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Public Safety Wireless Advisory Committee (PSWAC) Update

The next several issues of *APCO Reports* will be devoted to coverage of the events unfolding within the Public Safety Wireless Advisory Committee (PSWAC). PSWAC subcommittee meetings were held on September 28-29 1995 in Washington, D.C. and the following information has been extracted from the published minutes provided by the FCC and NTIA. If you would like these proceedings on disk, they will be made available at the *APCO Special Reports* price of \$7.00 per issue. Please call 1-800-949-2726, extension 238 to order your copy.

Technology Subcommittee Al Mello, Chairman of the Technology Subcommittee and Richard DeMello, Alternate Chairman, greeted attendees at 9:00 a.m. The attendees introduced themselves. Some made brief remarks relative to their particular interest in public safety and stated their goals for the meeting.

Mr. Mello asked that working groups be established. Mr. Garrett Mayer of L.A. County Communications endorsed the concept of regional working groups.

Mr. Mello proceeded to outline the agenda for the meeting by enumerating operational requirements as they correspond with available technology. Mr. Mello initiated discussion by asking the subcommittee to consider the technological needs through 2010. Mr. DeMello also asked subcommittee

members to consider the equipment other non-public safety fields are using and he asked if a working group is necessary to explore this issue.

A discussion followed over what kind of non-voice data can be communicated to command centers. Mr. Mayer noted that digital equipment, high speed data, video, accurate location systems are necessary. He noted that Personal Communications Services (PCS) are eliminating fixed locations for those making 911 calls. He stated that California Highway Patrol (CHP) is being flooded with cellular phone calls and that it is not uncommon for the CHP to have a great deal of difficulty locating the caller due to the fact that the call is often made from a car's cellular telephone.

Mr. Gary Gray of Orange County, California, noted the growing demands on Public Safety to provide video communications. He said that he expected manufacturers to help with this need. He added that Public Safety is a broad group, even including state forest rangers. Mr. Mayer asked manufacturers their views about equipment being made which would operate narrow band.

Mr. Mike Granados, International Association of Fire Chiefs (IAFC), interjected that users need to communicate better with manufacturers relative to user's equipment needs. He further observed that when new

technology is used, it often creates an interoperability problem between those using new technology and those not using new technology. He cautioned that certain frequencies must be maintained, i.e., the mutual aid frequencies. He added that utility companies need to be part of the interoperability equation even though they are not traditionally labeled as "Public Safety." Lastly, he noted how advanced the City of Tokyo is relative to "Incident Command Management."

Mr. Don Pfohl, Communications Division for the city of Mesa, Arizona, cautioned that baseline technology must be simple. He said that it is unrealistic to have high speed systems serving the vast majority of Public Safety users i.e., non-urban users. Mr. David Buchanan, San Bernardino County, asked representatives of the manufacturers in attendance if wide band data equipment is going to be available. Mr. Dick Allen, Federal Bureau of Investigation (FBI), asked if there are commercial services which can meet Public Safety's needs. He also asked if the equipment under discussion must be wireless. Captain Ben Chiswell, United States Coast Guard, noted that Public Safety, like the military, must be ready at a moment's notice. He said that wireless systems are one part of the solution to enhance the Public Safety community's wireless capabilities and mentioned the potential of satellite providers to assist the Public Safety Community.

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Mr. Hollingsworth, Union Pacific Railroad, said that railroad accidents should not be viewed as a non-Public Safety matter and that the railroad industry's experience ought not to be overlooked.

Mr. Mello then gave a brief explanation of how the fire service has emulated some of the technological advances made by the police. He noted that because 83% of fire fighters are volunteers, the fire service sometimes lags behind the police relative to deploying advanced equipment. He cautioned that users should not push blindly for the most advanced equipment because it might be too expensive for low budget fire fighting units. A commenter suggested that any equipment which is developed should take into account non-public safety users. He explained that creating as large a pool of users as possible would help to keep the costs of new equipment down. Mr. Gray seconded the point made about seeking out widely used equipment so that manufacturers will have a large audience in which to sell, thereby creating an economy of scale for manufacturers.

