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DEVELOPMENT OF TV BOOSTERS

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HEARINGS
BEFORE THE
COMMUNICATIONS SUBCOMMITTEE
OF THE
COMMITTEE ON
INTERSTATE AND FOREIGN COMMERCE
UNITED STATES SENATE
EIGHTY-SEVENTH CONGRESS
FIRST SESSION
ON
THE DEVELOPMENT OF TV BOOSTERS

FEBRUARY 21 AND 22, 1961

SALT LAKE CITY, UTAH
CASPER, WYO.

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Committee on Interstate and Foreign Commerce

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DEVELOPMENT OF TV BOOSTERS

TUESDAY, FEBRUARY 21, 1961

U.S. SENATE,
COMMITTEE ON INTERSTATE AND FOREIGN COMMERCE,
SUBCOMMITTEE ON COMMUNICATIONS,
Washington, D.C.

The subcommittee was called to order, pursuant to notice, at 9:30 a.m., in the Federal Building, Salt Lake City, Utah, the Honorable Gale W. McGee presiding.

Senator McGEE. The subcommittee hearing will come to order.

I think it is worth noting that this is one bureaucratic session that gets under way ahead of schedule, rather than behind schedule. We get so accustomed to dragging behind anticipated commitments that it has come to be an expectation on too many fronts.

The purpose for this hearing is to follow up the deliberations of a year ago that were held here in Salt Lake City and in other focal points around five Western States. It derives from the interest of the Interstate and Foreign Commerce Committee of the Senate, the Subcommittee on Communications, to keep tab on our communications opportunities to make available to as many people as possible competitive television opportunities in the small communities as well as the large cities.

As a result of the hearings a little over a year ago, and because of legislation we refer to in Washington, D.C., as the Moss bill, legislation that was instituted by Senator Moss, of Utah—S. 1886—we propose to list the TV boosters. The problem of course, largely was a western problem due to the mountainous terrain. There were many areas in the mountainous regions where a TV signal could not get in by the ordinary means. While there were other alternative methods—microwave and CATV operations of various sorts that could get a TV signal into some areas, those limitations were economic ones.

They could not bring a TV signal into a mountain valley where there were, say, a dozen viewers, because the cost would be prohibitive. But through the genius of western initiative, and through demonstrations that we had before the committee, a group of ranches in some of the most remote places, with a little baling wire and a home-made aerial and a pile of rocks on top of a mountain nearby were able to pick a signal out of the air and bring it down into a valley that otherwise had been deprived of a TV signal.

This posed some problems for those who are concerned with the possibilities that these local booster operations, if unregulated, might conceivably interfere with other communications signals, either tele-

vision signals of another sort or communications signals to airports and the like.

Therefore, there was some concern over some uniform set of rules that might apply to the booster operations. And it was with some of these cross currents and issues in mind that the Congress of the United States did successfully legislate the Moss bill that now is the law of the land. This bill put the television boosters under the jurisdiction of the Federal Communications Commission on a licensed basis. How this bill has worked, what problems have arisen since, and what can be done even now to iron out whatever wrinkles have appeared, really is the basic reason for our returning at this time.

Assembled here we have witnesses from various towns in Utah whom we hope will be in a position to testify on the various aspects of the application of the existing law.

Utah, it should be noted, has the largest number of television booster stations in the United States. These four or five Western States in this immediate area have the overwhelming majority of the total. I think there are 951 now.

I would ask that we put in the record at the end of my opening remarks, the total list of TV booster installations. Utah, Washington, Colorado, Wyoming, and Montana are the top booster areas. Then we have the top altitude problems, that makes the coincidence explainable and understandable.

So we proceed today with the witnesses to find out how the procedure is operating, and what we might do to make it operate even a little better, where possible.

I think for the sake of expediting the procedures this morning, that we will urge each of those who may testify to move their comments along as rapidly as possible. We are in a very tight schedule. Anyone who wants to speak informally from his prepared text is encouraged to do so.

We are interested in the main point that you would like to get across. The details of the point will be in the record by order of the chairman.

(The document referred to follows:)

Temporary repeater authorizations granted as of Jan. 31, 1961

Alaska.....	2	Nevada.....	18
Arizona.....	28	New Hampshire.....	7
California.....	3	New Mexico.....	32
Colorado.....	172	North Dakota.....	5
Idaho.....	55	Oklahoma.....	2
Iowa.....	2	Oregon.....	26
Kansas.....	10	South Dakota.....	39
Minnesota.....	1	Utah.....	133
Montana.....	161	Washington.....	133
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Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington 25, D. C.

B
FCC 60-1175
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In the Matter of)
)
Amendment of Sections 4.750 and)
4.783 of the Commission Rules)
relating to the transmission of)
call signs by television broadcast)
translator stations.)

ORDER

At a session of the Federal Communications Commission held at its offices in Washington, D. C. on the 28th day of September, 1960;

Section 4.783 of the Commission Rules requires each television broadcast translator station to transmit its call sign by means of an automatic device incorporated in the transmitting apparatus, at the beginning of each period of operation and during operation, within 5 minutes of the hour and half hour. The transmission must be made in international Morse telegraphy and is for the purpose of station identification. Section 4.750 of the rules deals with this automatic equipment with respect to type acceptance.

During a series of meetings with prospective translator operators, recently held in a number of Western cities, the Commission was asked to reconsider this requirement. It was pointed out to the Commission that in many instances a TV translator would be retransmitting the signals of another TV translator rather than those received directly from a TV broadcast station, and in such cases a TV translator might transmit its call sign at the same time it is repeating the call sign transmitted by the translator it is rebroadcasting. This could result in some garbling of the call signs. Furthermore, the cost of equipping each translator in an integrated system, with individual automatic devices for transmitting the call signs, would add substantially to the cost of the system. It was suggested that the originating translator in such a system could transmit a single call sign for the entire system or transmit the individual call signs of all translators which were repeating its signals.

The Commission has carefully considered this suggestion and has concluded that station identification can be effectively accomplished by permitting the originating translator in a tandem or cluster system of translators, to transmit the call signs of all of the translators in the system which retransmit its signals, either directly or through intermediate translators. This may add somewhat to the complexity of the automatic device used by the originating translator to transmit multiple call signs, but should result in a substantial overall saving by removing the need for individual automatic devices on each translator in the system. We have considered and rejected the suggestion that a single call sign used to identify all of the translators in such a system. A single call sign would not show how many translators were in a system nor indicate the locations of the individual translators. The transmission of a series of individual call signs would supply this information to an observer.

In some cases a translator or series of translators operated by one licensee may be retransmitting signals from a translator operated by another licensee. If the licensee of the originating translator is willing to add the call signs of the individual translators operated by the second licensee to its station identification transmission, the Commission will consider the station identification requirements to have been met. If the licensee of the originating translator is unwilling to transmit these call signs, the licensee of the second translator or group of translators must provide for the automatic transmission of its call sign or call signs within its own system. Should garbling result from the coincidental transmission of call signs by both groups of translators, the Commission may require each of the licensees to employ more accurate timing of call sign transmissions to prevent such simultaneous transmissions.

The amendments adopted herein have as their purpose the easing of identification requirements for translator operations and their early adoption will enable savings in the transition of nonconforming operations to full compliance with the rules. We therefore believe it not practicable, necessary or in the public interest to comply with the public notice, procedural, and effective date requirements of Section 4 of the Administrative Procedure Act prior to making the rule changes effective.

Authority for the action taken herein is found in Sections 4(i) and (j) and 303 of the Communications Act of 1934, as amended.

Accordingly, IT IS ORDERED, effective October 10, 1960, Sections 4.750(c)(7) and 4.783(a) of the Commission's Rules ARE AMENDED as stated in the Appendix attached hereto.

FEDERAL COMMUNICATIONS COMMISSION

Ben F. Waple
Acting Secretary

Attachment

Released: September 30, 1960

NOTE: Rules changes herein will be covered by Transmittal Sheet III-9.

APPENDIX

1. Section 4.750(c) is amended by adding a proviso at the end of subdivision (7); as amended, subdivision (7) reads:

§ 4.750 Equipment and installation.

* * * * *

(c) * * *

(7) The transmitter shall be equipped with an automatic keying device which will transmit the call sign assigned to the station, in international Morse Code, within 5 minutes of the hour and half-hour. Transmission of the call sign shall be accomplished either by interrupting the radiated signals in the proper code sequence or by amplitude modulating the radiated signals with an audio frequency tone containing the telegraphic identification. The modulating signal may be inserted at any suitable stage in the apparatus but shall result in at least 30 percent amplitude modulation of the aural carrier. If an audio frequency tone is used it shall not be within 200 cycles of the 1,000 cycle tone used for CONELRAD alerting. Provided, however, That apparatus intended to be used solely for rebroadcasting the signals of another translator need not be equipped for such automatic transmission of its call sign if its call sign will be transmitted by the translator which it is rebroadcasting.

2. Section 4.783(a) is amended to read as follows:

§ 4.783 Station identification.

(a) Each television broadcast translator station shall transmit its call sign in international Morse Code at the beginning of each period of operation and during operation, within 5 minutes of the hour and half-hour. The transmission may be accomplished either by means of an automatic device incorporated in the translator apparatus, which will modulate the local oscillator or a suitable amplifier stage in the translator with an audio frequency tone keyed in the proper sequence so as to cause the modulation to appear on the visual and aural carriers emitted by the translator; or by rebroadcasting the signals of another translator which transmits the call signs of translators which are rebroadcasting its signals. The audio frequency tone shall produce no less than 30 percent amplitude modulation of the emitted aural carrier and shall not be within 200 cycles of the 1,000 cycle tone used for CONELRAD alerting. In cases where a translator transmits more than one call sign, the individual call signs shall be separated by the international Morse code character for the fraction bar composed of a dash, two dots, a dash, and a dot, sent as a single character (-...-). Call sign transmissions shall be made at a code speed not in excess of 20 words per minute. At this speed the transmission of each individual call sign will require approximately 4 seconds.

FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON 25, D.C.

92331

GENERAL GUIDE FOR TELEVISION TRANSLATOR APPLICANTS

The following information has been compiled for the guidance of television translator applicants. It is urged that this guide be read in its entirety and that every effort be made to comply fully with the suggestions contained herein. Such compliance will enable applicants to avoid the delays resulting from incomplete applications, submitting insufficient information, proceeding on misinformation or assumption, and failure to meet the requirements of the Communications Act and the Commission's Rules and Regulations.

Purpose and Permissible Service

Television broadcast translator stations provide a means whereby the signals of a television broadcast station may be received by means of a receiving antenna, converted or "translated" to another television channel, amplified, and retransmitted at comparatively low cost so as to provide acceptable reception over an average small community where direct reception of the signals of the original TV broadcast station is unsatisfactory. The signals of the originating TV station may not be altered significantly in any way except as to frequency and amplitude. TV translator stations may not be used to originate local programs or advertisements, nor may they introduce any form of coding or "scrambling" which would require special devices attached to or built into conventional television receivers in order to permit reception. Although one TV translator station may rebroadcast the signals of another TV translator station, such stations may not be established solely or primarily for the purpose of providing a relay system for television signals. Each TV translator station must be established as a "broadcasting station"; that is, its transmissions must be intended primarily for direct reception by the general public. Any one of the 12 standard VHF television channels (2 - 13 inclusive) may be assigned to a VHF translator on condition that no interference is caused to direct reception of any television broadcast station operating on the same or an adjacent channel. A VHF translator will not be authorized to serve an area which is already receiving satisfactory service from one or more UHF television broadcast stations or UHF translators unless a showing is made of special circumstances which would justify the resultant intermixture of VHF and UHF service. Any one of the upper 14 standard UHF channels (70 - 83 inclusive) may be assigned to a UHF translator, subject to the mileage separation restrictions set forth in Section 4.702(c) of the Commission's Rules. The transmitter power output of a VHF translator shall be limited to a maximum of 1 watt peak visual power. The transmitter power output of a UHF translator shall be limited to a maximum of 100 watts peak visual power. No limit is placed upon the effective radiated power which may be obtained by the use of horizontally or vertically directive transmitting antennas. The licensee of a television broadcast translator station shall have current copies of Part 3, Part 4, and in cases where antenna marking is required, Part 17, of the Commission's Rules. The Rules governing television broadcast translator stations are contained in Part 4, Subpart G of the Commission's Rules. Volume III of the FCC Rules and Regulations, which contains

Parts 3 and 4, and Volume I, which contains Part 17, may be obtained from the Superintendent of Documents, Government Printing Office, Washington 25, D.C. Subscription price (Volume I, \$2.50; Volume III, \$4.50) is for an indefinite period and includes the basic volume plus all amendments, to be mailed to subscribers by the Superintendent of Documents when issued. Parts will not be sold separately, nor can they be supplied by the Commission. Sections 4.11 through 4.16 of Part 4 (Rules Governing Administrative Procedure) also are applicable to television broadcast translator stations.

Any qualified individual, organized group of individuals, broadcast station licensee, or local civic governmental body is eligible to apply for authority to construct and operate a television translator station. Qualification is based upon compliance with the statutory requirements with respect to citizenship, financial qualifications, and technical standards. Because TV translators are comparatively simple and inexpensive, the financial and technical requirements are modest. It is important, however, that financial qualifications be clearly shown in the replies to the questions which relate to that subject in the application form. In general, the applicant must show unencumbered funds readily available equal in amount to the estimated cost of equipment and installation, plus the estimated cost of operation of the proposed station for the period of the license. As to technical requirements, the apparatus proposed to be utilized must meet the requirements for type acceptance by the Commission, as set forth in Section 4.750 of the Commission's Rules, whether such apparatus be manufactured or custom-built. Installation, repairs and adjustments of the translator apparatus shall be conducted by a person whose skill is commensurate with the task and equipment involved, as set forth in Section 4.750(e) of the Commission's Rules. In general, simple repairs, such as the replacement of tubes or fuses, may be made by a person with moderate technical knowledge. Replacement of components, adjustment of critical circuits, and other complicated repairs require a higher degree of knowledge and skill. Test and adjustments which require the radiation of signals and could result in improper operation, must be carried on by a licensed first or second class radiotelephone operator.

Necessity for a Construction Permit

Before any construction is begun on a TV translator station, a construction permit must be obtained from the Federal Communications Commission. An application for authority to install or construct a TV translator station shall be made on FCC Form 346, submitted in triplicate. Copies of this form may be obtained from any FCC field office or from the Washington, D.C. office of the Commission. A TV translator station may retransmit the signals of different television broadcast stations or different television broadcast translator stations during different periods of its operation in order to provide programs meeting the needs of a particular community. However, if more than one output channel is contemplated, separate TV translators must be employed for each such channel and a separate and complete application must be made for authority to construct each TV translator station.

File a Complete Application

In order to avoid delay in the processing of an application, it must be complete in all respects. The instructions on page one of the

application and Subpart G of Part 4 of the Commission's Rules should be read carefully before the application is prepared. After the application is completed it should be carefully re-checked to make sure that complete answers have been supplied to every item, and that all exhibits called for by the application have been attached. Incomplete applications or applications inconsistent with the Rules may be returned by the Commission without action.

Citizenship Requirements

In accordance with the provisions of Section 310(a) of the Communications Act of 1934, as amended, no broadcast license will be granted to or may be held by any person not a citizen of the United States, or any corporation organized under the laws of any foreign government, or any corporation of which any officer or director is an alien or of which more than one-fifth of the capital stock is owned of record or voted by aliens or their representatives, or by a foreign government or representative thereof or by any corporation organized under the laws of a foreign country.

Specific Transmitter Site

Applications proposing a transmitter site on a "to be determined" basis are not acceptable. A specific site, accurately defined by geographic coordinates, is required. In addition, a sketch is necessary clearly showing a vertical plan view of the transmitting and receiving antenna and supporting structure with all pertinent vertical and horizontal dimensions, including overall height above ground and above mean sea level.

Unattended Operation

The amendment of Section 318 of the Communications Act now makes it possible to eliminate the operator requirements for TV translators and permit unattended operation. If the transmitter site cannot be reached promptly at all hours and in all seasons, means shall be provided so that the transmitting apparatus can be turned on and off at will from a point which is readily accessible at all hours and in all seasons. The transmitter shall also be equipped with suitable automatic circuits which will place it in a non-radiating condition in the absence of a signal on the input channel. The Commission shall be supplied with the name, address, and telephone number of a person or persons who may be contacted to secure prompt suspension of operation of the translator should such action be deemed necessary by the Commission. Unless the applicant specifically requests unattended operation and makes the required showing therefor, a licensed radio operator must be on duty at the transmitter site whenever the station is operated. In cases where the antenna and supporting structure are considered to be a hazard to air navigation and are required to be painted and lighted under the provisions of Part 17 of the Rules, the licensee shall make suitable arrangements for the daily inspection and logging of the hazard markings required by Sections 17.37 and 17.38 of the Rules.

Interference

Both VHF and UHF translators must provide complete protection to other stations and services from interference that occurs as the result of emissions outside of the TV channel assigned to an individual television translator. Interference will be considered to occur whenever reception of a regularly used signal is impaired by the signals radiated by the translator, regardless of the quality of such reception or the strength of the signal so used. If the interference cannot be promptly eliminated by the application of suitable techniques, operation of the offending translator shall be suspended and shall not be resumed until the interference has been eliminated. VHF and UHF translators are treated differently with respect to interference to direct reception. This comes about because UHF translators are required to observe certain minimum separations with regular UHF TV broadcast stations as provided in Section 4.702 of the Rules. If minimum separation requirements were placed on VHF translators, however, most of the facilities now operating could not utilize a VHF channel. Therefore, the minimum separation requirements for VHF translators has been sacrificed, but the necessary consequence is a different status for VHF translators. In general, Section 4.703 of the Rules requires VHF translators to provide complete protection against interference to direct reception of any regular TV broadcast station, requires UHF and VHF translators to provide complete protection to all stations and services from interference which results from out-of-band emissions, but offers no interference protection of guarantee of continuity of service to any VHF translator. Persons contemplating the operation of VHF television translators should be fully cognizant of the hazard to their investment inherent in such operation.

Financing

Cash on hand or firm commitments for financing must equal the combined costs of complete construction and installation of the TV translator station plus the estimated cost of operation for one year. Proposals to acquire funds upon receipt of authority to construct are not acceptable.

Rebroadcasting

The Commission will not authorize the construction of a TV translator station until the applicant certifies that written consent has been obtained from the television station whose programs are proposed to be rebroadcast (primary station). If it is proposed to rebroadcast the signals of another translator station, consent of the licensee of such translator station must be obtained for such rebroadcasts. It is emphasized that the rebroadcasting of signals of a station without prior consent therefrom is a violation of the Communications Act of 1934, as amended, and is subject to severe penalties.

Operation

A construction permit for a television broadcast translator station DOES NOT authorize the actual operation of the apparatus except for brief

periods to check the functioning of the apparatus during construction. When the construction authorized in a construction permit has been completed and the apparatus is operating satisfactorily, and prior to placing the station in operation to provide reception to the public an application for license must be filed on FCC Form 347. Copies of this form are usually mailed to each permittee shortly after a construction permit is granted, but if they have not been received by the time construction is complete, they may be obtained from any FCC field office or from the Washington, D. C. office of the Commission. When the application for license, completed in accordance with the instructions thereon, has been filed, the permittee may notify the Commission's Washington office, and the Engineer in Charge of the Radio District in which the translator is located, of its intention to commence program tests pursuant to Section 4.17 of the Rules. Such notification must be given at least two days before such operation commences. Unless the Commission notifies the permittee not to begin program test operation, the station may then be placed in regular operation and such operation may continue until final action is taken on the application for license, whereupon the license itself becomes the operating authority for the station. The period of the license is one year.

After a TV translator station has been placed in operation, any repairs or adjustments that could affect its proper operation must be made by a person holding a valid First or Second Class Radiotelephone Operators License issued by the Commission.

Modifications

Section 4.751(b) requires that formal application on FCC Form 346 be made for the following changes or modifications of equipment:

- (1) Replacement of the transmitter as a whole, except by one of an identical type.
- (2) A change in the transmitting antenna system, including the direction of radiation, directive antenna pattern, or transmission line.
- (3) Any change in the antenna which will increase the overall height above ground by more than 20 feet or will result in an overall height of more than 170 feet above ground.
- (4) Any change in the location of the transmitter except a move within the same building or upon the same tower or pole.
- (5) Any horizontal change in the location of the transmitting antenna in excess of 500 feet.
- (6) A change of frequency assignment.
- (7) A change of authorized operating power.
- (8) A change of the primary TV station or stations being retransmitted.

Other equipment changes not specifically referred to above may be made at the discretion of the licensee or permittee, provided that the Engineer in Charge of the radio district in which the television broadcast translator station is located and the Commission's Washington, D. C. office are notified in writing upon completion of such changes, and provided, further that the changes are appropriately reflected in the next application for renewal of license of the television broadcast translator station.

Extension of Time

Each construction permit will specify a maximum of 60 days from the date of granting thereof as the time within which construction of the station shall begin, and a maximum of six months thereafter as the time within which construction shall be completed and the station ready for operation, unless otherwise determined by the Commission upon proper showing in any particular case. Section 1.323 of the Commission's Rules requires the filing of an application (FCC Form 701) to secure Commission consent for additional time in which to complete construction.

Renewals

Section 1.328(a) of the Rules provides that each application for renewal of license of a television broadcast translator station shall be filed at least 60 days prior to the expiration date of the license sought to be renewed.

Assignment of Transfer of Control

Section 1.329 provides information relative to the proper FCC Forms to be used in the event a licensee desires to assign his license or transfer control.

* * * * *

Emphasis is placed upon the importance to the translator applicant in obtaining, understanding and complying with Parts 3 and 4 of the Commission's Rules, with special reference to Sub-part G of Part 4 (Rules governing television translator stations).

determination, made on December 30, 1958, the Commission issued a public notice calling for the gradual termination of operation of existing unlicensed VHF repeaters or their conversion to licensed operation under the UHF translator rules. To remove a legal obstacle to the licensing of such facilities in the event the interference problems in VHF operations were resolved, the Commission proposed to the Congress in June 1959, the enactment of legislation to amend Section 319 of the Communications Act so as to eliminate obstacles to the licensing of facilities the construction of which was started prior to the issuance of a construction permit. Thereafter, the Commission continued its examination of the problems associated with the licensing of low power repeater stations in the VHF band and endeavored to re-evaluate these problems in the light of the foreseeable advantages and disadvantages which might flow from the licensing of VHF translators under a number of alternative sets of technical and operating conditions. This culminated in the adoption on December 2, 1959, of a Notice of Further Proposed Rule Making with reference to the licensing of low power VHF translators. We indicated therein that it was obvious that the more restricted and rigid were technical and operating requirements to be drawn, the greater protection they would afford against the interference and other undesirable results which might flow from the licensed operation of repeaters in the VHF band. We also recognized that the more such requirements were to be relaxed, the lower would be the costs of construction and installation of new equipment and of conversion of existing facilities to licensed operation. Our proposed rules endeavored to seek a balance between extremes and reflected our view as to such a balance. We recognize, from our own long-term study of this matter and from the comments submitted by interested parties, that there exists today no obvious and simple solution to the problems involved in licensing operation of VHF translators. We are still of the opinion that the extremely limited availability of VHF channels for all broadcasting contains within itself a substantial deterrent to the ability of VHF translators, as against UHF translators, to serve as a broad vehicle for providing service to sparsely settled areas. Nonetheless, we are persuaded to the view that the licensed operation of VHF translators under the rules and restrictions adopted herein would be in the public interest as another technique by which television service may be brought to more and more of our nationwide population.

3. Section 4.701-4.784 will apply at the outset only to new VHF translators. There are reported to be several hundred unauthorized TV "repeaters" now in operation. The exact number is not known. These devices were installed and placed in operation without prior authority of the Commission. Under Section 319 of the Communications Act the Commission could not license their operation. On July 7, 1960 an amendment to the Act removed this bar to the licensing of TV repeaters constructed on or before that date. The Commission recognizes that VHF repeaters then in operation will need a reasonable opportunity to request and obtain authorization to modify equipment now in use and to bring it into compliance with all regular requirements for the operation of VHF translators.

This opportunity will be afforded on the following basis, which is provided for in Section 4.790 of the Rules adopted herein. No later than October 31, 1960 application must be made to the Commission for temporary authority to continue to operate the station. The Commission proposes to issue such authorizations upon the receipt of applications containing the basic information called for on FCC Form 347-A which will be issued shortly, and which is designed to insure that the basic statutory requirements are met. These include the requirement that written consent be obtained from the station whose programs are being rebroadcast (Section 325(a) of the Communications Act) and the prohibition against issuance to aliens of a license for operation of a radio transmitter (Section 310 of the Act). The temporary authorizations which it is proposed to issue upon the receipt and approval of applications so filed will permit the continued operation of existing devices until October 31, 1961. On or before that date all necessary steps must be taken to meet the requirements established in Section 4.701 through 4.784 of the Rules which contain the requirements applicable immediately to new VHF translators (i.e. all VHF translators which were not constructed on or before July 7, 1960). Additionally, existing stations eligible to obtain temporary authorization, under Section 4.790 of the Rules, for continued operation with their present equipment must, on or before February 1, 1961, file with the Commission an application for authorization to construct a station or modify existing equipment so as to comply with all of the requirements of Section 4.701 through 4.784 of the Rules. The legislation specifically empowering the Commission to license VHF repeater devices installed prior to an issuance of a construction permit applies only to repeaters constructed on or before July 7, 1960. Accordingly, no modification or new installation should be made until after the Commission has issued a construction permit authorizing it.

Impact of TV translators on TV broadcasting stations.

4. Most of the comments filed by licensees of television broadcast stations or organizations representing the broadcasting industry, expressed grave concern about the economic impact of TV translators on regular TV broadcast stations, particularly those operating in the smaller

markets. Northeastern Pennsylvania Broadcasting, Inc., licensee of WNEP-TV, Channel 16, Scranton-Wilkes Barre, Pennsylvania, avers that the unrestricted use of VHF translators in areas now served by UHF television broadcast stations poses an economic threat to UHF television stations. Where such translators would bring in the programs of distant VHF stations, the local station would be deprived of audience and advertising revenue. Although not unequivocally opposed to the authorization of VHF translators, Northeastern urges that VHF translators be excluded from the calculated Grade B service area of any UHF television broadcast station. Springfield Television Broadcasting Corporation, licensee of UHF television broadcast stations, WWLP, Channel 22, Springfield, Massachusetts, WRLP, Channel 32, Greenfield, Massachusetts, and WWOR, Channel 14, Worcester, Massachusetts, and also authorized to operate several UHF translators in Massachusetts and New Hampshire, likewise points out the serious economic effect that could result from the indiscriminate use of VHF translators in areas served by UHF television broadcast stations. Springfield cites its successful experience with UHF translators and is convinced that they are capable of providing good TV service to small remote communities. Springfield is not greatly concerned with the impact of UHF translators on UHF television broadcast stations since the diversion of audience which might result is offset to some extent by the stimulation of UHF receiver procurement which results in an overall increase in the potential UHF audience. Springfield contends that the Commission properly disposed of all arguments for VHF television repeaters in earlier proceedings and should not now revise its former position. If the Commission does so, Springfield urges that we at least forbid their use within the Grade B service areas of UHF television broadcast stations.

