

SPEECH BY FCC COMMISSIONER JAMES H. QUELLO
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Compendium: Solving Present Broadcast Problems; "Computing" The Future

It's good to be back in the land of sunshine, orange juice and Anita Bryant. And I always feel very much at home among broadcasters and those who have a genuine interest in improving broadcasting service.

As you may know, many of us in Washington are becoming more accustomed to everyday sunshine since "Government in the Sunshine" has become the law of the land. The FCC--as well as the other agencies of the Federal government--is now holding most of its meetings in public and we're getting used to the idea. While some of us were rather apprehensive at first, I think we're all now relatively comfortable with the new situation.

In mulling over possible topics you might be interested in, it occurred to me that you probably are wondering about the much-talked-about re-write of the Communications Act of 1934 and what that might do to our present system of broadcasting. I wonder about that, too, and I was prepared to speculate a little about the option papers and what the Congress might be thinking and what the Act might look like ten years from now. I was happy to abandon that complex exercise, however, when I learned that your luncheon speaker, tomorrow, will be Congressman Lou Frey, the ranking minority member of the Subcommittee which has assumed a major role in reviewing the present Communications Act. So, I'll leave any comments on the re-write to your very knowledgeable and able Congressman and I'll direct my speculation elsewhere.

Before embarking on some intriguing flights of fantasy with fiber optics and computers, I've been asked to report on some very practical matters of present concern to many broadcasters. I'll try to bring you up to date on the Commission's current thinking on equal employment opportunity requirements and goals, the co-called "Roadside Radio" concept, and I'll try to address some concerns I've heard expressed about the impact of cable importation of distant radio signals. I'll also give some suggestions on constructive use of CB traffic and road reports on your radio stations. I understand that many of you serve smaller markets and I recognize that your concerns are not necessarily the same as those of major market broadcasters regarding the topics I just mentioned.

Regarding the FCC's Equal Employment Opportunity rules, there may be some confusion about exactly what we did a year ago. We said, last June, that it was unnecessary for stations with ten or fewer full-time employees to file with the Commission "programs designed to provide equal employment opportunities..." (Section 73.125(c)). We took that action in the interest of reducing some of the paperwork burden on small stations. We did not change the substance of our equal opportunity rules. Our general policy was and is that "equal opportunity in employment shall be afforded by all licensees or permittees of commercially or non-commercially operated standard, FM, television or international broadcast stations... to all qualified persons, and no person shall be discriminated against in employment because of race, color, religion, national origin or sex." Each licensee is still expected to take the necessary steps to ensure that there is no discrimination in his hiring or promotion practices but stations with ten or fewer full-time employees are no longer required to file affirmative action reports with the FCC.

Two weeks ago the Commission approved "Travelers Information Station Facilities"--more popularly known as "Roadside Radio." I dissented from that action because I do not see a need for low-powered, limited-range, government-operated radio stations adjacent to the AM broadcast band. In my dissenting statement, I said that "I simply do not view this proposed service as performing any needed function that cannot be better performed by (1) existing broadcasting stations or (2) by alternative means. Conversely, the proposed services tend to discriminate in favor of those vehicles equipped with functioning AM receivers capable of receiving a signal at the extreme edges of the broadcast band. Thus, such discrimination would seem to mitigate against the sole use of the proposed services in instances in which safety might be considered a factor."

This dissent continued: "I am fully aware of the practical aspects of providing informational reports to the public by radio stations, particularly during heavy-drive time periods. Radio stations in the larger and more urban areas, particularly, scramble to provide the most comprehensive weather reports, traffic-condition reports, emergency traffic situations, etcetera. Such reports cover a substantial area geographically and the listener is able to receive the information in sufficient advance time to make use thereof. In contrast, travelers information stations would be of very limited range. In fact, the range would appear to be so limited as to be of little value in aiding the motorist in anticipating delays or hazardous situations. As for non-safety-related services, I am not convinced as to their public interest value over more traditional alternatives."

Obviously, my colleagues did not agree with me. And, I must confess that I don't view the majority's approval of "Roadside Radio" as a major calamity nor, in my opinion, should you. The fact is that there has long been some use of frequencies within the broadcast band, itself, by various government agencies with much greater power levels than authorized in the Commission's recent action. These uses were not authorized but they did and do exist. It is now the hope and belief that those entities operating such unauthorized facilities will now be persuaded to move to the band edge and conform to the new technical requirements

and, thus, minimize the negative aspects of governmental broadcasting. At any rate, we expect to begin processing applications for travelers information stations in the near future.