A commenter from a systems integration firm said that there is a need to enumerate existing private technologies and where they are heading, and then to use those technologies as potential models. Mr. Jack Oslund, Comsat Mobile, recommended that manufacturers be solicited to explain their planned equipment's capabilities. Mr. John Powell, University of California, noted that the subcommittee should define where Public Safety wants to be in 15-20 years.

He reiterated earlier comments about the importance of Public Safety asking manufacturers what their plans are for new equipment in the future. He said that FBI and large federal agencies have R & D labs which could help give insight into future technological capabilities.

Mr. Glen Nash of California, said that disasters are "come as you are events" in which people arrive at the scene with their own equipment causing interoperability problems. Mr. DeMello said the ability to

communicate instantly is essential to Public Safety and he said that handling problems in a "modular" fashion should be explored.

A representative from the manufacturing community said that his industry can help evaluate the capabilities and the bandwidth requirements for the Public Safety community. He also said that 5 kHz equipment will not work in the Public Safety setting to support real time data. An Ericsson representative said that Public Safety should include lessons learned from the cellular industry.

Mr. Mello commenced discussion on the composition of the working groups. He requested comments on the possibility of creating four working groups to address: (1) voice, (2) data, (3) video, and (4) video/wideband.

Mr. DeMello suggested that an additional working group for microwave group. Mr. David McCartney of Ericsson suggested that working groups be established at looking at current and future technologies. Mr. Mayer suggested refining groups that would define current and future needs. He also mentioned microwave systems (transport). Captain Chiswell suggested dividing groups based on underlying technologies, such as, batteries, modulation, waterproof batteries, and virtual networks, rather than services. Mr. Stan Cohn, Concepts To Operations, Inc., reiterated an earlier point made before the break that non-public safety users have excellent technology for Public Safety to emulate.

Mr. David Buchanan said not to forget that ultimate goal is to satisfy users and indicated his preference for grouping according to services as originally suggested, i.e., voice, data, and video working groups. Mr. Alan Rypka, Focused Research, said it is important to concentrate on problems faced by local public safety users. He suggested first focusing upon Public Safety's needs and then upon the available technology. Captain Mike Morgan, L.A. County Fire

Department., said it's important to let needs dictate technology, not the other way around. He added that the military can provide some good examples of technology. Mr. Powell said that the "bottom line" is users in the field are Public Safety's best resource relative to evaluating and technological needs. Mr. Mello noted that much of NASA's work has been applied to Public Safety e.g., clothing. Several members suggested forming a working group to outline the final report and, thereby, identifying the overall structure of the work requirements for the subcommittee.

Ultimately, Mr. Mello decided to establish one working group: Inventory of Current Technology. This working group would review present technologies, which could be applicable to the Public Safety community, and identify areas of further work. Interested parties were encouraged to place their name on sheets in the back of the room.

After the meeting, it was determined that the co-chairs of the working group are: Jeff Pegram of the Virginia Office of EMS and Captain Mike Morgan of the Los Angeles County Fire Department.

Transition Subcommittee The Transition subcommittee, chaired by Ronnie Rand of APCO International, will make recommendations to the PSWAC Steering Committee as to how implementation of the various plans and recommendations submitted by the other PSWAC subcommittees. The goal of this subcommittee is how public safety will from "here to there". Mr. Rand stated these goals in his opening remarks to the subcommittee members.

Mr. Garrett Mayer, of Los Angeles County, inquired about coordinating the subcommittee's next meeting with other subcommittees in order to reduce expenses of the participants. Mr. Rand replied that it is the intention of this and the other subcommittees to schedule most meetings in conjunction with one another in order to maximize cross-subcommittee

participation. The Transition subcommittee did schedule a meeting outside of that realm to be held in conjunction with the International Association of Chiefs of Police Conference and Exposition to take advantage of the vast number of users that would be in attendance of that event. Rand also replied that he intended to do the same for other major public safety meetings (i.e. IAFC, Sheriff's, etc...).

