

APCO REPORTS



ASSOCIATED PUBLIC-SAFETY COMMUNICATIONS OFFICERS
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This monthly newsletter of APCO is not going to try to catch up on history. It assumes that its readers know as much as, or more than, its writer about the subject material being covered, and will be concentrating on updating information. It is intended to be a timely report about what APCO and its members are doing, and what others are doing that affect APCO members. It will be published on or about the middle of each month. We welcome you to subscribe to this service, and to contribute toward its contents in the understanding that all material will be tightly edited. The APCO REPORTS will not cover material covered in the APCO BULLETIN, our monthly magazine.

PUBLIC SAFETY 'FUTURE REQUIREMENTS': While the schedule for completing its response in the Federal Communications Commission's "Inquiry on Future Public Safety Telecommunications Requirements" (PR Docket 84-232) is tight, APCO is on target with its response, and expects to meet the Commission's August 15 deadline for comments.

We received a number of responses to APCO President Craig Jorgensen's questionnaire of a few months ago, and these are being analyzed and shaken down into format. A draft set of the APCO comments will be presented to the association's Board of Officers on August 4 in Cincinnati, and to the Executive Committee on the following day. The advice of these groups will be integrated into the document, and final revision will be made during the APCO Annual National Conference week in Cincinnati.

Anyone wanting to make further input should give it in writing to APCO Executive Director Bob Tall in Cincinnati, or address it to the above National Office in New Smyrna Beach, Florida.

President Jorgensen, meanwhile, in a letter to FCC Chairman Mark Fowler, has asked the Commission to hold off on proposals to allocate the "reserve" land mobile radio spectrum to other uses, at least until the agency has completed its study of public safety communications needs. The APCO official said the "spirit" of the law changing the Communications Act last year "obligates" the Commission to do this, in APCO's view.

It would appear, Jorgensen said, that "it will be a number of months until the Commission is in a position to ascertain public safety's spectrum needs," and "We are concerned that if the Commission determines that public safety needs additional spectrum, the (proposed actions) at this time to exhaust the reserve will make it impossible for you to satisfy these needs."

LMCC PETITION: The Land Mobile Communications Council, aware that the FCC was gearing up to take action in several areas which would allocate 800 megahertz spectrum away from the land mobile radio "reserve", petitioned the Commission in June for institution of a new rulemaking proceeding looking toward amendment of Parts 2, 22 and 90 of the rules "to make additional frequency assignments to the land mobile radio services."

LMCC is an organization of more than twenty organizations, including such public safety groups as APCO, the Eastern States Police Radio League, the Forestry-Conservation Communications Association, the International Association of Fire Chiefs, the International Association of Fish & Wildlife Agencies, the American Association of State & Highway Transportation Officials, the International Bridge, Tunnel & Turnpike Association, and the International Municipal Signal Association, along with similar associations from other sectors.

(Russell Fox, attorney with the law firm of Keller & Heckman, which serves as legal counsel to LMCC, will be one of the key participants on the Regulatory Panel during the opening day of APCO's Annual Conference in Cincinnati.)

The Council said it was filing the petition to "document the current spectrum requirements of the land mobile radio services and demonstrate that an immediate allocation of approximately 32 megahertz of spectrum is necessary." LMCC suggested that the FCC "permit the use of the 800 mhz frequencies which were originally 'reserved' for future land mobile needs in 1974. Additionally," it said, "the Commission may wish to explore the potential use of vacant spectrum in the UHF TV bands, spectrum allocated for federal government use, or assignments from the 220-225 mhz band to satisfy the requirements of land mobile users."

Specifically with respect to the public safety services, the LMCC petition noted the indications "that all channels available (in the 800 mhz) public safety and special emergency 'pool' have been assigned in the Los Angeles and New York/Northern New Jersey areas," and that "Except for a few single channels, all frequencies have also been assigned in the Baltimore/Washington and Miami/Ft. Lauderdale areas." It added that "there will shortly be no available public safety and special emergency channels (in this band) in the Houston area as well."

"Yet, with regard to the allocation of frequency assignments for public safety purposes," the Council said, "the Commission is under a special obligation, in light of the requirement contained in last session's legislative enactment (P.L., 98-214 to be codified at 47 U.S.C., 303 note) to ensure the needs of state and local public safety authorities in making spectrum allocations. LMCC submits," it said, "that the allocation of a portion of the 800 mhz 'reserve' would certainly be consistent with the mandate of this legislation."

IMMINENT ACTION? As of the middle of July, the FCC was poised for action before the end of the month on proposals which would take away the land mobile "reserve" spectrum in the 800 mhz band and allocate it for alternate uses: air-to-ground radiotelephone service, a new personal radio service, and shared government/nongovernment point-to-point use. Together, these three proposals represent a threat to 18 megahertz of land mobile radio reserve space.

As the Land Mobile Communications Council pointed out, the Commission has also received proposals that would initiate rulemaking procedures to authorize a cordless telephone service, a consumer radio service, a mobile satellite service, and a rail passenger radiotelephone system, "all of which would employ frequencies in the land mobile reserve."

