

## Regional Group Concludes Engineering Testimony

The Federal Communications Commission today resumed its hearings in the general allocation case which was adjourned last Friday.

Dr. G. W. Pickard, engineer for the regional group, was on the stand all day today undergoing cross examination by the chief engineer of the Commission, T. A. M. Craven. He concluded his part of the case today and it is expected that Paul D. P. Spearman, counsel for the regional group, will present the economic side of their case tomorrow, which will conclude what that group has to offer.

It is anticipated by members of the Commission that the hearing will conclude this week but it is possible that it may have to sit next week.

### Pickard Continues

Dr. Pickard, at a short session of the hearing on Friday morning, continued his testimony. He discussed further the question of international interference from 500 kilowatt stations. He called attention to the fact that there are a number of Mexican stations operating on the same frequencies as our own clear channels and that the Mexican stations have really made our clear channel stations anything but clear.

### Coverage

He discussed at some length the distribution of both day and night regional service and told the Commission of a study of coverage of regional services which he had made. He stated that his survey showed that regional stations in the United States cover a daytime audience of 175,206,988, which of course, he pointed out, is an overlapping of regional service. Nighttime coverage of these stations, he asserted, reached 245,292,649.

During the course of his examination Dr. Pickard stated that he agrees in part with the Engineering Division of the Commission in connection with signal intensity. He said that in his opinion a ten millivolt signal is too low and that it should be twenty millivolts. In connection with a signal in the residential part of the city, he contended that two millivolts are too low and that this should be increased to five millivolts. He said also that in rural areas the signal intensity of one tenth of a millivolt is too low.

### Agrees with Engineers

Dr. Pickard testified under cross examination that he agrees with many of the conclusions reached by the Engineering Division of the Commission in its recent allocation survey. However, the Commission's standard on blanketing is too low, Dr. Pickard contended.

Asked regarding radio problems from the standpoint of the listener and the government, Dr. Pickard said that he best understands the radio problem from the standpoint of the listener. He advocated reallocation on a frequency basis to give such stations as the regionals a frequency in keeping with soil conductivity. He admitted that it would be hard to accomplish such a reallocation.

### City Listeners

Dr. Pickard told the Commission that the listeners in the cities should be given stronger signals than they now receive. City and rural listeners have much the same listening likes and dislikes,

Dr. Pickard continued, and said that in his opinion the broadcasters should give the greatest variety of programs to rural as well as city listeners.

### Staggering Stations

Dr. Pickard suggested in answer to one of Mr. Craven's questions the staggering of station frequencies where two or more stations are on the same frequency. By staggering the stations approximately 17 cycles it would eliminate the zero heating, sea wash effect which is much more objectionable, he stated, than the overlapping of two programs.

Dr. Pickard pointed out that from zero to 10 cycles difference between stations an objectionable flutter is experienced but from 10 cycles to approximately 25 cycles the heterodyne between stations is not audible, due to the inherent characteristics of a receiver. He suggested that an acceptable ratio of 10 to 1 between two stations would be satisfactory where this staggering is used, instead of 20 to 1 where this staggering is not employed.

### Local Stations

It was contended by Dr. Pickard during the course of his examination that local stations should be used for local problems. He said that full time is much more important to the listening public than part time.

There is a definite limit, Dr. Pickard testified, as to what can be done in the duplication of clear channels.

Mr. Craven called Dr. Pickard's attention to the fact that there are now 40 clear channels designated as such and he asked him how many duplications there could be. Dr. Pickard expressed the opinion that possibly there should not be more than 10 or 15 of these channels duplicated. He advocated a horizontal increase in power to 5 kilowatts for all regional stations.

### Canadian Channels

Dr. Pickard said that in his opinion stations on Canadian shared channels could go to 5 kilowatts with the use of a directional antenna. He contended that 5 kilowatts will increase fields but not interference. He also advocated the consideration by 250 and 500 watt stations going to 5 kilowatts. He admitted that there is a serious engineering problem here but contended that it could be worked out. He said further that if the regional stations of the country should increase their power that local stations on adjacent channels would not be seriously interfered with.

### Rural Interference

It was testified by Dr. Pickard also that no rural interference would be caused if regional stations increased their power and the clear channels stay at their present power. He advocated the use of directional antennae for all stations on shared frequencies, including locals, and said he knew of no reason why at least certain of the local stations should not be permitted thereby to increase their operating power.

City listeners, Dr. Pickard stated, still answering questions by the chief engineer, need higher power through their local as well as distant stations. He expressed it as his opinion that shared time stations should go to full time if this is at all possible.

## Rural Listeners

Rural listeners now receive good service under the present engineering standards, Dr. Pickard stated, but he repeatedly advocated higher power for the regional stations.

Taking up again the question of rural listeners, Dr. Pickard said that his investigations show that they receive at least two network programs and in many cases three. However, he stated definitely that the rural listeners do not receive good daytime service from clear channel stations. His contention was that no matter how much the power of the clear channel stations was increased it would not give good daytime reception to the rural listeners.

