

Users can be given different access depending on their role in the process. After we finish sort we will enter them into the database. Most users will be able to see what's been done but not be able to change things.

Pott said the application process is good. The goal is to complete the 601 application form one time, then move it around electronically. Once entered it won't need to be entered again. If RPC says it meets plan, it will move on to one of the coordinators. We may see "coordinator shopping" based on who's faster, cheaper, etc.

Hoppe is there a consensus on 25 or 12.5? Pott said that there was no consensus yet, all over the board. Missouri did theirs at 12.5. NYSTEC doing their (locals-regional plan) sort based on 4 to a group.

Pott, I suspect state (MN) will sort their channels at 12.5. Andy - yes. Pott feels we need to sort at 25. Sorting at 25 allows most flexibility for different technologies.

Calif. allocated at 6.25 but right in a row, so you'd get 25, and gave them 50 to 75. Give 3 contiguous 25 KHz channels.

If you sorted at 6.25 and they were contiguous, how could you use them without interference?

Andy asked if we can establish what criteria they use for the sort in our region? Nationwide the pack will be done at 25, but we have the option to change it. If we chose to modify it, it would have an impact on an adjacent state.

Hoppe asked if they said why they did the sort at 25? Pott to accommodate all the different technologies.

Len asked question about the cellular plan being used. Discussed tower site location and how this cellular plan would then work.

Local sort by NYSTEC will not use the cellular plan. They have their own criteria.

Kochevar said the 40 dBu contour a can extend 5 miles beyond your boundary. Andy said the State will be discussing in band vehicular repeaters, because it's hard to justify portable coverage in greater MN.

Pott said that we need to decide what level of access members of the RPC will have to the CAPRAD system. Should we hold a training session (fairly soon) for those who want to have access? Whose responsibility will it be to change information on CAPRAD? Everyone should be able to access the 601 form, view the allocations, etc. Pott will train others on what's available, training guides were given, and copies available.

Currently CAPRAD is only in training mode. You can go in and make changes...hands on practice, but it isn't going to remain that way.

David Funk felt sort would be available by the end of the year.

Pott thinks we should we set up a demo/training session, for others to come and see. Washington County is willing to host at their site.

Len, question on state channels, is there a potential, that you would allow a local to use your (a state) channel for a small agency say, or in a building? Kochevar said yes we could augment the local plan, and do this. We could coordinate and sort on the basis of interference.

Kochevar also felt the CAPRAD was well organized, materials there and available. Roger found some glitches in the system, but the programmer was there and they wrote them up. They need to be fixed but feel confident they will be. Contractor on the database really wasn't into frequency coordination. They hired this company that handled military software, they seemed somewhat knowledgeable, and they took a lot of input from frequency coordinators.

Pott advised he'll put something together and send it out for training for CAPRAD.

Roger, our last meeting we talked about coverage interference model. I think this is an important element of our plan, on how we handle applications.

Background, we use coverage models...to determine interference, last few years, APCO, FCC, standardized "radio soft". They designated the Longley-Rice model to evaluate co-channel, and adjacent channel interference. Gave example of testing at tower in Virginia. Drove area and got coverage contour and dBu readings and overlaid this over the Longley -Rice model. The whole point of this was to make sure that when we plug into the Longley -Rice models, we get the field strength and coverage we expected.

Handed out maps of coverage testing (discussed the maps/legends). Experience has shown that the WCAL radios cut out at 10-15 dBu, normally you're allowed (the FCC allows you) 40 dBu. Hoppe how would they define the coverage ring? Our criteria is a 5 mile spill over.

Discussed location of next meeting. Willmar, Duluth, etc. We will get something out prior to the meeting. Hoppe should we have additional working group meetings? Not really necessary until the sort gets back.

Next RPC meeting is Jan 14th.

Substitute 2nd Tuesday of November for working meeting and make it CAPRAD training.

In January if sort is back we'll discuss that if not see if they can get Ron Vegemast to discuss what he's done with data.

Adjourned at 12:00hrs.

Region 22 700 MHz Planning Meeting
Mn/DOT Central Office

Meeting Minutes of 1-14-03

Attendees: Kim Kallstead, Stillwater Fire Dept., Michele Tuchner, MN State Patrol, Roger Kochevar, Mn/ DOT, Andy Terry, Mn/DOT, Steve Pott, Washington Co So, John Gundersen, Three River Park Police, Paul Linnee, Geo Comm, Mike Mazzitello, Geo Comm, Ron Whitehead, Bloomington PD, Ray Freeman, Geo Comm, Ken Southern, Eagan PD, Mark Hoppe, Biue Wing/City of St. Cloud Rep., King Fung, Hennepin Co So.

Began introductions at 10:10 am. No quorum again so we are unable to conduct any official business. Elections will not be held until a meeting with a quorum. No additions to the agenda.

Steve Pott and Roger Kochevar traveled to Eau Claire, Wisconsin and met with Region 45 folks. They have not started their planning process, and we primarily discussed issues involving State channels. The frequency sort from NPSTC is more than 1 year overdue. We have three years from the beginning of the planning process to complete the plan. Our deadline is December 2003.

Roger Kochevar provided a review of the 700 MHz planning process and work that has been done to date. He also reviewed the manual process that he has completed for allocating the channels. The most difficult area to provide adequate capacity for is the collar counties around the metro area. The rest of the state should have enough channels using the new 700 MHz channels as well as the 800 MHz NPSPAC channels. He described a different allocation approach being used in New York. There was discussion about the resources available on the CAPRAD site (<http://caprad.nlectc.du.edu>)

The state channels have been licensed and we can use them anywhere in the state, as soon as we sign off on the plan. There are some reserve channels being held until 2010.

Paul Linnee asked if the RPC had the authority to group the channels by region rather than by County. He felt there were some areas of the state that will never use the channels. An example would be Pennington, Red Lake and Polk County. Iowa has 99 counties; this task would be more difficult there, wouldn't it? Conversely, in MN if you only had 12 counties it would be easier. We are purposely going with a reuse pattern of 60-65 miles, anticipating, this.