The Commission had been shooting earlier to take up the first three of these items listed above in June, but the schedule slipped and by mid-July was looking at a probable July 27 date to tackle them despite efforts by the land mobile radio community to defer action on the items until LMCC's reserve allocation petition could be considered.

As this issue of APCO REPORTS was published, it was anybody's guess as to whether the July 27 scheduled date would see action on the three proposals.

CORDLESS PHONES, 9-1-1: In another FCC proceeding, involving the amendment of Part 15 of the rules to add "new interim provisions for cordless telephones" (Gen. Docket No. 83-325), APCO has expressed its "concern" that labelling requirements for cordless phones may not be "sufficient to prevent what may be a very serious problem" in connection with the provision of 9-1-1 emergency telephone service.

APCO expressed its concern that cordless phones may be interfering, "to at least some degree," with the 9-1-1 systems.

"For approximately two years," APCO said, 9-1-1 systems "have experienced what have been referred to as 'drop offs' --unexplained calls coming into the Public Safety Answering Points (PSAPs) with no one on the other end when the calls are answered. It has been assumed until recently that these were either misdialed or crank calls, or were the result of a malfunction in the 9-1-1 network.

"Enhanced 9-1-1 systems have recently been developed and implemented in many areas of the country, however," the association said, "and in these more advanced systems, the PSAPs are in many cases able to capture the calling party's number and return the 'drop off' call to find out whether the party truly needs emergency assistance. As a result of this practice, many 9-1-1 PSAPs have begun to discover that these calls are often generated from cordless telephones which are either out of their base (off hook) or are low in battery power or otherwise defective"

APCO said it is "not in a position to recommend a course of specific action to the Commission with respect to dealing with the problem" yet, but suggested that the FCC "be aware" of the problem "and begin taking appropriate steps to investigate it, looking toward the possible adoption of standards which may be required to prevent its occurrence." The association said its 9-1-1 Committee anticipates that it "should be able to gather at least a representative sample of data with respect to this problem in the next six months."

L.A. SHERIFF'S PETITION: The Los Angeles County Sheriff's Department at the end of June filed a document with the FCC objecting vigorously to an FCC Field Operations Bureau "Limited Spectrum Occupancy Study" of the Department's radio frequencies, which the Commission had conducted as part of its preparation to act on the Sheriff's petition for nationwide mobile radio frequency relief.

"Because of the adverse comments concerning the Department's prior statements as to its available channel capacity," the Sheriff's Department said, it has "made substantial efforts to review and analyze the data in the FCC study as well as the analytical techniques and conclusions thereby drawn," and "The results of this analysis is strikingly different from the conclusions reached by the FCC study."

"For the public safety user in particular," the Department pointed out, what constitutes an efficiently utilized communications channel cannot be assessed, as the FCC study has sought to do, merely by looking at transmission occupancy levels over a short time span. Basic public safety operational needs dictate that the use of particular channels will vary substantially depending on the channel's function.

"For example, with respect to patrol dispatch channels, lengthy waiting time to access the channel by any unit at any time cannot be tolerated; therefore, peak message occupancy levels must be kept to a reasonable level (30% and no more than 50% at the maximum) to provide for an acceptable level of response. On the other hand, tactical investigative channel considerations are different. Even if there is no actual message traffic on a tactical channel for several hours during an ongoing operation, the channel is fully utilized once the channel is operationally assigned to the mobiles or portables involved in the operation."

"From this standpoint," the Department said, "the study must be severely faulted for setting forth no standards, objective or otherwise, by which to judge when a public safety channel is effectively occupied and utilized. Traditionally, and under the Commission's present rules, channel loading has been defined in terms of the number of mobile or portable units licensed to the channel. While a rough measure, the Commission has recognized the inherent difficulties in utilizing other approaches, specifically including transmission occupancy levels, because of the lack of any readily available and workable objective standard. Without any transmission occupancy standards as to what constitutes a loaded public safety channel, the attempt to assess the Department's utilization of its channels and draw conclusions on this basis alone is particularly disturbing."

"The design and operation of a public safety communications system for a large and geographically varied metropolitan area such as Los Angeles County is a complicated, difficult and expensive undertaking. This cannot be done at the federal level, but is the responsibility of the local public safety agency which is most familiar with its particular operational needs, service obligations, municipal budgetary limitations and the myriad of other factors which must be considered. To fulfill this responsibility effectively, the local public safety agency must have access to an adequate number of channels to provide a reasonable degree of discretion in the design and operation of its system. This fundamental need to accord the radio licensee reasonable latitude in system design and configuration has been recognized by the Commission in other areas and is particularly essential in the public safety area. It is, after all, the local public safety agency which has the basic line responsibility to serve the public."