5. The concern about economic impact is not limited to UHF television station licensees. KLIX Corporation, licensee of KLIX-TV, Channel 11, Twin Falls, Idaho; Frontier Broadcasting Company, licensee of KSTF, Channel 10, Scottsbluff, Nebraska; the Curators of the University of Missouri, licensee of KOMU-TV, Channel 8, Columbia, Missouri; and the Association of Maximum Service Telecasters (AMST) all stress the importance of keeping VHF translators out of the service areas of existing TV broadcast stations. They feel that the diversion of audience and the duplication of programs carried by the local TV stations or the bringing in of programs from distant TV stations which might otherwise be carried by the local station would seriously impair their ability to obtain advertising revenue.

6. In reply comments, Washington State TV Reflector Association (WSTRA) argues that the Commission considered the matter of economic impact of TV translators in Docket No. 12443 and concluded that the problem could best be handled on a case-by-case basis. Insofar as the impact of VHF translators on UHF television broadcast stations is concerned, WSTRA asserted that the public must be permitted to decide whether it will watch a UHF television station or a VHF translator. WSTRA opposes any rule which would prohibit the use of VHF translators within the service area of a UHF station on the grounds that such a rule would allow the operator of a community antenna system to place an inferior UHF station in operation in a

given area merely to prevent the use of TV translators and thereby deprive the public of the better programs that could be brought in by the translator. Van Curler Broadcasting Corporation, licensee of WAST-TV, Channel 13, Albany, New York, is opposed to an absolute prohibition against the use of VHF translators in areas served by 2 or more VHF television broadcast stations as was suggested by the Curators of the University of Missouri. Van Curler describes a coverage problem in Albany, New York, and feels that a VHF translator might offer a solution. Since Albany is served by 3 VHF stations, including WAST-TV, such a prohibition would prevent their using a VHF translator, KUTV, Inc., licensee of KUTV, Channel 2, Salt Lake City, Utah, would prohibit the duplication of programs carried by a local TV broadcast station. Tri-State TV Repeater Association, Livingston, Montana, disputes the claims that VHF translators would have an adverse economic effect on local TV broadcast stations. Tri-State argues that a TV broadcast station licensee would not grant permission for the rebroadcast of its programs by a TV translator operating in an area served by a local TV broadcast station.

7. The matter of economic impact said to be exerted upon regular TV stations by translators was studied in great detail in Docket No. 12443. There are two areas of public interest involved and in some cases they may not be compatible. The economic welfare of TV broadcasting stations is certainly a matter of public interest. The availability of more than one TV service is also a matter of public interest. As between TV broadcast stations, competition is generally to be encouraged because it usually results in better programming. On the other hand, competition for audience between a TV broadcast station representing a substantial investment and operating under strict technical requirements and a TV translator representing a modest investment and required to observe only minimal standards, may present problems. We have, however, found no way to write a rule of general applicability which would not be arbitrary. The only feasible way of meeting the problem is to consider each case on its merits. Applications for TV translators are listed in Public Notices issued by the Commission. Any interested party may oppose or file a protest to the grant of such an application under the procedures set forth in the Commission Rules. TV station licensees who believe that the grant of a specific application would cause economic injury are privileged to state their opposition prior to the grant of an application. We have added a paragraph to Section 4.732 which provides 30 days for the filing of comments before action is taken by the Commission. This, we believe, will prove to be a workable method for assessing the merits in individual cases. Therefore, we reject proposals which would by rule automatically restrict the use of TV translators because of the existence of a local TV station or stations.

Impact on the development of UHF television equipment.

8. Outright opposition to the licensing of VHF translators was expressed by Jerrold Electronics Corporation and Adler Electronics, Inc. Both of these parties, who are engaged in the manufacture of electronic equipment, say that although UHF translators as well as community antenna

systems and "satellite" television broadcast stations have proved that they provide suitable and adequate means of bringing television reception to remote areas, the growing use of illegal TV repeaters and the uncertainty as to whether they would be licensed, has seriously retarded the full development of UHF transmitting and receiving equipment and has interfered with the installation of CATV systems and TV satellite stations. Jerrold refers to the development of a 1-watt UHF translator by Adler Electronics, Inc., which could be sold for \$1,000 and to their own development of a UHF converter-antenna package which a receiver-owner could purchase for \$25. These devices cannot be put into mass production so long as there is a threat of widespread VHF translator operation. Jerrold also states that the development of complete UHF broadcasting station package which would sell for as little as \$65,000 has been slowed by the VHF "repeater" threat and would probably be abandoned if VHF translators are authorized. Jerrold recognizes the difficulty involved in eliminating the present illegal VHF "repeaters" and proposes that these stations be given non-renewable 5-year licenses, within which period they would abandon the VHF operation and obtain service either by means of UHF translators, CATV systems, or "satellite" TV stations.

9. Adler Electronics, Inc., disputes the allegations that UHF translators have proven inferior to VHF operations. Adler does not deny that "shadowing" is somewhat more pronounced at UHF than it is at VHF but avers that the impression created by proponents of VHF translators that VHF is virtually immune from "shadowing" is erroneous. Adler states that the more rapid attenuation of UHF signals with distance is an advantage, not a disadvantage. This characteristic reduces the interference range of a UHF translator greatly without seriously affecting its service range. The fact that over 250 UHF translators are operating successfully, chiefly in the rugged mountainous terrain of the far West and are providing reception superior to that provided by most VHF "repeater" installations, and that many communities which started with a single UHF translator have since obtained a second and third UHF translator, is living proof that UHF can do the job. Adler claims that the comparisons of cost made by the proponents of VHF translators are not fair. Present UHF translator equipment is designed for higher technical standards and higher power than the VHF equipment which is being used. The cost of UHF equipment made to lower standards and for lower power would compare favorably with similar VHF equipment. Adler goes on to say that if VHF equipment is not permitted to dilute the market, they will:

- (1) Release from their development laboratories, equipment using newer techniques and in sufficiently large quantities to reduce the installation and operating costs of UHF translators while at the same time giving improved performance.
- (2) Release for production a quantity of 1-watt-UHF-translators involving techniques for large quantity production which will permit it to be sold for no more than a VHF translator of equal performance.

- (3) Speed up development now under way of a low-cost-all-UHF TV receiver with acceptable performance.
- (4) Speed up development of a \$20 UHF to VHF converter with antenna, for owner installation.

Adler urges that we decline to adopt the proposed rules but permit existing VHF "repeaters" to operate for no more than 5 years on a non-interference basis; that we require all future TV "repeaters" to operate on UHF channels; that we relax the present UHF translators rules further for translators employing 1 watt or less power, that we promulgate rules for a low-power TV broadcast service.

10. In reply comments WSTRA disputes claims by Adler and Jerrold that suitable UHF equipment can be developed or that such development depends upon a UHF "monopoly." WSTRA says that the demand for a "monopoly" proves that UHF is not as good as VHF and if it is ever proved that UHF can do the job as well and as economically as VHF, there will be no opposition to the use of UHF. WSTRA claims that UHF has proven unsatisfactory at Quincy and Manson, Washington. Quincy, they say, has spent thousands of dollars in an effort to make UHF work and are now considering scrapping their UHF investment and going back to VHF. R. W. Gibson, attorney for Quincy Valley T-V, Inc., who operate 3 UHF translators at Quincy, Washington, filed a statement in this proceeding reporting that the 3 UHF translators at Quincy, which have been in operation for 8 months, are providing better picture quality, fewer maintenance problems, and fewer interruptions to service than the VHF equipment previously used. They state that although the initial cost of the UHF equipment was higher than the VHF equipment which it replaced, the additional cost is more than offset by the superior performance of the UHF equipment.

11. We have carefully considered the problem of the possible impact of VHF translator operation on the development of the UHF translator service and equipment. While we recognize that prohibiting VHF repeaters may create a market for many more UHF receivers and translators and might encourage improvement in receivers and reduce costs of UHF translator equipment, such a step might result in the loss of service to many very small communities which cannot afford the present UHF equipment. For this reason we are willing to permit the continued use of VHF equipment under carefully limiting conditions. However, in our view there are sufficient advantages to the UHF operation to eliminate any fears that the authorization of VHF operation will have a significantly adverse effect on the present or future growth of the UHF translator operations.

12. We have elsewhere in this document discussed the problem of interference which is inherent in the VHF operation but does not exist in the UHF. As a result, the room for expansion in the former is very limited while in the latter it is much greater. For this reason alone a totally satisfactory VHF repeater system cannot develop in the VHF band. UHF further offers the superiority of pictures relatively free from man-made and electrical noise and subject to very little "ghosting". Because of the

lesser probability of interference the UHF can use greater power and so offers the opportunity for wider coverage. In many instances the UHF permits the use of simple and inexpensive receiving antennas as compared to the VHF where signals are of a very low level. Finally the UHF translators may eventually develop into a regular low power local broadcast service. We are at present considering petitions which would authorize UHF translators to originate local programs. Such a development is technically possible in the UHF because of the larger availability of channels, but would not be possible in the VHF band because the VHF channel assignments already made have virtually saturated the 12 VHF channels. In view of these inherent advantages to the UHF translator operations we reject those proposals which would prohibit the operation of VHF translators because of the alleged threats to the UHF translator service.

13. Many of the comments filed that suggested changes or deletion of certain of the proposed rules which appear to reflect misunderstanding of the reasons for the rules. In the following paragraphs we discuss the reasons for the proposed rule, the comments that were filed, and our decision with respect thereto.

Section 4.701 - Definitions.

14. Section 4.701 defines the kinds of stations covered by the proposed rules and certain terms used in the rules. The comments made with respect to this rule suggested definitions for other kinds of stations which would then be treated specifically in the appropriate Sections of the Rules. Washington State TV Reflector Association (WSTRA) and E.A.O.-TV, Entiat, Washington, asked that a definition be added for amplifying "boosters," i.e. devices which merely receive, amplify, and retransmit signals on a single channel, and that provision be made for this type of apparatus. Television Montana (KLXF-TV, Butte, Montana), proposed definitions which would subdivide VHF television translators into classes based upon the power output and that reduced technical requirements be placed upon the lower power classes. Three subdivisions were proposed, i.e., 1/3 watt or less, 1 watt, and more than 1 watt.

15. In paragraph 7 of the Notice of Proposed Rule Making, the Commission set forth reasons why it did not consider that the licensing of co-channel "booster" amplifiers would be in the public interest. The parties proposing that such devices be permitted offered no reasons or engineering data to show that our original conclusion was incorrect. We find no reason to reverse that conclusion.

16. The proposal to subdivide VHF translators into power classes, is, we think, without merit. The reduction in interference capability or range of a 1/3 watt transmitter over that of a 1-watt transmitter is not substantial enough to warrant further relaxation of the technical requirements and the authorization of powers in excess of 1 watt, even with stricter technical standards, is not feasible for reasons discussed below in relation to Section 4.735.

Section 4.702 Frequency assignment.

17. This rule relates to frequencies which may be used by VHF and UHF translators and the conditions which shall be observed in selecting a frequency. UHF translators are required to observe the minimum geographic separations which regular TV broadcast stations are required to observe. Since they observe the standard separations and operate with relatively low power the likelihood of interference to or from regular UHF TV stations is negligible. Consequently, they enjoy a form of exclusivity in the use of UHF channels. Furthermore, the greater availability of UHF channels and the more limited range of potential interference of UHF signals diminishes the likelihood of interference between UHF translators. There are only a few widely scattered places in the country where new VHF channel assignments could be made at the standard geographic separations. Relatively few communities which might wish to operate a TV translator would fall in these places. Consequently, VHF translators are not required to observe the standard geographic separations with regular TV stations. Nonetheless, regular TV broadcast stations must be fully protected against interference from TV translators. To do otherwise would jeopardize the service which provides the signals used by TV translators. Therefore, any use of VHF channels by TV translators is strictly secondary to the use of such channels by TV stations and the operator of a VHF translator must eliminate any interference caused to the direct reception of TV broadcast stations. This requirement limits the availability of VHF channels because in most cases, both VHF and UHF translators will be using the signals of VHF television stations for retransmission. Obviously, the channels used for reception cannot be used for retransmission and this means that in most cases each VHF translator will preempt 4 channels in a community: the input channel, the output channel, and the channels adjacent to the output channel. The few remaining VHF channels cannot be assigned to any single VHF translator on an "exclusive" basis and no VHF translator acquires "prior rights" by virtue of its use of a VHF channel. Any attempt by the Commission to administer these rules on such a basis would result in costly and time-consuming hearings, interminable delays, and an administrative burden grossly disproportionate to any possible advantage of such an approach.

18. Video Utility Company, Spokane, Washington, and Adler Electronics, Inc., New Rochelle, New York, requested that the entire UHF television band be made available for UHF translator operation. Except for a few cases, the present 14 UHF channels have been adequate to meet the needs of UHF translators. The upper 14 UHF channels were originally selected because they were only slightly occupied by TV broadcast stations and being a contiguous group of channels, made the mass production of translator apparatus easier. If future developments warrant expansion of the availability of channels for UHF translators, this can be the subject of a separate rule making proceeding. Meanwhile, applicants finding it impossible to find a usable channel in the present 14 channels may request a waiver to permit the assignment of a UHF channel outside this group.

19. WSTRA recommended that adjacent channel assignments be permitted in cases where such an assignment would provide service to an additional area even though the new area might be served by another translator operating on the adjacent channel, if this could be done without resulting in mutual interference. WSTRA offered no engineering data to support the presumption that such operation could be conducted without interference. The proposed rule prohibiting the use of adjacent channels to serve all or part of the same area was directed to circumstances where translators would be operated at or near the same location or would be intended to serve a common area. To the best of our knowledge, this is not practicable because of inadequate selectivity of conventional TV receivers. If two translators are located in different places and coincidentally serve an area common to both signals, disposition of any interference complaints would be accomplished under the provisions of Section 4.703. In processing applications for VHF TV translators we do not expect to make an engineering determination as to the probability of mutual interference, and only in those cases where a common site is proposed or a common area is proposed to be served, by translators operating on adjacent channels, would the Commission raise a question as to compliance with this provision.

20. Video Utility recommended that we do away with the so-called "taboos", i.e., separation requirements for other than co-channel and adjacent channels listed in paragraph (c) of the proposed rule. These additional separation requirements apply only with respect to separations between translators and UHF television broadcast stations and not between UHF translators. This subject is under study by the Commission but no decision has been reached as to whether such "taboos" are still needed or could be modified. In any event, since these "taboos" are a part of the rules governing TV broadcast stations in Part 3 of the rules, any change is beyond the scope of this proceeding. In cases where the application of the "taboos" makes it impossible to select a suitable channel from the group available for UHF translators, a waiver may be requested.

Section 4.703 Interference.

21. This rule defines the responsibility of the licensees of TV translators for the correction of interference to direct reception of TV broadcast stations or to other non-broadcast services. In order to avoid any dispute as to what is meant by "interference" and at the same time protect TV translators from harassment by unjustified claims of interference, the definition makes it clear that the quality of the signal which is being interfered with is not a governing factor, but that it must be a signal that is regularly used. This is necessary because many TV translators will be operated in areas where direct reception is difficult and below the standards of good quality.

22. VHF and UHF translators are treated differently with respect to interference to direct reception. This comes about because UHF translators are required to observe certain minimum separations with regular UHF TV broadcast stations as was discussed under Section 4.702. If we were to impose a minimum separation requirement on VHF translators, most of the places now operating unlicensed "repeaters" could not utilize a VHF channel. Therefore, we have sacrificed the minimum separation requirements, but the necessary consequence is a different status for VHF translators.

23. Both VHF and UHF translators must provide complete protection to other stations and services from interference that occurs as the result of emissions outside of the TV channel assigned to an individual TV translator. Such out-of-band emissions can be controlled by imposing strict technical standards on equipment. In most regular services the power in out-of-band emissions must be reduced at least one million times (60 db), and if interference still occurs a further reduction may be required. TV translators, operating under relaxed technical requirements are required to cease operation until such interference is corrected.

24. Comments with respect to this proposed rule range all the way from those who would not require cessation of operation until interference was "proven," to those who would not grant licenses for VHF translators until a prior engineering determination had been made to show that interference would not occur. Most of the concern about interference was expressed by the licensees of TV broadcast stations. The Association of Maximum Service Telecasters (AMST) strongly urges that applicants for VHF translators proposing to operate at less than the minimum co-channel and adjacent channel spacings specified for TV broadcast stations, be required to make an engineering showing, prior to any grant, that their operation will not be likely to cause interference to any existing TV broadcast station. AMST points out that the hazard of interference to regular TV broadcast stations is not as great in the remote regions of the far West but that the proposed rules do not restrict VHF translators to that region. They agree that the restriction on power and technical standards may provide the minimum protection against interference but feel that this is not enough. They recommend that VHF translators be prohibited within the calculated Grade B service contour of any co-channel or adjacent channel TV broadcast station. Midwest Radio-Television, Inc., recommends that protection be given to co-channel and adjacent channel TV stations by requiring VHF translators to reduce power and antenna height so as not to produce any more interference than would be caused by a regular TV station operating at the required minimum spacing. Midwest would also require consent of co-channel and adjacent channel TV stations for the operation of a VHF translator at less than the minimum separation. The Joint Council on Educational Television (JCET) proposes that VHF translators be required to observe a co-channel spacing of 100 miles and an adjacent channel spacing of 30 miles with any existing TV station or TV channel assignment. JCET stresses the importance of protecting channel assignments which have not been taken up by TV stations for fear that VHF translators would preempt unused channels, particularly those reserved for educational TV stations. JCET also urges that the secondary status of VHF translators be clearly established so that they cannot impede future changes in the Table of Assignments if the need arises. The National Broadcasting Company (NBC) also urges that the secondary status of VHF translators be unequivocally asserted so that they cannot demand hearings in cases of interference. NBC fears that if this is not done, the resolution of interference problems involving VHF translators would be impossible. Columbia Broadcasting System, Inc. (CBS) directs its comments to interference problems between TV translators. CBS does not believe that such interference problems can be resolved by "mutual agreement." They suggest that the use of VHF channels by TV translators be placed on a "first come, first served" basis. Milestown Television Club, Inc., also supports this idea but their comment is not clear as to whether they would apply the same principle to VHF TV translator conflicts with regular TV broadcast stations. WSTRA proposed that the rule not prevent a grant of a VHF translator license unless interference is "proven."

WSTRA would also permit a VHF translator to continue operation where it caused interference to direct reception if the substitute service provided by the translator is equal to or better than the direct reception lost. A number of the comments suggested the formation of a frequency coordinating committee to aid in the selection of frequencies for VHF translators so as to minimize the potential of interference.

25. It is apparent that considerable thought went into the preparation of the comments directed at this rule. The proponents of VHF translators recognize the necessity of placing that type of operation on a basis secondary to the use of channels by TV broadcast stations, and that their use of the channels must be continued accordingly. The importance of protecting direct reception of TV stations from interference by TV translators is obvious. Failure to do so would not only jeopardize reception by individuals but also reception of usable signals for rebroadcast by TV translators themselves. None of the comments disagreed with the protection assured other stations and services from interference that might result from out-of-band emission by TV translators. We have carefully considered the feasibility of requiring some kind of prior showing by applicants for TV translators as to potential interference. It has always been our concern that if we licensed these low power devices in the VHF television bands, community groups would make an installation only to find that when it was placed in operation it caused serious interference. Unless a substitute frequency could be found, and in many cases this will not be possible, the total investment in VHF equipment would be lost. Some prior assessment of interference probability would guard against this. However, any meaningful estimate of potential interference would require a comprehensive field strength survey or some other detailed engineering study, and this would, in many cases, be prohibitively costly. The rule as proposed makes it clear that TV broadcast stations must be given complete protection against interference from VHF translators. If interference occurs they may be ordered to cease operation until the interference is corrected. In cases where interference is reported to the licensee of a TV translator, we require that licensee do whatever is necessary to satisfy the complaint. In some cases this will mean immediate cessation of operation. In other cases the complainant may be satisfied with a promise of prompt remedial steps by the TV translator licensee or may be satisfied with the substitute service provided by the TV translator. If the licensee of the TV translator fails to cooperate in the elimination of interference and the matter is brought to the attention of the Commission we will invoke the clear provisions of this rule. The definition of interference is simple and straightforward. It does not require comparison of measured or predicted field strengths. Since the definition is based upon a signal that is "used," only those persons actually experiencing interference would be expected to complain. If a TV broadcast station licensee receives reports of interference to its signals caused by a TV translator, it may make the complaint. It should be noted, however, that the proposed rule does not deprive a TV broadcast station of any of its protest rights afforded by the Communications Act.

26. Insofar as interference between TV translators is concerned, the Commission has repeatedly said that any attempt to operate a great many TV translators in the 12 VHF channels is likely to result in mutual interference between translators. Where such conflicts arise it would be extremely difficult if not impossible to decide which community was most deserving of the VHF service and which should use UHF or do without. The proponents of VHF translators claim they can work out such problems among themselves. We are of the view that they should. This policy applies only to interference between signals transmitted by the translators, not to interference to direct reception of a TV broadcast station by a translator. VHF translators may not cause interference to direct reception of TV broadcast stations. We also decline to grant prior rights to any VHF translator against interference to its signals by subsequent TV translators for here again we would be called upon to decide whether the new users were more deserving than the existing users. We will not grant an application for a new TV translator proposing to serve an area served by an existing translator on the same channel or a channel adjacent to the one used by the existing translator since it is obvious that in these circumstances disruptive interference would occur. However, if separate areas are proposed to be served, even though they may be contiguous areas, interference can be controlled to some extent by the use of directive transmitting and receiving antennas and by taking advantage of natural terrain barriers. The Commission cannot undertake to make a comprehensive engineering study in such cases, to decide whether or not interference is likely to occur.

27. In summary, the rule as adopted herein, requires VHF translators to provide complete protection against interference to direct reception of any regular TV broadcast station, requires UHF and VHF translators to provide complete protection to all stations and service from interference which results from out-of-band emissions, but offers no interference protection or guarantee of continuity of service to any VHF translator. Persons contemplating the operation of TV translators in the VHF television bands should be fully cognizant of the hazard to their investment inherent in such operation.

Section 4.711 Administrative Procedure.

28. There were no comments directed to this rule or the reference rules. There were suggestions that the application form which would be used for VHF translators be made simpler. This is the same form that has been used for UHF translators for nearly 4 years. It is a simplified form and has apparently posed no problems for UHF translator applicants. The Commission is required by law to establish certain facts with regard to an applicant's citizenship, character, legal, financial and technical qualifications, and certain specified technical details concerning the proposed operation. Despite the low power and simple equipment used, TV translators are broadcast stations within the meaning of the Communications Act, and the simplified licensing procedures employed in some other radio services cannot be employed here because the Act does not give the Commission as much latitude in dealing with broadcasting as it does with respect to other services.

Section 4.731 Purpose and permissible service.

29. TV translators may be used only for the purposes set forth in this rule. The relaxed technical requirements are predicated upon the use of relatively simple equipment which merely converts an incoming TV signal to another channel, amplifies it, and retransmits it. Assuming reasonable care is taken in the design of translator equipment, it will not alter the technical characteristics, bandwidth, or other features of the incoming signal. Modulation equipment for such a transmitter would be complex and would have to meet strict technical standards to produce a signal suitable for transmitting television pictures and accompanying sound in a 6 megacycle channel. This is far beyond the scope of these simple rules. Consequently, the rules do not permit the origination of local signals, use of microwave relay systems or wire line to bring in program material or any other method of operation which would involve direct modulation of the TV translator equipment with program material. The rule also forbids deliberate alteration of the incoming signals so as to prevent reception on conventional TV receivers and require the use of special equipment to obtain service. The channels used by TV translators are allocated for broadcasting. The relaying of signals from a fixed transmitting point to a fixed receiving point is not broadcasting. Such point-to-point service is classed as Fixed Service and must operate in bands allocated to the Fixed Service. Under the rules of the Commission, such operation cannot be conducted on broadcasting channels and TV translators are prohibited from operating solely as relay stations. A TV translator is not prohibited from rebroadcasting the transmissions of another TV translator. This may appear to be similar to relaying. However, the principle involved is that each TV translator must be justified on the basis that it provides direct reception to the public, and any rebroadcasting or relaying of its signal is incidental to the basic purpose.

30. By specifying that TV translators must convert the received signals to another channel, this rule precludes the use of so-called "on-channel boosters." An "on-channel booster" is merely an amplifier which receives, amplifies, and retransmits signals on a single channel. The exclusion of "boosters" is deliberate. Such a device is inherently unstable electrically. By careful design and by limiting the amount of amplification, it would be possible to make a "booster" which could be safely used under favorable conditions. However, the automatic safety features which would have to be incorporated and the careful control of bandwidth which would have to be designed into the device would make it more costly than a similar translator. The use of equipment not meeting such high standards would carry with it not only the risk of harmful interference but also the hazard of retransmission of false and misleading signals. If these signals were those used for the navigation of aircraft or vessels, this could be disastrous. For these reasons we find that it is not in the public interest to authorize "on-channel boosters" in the VHF television bands under these rules.

31. Milestown Television Club, Inc., urges that TV translator stations be permitted to operate as relay stations upon a showing of need. They cite a hypothetical case where a community able to support translator operation but too remote from existing TV stations to obtain a direct signal, is prevented from obtaining service because intervening communities are too small to support a translator which could serve incidentally as a relay station. We merely point out that under such circumstances, there is nothing to prevent the larger community from subsidizing the operation of TV translators to serve the smaller intervening communities, the signals of which can be rebroadcast by a translator serving the larger community. Each individual translator must adhere to the principle set forth in paragraph 30 by operating primarily as a broadcasting station and only incidentally as a relay station. For this reason we reject the proposal of Milestown and others that TV translators be authorized to act solely as relay stations.

Section 4.732 - Eligibility and licensing requirements.

32. This rule determines eligibility to operate TV translators, states that a single licensee may operate more than one TV translator even though they serve the same area, and requires a separate application for each TV translator station. The eligibility is unrestricted except for the basic statutory requirements of citizenship, character, and legal, financial, and technical qualifications. Paragraph (b), which permits the licensing of more than 1 translator to a single licensee to serve the same area, makes it clear that multiple ownership and duopoly limitations are not applicable to these devices. The safeguards intended to prevent a licensee from gaining control of mass communications media are not applicable to translators since they merely repeat the signals of regular TV broadcast stations and cannot originate programs. The duopoly controls which apply to regular TV broadcast stations make it unnecessary to apply them to TV translators. A VHF translator will not be authorized to serve an area which is already receiving satisfactory service from one or more UHF television broadcast stations or UHF translators unless a showing is made of special circumstances which would justify the resultant intermixture of VHF and UHF service.

33. Meredith WOW, Inc., and several other Meredith groups asked that this rule make it perfectly clear that TV translators licensed to TV station licensees would not be counted in determining the maximum number of stations which may be owned by a single licensee. It is not the intention of the Commission to count these devices as broadcasting stations in the application of the multiple ownership rules and the language of Section 4.732 has been modified to make this clear.

34. WSTRA proposed that a single license be issued for multiple TV translators operated by one licensee in a single area. The broadcast records system of the Commission are geared to individual licenses for each station and a further study must be made to determine if our administrative efficiency would be impaired by such a method. If we find that this can be done and is a desirable step this change in our administrative procedures can be made later.

Section 4.734 Unattended operation.