Ali Shahnam, from APCO International (Alternate Chairman), lead a group discussion of the agenda items. Mr. Shahnam discussed and asked for comments concerning factors such as interoperability that the Transition subcommittee would be required to face in the transition process. Mr. Dick Shiben, represented Ericsson, indicated that it was not the place of the Transition subcommittee to discuss interoperability and that should be left to the Interoperability subcommittee for resolution. Mr. Rand opened the floor for comments to this matter for user input. Individuals from the user community including Mr. John Powell from the University of California, and Mr. Don Pfohl of the City of Mesa, Arizona both agreed with Rand that this topic should be examined by this subcommittee and therefore placed on the agenda. It was agreed to note Mr. Shiben's concerns but to proceed with the agenda for the day.

Mr. Rand then opened a discussion on the funding options that the user community might face should new spectrum and/or technologies be the result of the other subcommittees recommendations. A migration to the new equipment will be at a substantial cost and the burden of those costs should not lie on the FCC, NTIA, or the users. Rand discussed various solutions including legislative remedies, grants, and other appropriations.

Mr. Rand proposed four working groups for the subcommittee. He suggested that a spectrum management group would analyze the impact of Public Safety moving from one band to another; a

funding options group would review potential sources; a legislative and regulatory issues group would suggest changes to Part 90 of the Commission's rules and the 1934 Communications Act. Finally, a scope and mission group would review the subcommittee's requirements. Discussion commenced and the groups were generally favored by the subcommittee members. Mr. Rand announced that a convenor would be appointed to start the working groups and then each group would appoint a group chair.

The meeting was then concluded with a discussion of administrative matters and breakout sessions for the four established working groups.

Interoperability Subcommittee The first meeting of the Interoperability Subcommittee (ISC) was called to order at 4:30 PM by the Subcommittee (SC) chairman Mr. James Downes of the U.S. Department of the Treasury. After brief remarks, he introduced the meeting agenda (PSWAC/ISC 95-09-001), which was approved by the group. The remainder of these minutes follow that agenda by topic.

Mr. Downes noted that one of the first objectives of the group was to draft a definition of the terms "public safety" and "public services". As a starting point he distributed the Federal Law Enforcement Wireless Users Group (FLEWUG) definition (PSWAC/ISC-95-09-002), and he cited the National Public Safety Planning Advisory Committee (NPSPAC) definition, and the San Diego County definition (to be distributed at the Spectrum Requirements Subcommittee meeting) as other resources. He indicated that all of the PSWAC subcommittees would be performing the same task, with the intent that Subcommittee chairmen would meet, review the inputs, and forward suggested definitions to the Steering Committee for formal adoption. Mr. Downes then solicited comments from the Subcommittee.

Garrett Mayer (Los Angeles County, CA) stated that several more services including District Attorney, Flood Control, and others should be included in the definition of Public Safety.

Ed Hollingsworth (Union Pacific Railroad) supported the notion that the FLEWUG definition be expanded, and further proposed that it include railroads.

Don Pfohl (City of Mesa, AZ) suggested including Forest Service, fire control, and land management agencies on Federal, state and local level.

John Powell (APCO/University of California) suggested striking "Law Enforcement" from the FLEWUG definition, and supported expanding the definition. He understood that communications with railroads and utilities are needed when there is an emergency, but questioned whether the distinction between for-profit and not-for-profit agencies could "muddy the waters" when trying to develop a definition. He suggested that the group consider setting up channels for mutual aid which are accessible by all.

Mike Granados (IAFC) suggested that the area of transportation needs to be expanded, stating that incident command may require "dipping into" public transportation, subways, and railways, and that a comprehensive communication path is necessary.

Mr. Downes reminded the group that the FLEWUG definition was simply a starting point. He agreed that the "law enforcement" portion should come out and noted that it was included only for their specific application. Furthermore, he stated that the ISC public safety definition should be applicable to the whole PSWAC effort and should have delineation between "public safety" and "public service". Furthermore, he stated that just because there is a requirement for interoperability with someone does not necessarily mean that they are part of public safety.

David Wong (SAIC) suggested that the definitions consider not just the traditional law enforcement agencies (e.g., police, etc.), but rather the whole integrated criminal justice system, correctional system and the court system.

Sean Stokes (Utilities Telecommunication Council) pointed out that in certain cases the frequency allocation may reside with the municipality, but also be used by police and fire services. This has to be accounted for when looking for frequency resources to reallocate.