I'm told that there is a paragraph in the Fifth Notice of Inquiry in preparation for a General World Administrative Conference in 1979 which has caused some concern among existing broadcasters. Paragraph 15 of that Notice states that the Commission is "proposing international allocations that will provide for broadcasting between 115 and 190 kilohertz and between 1615 and 1800 kilohertz, noting that the international proposal for broadcast allocations between 525 and 535 kilohertz and 1605 and 1615 kilohertz contained in the Third Notice has not been modified." This, of course, means that the Commission is proposing a rather significant expansion of the current AM broadcast band. Again, quoting from paragraph 15 of the Fifth Notice: "The present AM band, 535 to 1605 kilohertz, is used very efficiently in this country; however, the increasing complexity of applications and increasing cost of broadcasting antenna facilities necessary to protect existing stations greatly inhibit future development of this service. If the proposal is adopted internationally and implemented nationally, these channels could increase the diversity of programming choices available to listeners, and provide local broadcast services to communities presently denied services due to existing interference situations." Now, I don't know what I can say to some of you who already face stiff competition that will make the future prospect of still more competition more palatable. I certainly will be interested in reading the comments generated by this proposal and I intend to keep an open mind as to the final disposition of this matter.

While we're on the subject of competition and fractionalization, I've had some inquiries about the Commission's long-pending inquiry into the potential impact upon radio broadcasting by distant radio signals imported by cable television. I must tell you that the Commission is not pursuing this matter with great enthusiasm. As a matter of fact, the inquiry has been pending for so long--since 1972--that it is generally conceded that the information which has been gathered is largely useless and that, if the matter is to be pursued at all, it will be necessary to start all over again. I realize that many of you see a potential threat from cable. I might share that perception. However, we have found it extremely difficult to quantify specific potential harms to broadcasting from cable and I'm not at all certain that a further inquiry is an answer to your concerns. You must remember that the Commission's official concern is with the maintenance and expansion of service to the public and not with the profitability of a broadcasting station, per se. We must and do recognize, however, that reasonable profit is necessary to continue and expand local broadcast service. Should you believe that your service to the public has been harmed by a competing service, we would welcome your bringing that to our attention at the FCC. You must, however, be prepared to demonstrate such harm as specifically as possible.

As you well know, there is a CB explosion in this nation. Initially applications numbered 32,000 a year--they are now averaging over 400,000 per month and last January--in one month alone --the FCC received over 1,000,000 applications! I know that radio station owners and managers must view the CB explosion with mixed emotions. If thousands of people are talking to each other through CB while travelling on the road, they are not listening to your radio stations. You might find our experience at station WJR interesting and helpful.

About eight years ago (well before the recent big "explosion"), a group of CB'ers wrote our station offering to provide road and traffic information for broadcast. We had several meetings and decided to experiment. Several CB'ers volunteered to man a receiving unit at our station and feed our morning and afternoon drive-time personalities. We soon found our station the focus of over 35,000 CB'ers in Detroit at that time (1970) and with these direct reports, we were usually a half hour to an hour ahead of the regular police authenticated reports on accidents, roadblocks, and other emergency information. We installed a receiver on the 28th floor of the Fisher Building for more effective reception. It was such a success that six months later other Detroit stations insisted on a meeting with Wayne County and Detroit police traffic officials as well as representatives of CB clubs so that they too could start broadcasting the CB reports. (list advantages and disadvantages--conclusion: the advantages outweighed the disadvantages and most CB'ers remained loyal to the station that initiated the broadcasts and specialized in CB reports).

I know that our concerns--yours and mine--tend to be focused on the here and now and on the immediate future. In the next few minutes, however, I'd like to speculate a little about the more distant future of telecommunications, including broadcasting. As all of you are aware, telecommunications is growing and developing at a rate that is either alarming or exciting--depending upon your vantage point. This rush of technology is bringing with it many benefits: improving our phone service, providing low-cost access to computers, reducing costs in many areas of business and personal life and bringing about changes of many kinds. Floridians now receive same-date delivery of their Wall Street Journal as a result of satellite technology. Public broadcasting stations will soon offer improved and expanded program service resulting from satellite technology and continued progress in the development of solid-state electronics. There is a proposal to deliver wire service copy to broadcasting stations via their own low-cost earth stations. Networking is benefiting from greater flexibility at lower cost through the use of satellites. And, with satellite technology becoming established as almost commonplace, we are about to enter another technological era in telecommunications that may prove equally as exciting. The development of fiber optic--or lightguide transmission--technology is moving ahead very rapidly--more rapidly than even the most optimistic experts were willing to predict a couple of years ago. The theoretical capacity of a single lightguide is mind boggling although, at this state of development, practical applications of this technology don't approach the theoretical possibilities. I am confident that the practical limitations will

rapidly move outward as the technology receives increasing attention by brilliant scientific minds throughout the world. As you probably have read, experimental and developmental transmission systems are being built and tested right now by AT&T and General Telephone and Electronics, among others. These systems seem very promising.

I'm not going to dwell upon the technical aspects of fiber optics--that is, the "how" of this technology--but, rather, I'd like to address myself more to the "why" and "what if" ramifications.