Linnee also asked who is eligible to apply? The allocation, is to the piece of land, the land mass, not to the governmental entity, correct? Andy Terry and Mark Hoppe responded it depends on how the plan is written. Linnee asked if the intention of this committee was to write the plan assigning the channels to the land mass? Steve Pott responded yes, but the channels would likely not be reserved indefinitely. The intent is to keep the channels from getting locked up indefinitely by someone who will never use them. Roger Kochevar remarked that the purpose of the plan is to make sure everyone gets something. We could set

a time line of 5-10 yrs that they have to develop/use them, if the channels aren't used in that time, and then we need to re-look at it.

Discussion moved to the Statewide Channel Plan. Roger distributed a handout describing the initial channel plan. Roger Kochevar explained that in greater MN there are still 800 channels available for use, plus the 700 channels, plus the statewide 700 channels. Roger presented a State Map that showed a plan for statewide build out, of a statewide system. About 1/3 of those towers are already built, 2/3 still need to be allocated, built, etc. This would assume 33 DBu, mobile coverage. Linnee asked would you integrate the NPSAC and 700 MHz channels, Roger, Yes that's the plan. This would allow the collar counties to use the newer radios that operate on 700 or 800 MHz. Metro collar counties have not used the NPSAC channels, and they could pool them for use.

Hoppe asked about the survey results asking if out state MN counties were interested in getting on a shared system. Andy Terry reported that the 2001 survey reported that 85% of greater MN agencies would be interested in a shared system.

Linnee brought up info about a move under foot to raise the 911 surcharge to \$1.00. Andy Terry said the last legislative session did recognize and agree that a shared system is the right thing to do, but didn't want to fund it. Discussed increasing 911 surcharges, for exclusive use to build a SHARED system. If you want the money it has to go to a shared system.

Andy Terry commented, that if this development is approved, we would need to meet with locals to discuss the plan, and tower build out so when those locals are ready to jump onto the system, the tower sites would be beneficial for all.

Discussed and reviewed handout titled, Proposed 700 MHz Statewide Channel Plan, Jan 7, 2003. Discussed the Border Sharing plan (handout) that was prepared by New York. Whitehead asked if we have the capacity issues that New York has? Roger said no, but we still have border issues, and want to be on the same page, as everyone else. If Iowa and others all group differently, we won't be talking the "same language". If others group in 25 kHz, it will cause us some problems. If we allocated at 25 kHz would we have enough to allocate statewide? It reduces your pool by 1/2.

Next quarterly meeting is April 8th at 10:00 am. Work group meetings are held the second Tuesday of each month that we don't have the regular quarterly meeting. Hoppe suggested recommended resolutions be written for future agendas. Whitehead concerned about getting this out to the right people. How do we make sure the right people have this information? Linnee asked if an agency eligible to be a member of the RPC can designate someone else to represent them? Unsure if the by-laws would allow a consultant or vendor to be the designated representative for an agency. Possibly a letter from the agency you represent, giving you voting rights.

Meeting adjourned 12:00 hrs.

Region 22 700 MHz Planning Meeting
Mn/DOT Central Office

Meeting Minutes of 4-8-03

- **A meeting of the 700 MHz RPC was called to order at 10:00am by Steve Pott.**
- **Introductions of attendee's.**
 - **Larry Nacezeny USPIS**
 - **Greg Anderson Moorhead**
 - **Andy Terry Mn/DOT**
 - **Mike Olson Minnetonka PD**
 - **Ron Whitehead Bloomington**
 - **Steve Pott Washington County**
 - **Tim Harper Motorola**
 - **Ken Southorn Eagan**
 - **Jeff Nelson PSC Alliance**
 - **Roger Kochevar Mn/DOT**
 - **Mike Mazzitello Geo Comm**
 - **Ed Skainiak BATF**
 - **John Gundersen Three Rivers Park Police**
 - **Jill Rohret Metro Radio Board**

- **Steve Pott announced that a quorum has been established.**
- **Motion by Ron Whitehead to approve meeting notes of Working Group. Andy Terry offered a amendment to include past minutes and meeting notes into the record. Motion and amendment approved.**
- **No treasurer's report at this time, however there is still \$2500.00 available for use by the committee.**
- **Discussion of quorum and modification of bylaws. Andy Terry motioned to incorporate language into bylaws. Seconded by Ron Whitehead. Motion approved.**
- **Nominations:**
 - **Chairman:** Ron Whitehead nominated Steve Pott, Andy Terry seconded.
 - **Vice-Chairman:** Ron Whitehead nominated Andy Terry, Ken Southorn seconded.
 - **Secretary/Treasurer** Andy Terry nominated Michele Tuchner, Ken Southorn seconded.

- **Board of Directors:**
 - **Ron Whitehead**
 - **Greg Anderson**
 - **John Gunderson**
 - **Ken Southorn**

- Roger Kochevar reviewed channel plan handout and channel sort document. Information is also available from CAPRAD (Computer Assisted Per-Coordination Resource and Database Systems)
<http://caprad.nelctc.du.edu> along with reports on development sort.
- Work Group discussion points:
 - Basic philosophy for starting point is that we will use NYSTIC sort as baseline.
 - Round table discussion on recommendations with feedback from group. Roger Kochevar collected comments from the group to modify positions and language. Recommendations will be modified and reviewed within the Working Group.
 - The full committee at its July quarterly meeting will incorporate these comments in to a draft plan for review.
- Steve Pott introduced concept of balance between voice and data. Some guidance is needed on what level channel use for data.
- Mike Olson asked about how to deal with agencies that span county boundaries, (like MT or Logis).
- Roger Kochevar reported that wide-band data is in the National standards process due to be completed in completed July 2003.
- Review of FCC narrowband mandate.
- Meeting adjourned.

Region 22 700 MHz Planning Meeting
Mn/DOT Central Office

Meeting Minutes of 7-8-03

Attendees: Ron Whitehead, Bloomington; Ken Southorn, Eagan PD; Roger Kochevar, Mn/DOT; Andy Terry, Mn/ DOT; Steve Pott, Washington Co; Jeff Nelson, PSC Alliance; Greg Anderson Moorhead PD; Bill Dean Metro Radio Board; Len Koehnen, Jon Gunderson,, Three Rivers Park Police; arrived at 1100 hrs.

Meeting called to order at 1020 by Steve Pott.