Ali Shahnam (APCO) supported the suggestions to remove the term "law enforcement" from the FLEWUG definition, and that there be two definitions: one for public safety and one for public service.

John Powell commented that he was seeing a tremendous outsourcing of public safety services, for example emergency medical response services. He used these as an example of for-profit companies doing "for-government service."

Mr. Downes asked the group to supply comments/definitions to him by October 13, 1995. He said he would accept the inputs by mail, E-mail or Fax. He will compile comments and redistribute them to the ISC via fax or mail. He reminded the group that the issue needs to be resolved quickly.

The second topic of discussion was the development of a definition of "interoperability". Mr. Downes stressed that development of that definition was a function of the ISC, and again, as a starting point, he distributed a definition drawn from FED-STD-1037B and various dictionary sources (PSWAC/ISC-95-09-003). He noted that the handout was only to start discussion, but he stressed that a Interoperability definition should be the first product of the working group and have a very short turn-around. To support this he chartered Working Group #1 (WG1) to develop the definition and invited all interested ISC members to sign up for the

group.

David Wong suggested that the group may need to define various levels of interoperability to accommodate different agencies and different types of events.

Mike Granados stated that the ISC has the opportunity to solve interoperability problems between local and Federal agencies. He stressed that a common pathway is needed, that interoperability is a historical problem, and that the group needs to consider all issues.

Mr. Downes stated that he envisioned a very brief and "functional" definition of interoperability, and problems of interoperability, and/or potential solutions would be addressed later in the document. He did support the idea that the definition address levels of interoperability.

Captain Mike Morgan (Los Angeles County Fire Department) offered to give the group reports from the recent Malibu, CA fire which address problems of managing many different agencies in a major incident.

Captain Ben Chiswell (Coast Guard) remarked that the group should be careful not to get away from the "function of interoperability" and into "interoperability requirements"; an issue which he thinks belongs in another Subcommittee.

Mr. Downes disagreed, stating that he feels that the ISC mandate is to develop interoperability requirements; not necessarily how they could be accomplished, but rather how they are not being accomplished today.

Don Pfohl stated that it was important that the ISC not be constrained by what exists today, rather they should take a more Utopian approach and look for what would be the best possible solution.

Paul Tinney (Motorola) supported the approach to not limit deliberations to current technology, but stresses that the group does need to address less tangible

issues like control, procedures, and priority which tend to get in the way of technology.

Dave Buchanan (County of San Bernardino) stated that the ISC needs to push ahead and start looking into all issues. He stressed getting started, and not waiting for the Operational SC to complete their work before moving out.

Mr. Downes asked the group to provide comments/definitions to him by October 13, 1995. He reminded the group that he was looking for a definition for interoperability, and not capabilities or requirements. Again, after he gets all the comments he will distribute to whole ISC and to the WG1. After that it is the WG1 job to get the definition finalized by the next meeting.

Mr. Downes asked the group for help in compiling after-action reports, as available, which address problems experienced in the past and the solutions — technology, procedural, or whatever— that were utilized to mitigate those problems. He noted that some reports are not currently available due to ongoing litigation, and that he was looking for contact personnel within several agencies (e.g., FEMA). He also suggested that reports written from the federal perspective only may not be sufficient.

Captain Ben Chiswell suggested that Mr. Downes try the National Transportation Safety Board, stating that they frequently do a good job of identifying deficiencies, for example people having trouble communicating with each other.

Stan Cohn (Concepts to Operations, Inc.) stated that his organization had done a study for southwest region of Connecticut, covering multiple districts and multiple jurisdictions, and that he would will try to get the report released. He also suggested an APCO article on interoperability problems experienced with the World Trade Center Incident.

Mr. Downes stated that one phase of the

ISC work was to get a number of these incident reports together, and to look at shortfalls and good things of how incidents were handled. The results would go into a BACKGROUND section in the final report.

After ISC discussion, Mr. Downes decided to form a single Working Group #3 (WG3) to catalogue the requirements of the various services within the public safety sector — Federal vs. state vs. local. He named the working group "Requirements" and asked ISC members to sign up. He mentioned that within the working group there will probably be a number of subgroups; one for each of the specific services.