(Kenneth Cable, Chief of the Technical Services Division of the Los Angeles County Sheriff's Department will be updating attendees of the APCO national conference on the status of its pursuit of additional spectrum. Will McGibbon, Chief of the Spectrum Management Division of the FCC's Office of Science & Technology, whose office is handling the Sheriff's petition at the FCC staff level, will be taking part in the Regulatory Panel at the conference.)

SPREAD SPECTRUM: Comments are due at the FCC September 14 on a "further notice of inquiry and proposed rulemaking" in Gen. Docket No 81-413, involving

"authorization of spread spectrum and other wideband emissions not presently provided for in the FCC rules and regulations", which could have pointed impact on the police radio service. In its proposals, the Commission pointed out that a Lincoln, Nebraska, firm had made inquiry concerning the use of spread spectrum in police training applications.

(John Kuyvenhoven, of that firm -- Transcript/International Inc., -- will be offering a presentation during the national conference on that technique, "Frequency Hopping Radio for Public Safety Security", on August 7.)

"In response to Transcript/International's inquiry concerning the use of spread spectrum in police communications," the FCC said, 'we are proposing to authorize frequency hopping and direct sequence systems to operate on a limited basis on certain frequencies in the public safety radio services. This authorization would be only for police departments' use of public safety spectrum for the purpose of communications in connection with physical surveillance, stakeouts, raids and other such activities and would be on a secondary basis to operations of licensees regularly authorized on these frequencies. Approval of the area frequency coordinator must be obtained prior to operation . . .

"Because criminals have become increasingly more sophisticated in the means which they use to monitor police communications and detect surveillances," the FCC said, "law enforcement officers must use increasingly sophisticated methods to guard their communications. Since spread spectrum transmissions are not readily detectable by criminals monitoring the air waves and are difficult to jam, this form of communications can become an extremely valuable tool for police. Federal law enforcement agencies . . . have been authorized on a case by case basis by the National Telecommunications & Information Administration to use spread spectrum in their operations. This proposed rule gives state and local law enforcement agencies this same, important capability.

"Under the proposed changes to Part 90 of the rules, frequency hopping systems would be allowed to operate on any of the frequencies which are presently available to the police radio service and listed in Section 90.19(d) of the rules. The power limit specified for the users of these frequencies is 2 watts. Hence, frequency hopping systems, which are operating on these frequencies, are not expected to cause harmful interference to other users, if their maximum output power is kept below 2 watts. However, if the hop rate of these systems is greater than 10 hops per second and more than 10 hopping frequencies are used, then we feel that a maximum output power of 15 watts can be allowed and still not cause objectionable interference to the other users since the time of continuous occupancy of any single frequency, by the frequency hopping system, will be less than one tenth of a second.

"Also, the agency said, "direct sequence spread spectrum systems will be allowed to operate in the 37.01-37.43, 39-40, 44.61-46.6, 154.6375-156.250 and 158.715-159.480 mhz public safety bands, if their maximum integrated output power is limited to 10 milliwatts per kilohertz. The level of this signal is about one-tenth of that allowed for the other users of these bands and therefore the potential for interference is small."

The Commission said it has "attempted to minimize" potential for interference by choosing "conservative technical standards, and, in the case of operating under Part 90, by requiring frequency coordination." It specifically invited "comments on the ability of our proposed rules to ensure the integrity of public safety communications as well as other services."

(Starting with Volume 1, Number 2 of the APCO REPORTS,
the mailing label will occupy this space.)

AUTOMATED FREQUENCY COORDINATION SYSTEM: The APCO National Office has received, and distributed to the Board of Officers and the National Executive Committee, the latest report from Douglas R. Dickinson, who is heading the project to automate APCO's frequency coordination system. Copies of the report will also be distributed to the APCO frequency coordinators at the Cincinnati Conference.

The "Forward" of the report points out that:

"The Frequency Coordination System (FCS) is the primary goal of the data automation process. This system refers not only to a computer function but to an entire method of operation that includes certain statistical functions used in spectrum management activities and to other office automation functions that are compatible with mini-computer.

"For purposes of this report, we will confine ourselves to the FCS function to a major degree. Other programming efforts will be accommodated to the extent practical and some of the statistical and operational aspects will be addressed also. The exclusion of any particular program or function will not infer that it cannot or will not be accomplished--only that it is not included for purposes of this report."

The report emphasizes that the process "will require the continued assistance and efforts of the local frequency coordination to allow the continued local input to the process of situations which are either unique to the application or which have a limited applicability. Some of these anomalies are mountain top situations, consistent thermal ducting, and unusual ground conductivity--all of which may affect the selection of frequency."

(APCO frequency coordinators are advised to sign out for a copy of the report at the National Office exhibit booth in Cincinnati, so you will have time to digest it before the Frequency Coordinators' Workshop on Thursday morning, August 9. Coordinators not able to attend the National Conference, please have someone from your Chapter sign one out for you and deliver it to you.)

(There will be an advertisement in the August issue of the BULLETIN soliciting candidates for the position of APCO Frequency Coordination System Manager.)