Primary purpose of the meeting is to go through the plan that was sent out, and also discuss the 4.9 GHz spectrum. The 700 MHz committee has been assigned the task of distributing this spectrum as well.

Roger Kochevar gave a brief overview of 4.9 GHz – it is primarily for data, looking at the standards for the equipment, they are looking at 802.11. There is a commercial and a public safety side. The goal is to try to make the equipment operate for both.

The coordinators APCO & ASHTO are going to be able to coordinate this.

Andy asked about the different categories of mobile data available on 25 KHz channels - 4800, 9600 etc, and then there's the top end of that data rate, which is 19.2.

Jeff Nelson: explained that the application in the middle might allow you to roam from hot spot areas, to wide area. Andy asked if the technology is developed enough to do this.

Len says it's an open architecture and not protected from outsiders. This is nice (4.9 GHz) because it allows us to isolate ourselves from others. The protocols and the spectrum should protect us.

Andy asked: What are the rules that govern the spectrum? We'll need to research this. Steve says we have a short time frame that we'll need to hold a meeting to discuss the 4.9 GHz spectrum. He doesn't think there is a lot of coordination on this yet.

Len said in Police service there is a need for quality police video and this would be good for this as well.

This was just an update; Steve will research this more before our next meeting.

Move on to 700 MHz. Plan.

Steve and Roger worked on this plan (was e-mailed out)

Went through the plan:

Talks about the Chair and how it was put in place. Steve added the by-laws, and put an attendance list in as an appendix.

Next was a description of the region. Most of the information came from the State website. Jeff asked about the membership, and about identifying people as to who they represent. Reaffirm that a person can only vote as one representative.

Next section talk about how interop channels will be dealt with. The RPC will deal with this. Discussed the requirement to list how we deal with mutual aid plans, so many of them it would be difficult to explain this, instead maybe reference the actual plans that exist.

Discussion took place about the possibility of this committee licensing some of the interop channels and forming a committee to oversee them.

In 700 MHz in the appendix, we have all the interop channels listed. The FCC says you must address the interop issue in your report. Plan says interop has to be digital APCO 25, but doesn't say how many stations of interop you must have.

Len suggests that the interop might be allowed to be in 800 MHz. For example an outstate agency might want the interop to be MINSEF, as no one around them would be on 700 MHz.

Ron asked: How many channels are committed to interop? Per Roger 32. They are 12.5 KHz.

Roger says some of these interops are adjacent to our state channels so we have to watch that. Maybe we need to pick the best ones if we don't need all 32.

Andy asked if maybe you would use these 700 channels and patch them back to VHF channels for interop. Or they could be used to communicate with another 700 MHz user.

Discussed the current environment. UHF and VHF are the primary users around the metro. Len reports there are 11 VHF and 4 UHF narrowband interop channels recently released by the FCC. MIMS (point to point) should be added to this list. 155.370. Len will e-mail list of interop channels to Steve.

Next discussed the Notification Process. The original mtg. was published in the state register and the APCO bulletin, and in the main papers, as well as a broad e-mail distribution list. Roger will give him the original notice that was sent/published.

Steve thought tribal police were getting notifications. Found only 3 belong to the Chiefs of Police.. Steve will draft a letter to them, that the 700 MHz planning process has been in place 1 ½ years, here's where we are, original notification went out. etc.,

Address how DEM and Homeland security were involved in the process, represented by DOT, who maintains their radio infrastructure.

Discussed holding meetings, and video conferencing, and quit moving them around the state.

Roger Kochevar did sections 5, 6 7, & 8.

Explained how the sort was done. Explained in appendix Q, the regional plan requirements and how we address everything.

Section #5 explains what was allotted and how. Need to put in more info the TV situation. There is an extensive appendix that covers the TV channels. Plan must include the 50 kHz wide band channels.

Section #6 sets out the rules and the identification of the interop channels. Len asks if we would be better off not dedicating these channels, therefore being more flexible. It's an idea, but then no one knows where to go. Steve asked if possibly identify all except the General Services.

Jeff asked about minimum channel quantity. Jeff asks if we should dictate that they put it in, or if we should encourage it. Greg pointed out that if we put the 700 MHz in just for data, would they have to then put these interop channels in, when they won't be used for voice? Len pointed out the radios wouldn't even have a microphone on them (if used only for data).

Moved on to state interop committees. Steve is it worth making a pitch to the commissioner of public safety, that the way it is currently being done is outdated. Bill Dean explains that there will be substantial legislation about state radio planning. The State planning committee is meeting tomorrow, and this is and should be an issue for them. Len, this committee has standing before the FCC. You don't want this committee subservient to them. MINSEF is under public safety, the statewide Fire is under state fire chief's a lot of it is lost and outdated. Possibly create one committee, they can't relinquish their authority but could say to the others you can handle this. Ron Whitehead suggests possibly designate this to the MINSEF committee. Steve suggests that could become political. Andy pointed out that MINSEF meets even less. Do you just add under the agenda items of this committee to cover the various interop issues, MINSEF, NPSPAC, Statewide Fire, 700 MHz, etc? Possibly get the committee members from these other committees to attend. And maybe put it on the agenda twice a year.

Andy suggested coordinated efforts by having joint meetings with other interop groups.

Moved on to Section #7.0

Roger suggested maybe this is where we include the language about UHF & VHF interop. Steve says maybe add language here that were going to have 32 channels for interop.

Section #8 discussed how NYSTEC did the sort. As a group we agreed that we were going to go with the NYSTEC sort, from the CAPRAD site, in the plan.

The wideband allotments, we came up with a methodology, we came up with a manual allotment. We allotted 3 channel 50 KHz groups in the metro counties. This should probably go back into the appendix when were done. The rest in this section is taken from our discussion and the NSPAC plan. Noted that under NPSPAC channel paragraph second 700 MHz should read 800 MHz.

Andy asked if the Technology neutral approach will be accepted, as some states plans have been rejected. Roger advises that technology neutral is acceptable.

There was discussion about how we can allow allotment variances. If an applicant can find a frequency and lower its power and meets the criteria, they can be allowed to use it.

Jeff suggests a language change in section "orphan channels" to remove mileage, and instead base this on interference levels. Not distances, therefore you won't need to go back and revise the plan in the future.