Mr. Downes continued that his initial concept was to have the report show the requirements of public safety with respect to interoperability, and not necessarily with any suggested solutions. Based on ISC comments however, he changed that opinion and suggested rather that the report should have some recommendations, including how commercial services may supplement or assist any of those interoperability requirements. He also asked that the group consider the question of what do you do when you have a communication system shared by public safety and non-public safety users; for example where the system is shared in order to save money (economy of scale). He identified Working Group #2 (WG2) to develop an outline for the final report. The outline is to be a living document to be changed as necessary until the final report is finished.

Dave Buchanan commented that the ISC would have to provide guidance to other SC's as to how much spectrum is necessary.

Mr. Downes replied that as each SC develops its respective outline, they will be shared across the various SC's to ensure that efforts are not duplicated, and by the same point no issues are missed.

Gary Gray (County of Orange, California)

scanned over all of the SC charges and questioned where "system implementation" was included. He further requested that the SC chairmen get together to decide in which group the topic belongs.

Dale Hatfield (Hatfield Associates, Inc.) questioned where cost would be addressed? Mr. Downes suggested that addressing cost issues would include technology issues and suggested that the topic was not the purview of the ISC.

Mr. Downes noted that in order to be cost effective the subcommittee chairs had decided to, whenever possible, hold all working group in progression over a course of two or three days at the same location. This would facilitate members attending more than one meeting. In addition, they intend to develop a schedule of meetings through early next year to allow for the purchase of discount airline fares. As a further means of cost-cutting, the subjects of scheduling meetings in "airline hub" cities, and/or extending meetings into Saturday to allow for reduced air travel prices was discussed. These ideas were received favorably by the group. He asked the group to consider hosting the meetings at their facilities, but noted that one criterion of the Advisory Committee Act was that the facility had to be Federal, state or local Government.

Mr. Downes continued that no schedule of future meetings was available yet, however he expected a fairly firm schedule within the next few days. Chairmen were to meet between SC meetings on Friday (9/29/95) to work up a schedule.

Mr. Downes was complimented on how he ran the meeting. He stressed that he was looking for widespread participation in the ISC, and emphasized that participation did not require travel to all the meetings. Participation could be through the mail/E-mail/Fax. Furthermore he stated that one did not have to be a working group member to provide inputs

to that working group. All constructive inputs were welcomed.

Operational Requirements Subcommittee Paul Wieck, Chairman of the Operational Requirements Subcommittee, commenced the meeting at 9:00 a.m. and made opening remarks. He stated that this subcommittee's task is significant to the outcome of the Advisory Committee and will require a great amount of participation and teamwork.

Mr. Wieck stated that this agenda is focused on dividing up responsibilities and the methods to be used to approach these tasks. Comments were sought on the agenda. None were offered from the floor. The nature of the proceeding (public), the fact that it is being recorded (audio), and the passing out of an attendance sheet were discussed. Mr. Wieck characterized himself as a facilitator. He noted that everyone has a right to dissent. Comments were encouraged, and the methods to make them (use of microphone, etc.) were discussed.

The mission of this subcommittee proffered for discussion was to "survey and catalog operational requirements for wireless communications through the year 2010, based on broad input from the public safety community nationwide."

There was general agreement on the need to encourage participation and to acquire a great deal of data. The subject of whether to include infrastructure as part of this subcommittee's inquiry was raised. John Powell, University of California, commented that it should be. Dave Buchanan, County of San Bernardino, stated that transport systems, for example microwave, that make up a whole system must be examined. Tom Pfohl, City of Mesa, Arizona, stated that we have to consider a total nationwide infrastructure, and that local systems' infrastructures are a piece of the puzzle. Mr. Wieck acknowledged a consensus on this subject, and all agreed that there should be an infrastructure work group.

Mr. Wieck cited the Charter as defining some parameters for the subcommittee, such as the need to examine E911 and basic voice and data and also broadband technologies such as mugshots, fingerprints, video and high speed data. Mr. Wieck stated that while technology is not the primary focus of this committee, a wish list or "Christmas" list of needs is the purpose of this subcommittee. He noted that spectrum is not the focus of this subcommittee either but operational needs are. John Powell observed that coordination with the other subcommittees and data sharing should be added to the mission statement. Mr. Wieck concurred. There was consensus that for purposes of this subcommittee, an expansive approach to the definition would be taken, pending whatever action the full Advisory Committee might take on the definition of public safety.