35. The recent amendment of Section 318 of the Communications Act now makes it possible to eliminate the operator requirements for TV translators and permit unattended operation. An unattended transmitter is considered to be an automatic device and must have certain safety features. We have held these to a bare minimum in these rules. If such operation results in an inordinate amount of interference to other stations we may have to add other automatic requirements. The present rule merely requires that the apparatus be equipped with a device which will cause it to cease radiating in the absence of an incoming signal. Since the unattended transmitters are likely to be installed in places which are not readily accessible at all hours and in all seasons and could go into a condition of operation which caused interference to a safety service, i.e., one employed for the safety of life and property, it is mandatory that a manual on and off control be established at a point which is readily accessible at any hour and in all seasons.

36. Since most of the opposition to this rule was directed to the requirement that a remote monitoring and control point be established to be inspected periodically by a licensed operator, these are rendered moot by the action of Congress which permits us to authorize unattended operation. Some objected to the cost of providing positive on and off control at an accessible point. This we consider the most important requirement in the rule. In the normal course of operation, a TV translator will be turned on and off by an automatic device built into the translator and actuated by the signals from the primary TV broadcast station. This is one of the requirements for type acceptance. In addition to the automatic device a time clock may be used to turn the translator on and off at predetermined times, in cases where it is not desired to operate the translator during the whole time the primary TV station is operating. However,



if for any reason the translator should cause interference and it becomes necessary to turn it off promptly, there must be some means provided so that this can be done regardless of the time of day or season of the year. Inability to turn the transmitter off within a matter of minutes could, in circumstances involving interference to a radio service employed for the safety of life and property, be disastrous. Most TV translators are installed on remote mountain peaks or at other locations which may be inaccessible for hours, days, and even weeks at certain seasons of the year. The rules require that these installations be provided with an accessible on-off control. TV translators that are installed in accessible locations which can be reached at all hours and at all seasons do not have to be remote controlled and need not establish a remote control point. Cost will vary from installation to installation. In many cases it may be possible to establish the remote control point at a place where the power mains leading to the TV translator can be opened with a switch, thus disabling the TV translator. In other cases it may be necessary to run control lines to a suitable point. While that may involve higher cost, we are unable to justify elimination of the on and off control of a device which could otherwise seriously interfere with other services.

37. This rule also requires that the Commission be furnished with the name, address, and telephone number of a person or persons who may be contacted to secure prompt suspension of operation if that should become necessary. The person or persons designated should be able to reach the transmitter site or remote on-and-off control within 15 minutes or less, after being contacted, and may be the licensee or some responsible person designated by the licensee.

38. The need for prompt suspension of operation might arise if the translator caused serious interference to an emergency operation such as the dispatching of fire apparatus, directing of police vehicles attempting to apprehend a criminal, or instructions to an aircraft in distress. Since the translator apparatus itself is unattended, the Commission must be able to contact a person, by telephone if necessary, who can turn the offending translator off promptly. Existing UHF translators may now abandon their established monitoring point and operate unattended by merely notifying the Commission in writing, giving the name, address, and telephone number of the person to contact for suspension of operation. Periodic observations during operation are no longer required.

Section 4.735 Power limitations.

39. The transmitter power output of a VHF translator is limited to 1 watt. The power output of a UHF translator is limited to 100 watts. No limit is placed upon the effective radiated power which may be achieved through the use of a directive transmitting antenna array. The limit of 1 watt imposed on VHF translators was reached after careful consideration of all the factors involved. We realize that this is not much power. However, only by severely limiting the power employed can we permit operation in the VHF television bands under the extremely modest technical performance standards adopted in these rules. The problem of operation in the VHF television channels is further complicated by interference considerations, not only between TV translators and TV broadcast stations, but also among TV translators. A TV signal in the order of one-two hundredth of the strength of a desired signal is capable of causing interference. This means that the interference range of a TV translator is many times its service range. Consequently, unless the power permitted is severely restricted, TV translators would have to be kept at substantial distances from operating TV stations and from each other. This would mean that only a very few of the small communities desiring the service could have TV translators in the VHF television bands. The Commission has been urged to adopt the proposed rules on the grounds that many small communities need the inexpensive low power VHF equipment because they cannot afford the better higher power equipment used for UHF translators. The low power permitted by these rules is sufficient to serve these small places. The service is not intended to be, and because of the limited availability of VHF channels, cannot be a wide area service. The relationship of technical standards and power is aptly illustrated in the following. TV broadcast stations are required to maintain their operating frequencies within very narrow limits. Their ability to do this makes it possible to employ a technique known as "off-set carrier" operation. By using this "off-set carrier" technique the necessary ratio of desired to interfering signal is reduced approximately seven times. This is equivalent to reducing the power of the interfering station by 50 times. However, the frequency control equipment needed to maintain this degree of accuracy is too costly for employment by TV translators. Consequently, a 1 watt TV translator has the interference capability of a 50 watt transmitter operating under more rigid standards.

40. Most of the comments requesting that the permissible power be raised offered no engineering data to show the effects of such increases. Suggested increases ranged from 3 watts to 10 watts. The net gain in service area by such increases would be far less than the net increase in interference potential and range. Furthermore, the use of such higher power equipment would require stricter technical standards because of the congestion in the VHF portion of the spectrum and the greater hazard of interference not only to TV stations but to other non-broadcast services, and the cost of such equipment would equal if not exceed that of similar UHF equipment. The fact that some existing TV "repeaters", built without Commission authorization, employ more than 1 watt and would have to cut back in power under licensed operation is not a persuasive argument for raising the power limit. We adhere to our original proposal to limit the power of VHF translators to 1 watt. Those licensees desiring to cover a greater range than that possible with 1 watt radiated power may employ suitable directive transmitting antenna to concentrate the power in a given direction, employ additional VHF translators, or utilize UHF translators with higher power.

Section 4.736 Emissions and bandwidth.

41. This is an operating rule designed to assure that out-of-band emissions are controlled and do not cause interference. Type accepted equipment is required to meet the specifications of this rule and this companion rule requires that the equipment be kept in proper operating condition.

42. Aeronautical Radio, Inc. recommended more specific requirements for the suppression of spurious emissions to prevent interference to the Aviation Service. No values or other engineering data was supplied. We fully agree with the importance of protecting the Aviation Service and other safety services from harmful interference. We conclude, on the basis of our studies of all available information and data, that the limits on power and the suppression of out-of-band emissions required by this rule are adequate. If experience should indicate the need for greater suppression we may place such requirements on individual stations pursuant to paragraph (d) of Section 4.736 or initiate rule making proceedings to change the rule adopted herein.

Section 4.737 Antenna location.

43. This rule is intended to be a guide to prospective applicants for TV translators. There were no comments directed at the proposed rule.

Section 4.750 Equipment and installation.

44. This rule requires that translator equipment must meet the requirements for type acceptance of the Commission and sets forth the specifications for type acceptance. The measurements and data required must be performed by a qualified electronics engineer with measuring equipment of suitable design. Type acceptance may be granted to manufacturers of translator

equipment. If an applicant specifies manufactured equipment which has been type accepted, no additional measurements will be required of him. If the equipment specified is custom-built or is manufactured equipment which has not been type accepted, the applicant may be granted a construction permit but must submit the required measurements before a license will be granted. The rule further requires that the installation of translator equipment must be made by a person technically qualified to do so. The degree of technical skill required for an installation will depend upon the type of installation. If manufactured equipment which has been type accepted is to be employed, a person with sufficient technical knowledge to understand and follow the manufacturer's instructions for the installation would qualify. If the equipment is to be custom-built, a person with the engineering knowledge and skill required to design and build the equipment must do the work. Where measurements must be submitted with the application for license, the person making the measurements must be skilled in that technique and employ instruments of sufficient accuracy to make the measurements reliable. Simple repairs such as the replacement of tubes or fuses, may be made by a person with moderate technical knowledge. Replacement of components, adjustment of critical circuits, and other complicated repairs require a higher degree of knowledge and skill. Test and adjustments which require the radiation of signals and could result in improper operation, must be carried on by a technically qualified licensed radio operator of the grade specified in this rule.

45. A few comments simply stated that the proposed requirements were too strict and would prove costly. They offered no engineering testimony or specific objections as to how the requirements could be further relaxed and still satisfy the nominal requirements for licensing. WSTRA requested that the rules permit individual components of a VHF translator system to be separately type accepted so that some of the equipment now used at unlicensed "repeaters" might be used for licensing under these rules. The basic translator consists of the frequency converter and subsequent radio frequency amplifiers. The basic translator must contain the automatic features specified in the rules and must meet the specifications set forth in paragraph (c) of Section 4.750. The choice of preamplifiers used ahead of the input terminals of the basic translator to bring the signal level up to the strength needed by the translator is left to the discretion of the applicant. If the basic translator has less than 1 watt power output, suitable linear radio frequency amplifiers which can be driven by the basic translator may be separately type accepted upon a showing that they will not significantly alter the electrical characteristics of the signal they are amplifying, that they will not produce out-of-band radiation or spurious emissions in excess of the limits specified by the rules, and that they will not deliver power in excess of 1 watt to the input terminals of the transmitting antenna. Individual components of existing equipment capable of meeting these requirements can be type accepted. Martinsdale-Lerner TV Association, objects to the requirements because some communities may wish to use "home-made" equipment. The rules as adopted herein do not prohibit anyone from designing equipment to meet the specifications for type acceptance.

46. Quite a few comments objected to the automatic station identification requirement. The need for station identification is discussed under Section 4.783. Since station identification is required and transmission of the call sign at the prescribed intervals cannot be conveniently done manually, and since translator equipment cannot be voice modulated for transmission of its call sign and the transmission of the call sign manually in telegraphy would require employment of a radiotelegraph operator, the provision for automatic transmission of the call sign is intended to aid TV translator licensees. Therefore, the requirement for incorporating an automatic identification feature in acceptable apparatus is not unreasonable.

47. Some objection was expressed to the requirement for a carrier operated automatic cut-off for TV translators. No one purported to show that such a device was infeasible, undesirable, or inordinately expensive. No useful purpose is served by operating a TV translator when the TV station it normally retransmits is not in operation. We realize that a TV translator will normally not transmit a signal on its output frequency in the absence of an input signal of the correct frequency. However, it will transmit the electrical noise picked up on its input channel and noise generated in the apparatus itself. Furthermore, whenever the translator is in an inoperative condition it is capable of malfunctioning and transmitting spurious signals. Finally, as a matter of domestic policy and international treaty obligations, superfluous transmissions by any kind of radio stations are forbidden. The transmission of signals which are not providing service are superfluous. Voltages developed within translator equipment by the incoming TV signal can be used to actuate the automatic cut-off and the cost or complexity of such a provision is not unreasonable.

48. The Curators of the University of Missouri recommended that the rules prohibit the use of a modulating frequency within 200 cycles of the 1000 cycle tone employed for CONELRAD alerts, for station identification. This recommendation has merit and is incorporated in the rules adopted herein.

49. The comments opposing the requirement that a "qualified electronics engineer" make the installation were largely based on a misunderstanding of the rule. As we pointed out in paragraph 44, this does not necessarily mean a Registered Professional Engineer. The person undertaking such an installation should have enough knowledge of basic electronics engineering to recognize and avoid any mistakes which might cause improper or unreliable operation of the translator. Any licensed First or Second Class Radiotelephone Operator would be considered qualified to make such an installation. We do not consider it desirable to remove the requirement that a licensed First or Second Class Radiotelephone Operator perform any adjustments or repairs that could result in improper operation of the translator. A person qualified to make the installation might not be qualified to repair or make tuning adjustments of the equipment and could not operate the apparatus in connection with such

tests and adjustments unless he held a valid radio operators license. A First or Second Class Radiotelephone Operator may be presumed to have the skill and by virtue of his license, does have the authority to tune, adjust, and operate the apparatus under the terms of a valid station authorization issued by the Commission. The rule does not prevent a less skilled person from merely replacing defective tubes, or unplugging a defective unit, sending it to a competent person for repairs and then reconnecting it, if such an operation can be performed without requiring any technical skill. Therefore, we find nothing in the comments to persuade us that these requirements contained in the rules are unreasonable or unnecessary.

Section 4.751 Equipment changes.

50. This section merely lists those changes which require a formal application and prior authority from the Commission, and those changes which may be made at the discretion of the licensee. There were no comments directed to the proposed rule.

Section 4.761 Frequency tolerance.

51. This rule establishes the frequency tolerance for the local oscillator in TV translators at 0.02 percent of the assigned frequency. Aeronautical Radio, Inc. proposed a frequency tolerance of 0.01 percent on the grounds that most other low power radio services are required to maintain this tolerance. The lower tolerance proposed would do little to reduce the interference potential of these broad-band devices and would smack of regulation for the sake of regulation. We believe that most of the equipment employed for this service will operate well within the prescribed tolerance and find no reasonable basis to change the original proposal.

Section 4.762 Frequency monitors and measurements.

52. This rule does not require the use of frequency monitors or the making of periodic frequency measurements. The rule does require a TV translator to suspend operation if it is found to be operating beyond the prescribed tolerance. Aeronautical Radio, Inc. proposed that TV translator licensees be required to check the operating frequency at least once a year. Our experience with TV translators in the UHF band does not show that off-frequency operation is a problem. The licensee of a TV translator is expected to take adequate precautions to insure that his equipment does not operate beyond the prescribed tolerance. The use of periodic frequency checks to insure this is left to the discretion of the licensee. If experience with VHF translators shows that a periodic frequency check is necessary, we will invoke such a requirement in an appropriate rule making proceeding.

53. Sections 4.763 Time of operation; 4.764 Station inspection; and 4.765 Posting of station license, are self-explanatory and there were no comments on these proposed rules.

Section 4.766 Operator requirements

54. An amendment to the Communications Act which became effective July 7, 1960 now permits the Commission to waive the operator requirements for TV translators. The rules adopted herein will permit unattended operation if certain specified conditions are met. The licensee may elect to use an operator for the routine operation of the station. In other sections of the rules, any repairs or adjustments which could result in improper operation and which require the transmission of signals while the repairs or adjustments are being made, must be conducted by or under the immediate supervision of a licensed first or second class radiotelephone operator.

Sections 4.767 Marking and lighting of antenna structures; 4.768 Additional orders; 4.769 Copies of Rules; and 4.781 Station records,

55. These rules are self-explanatory and were not opposed.

Section 4.783 Station identification.

56. Before promulgating this rule the Commission gave careful thought to the problem of station identification. The purpose of transmitting station identification is to identify a particular signal with a particular station. This is not primarily for the information of the listener, as is popularly believed, but is for the purpose of assisting the Commission or similar authorities in other countries, in the policing of the radio frequency spectrum and the detection of violators. In rare cases it may be possible to identify a particular transmitter by the contents of its transmissions. This would not be true in the case of TV translators, since there may be many TV translators within any given reception area, all retransmitting the same programs. There would be nothing unique about the signals of any one of them. Some of the comments suggested that it would be possible to identify individual VHF translators because of their limited range. This

is a mistaken impression based upon experience with the service range of low power TV translators. As has been pointed out before, the interference range of TV translators is many times the service range and any attempt to track down an offending station would require dispatching a search unit into the area and a slow process of elimination that might require days to complete.

57. Most of the objections to the proposed requirement of station identification were based upon the added cost of this feature and inconvenience and annoyance of viewers by interruptions to the program. The equipment needed for station identification is simple and should not be unreasonably expensive. The rules permit identification to be accomplished by merely turning the carrier on and off or by modulating the local oscillator of the translator with an audio tone, which would, of course, add this modulation to the visual and aural carriers transmitted by the TV translator. The first method would interrupt the transmissions of the translator. The second method would cause a slight degradation of the picture and sound when the call sign was transmitted. In either case the call sign transmission could be accomplished in a few seconds. The interruptions or impairment of the programs is the price which must be paid for using simple equipment that is not continuously manned. Regular TV broadcast stations are required to transmit station identification but being manned stations they can insert the call sign transmission at any appropriate point so as not to interrupt the continuity of programs. TV translators which are not continuously manned and which are not capable of being directly modulated with a visual and aural signal, must accomplish station identification through the use of a pre-set timing device to actuate a keying device. Under the circumstances we find no valid basis for eliminating the station identification requirement.

58. Montana Network called attention to a practical problem raised by the wording of the proposed rule. The proposed rule requires the transmission of the call sign at the beginning and end of each period of operation and at stated intervals during operation. A properly operating TV translator will automatically turn off when the TV station it is rebroadcasting goes off. Consequently, it would be impractical for it to transmit its call sign at the end of the period of operation. The rules adopted herein are appropriately modified in that regard.

Section 4.784 Rebroadcasts.

59. Section 325(a) of the Communications Act states that no broadcasting station shall rebroadcast the programs or any part thereof of another broadcasting station without the express authority of the originating station. This rule carries out the provisions of the Act. Television Montana requests that the rules require TV translators to obtain the consent in writing. The rules adopted herein require consent in writing. Montana Network proposes that in cases where a TV translator is rebroadcasting the signals of another TV translator, it be required to obtain consent not only from the TV translator licensee but also from the licensee of the TV broadcast station furnishing the original signal. This too is under the control of the originating TV broadcast station licensee. In giving consent to a TV translator to use its programs, it may forbid that TV translator from giving permission to other TV translators to use the programs without first obtaining permission of the originating TV broadcast station. If a licensee learns that a TV translator is using its programs without permission, or if a licensee withdraws its permission for rebroadcast, it should notify the translator licensee and the Commission in order to insure compliance with this rule and the Act.

60. Palm Springs Translator Station, Inc., requested that the Commission require TV broadcast station licensees to give consent for the rebroadcast of their signals to TV translators operating outside the Grade B service area of the TV station. The Commission thoroughly explored this matter in 1952 in Docket No. 9808 and concluded that it would not be in the public interest to require TV stations to grant such permission. In announcing this decision the Commission stated that it would not expect TV broadcast station licensees to behave arbitrarily in acting upon requests for rebroadcast permission as such action might reflect upon their qualifications to operate in the public interest. The proposal by Palm Springs is rejected for similar reasons.

61. The present television agreements with Canada and Mexico do not provide for the operation of VHF translators at locations and on channels other than those set forth in the Agreements for regular TV stations. The Commission will seek to have the Agreements modified to include provision for the operation of these low power devices. Meanwhile, applications for VHF translators at locations within 250 miles of the Canadian or Mexican borders will be referred to the appropriate Government on a case-by-case basis.

62. Accordingly, IT IS ORDERED, That, effective September 6, 1960, and pursuant to the authority provided in Section 4(i), 303, and 307(b) of the Communications Act of 1934, as amended, Sections 4.701 through 4.790 of the Commission's Rules ARE AMENDED as set out in Appendix A hereto; and IT IS FURTHER ORDERED, That this proceeding IS TERMINATED.

FEDERAL COMMUNICATIONS COMMISSION*

Adopted: July 27, 1960
Released: August 1, 1960

Ben F. Waple,
Acting Secretary

* See attached statement of Commissioner Lee.

NOTE: Rules changes herein will be covered by Transmittal Sheet III-8.

APPENDIX

Subpart G of Part 4 is revised to read as follows:

SUBPART G - TELEVISION BROADCAST TRANSLATOR STATIONS

Definitions and Allocation of Frequencies

Sec.

- 4.701 Definitions.
- 4.702 Frequency assignment.
- 4.703 Interference.

Administrative procedure.

- 4.711 Cross reference.

Licensing Policies.

- 4.731 Purpose and permissible service.
- 4.732 Eligibility and licensing requirements.
- 4.733 /Reserved/
- 4.734 Unattended operation.
- 4.735 Power limitations.
- 4.736 Emissions and bandwidth.

Equipment.

- 4.750 Equipment and installations.
- 4.751 Equipment changes.

Technical operation.

- 4.761 Frequency tolerance.
- 4.762 Frequency monitors and measurements.
- 4.763 Time of operation.
- 4.764 Station inspection.
- 4.765 Posting of station license.
- 4.766 Operator requirements.
- 4.767 Marking and lighting of antenna structures.
- 4.768 Additional orders.
- 4.769 Copies of rules.

Operation.

- 4.781 Station records.
- 4.782 /Reserved/
- 4.783 Station identification.
- 4.784 Rebroadcasts.

Pre-existing repeaters.

- 4.790 Special requirements for pre-existing VHF repeaters.

SUBPART G - TELEVISION BROADCAST TRANSLATOR STATIONS.

DEFINITIONS AND ALLOCATION OF FREQUENCIES.

§ 4.701 Definitions.

(a) Television broadcast translator station. A station in the broadcasting service operated for the purpose of retransmitting the signals of a television broadcast station or another television broadcast translator station, by means of direct frequency conversion and amplification of the incoming signals without significantly altering any characteristic of the incoming signal other than its frequency and amplitude, for the purpose of providing television reception to the general public.

(b) Primary station. The television broadcasting station radiating the signals which are retransmitted by a television broadcast translator station.

(c) VHF translator. A television broadcast translator station operating on a VHF television broadcast channel.

(d) UHF translator. A television broadcast translator station operating on a UHF television broadcast channel.

§ 4.702 Frequency assignment.

(a) An applicant for a new television broadcast translator station or for changes in the facilities of an authorized station shall endeavor to select a channel on which its operation is not likely to cause interference to the reception of other stations. The application must be specific with regard to the frequency requested. Only one channel will be assigned to each station.

(b) Any one of the 12 standard VHF television channels (2 - 13 inclusive) may be assigned to a VHF translator on condition that no interference is caused to the direct reception of any television broadcast station operating on the same or an adjacent channel.

(c) Any one of the upper 14 standard UHF channels (70 - 83 inclusive) may be assigned to a UHF translator provided that the proposed translator site is not located:

(1) Within 20 miles of a television broadcast station or city which is assigned the second, third, fourth, fifth, or eighth channel above or below the requested channel.

(2) Within 55 miles of a television broadcast station or city which is assigned an adjacent channel.

(3) Within 60 miles of a television broadcast station or city which is assigned the seventh channel above or the seventh or fourteenth channel below the requested channel.

(4) Within 75 miles of a television broadcast station or city which is assigned the fifteenth channel below the requested channel.

(5) Within 155 miles of a television broadcast station or city which is assigned the same channel as the requested channel unless the requested channel is assigned in the Table of Assignments appearing in § 3,606 (b) of this chapter, to the city in which the proposed translator is to be operated and has not been assigned to a television broadcast station in that city.

(d) The distances specified in paragraph (c) of this section are to be determined between the proposed site of the television broadcast translator station and the main Post Office location in any city listed in § 3,606 (b) of this chapter unless the channel shown therein has been assigned to a television broadcast station, in which case the distance shall be determined between the proposed site of the translator and the transmitter site of the television broadcast station. Changes in the Table of Assignments of § 3,606 (b) of this chapter may be made without regard to existing or proposed television broadcast translator stations and, where such changes result in minimum separations less than those specified above, the licensee of an affected UHF television broadcast translator station shall file an application for a change in channel assignment to comply with the required separations. In the case of changes in the Table of Assignments affecting VHF channels, existing VHF television broadcast translator stations causing interference to reception of VHF broadcast channels shall eliminate the interference or file an application for a change in channel assignment.

(e) No minimum distance separation between TV translators operating on the same channel is specified. However, assignments which will obviously result in mutual interference between translators will not be made.

(f) Adjacent channel assignments will not be made to television broadcast translator stations intended to serve all or a part of the same area.

§ 4.703 Interference.

(a) An application for a new television broadcast translator station or for changes in the facilities of an authorized station will not be granted where it is apparent that interference will be caused. In general, the licensee of a new UHF translator shall protect existing UHF translators from interference resulting from its operation. If interference develops between VHF translators, the problem shall be resolved by mutual agreement among the licensees involved.

(b) It shall be the responsibility of the licensee of a VHF translator to correct at its expense any condition of interference to the direct reception of the signals of a television broadcast station operating on the same channel as that used by the VHF translator or on an adjacent channel, which occurs as the result of the operation of the translator. Interference will be considered to occur whenever reception of a regularly used signal is impaired by the signals radiated by the translator, regardless of the quality of such reception or the strength of the signal so used. If the interference cannot be promptly eliminated by the application of suitable techniques, operation of the offending translator shall be suspended and shall not be resumed until the interference has been eliminated. If the complainant refuses to permit the translator licensee to apply remedial techniques which demonstrably will eliminate the interference without impairment of the original reception, the licensee of the translator is absolved of further responsibility.

(c) It shall be the responsibility of the licensee of a television broadcast translator station to correct any condition of interference which results from the radiation of radio frequency energy by its equipment on any frequency outside the assigned channel. Upon notice by the Commission to the station licensee or operator that such interference is being caused, the operation of the television broadcast translator station shall be suspended immediately and shall not be resumed until the interference has been eliminated or it can be demonstrated that the interference is not due to spurious emissions by the television broadcast translator station: Provided, however, That short test transmissions may be made during the period of suspended operation to check the efficacy of remedial measures.

(d) In each instance where suspension of operation is required, the licensee shall submit a full report to the Commission after operation is resumed, containing details of the nature of the interference, the source of the interfering signals, and the remedial steps taken to eliminate the interference.

ADMINISTRATIVE PROCEDURE

§ 4.711 Cross Reference.

See §§ 4.11 to 4.16.

LICENSING POLICIES

§ 4.731 Purpose and permissible service.

(a) Television broadcast translator stations provide a means whereby the signals of television broadcast stations may be retransmitted to areas in which direct reception of such television broadcast stations is unsatisfactory due to distance or intervening terrain barriers.

(b) A television broadcast translator station may be used only for the purpose of retransmitting the signals of a television broadcast station or another television broadcast translator station which have been received directly through space, converted to a different channel by simple heterodyne frequency conversion, and suitably amplified.

(c) The transmissions of each television broadcast translator station shall be intended for direct reception by the general public and any other use shall be incidental thereto. A television broadcast translator station shall not be operated solely for the purpose of relaying signals to one or more fixed receiving points for retransmission, distribution, or further relaying.

(d) The technical characteristics of the retransmitted signals shall not be deliberately altered so as to hinder reception on conventional television broadcast receivers.

(e) A television broadcast translator station shall not deliberately retransmit the signals of any station other than the station it is authorized by license to retransmit. Precautions shall be taken to avoid unintentional retransmission of such other signals.

§ 4.732 Eligibility and licensing requirements.

(a) A license for a television broadcast translator station may be issued to any qualified individual, organized group of individuals, broadcast station licensee, or local civil governmental body, upon an appropriate showing that plans for financing the installation and operation of the station are sufficiently sound to insure prompt construction of the station and dependable service for the duration of the license period.

(b) More than one television broadcast translator station may be licensed to the same applicant, whether or not such stations serve substantially the same area, upon an appropriate showing of need for such additional stations. TV translators operated by TV broadcast station licensees are not counted as TV stations for purposes of § 3.636 concerning multiple ownership.

(c) Only one channel will be assigned to each television broadcast translator station. Additional television broadcast translator stations may be authorized to provide additional reception. A separate application is required for each television broadcast translator station and each application shall be complete in all respects.

(d) A VHF translator will not be authorized to serve an area which is receiving satisfactory service from one or more UHF television broadcast stations or UHF translators unless, upon consideration of all applicable public interest factors, it is determined that, exceptionally, such intermixture of VHF and UHF service is justified.