Why, for example, would it be beneficial to use glass fiber instead of copper wire and coaxial cable for the bulk of our telecommunications needs throughout the country? One obvious answer is cost. While the cost of copper is expected to continue to increase over time, the cost of glass fiber is expected to dramatically decrease with improvements in manufacture and greatly increased demand. In addition to the cost factor--assuming that some of today's technical limitations are overcome--there is the promise of vastly increased capacity in both the digital and analog modes. Computers talk with each other in the digital mode and we talk with each other in the analog mode, generally speaking. With greatly increased capacity to communicate with each other and with computers at dramatically lower costs, potential soon can be converted into reality in providing more and better services to more people.

At the same time that costs are plummeting in telecommunications, of course, costs are rising in the more energy-intensive areas of transportation. It seems reasonable to assume, therefore, that telecommunications will tend to replace transportation in areas where that is feasible. For example, it seems logical that meetings and seminars will trend more toward teleconferences and teleseminars and that written documents will increasingly be moved via telecommunications rather than the traditional modes of transportation. In fact, we are continuing our national trend toward becoming producers more of services than of goods. While goods generally require transportation, many services do not. Instead, in these areas, transportation will be replaced, to some extent, by telecommunications in the interest of speed, reliability and cost-effectiveness. This answers the "why" of a nation connected by lightguide technology--its the capability of very high capacity at very low cost.

Advancing even faster than lightguide technology, at present, is another technology which is already an indispensable part of our existing telecommunications system. I'm speaking, of course, of the integrated circuit in all of its permutations. Integrated circuit technology is quite evident in virtually all kinds of transmission and switching facilities and is likely to become more evident in the months and years just ahead. One result of this development is the ready availability--at ever decreasing cost--of increasing amounts of computer power. Where just a few years ago, computers were available to only the largest users, they are now excluded from only the very smallest. And, there is reason to

believe that virtually everyone will have personal access to computer power in the near future. Once it is widely recognized that computers are useful for far more than business accounting, they may come to be regarded as a "necessity" to a much greater extent than is the home television receiver at the present time. When the American public realizes that computers can do shopping, be constantly vigilant for fires and thieves, take care of virtually all financial transactions, control temperature, and generally increase efficiency and reduce routine, I think we'll see a clamor for computer power of unprecedented proportions. That demand coupled with dramatically decreased cost will bring us headlong into the personal computer era with all of the telecommunications requirements such an era would imply. After all, your personal computer can't do the banking unless it can converse with the bank's computer, it can't move written documents unless it has access to the source or destination of those documents and it can't call the police or fire department without a communications path. Capacity and low cost, then, are the keys to the telecommunications future and there is every reason to believe they will soon be available.

Now, should anyone infer that the future I have been speculating about would be without costs--both economic and social--I urge him to consider some of the implications. Should all of this come about, we would be required to adapt to some rather significant changes in our lives and, for that matter, in our society.

Now, we come to the "what if" consideration I mentioned earlier. What if, for example, we awakened, tomorrow, to find that all of this had taken place. What are the implications for the transportation industry? From a regulatory point of view, who provides these telecommunications services upon which we are now so dependent? What is the role of broadcasting and even cable in this "world of tomorrow"?

Now that the frequency spectrum is virtually no longer a constraint, the role of the broadcaster and the FCC must change. The FCC will no longer be required to act as an engineering traffic cop. The broadcaster will no longer control a very limited resource in his community on an exclusive basis. Where there were relatively few telecommunications channels available to the home and business, now there are many. Where there were relatively limited options available to the residential user of telecommunications, now there are many.

I'm not trying to frighten anyone--least of all broadcasters. I'm merely suggesting that technology will make it possible for us to do things we have only dreamed of and we will have the opportunity to make changes for the better in many facets of the American way of life. At the same time, however, we must be prepared socially and financially to accommodate those technological changes.

In this hypothetical world I have just described, broadcasting would undergo some significant changes. Television, presumably, would find little need for over-the-air transmission. Cable might not be required with the broad capacity of fiber optics. What about radio, would it remain essentially an "over-the-air" medium to serve the mobile audience? The advance of technology is making it possible to communicate efficiently and economically across thousands of miles. Does this technology make any contribution to communication within the community? What about the continuing need for local news and public affairs programming?

None of us knows the answers to those questions. My purpose, today, was to focus your attention briefly upon the future of telecommunications and to consider your role in that future. My scenario is only one of many possibilities. Please feel free to develop your own.

I want to emphasize--the technological capabilities of the future are here today-- technology has outstripped our ability to implement it socially and economically. But the change could come sooner than expected and the time to think about the future is now.

In closing, I commend to you the words of engineer-inventor Charles Kettering who once contributed to significant change within the automobile industry. He said: "My interest is in the future because I am going to spend the rest of my life there."

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