There was discussion about channel loading on the data channels. There is probably not enough information to make any solid decisions about the data channels yet.

Roger says there is a rating plan in NPSPAC, a point system, to determine who should get what. Discussion about the possibility of the 700 data channels being in high demand. The belief that we will run out, before everyone gets what they want. Discussion about the prioritization plan only works if everyone applies at the same time. Steve said that maybe the best balance is to require concurrence from all PSAP's in a county before any licenses are issued. Jeff suggests that maybe it goes to the planning committee, and the committee asks the PSAPS/counties/locals, to come together and state their plan. Ron felt that a PSAP shouldn't be able to have veto power, over all. Steve says maybe if they can't reach concurrence there is an appeal process, before this committee. Len pointed out that an issue that will divide users will be the agencies choice of mobile data protocols. How long do we allow this to go on? 2 yrs, 5 yrs? Jeff will take a stab at the paragraph or two on data loading. Steve says I can take a stab at the prioritization language. Roger points out that they are very serious about this language. Andy says maybe we should have a two-step process, first the concurrence idea, and then a point system, if there is no agreement.

Discussion about allotment of channels for the rest of the state (outside metro). Len suggests maybe inviting vendors in to ask them what they are going to do with technology. Roger says Motorola's "greenhouse" seems to be where the standards are going (3 50 KHz channels combined to make 150 KHz aggregated).

Len asks can we split the 50's into two 25s? Roger says no.

Ron asks if there were 3 more channels to allot? Roger says yes,

Letter will need to be sent out for concurrence from adjacent regions. Ron suggested sending a letter to MINSEF committee etc., about coordinating interop.

Bob Speidel from M/A Com has offered to come talk about 4.9 GHz. Maybe schedule for some time in the future.

Region 22 700 MHz Planning Meeting
Mn/DOT Central Office

Meeting Minutes of 1-13-04

Attendees: Jill Rohert, MRB; Jay Smith, Mpls; Ron Whitehead, DPS; Ron Vegemast, MRB Consultant; Len Koehnen (consultant); Steve Pott, Washington Co; Andy Terry, Mn/DOT; Lynn Ness, Mn/ DOT; Roger Kochevar, Mn/DOT; King Fung, Henn CO; Roger Laurence, Henn CO; Ken Southorn, Eagan; Al Smith, State Patrol; Michele Tuchner, State Patrol; 2 other consultants (Motorola & M/A-COM). Steve Erlbeck, DATARADIO.; Tim Harper (Motorola); Jeff Nelson; John Gunderson, Three River Park Police; Bill Dean, Metro Radio Board.; Greg Anderson; Moorhead Police (video conference); Sgt. Letinesis (?), Wright Co So (video conference), Greg Coleman, M/A Com.

Called to order 1005 hours.

Minutes from last meeting were approved - Ron motioned, and John seconded.

Treasures report - Steve Pott will get this for next meeting.

Steve said next item on agenda is election of board members. Bill Dean motioned that the current board members be retained, seconded by Ron Whitehead.

Roger and Steve will be attending the region 45 planning meeting (neighbors to the east). Next step will be to distribute the final draft of the plan in April for comments.

Discussed change in meeting dates to alleviate conflicts. No change at this point.

Review of draft plan -

5.8 Jeff Nelson commented on last sentence of fourth paragraph of this section does the technical component cause trouble with the political component. Suggested adding in the phrase of "and politically" Steve recommend should make every attempt to include as many as possible. Jeff suggested softening the MUST in this paragraph.

5.9 New section per Roger, describes the statewide trunking effort. States planners should be aware of this. Jeff suggests, to the degree that this plan is to provide initial guidance/direction. Look at 800 NPSPAC before applying for the 700 MHz, this language is somewhere else in the document and put it in 5.9 as well.

5.12 discussed forming an SEIC, State Executive Interop Committee, discussed combining NPSPAC, MINSEF, 700 MHz. Can't at this time MINSEF committee is required in state statute. Roger had talked to FCC said they'd like to keep the committees separate even if same faces, just convene two meetings.

5.13 Lower power channels, discussed why we didn't designate specific SOA channels in 700 MHz. Use 800 SOA, and possibly orphan channels in 700 MHz. No real changes in TV channels.

5.16 Jeff is 5.16 intended to cover voice or voice and data, Roger says, both. Jeff realizes this. He offered to write something but has not yet. Steve maybe you could correlate the coverage area to the number of units. Ron, wording "justification should NOT solely be based on the quantity of mobile.....etc" Add the NOT.

5.18 straight out of NPSPAC plan, other state had a heavy handed approach. We've found our approach in past has worked fine. No reason to revamp the language.

5.19 FCC applications, pretty similar to NPSPAC language, it does describe the process and what has to be included, what detailed info. Some applications come in on-line.

5.20 Discussion about the approval process and how the RPC will react to an application. There are a lot of applications that comply with the plan, we were thinking of having some people appointed by the RPC to review the applications for compliance. Applications are sent to the coordinator and must have the approval of the RPC before going to the coordinator. There are three acceptable processes for an RPC approval - just let applications move to coordination if they comply with the Plan; require notification of the RPC when applications are submitted for coordination; or require RPC action and approval before an application move to coordination.

Andy says, this is not uncommon, where they do a pre-qualification application, it adds a little time to the process, but it solves more problems than it creates.. Ron, if we just let them slide through, 5 yrs later it becomes an issue. Andy, says state (OEC) acts as an advisor, provides cursory review, then it goes in for application, and then ends up coming back to the state anyhow. Saves time and problems for state as well. If it's submitted on the CAPRAD system, it would go out to everyone on CAPRAD (Roger, here in MN). If an application is sent to a coordinator that isn't familiar with the region, they look to us for input on it, and our plan.

5.20 Application, the coordinator has to update the CAPRAD database when we have a new license application. Two databases CAPRAD, and FCC. When you change the license status and send it to CAPRAD they forward to FCC. Len felt people might start shopping around for coordinators, to get the best price. Andy explained that the state volunteers the coordination service, in an attempt to avoid headaches and get it done right, so the user benefits. Discussion ensued about developing a way for the state OEC to recoup their costs (for Roger Kochevar's time).