(e) The Commission will not act on applications for new television broadcast translator stations or for changes in the facilities of an existing station where such changes will result in an increase in signal range in any horizontal direction until 30 days have elapsed since the date on which "Public Notice" is given by the Commission of acceptance for filing of such application, in order to afford licensees of existing television broadcast stations an opportunity to comment with respect to the effect of the proposed translator on their operation.

§ 4.733 Reserved

§ 4.734 Unattended operation.

(a) A television broadcast translator station may be operated without a licensed radio operator in attendance if the following requirements are met:

(1) If the transmitter site cannot be reached promptly at all hours and in all seasons, means shall be provided so that the transmitting apparatus can be turned on and off at will from a point which is readily accessible at all hours and in all seasons.

(2) The transmitter shall also be equipped with suitable automatic circuits which will place it in a non-radiating condition in the absence of a signal on the input channel.

(3) The transmitting apparatus and the on-and-off control, if at a location other than the transmitter site, shall be adequately protected against tampering by unauthorized persons.

(4) The Commission shall be supplied with the name, address, and telephone number of a person or persons who may be contacted to secure prompt suspension of operation of the translator should such action be deemed necessary by the Commission.

(5) In cases where the antenna and supporting structure are considered to be a hazard to air navigation and are required to be painted and lighted under the provisions of Part 17 of this chapter, the licensee shall make suitable arrangements for the daily inspection and logging of the hazard markings required by §§ 17.37 and 17.38 of this chapter.

(b) An application for authority to construct a new television broadcast translator station or to make changes in the facilities of an authorized station, and which proposes unattended operation, shall include an adequate showing as to the manner of compliance with this section.

(c) Unless the applicant specifically requests unattended operation and makes the showing required by paragraph (b) of this section, a licensed radio operator meeting the requirements of § 4.766 shall be on duty at the transmitter site whenever the station is operated.

§ 4.735 Power limitations.

(a) The transmitter power output of a VHF translator shall be limited to a maximum of 1 watt peak visual power. In no event shall the transmitting apparatus be operated with power output in excess of the manufacturer's rating.

(b) The transmitter power output of a UHF translator shall be limited to a maximum of 100 watts peak visual power. In no event shall the transmitting apparatus be operated with power output in excess of the manufacturer's rating.

(c) No limit is placed upon the effective radiated power which may be obtained by the use of horizontally or vertically directive transmitting antennas.

§ 4.736 Emissions and bandwidth.

(a) The license of a television broadcast translator station authorizes the transmission of the visual signal by amplitude modulation (A5) and the accompanying aural signal by frequency modulation (F3).

(b) Standard width television channels will be assigned and the transmitting apparatus shall be operated so as to limit spurious emissions to the lowest practicable value. Any emissions including intermodulation products and radio frequency harmonics which are not essential for the transmission of the desired picture and sound information shall be considered to be spurious emissions.

(c) Any emissions appearing on frequencies more than 3 megacycles above or below the upper and lower edges respectively of the assigned channel shall be attenuated no less than 30 decibels below the peak power of the visual signal.

(d) Greater attenuation than that specified in paragraph (c) of this section may be required if interference results from emissions outside the assigned channel.

§1.737 Antenna location. (a) An applicant for a new television broadcast translator station or for a change in the facilities of an authorized station shall endeavor to select a site which will provide a line-of-sight transmission path to the entire area intended to be served and at which there is available a suitable signal from the primary station. The transmitting antenna should be placed above growing vegetation and trees lying in the direction of the area intended to be served to minimize the possibility of signal absorption by foliage.

(b) A site within 5 miles of the area intended to be served is to be preferred if the conditions in paragraph (a) of this section can be met.

(c) Consideration should be given to accessibility of the site at all seasons of the year and to the availability of facilities for the maintenance and operation of the television broadcast translator station.

(d) The transmitting antenna should be located as near as is practical to the transmitter to avoid the use of long transmission lines and the associated power losses.

(e) Consideration should be given to the existence of strong radio frequency fields from other transmitters at the translator site and the possibility that such fields may result in the retransmission of signals originating on frequencies other than that of the primary station.

EQUIPMENT

§ 4.750 Equipment and installation.

(a) The transmitting apparatus employed at a television broadcast translator station must meet the requirements for type acceptance by the Commission. These requirements are set forth in paragraph (c) of this section.

(b) Transmitting antennas, antennas used to receive the signals to be rebroadcast, and transmission lines do not have to be type accepted. External preamplifiers may also be used provided that they do not cause improper operation of the translator and compliance with specifications in paragraph (c) of this section does not depend upon the use of such preamplifiers.

(c) The following requirements must be met before translator equipment will be type accepted by the Commission:

(1) The frequency converter and associated amplifiers shall be so designed that the electrical characteristics of a standard television signal introduced into the input terminals will not be significantly altered by passage through the apparatus except as to frequency and amplitude. The overall response of the apparatus within its assigned channel when operating at its rated power output and measured at the output terminals, shall provide a smooth curve, varying within limits separated by no more than 4 decibels: Provided, however, that means may be provided to reduce the amplitude of the aural carrier below those limits, if necessary to prevent intermodulation which would mar the quality of the retransmitted picture or result in emissions outside of the assigned channel.

(2) Radio frequency harmonics of the visual and aural carriers, measured at the output terminals of the transmitter, shall be attenuated no less than 60 decibels below the peak visual output power within the assigned channel. All other emissions appearing on frequencies more than 3 megacycles above or below the upper and lower edges, respectively, of the assigned channel shall be attenuated no less than:

(i) 30 decibels for transmitters rated at less than 10 watts power output.

(ii) 40 decibels for transmitters rated at 10 watts or more power output.

(3) The local oscillator employed in the frequency converter shall maintain its operating frequency within 0.02 percent of its rated frequency when subjected to variations in ambient temperature between minus 30 degrees and plus 50 degrees Centigrade and variations in power main voltage between 85 percent and 115 percent of the rated supply voltage.

(4) The apparatus shall contain automatic circuits which will maintain the peak visual power output constant within 2 decibels when the strength of the input signal is varied over a range of 30 decibels and which will not permit the peak visual power output to exceed the maximum rated power output under any condition. If a manual adjustment is provided to compensate for different average signal intensities, provision shall be made for determining the proper setting for the control and if improper adjustment of the control could result in improper operation, a label shall be affixed at the adjustment control bearing a suitable warning.

(5) The apparatus shall be equipped with automatic controls which will place it in a non-radiating condition when no signal is being received on the input channel, either due to absence of a transmitted signal or failure of the receiving portion of the translator. The automatic control may include a time delay feature to prevent interruptions in the translator operation caused by fading or other momentary failures of the incoming signal.

(6) The tube or tubes employed in the final radio frequency amplifier shall be of the appropriate power rating to provide the rated power output of the translator. The normal operating constants for operation at the rated power output shall be specified. The apparatus shall be equipped with suitable meters or meter jacks so that appropriate voltage and current measurements may be made while the apparatus is in operation.

(7) The transmitter shall be equipped with an automatic keying device which will transmit the call sign assigned to the station, in International Morse Code, within 5 minutes of the hour and half-hour. Transmission of the call sign shall be accomplished either by interrupting the radiated signals in the proper code sequence or by amplitude modulating the radiated signals with an audio frequency tone containing the telegraphic identification. The modulating signal may be inserted at any suitable stage in the apparatus but shall result in at least 30 percent amplitude modulation of the aural carrier. If an audio frequency tone is used it shall not be within 200 cycles of the 1,000 cycle tone used for CONEIRAD alerting.

(8) Wiring, shielding, and construction shall be in accordance with accepted principles of good engineering practice.

(a) Type acceptance will be granted only upon a satisfactory showing that the apparatus is capable of meeting the requirements of paragraph (c) of this section. The following procedures shall apply:

(1) Any manufacturer of apparatus intended for use at television broadcast translator stations, may request type acceptance by following the procedures set forth in Part 2, Subpart F, of this chapter. Equipment found to be acceptable by the Commission will be listed in the "Radio Equipment List, Part A, Television Broadcast Equipment," published by the Commission. These lists are available for inspection at any Field Office of the Commission and at the Washington, D.C. offices of the Commission.

(2) Television broadcast translator apparatus which has been type accepted by the Commission will normally be authorized without additional measurements by the applicant.

(3) Construction permits may be granted for the installation of custom-built apparatus which has not been type accepted by the Commission. In such cases, the permittee shall submit the information required by Part 2, Subpart F, together with sufficient measurements and data to show that the apparatus meets the requirements of paragraph (c) of this section. The measurements shall be made by a qualified electronic engineer with instruments of sufficient accuracy to insure the reliability of the data.

(4) Other rules concerning type acceptance, including information regarding withdrawal of type acceptance, modification of type accepted equipment and limitations on the findings upon which type acceptance is based, are set forth in Part 2, Subpart F, of this chapter.

(e) The installation of a television broadcast translator station employing custom-built apparatus or apparatus which has not been type accepted by the Commission, shall be made by or under the direct supervision of a person having the technical skill and engineering knowledge required to make a proper installation.

(f) The installation of a television broadcast translator station employing type accepted apparatus may be made by a person with sufficient technical knowledge and skill to correctly follow the manufacturer's instructions.

(g) Simple repairs such as the replacement of tubes, fuses, or other plug-in components and the adjustment of non-critical circuits which require no particular technical skill may be made by an unskilled person. Repairs which require the replacement of attached components, adjustment of critical circuits, or technical measurements shall be made only by a person with the knowledge and skill to perform such tasks.

(h) Any tests or adjustments which require the radiation of signals for their completion and which could result in improper operation of the apparatus, shall be made by or under the immediate supervision of a licensed first or second class radiotelephone operator.

(i) The transmitting antenna may be designed to produce either horizontal, vertical, or circular polarization.

§ 4.751 Equipment changes.

(a) No change, either mechanical or electrical, may be made in apparatus which has been type accepted by the Commission without prior authority of the Commission. If such prior authority has been given to the manufacturer of type accepted equipment, the manufacturer may issue instructions for such changes citing its authority. In such cases, individual licensees are not required to secure prior Commission approval but shall notify the Commission when such changes are completed.

(b) Formal application (FCC Form 346) is required for any of the following changes:

(1) Replacement of the transmitter as a whole, except by one of an identical type.

(2) A change in the transmitting antenna system, including the direction of radiation, directive antenna pattern, or transmission line.

(3) Any change in the antenna which will increase the overall height above ground by more than 20 feet or will result in an overall height of more than 170 feet above ground.

(4) Any change in the location of the transmitter except a move within the same building or upon the same pole or tower.

(5) Any horizontal change in the location of the transmitting antenna of more than 500 feet.

(6) A change of frequency assignment.

(7) A change of the primary TV station being retransmitted.

(8) A change of authorized operating power.

(c) Other equipment changes not specifically referred to above may be made at the discretion of the licensee, provided that the Engineer in Charge of the radio district in which the television broadcast translator station is located and the Commission's Washington, D. C. office are notified in writing upon completion of such changes, and provided further that the changes are appropriately reflected in the next application for renewal of license of the television broadcast translator station.

TECHNICAL OPERATION

§ 4.761 Frequency tolerance.

The licensee of a television broadcast translator station shall maintain the visual carrier frequency and the aural center frequency at the output of the translator within 0.02 percent of its assigned frequencies when the primary station is operating exactly on its assigned frequency. This tolerance shall not be exceeded, at times when the primary station is not exactly on its assigned frequencies, by more than the amount of departure by the primary station.

§ 4.762 Frequency monitors and measurements.

(a) The licensee of a television broadcast translator station is not required to provide means for measuring the operating frequencies of the transmitter. However, only equipment having the required stability will be approved for use at a television broadcast translator station.

(b) In the event that a television broadcast translator station is found to be operating beyond the frequency tolerance prescribed in § 4.761, the licensee shall promptly suspend operation of the translator and shall not resume operation until the translator has been restored to its assigned frequencies. Adjustment of the frequency determining circuits of a television broadcast translator station shall be made only by a qualified person in accordance with § 4.750(g).

§ 4.763 Time of operation.

(a) A television broadcast translator station is not required to adhere to any regular schedule of operation. However, the licensee of a television translator station is expected to provide a dependable service to the extent that such is within its control and to avoid unwarranted interruptions to the service provided.

(b) If causes beyond the control of the licensee require that a television broadcast translator station remain inoperative for a period in excess of 10 days, the Engineer in Charge of the radio district in which the station is located shall be notified promptly in writing, describing the cause of failure and the steps taken to place the station in operation again, and shall be notified promptly when the operation is resumed.

(c) Failure of a television broadcast translator station to operate for a period of 30 days or more, except for causes beyond the control of the licensee, shall be deemed evidence of discontinuance of operation and the license of the station will be cancelled.

(d) A television broadcast translator station shall not be permitted to radiate during extended periods when signals of the primary station are not being retransmitted.

§ 4.764 Station inspection

The licensee of a television broadcast translator station shall make the station and the records required to be kept by the rules in this subpart, available for inspection by representatives of the Commission.

§ 4.765 Posting of station license.

(a) The station license and any other instrument of authorization or individual order concerning the construction of the station or the manner of operation shall be kept in the station record file maintained by the licensee so as to be available for inspection upon request to any authorized representative of the Commission.

(b) The call sign of the translator together with the name, address, and telephone number of the licensee or local representative of the licensee if the licensee does not reside in the community served by the translator, shall be displayed at the translator site on the structure supporting the transmitting antenna, so as to be visible to a person standing on the ground at the transmitter site. The display shall be prepared so as to withstand normal weathering for a reasonable period of time and shall be maintained in a legible condition by the licensee.

§ 4.766 Operator requirements.

(a) No licensed radio operator is required for the routine operation of a television broadcast translator station provided that the requirements of § 4.734 of this Subpart are met. Otherwise, an operator holding a valid restricted radiotelephone operator permit or a first or second class radiotelephone operator license shall be on duty at the place where the transmitting apparatus is located at all times when the apparatus is being operated.

(b) A licensed operator employed to operate a TV translator may, at the discretion of the licensee, be employed for other duties or for the operation of another class of station or stations in accordance with the class of license which he holds and the rules and regulations governing such other stations. However, such duties shall in no wise interfere with the operation of the TV translator station.

§ 4.767 Marking and lighting of antenna structures.

The marking and lighting of antenna structures employed at a television broadcast translator station, where required, will be specified in the authorization issued by the Commission. Part 17 of this chapter sets forth the conditions under which such marking and lighting will be required and the responsibility of the licensee with regard thereto.

§ 4.768 Additional orders.

In cases where the rules contained in this part do not cover all phases of operation or experimentation with respect to external effects, the Commission may make supplemental or additional orders in each case as may be deemed necessary.

§ 4.769 Copies of rules.

The licensee of a television broadcast translator station shall have current copies of Part 3, Part 4, and in cases where antenna marking is required, Part 17 of this chapter available for use by the operator in charge and is expected to be familiar with those rules relating to the operation of a television broadcast translator station. Copies of the Commission's rules may be obtained from the Superintendent of Documents, Government Printing Office, Washington 25, D.C., at nominal cost.

OPERATION

§ 4.781 Station records.

(a) The licensee of a television broadcast translator station shall maintain adequate station records, including the current instrument of authorization, official correspondence with the Commission, maintenance records, contracts, permission for rebroadcasts, and other pertinent documents.

(b) Where an antenna structure is required to be painted or illuminated, see § 17.38 of this chapter.

(c) The station records shall be made available upon request to any authorized representative of the Commission.

(d) Station records shall be retained for a period of two years.

§ 4.782 Reserved

§ 4.783 Station identification.

(a) The call sign of a television broadcast translator station shall be transmitted in international Morse Code, by means of an automatic keying device, at the beginning of each period of operation and, during operation, within 5 minutes of the hour and half hour. This transmission may be accomplished either by turning the visual and aural carriers of the translator on and off in the proper sequence or by superimposing an audio frequency tone containing the telegraphic identification, on the visual and aural carriers radiated by the translator. The modulation level of the identifying signal shall not be less than 30 percent of the aural signal.

(b) The Commission may, in its discretion, specify other methods of identification.

(c) Call signs for television broadcast translator stations will be made up of the initial letter K or W followed by the channel number assigned to the translator and two letters. The use of the initial letter will generally follow the pattern used in the broadcast service, i.e., stations west of the Mississippi River will be assigned an initial letter K and those east of the Mississippi River the letter W. The two letter combinations following the channel number will be assigned in order and requests for the assignment of particular combinations of letters will not be considered.

§ 4.784 Rebroadcasts.

(a) The term "rebroadcast" means the reception by radio of the programs or other signals of a radio or television station and the simultaneous or subsequent retransmission of such programs or signals for direct reception by the general public.

(b) The licensee of a television broadcast translator station shall not rebroadcast the programs of any television broadcast station or other television broadcast translator station without obtaining prior consent of the station whose signals or programs are proposed to be retransmitted. The Commission shall be notified of the call letters of each station rebroadcast and the licensee of the television broadcast translator station shall certify that written consent has been received from the licensee of the station whose programs are retransmitted.

(c) A television broadcast translator station is not authorized to rebroadcast the transmissions of any class of station other than a television broadcast station or another television broadcast translator station.

PRE-EXISTING REPEATERS

§ 4.790 Special requirements for pre-existing VHF repeaters.

(a) Until October 31, 1961, the provisions of this section shall apply to repeater stations which are rebroadcasting TV signals on VHF Channels 2-13, and which were constructed on or before July 7, 1960. The term "repeater station" is used in this section of the rules to refer to low power devices for the reception, amplification and retransmission of television signals, irrespective of whether the output channel is the same as the input channel, or is a different channel as in the case of VHF translators.

(b) On or before October 31, 1960, the operators of all devices covered in paragraph (a) of this section shall file with the Commission at its Washington offices an application for temporary authorization to continue operation. Such application shall be filed on FCC Form 347-A in accordance with instructions accompanying that Form.

(c) Applicants must comply with requirements imposed by law, including those found in the following sections of the Communications Act of 1934:

(1) Section 308(b) which requires that the application be signed by the applicant under oath or affirmation.

(2) Section 310 which, among other things, prohibits the issuance of a license to an alien or an organization of which any officer or director is an alien.

(3) Section 325 which prohibits rebroadcasting of the programs of another broadcasting station without the express authority of the other station. Applicants must certify that such consent has been obtained in writing and is available for inspection by the Commission.

(d) An applicant for a temporary authorization under this section shall certify in his application that on or before February 1, 1961 he will file an application on FCC Form 346 for authority to replace or modify the facility for which temporary authorization is sought, so as to conform to all the requirements set out in §§ 4.701 through 4.784 of Subpart G of the Commission's Rules with respect to television broadcast translators.

(e) Existing repeaters may not be modified, and no new translator may be constructed, prior to the issuance of Commission approval of an application filed on FCC Form 346 for authorization to make a desired modification or to construct a new translator.

(f) Temporary authorizations issued under this section of the rules will be valid only until October 31, 1961. On or before that date persons responsible for the operation of all repeaters must complete all the steps required to comply with all the requirements of §§ 4.701 through 4.784 of Subpart G of the Commission's Rules.

STATEMENT OF COMMISSIONER ROBERT E. LEE
DISSENTING IN PART AND CONCURRING IN PART

I agree to licensing existing VHF operations, which now operate without authorization, to avoid a general disruption in the services they are rendering. However, I have urged that ~~new~~ translators should be licensed to operate only in the UHF portion of the spectrum unless it can be demonstrated affirmatively that in given instances a UHF translator operation is either technically or economically unfeasible. This view would seem to be buttressed by the history of the recent legislation on boosters where the use of "alternative" methods of transmission was encouraged. 1/

The failure of the Commission to adopt this course of action is to my mind a threat to the fuller utilization of UHF. Because of the power limitations which must be imposed upon VHF translators and the scarcity of VHF spectrum space for their accommodation, to do other than to channel these new operations into the UHF portion of the spectrum may ultimately prove to be a public disservice.

1/ See the remarks of Representative Oren Harris,
106 Cong. Rec. 13217 (June 24, 1960, daily edition).

FEDERAL COMMUNICATIONS COMMISSION
Washington 25, D.C.B
FCC 60-1263
94878

In the Matter of:

Amendment of Section 4.790(b) of the Commission's Rules to extend until December 30, 1960 the time for filing of applications for temporary authority to operate a VHF Television Broadcast Repeater Station.

O R D E R

At a session of the Commission at its offices in Washington, D.C., on the 20th day of October, 1960;

The Commission has under consideration the provisions of Section 4.790(b) of its Rules, under which operators of VHF repeater stations constructed on or before July 7, 1960, must file by October 31, 1960, applications for temporary authority to operate such stations.

IT APPEARS, That, because of problems in connection with obtaining authorization to rebroadcast programs, a number of VHF repeater operators will not be able to file their applications by the date specified, and that therefore the public interest would be served by an extension of time within which such applications are to be filed.

IT FURTHER APPEARS, That, because of the short time remaining before October 31, 1960, notice of proposed rule making and rule making procedure are impracticable, and that the public interest would be served by making an extension of time in this matter effective immediately.

In view of the foregoing, and under authority contained in Sections 4(i), 303(f) and 303(r) of the Communications Act of 1934, as amended, IT IS ORDERED, that effective October 20, 1960, Section 4.790(b) of our Rules is amended to read as follows:

"§ 4.790 Special requirements for pre-existing VHF repeaters.

* * * * *

- (b) On or before December 30, 1960, the operators of all devices covered in paragraph (a) of this section shall file with the Commission at its Washington offices an application for temporary authorization to continue operation. Such application shall be filed on FCC Form 347-A in accordance with instructions accompanying that Form."

FEDERAL COMMUNICATIONS COMMISSION

Ben F. Waple
Acting Secretary

Released: October 25, 1960

NOTE: Rules changes herein will be covered by Transmittal Sheet III-10.

B

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington 25, D.C.

97322

In the Matter of)
Amendment of Section 4.702(b))
of the Commission Rules to note)
that Channels 5 and 6 are not available)
for TV translator use in Alaska and Hawaii.)

ORDER

On July 27, 1960, the Commission adopted a Report and Order in Docket No. 12116 amending Part 4 of the rules to provide for the licensing of television broadcast translator stations on VHF television channels. Section 4.702 failed to note that the frequency bands 76-82 Mc and 82-88 Mc (television channels 5 and 6) are allocated for nonbroadcast use in Alaska and Hawaii and, consequently, are not available for use by VHF translators in those states. 1/

The amendment adopted herein is corrective only and therefore may be accomplished and made effective without compliance with the public notice, procedural, and effective date requirements of Section 4 of the Administrative Procedure Act.

Authority for the amendment herein is contained in Sections 4(i) and 303(c), (d) and (f) of the Communications Act of 1934, as amended, and Section 0.341(a) of the Commission's Statement of Organization, Delegations of Authority, and Other Information.

Accordingly, IT IS ORDERED, That, effective December 15, 1960, Section 4.702(b) of the Commission's Rules and Regulations IS AMENDED; the paragraph reading as follows:

§ 4.702 Frequency assignment.

* * * * *

(b) Any one of the 12 standard VHF channels (2-13 inclusive) may be assigned to a VHF translator on condition that no interference is caused to the direct reception of any television broadcast station operating on the same or an adjacent channel: Provided, however, That channels 5 and 6 are allocated for nonbroadcast use in Alaska and Hawaii and will not be assigned to VHF translators in those states.

FEDERAL COMMUNICATIONS COMMISSION

Ben F. Waple
Ben F. Waple
Acting Secretary

Adopted: December 6, 1960
Released: December 6, 1960

1/ See Section 2.104, footnote US 33 of the Commission's Rules and Regulations.

NOTE: Rules changes herein will be covered by Transmittal Sheet III-12.

FEDERAL COMMUNICATIONS COMMISSION
Washington 25, D. C.

PUBLIC NOTICE - B
72035

Report No. 3348

BROADCAST ACTION

April 14, 1959

The Commission en banc, by Commissioners Doerfer (Chairman), Bartley, Craven, Ford and Cross, took the following action on April 13:

REPORT ON IMPACT OF CATV'S, ETC., ON TV BROADCASTING

By Report and Order, the Commission reiterated that it has no present jurisdiction to regulate community antenna TV systems but adopted two proposals for which it will seek appropriate amendments to the Communications Act to put into effect. One is that CATV systems be required to have the consent of the TV broadcast stations whose programs they carry, and the other is that CATV systems carry programs of the local TV station on one of the CATV's system channels, if the station requests it, and do so without degrading the signal.

These were among proposals made by broadcasters in the Commission's inquiry into the impact of CATV's, translators, satellites and repeaters on the orderly development of TV broadcasting (Docket 12443). All other proposals were held not acceptable and the proceeding was terminated.

In the matter of translators, the Commission affirmed its decision in the Lewiston case (Orchards Community Television Association, Inc.) in which, in March 1958, it refused to stay the grant of applications for two translators to serve Lewiston, Idaho, where a local TV station was (and is) in operation.

As to common carrier relay of TV programs, it concluded that the economic injury to broadcasters is not a valid consideration, and there is no basis for requiring microwave carriers to show the consent of the station whose programs they relay, since the matter of property right has not yet been established. Accordingly, the Commission resumed the processing of such pending applications.

Commissioner Bartley issued a concurring statement.

"Booster" and "repeater" operation is the subject of a separate release.

The text of the above-mentioned Report and Order will be printed by GPO in weekly pamphlet.

FEDERAL COMMUNICATIONS COMMISSION
Washington 25, D. C.

PUBLIC NOTICE - B
89172

Report No. 3546

BROADCAST ACTION

May 25, 1960

The Commission en banc, by Commissioners Ford (Chairman), Hyde, Lee, Craven and Cross, took the following action on May 25:

TV BOOSTERS AUTHORIZED FOR UHF STATIONS

By Report and Order, the Commission adopted rules, effective July 5, to provide for the use of TV boosters by UHF television broadcast stations (Docket 11331). A booster merely amplifies and retransmits the signals of the parent station on the same channel. The new rules are substantially the same as those proposed June 27, 1957.

The main provisions are:

Licensing TV boosters to the licensees of UHF TV stations only.

They may be used to fill in "shadows" within a parent station's potential Grade A service area but not to extend that area. The potential Grade A contour of a UHF TV station extends out to 68 miles.

The maximum effective radiated power permitted boosters is 5 kilowatts.

The booster transmitter must be located within the Grade A contour of the parent station and is not permitted to place a signal in excess of 5 millivolts (Grade A service) at any place more than 68 miles from the parent TV station.

It must be possible to turn the booster off and on by transmitting a cue signal over the parent station.

Boosters will not be required to transmit individual call signals.

Use of type-approved equipment is not required but the equipment used must be designed and installed by qualified electronic engineers.

Booster licensees will be required to satisfy all complaints of interference to direct reception of the parent station and may not cause more interference to other TV stations than would occur if they were operating at the site of its transmitter with the maximum power and antenna height permitted under the TV rules.

Boosters may not be used to extend the service range of a TV station beyond that which the station could obtain with maximum power and antenna height at the site of its main transmitter.

These rules are intended to permit a UHF station to provide reasonably uniform coverage over its normal service area, and under severe terrain conditions, without resorting to extremely high powers. With boosters, a reasonable power can be used at the main transmitter of the parent station to serve the principal city and surrounding area and the booster used to pick up, amplify or boost the power, and retransmit the signals into places within the normal service range of the parent station previously suffering from inadequate signal strength because of intervening hills, etc.

