of the frequency(s) for reuse.

7. IMPLEMENTATION SCHEDULE: 0 TO 50 POINTS

The degree of budgetary commitment and the implementation dates will be evaluated. The more explicit an application is, the more points it will earn.

APPENDIX F

Spectrum Allocation Methodology



INITIAL SPECTRUM ALLOCATION

FREQUENCY SORTING METHODOLOGY

INTRODUCTION

The initial spectrum allocation for The Region was determined by a computerized process performed by C.E.T., Inc. of New Smyrna Beach, Florida. The objectives of the computer program were two fold:

- I. The assignments must be made in a manner which results in a high degree of spectrum efficiency.
- II. The assignments must be made in a manner which results in a low probability of co-channel and adjacent channel interference.

Since the desired output is a geographic sorting of frequencies, defining geography must be part of the input. A list of the number of channels or frequencies desired for the Wisconsin Region was submitted to C.E.T. on a county by county basis. In addition, 66 channels were reserved for Statewide implementation. These 66 channels were also assigned for Statewide use on a shared basis in the FCC approved plan for the Southern Lake Michigan Region (Region 54). It is the intent of the immediately adjacent States (Wisconsin, Illinois, Indiana and Michigan) to continue the State shared frequency implementation.

Acceptable interference probabilities were determined. Frequency assignments for the region were made taking into account the Statewide frequency plan mentioned above and the issues of efficiency and minimal interference.

GEOGRAPHIC AREA

For the purposes of the frequency sort, a geographic area is defined as one or more circles. The circle(s) should include the entire area of the eligibles geopolitical boundary and not extend more than three miles past said boundary.

The procedure involved obtaining the necessary maps, outlining the areas of coverage needed, and fitting that area into a series of circles defined by coordinates and radius.

ENVIRONMENT

Four categories of terrain were defined:

- I. URBAN A built up city containing large buildings.

- II. SUBURBAN A city or highway with scattered building and/or trees.
- III. OPEN An area where no obstacles such as tall trees or buildings exist.
- IV. SEMI_OPEN An area between suburban and open

BLOCKED CHANNELS

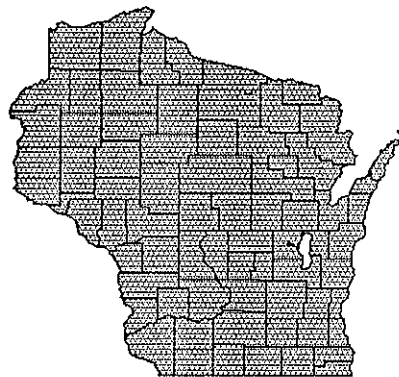
In addition to the 66 channels defined for statewide use, five additional mutual aid channels must be eliminated from the resource pool. These region wide mutual aid channels are identified by FCC channel number.

TRANSMITTER COMBINING

To insure that proper separation is maintained between any two channels at one site, a minimum of 250 kHz spacing was mandated at each site. This will allow the efficient combining of multiple transmitters on one antenna.

APPENDIX G

Frequency Assignments



Appendix G

Region 45 - Wisconsin Detailed 800MHz Channel Allotments by Area

Area Name	FCC Channel	Mobile Frequency	Base Frequency	Notation
*Provisional	1	851.0125	806.0125	Mutual Aid Calling
	39	851.5125	806.5125	Mutual Aid Tactical
	77	852.0125	807.0125	Mutual Aid Tactical
	115	852.5125	807.5125	Mutual Aid Tactical
	153	853.0125	808.0125	Mutual Aid Tactical
Adams	6	851.0875	806.0875	
	94	852.2375	807.2375	
	118	852.5625	807.5625	
Ashland	7	851.1000	806.1000	
	27	851.3500	806.3500	
	103	852.3500	807.3500	
	130	852.7125	807.7125	
Barron	16	851.2125	806.2125	
	47	851.6250	806.6250	
	97	852.2750	807.2750	
	119	852.5750	807.5750	
Bayfield	10	851.1375	806.1375	
	42	851.5625	806.5625	
	122	852.6125	807.6125	
Brown	13	851.1750	806.1750	
	17	851.2250	806.2250	
	45	851.6000	806.6000	
	63	851.8250	806.8250	
	81	852.0750	807.0750	
	83	852.1000	807.1000	
	101	852.3250	807.3250	
	103	852.3500	807.3500	
	126	852.6625	807.6625	
	131	852.7250	807.7250	
Buffalo	14	851.1875	806.1875	
	48	851.6375	806.6375	
	118	852.5625	807.5625	
Burnett	2	851.0375	806.0375	
	22	851.2875	806.2875	
	43	851.5750	806.5750	
	65	851.8500	806.8500	
	94	852.2375	807.2375	
Calumet	15	851.2000	806.2000	
	56	851.7375	806.7375	
	94	852.2375	807.2375	
	121	852.6000	807.6000	