5.22 Construction requirements. Put it in as an easy resource for users. Jeff does 5.22 need a sentence to acknowledge slow growth with 700 as well? Roger yes, we can add it in there. Steve what if just moved the second sentence and put it at the bottom and then it would read better, and wouldn't require any re-writing.

6.0 Pretty much verbatim from the FCC template. Steve we discussed interop, and decided we weren't going to mine them to supplement local allocations. They can be used in the future to "fix problems". Roger since then we've had issues come up the example at Camp Ripley, a portable system on site. . Originally we talked about throwing some of these in for the locals and we decided to leave it as is.

6.2 Jeff Nelson had question about the language requiring calling channels which are integrated into infrastructure must provide coverage that at least matches the coverage of the other channels in the system. Steve suggested, adding "700 MHz channel" language. Jeff says possibly but might be somewhat limiting. Jeff suggests giving guidance but yet maintain flexibility. Suggests striking MUST. Steve: it could say their coverage must at least match the service area/PSAP coverage area/jurisdictions coverage area.?? Jeff says needs to be resolved before it's adopted will be highlighted for re-work. Discussion about designating as mobile or portable coverage. Roger and Steve will work on this language for next draft.

6.9 discussions about using interop channels discussed 9.02 standard. Lynn Ness: where do you want interop? What level? The application level or the operational level? On voice its clearer, but data, where do you need it? Long discussion ensued about interop standards. Roger told story of 93 O.K. bombing, and the request for more interop, and the need for more spectrum. Now the FCC is asking for us to plan with interop to the nth degree. Andy asked if we deviate from the plan for shared wide channel use, what do we risk... with the FCC?

Steve pointed out we should do our best at submitting a Plan but not have our feelings hurt if they (FCC) don't like it. Be less concerned with trying to write/get a plan that is absolute and will pass easily.

6.10 Didn't know what to call the committee, SIEC took out state and called it Interop Exec Committee. Just took out state, as state wasn't going to do it. Steve suggested adding Region 22 IEC. Roger will make change.

6.11 Minimum Channel Quantity. Had a discussion that you have to have 16 slots designated as interop on 700 MHz, Roger thought intent was to have the ability to program those into the radio? That the radio has the ability to have them programmed in. This would take up all channels of a 16 channel radio. Ron, by leaving it open does that mean it can have none. Yes, But patching could occur, and initially 700 voice will probably be practically non-existent. Len suggests that maybe we wouldn't even want a say DATARADIO, to have any interop channels if you use 700

data, you have to have access to P25 radio channels. Greg Coleman said that issues specific to FCC, Bob Speidell, could come out and address these issues. Steve suggests we have him come out and answer/address these questions/issues.

Roger I think we will have the plan on the web (at the CAPRAD site). Bill Dean minimizes number of paper copies, and distribute via e-mail. Steve maybe we make copies of CDs and send it out that way.

8.4 Allotment Variances, We can deviate from the allotments as long as you comply with the contour. If we do this the RPC would take a look at this.

8.7 Would rather go to the NPSPAC channels, than these. Bill Dean said at APCO conference he heard that the NEXTEL consensus plan is practically a done deal. If this takes place we'd receive approx 6-10 additional 800 MHz channel pairs. Roger says this is true.

Discussed adding a glossary

8.11 "combing" should read "combining".

8.14 Use of frequencies in aircraft.
Jeff suggests striking #2 & #3. agreed.

8.16 Canada not done with their plan, if changes occur could impact say, Koochiching County.

Steve said Len brought up a good point of having another committee of the RPC, and have them act as the SEIC. Recommend that the IEC be part of the RPC.

Section 9 Steve Pott discussed these sections:
How the needs are met, the NPSAC channels outside metro are not used, we've encouraged their use. Discussed 800 system and needs being met.

Section 10 is it meant to make sure everyone has an equal voice?
Steve: I think so. Jeff, maybe we should add a sentence about all the stuff we did to include/invite others attendance and input. Steve says o.k. Jeff says section 4.

Section 13 explained meet every 5 yrs and then evaluate the plan
Any thoughts?

Appendixes will get cleaned up before final draft is complete.

Goal is to have the plan ready for comments to the RPCs. Should we send this draft to the adjacent regions, and try and get some preliminary approval. Ron and Andy suggest we wait until we have our final done.

Roger and Steve will discuss our status at the Region 45 meeting on Jan 22 in Wausau, WI.

Discussed a correspondence received from Steve Devine (Missouri) about forming a public safety telecommunications group to have more contact with the FCC. Concern that it might eliminate our ability to communicate directly with FCC, but there might be a chance of improving clout with the FCC. Andy pointed out there are many groups with clout, APCO, Sheriffs, Chiefs, etc., if it becomes something with a lot of clout maybe sign on, otherwise let's take a wait and see attitude.

Letter from Pyramid communications, talks about the interop band and lower power receivers. Steve will give to Roger Kochevar.

Steve neglected to send letter to Indian affairs counsel. Has now been sent.

Discussion about getting Bob Speidell from MA-COM, and/or David Eirman, Motorola to a future meeting to discuss 4.9 GHz. The RPC has been tasked to convene a meeting and talk about 4.9 GHz. Unsure if we need to write a plan.

Working committee will meet again, Steve will send out notices.

Agenda item #4, Data channel allocation.

DATARADIO will have 50 KHz equipment available in a few months, Motorola a little further out there. Discuss how to allocate channels, in 50 KHz. Also how to allocate, by region wide, or county boundaries, etc., Jeff: Does the metro leadership have a position on how they would like that allocation to be accomplished? No, discussion was still open, as the RFPs were released for comments, and let the vendors come up with ideas on using those channels. Also would need statewide channels, to address that as well. Need to discuss what direction we should go. Ron Vegemast position is that the 50 KHz channels will meet our needs for the next 6-10 years... Amount of info moved around is primarily text vs. video (discussion about that) and this would do it. A reasonable compromise might be to stay technology neutral, and allocate in a cellular groups of 7 (DATARADIO) or 12 (MOTOROLA). If our goal is to be neutral, sounds like we should use 4 groups of 12, or as Roger suggested, have the vendors come to us with proposals. What if we allocated them at 50 KHz but let them petition for a variance if they need them in 150 kHz. Roger gave examples of allocation some at 50 KHz, and some at 150 KHz. Steve what if we gave a 50 kHz allocation by county and then kept 4 -50 KHz.. Plus there are the reserve channels.