Mr. Wieck mentioned that yesterday the interoperability subcommittee addressed whether the operational or interoperability subcommittees had primary responsibility to consider whether public safety agencies can speak with one another. Mike Granados of the International Fire Chiefs' Association stated that these issues of the need for various agencies to speak to one another are operational in the sense that we need to identify what the trooper, the fire marshall, etc., need to do. Mr. Granados added that from an incident command status (e.g., HAZMAT) and other national disasters, the biggest problems have been communications. Mr. Wieck stated that there are two aspects to this issue: needs and means. Mr. Wieck further stated that this subcommittee (operational) has the primary responsibility to identify needs but its mission does not include identifying the means to meet those needs.

A representative of the New York City Transit Authority stated that interoperability of the major subway systems and transportation systems should be included in public safety discussions. A commenter stated that operations, however, includes whether

approval is needed for field use of communications systems. Dave Buchanan also feels that how a nationwide infrastructure would be used would seem to be an operational issue, notwithstanding this may arguably falls within "means" as opposed to "needs."

Kevin Kearns, of King County, State of Washington, asked whether E911 or other public safety wireless concerns overlaps what local agencies are currently doing in this area. With respect to intelligent transportation systems, Jack Bailey from ARINC commented that E911 must include consideration of the interface between the public and public safety agencies. Ralph Haller, Deputy Chief, Wireless Telecommunications Bureau, Federal Communications Commission, indicated that E911 was placed in the charter so as not to preclude consideration of related issues, but not to require resolution of all E911 issues in the context of this committee. There is a separate E911 FCC proceeding. A discussion ensued in which there was recognition that some E911 matters would be relevant to this subcommittee's deliberations. It was determined that E911 would generally be included within the rubric of other analyses of this operational requirements subcommittee, but not as a separate working group.

Mr. Wieck tentatively offered a list of four primary desired results of this meeting: (1) enumerate public safety functions to be analyzed; (2) determine the desired general analytic approach; (3) determine a method for dividing the workload; and (4) design a future meeting schedule. Mr. Wieck sought comments. There was no discussion from the floor.

Yesterday, the Interoperability Subcommittee discussed defining public safety and defining public safety functions. It was agreed that the discussion on that issue should be incorporated herein by reference. It was further agreed that it was not necessary to again hold this discussion as part of the agenda for this subcommittee today.

The Subcommittee handout concerning public safety functions included the following list as public safety: law enforcement, emergency medical services, fire services and emergency management and disaster services. It further included other services such as highway maintenance, forestry and conservation and local government. The list broke down law enforcement services into federal, state, county and city. Federal law enforcement services include border patrol, coast guard, customs, DEA, FBI, BATF, forestry, secret service, NTSB, Treasury and FAA. State law enforcement services include highway patrol, marine patrol, national guard, conservation, revenue, Secretary of State, Fire Marshal, railroad, aviation, commerce, narcotics investigation, major crime investigation and executive protection. County law enforcement services include traffic, investigators, marine, conservation, university, forestry and parks. City law enforcement services include traffic, investigative, marine, parks, and universities. Emergency medical services include hospital, county, city and other private vendors. Fire services include state inspectors and investigators, county fire response and investigators, and city fire response and investigators. Mr. Wieck emphasized that this published list was a starting point for discussion and not all-inclusive.

This list contemplated five working groups: (1) Law Enforcement; (2) Emergency Medical Services (EMS); (3) Fire Services; (4) Emergency Management and Disaster Services; and (5) "Other". A motion was offered and adopted by unanimous consent to merge Emergency Medical Services and Fire Services into one working group.

Mr. Wieck tentatively set forth a function matrix as a method of listing the operational needs that the subcommittee defines. The function matrix includes the following categories for each need. (1) the nature of the need (e.g., voice/data/video); (2) to whom the communication must be made; (3) from whom the communication

must be made; (4) the information or data to be conveyed; (5) the frequency of the need (how often the communication(s) must be made; (6) the urgency of the need; (7) the range of considerations; and (8) the quality of the communication needed. Mr. Wieck sought comments from the floor on this matrix — there was general approval.