A new FCC Form 343 has been adopted which can be used in applying for a construction permit for a UHF booster station as soon as it is available.

FEDERAL COMMUNICATIONS COMMISSION
Washington 25, D. C.

PUBLIC NOTICE - B

32055

Report No. 3583

BROADCAST ACTIONS

July 28, 1960

The Commission en banc, by Commissioners Ford (Chairman), Hyde, Bartley, Lee, Craven and Cross, took the following actions on July 27:

FCC AUTHORIZES LOW-POWER VHF TRANSLATORS

Sets Up Requirements and Procedures for Existing Repeaters to Continue Operation Pending Conformity With New Rules

The Commission established rules and regulations, effective Sept. 6, 1960, to authorize operation of new low-power translator stations in the VHF band providing they meet minimal technical requirements to assure orderly operation and protect regular TV broadcast stations from interference. Their maximum power is limited to 1 watt.

Repeaters (Boosters)

Its covering Report and Order (Docket 12116) enables existing repeaters (boosters) which were constructed before July 7, 1960 to apply to the Commission for temporary authorization to continue operation pending their compliance with the new translator requirements.

The Commission recognizes that these unauthorized repeaters need a reasonable opportunity to arrange for this transition and, accordingly, is giving them until Oct. 31, 1960 to furnish minimal information on a special application form (347-A) which is being prepared for that purpose. These interim authorizations will permit the continued use, until Oct. 31, 1961, of equipment constructed on or before July 7, 1960. On or before Feb. 1, 1961, persons responsible for such existing repeaters must apply to the Commission for modification of existing equipment or for construction of a new station to meet the translator rules. All steps needed to comply with the new translator rules must be completed by Oct. 31, 1961.

Such temporary authorizations are made possible by a recent amendment to Section 319 of the Communications Act which empowers the Commission to license repeater stations which had been constructed on or before July 7, 1960 without prior authorization from the Commission.

VHF Translators

Applications for new VHF translators may be filed at any time, but action can not be taken until after the effective date of this order -- Sept. 6, 1960.

They will be made on FCC Form 346, the one now used for UHF translators.

Licensing and other operational requirements for VHF translators are, in general, the same as for UHF translators.

A recent amendment of Section 318 of the act enables the Commission to dispense with requiring licensed operators for such stations. In consequence, the translator rules are changed to require only on-off control from an accessible place, and automatic cut-off devices for both VHF and UHF translator operation.

While UHF translators must meet prescribed mileage separation from regular TV stations, no similar restriction is placed on VHF translators. The latter will, however, be required to protect reception of TV broadcast stations, and VHF translator licensees will have to resolve their own interference problems.

As in the case of UHF translators, a VHF translator can not retransmit signals on the same channel as the one on which it receives incoming signals. Call signals will be used (as in the case of UHF translators) and the permission of the stations whose programs are translated must also be obtained. Those who want to use more power than the 1-watt maximum for VHF translators can apply for UHF translator operation where the upper limit is 100 watts.

Commissioner Lee concurred in part; Commissioner King present but not participating.

FEDERAL COMMUNICATIONS COMMISSION
Washington 25, D. C.

PUBLIC NOTICE - B

81360

Report No. 3453

BROADCAST ACTIONS

December 2, 1959

The Commission en banc, by Commissioners Doerfer (Chairman), Bartley, Lee, Ford and Cross, took the following actions on December 2:

FCC PROPOSES RULES FOR LOW POWER VHF TRANSLATOR OPERATION

By a Notice of Further Proposed Rule Making in Docket 12116, the Commission proposed to amend its rules governing TV translator stations (Part 4) to establish standards for the licensing of new low power VHF TV translator stations. Comments are invited by January 11, 1960.

The basic requirement would be accomplished, in part, by establishing conditions to guard against harmful interference by VHF translators to other radio communication services. The power output of VHF translators would be limited to 1 watt. Those desiring greater power could ask to operate on the upper 14 UHF channels where, because interference possibilities are not so acute, translator power up to 100 watts may be used.

While UHF translators must meet prescribed mileage separations from regular TV broadcast stations, no similar rule is proposed for VHF translators. However, any VHF translator would be required to suspend operation if it causes interference to a regular TV station, and licensees of VHF translators would be required to settle their own interference problems by mutual arrangement.

Type approved equipment would be required. The contemplated minimal operator requirements call only for observation and remote control and an automatic cut-off device.

The rules would not permit the use of so-called "co-channel" booster amplifiers (which transmit on the same channel as the TV stations they pick up). They are unstable and are capable of transmitting false and misleading signals when operated in the VHF band.

Licensing and other operational requirements for VHF translators would, in general, be comparable to those of UHF translators. Applicants for VHF translator operation would use FCC Form 346, the same one used for UHF translators.

Commissioner Bartley dissented.

GRACE PERIOD FOR VHF "BOOSTERS" EXTENDED

The Commission extended to March 31, 1960 the period of grace for existing repeaters (boosters) which operate on VHF channels. Legislation relating to the licensing of such installations is now pending before Congress.

Commissioner Bartley dissented.

FEDERAL COMMUNICATIONS COMMISSION
Washington 25, D. C.

PUBLIC NOTICE - B

94181

Report No. 3607

BROADCAST ACTIONS

September 20, 1960

The Commission, by the Broadcast Bureau, took the following actions on the dates shown:

29 VHF TV REPEATER STATION TEMPORARY GRANTS

The Commission granted 29 applications for special temporary authority to operate VHF TV repeater stations pursuant to its July 27 Report and Order in Docket 12116. That Order enabled existing repeaters (boosters) which were constructed before July 7, 1960, to apply by Oct. 31 for temporary authorization to continue operation pending their compliance with the requirements for new low-power VHF translator stations. The interim authorizations will permit such operation until Oct. 31, 1961. However, on or before Feb. 1, 1961, persons responsible for such existing repeaters must apply for modification of existing equipment and for construction of a new station to meet the translator rules. Such temporary authorizations are made possible by a recent amendment to Section 319 of the Communications Act which empowers the Commission to license repeater stations which had been constructed on or before July 7, 1960 without prior authorization from the Commission.

Special temporary authorizations granted Sept. 14:

Channel Three Boosters, Channel 11, Fort Benton, Mont. (repeating programs of KRTV, Channel 3, Great Falls)(BTR-22); East Glacier Television Association, Channel 13, East Glacier Park, Mont. (KFBB-TV, Channel 5, Great Falls)(BTR-23); Loma TV Club, Channel 7, Loma, Mont. (KRTV, Channel 3, Great Falls, Mont. (BTR-24); Plateau Valley TV Assn., Channel 10, Plateau Valley area, Colo. (KREX, Ch. 5, Grand Junction)(BTR-25); Ridgway Community T. V. Assn., Channel 3, Ridgway, Colo. (KREX; Channel 5, Grand Junction (BTR-31); Scranton Lions Club, Channel 10, Scranton, N. Dak. (KFYR, Channel 5, Bismarck (BTR-32); B & J. Television Service, Ch. 10, Tecopa, area Calif. (KLRJ-TV, Henderson, Nev.)(BTR-33); Rattlesnake Free TV, Channel 7, Missoula, Mont. (KXLF TV, Channel 4, Butte (BTR-34); Town of Holyoke, Channel 12, Holyoke, Colo. (KNOP, Channel 2, North Platte, Nebr. (BTR-36).

Special temporary authorizations granted Sept. 13:

Star Valley TV System, Inc., Channel 7, Afton, Wyo. (KID-TV, Channel 3, Idaho Falls, Idaho (BTR-2); Newcastle TV Assn., Inc. Channels 13, 11, 9 and 7, Newcastle, Wyo. (KFBC-TV, Channel 5, Cheyenne, Wyo.; KOTA-TV, Channel 3, Rapid City, S. Dak.; KTWO-TV, Channel 2, Casper, Wyo., and KDUH-TV, Channel 4, Hay Springs, Nebr.)(BTR-4-7); Ouray Television Assn., Channel 4, Ouray, Colo. (KREX-TV, Channel 5, Grand Junction (BTR-8); Sierra Grande TV Co., Inc., Channel 8, Des Moines, N. Mex. (KENC-TV, Channel 4, Amarillo, Texas (BTR-9); Eagle Butte Community T. V., Channel 9, Eagle Butte, S. Dak. (KPLO-TV, Channel 6, Reliance, (BTR-10); Loma TV Club, Channel 11, Loma, Mont. (KFBB-TV, Channel 5, Great Falls (BTR-11); Dubois Community Television Club, Channel 4, Dubois, Wyo. (KWRB, Channel 10, Thermopolis)(BTR-12); Nelson A. Crawford, Channel 12, Lebanon, N. H. and White River Junction, Vt. (WB1AA, Channel 81, White River Junction, Vt.) (BTR-13); Milestown Television Club, Inc., Channels 6, 7, 9, 12, Miles City Area, Mont. (KGHL-TV, Channel 8; KOOK-TV, Channel 2; Billings, Mont.)(BTR-14-17);

Rattlesnake Free TV, Channel 9, Missoula, Mont. (KMSO-TV, Channel 13, Missoula) (BTR-18); Anaconda TV Assn., Inc., Channels 8 and 10, Galen, Warm Springs and Opportunity and Anaconda, Montana (KMSO-TV, Channel-13, Missoula)(BTR-19-20); Harlem TV Club, Channel 7, Harlem, Mont. (KFBB, Channel 5, Great Falls)(BTR-21); Crawford Community TV Assn., Channel 7, Crawford, Colo. (KREX, Channel 5, Grand Junction)(BTR-27).

Actions of September 16

KLTF Little Falls B/cg Co. Little Falls, Minn.	Granted assignment of license to company d/b under same name (BAL-3987).
WMMH Marshall B/cg Co., Inc. Marshall, N. C.	Granted acquisition of negative control by Cleatus O. Brazzell and Andrew D. Shields through purchase of stock from Vernon C. McCarthy (BTC-3512).
WKCT The Daily News B/cg Co. Bowling Green, Ky.	Granted license covering installation of a new transmitter (BL-8058).
<p>Granted renewal of license for the following remote pickup stations: KC-8430, Conant B/cg Co., Inc., Medford, Mass. (BRRE-1914); KD-6971, WBBF, Inc., Rochester, N. Y. (BRRE-3470); KC-8655, KIN-732, Wythe County B/cg Co., Wytheville, Va. (BRRE-2052, 2971); KD-5522-3, /6090-1, KIM-502, KIR-364, Hampton Roads B/cg Corp., Newport News, Va. (BRRE-2343, 2585, 3023-4, 3143-4, 4579); KE-4892, KII-617-8, KIW-272, Lynchburg B/cg Corp., Lynchburg, Va. (BRRE-2826, 2865, 4685, 4692); KD-5152, KIN-860, Martinsville B/cg Co., Inc., Martinsville, Va. (BRRE-2876-7); KE-3945, Roanoke Independent B/crs, Inc., Roanoke, Va. (BRRE- 4478); KC-3461, KIH-522-3, 368, Shenandoah Valley B/cg, Inc., Harrisonburg, Va. (BRRE-1402-3, 1884-5); KD-2737, Virginia Kentucky B/cg Co., Inc., Grundy, Va. (BRRE-2972).</p>	
K7OAA James R. Oliver Bishop, Calif.	Granted Mod. of license to add primary rebroadcast station KSBW-TV, Channel 8, Salinas, Calif. (BMLTT-4).
WQXQ Volusia County B/cg Corp. Ormond Beach, Fla.	Granted Mod. of license to operate trans- mitter by remote control (BRC-1698).
WSTV-TV WSTV, Inc, Steubenville, Ohio	Granted CP to change ERP to visual 316 kw, aural 158 kw (BPCT-2786).
KFAR All-Alaska B/crs, Inc. Fairbanks, Alaska	Granted CP to install a new transmitter (BP-14311).
KE-8013, KMM-644 Rex O. Stevenson San Luis Obispo, Calif.	Granted CPs for new remote pickup stations (BPRE-7072-3).

<p>WYLD Rounsaville of New Orleans, Inc. New Orleans, La.</p>	<p>Granted CP to install an alternate main transmitter (main trans. location)(BP-14309).</p>
<p>KTFB(TV) Tacoma School District No. 10 Tacoma, Wash.</p>	<p>Granted Mod. of CP to change ERP to visual 16.2 kw, aural 8.91 kw (BMPCT-5508).</p>
<p>KARO(FM) Multi-Casting, Inc. Houston, Texas</p>	<p>Granted Mod. of CP to change type antenna and make changes in antenna system (BMPH-6370); and extension of completion date to 10-30.</p>

Actions of September 15

<p>KTAG-TV KTAG Associates Lake Charles, La.</p>	<p>Granted involuntary assignment of CP to J. Warren Berwick, Harold Knox, R. B. McCall, Jr., and Louisiana National Bank of Baton Rouge, Executors of the Estate of C. W. Lamar, Jr., deceased, d/b under same name (BAPCT-290).</p>
<p>WMSB(TV) Board of Trustees of Michigan State University of Agriculture & Applied Science Onondaga, Mich.</p>	<p>Granted license for TV station; ERP visual 309 kw, aural 174 kw, antenna 970 ft. (BLCT-918).</p>
<p>WILX-TV Televison Corporation of Michigan, Inc. Onondaga, Mich.</p>	<p>Granted license for TV station; ERP visual 309 kw, aural 174 kw; antenna 970 ft. (BLCT-919).</p>

Granted CPs and licenses for the following new remote pickup stations:
 KE-7973-4, KTY-476, Manchester B/cg Co., Manchester, Tenn. (BPRE-7040-2, BLRE-6088-90); KE-7975-6, Twin Valley B/crs, Inc., Coldwater, Mich. (BPRE-6724-5, BLRE-5817-8); KE-7981, KTY-477, Radio Perry, Perry, Ga. (BPRE-6908-9, BLRE-5971-2).

Granted CPs and licenses for the following new TV STL stations:
 KQI-20, Detroit Educational Television Foundation, Detroit, Mich. (BPTS-805, BLTS-763), and KLA-83, KELP Television Corp., El Paso, Texas (BPTS-823, BLTS-774).

<p>KOK-520 KVOS, Inc. Bellingham, Wash.</p>	<p>Granted CP and license to change to a mobile station and change frequency to 450.35 Mc (BPRE-6700, BLRE-5800).</p>
<p>KSJ-778, KE-7977-9 PrairieLand B/crs Monmouth, Ill.</p>	<p>Granted CPs for new remote pickup stations (BPRE-6740, 6785-7).</p>
<p>KOZ-60 Glendive B/cg Corp. Glendive, Mont.</p>	<p>Granted CP for a new TV inter-city relay station (BPTI-389).</p>

WVTS(FM) William John Kulinski Terre Haute, Ind.	Granted CP to install new type transmitter (BPH-3135).
KC-3772 Twin Valley B/crs, Inc. Coldwater, Mich.	Granted CP to change power to 10 w, transmitter and frequency to 153.05 Mc (BPRE-6726).
KSM-44 North Central B/cg Co. Marquette, Mich.	Granted CP to change type transmitter (BPTS-828).
KSM-43 M & M B/cg Co. Marinette, Wis.	Granted CP to change type transmitter (BPTS-827).
KMZ-60 Central California Educational Television Sacramento, Calif.	Granted CP and license to make changes in antenna system (BPTS-824, BLTS-775).

Granted CPs for the following new TV STL stations: KBF-80, St. Louis Educational Television Commission, St. Louis, Mo. (BPTS-825); KIS-76, Rollins Telecasting, Inc., Pensacola, Fla. (BPTS-826), and KOZ-59, Liberty Television, Inc., Eugene, Oreg. (BPTS-830).

KFVS-TV Hirsch B/cg Co. Cape Girardeau, Mo.	Granted Mod. of CP to add a 50 kw alternate visual transmitter, a 10 kw alternate aural driver, and to modify antenna (main & alt. trans. & drivers & main ant.); ERP visual 288 kw, aural 144 kw; condition (BMPCT-5507).
KE-4073-5, KOM-827 Bremerton Broadcast Co. Bremerton, Wash.	Granted Mod. of CPs to change frequency to 170.15 Mc and change type transmitter; change frequency only for KOM-827 (BMPRE-453-6).
WAMM Binder-Carter-Durham, Inc. Flint, Mich.	Granted extension of completion date to 10-30.

Actions of September 14

KBLR Tri-State Radio, Inc., Goodland, Kans.	Granted involuntary assignment of license to Max Jones, Trustee in Bankruptcy (BAL-3992).
KBLR-TV Tri-State Television, Inc. Goodland, Kans.	Granted involuntary assignment of license to Max Jones, Trustee in Bankruptcy (BALCT-130).

Granted licenses for the following remote pickup stations: KE-6066, Continental B/cg Corp., San Juan, P. R. (BLRE-6087); KE-7591-98, Albany Medical College of Union University, Albany, N. Y. (BLRE-6079-86).

- KPN-51
Idaho Radio Corp.
Idaho Falls, Idaho
- Granted license for TV inter-city relay station (BLTI-319).
- KOZ-55-6
KHQ, Inc.
Spokane, Wash.
- Granted licenses for TV STL stations (BLTS-776-7).
- Granted CPs and licenses for the following new remote pickup stations:
KE-7970, WWA-902, Abacoa Radio Corp., Rio Piedras, P. R. (BPRE-7003-4, BLRE-6093-4); KE-7972, Goldenrod B/crs, Inc., Omaha, Nebr. (BPRE-7037, BLRE-6076); KE-7966-9, WWA-898-901, Radio Americas Corp., Mayaguez, P. R. (BPRE-6705-7, 6709-11, BLRE-5820-22, 5824-6).
- KE-7971
KGM Radio-Television, Inc.
Cape Girardeau, Mo.
- Granted CP for a new remote pickup station (BPRE-7036).
- WAJC(FM)
Butler University
Indianapolis, Ind.
- Granted CP to increase ERP to 36 kw, change transmitter and main studio location, install new type transmitter and type antenna and make changes in antenna system; antenna 360 ft. (BPH-3030).
- KA-4249
WSAZ, Inc.
Huntington, W. Va.
- Granted CP to change type transmitter (BPTP-403).
- The Evening Star B/cg Co.
Washington, D. C.
- Granted CP for low power station (BPQ-26).
- KKI-435, KKX-20
A. H. Belo Corp.
Dallas, Texas
- Granted CP to change transmitter location and make changes in antenna system (BPRE-7026); and CP to change frequency to 6925-6950 Mc, transmitter location, make changes in antenna system and change type transmitter (BPTS-829).
- KSWB(TV)
Southwest B/cg Co.
Elk City, Okla.
- Granted Mod. of CP to change type transmitters, antenna system; ERP visual 26.3 kw, aural 13.2 kw; antenna 640 ft. (BMPCT-5504).
- WIXK
Radio St. Croix, Inc.
New Richmond, Wis.
- Granted Mod. of CP to change type transmitter (BMP-9128).
- KPFK(ED)
Pacifica Foundation
Los Angeles, Calif.
- Granted Mod. of CP to operate transmitter by remote control (BRCED-16).
- WCOW
Sparta-Tomah B/cg Co., Inc.
Sparta, Wis.
- Granted Mod. of CP to change type transmitter (BMP-9111).

MELE
Anjo B/crs & Telecasting, Inc.
Phoenix, Ariz.

Granted authority for a period of 90 days to remain silent.

The following stations were granted extensions of completion dates as shown: WGIV, Charlotte, N. C. to 12-2; KMA, Shenandoah, Iowa to 1-2-61; WITA-FM, San Juan, P. R. to 12-31; KBOI-FM, Boise, Idaho to 11-1; WGGM(FM), Taylorville, Ill. to 2-16-61; WRUL (International), Scituate, Mass. to 10-31; KFRN (International) Forney, Texas to 12-1.

Actions of September 13

KOFY
Intercontinental B/cg Corp.
San Mateo, Calif.

Granted assignment of license to Intercontinental Radio, Inc.; without prejudice to whatever action the Commission may deem warranted as a result of any final determinations reached by the Commission in connection with its pending inquiry into compliance by broadcast licensees with Section 317 of the Communications Act, and related matters (BAL-3908).

KOLF-TV
Television Montana
Butte, Mont.

Granted license covering replacement of transmitter (BLCT-1026).

WBBM
Columbia B/cg System, Inc.
Chicago, Ill.

Granted license covering installation of a new transmitter as an auxiliary transmitter; without prejudice to such action as the Commission may deem warranted as a result of its final determinations with respect to: (1) the conclusions and recommendations set forth in the report of the Network Study Staff; (2) related studies and inquiries now being considered or conducted by the Commission; and (3) pending anti-trust matters; and without prejudice to whatever action the Commission may deem warranted as a result of any final determinations reached by the Commission in connection with its pending inquiry into compliance by broadcast licensees with Section 317 of the Communications Act, and related matters (BL-7812).

WXYZ
WXYZ, Inc.
Detroit, Mich.

Granted licenses covering change in antenna-transmitter and studio locations, changes in DA system and ground system (BL-7688); and installation of a new transmitter for auxiliary purposes only (BL-7689); without prejudice to such action as the Commission may deem warranted as a result of its final determinations with respect to: (1) the conclusions and recommendations set forth in the report of the Network Study Staff; (2) related studies and inquiries now being considered or conducted by the Commission; and without prejudice to whatever action the Commission may deem appropriate in the light of any information developed in pending inquiry concerning compliance with Sect. 317 of the Communications Act.

WBZ
Westinghouse B/cg Co., Inc.
Boston, Mass.

Granted license covering installation of an auxiliary transmitter at studio location; without prejudice to whatever action the Commission may deem appropriate in the light of any information developed in pending inquiry concerning compliance with Sect. 317 of the Communications Act (BL-7603).

WHK-FM
Metropolitan B/cg Corp.
Cleveland, Ohio

Granted license covering increase in ERP and antenna height; without prejudice to whatever action the Commission may deem appropriate in the light of any information developed in pending inquiry concerning compliance with Sect. 317 of the Communications Act (BLH-1482).

Granted licenses for the following remote pickup stations: KE-5257, South Shore B/cg Co., Quincy, Mass. (BLRE-5500); KE-6775, Coastal B/cg Co., Inc., Ellsworth, Maine (BLRE-5796); KE-6172, 6173, Springfield Television B/cg Corp., Springfield, Mass. (BLRE-5704-5); KE-5244-5, KCH-733, Gardner B/cg Co., Gardner, Mass. (BLRE-5357-9).

KE-7926
Fidelity B/cg Corp.
Rio Piedras, P. R.

Granted CP and license for a new remote pickup station (BPRE-6930, BLRE-5978).

KE-7938-40, KLB-521
Lamar B/cg Co.
Paris, Texas

Granted CPs for new remote pickup stations (BPRE-6966-7, 7001-2).

KZFM(FM)
KVFC, Inc.
Cortez, Colo.

Granted extension of completion date to 3-13-61.

WDAF-FM
Transcontinent Television Corp.
Kansas City, Mo.

Granted extension of completion date to 1-27-61.



WBBS(FM)
First Baptist Church
Crawfordsville, Ind.

Granted authority to 10-15 to broadcast
only one day per week (Sundays).

Action of September 9

KJAM
Madison B/cg Co., Inc.
Madison, S. Dak.

Granted authority to sign-on Sundays 7 a.m.
and sign-off 6 p.m. for period ending
Sept. 30. Beginning Oct. 1 may sign-on
7 a.m., however, sign-off must be in
accordance hours specified on station
license.

Actions of September 12

KDLA
Sabine B/cg Co.
DeRidder, La.

Granted license covering installation of
a new type transmitter (BL-8039).

KOLO
Western B/cg Co.
Reno, Nev.

Granted license covering change from employ-
ing directional antenna night and day to
directional antenna nighttime only; operate
remote control while using non-DA (BL-7563).

WPAW
Roger Williams B/cg Co., Inc.
Pawtucket, R. I.

Granted license covering change hours of
operation, antenna-transmitter location;
installation DA-N and new transmitter,
make changes in ground system and specify
transmitter (BL-7806).

WNCH(FM)
WNCH, Inc.
New York, N. Y.

Granted license covering installation of
an auxiliary transmitter; remote control
permitted (BLH-1470).

KPQ
Wescoast B/cg Co.
Wenatchee, Wash.

Granted license covering installation of
new auxiliary transmitter (BL-7835).

WBRK
Greylock B/cg Co.
Pittsfield, Mass.

Granted licenses covering change antenna-
transmitter location, make changes in
antenna system and installation new trans-
mitter; remote control permitted (BL-7729);
and move of old main transmitter to main
transmitter location as an auxiliary trans-
mitter (BL-7870).

Granted CPs and licenses for the following new remote pickup stations:
KE-7928-31, KIY-472, Euchee Valley B/cg Co., DeFuniak Springs, Fla. (BPRE-
6841-45, BLRE-5915-19); KIY-473-5, Florida West Coast Educational Television,
Inc., Tampa, Fla. (BPRE-6807-9, BLRE-5875-7); KE-7932-5, KQK-736, Sparks B/cg
Co., Royal Oak, Mich. (BPRE-6868-72, BLRE-5937-41); KQK-735, Sparks B/cg Co.,
Houghton Lake, Mich. (BPRE-6873, BLRE-5942).

Granted CP to The Blue Water B/cg Co., Inc. (WSTU), Stuart, Fla. to make
changes in antenna system (increase height); condition (BP-14269)

Granted Dover B/cg Co., Inc. (WAND-FM), Canton, Ohio extension of com-
pletion date to 11-20.

Senator McGEE. We are ready at this point to proceed with the hearing. Because of the widely scattered geography of those who are testifying, because of the important role that Utah has played in the development of television booster legislation, I have asked Senator Moss if he would not introduce each of the individuals testifying this morning.

We will take off from there and see where it leads us.

Senator, would you take over?

Senator Moss. Thank you very much, Senator McGee.

We are grateful that you have come out here representing the Interstate and Foreign Commerce Committee of the Senate to conduct these hearings.

By way of explanation, I am not a member of the Interstate and Foreign Commerce Committee, and, therefore, I am sitting in this hearing by invitation of that committee.

I am deeply concerned with the booster problem and was pleased that I had the opportunity of introducing legislation to clear the way so that all our remote areas would have an opportunity to receive a television signal. The fact that so many booster stations have been licensed at this early date indicates the desire and the need of our people for a television signal.

We are anxious to see that the system is working, and if it is not working in any respect to know about it so that corrections may be made, either by regulation of the Federal Communications Commission, or, if legislation is needed, so that additional legislation might be introduced in the Congress.

Senator McGee, as a member of the Communications Subcommittee and acting chairman here today, is the man who carried the ball in the committee work on this booster bill and knows more about it probably than anybody else in the Senate.

I will certainly not take over as he suggested, but I am very pleased to be invited to sit and to hear the testimony and to call the various witnesses who have come here to testify this morning.

We realize that the notification was rather short and so most of you, or maybe all of you, will not have prepared statements. However, we want you to testify as fully as possible, whether you have a prepared text or not.

Without delay, because, as Senator McGee explained, there is a tight schedule to keep, we will begin.

I want to first call Senator Frank Memmott, of Carbon County. Price, Utah, is one of the areas that is concerned with this problem. We would like to hear from you, Senator Memmott.

Senator McGEE. I did neglect one point, Senator Moss, and that was that Senator Pastore, the chairman of the Subcommittee on Communications, who presided here a little over a year ago when hearings were held in Salt Lake City, was scheduled to come out with us, but couldn't make it at the very last minute. As you know, we are having some problems in Washington right now pertaining to new positions during the transition between the two administrations.