King verified that Hennepin County applied for, and received licenses for the 4.9 GHz channels. They are non-exclusive, so if another agency like Hopkins requested they could use also and interference could occur. No time limit on when you can build, you could wait 10-20 years, as they are non-exclusive. If you had your system up first, others who might build would come to you probably, rather than experience interference. No reason to probably rush to get licensed, as they are non-exclusive and will probably always be available.

Jeff says, not sure what his position on 50 KHz allocation vs. 150 is yet, mind not made up yet. He is troubled by getting to the 150 kHz bandwidth, Three issues a) need (what will Law Enforcement use it for - they don't even know yet) b) cost c) availability of products/equipment... Do you preserve the spectrum on a speculative proposition especially when there are other relief valves available? Much discussion on this topic. Lynn Ness feels best to give county their 50 KHz allocations. Greg from Morehead asked questions about if anyone in metro was even interested in this? He said when he has attended Metro MDC users group it sounded like many were interested in commercial product (CDPD, or its' replacement). Much discussion about the pros and cons of the different types of systems, the capacity, speed, security, control. Greg pointed out that in Morehead they were using 800 MHz, and only had one channel with maybe 50 units on it, and felt it was better to use CDPD in this example. Jeff says maybe true now, but CDPD going away, GSM (?) replacing it,, and then you are competing with all other GSM users, (public) instead of just other Law Enforcement.

Returned to discussion about frequency allocation. Take all 50 KHz channels and do an independent sort. We'll have to work on this a little more. Roger and Andy will take a stab at this.

Adjourned at 1300 hrs, others to use conf room.

Region 22 700 MHz Planning Meeting
Mn/DOT Central Office

Meeting Minutes of 4-13-04

Attendees: Steve Pott, Washington Co SO; Andy Terry, Mn/DOT; Roger Kochevar, Mn/DOT; Michele Tuchner, State Patrol; Pamela Raser, Carver Co SO; Nancie Ekum, Carver Co So; Ken Southorn, Eagan PD; Ron Whitehead, Dept. of Public Safety; King Fung, Hennepin Co SO; Len Koehnen, Consulting Eng.; Dave Pagel, Mn/DOT; Mike Knoll, Pierce Co SO WI; Steve Irlbech, Dataradio; Jim Anderson, M/A Com; Bruce Hagerness in Duluth via video conferencing

Called to order by Steve Pott at 1010 hrs
Introductions around room at DOT CO.

Approval of Secretaries minutes, Andy moved, Ken Southern seconded, approved.

Treasurers report, money spent to attend training for Roger Kochevar and Steve Pott.

Move to accept treasurers report, I seconded, approved.

Steve Pott went over the draft plan, and changes made, these changes are listed in the last minutes. Went over the high points of those changes.

Ron Whitehead asked about 6.11 and requiring interop channels, discussed why this was not required at this time. Could add language if necessary.

Purpose of this meeting is to put draft plan in final form and send it out for comment, to our adjacent areas, and other interested.

Appendix will be updated prior to draft plan being published for comment.

Len asked are we ahead of adjacent states with our plan? Steve Pott said a little, we haven't really had contact with many except WI. Roger advises that South Dakota is going to start.

Steve reports that WI is at a similar point to ours, fair amount of language crafted struggling with the same issues we are, like data.

Andy says that in order for the FCC to adopt our plan adjacent states have to sign off on it, and if they don't have their part done, it can hold up our approval.

Len, make a motion that we send letter to adjacent regions advising that the plan is coming and that we'd like them to act/respond on/to the plan. Steve advises he probably doesn't need it to be officially requested; he can probably just send the letters out.

Andy says that you need to have something publish in the federal register, about our next meeting, Andy made motion, Ken seconded, approved.

Completes discussion on the draft plan.

Next discussion on the wideband plan. Steve will devote the rest of the time to this discussion and turned it over to Roger Kochevar.

Roger advised that he faxed the documents about the wideband plan to the front desk in Duluth, and Bruce will retrieve copies there.

Long discussion about handouts and the different option plans 1, 2 & 3. Excerpts below:

Option 1 to assign everything as 50 KHz non-adjacent, and allocate according to a matrix or cellular plan, discussed a 4 channel per site/cell.

Option 2 - assign the counties 150 KHz channels individually, and do it across the board.

Option 3 retain the FCC 150 KHz 3 channel groupings for ½ the channels, and the other ½ assign 50 KHz non-contiguous.

There are basically two vendors moving forward with equipment for 700 MHz data. The vendors are using different technology – one using 50 KHz and the other using 150 KHz. Metro area has hired a consultant to design a region wide system. They don't know if they will build a 150 KHz system or a 50 KHz system. It sounds as though they may be leaning toward a 50 KHz system at this point.

Roger went into more detail about Option 3. He suggests making two "supergroups" of 24 channels each. One group of 24 channels might be called "FCC" and would be assigned so there are 8 sets of 3 contiguous channels, for a total of 150 KHz. The other group of 24 channels might be called "XY" and they would be assigned as non-contiguous 50 KHz channels.

In the metro area and the first ring collar counties, we would assign all 24 of the "XY" channels to each county. They would also get one 150 KHz FCC grouping. Roger discussed a handout, dated April 12th, titled 700 MHz Wide Band Channel Data Plan option 3. He discussed co-channel separation, said it would be nice to work from county center but with 35db protection you'd need to space co-channel towers 65 miles apart. Steve Pott asked for clarification for the distance apart these towers need to be. Can there be some overlap? Yes, a little the 40 dBu contours can't overlap.

We want to allot as many channels as we can, but that will require system designers to decrease the coverage foot print. The systems will likely need to use directional antennas, down tilt antennas, etc., to tailor the coverage. This will increase the cost of the system.

Big question how do we group them 8 groups of 6, (average distance between co borders is 28 miles, so that's 8 groups of 6). If we go to 12 groups of 4, we're at 40 miles, 16 groups of 3 is 43 miles. Those mileage distances quoted are between the county borders, this is very conservative. If we pack them real close

it gets expensive and difficult to design, if we're too loose, then there are fewer channels due to longer re-use distances, and maybe not enough.