Chippewa	9	851.1250	806.1250
	41	851.5500	806.5500
	82	852.0875	807.0875
	102	852.3375	807.3375
	126	852.6625	807.6625
Clark	12	851.1625	806.1625
	46	851.6125	806.6125
	96	852.2625	807.2625
	128	852.6875	807.6875
Columbia	17	851.2250	806.2250
	50	851.6625	806.6625
	79	852.0500	807.0500
	122	852.6125	807.6125
Crawford	12	851.1625	806.1625
	46	851.6125	806.6125
	128	852.6875	807.6875
Door	8	851.1125	806.1125
	55	851.7250	806.7250
	78	852.0375	807.0375
	98	852.2875	807.2875
	129	852.7000	807.7000
Douglas	8	851.1125	806.1125
	40	851.5375	806.5375
	102	852.3375	807.3375
	125	852.6500	807.6500
Dunn	11	851.1500	806.1500
	44	851.5875	806.5875
	95	852.2500	807.2500
	121	852.6000	807.6000
Eau Claire	7	851.1000	806.1000
	27	851.3500	806.3500
	78	852.0375	807.0375
	98	852.2875	807.2875
	124	852.6375	807.6375
Florence	10	851.1375	806.1375
	131	852.7250	807.7250
Fond du Lac	7	851.1000	806.1000
	27	851.3500	806.3500
	53	851.7000	806.7000
	102	852.3375	807.3375
	125	852.6500	807.6500
Forest	8	851.1125	806.1125
	42	851.5625	806.5625
	62	851.8125	806.8125
	83	852.1000	807.1000
	119	852.5750	807.5750

Grant	5	851.0750	806.0750
	26	851.3375	806.3375
	49	851.6500	806.6500
	93	852.2250	807.2250
	116	852.5375	807.5375
	130	852.7125	807.7125
Green	13	851.1750	806.1750
	40	851.5375	806.5375
	80	852.0625	807.0625
	103	852.3500	807.3500
Green Lake	12	851.1625	806.1625
	43	851.5750	806.5750
	95	852.2500	807.2500
Iowa	15	851.2000	806.2000
	43	851.5750	806.5750
	121	852.6000	807.6000
Iron	5	851.0750	806.0750
	126	852.6625	807.6625
Jackson	3	851.0500	806.0500
	23	851.3000	806.3000
	43	851.5750	806.5750
	63	851.8250	806.8250
	122	852.6125	807.6125
Juneau	58	851.7625	806.7625
	99	852.3000	807.3000
	124	852.6375	807.6375
Kewaunee	6	851.0875	806.0875
	91	852.2000	807.2000
	120	852.5875	807.5875
La Crosse	11	851.1500	806.1500
	41	851.5500	806.5500
	61	851.8000	806.8000
	102	852.3375	807.3375
	129	852.7000	807.7000
	131	852.7250	807.7250
Lafayette	19	851.2500	806.2500
	100	852.3125	807.3125
	127	852.6750	807.6750
Langlade	16	851.2125	806.2125
	103	852.3500	807.3500
	128	852.6875	807.6875
Lincoln	6	851.0875	806.0875
	26	851.3375	806.3375
	98	852.2875	807.2875
	121	852.6000	807.6000

Manitowoc	10	851.1375	806.1375
	50	851.6625	806.6625
	79	852.0500	807.0500
	99	852.3000	807.3000
	128	852.6875	807.6875
Marathon	2	851.0375	806.0375
	22	851.2875	806.2875
	44	851.5875	806.5875
	79	852.0500	807.0500
	116	852.5375	807.5375
	125	852.6500	807.6500
Marinette	15	851.2000	806.2000
	65	851.8500	806.8500
	100	852.3125	807.3125
Marquette	19	851.2500	806.2500
	55	851.7250	806.7250
	128	852.6875	807.6875
Menominee	14	851.1875	806.1875
	130	852.7125	807.7125
Monroe	9	851.1250	806.1250
	47	851.6250	806.6250
	95	852.2500	807.2500
	117	852.5500	807.5500
Oconto	11	851.1500	806.1500
	40	851.5375	806.5375
	60	851.7875	806.7875
	93	852.2250	807.2250
	124	852.6375	807.6375
Oneida	13	851.1750	806.1750
	46	851.6125	806.6125
	92	852.2125	807.2125
	117	852.5500	807.5500
Outagamie	5	851.0750	806.0750
	25	851.3250	806.3250
	47	851.6250	806.6250
	52	851.6875	806.6875
	96	852.2625	807.2625
	117	852.5500	807.5500
	119	852.5750	807.5750
Pepin	17	851.2250	806.2250
	57	851.7500	806.7500
	93	852.2250	807.2250
	116	852.5375	807.5375
Pierce	2	851.0375	806.0375
	6	851.0875	806.0875
	22	851.2875	806.2875