One of these, a very significant one affecting the New England States, required at the last minute that Senator Pastore remain in Washington. He asked that I express his regret at not being able to be here this morning.

Excuse me for interrupting, Senator.

STATEMENT OF HON. FRANK MEMMOTT, STATE SENATOR, CARBON COUNTY, UTAH

Senator MEMMOTT. Senator Moss, Senator McGee, I appreciate your giving me the opportunity to testify first, because our session does convene at about 10 o'clock.

It was a dash to come down. I think some of the other Senators are planning on coming down also.

I am Frank C. Memmott, State Senator from Carbon County, Utah.

In regard to the booster system which we have in operation now, there will be later testimony. I notice my commissioner and also my county attorney here, so I won't cover probably what they are going to cover.

Primarily at this moment we are very much interested in receiving channel 7, which is an educational television station, under the auspices of the University of Utah. This will probably come out of appropriations, I would say, this week, to blanket the outlying area, because without our boosters we are only getting channel 7 of course on the Wahsatch front within a radius of 40 or 50 miles of Salt Lake City, although we are paying the same taxes as the Wahsatch front in support of the University of Utah and their channel 7 operation.

They need approximately \$90,000 for increased transmitting facilities. Senator Hopkins has said that if enough Senators put pressure on this it will probably come to pass during this session. It is important that we keep our boosters.

In our own county, where we need a relay booster, which has not been licensed as I understand at this moment, we are discriminating against part of the people in our own county who cannot receive the booster-broadcast county-supported television.

We hope to have this done in the near future. I understand that this is in process now, Senator Moss.

Senator Moss. You just have the one booster point in Carbon County now?

Mr. MEMMOTT. Yes, in operation. The other one has been set up but as I understand this has not been licensed. Is that true, Commissioner?

Mr. KOSEC. That is right.

Mr. MEMMOTT. We are waiting for the FCC to move on this.

I am sure that they will give you further information on that score. We certainly support the people that I represent. Approximately 21,000 have already expressed themselves in the past. I testified at Senator Pastore's hearing a year ago, as you will recall. We are urging you, and urging the Federal Government, to do everything possible in keeping our booster program going, to enlarge it wherever it is possible, because we cannot discriminate against the people who live in the outlying district and not receiving television.

Television today is not just entertainment. I mean, it is educational. With the United Nations broadcasts, world information, the student of college age or high school age is at a disadvantage when he comes out to compete, shall we say, on the college level in Salt Lake City or other metropolitan areas, if he does not have access to television in his home.

We feel very strongly about this. We do not feel that anybody who can afford to purchase a television set should not have the opportunity to receive television in his home.

Only through the booster program is this liable to happen in the outlying areas.

Senator Moss. Your booster was constructed by the county with county funds?

Senator MEMMOTT. That is true.

Senator Moss. Which of our counties here in the State of Utah have the legal right to levy a tax, and spend the tax money on erecting boosters or relays?

Mr. MEMMOTT. That is correct, Senator Moss. In fact, it is ironical that you should have the hearing this morning—maybe it was timed perfectly; I don't think so—because what comes out of the Sifting Committee is the pressure put forth up at the Senate at this time.

Senator Haven and Senator Hunter, who are from Iron and Washington Counties, just yesterday introduced a bill and it did pass the second reading in the Senate, to allow an additional charge, but under the law now, which has been in effect since 1957 in the State of Utah, you can take seventy-five one-hundredths of a mill of the total tax on a county and put it to educational television or recreational facilities.

I call it education because it is more than recreation. But now they have found in Washington County that they need a little additional, and this passed just yesterday.

Senator Haven pointed out that his whole political record and achievement will be on the basis of getting this addition. I am sure that Commissioner Kosec and our county attorney will vouch for that in Carbon County.

If there are no other questions, I will end my testimony.

Senator McGEE. I would like to commend you, Senator, for the level to which you have pitched your interest in expanding the TV opportunities in Carbon County.

I note from the testimony at the earlier hearing that you testified as State representative from Carbon County. If I caught the introduction correctly this morning, you were introduced as Senator at the present time. I would trust that this represented the kind of promotion that recognized your endeavors in this field.

Mr. MEMMOTT. You are very kind, Senator McGee. We hope this is the direction of flow. The session workload seems multiplied a hundredfold. We have 64 house members and 24 senators. This is not pertinent to the facts brought out but I think the lobbyists consume more of our time. I hope that someday we might get an administrative assistant here in the State; we will be more effective and efficient in our operation.

Senator Moss. Thank you very much, Frank.

James Alger is the county attorney of Carbon County. We would like to call on him now to follow Senator Memmott.

Would the commissioner like to come forward, too?

This is Louis Kosec, chairman of the Board of County Commissioners, Carbon County, Utah.

STATEMENT OF JAMES ALGER, COUNTY ATTORNEY OF CARBON COUNTY AND LOUIS KOSEC, CHAIRMAN OF THE BOARD OF COUNTY COMMISSIONERS, CARBON COUNTY, UTAH

Mr. ALGER. I appreciate the opportunity of meeting with you, Senator McGee, and Senator Moss, on this matter.

We have been involved in detail on this since the bill was passed in 1957.

As Senator Memmott indicated, Carbon County operates by virtue of the law passed by the 1957 legislature authorizing three-quarters of a mill levy for the support of county television.

Carbon County constructed its installation and operated it beginning about October 1959. It has been in operation since that time. We cover a good share of the county with the one installation. We have another installation constructed but which has not been licensed.

Our installation is on a mountain peak known as Star Point, above the mining camp of Wattis. We receive channels 2, 4, and 5 from Salt Lake City and convert them to 8, 10, and 12 for transmission.

The installation to cover the Helper City area was constructed—unfortunately, it was not constructed prior to July 7, so our application for temporary authorization to operate was denied. We felt that the FCC may have been somewhat arbitrary in the stand they took regarding that station since it was constructed prior to the time they made their order.

But as you know, they dated their order back to July 7, from the time the order was made in August. Our building had been built and the equipment contracted for prior to July 7, but the installation was not completed.

Of course, this is a moot question now because the time of deadline for applying or getting temporary authorization has passed.

So we are now in the process of preparing to apply for a construction permit so we can be licensed under the regular license.

This station to cover the Helper area will retransmit the signal from our primary station at Star Point, and reconvert the channels to different channels.

We have found even better success than we had hoped in booster operation. Carbon County is mountainous with many hills and small mountains jutting out and cutting off residential areas. But in some instances we are reaching areas that we had not thought could be reached because they were not in line of sight. But we have found that the signal, apparently—and I am not an engineer—apparently is bending to some extent and reaching areas that are located behind obstructions that stand between the receiving point and the transmitting point.

So we feel very good about the success we have had with the boosters. We have been able to construct these two transmitting stations, consisting of the six boosters, for less than \$25,000, and feel that we have certainly gotten our money's worth that way.

We have had no difficulties with the exception, of course, of the fact that we did have some CATV systems in the area.

When we were testing our Helper area transmitters, the FCC received complaints that we were interfering.

We were advised immediately to cut the transmitter off, which we felt also was arbitrary, but we are certain that under the new organization of the FCC we will receive a little more consideration in this regard.

This is a problem, and it perhaps will remain a problem, this question of interference with CATV in an area such as ours, until the time comes when we can cover the entire area and the CATV systems won't be necessary any more.

Senator Moss. Are CATV's still operating in your area?

Mr. ALGER. Yes. We have four main CATV systems: two in Price, one in Helper and one in the East Carbon area. Of course as our coverage gets broader and the success of the booster becomes known to the people, these CATV systems will eventually, I am sure, have to discontinue operation.

Senator McGEE. In any case, the point that you have raised seems to me to be a point of some difficulties in signal and that sort of thing, and indicates the importance, in my judgment, of the FCC at least having jurisdiction and authority over the CATV systems as well.

Mr. ALGER. There is no question about that in my mind.

We expect help from the FCC on these matters. We don't think that there should be any arbitrary decision that one is superior over the other. We are certain that we can work our difficulties out. However, when there is the economic investment involved that is involved with some of these CATV systems, working out your problems is difficult sometimes.

Senator McGEE. As you probably know through the trade papers of the industry, the FCC has gotten tentative approval for a bill that will be submitted to bring CATV systems under their authority. It is not proposed to go as far as licensing them. But it would bring them under their jurisdiction so that precisely, in cases such as yours in Carbon County, they might seek and have the authority to seek a resolution of the difficulties and the conflicts that arise.

Mr. ALGER. I am happy that this will be submitted. I understand that it did come up before but was not passed.

Senator McGEE. It was not quite in the same form before. This is a more moderate proposal by the FCC.

The bill we had up would have licensed CATV's as well as other media of communication. This does not propose licensing but does propose to give the FCC jurisdiction and authority to regulate the CATV's in those areas where there is conflict with boosters or some other media. There are parts of the United States, of course, substantial areas, where there is no issue between boosters and CATV's, in the Eastern United States in particular.

Out here it is quite a different matter.

Mr. ALGER. We were even involved in lawsuits with the CATV systems at one time. These have been disposed of now. There is a tremendous economic investment in some of these CATV's, as the Senator knows. When you have an economic investment of that scope, sometimes it is difficult to work out your problems mutually because they know that as our coverage extends, theirs, of course, will be limited.

Senator Moss. What about the quality of the signal that you are getting on your boosters?

Does it compare with the direct signal that the people get in the front here?

Mr. ALGER. Yes, we believe it does. We have had very few complaints from the persons receiving it. And it is much superior to the cable signal.

Senator McGEE. What have you had by way of experience with some of the engineering technical requirements that the FCC set up in its licensing of the boosters?

Mr. ALGER. We have had difficulty so far as getting FCC type approval on equipment, that is, finding out what type equipment will be approved.

I realize that this takes some time because this was a new field when the regulations were promulgated. As far as the requirements, for example, of your station identifying signal and automatic cut-off and all that, we are certain we can comply with those.

Senator McGEE. I understand now that the Commission has approved the equipment of three different companies, and that likewise new equipment coming out is going to be considerably less expensive than the earlier equipment, some of it for as little as a thousand dollars.

Mr. ALGER. That is what I understand. And of course some that will be less bulky and will have longer life and so on.

Senator McGEE. How many people do you figure that you serve, Mr. Commissioner?

Mr. KOSEC. Do you mean with the present installation on the mountain now?

Senator McGEE. With your present installation.

Mr. KOSEC. I would say, roughly about 80 percent of the people of Carbon County, with the one installation.

Mr. ALGER. I would say that is pretty close.

Senator McGEE. And how many of those people would be without television service otherwise?

Mr. KOSEC. I would say a good 40 percent of those would not have TV unless we had this system.

Senator McGEE. The others represent the overlap between your signal and the CATV?

Mr. KOSEC. Yes. It is less than that, because in fact since we put up the tower, we are reaching outlying areas which could never have TV.

Senator McGEE. From the descriptions I have heard of the terrain in Carbon County, it is a further illustration of the places that you can reach with the VHF signal that you could not reach with the UHF. That is, local interference is more conspicuous, engineers tell us, with UHF, in some phases of it.

Mr. ALGER. After testing our signal from the Star Point transmitters, we have found that it may be possible that we won't have to build one station that we thought we would, because the coverage is so extensive.

We do have experience, too, regarding interference because we have a radar station located in line with our transmitters. There have been no difficulties there.

Also, the city of Moab in Grand County is receiving microwave transmission from that area that is transmitted into Moab and then

converted into VHF and then into the homes by cable. But we have had no difficulty with that, either.

Senator McGEE. Those are all the questions that I have, Senator.

Senator MOSS. Thank you. Do you have something more, Commissioner?

Mr. KOSEC. No. In working with the engineer we have had down there making our installations, of course at times we were wondering about the strength of the signal which we were allowed—1 watt. I wonder, Senator, will at any time that be increased?

Senator McGEE. I think that that is one of the questions that the Commission and the committee both are raising at the present time.

Once we get this pattern of experience of this first year clearly before us, they want to explore how far they dare go in increasing the wattage without running into the interference question again.

Mr. KOSEC. However, I believe in our particular place that this 1 watt will do us. However, in some places we have to double-stack our antennas, which pulls in a better picture. In some areas where people are not having—a lot of people are having poor sets, they cannot afford new sets—they can't pull in the picture and someone else can.

We would like to give them the best TV possible.

Senator McGEE. I know that both groups—the Commission and the committee—intend to open that question, and one of the reasons for holding these hearings is to try to get a pattern of experience that may serve as a guide in that.

Mr. ALGER. We feel there should not be an arbitrary setting of a certain power, because in areas like ours, which are practically ringed with mountains, there is such a little possibility of interference with other signals that we could use higher power.

Senator McGEE. That is the problem with general legislation, because not every area is ringed with mountains. That poses an interference problem in a flatter terrain.

Mr. KOSEC. Another thing I might bring up at this time, Senator, is some of the protests that the FCC has received have been from community nonprofit organizations, supposedly. But they are controlled by a handful of people who don't want to quit because they have been realizing a profit on their TV.

I am referring to Helper in particular now. The majority of people in Helper are demanding county TV because we can give it to them better and cheaper. But they are still hanging on to that line because of the fact that that is the only way they can get TV until our station at Helper is turned on.

You must realize that the protests have not come from the people but those few people running that organization.

Senator McGEE. I am sure the experience there has been rather uniform around the country.

Mr. KOSEC. That is right.

Senator McGEE. And that is that these people do have an economic stake. The intent of any of our legislation has never been to put anybody out of business. But our focus has been the public interest, to get as good a TV signal as we can get to the widest possible viewing audience.

We do not think it right to have second-class TV citizens anywhere around the country. In many parts of the country it has been possible for both to operate successfully, because even under the best com-

munity system—that is, CATV system—it is not economically feasible to serve those people out on the fringe, and they make no pretense about it.

Some of them contend that they can still bring in a better picture and they ought to have the right for that competition. If they feel that they can have a better picture, that is great for the viewer if he wants to make that choice and pay for it, but it should not deny those outside having no picture at all because of the economic interest of one group that is involved.

Mr. KOSEC. For the record, there are two nonprofit organizations in Springland: one called Riverside and the other Springland TV. Just as soon as that TV tower was turned on, on the county basis, those men quit because the work involved in giving these people TV at reasonable cost was not feasible so they quit, and there was no protest whatsoever.

They were glad to get county TV. That happened to several other small outlying areas with their antennas, where a small group got together and did it.

That shows that the people want TV in Carbon County and are enjoying it.

Senator MOSS. Thank you very much, Commissioner, and Attorney Alger.

We appreciate your coming to testify. We are glad to know that it is working out so well. We hope we soon get clearance on the Helper system so that that will be in operation, too.

Mr. KOSEC. We hope so, too.

Mr. ALGER. Thank you very much.

Senator MOSS. Craig Justeson?

Mr. KOSEC. I didn't see him, Senator.

Senator MOSS. I thought I would call him, too.

Lyle Keys, director of engineering, KUTV, sales manager for TV-PIX Inc.

**STATEMENT OF LYLE KEYS, KUTV DIRECTOR OF ENGINEERING;
ALSO, SALES MANAGER OF TV-PIX, INC., SALT LAKE CITY,
UTAH**

Mr. KEYS. Senator Moss, Senator McGee, gentlemen, I have no prepared text. I will speak from notes.

My name is Lyle Keys. I am director of engineering on KUTV, channel 2, here in Salt Lake City.

The remarks that I will make are my own personal opinion in some cases, but they may tend to reflect the interests of broadcasters to whatever extent that may differ from the interests of booster operators.

I would first like to offer congratulations to both the U.S. Senate and the FCC for coming up with a workable set of rules governing the translation industry.

Senator MCGEE. May I interrupt, to be sure that the applause goes to the right place. The FCC could have done that many years ago. We had to legislate for them, and they suddenly found it possible to go to work as soon as the law was passed.

Mr. KEYS. Thank you. I included the FCC for the reason that after much procrastination the rules that they did come up with do not reflect some of the redtape that we had become accustomed to expect from Washington, and they are workable and can be used here, as far as my own opinion, being one in the broadcasting industry and in engineering, is concerned.

The rules themselves represent, I think, an intelligent compromise between the expediency of financial considerations to the operators themselves and the protection that must be afforded the broadcasters and the translator operators as well as other allied services.

I am sure many operators feel the rules impose unnecessary restrictions but I do not agree with this, considering the chaos that could result from unlimited operation, as we had up until the enabling legislation permitted boosters. The law must provide the protection from interference, and it is with this in mind that the FCC has come up with the rules that they have.

The question of power output was brought up and here again I take exception. One watt is sufficient to provide, with clear line of sight, a usable picture over a distance of at least 30 miles. If we were to increase this beyond 1 watt, to say 10, 20, or 100 watts transmitter power, which could be built up to several hundred watts through proper antennas, the only purpose in doing this would be to achieve greater than line-of-sight propagation.

Once you have propagation beyond line of sight then you have various booster interests working at cross purposes, you have aggravated the interference problem, which already creates a big potential for trouble, and by intelligent engineering and possibly by using more stations located at lower points the same coverage can be effected at 1 watt power level.

There is an area where it might be possible to, under certain circumstances, license what might be termed "mother stations" which would be high-power stations. These would be treated as a very special installation and would perhaps be installed by various groups of communities. An example might be in the city of Beaver. Right now they have an installation which purportedly serves many, many communities. This might be one place where a high-power translator would serve a useful purpose. But I do not believe that any useful purpose will be served by indiscriminately licensing any higher power than 1 watt.

I have some figures here. They are very approximate for the simple reason that cataloging VHF transmitters has been a very confusing task. We maintain a continuing survey at KUTV, but even at that these figures that I have are subject to wide variations.

There are approximately 55 operators of TV translators in the Salt Lake City coverage area. By translators I mean VHF, boosters, or translators, all of which would fall under this problem we are considering here.

These operators operate 90 to 100 stations, and some of them operate 3 and 4 individual stations to serve different communities within their area of influence.

Each station has, on an average, about $2\frac{1}{2}$ channels. Many, many have three channels, and there are a few where only one signal might be available because of topographical considerations and they would have only one.

That brings the total to approximately 250 in the Salt Lake City coverage area.

We previously knew of perhaps 30 to 40 operators. Of these, of which we had previous knowledge, my records show only two where we have no evidence that they have indicated their desire to comply with the FCC rules. Again I can be proved wrong on this very easily because it is difficult to be able to know the activity of each section of this vast coverage area.

The operators face considerable difficulty—I am speaking here of the operators of existing systems—in licensing their equipment. This was brought up in earlier testimony. The equipment must have FCC-type acceptance. This is very necessary. I certainly feel that the FCC could not relax their requirements for type acceptance, either as to the specific engineering data that must be submitted or as to the numbers involved, that is, whether the spurious radiations could be increased without creating hazards. I believe that they have intelligently approached that problem.

There is one area where there is room for a relaxation, and that is in the matter of the type acceptance of a particular installation. If the FCC were to grant type acceptance to particular components, as opposed to complete translators, then a translator or operator could, by reference to the type acceptance granted to the components that he is using, and influence a much simpler group of compiled measurements, be able to obtain his license at much less cost.

Senator McGEE. The principal advantage of that would be money savings?

Mr. KEYS. That is right.

Senator McGEE. Has anybody made this saving that you know of, to the FCC?

Mr. KEYS. Not that I know of.

Senator Moss. Along that line, I had a telephone call from Commissioner Earl Bunn, of Iron County, in which he registered a complaint that the companies from which they buy the equipment require them to take a package, as he described it, whereas he felt that they could get along with only parts of what they were required to take. Is this along the line that you are talking of now?

Mr. KEYS. Yes. It is to his best interest to take the package for the simple reason that the package will have prior type acceptance by the FCC. If he buys the bits and pieces, even though they might be the identical components which this manufacturer puts into his type group package, he will have to then take the necessary measurements to obtain type acceptance, and these measurements are not simple. They involve demonstrating that the equipment will satisfactorily operate under extremes of environmental conditions, and that the spurious radiations from the equipment are within the specifications, that the radiation from the cabinet of the equipment is not beyond the specifications, and it requires the employment of an outside engineering firm in almost every case, and there are very few engineering firms that are capable of providing this service and doing it properly.

Again I do not suggest that the rules be relaxed. But I do believe that since there are certain standard components—for example, a certain type of amplifier manufactured by Blonder-Tongue, has very common usage. I believe amplifiers manufactured by Benco are very

popular. I don't believe that by using strictly type-accepted components, if this suggestion of mine were adopted, that the Commission could justify granting type acceptance per se to the completed translator that someone last worked up because there are proper and improper ways of using the particular bits and pieces. But it would relieve them of the responsibility for making many of the measurements which they presently have to make in order to obtain type acceptance.

Senator McGEE. Of course you know best of all that the problem facing the FCC here is a real tough one, and that the package deal, as it were, probably is the lesser of the evils in terms of trying to get a consistent standard for them to apply.

Mr. KEYS. True.

Senator McGEE. Is it your suggestion that these packages are unnecessarily full?

Mr. KEYS. No, not at all. The manufacturers who make these packages up are offering the most convenient way, under the present rules, for an operator to become licensed. But the operator is then faced with discarding his present investment. In many cases this will have a beneficial effect because some of the installations that I have seen don't do credit to the people who devise them.

Senator McGEE. Except for their ingenuity.

Mr. KEYS. That is true.

Senator McGEE. And Rube Goldberg.

Mr. KEYS. The equipment that is available as a type-accepted unit is very good. I don't mean to say that there is any disadvantage in buying this equipment.

Senator McGEE. When you are speaking now of the cost saving there, the possible cost savings in those particular instances, you are speaking in costs of what magnitude, for the record?

Mr. KEYS. If someone were to come to me and ask me to do a type acceptance on their translator in operation, located say a hundred miles from Salt Lake City, and if I were a free agent to perform this service, I would ask something in the neighborhood of \$500 to \$800 to perform this service. If he has only one of this type equipment, then it behooves him to buy a completely packaged translator for \$1,100 or \$1,200. If, however, he has used the same combination of units for all of his translators, and if he operates 10 or 15 translators, then the per-unit cost is not unreasonable.

I have a couple of other suggestions. I keep predicting this, and it doesn't seem to occur, but I still maintain that there is a tremendous interference potential that is going to eventually come to a head, and that this problem could be warded off if there were some board set up to pass on applications.

Senator McGEE. Do you mean a local matter?

Mr. KEYS. On a State level. The purpose of this board would be to obtain maximum utilization of the spectrum.

If the various operators work at cross purposes, then there will be many channels which could otherwise have been used which will be eliminated from use because of the interference problems.

Another suggestion would be—and possibly this could be tied in with the board that I have suggested—automatic protection for television stations so that they do not have to police each translator or operator to insure that they are not, in order to serve 20 families,

causing interference to a hundred other families. This would be within the principal coverage area of the television stations where maybe an operator, in order to serve a small community in a deep ravine, would poise a translator system on top of a mountain. He is only interested in serving the few people in the ravine but his radiation may go 50 miles and cause interference to the stations. This is very difficult for the stations themselves to police.

Small market television stations, I believe, deserve protection from translators because the potential exists for the encroachment of bringing city translators into these smaller markets.

As a matter of policy, at KUTV, if we receive an application from a translator or operator who is obviously located within the primary coverage area of a small-market station, we automatically refer that application to the station in whose location he is located. I believe this is necessary because were it not for policing by the industry itself, or by some other agency, the translator or installations could gradually fan out from Salt Lake City to where they covered the entire State of Utah, most of Wyoming, and all of southern Idaho. And, as an example of what could be done, if the three Salt Lake City stations desired to increase their coverage by a factor of almost 2 to 1, by investing approximately \$50,000 each in a series of translator stations they could blanket southern Idaho, with Salt Lake City coverage of good quality, covering perhaps 70 to 75 percent of the total population of Idaho, obviating the need for five existing television stations and five additional holders of construction permits for television stations.

Fifty thousand dollars each is a very small investment for that kind of increase in coverage. The increase in revenues for the stations would justify that and return the investment in a matter of months.

The FCC has not provided any protection for small-market stations. Historically, small-market stations have had to fight for their existence from not only translators but CATV systems and other potential sources of problems to them.

Senator McGEE. Of course you put your finger there on one of the problems ahead in the booster question, and this opens almost an unlimited vista in the nonbooster areas of the United States now for stations to take over vast areas by this simple device.

Mr. KEYS. This is true.

Senator McGEE. That is the reason why it is important to have it under the regulations and the FCC "riding herd" on them.

Mr. KEYS. Regarding the equipment available for booster operators, the equipment that I have seen is very good. It offers considerable in the area of stability, convenience, reliability, and this somewhat softens the blow of perhaps having to discard existing installations because of the problem of doing the engineering attendant to obtaining type acceptance.

I had hoped to have a working demonstration of a VHF translator here at the hearing, but the airline strike back East frustrated that desire.

Senator McGEE. Some of it is in the West, too, I hear.

Mr. KEYS. Finally, as evidence of the translator industry coming of age, there is going to be a conference, nationwide, to whatever extent translators can be considered nationwide, here in Salt Lake City

on the 3d and 4th of March, with headquarters at the Hotel Utah and the Hotel Utah Motor Lodge. This conference is sponsored by a very good publication that seems to be covering this industry, named, "DXing Horizons" magazine. At the conference an attendance of perhaps 300 operators is anticipated and there will be equipment exhibits from perhaps 10 or 12 manufacturers.

I have here two invitation registration forms which I will be happy to show you.

Senator MCGEE. With a little foresight we should have scheduled these to coincide with that weekend.

Mr. KEYS. The program is outlined. There will be many interesting papers delivered by eminent engineering authorities in the field.

That concludes my remarks, unless there are any questions, gentlemen.

Senator Moss. I take it from your statement that there hasn't actually been as yet any interference that you know of from one of these translators, but you think that it is potentially there.

Mr. KEYS. The interference problems that I have come up—that I am familiar with, have been resolved at the local level, which is desirable if it can be done that way. But in many cases it has resulted in one town saying "All right, we will give you channel 5 and we will take channel 2," because they have not been able to resolve their problems so they can both get channels 2 and 5. So it has resulted in a decrease in the overall utilization of the spectrum. That would be the primary function served by a governing board that might pass on these recommendations. I think this body should be under the aegis of the FCC in order to give it at least tacit authority.

Senator Moss. But be a local or State or area board?

Mr. KEYS. Yes.

Senator MCGEE. This brings to a head that which a lot of us have believed for a long time, and that is, that if you give any segment of the American people the authorization that they will put their best brains and intuitions together and come up with constructive solutions to otherwise difficult problems.

I would only submit one word of caution, and that is that I hope they continue to keep it on that basis and not carry it one step further and not have a high-powered national organization that will become an operator in its own right. This is the usual form that so many of these movements take. Your great strength and the great appeal to the committee back there, is the fact that here are ordinary Americans with no other motive than improving TV. They had no axes to grind. They came together, worked toward a solution and found it, without pay or any incentive except better TV. This is the whole merging movement. The fact that you can bring together in Salt Lake in another 10 days a high caliber of professional opinion is a real tribute to the kind of motivation that has carried this along from the very beginning.

Mr. KEYS. I agree.

Senator Moss. Thank you very much, Mr. Keys. We appreciate your testimony.