Other option is to go with the matrix, and then we have a uniformed situation, and a controlled situation, but then it's more restrictive and you have to 'play together' as a team.

Andy said he thought we discussed doing a little bit of each, allocating some and leaving some?? So this analysis is looking at the channels that we would allot to the counties?

Yes. Discussion followed about the advantages and disadvantages of contiguous vs. non-contiguous assignments.

Len discussed the assignment outstate, if you try to apply this statewide, if you look beyond 700 MHz, Worthington for example could do 800 MHz. Len is implementing an 802.11B, with some hot spots, not everyone will necessarily want to do 700 MHz. For example Lincoln County isn't even considering 800 MHz right now, much less 700 MHz. So maybe our concern shouldn't be about greater MN. Roger explained that even though we know they won't need/use them in the near future, we still need to assign channels to Lincoln County to submit our plan and get it approved. Even though they may never use them.

Steve mentioned that if counties get one 150 KHz contiguous allotment, they would probably be able to use to 50 KHz channels on each end, and orphan the middle channel. This would likely be adequate for many counties.

Len says we should look at the 'worst' case when we define our plan. King Fung says, that he feels the way Roger has defined it has allowed for a lot of flexibility.

Andy commented that we're trying to meet the needs of those who are interested in a shared system, and also meeting the needs of those who want to go on their own.

Steve the real issue becomes, that we box out the big populated counties, for example Hennepin Counties needs probably would not be met with one 150 KHz channel, so they are forced into the regional system.

Steve said our goal all along is the give as much flexibility as possible and I think this might be it. Len agreed.

Roger we have some bordering counties, very close to region 22, we would present this to those counties.

Len asked when do you reassign these "XY's" in greater MN. Roger said that many of them should be able to be used beyond the first tier counties. The idea is to minimize the restrictions on the metro area.

Steve asked what is option 2? Roger explained that it just assigns channels to the counties. The problem with this plan is that you have sites 28 miles apart.

Andy asked is anything taboo with the FCC? Roger doesn't see a problem with any of the options.

Steve, have we discounted Option 2? That's 3 non-contiguous, and one 150 KHz channels. Might be difficult with the close separation of sites.

Option 4: In this option we forget about the metro plan and the FCC groups. We assign all the channels to the counties; it gives 43-mile separation. Each county gets 3 except some of the larger populations. These channels are 50 KHz.

Steve why can't all the options be calculated with the same channel separation? We started these options on the premise of how many channels everyone would get, we could now probably work backwards, and calculate it on channel separation, having an idea of how many channels everyone would get. Roger thinks that the separation is important.

Where are you leaning Roger, Option 1 or 3? Roger said I got the impression that we were moving ahead with the option 1 plan, and then at last meeting I got the impression we were leaning toward individual allotments. The only thing Roger cautions on option 1 is the separation space. Option 3 doesn't really allow for a 'shared system'. Steve, I think we need to plan for a 'shared' system. Andy, I think option 1 is a nice balance, allows for a shared system, and an opt out option for those who are not interested.

Steve asked what if you took option 1 and take out the state's allocation? Would that take care of the separation issues? Roger it would help. If the state indicates they need 150 KHz, we can give them the interop channels... Roger I don't think we could use it for day-to-day operations only. Len, I think the interop channels are a good stepping-stone for smaller agencies. Roger maybe we could use the interop channels for the state, I don't think you have to tell the FCC what your going to do with your interop channels. Maybe we could say a portion of these will be allocated to the state for day-to-day use, and save some. There are 18 50 KHz interop channels. If state was allocated two 150 KHz groups, it would still leave 2/3 of the channels available, for interop.

Roger asked how states data folks feel about this would, would they be nervous about this amount of allocation?

Andy suggested maybe we put a time constraint on the use of these "XY" channels, for build out. Len asked could you use these interop channels for point-to-point operations. Roger I don't know, don't think so. This is for mobile to base.

Len suggested having the interop channels be assigned to the "XY" supergroup, as they would be interop anyway, or at least a portion of them. Steve comments maybe where we need to spend the time is to look at option 1, take away the state allocation, and give them to the county allocation, and then take some of the interop channels and throw them into the "XY" supergroup, and then allocate some channels for the state.

Roger asked do we want to keep the 150 KHz, allotments in the option 1 plan? Yes, Steve gives us more options, Len, yes. Steve says we should encourage people to use the spectrum most efficiently, but if they can't work out an interop plan, then there are channels for them to go it alone.

In out-state we should see if we can give 2 groups of 3, and see if we can work it into the metro area. In the more populated areas of greater MN, we would maybe allot them a little more.

Roger says we have to enter this into the CAPRAD database; we could assign the "XY" supergroup channels to all of the metro counties or none of them. The advantage to listing them is when we develop our border sharing plan; it's all spelled out there. The same 24 channels would be listed for all border counties, for example to Washington Co and we could send this to Wisconsin so they could see what's where. We can't enter them as the state or regional use as there is no allocation listed for the state or region. Steve I think we can list it well enough in the plan so that everyone can look at it, but we do need to include the border sharing in our plan. Steve suggests we write the plan the way we want it, and if we can fit it into CAPRAD great, but not required.

Goal is to have our draft plan ready for distribution at our July meeting, so we will probably need a working meeting in between. Probably won't be an absolute final draft, but close, schedule a work group meeting for the end of May.

Other agenda items:

Steve discussed the correspondence about the 900 MHz nationwide paging system.. Nextel paging, alphanumeric paging delays up to 45 minutes.. Do we want to 'weigh-in' on the topic? Unless someone has other thoughts, I will leave it alone, unless it's going to impact our 700 MHz channels.

Next item, National Assoc., of Regional Planning committees, Roger says NPSTC has 5 representatives and this is probably something that is probably needed. Interfaces with the NIJ. Andy is the question that they are asking us to join the same as last request, a letter of support for the 'concept' of the formation of the group? There are 55 groups, do we want to give up our autonomy and let someone else represent us. Roger says he thinks it would help us to learn from these, the drawback is we can deal with the FCC directly now, would this change that? Unknown.