On the other hand, Mike Granados commented that function and utilization, together with legal responsibility, vary all over the country and that it is difficult to fit each "need" into such a matrix. He recommended soliciting more general information from public safety entities generally. Mr. Powell of the Univ. of California stated that the matrix is a good beginning, but definitions of the frequency of the need (how often the communication must be made) and other categories may need refinement. In the example appended in the list often "frequency of need" is listed as "constant." He believes quantification and defining needs short of "constant", in order to best help the technology subcommittee, are necessary. This subcommittee should consider what kinds of delays can be tolerated (or not), what kinds of blocking can be tolerated (or not), and levels of loading. Kevin Kearns commented that governmental structure should not control this subcommittee's organization, but rather that the nature of the service provided is most relevant. There was general agreement that the matrix to be used for categorization must be resolved early on, because the subcommittee will use that matrix to organize the information it solicits.

A motion to form a separate working group for public transportation was made by a representative of the New York City Transit Authority. Mr. Wieck sought comment. One commenter opposed the formation of a separate working group. Chris Allman of the Association of American Railroads indicated that this issue is important for consideration by this group and noted that the railroads have 2000 police officers and a fire department

and emergency response people.

A discussion commenced regarding the relative merits of keeping EMS and fire in separate working groups or combining them. It appeared that a consensus developed contrary to the earlier vote to keep fire and EMS as separate working groups. Mr. Wieck then indicated that the consensus appeared to favor creating seven work groups. There was then comment from the floor. Several commenters advocated fewer work groups. Mr. Wieck indicated that the work group concept was not a proposed division of analysis among many, but, rather, just a division of workload.

Mr. Wieck then proposed six work groups instead of seven, spurring discussion concerning the "other" category across all remaining work groups. John Powell said that certain functions in the "other public service" category are not applicable to any of the other categories. There were other commenters who agreed with Mr. Powell. Mr. Wieck then sought a consensus on the establishment of six or seven work groups, and, although at least one commenter still felt there was some overlap involving the "other" category.

Ultimately, seven working groups were created: (1) Infrastructure; (2) Law Enforcement; (3) Emergency Medical Services and Fire Services; (4) Emergency management; (5) Other public safety services; (6) Public Service; and (7) Matrix refinement.

Mr. Wieck requested input regarding tentative subcommittee meeting dates. It was noted that the subcommittee chairs were to discuss possible dates following this meeting during the lunch break. Generally, regional meetings were favored to arouse interest, learn of issues unique to specific parts of the country, and to create synergy to encourage cooperation with this subcommittee and PSWAC. Glenn Nash asked whether these three regional meetings were substantive. Mr. Wieck indicated these meetings would be primarily information

"intake" meetings and differed from the working group activity. Commenters from the respective regions expressed interest in attending their region's respective meetings.

There was a general discussion of the need to cross-pollinate information among working groups of all the subcommittees. There was consensus that the internet and other means may be used to facilitate the flow of information about the tentative results of the working groups. Mr. Wieck proposed continuous electronic interaction. Mr. Wieck indicated that the function matrices would be posted electronically on a bulletin board having download capability (515-225-8316). Paper copies of matrices would also be provided upon request and ultimately it will be placed on the PSWAC world wide web site. There would be constant updating of the matrices based on subcommittee work. There could be a proponent for each function matrix. Comment would be possible by four methods: (1) internet E-mail; (2) messages left at the BBS; (3) normal mail; and (4) personal appearance. There was comment from the floor generally on these possibilities, and how they would relate to regular meetings. There was general agreement that information dissemination and provision by internet and electronic means in addition to regular meetings of the subcommittee, and in conjunction with working group activity, was worth while.