Is Ray Nash here? Will you come forward?

Ray Nash, from Vernal, will be our next witness.

Mr. NASH. I would like to have the chairman of our county commission and also our technical engineer with us.

Senator Moss. Please have them come forward and join you.

Senator McGEE. When you gentlemen sit down, will you give your names for the record to the reporter?

**STATEMENT OF RAY E. NASH, COUNTY ATTORNEY, VERNAL, UTAH;
ACCOMPANIED BY HAROLD McKEE, COUNTY COMMISSIONER, AND
JOE LeBEAU, ENGINEER, UINTAH COUNTY, UTAH**

Mr. NASH. I am Ray E. Nash, county attorney of Uintah County. This is Mr. Harold McKee, county commissioner, and this is Mr. Joe LeBeau.

Gentlemen, the question that we have out there is no question at all, perhaps. It is more one of appreciation to the Senators and the Representatives who, as has been mentioned here, made this enabling legislation possible through the ingenuity of the American people, particularly so that we in the hinterlands and backwoods could piece something together and make TV reception possible.

People will not be denied the media of communication if there is any way possible. We certainly do appreciate the work of your honorable bodies, and particularly Senator Moss' sponsoring. Senator Moss, will you recall we testified before your committee concerning this.

I might state that the people of Uintah County are in the eastern part of the Uintah Basin. The Uintah Basin should be perhaps considered as an integrated whole rather than from the standpoint of Uintah County.

Our TV translator was established—or booster station—on the Blue Mountain, which is in the eastern part of the State. It acts also as the pivot for the University of Rio Blanco County in Meeker, Colo. I think Mr. LeBeau can mention some of the difficulties we have run into there because of the great distances.

The Uintah Basin is better than a hundred miles in length, about 120 miles in length, and about that same distance north and south. It is on the southside of the Uintah range of mountains with communities there. The only problem we have had is that perhaps 1 watt of power might not reach all of us. Mr. LeBeau can mention that. But we have been adequately supplied, at least if the quality isn't perhaps as great as it should be, maybe we don't know what extra good quality is. The people in our areas are very satisfied with the television reception they are receiving. As to the costs, the initial costs of installations were roughly \$10,000. Our cost of operation is less than \$3,000 per year.

It has operated now for 3 years for slightly less than \$15,000, which I think Commissioner McKee can verify.

Senator McGEE. How many viewers do you have?

Mr. NASH. We compute that there is roughly 80 percent of our population that see it. We have about 12,000 in Uintah County and not quite that many in Duchesne. There is a group almost that large in Meeker that is seeing through this facility which we get.

Senator McGEE. Would these people be without television otherwise?

Mr. NASH. Principally, with the exception of Vernal City, which has a cable system which is limited to, as I recall, about 600 families

at the time that it was put in, it is economically not possible to put that out if you are going to be concerned with the economics of running a private institution. The company established in Vernal is still operating notwithstanding the fact they said they were going to be kicked out by our county system. It seems like we are pretty decent bed-fellows now. They are operating their system, and the county system is operating, also.

Senator McGEE. This would mean, doing a little mental calculation here, with your figures of an installation of \$10,000 and an annual cost of perhaps \$3,000, taking that into consideration, on a viewer basis it is not \$2 per viewer.

Mr. NASH. No it isn't. It is paid for out of the enabling act in the statute of Utah passed by our legislature some two sessions ago when they provided that this might be levied or made a part of the recreation fund the counties are authorized to tax for. As far as I know Utah is the only State which has that provision.

Senator McGEE. I think our neighbor to the east may have something akin to that—Colorado.

Mr. NASH. We have been associated quite closely with Colorado. At the time we had ours, they didn't have theirs.

I have nothing further. I think Mr. LeBeau could perhaps point up a few of the questions that have come up as far as the technical operation is concerned.

I am willing to answer any questions further, if you desire.

Senator Moss. Thank you, Ray. We will have Mr. LeBeau go ahead. We may have questions and break in now and then.

Mr. LEBEAU. I am quite in agreement with previous testimony on the operation of the translator systems. However, I think that in some specific cases that the FCC could relax their rule on limitation of power. After making a study I believe in some localities that they could increase that power to the necessary figure to cover the area from one point, rather than installing enough small translators with 1-watt output that would undoubtedly interfere on either adjacent or cochannels, because the channels available there wouldn't be enough in some areas to cover the entire locality from one point with 1 watt. So that to install other translators in the same area the overlapping signals would certainly interfere.

I think that in some cases of that kind, in remote areas, they could possibly increase the power output of these translators to the point where they could cover this population from one location.

Mr. McGEE. In the case of the Uintah Basin, as an engineer it would be your judgment that an increase of power would not increase the interference?

Mr. LEBEAU. No, I don't think it would. It certainly wouldn't interfere with any primary signals from the primary stations.

Senator McGEE. How much of an increase do you think would be required?

Mr. LEBEAU. In some cases probably 2 to maybe 3 watts. I think this could be controlled. I don't think they should make a blanket increase in power.

Senator McGEE. I was just thinking of your case in Uintah Basin.

Mr. LEBEAU. I think to cover the area adequately it should be up to 2 or 3 watts power.

Senator Moss. That is the principal realm that you have in improving the regulations we have today, is having the FCC empowered to grant increase wattage in areas where they would determine that the interference would not exist?

Mr. LeBeau. That is what I was trying to put across.

Mr. Nash. Senator Moss, I might mention that the Blue Mountain station is perhaps 150 air miles from the transmitting facilities at Salt Lake City. It is right over on the Colorado line. We reflect back west. It is on a high plateau. We reflect back west into the valleys. That is why if we could pick it up west of us instead of having to go east, the problem would not be as great as it is.

Senator Moss. I think you said the signal was satisfactory, though.

Mr. Nash. Well, perhaps it is at least good to see, anyway.

Mr. LeBeau. At the present time, of course, I think we are no different than most locations. We are broadcasting on more than 1 watt of power. The problem is when they have to cut it down to 1 watt to obtain the license.

Senator McGee. Are you now up to three?

Mr. LeBeau. Yes, sir. That is the minimum we have now, 3 watts.

Senator Moss. So when you are required to cut back to one, in your opinion the signal will not be satisfactory?

Mr. LeBeau. That is correct.

Mr. Nash. Mr. McKee, why don't you give your impressions?

Senator Moss. Do you know of any interference that has arisen from using the 3 watts of power?

Mr. LeBeau. I don't know of any at all.

Senator McGee. Has the CATV group voiced any complaint on interference?

Mr. LeBeau. Never to us. We have never had any complaint from anyone.

The problem is, you have to install these systems where you can have available signal from your primary station. Sometimes this is located 40 miles from your densely populated areas. The more densely populated the area, the more interference you have and the more saturation you need of that certain area.

So when you cut your signal back to reduce the signal strength within a city, then your interference will override your signal more and more as it drops off. So from that standpoint, even though it is in line of sight, at a 40-mile distance with 1-watt power you will not have enough signal strength to override most of your signal interference—that is, ignition interference, power line interference. I don't mean other radio interference.

If it was possible to choose your location for your primary signal, you could get very close to your most densely populated area and broadcast out from there. I am sure 1 watt of power would do the job, because in your outlying areas you don't have the interference problem.

Senator Moss. Thank you, Mr. LeBeau.

Commissioner, do you have a word for us?

Mr. McKee. Gentlemen, I can say that we are very happy with this television we have. We are also happy with the cost of it. At the present time, or up to now, we have never used the full amount of our mill levy to keep this thing in operation.

I am impressed with the fact that we are helping our neighbors, too, with this television we have, this signal and reflector that we have.

It has been mentioned that we are helping Meeker, in Colorado. The boys in Rangely, Colo., have called me lately. They want to come into our system. They have expressed themselves as being very happy to help with the cost if we could let them in.

As I see this picture, it isn't only helping the people in the valley and Uintah but it is helping people outside of there.

We were looking this morning as we came along through Duchesne County, and I think at least half, although they have their own television system there, at least half of their antennas are picking up from our system.

Senator McGEE. Did you come all the way in from your country this morning?

Mr. McKEE. Yes, sir. We have to get up early in the morning.

Senator McGEE. This is commendable. This is the kind of dedicated interest which seems to have typified most of the television booster sessions that we have held, if I may make an observation.

Mr. McKEE. I am sure you will find the same interest in the whole of the people there. In fact we had to run a powerline for 7 miles up to this booster system, up the Blue Mountain, and a good part of that we done by volunteer work which they never expected to get any pay for.

Senator Moss. That is very commendable. Thank you very much, gentlemen, for coming and testifying today.

Mr. C. Richard Evans, engineer, is our next witness. Will you come forward, Dick, and testify.

In what capacity are you going to testify today?

STATEMENT OF C. RICHARD EVANS, CHAIRMAN OF THE COVERAGE COMMITTEE OF THE UTAH EDUCATIONAL TELEVISION FOUNDATION

Mr. EVANS. I am not sure. I just read in the papers this morning about this. I guess as chairman of the Coverage Committee of the Utah Educational Television Foundation, a nonprofit organization representing largely the educational interests of various schools.

Senator Moss. Very good. We are glad to have you.

Mr. EVANS. We get lonesome for the Commerce Committee, Senator McGee. We have spent many hours in the hearing rooms back there. The burden of our testimony is a sort of "lone wolf" because we were extremely sensitive to our population distribution, as contrasted to New Jersey and New England generally where the township signs are back to back, whereas here you can go through a town sometimes and not know it.

Senator McGEE. We regard this as a blessing out here, you understand.

Mr. EVANS. We like it, too.

I echo what Lyle Keys has said about some sort of correlation being necessary, either correlation or cooperation, if it is enforced, but somehow or other in order to get the maximum service to the most sparsely settled and most distant areas. I think some cooperative effort on the

part of commercial broadcasters and the educational broadcasting group, and the local cities, counties, school districts, is necessary where we run into problems. We already, I think, have probably generated a few problems which can be overcome I am sure by a shuffle.

My job right now is trying to "shoehorn" channel 7 in the various communities. This now is an assignment job. It would be a fine thing if, as soon as possible, the counties and the broadcast interests could get together to make maximum use of the ether for this purpose.

As a practical example of one of the problems that is facing us, there may be some upcoming Federal funds for educational television. There is another reason for some correlation, and that is to make sure that the Federal funds don't get dealt like a deck of cards.

Senator MCGEE. We have hearings slated for that on March 1 and 2 back there in the "shop" on this very point.

Mr. EVANS. I think that is part of the problem, too, because to specify now specifically a practical problem that relates to that and that relates to our present condition, and not criticizing the fact that somebody is using channel 7 fairly nearby in Salt Lake City already, these Federal funds could possibly permit use of that money for increasing the power of the educational television station to maximum permissible power to simplify the problem of the boosters around the State to get educational service as well as commercial. So something might have to be done about that channel 7.

This is just a simple illustration of a problem with the possible upcoming funds and our present condition and the need. I think the allocation problem is almost as severe now as it was for the Communications Commission when they declared the freeze on commercial a few years back. I think it needs attention and needs it quickly.

Another thing that will complicate it, and here the Federal Communications Commission has been very cooperative for us at the University of Utah. They have permitted the use of the UHF broadcast channel and waived the rules and let us put up two low-powered UHF broadcasting stations for the purpose of using what otherwise would have been idle ether for the circulation of programs on campus. Here is a great saving to education. With two of these you get the equivalent of coaxial cable from two points to every other point on the campus.

I am guessing the cost ratio may be at least 10 to 1 and maybe 100 to 1, and the quality of the picture with this system is beautiful.

Senator MCGEE. This will not be used as a substitute for professors, I trust. We are still trying to protect the fraternity, you understand.

Senator MOSS. You got out of it. You can stop worrying.

Mr. EVANS. Still another possible use which is involved here is civil defense, which we can start thinking about before that, even, here in the West, as well as the needs of our friends in the Uinta Basin—we have had several meetings with them.

There is a peculiar need in the Uinta Basin for either amending the rules or waiving the rules because here is a special case where increasing the power of the booster could be accommodated without interfering with anybody because you have the natural protection of the Rockies east of you and the Wasatch Mountains to the west of

you. If you use a nice, neat horizontal pattern with the antenna, you could protect that channel and still get service to the Uinta Basin with a little increase in power.

Senator McGEE. We will bring this up with Commissioner Lee of the FCC tomorrow. He is going to join us in Casper. This is a real case in point that I think requires careful consideration.

Mr. EVANS. It is one of those things which, from an engineering standpoint, is similar to what Mr. Keys mentioned in southern Idaho. A great deal of good could be done if somehow or other the rules could be reinterpreted or amended for special cases.

I am a repentant commercial broadcaster, having left it some time ago. I am very sensitive to their needs. The thing Mr. Keys touched on is important to this because in markets of this size—not an educational broadcaster—with a market of this size three television stations have to “beat the bushes” for the money these days. It is not an easy task.

An example of our population distribution and the things that educational television, commercial television can benefit, is our case of the medical profession where, in these rural areas our medical school for the region is the University of Utah. They try periodically to hold colleges of surgeons. These rural doctors are so busy that they literally don't have time to come to such colleges. Here is one little example of how this system could benefit those people.

In talking with a medical group it would be desirable for them—and I assume educational television in the future—to have some return circuit as well, in order to complete the best use of educational television. This doesn't need to be a full-boned thing but some sort of return circuit.

My plea would be much like that of Mr. Keys, and I don't know what to suggest. I am as sensitive about national committees or special groups as Senator McGee is. Perhaps on a cooperative basis, a local committee in cooperation with the FCC, a State authority, some sort of correlation certainly is necessary to solve the existing problems, and certainly the future problems of commercial and educational television.

Thank you Senator Moss and Senator McGee.

Senator Moss. Thank you very much, Mr. Evans.

Is Earl Wyatt here? And I see Robert Leatham also from Wellsville. Would you gentlemen like to come forward?

Is there anyone else from Wellsville here at this time? We have sort of been grouping you witnesses by location and we would like to have you sit together.

STATEMENT OF EARL WYATT, WELLSVILLE, UTAH

Mr. WYATT. We haven't had any difficulties on any interference in maintaining our station. We have been broadcasting it now in the principal cities of Logan, Wellsville, and Paradise. There are about 2,500 families that are using our signal. We have had contributions from approximately 500 of them. We are maintaining this.

Senator McGEE. Your figure of 2,500 was nameless?

Mr. WYATT. 2,500 families. There have been approximately 500 families that have given us donations from \$3 to \$6 to maintain this system.

Senator Moss. You just had voluntary contributions for your system

Mr. WYATT. Yes, sir. We are a nonprofit organization. We are benefiting about three-quarters of the families in Logan with our television reception. It is much better than what they can get out of Salt Lake. Yet, we have had only about 135 families contribute to our support on this financing. That is our only problem, trying to get money and funds to operate this station. We have the city of Hyrum, with about 500 families, where we ask \$500 a year from them, and we have only received about \$200 this year for the maintenance.

In the little town of Paradise we asked them for \$300 and we have received that money from them to help us in the financing of this. We have had many compliments on the quality of our picture that we have been translating throughout the valley. When we first started translating it, we had our antennas flat. When channel 7 came on the air there was a report or two up by the college that we were interfering some with their picture. So we turned our antennas vertical, and since then we have never had any complaint whatever on interference.

Our equipment is putting out 1 watt through the final amplifier. We have that split into two different translator antennas. One is going southeast, and the other northeast to cover the valley.

Senator Moss. Where is your translator located?

Mr. WYATT. It is located about 2 miles southwest of Wellsville, on a 6,000-foot peak. As far as any interference or any problems, we haven't had any. We are getting along fine. We have secured our license and complied with all the rules that we know of to this date.

Senator Moss. Do you feel that you can get along perfectly well with this voluntary nonprofit association and that you don't need to have the county get into this?

Mr. WYATT. I don't know. We should have more than what we are getting. It is going to run us short this year for modifying our equipment to come up with the rules and regulations of the FCC. We have asked the county to help us in this with 75 percent of a mill, and they won't do anything with it. We are on our own. We can't get help from the city governments or the county. That is the only way we have of collecting it.

We had one of our senators, Mr. Leatham, try to introduce a bill down here that we could tax the antennas, the ones who are using them, or make them take them down. But I guess that fell through.

Senator McGEE. How will you fill in that gap? You say the costs will be increased because of this changeover in requirements. Some of the areas are falling a little short, you said. What do you anticipate by way of relief on that?

Mr. WYATT. I don't know. We might have to ask for another contribution. That is about the only way we can get the money to do it with.

Senator McGEE. I noticed in the testimony a year or so ago that some of them were dragging their feet at that time. But the hope was expressed that once the boosters were licensed and thus dignified, that this might ease the task of soliciting freewill offerings. This apparently hasn't solved all of them.

Mr. WYATT. No, it hasn't. Most of the people that we have contacted that haven't paid said, "Well, everything that is in the air is

free, and if we can pick it up free out of the air, we are not going to pay for it." That is the attitude most of them have.

Senator Moss. With that situation prevailing I am a little surprised that the county commission would show no interest in making a county distribution which is spread uniformly, of course.

Mr. WYATT. We have contacted the county about it. We are just in the south end of the county. They figure that in order for them to help us they would have to tax the whole county and it wouldn't be justifiable to tax people in the north who weren't receiving our signal. And they won't segregate it into different portions so that they will give us that money.

They also told us that if they were going to do that they would be compelled to buy the equipment and run it themselves, and they weren't going to run any television translator. So that is definitely out with them.

Senator Moss. What do the people in the north end of the county do for a signal? Do they get any?

Mr. WYATT. They are farther out and it seems they get a better signal. There are parts in Franklin and the northwest part of the country that they can't get it, however, but we couldn't furnish it to them from our side anyway.

In the extreme south end of the valley they don't get any television, only through our translator.

Senator Moss. They are so close against the mountain?

Mr. WYATT. Yes, sir.

Senator Moss. Mr. Leatham, do you have something to tell us?

Mr. LEATHAM. Nothing much more. There is Logan, a city with 16,000 or 18,000 people, parts of that get a straggly signal that isn't nearly as sharp and good as the one we get from the translator.

Senator McGEE. Where do they get that signal?

Mr. LEATHAM. They get it from the stations here.

Senator McGEE. Direct?

Mr. LEATHAM. Yes, sir. Usually it is quite snowy and streaky. We have the translator up on the peak. We had to put it up there or we couldn't get anything at Wellsville. We were just out. Now they are using it and we are trying to squeeze a little money out of them. We are having a hard old time.

Senator McGEE. This is opposition within Logan itself?

Mr. LEATHAM. For instance, in the college—we have an agricultural college up there—they have 300 or 400 quonsets where young married couples move in and stay maybe 6 or 8 months while at school. They can't afford to put up a \$130 antenna and get a poor picture, so they buy a 6' or 10' element that picks up our signal and put it up. We are furnishing a lot of that kind of signal all over.

Senator Moss. And they are not willing to contribute to the cost?

Mr. LEATHAM. We can't get the money out of them. Most of them are willing all right. They said you boys had a lot of "guts" to put that thing on top of the mountain and you are to be complimented. But they won't dig into their pockets.

Senator Moss. Compliments don't pay the bill.

Mr. LEATHAM. They don't pay the bill. That is our only trouble.

Senator Moss. Technically, your system is working fine. Your problem is one of financing?

Mr. LEATHAM. Local financing; that is it. Of course we can probably cut it off from the other towns. Our little town is almost 100 percent loyal to us, and they pay for the whole thing. But we would like to get two or three nickels extra in the treasury.

Senator MOSS. What is your cost of operation?

Mr. WYATT. Last year it cost us about \$3,500 to operate. We are in an area where we have quite a few lightning storms, and every time we have one of them it does a lot of damage. We have quite a bit of repairs.

Senator MCGEE. Did I understand you to say that the city administration in Logan had been approached on this, and they had felt they couldn't go into it?

Mr. WYATT. Yes, sir.

Senator MCGEE. Of course, we understand the county's position. Have any civic groups undertaken this as a project?

Mr. WYATT. No, there hasn't been any civic group tried. We had some civic groups tell us, no, that they didn't see why the city couldn't give us the money, because they go to them and get \$500, \$600, or \$800 any time they want a donation, yet they won't give us any for this purpose.

Senator MCGEE. Might civic groups be persuaded to take this on as a project? It seems to be a necessary civic administration. It would seem that any public-spirited group would be willing to tackle something like this.

Senator MOSS. Thank you very much, gentlemen. We hope that you find a solution on that financing problem.

Mr. LEATHAM. We will get by some way.

Senator MOSS. We are glad to know the signal works well.

Mr. Gerald Norris, from Randolph, Rich County, Senator McGee's next door neighbor. We are glad to have you come to tell us how your system is working.

STATEMENT OF GERALD NORRIS, RANDOLPH, UTAH

Mr. NORRIS. Senator McGee, Senator Moss, in Rich County we have three translator stations. We have a large area and a small population. None of our communities can be served from the same translator site except Laketown and Garden City. That particular translator in the Bear Lake Valley serves Bear Lake County and Idaho, also.

Senator MCGEE. An increase in wattage wouldn't be a solution to your problem?

Mr. NORRIS. An increase in watts would help. It would help the one translator. Montpelier, Idaho, is some 35 miles from the translator site and we are using between 2 and 3 watts now to cover this area.

In southern Rich County, Randolph and Woodruff, located only 10 miles apart, are served by separate translators because of terrain. We have staggered our channels, cochannel, so that we have no interference problem between them. In one town we use channels 8, 10, and 12, and the next town 7, 9, and 11, and the next town 8, 10 and 12 again. We have no instances of interferences between our systems. We have no known reports of interference to anyone else. There is nobody operating close to us with VHF translators.

In the Bear Lake Valley we have five CATV systems which were community owned, which supported the translator, put their funds into it, and closed down to get a better signal. They were on—

Senator McGEE. All five of them?

Mr. NORRIS. All five of them. There is one CATV still operating in Montpelier. We are happy in our area to be able to have VHF translators as they offer low-cost means and our smallest town has less than 300 population and our largest town around 700 population. We also are faced with the problem of finances. Our county commissioners haven't seen fit to levy three-quarters of a mill. This isn't too great a problem. Our people generally cooperate with us. The Bear Lake Valley has more problems than anyone, and they have a larger population.

Senator Moss. Yours is on a voluntary-contribution basis for financing?

Mr. NORRIS. Yes, sir. All of our finances come direct from the people.

Senator McGEE. If I may suggest an observation, and that is, the financing problem seems to increase in direct proportion with the capability of an area to finance it; that is, the more people you have, the more difficult it is to finance.

Mr. NORRIS. I would say that the larger the community, and the less known and the farther separated, the more problem. In small communities public opinion plays a great part. If there is a "moocher," everybody is down on him. So we really don't have a hard problem in the small communities. We are very interested in an educational channel, channel 7. We are using channel 7 up there. However, if it is made available to our area with enough power from the mountains, we will be happy to use it if we can get the funds. And I think they would be made available if we could get a reproducible signal. Our signal is produced with as good quality generally as is received this side of the Wasatch front. Our translators are all located on high mountain peaks, the highest being 7,900 feet high.

There has been great expense to some of the installations in running powerline facilities. Powerline facilities in some cases are original installations. At least two of our systems are contemplating putting in complete new type of approved equipment rather than modifications, because of the problems involved in getting suitable modifications and receiving, et cetera.

Senator Moss. Other than the need and flexibility on this wattage, do you think it is working pretty well now, the regulations we have?

Mr. NORRIS. We are happy to be able to keep it. Of course, anyone is willing to go along as easily as he can. I would take an example of the need for increased wattage into Senator McGee's State in Uinta County, in the Bridger Valley. In the Bridger Valley from the Hicky Mountain site we have about 3 watts from that translator going now. We serve Mountainview, Lyman, and the Lone Tree area, Lyman is approximately 18 miles; no problem. Mountainview is no problem.

The signal is received at Little America, some 38 airline miles away, a good signal. At this point it is picked up again by the Green River TV Association, relayed to Green River, and used again at Green River.

Also, some 46 airline miles down at Flaming Gorge Dam we pick this signal up again and retransmit it into Dutch John and Manila. So an increased wattage allocation would be very flexible and good for us.

If these systems have to go down to 1 watt I am afraid they will be out of business. In a place like Manila and Dutch John, they will get no television reception whatsoever. I will put an exception to that. At Dutch John they were getting a fluctuating channel, only 26 microvolts, not capable of being reproduced in good quality.

Senator Moss. What does Evanston have?

Mr. NORRIS. They have a UHF translator. They are large enough to support UHF.

Senator Moss. Thank you very much. We appreciate your coming. Is someone here from Sevier County? It says Tex Olsen, or someone may be in—

Mr. COWLEY. May I report that Tex called in last evening and made his apologies to the committee for not being able to be present. He had a conflict with a court hearing. He wanted me to report to the committee that they are having a very good experience with their system in Sevier County. They are financing the system there by the use of recreational tax. They do not have any problems which he wanted to call to the committee's attention except the problem of wattage, and he thinks that they cannot operate successfully with 1-watt limitation.

Senator Moss. Thank you for that report from Sevier County.

Mr. Godfreson, from Ely, Nev.?

STATEMENT OF WAYNE SCOTT, ELY, NEV., ACCOMPANIED BY DALE BRADLEY

Mr. SCOTT. Gentlemen, I am Wayne Scott. This is Mr. Dale Bradley. Mr. Godreson was unable to accept. I am a member of the board. Mr. Bradley is our technician.

In the interest of expediency I will turn it over to our technician, Mr. Bradley.

Senator Moss. We are glad to have you both.

Mr. BRADLEY. We are in our fourth year of operation in White Pine County in Nevada. We operate six UHF translators. At the present time we have six VHF translators, with the possibility of three more VHF translators being installed as soon as licensing comes through.

We have no problems as far as interference. It is working out beautifully. The signal is of exceptional quality. Our system is unique in the fact that this is based primarily on UHF transmission. Our VHF boosters operate from the UHF translators to fill the shadow areas that the UHF will not cover. There are two or three items that I would like to mention. One is the possibility of the FCC extending the license period of the translators to alleviate the requirement of refiling each year. When we get into operation we will have a total of 15 license applications to process each year, and I am sure that the other operators will be in the same situation. It provides an extra workload not alone on the operators but also on the FCC.

We feel that it would be prudent for the FCC to extend the license period to a period of 5 years. Another is the power output of the

VHF translators. We would like to see the FCC make available an increase in power to certain areas that can show cause for the requirement.

Senator McGEE. How much power?

Mr. BRADLEY. The recommendation would be a maximum of 5 watts.

Senator McGEE. Presently they have one.

Mr. BRADLEY. We are operating 1 watt. Some have a third watt, where our area is confined.

Senator McGEE. As an operator you are not mindful of any interference with an increase of 5 watts?

Mr. BRADLEY. None whatsoever. In the particular area that we operate in, in the West, where we have long distances, scattered population, we figure that the 1 watt power will not be adequate.

Senator McGEE. Let me ask, merely for the record, so that it shows the full story: Why not 3 watts? Others have suggested three here.

Mr. BRADLEY. The difference between 1 watt and 3 watts, in my estimation, in coverage will not be noticeable. I figure 5 watts, where you have a path of 40 miles or more to go, that 5 watts would be the minimum to get by with a good grade signal.