There is already APCO and ASHTO, is this forming another group. Sort of the same people. The NIJ needs someone to carry on with the regional planning committees. I think it's going to exist whether we support this or not. Steve raised 2 concerns – The person pushing to form the group has stated that he wants to be in charge of it. We don't know much about him or possible motives, but Roger thinks he would be good for the position. What if we disagree on something, then we're fighting the organization we're a member of. Andy felt that the group will be in place anyway, and we will need to work through it, regardless of whether we belong or support them. But they could advocate for us when needed. Roger feels it helps to band together for support.

Meeting adjourned.

Region 22 700 MHz Planning Committee
July 13, 2004
Mn/Dept. of Transportation, Central Office

Meeting Minutes

Attendees: Steve Pott, Washington Co So; Andy Terry, Mn/DOT; Roger Kochevar, Mn/DOT; Ken Southorn, Eagan; Bill Dean, Metro Radio Board; John Gunderson, Hennepin Parks; Dave Pagel, Mn/DOT; Ron Whitehead, DPS; King Fung, Hennepin Co So.; Michele Tuchner, State Patrol; Tim Harper, Motorola; Steve Irlbeck, Data Radio.

Meeting Summary:

1010 a.m. no quorum yet, Steve Pott began discussions about the Plan.

Reviewed changes to the Region 22 Plan that was e-mailed out yesterday. Highlighted minor changes that were made based on previous discussions.

1015 Ron Whitehead arrived. We have a quorum. Meeting was called to order at 1015 hrs.

Discussed the language added to Section 5.5. This concept has been discussed for several meetings, but not previously reduced to writing. The goal of this section is to encourage larger, joint systems, but also allow local autonomy. Roger Laurence expressed concerns in a memo which was distributed by Steve Pott at this meeting.

Andy Terry asked how public works would get allocations, as they qualify. Pott advised they wouldn't until 2015, based on this language.

Bill Dean asked about the impact of this wording from a PSAP consolidation perspective. He has no immediate objection, but we should be able to amend these rules somewhere down the line. However once in writing sometimes it's difficult to change.

Ron Whitehead says wording is designed now to give people and option to go their own way if they want. Maybe it should be tied to a county plan, if there is a plan.

Andy suggested to flip-flop, the language of local PSAP license 2010 and County PSAP by 2015 flip to county license by 2010 and locals by 2015. (In 5.5)

Pott, maybe have County develop the plan first; if they don't in that time period, it shifts to all eligibles. Andy concurred.

Andy suggested that when a county comes forward, they must show consideration for the needs of all eligible users within the County.

Whitehead, County must submit plan in 7 yrs, if no plan, then anyone else eligible can have them. Andy concurs, good plan

Andy, Moved County Board create plan within 5 yrs, and if they have a plan adopted by the county board (within the 5 yrs) they have 3 additional yrs of exclusive license eligibility with a total of 8 yrs, to develop the plan. At end of 5 yrs if no plan, or 8 yrs after counties with a plan, any eligible user can apply for them. (Clock starts at the adoption of our plan by the FCC) Whitehead seconded it.

Voted on the "Whitehead amendment". It passed.

Under 5.9 Authority, it should be statute 403.36. Bill Dean says funding language is no longer accurate and needs re-writing. Suggested taking it out completely and Whitehead will review and do this. Bill Dean suggested keeping some funding language; bond language will be available in the next two years.

John Gunderson left at approx 1115 hrs.

Roger Kochevar discussed data allocation. We have 48 wideband 50 kHz channels to allot. Ron Vegemast describes a case for implementing a 50 kHz system in the metro. One way to accommodate the metro plan, and potential local systems would be to allot them into 2 super groups. One might be the FCC supergroup, keeping 3 contiguous 50 KHz channels. The other might be called the XY super group, groups of 3 non-contiguous channels.

Pott suggested adding language in 8.3.3 "License applications will not be approved unless they are in compliance with the Metro Data Plan."

Pott suggested adding language "none of the XY channels can be license in the metro or first tier counties without the approval of the RPC."

Roger changed language of 8.3.2 allotment plan to read:

"Super-group XY is composed of twenty-four 50 kHz channels which can be grouped into 3 contiguous FCC channels if assigned out-state. The XY super-group channels are also assigned as a 24-channel block without any particular grouping if allocated to the Metro or Collar County area. While super-group FCC also consists of twenty-four 50 kHz channels they must, however, be allocated in groups of three contiguous 50 KHz channel groupings. While the users may implement individual 50 KHz channels and create orphans, the 150 kHz allotment must continue to reside with the assigned county."
(This taken from an e-mail he passed to me).

Steve asked if they need to add language about which channels the state uses first, county/local channels allocated for this, then interop? Roger says we could put something in there to that effect. Roger says that the collar counties are really where the issue is. Roger says he will look at this language.

Pott, suggested adding wording in 8.3.5:

The RPC doesn't feel that specific allocations need to be made for outstate. Purpose of assigning channels in the metro is that the out-state area has enough, but want to make sure metro has enough to plan for a shared system.

Roger suggested using the interops in the following way: one to metro, two to State, one open, and two for national interop. Roger will write exact language. Roger suggests in 8.3.5, striking, "and, 91/211, 92/212, 93/213".

Roger explained 8.3.6 language. Pott asked why low power channels wouldn't work? Roger says need more high power for long range. People are asking for county-wide coverage. By doing it on an interop channel, everyone could work together to get a community system.

Pott do we need to add language about that these channels that they will be non-interfering? Yes, that might be looked upon more favorably by FCC.

Pott under Dedicated Long Range Communications, it says "this channel" what channel are we talking about? Under 8.3.6 channels 47/167 & 74/194, these channels are intended for DGPS & DLRC. Discussed assigning them now, done...47/167 is assigned to DGPS, and 74/194 is assigned to DLRC.

Discussion about the super-group titling: Roger suggests super group, A & B, instead of X & Y, and then sub-groups numbered as well. Roger will do this.

Pott asked, Pierce, Polk, & St. Croix should they be included in our Region 22 Plan? Should we ask the FCC to add them to our Region 22 Plan? Roger says it makes him nervous, could ultimately result in a 5 + yr delay. Declined the idea.

Pott, moved to send out plan for comments, Terry seconded, passed. 60-day review period and then returned to committee for our Oct mtg.

King Fung left at 1220 hrs.

Adjourned 1224 hrs.