## All Listeners Alike

Dr. Pickard told the Commission that in his opinion all of the listeners of the country, both rural and city, should be treated alike but it is not technically and economically possible. He said in this connection that it is no more possible to give the rural listeners as good a program as the city listeners receive than it is for the rural residents to have sewers, lights, police protection, etc., compared with city dwellings.

Dr. Pickard thought that the rural listener could be better taken care of by increasing the number of stations, by increasing power on regional stations, and by synchronization.

## No Inflexible Regulations

Dr. Pickard went on record in a most emphatic manner against the imposition by the Communications Commission of any inflexible regulations which would hamper radio experimentation. He stated positively that in his opinion the use of 500 kilowatts is not a technical advance.

In this connection Dr. Pickard drew an analogy between the use of high power on clear channels and the distribution of energy via telephone lines. He said that it had been his experience as a telephone engineer that there were definite limits beyond which power could not be distributed from one source; and that it was more economical to distribute it by steps. Questioned by Mr. Craven as to how his analogy applied to the horizontal increase in the power of regional stations to 5 kilowatts, he drew a further analogy with the use of light. In this connection he explained that our seniors had been forced to use weak and inefficient candle and lamp light but that today there was a level beyond which it was not necessary to go in furnishing efficient light.

## Higher Power for Regionals

He made a very positive statement to the effect that higher power should be granted the regional stations of the country but that no increase should be granted to the clear channel stations. He said that the use of 500 kilowatts is not feasible or the best solution of the present problem. He contended (1) that the stations have reached the useful limit of their increased power, (2) he compared this increased power with the telephone situation, (3) he brought up the question of international interference, and (4) economic reasons.

## WLW

Questioned regarding the service of WLW 716 miles away from the station, Dr. Pickard said that it is not rendering a satisfactory service in June or July. He said in fact that if a circle were drawn around WLW 716 miles in circumference that there would be certain times when it would not give a good service. The summer service of the station, he contended, is impaired as compared with fall, winter and spring. He admitted, however, that if the power was reduced it would impair the service range.

## Satisfactory Service

Dr. Pickard told the Commission that he believed that the broadcasters of the country should give such satisfactory signal to the listener as is acceptable to him. This, he said, of course will vary with the circumstances of the listener. During the course of his examination Dr. Pickard stated that his observation showed that there is a higher disturbance on the east coast than on the west coast.

There should be a signal intensity, said Dr. Pickard, of more than 500 millivolts used to cover towns and villages even in rural areas.

## Rural Stations

Many towns and villages in the United States now have no radio station of their own, Dr. Pickard testified, at which point Mr. Craven read into the record that there are 280 towns in the United States today having inhabitants from 10 to 15 thousand which have no radio station and there are 562 towns with inhabitants of between 5,000 and 10,000 who have no station of their own.

Florida has a high disturbance area in the summer because of the storms, Dr. Pickard said. Dealing still with this state he testified that there are a number of towns in Florida having from 2,500 to 25,000 inhabitants which are dependent on clear channel stations for their radio reception. He said that in a case of this kind increased power would help.

The increasing of the power of clear channel stations he said in his opinion would give rural listeners better programs only to a very limited extent. Neither regional nor clear channel stations use a hundred per cent network, Dr. Pickard testified, but he did not know what percentage of network time these two classes of stations used.

## One Wave Franklin Antennas

Dr. Pickard pointed out that clear channel stations, by the use of One Wave Franklin Antenna, could increase their coverage to a degree which would be the equivalent of an increase in power from 50 kilowatts to 136 kilowatts. Asked whether he would advocate the use of the One Wave Franklin Antennas by clear channel stations, Dr. Pickard said that he would favor their use particularly if such stations operated on the higher frequencies.

Following is a supplemental list of those attending the hearings:

### B

Baker, Thomas S.; Berne, Louis W., Station WCNW, Brooklyn, N. Y.

### C

Chafey, Clifford M., Station WEEU, Reading, Pa.

### F

Faske, Arthur, Station WCNW, Brooklyn, N. Y.; Frazier, Howard S., Cons. Engineer, Hotel Philadelphia, Philadelphia, Pa.

### G

Gillin, Jr., John J., Station WOW, Omaha, Nebr.; Godley, Paul F., Cons. Engineer, Montclair, N. J.; Gould, Purnell H., Commercial Mgr., Station WFBR, Baltimore, Md.

### H

Half, Hugh A. L., Station WOAI, San Antonio, Tex.; Harmon, R. N. Westinghouse Co., Chicopee Falls, Mass.; Hildreth, Melvin D., Attorney, WORL, Boston, Mass.

### L

Landis, Harold O., Station WEEU, Reading, Pa.

### M

Megargee, Frank, Station WGBI, Scranton, Pa.

### P

Prall, A. M., V-P., Trans-American Broadcasting & Television Corp., 521 Fifth Ave., New York City.

### T

Tolman, David E., Segal & Smith, Washington, D. C.

### W

Webb, William H., Attorney, 1128 Connecticut Ave., N. W., Washington, D. C.; White, Ray B., Stations WAWZ-KPOF, Zarephath, N. J.; Wrathall, Grant, Utah Broadcasting Co., Station KUTA, National Press Bldg.