Richard Shiben asked about who would have responsibility for preparing the subcommittee's final report, and whether a separate working group would be needed for that. A discussion ensued noting that a majority of the working group product would be the matrices and whether they would be self-explanatory that would not require a lot of additional drafting. It was suggested that the matrices would need supporting narrative. Mr. Wieck treated this as a motion for working group eight (report drafting). A commenter suggested that establishing another group was unnecessary, as the matrix definition group would be available,

after serving its initial function, to later draft and formulate the report. Mr. Wieck agreed, noting that the matrix group had effectively a "half-life" and determined that there was a consensus on this point. No eighth group will be created. Instead the matrix definition group will also be responsible for preparing the final report.

Ralph Haller, Deputy Chief, Private Wireless Bureau, Federal Communications Commission, sought volunteers to provide sites, preferably federal or public venues, for future subcommittee or PSWAC meetings.

Spectrum Requirements Subcommittee Mr. Dick Allen, Chairman from the Federal Bureau of Investigation, opened the first meeting of the Spectrum Requirements Subcommittee (SRS).

The agenda (PSWAC/SRS-1/1) was noted with two documents, one on existing public safety frequency bands (PSWAC/SRS-2/1) and the other on candidate federal land mobile bands to be considered for tentative reallocation to public safety use (PSWAC/SRS-3/1).

Mr. Allen stated that minutes of the meeting will be published and mailed to all subcommittee members together with all attachments stated above. In addition, a definition of public safety/public service developed by a group in San Diego, CA will be included. This definition attempts to integrate all Federal/State/Local radio systems together. He further mentioned that Jim Downes, chairman of the Interoperability Subcommittee, has asked for PSWAC input on a definition for public safety, noting that current responses indicate that public safety encompasses at a minimum all law enforcement, fire services, emergency medical and disaster services. He also stressed that the Operational Requirements Subcommittee is going to need documented requirements and justification, as the group cannot simply "ask FCC or NTIA for 150 MHz because we want it."

Information on non-Federal Government

bands was taken from the FCC report sent to Congress. Need to expand to include bands such as video operations, etc. Also not included are any "backbone operations" of these bands.

Mr. Allen introduced the document as outlining information on bands, primarily land mobile, used by Federal Government which are seen as possible bands that the PSWAC could petition FCC/NTIA to reallocate to public safety use.

Based on the charter, three working groups were created, and a list of the working group members will also be sent along with the minutes.

Working Group 1 was charged to form the report outline and consider: what to put in each section; what are existing public safety bands; how much are they used; where in the overall frequency spectrum is it; how much do we need to satisfy PSWAC requirements; do we need spectrum now; and final recommendations.

Working Group 2 was charged to look at the existing public safety frequency allocations and uses in various bands. Consider issues such as: who is now using those bands; how much of those bands are they using; and what are they using them for (e.g., video data, etc.).

Working Group 3 was charged with looking at potential frequencies to petition FCC/NTIA for reallocation. Issues to consider include: are there other petitions already before the FCC to reallocate frequency bands to public safety; perform in-depth study of all frequency bands.

Mr. Shiben (Ericsson) stated that information is needed on current uses of each band. For example: how many systems are constructed and operating with these bands; how many systems are being constructed; and how efficiently is the current spectrum allocation being used. In addition, the group must look at rural vs. urban systems when addressing spectrum requirements that may be

applicable.

Mr. Allen added that spectrum congestion in areas such as New York City and Los Angeles, where there are no frequencies available, will be good examples to illustrate why public safety services need spectrum.

Mr. Hayton (FBI) also suggested that the SRS should look at spectrum in terms of propagation characteristics and the various applications we want to use it for. This review should include determining what portions of the spectrum are best suited for various geographic areas for and for different applications.

Mr. Shiben raised the issue of international borders, such as Canada and Mexico. What spectrum is being used in other countries? He stressed that in the future, we should be very sensitive to our border issue because of potential cost impacts for public safety community.

Mr. Allen stated there is a frequency coordination agreement with Canadians but not Mexico inland mobile area.

D. Speights added that there is an agreement with the Mexican government but not in all land mobile bands and not for narrowband operations, and that the issue is the subject of a working effort between FCC/NTIA/State Department this year.

Mr. Allen urged SRS members to look for existing papers on the public safety topic, such as the APCO study, the NTIA report on U.S. National Spectrum Requirements, and older FCC reports on public safety private radio systems.



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