	42	851.5625	806.5625
	62	851.8125	806.8125
	123	852.6250	807.6250
	130	852.7125	807.7125
Polk	4	851.0625	806.0625
	18	851.2375	806.2375
	24	851.3125	806.3125
	49	851.6500	806.6500
	99	852.3000	807.3000
	117	852.5500	807.5500
	131	852.7250	807.7250
Portage	4	851.0625	806.0625
	24	851.3125	806.3125
	48	851.6375	806.6375
	100	852.3125	807.3125
	120	852.5875	807.5875
Price	19	851.2500	806.2500
	43	851.5750	806.5750
	90	852.1875	807.1875
Richland	7	851.1000	806.1000
	97	852.2750	807.2750
	119	852.5750	807.5750
Rusk	14	851.1875	806.1875
	100	852.3125	807.3125
	123	852.6250	807.6250
Sauk	4	851.0625	806.0625
	25	851.3250	806.3250
	52	851.6875	806.6875
	101	852.3250	807.3250
	126	852.6625	807.6625
Sawyer	3	851.0500	806.0500
	23	851.3000	806.3000
	127	852.6750	807.6750
Shawano	7	851.1000	806.1000
	27	851.3500	806.3500
	54	851.7125	806.7125
	122	852.6125	807.6125
Sheboygan	4	851.0625	806.0625
	24	851.3125	806.3125
	46	851.6125	806.6125
	85	852.1250	807.1250
	123	852.6250	807.6250
	130	852.7125	807.7125
St. Croix	8	851.1125	806.1125
	13	851.1750	806.1750
	40	851.5375	806.5375
	60	851.7875	806.7875

	101	852.3250	807.3250
	103	852.3500	807.3500
	125	852.6500	807.6500
	128	852.6875	807.6875
Taylor	17	851.2250	806.2250
	65	851.8500	806.8500
	94	852.2375	807.2375
	131	852.7250	807.7250
Trempealeau	5	851.0750	806.0750
	25	851.3250	806.3250
	100	852.3125	807.3125
	127	852.6750	807.6750
Vernon	2	851.0375	806.0375
	22	851.2875	806.2875
	44	851.5875	806.5875
	92	852.2125	807.2125
Vilas	11	851.1500	806.1500
	40	851.5375	806.5375
	122	852.6125	807.6125
Washburn	6	851.0875	806.0875
	26	851.3375	806.3375
	129	852.7000	807.7000
Waupaca	9	851.1250	806.1250
	61	851.8000	806.8000
	92	852.2125	807.2125
	127	852.6750	807.6750
Waushara	16	851.2125	806.2125
	89	852.1750	807.1750
	123	852.6250	807.6250
Winnebago	3	851.0500	806.0500
	23	851.3000	806.3000
	58	851.7625	806.7625
	65	851.8500	806.8500
	98	852.2875	807.2875
	129	852.7000	807.7000
Wood	40	851.5375	806.5375
	60	851.7875	806.7875
	81	852.0750	807.0750
	103	852.3500	807.3500
	130	852.7125	807.7125

STATEWIDE FREQUENCY ASSIGNMENTS

Channels assigned to "Reserved for the State of Wisconsin" are to be shared and coordinated with adjacent States and Regions. These frequencies may be assigned to local agencies as needs dictate.

**STATE OF WISCONSIN
RESERVED FREQUENCY ASSIGNMENTS**

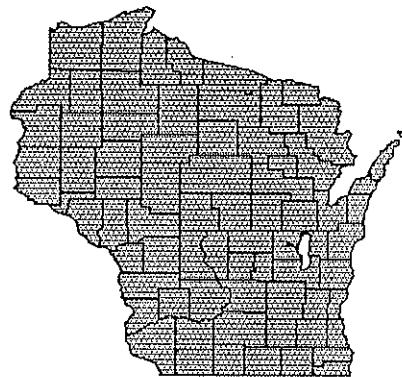
Channel #	Frequency
28	851.3625
29	851.3750
30	851.3875
31	851.4000
32	851.4125
33	851.4250
34	851.4375
35	851.4500
36	851.4625
37	851.4750
38	851.4875
66	851.8625
67	851.8750
68	851.8875
69	851.9000
70	851.9125
71	851.9250
72	851.9375
73	851.9500
74	851.9625
75	851.9750
76	851.9875
104	852.3625
105	852.3750
106	852.3875
107	852.4000
108	852.4125
109	852.4250
110	852.4375
111	852.4500
112	852.4625
113	852.4750
114	852.4875
142	852.8625
143	852.8750
144	852.8875
145	852.9000
146	852.9125
147	852.9250
148	852.9375
149	852.9500
150	852.9625

**STATE OF WISCONSIN
RESERVED FREQUENCY ASSIGNMENTS**

Channel #	Frequency
151	852.9750
152	852.9875
180	853.3625
181	853.3750
182	853.3875
183	853.4000
184	853.4125
185	853.4250
186	853.4375
187	853.4500
188	853.4625
189	853.4750
190	853.4875
191	853.5000
220	853.8625
221	853.8750
222	853.8875
223	853.9000
224	853.9125
225	853.9250
226	853.9375
227	853.9500
228	853.9625
229	853.9750
230	853.9875

APPENDIX H

Glossary



GLOSSARY

(Definitions of terms, abbreviations, and acronyms as used in this document.)

ADJACENT CHANNELS	Channels which are separated by 12.5 KHz in the 821-824 band.
AGL	Above Ground Level; altitude.
APCO	Associated Public-Safety Communications Officers, Inc.
AVL	Automatic Vehicle Locator; a data transmission device used to determine where a field unit is.
CALLING CHANNEL	FCC Channel 601; use of this channel is restricted to establishing contact among individual agencies for mutual aid purposes.
CHANNEL	An assigned portion of the radio frequency spectrum which is used for the transmission of information. A channel has a center frequency and a definite bandwidth. A term also commonly used to refer to a paired (but offset) combination of two portions of spectrum used for mobile relay operation; whereby one portion of spectrum is used to transmit while the other portion is used to simultaneously receive.
CHANNEL LOADING	The number of mobile transmitters authorized to operate on a particular channel within the same service area.
CO-CHANNEL	Utilization of the same channel by two or more licensees.
CONVENOR	The individual charged with organizing a Planning Region's initial meeting.
THE COMMISSION	The Federal Communications Commission; also the FCC.
THE COMMITTEE	The Wisconsin (Region 45) 800 MHz Regional Planning Committee.
COMMITTEE OF THE WHOLE	All members present at a scheduled Regional Planning meeting.
COMMON CHANNELS	The five channels specified in the National Plan which are reserved for mutual interagency communication; a Calling Channel and four Tactical Channels.
CONVENTIONAL OPERATION	A method of operation in which one or more radio frequency channels are assigned to mobile and base stations but are not employed as a trunked group.
CROSS SYSTEM PATCH	A means of linking disparate radio systems.

dB	Prediction of a receiver input signal taking into account radio propagation at the particular frequency of interest.
40 dB	The 40 DB contour locates the area within which a receiver will receive a desired 5.0 microvolt input signal (with a 90% reliability factor) at the appropriate frequency.
INTEROPERABILITY	Communication between, or among, radio units of different agencies.
LOCAL FREQUENCY ADVISOR	An APCO designated individual charged with managing spectrum usage within a state.
MDT	Mobile Data Terminal; a field communications device used to transmit and receive data impulses over radio frequencies.
MOBILE RELAY STATION	A base station in the mobile service authorized to retransmit automatically on a mobile service frequency; communications which originate on the transmitting frequency of the mobile station.
MUTUAL AID INCIDENT	A situation posing a threat to the public safety which requires the services of agencies from differing jurisdictions or services.
NPSPEC	National Public Safety Planning Advisory Committee
THE PLAN	The Public Safety Communications plan for Region 45.
PRIMARY DISPATCH CENTER	A Public Safety Communications Center designated as a controller of the Common channels.
RCRC	The Regional Conformance Review Committee; a standing body of individuals charged with administering the Plan within the Region.
THE REGION	The Wisconsin (Region 45) 800 MHz Planning Region; 62 counties within Wisconsin
REPEAT DISABLE	The means of inhibiting Mobile Relay.
SLMRPC	The Southern Lake Michigan Regional Planning Committee.
TACTICAL CHANNELS	The four Common Channels on which interagency communications will be conducted during a mutual aid incident.
TRUNKED OPERATION	A method of operation in which a number of radio frequency channel pairs are assigned to mobile and base stations in the system for use as a trunk group.
VACATED FREQUENCIES	Those frequencies returned for re-allocation.