Another problem is station identification. Where one operator has relays of four or five units relaying from one to the other, the present regulations say that each translator shall have its own station identification. Our recommendation would be that the parent station or the main pickup point would be required for the station identification, which would be repeated through all of the relays, and that the FCC would waive the requirement of identification on the subsequent relay stations.

Senator McGEE. The relay stations in your recommendation would have no identification except as they were tied to the parent?

Mr. BRADLEY. That is right. The reason for that is to conform with FCC regulations; each half hour there should be an identification. And so that one identifier on one translator station does not interfere with the identification on the other translator, you have to stagger the time. When you get four or five repeats you have identification through that last repeat quite prominent throughout the half hour period which, in our opinion, detracts from the quality of the signal.

One more point is the problem of remote control, where we have remote control of the parent station, if it would not be possible to let that suffice for the repeat stations inasmuch as when you deenergize the parent stations all the other stations are off the air. There might be something I am overlooking there, but it is something we would like to bring out.

That is the only thing that I have. Possibly Mr. Scott here could give a little history on our operations as to how we finance. It might be of interest to some of the operators here.

Senator Moss. Yes; we would like to hear that, Mr. Scott.

Mr. SCOTT. Thank you. The system started with a contribution solicited by various members of organizations that banded together in our community and put in \$50 apiece. We garnered enough money this way to install and operate for 1 year, which was the FCC requirement at that time. During this time we instigated legislation to carry it with tax money assessed through the individual—

Senator McGEE. State or county? State legislation?

Mr. SCOTT. State legislation, optional by the county.

The moneys are collected by the county assessor as it is assessed on the basis of a board, a five-member board. We service three small communities: the central community, Ely; to the west, Ruth, Nev., about 9 miles; to the northeast, McGill, Nev., about 11 miles. We have a total assessment on slightly in excess of 2,000 television sets or families, which is about just as little in excess of 90 percent of the meters that the power company has out in that area.

Our first year assessment was \$19. Our second year we cut it to \$15. And this present year it is \$10. We have adequately insured our installations against fire and other damage. Our parent installation is at an altitude of 10,600 feet on a mountain named Cave Mountain, from which we receive directly from Salt Lake. As you realize, access to that in the winter months is somewhat of a problem. We started out with an army surplus Weasel for which we paid \$500. The second year we bought a Tucker Snocat at a cost of \$9,000. This year we bought a \$4,500 unit to replace the Weasel. The reason for these two units, the Tucker Snocat is only good in deep snow. Its construction doesn't allow it to go over rocky or muddy terrain which we have during part of the year. As a part of interest, we loaned it to the National Guard, having never used it, and they turned it over.

Senator MCGEE. May I add, the only improvement that I have heard of on that method arose on one of our systems, which we have had testimony about, where a distinguished lady runs the system. She assigns her husband the task of living out there at the top of the mountain every winter. That is her contribution. And she figures it comes a little cheaper that way.

Mr. SCOTT. No question of compatibility. We feel that we have done our community a definite service. When I say "we," it is practically the whole community that has done it. It can't be pointed to any few, because it isn't a large community project.

Gentlemen, that is all that I have.

Senator MOSS. This board meets and decides what the assessment will be on a per set basis? Is that the way the money is raised?

Mr. SCOTT. Yes, sir. We meet monthly to pay the bills, of course. There is no pay for the board. Our technician, Mr. Bradley, and the serviceman, are on salary.

Senator MOSS. Just two salaried people?

Mr. SCOTT. Just two salaried people.

Mr. BRADLEY. I would like to make one little comment on the structure of our finances. They are set up under a tax district. The enabling legislation in the State of Nevada gave the counties authority to set up a television district similar in organization to a county setting up a fire department or water district, things of that nature. This is set up as a special tax district covering a certain area of the county, giving the county assessor authority to levy property tax against the television set, which is collectible by law and therefore no financial problem.

Mr. SCOTT. The board is appointed by the county commissioners on a 3-year basis.

Senator MOSS. And serves without pay?

Mr. SCOTT. Serves without pay.

Senator Moss. Thank you very much, gentlemen. We appreciate your coming in.

Mr. SCOTT. Thank you for the opportunity.

Senator Moss. Mr. Koch, we will be glad to hear from you.

STATEMENT OF O. C. KOCH, MILFORD, UTAH

Mr. KOCH. I am a director of our Milford Area TV Association.

While our community is a small community, of course we want to feel that we are a part of the American way of life. We want to progress with anything that is beneficial to our community. On a previous meeting that I had here I gave the views of our coverage and the number of people we have.

That has increased since our last meeting here. We have 367 TV sets in our community.

Senator MCGEE. What was the earlier figure?

Mr. KOCH. The figure was based on families. Of course, I have taken the number of people in the families, which is about 750, our coverage at that time. Now we have in the neighborhood of approximately 1,600 people that are viewing TV.

Senator MCGEE. In other words, you have doubled the figure in that interval of time?

Mr. KOCH. Yes, we have.

As far as our signals are concerned, we receive all three channels direct from Salt Lake City, and we boost them out on the same channel. We are getting a very good picture on all three channels.

Of course, we can improve when we come to the point of converting. I know that is going to improve our channels because our present equipment, of course, is deteriorating and we don't want to spend any more money on the old equipment. We want to buy new equipment to meet the FCC requirements.

As far as output is concerned, I figure that the 1 watt in our particular area will be sufficient power. I do not feel that in our area, probably an increase of wattage will be necessary because of this particular.

I cannot speak of other communities because that is their own problem. Whatever is required I feel they should have a little leeway to meet the requirements, as long as they don't interfere with other signals or other communities.

With regard to fees, that is another thing. We, of course, are operating on contributions by our people.

We are like the rest of these small areas: we have well-wishers but not too many. I think we are going to be able to meet our requirements.

Senator MCGEE. The contribution is not uniform. It is whatever they feel like giving?

Mr. KOCH. We have what we call a voluntary contribution of \$1 a month. Of course, as I said, we have these well-wishers who begin to realize, since we have come out with this statement, that we are going to have to meet the requirements of the FCC, and unless we get the money we are not going to be able to do that and we will go off the air. And it has increased our contributions so we are gradually picking up in that respect.

Senator McGEE. This may be a device that may be useful elsewhere, to just close down the store for a little while.

Mr. KOCH. That is what will happen if we don't meet the FCC requirements.

We have been getting along very well in what we have had to do so far except one form, number 347. While it has been sent in, it has never been returned to us.

Our technician expects to attend this meeting that will be held here the 3rd of March. At that time we expect to purchase whatever equipment will pass FCC requirements and be able then to continue with our conversion.

I know there are many communities where the situation is different than ours. We have a valley on the west side of the Mineral Mountains that covers an area approximately 6 miles wide and probably a little over 20 miles in length. As far as we know, we are not giving any interference. If there is any interference we will be happy to correct it if we know what it is and where it is coming from.

There is another point that has been brought up, and that is in regard to the increase of the channels that Mr. Keys mentioned. There is no question but what that will eliminate probably a lot of the smaller stations and of course will increase the coverage. Those things all tend to help TV, because it reaches out and covers a larger area and it makes it possible to do it at less expense.

There are communities that, of course, do have a lot more receivers and equipment than we do, and they have different problems than these small areas.

Before I leave I would like, on behalf of the Milford TV Association, to thank the Senators for the interest they have taken in this matter of TV boosters, and especially for these sparsely settled areas. Of course, as far as coverage is concerned, we are covering our area and it has been done through our VHF boosters.

Senator McGEE. Without the booster you would have no other coverage out there?

Mr. KOCH. We did have at one time a cable system, which of course did cover our Milford area just in town. But there are a lot of our prospective users who were not able to get that because of the cost. And those in the outlying areas, like South Milford, of course it was impossible for the cable system to reach out and cover that.

Since we have established our booster—that is before the cable went out—we have a better picture and at a lot less cost. That is why our VHF booster system has increased to practically, I might say, almost 100 percent.

We do have possibly about seven or eight families or homes that are not covered by TV. But that is for the reason that the family lives in those homes with their daughters and sons, and of course they are not home all the time. Again we have a sort of a transient area there where people are out during the fall harvest and then they leave, and then these homes are vacant during the winter months. As far as our living population is concerned I think we have pretty close to 100 percent coverage.

Senator McGEE. I have experienced evenings of "The Untouchables" and "Surfside Six," and I wish I could move into one of those homes.

Mr. KOCH. We will be glad to have you. We always have room for expansion.

I thank you.

Senator MOSS. Thank you, Mr. Koch. We appreciate your coming. I see Commissioner Bruhn is here. Are you going to testify for us?

**STATEMENT OF WILLIAM BRUHN, FORMER COUNTY
COMMISSIONER, GARFIELD COUNTY, UTAH**

Mr. BRUHN. Senator McGee and Senator Moss, I want to express first of all the thanks of our people for your interest in the matter of community television. Without this effort we wouldn't have the assurance that we could continue to give this blessing to the people of the rural part of the State, and the assurance that we can go ahead and have a good basis for continuing the service.

I am sorry to report that in my county we still have second-class citizens as far as television is concerned. Some 800 or 900 people who reside in Bryce Valley are still without this medium and feel the need very sorely for it. There are a number of problems to be solved yet.

I called the local Lion's Club before coming here and asked them what problems I might bring to this committee, and they said, "Solve the problem of finances." That seems to be rampant here today; everyone has the same problem.

In my particular community we offer it on a system that is financed on gratuity basis. Each of us contributes some \$2 a month. It is collected by the city just on an agreement basis when we pay our water taxes. When we pay our water bill, we pay \$2 also for television.

Senator MCGEE. They don't shut off the water if they don't pay the \$2?

Mr. BRUHN. I wish we could do that, but it has never been achieved yet. Financing is the problem.

The law that was passed in the 1957 legislature does not cure our ills in Garfield County for a number of reasons, one of the reasons being that the limits were set so low and our valuation being so low in the county that there is not sufficient money to do the job for the entire county.

Another problem being the problem of the valuation in the county being greater by twice over on one side of the county than on the other. The area that has the greater valuation is receiving television at the present time, and they are a little reluctant to want to put that system in a countywide system.

Senator MCGEE. The system on that side of the county is what?

Mr. BRUHN. That is the one that is operated by the local Lion's Club, Senator.

I am not a television engineer and I have been very interested in the testimony here on the output signal. I would think this is of major importance to our area. I would like to give you an example of how important this is.

The signal that we receive is picked up at Beaver, Utah. It is boosted from Beaver. We pick it up and we kick it again. From there the signal is again picked up at Escalante, Utah, and is used there. The signal is also rebroadcast from the area of Hatch. The

signal from Beaver is also utilized in Iron County. That is what Mr. Keys has reference to when he talks about a "mother station".

It is important that this particular station feed so very much of the area of southern Utah that I would think a good strong signal would be most important in this particular area.

Senator MCGEE. There are no other communications media that would suggest the possibility of conflict?

Mr. BRUHN. There are no other media whatever. This entire area would be completely without television coverage if it were not for these booster stations. There are no cable systems, no community antenna, or anything. This entire area is dependent solely on the boosters.

Mr. Keys raised a question that I was asked, and I would pass it on as a question. He poses the possibility that in southern Idaho, for \$50,000 for each of these major stations in Salt Lake City they could cover all of southern Idaho. The question has been posed to me as to why this same thing could not be done for coverage for the entire State of Utah, where a television station receives a license to operate, the privilege of broadcasting, if there wouldn't be certain obligations that go with this license in seeing that the signal goes out over the entire State or an entire area as the case may be. That is something. I think the committee should study into and reflect on.

I think a number of the problems that we have been faced with in community systems might have been avoided along these lines.

I agree with Mr. Keys that as outputs are raised up to the full maximum allowed now, and as signals are changed to comply, there may be areas of conflict, a number of areas of conflict, even in these wide-open spaces, and it is something that I think the television stations themselves have an obligation to help solve. Certainly from an economic standpoint they are the ones which are going to gain from enlarging this audience. There is no question in my mind on that.

Senator MCGEE. That raises a question which I assume the Commission regards as a very tough one. The primary purpose of the Commission, and the primary concern of the committee, is to keep local live television in business. It is a question of to whom are you going to assign a monopoly market with an obligation on the station, get a signal out as far as one can and to remote areas. Again, if you multiply it by the many possibilities in other areas, it raises very serious questions.

Mr. BRUHN. Of course the assignment has been made when the license has been granted, hasn't it, Senator?

Senator MCGEE. I am not sure that it has. The granting of a license puts them in business in the local community but I am not sure that it extends the license to take over an area. In some cases where it is the only clear channel, it raises some rather delicate questions. It isn't quite as simple as telling them to go ahead and put it out.

Mr. BRUHN. I appreciate that. The question was not raised in the previous hearing here, and it is one that I think should be aired, and that is the only reason I bring it to your attention.

One station in Utah has been most helpful to the communities. They have been outstanding in efforts to help the smaller communities in solving this problem. They have testified here today.

I think I have nothing else to add to the testimony that has been given. We are most appreciative. We think that probably one of the finest things that has been done in the recent sessions of Congress has been the interest that you gentlemen have demonstrated in solving this problem for us, and we certainly are most appreciative of that.

Senator McGEE. One of the important barriers to resolving this problem is the mere question of education. It is amazing how members in the flatlands had no concept of such a problem existing at all. They couldn't understand the hullabaloo about the booster TV question. I think once that barrier was broken down, it was then possible to move a little faster.

Mr. BRUHN. It is a fine effort and we appreciate it.

Senator Moss. Thank you very much, Bill, for coming.

Are there others here now who would like to be heard? I have come to the end of the list that I have on this sheet of paper. Anyone who would like to be heard on this problem is welcome. If there is anyone I have overlooked, I wish you would stand up and come forward.

Mr. SCOTT. I have a question. Will a copy of the record of this hearing be available?

Senator Moss. Yes, it will be available. Being a witness, you will automatically get a copy.

Mr. KOSEC. Would you want some additional information?

Senator McGEE. If anybody has any second thoughts on this that he forgot to mention, or didn't know when he was here, but discovers after he goes home, if you will send it in to the Committee on Interstate and Foreign Commerce of the U.S. Senate, we will make it a part of the record.

STATEMENT OF RAY CROSHA, CHAIRMAN, TV CORP., CLIFTON, IDAHO

Mr. CROSHA. I note that there are others here of clubs who have not bought their equipment yet to comply with the new rules set up. We are in that same box and we have reasons for not doing it. It looks like we are going to be able to enlarge the number of families that are going to come in. We wondered, in not doing it, and meeting the deadline that was set, just how serious a condition that would be, of meeting the deadline for a license.

Senator McGEE. As long as you ultimately meet the requirements, it won't be a serious condition, counsel for the committee advises me.

Senator Moss. Thank you. Do you have any comments at this point?

Mr. ZAPPLE. No, sir.

Senator Moss. I will turn this back to the chairman.

Senator McGEE. If there are no further comments or questions, on behalf of the committee I want to thank Senator Moss for helping to attract the kind of testimony that we had here this morning. I assure you it will be most helpful as we try to make this as effective and efficient and fair an operation as possible.

We are indebted to all of you. Some of you traveled great distances in order to be here and I am sure that, as is the usual case with the TV booster questions, at your own expense.

This has become a hallmark of the whole operations, even some of you who came to Washington to attend our hearings. We thank you for your cooperation and for what you have contributed to us.

The committee will stand in recess until tomorrow at 9 o'clock in Casper, Wyo.

Thank you very much.

(Thereupon, at 11:45 a.m., the hearing was adjourned, to reconvene at 9 a.m., Wednesday, February 22, 1961, in Casper, Wyo.)

DEVELOPMENT OF TV BOOSTERS

WEDNESDAY, FEBRUARY 22, 1961

U.S. SENATE,
COMMITTEE ON INTERSTATE AND FOREIGN COMMERCE,
SUBCOMMITTEE ON COMMUNICATIONS,
Washington, D.C.

The subcommittee was called to order, pursuant to notice, at 9 a.m., at Casper, Wyo., the Honorable Gale W. McGee presiding.

Senator McGEE. We are indeed delighted to welcome this distinguished gathering for another look at one of the rather troublesome problems in communications that we have had to contend with, particularly out in the mountainous West. I want to particularly welcome Commissioner Lee, of the FCC, to these hearings. It is very difficult for the Commissioner to get away, particularly at times like this. Mr. Commissioner, now that this has been achieved above and beyond the call of duty, and in the face of difficulties of travel, it is all the more to your credit, and believe me the people of Wyoming deeply appreciate your willingness to be here to hear some of the problems that we have still remaining in this question of booster TV.

Likewise, I want to welcome to Wyoming my distinguished colleague in the Senate, Senator Frank Moss, from Utah. Senator Moss' bill, S. 1886, carried the brunt of the burden in setting up the antenna system on the TV relays into the mountain valleys, the TV boosters that have made possible the bringing of TV into these remote areas of the West.

Senator Moss, on behalf of the people of Wyoming, and those assembled here in particular, we again express our gratitude to you for what you did in striking a major blow in behalf of TV listening in the mountains. You have converted from second class to first class the TV citizenry of many thousands of our people in this region.

On the way out here on this particular trip, I cheated a little bit by tearing a page out of the current Reader's Digest that someone loaned me to read. In this Reader's Digest is a section entitled "Life in These United States." These are designed to be little gems that are unusual and out of the ordinary, and to capture human interest. I want to refer to one because it bears on why we are assembled here. It says, and I quote:

On a winter night last year, while traveling through the remote mountain region of western New Mexico, I was surprised to see a group of people gathered around a fire at the crest of a hill beside the highway. I stopped to investigate and found that they were watching television.

They explained that this region is beyond the usual television broadcast range, but that by accident a freak signal coming from Tucson, Ariz., 300 miles away, had been discovered. The only place where it was strong enough for a sharp picture was on top of this hill. These people had hauled up a set and a portable gasoline generator, and were enjoying themselves immensely.

This little germ of humanity can be multiplied many dozens of times over to describe the problem that we in the western mountains have had for a considerable period of time.

A part of the task in opening up the question of extending television service was that of educating large sections of the United States to the perils of geography in receiving a television signal. So we are assembled here today, just a little over a year since hearings were held in Casper in December 1959, to inquire into the operations of the legislation that the Congress has since adopted, legislation initiated by Senator Moss.

Hearings were held a year ago in five States, the mountain States of the West, and the consequence was the discovery of the magnitude and the overlapping of the problems of television reception in this region. We had a lot of cloak and dagger stories along with it. It was almost as exciting, in fact in some cases more exciting as they did not gild the lily as we do on some of the TV westerns, in commercials at least, in the kind of competition that went on.

I remember myself visiting one of the booster stations above the town of Thermopolis, in Wyoming, where I saw with my own eyes the scene of the shooting of some of the connections by a high-powered rifle, the breaking of a lock on a gate that was designed to protect an area where a signal was being beamed down into the valley that is the beautiful setting of Thermopolis.

We had cases where individuals were spying through the windows of other individuals in Sheridan, Wyo. We had questions of jamming in Riverton. It was real "cloak and dagger" and the best scriptwriters on Madison Avenue could not have done better themselves. The thing was, like the question of the booster installation from the beginning, all spontaneous, it was all unrehearsed, it was all the initiative of individuals on the local level and made a remarkable story.

Out of all this has come a sense of order, and the sense of order was the consequence of the legislation that the Congress enacted last summer.

In July of 1960 the Congress legalized and set up a procedure for listing all TV booster stations. Now we are here to inquire into the working of this law.

The Congress at the same time sought to address itself to an area where there was an overlap of interest, and in some cases, a conflict of interest, between the community antenna television system, in some instances, and the booster question. Such a proposal in the Congress in those days was referred back to the committee for special reconsideration.

In the meantime, the FCC has come up with a proposal for a bill in this session of the Congress. I refer to the bill only in passing because it was just put in our hands as we left Washington on Monday morning. The burden of the bill by the FCC would be to bring the community antenna systems under their jurisdiction, but not under license. The purpose of this, according to the Commission, would be to try to isolate the cases where there is a definite conflict of operation between the CATV's and the booster operations. But to exclude from their concern the very large areas of CATV operation where there is no competition or no conflict of operation.

Since this bill is accompanied by a statement of the Commission on its background and their feeling on it, I will put it in the record at this particular point.

(The bill and statement follow :)

A BILL To amend the Communications Act of 1934 to authorize the Federal Communications Commission to issue rules and regulations with respect to community antenna television systems

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That section 3 of the Communications Act of 1934 (47 U.S.C. 153) is amended by amending subsection (h) thereof and by adding a new subsection (hh), as follows:

SEC. 3. DEFINITIONS.—For the purposes of this Act, unless the context otherwise requires—

* * * * *

(h) "Common carrier" or "carrier" means any person engaged as a common carrier for hire, in interstate or foreign communication by wire or radio or in interstate or foreign radio transmission of energy, except where reference is made to common carriers not subject to this Act; but a person engaged in radio broadcasting or in operating a community antenna television system shall not, insofar as such person is so engaged, be deemed a common carrier.

(hh) "Community antenna television system" means any wire or cable facility performing the service of receiving and amplifying the signals transmitting programs broadcast by one or more television stations and redistributing such programs to subscribing members of the public, but such terms shall not include (1) any such facility which serves fewer than fifty subscribers, (2) any such facility which serves only the residents of one or more apartment dwellings under common ownership, control, or management, and commercial establishments located on the premises, or (3) any such facility used only for the distribution, by wire, of programs for which a charge is imposed generally on all subscribers wherever located, and which are not in the first instance broadcast for reception without charge by all members of the public within the direct range of television broadcast stations.

SEC. 2. Section 303 of the Communications Act of 1934 (47 U.S.C. 303) is amended by adding at the end thereof a new subsection (s) as follows:

SEC. 303. GENERAL POWERS OF THE COMMISSION.—Except as otherwise provided in this Act, the Commission from time to time, as public convenience, interest, or necessity requires shall—

(s) Have authority to issue such orders, rules, and regulations and prescribe such restrictions and conditions and in connection therewith, to hold such hearings as, in its discretion, may be deemed appropriate with respect to the operation of community antenna television systems, either generally or in individual instances, as may be necessary or desirable to the maintenance of broadcast stations providing locally-originated television program service in the area served by a community antenna television system, with due regard to the public interest in the provision of multiple television program services: Provided, that nothing contained herein or in Section 3(hh) hereof shall be deemed to limit the authority of the Commission to regulate any wire or cable facilities as devices which can or do cause harmful interference to interstate or foreign radio communications.

EXPLANATION OF PROPOSED AMENDMENTS TO SECTIONS 3 AND 303 OF THE COMMUNICATIONS ACT OF 1934, AS AMENDED

The advent of community antenna television systems in recent years, together with their increasing use of microwave radio facilities, has not only provided multiple television services to many areas which were previously without any service, but also has created certain problem situations insofar as local television broadcast stations are concerned. A community antenna television system either directly or through a microwave facility intercepts television programs which have been broadcast to the general public and carries them through cables or wires to individual subscribing members of the public who pay a charge for this service. While, originally, such systems directly

intercepted programs of not-too-distant stations, more recently microwave radio facilities have been utilized to obtain programs which have been broadcast by stations far removed from the site of the community antenna television system. Although these systems may be generally considered in the category of repeater television services, they do not engage directly in radio transmission of electric energy by radio, as do translator stations, and hence are not within the licensing jurisdiction of the Commission under section 501 of the Communications Act.

The Commission's early examination of television repeater services, including community antenna television systems, is reflected in its report and order in docket No. 12443, which was adopted on April 13, 1959. In that document the Commission recognized that some adjustment of the unfair competitive situation of local television stations as against community antenna television systems, would be in the public interest. In an attempt to reach this end, the Commission recommended certain measures to the 86th Congress which were embodied in H.R. 6748 and S. 1801. In examining into this matter the Congress considered numerous legislative proposals and held hearings thereon. Two of these proposals, S. 2653 and H.R. 11041, would have established a broad-scale and mandatory licensing scheme for the some 500-700 community antenna television systems which are already in existence, as well as those proposed to be established in the future. While the Commission was in accord with the general objective of these bills, it expressed the view that they were unnecessarily comprehensive in scope; would reach into situations which did not affect local television stations; and would unnecessarily add to the already large licensing functions of the Commission.

In contrast to the unduly widespread scope of these bills, the instant proposal is designed to vest in the Commission authority to act in those situations where local television stations are operating under inequitable disadvantages in competition with community antenna television systems. The Commission would thereby be enabled to address itself to the problem situations in the CATV-local station areas under a general power to make appropriate adjustments through the issuance of appropriation rules, regulations, and orders. The Commission would not, however, be encumbered by the administration of a mandatory licensing scheme for community antenna television systems, including the large number of such systems which are providing the only television service to sparsely settled areas.

This proposal would define community antenna television systems in a new subsection 3(hh) of the Communications Act in substantially the same manner as the Commission's previous legislative proposal and as was included in S. 2653, H.R. 11041, and in other related bills which were considered by the 86th Congress. This definition would exclude community antenna television systems which served less than 50 subscribers or which consisted primarily of a master antenna system for the residents of a single or a group of related apartment houses. The definition would also expressly exclude community antenna television systems which carry only subscription television or other closed circuit programs. The proposal would also amend section 3(h) of the Communications Act so as to make clear that jurisdiction over community antenna television systems is not to include regulation as a common carrier. This limitation was also included in S. 2653 and H.R. 11041 of the 86th Congress.

Another new subsection, 303(s), would empower the Commission to issue orders, rules and regulations with respect to community antenna television system operations in situations where an area is served by both the CATV system and a local television broadcast station. It should be noted that despite the numerous CATV systems throughout the country, the problems that have arisen concern the comparatively few areas where a CATV system competes with a local station. Although authorizing the Commission to impose restrictions on CATV operation so as to promote a more equitable balance with a local station, the Commission would be required to give due consideration to the public interest in the multiple television services provided by the CATV and therefore its jurisdiction is keyed to the making of reasonable adjustments in the competitive situation rather than to the elimination of CATV systems.

For example, in an appropriate situation the Commission might require the CATV system to carry the program of the local station as part of its regular service and to assure that reception of the local program by CATV subscribers is reasonably comparable in technical quality to the programs provided by the CATV from other sources. Such requirements have been strongly urged by broadcasters whose ability to provide a local television service is said to be ad-

versely affected by the CATV operations. Apart from the fact that CATV systems are able to bring in multiple services which are beyond the capacity of the local station, it appears that direct reception of local stations by CATV subscribers is made more difficult in the usual case by the necessity of an additional switching operation to receive local broadcast signals.

Another instance of the way in which the Commission's jurisdiction might be exercised in appropriate situations lies in the field of duplication by CATV systems of programs being carried by the local station. The Commission would be empowered under the proposed legislation to order such adjustments as would, on an appropriate basis, permit the CATV system to continue to provide multiple television services and at the same time afford to the local station some protection in its program offerings.

Since this legislative proposal looks to a limited jurisdiction over CATV's under the Communications Act of 1934 as amended, the enforcement and review provisions in section 312(b) and titles 4 and 5 of the act would be available in connection with rules, regulations, and orders issued by the Commission with respect to CATV operations.

Adopted January 4, 1961.

Senator McGEE. I might ask the Commissioner if he would like to say anything about it as we pass.

STATEMENT OF COMMISSIONER ROBERT E. LEE, FEDERAL COMMUNICATIONS COMMISSION

Mr. LEE. The only thing I can say, Senator, is that we have spent a great deal of time on this problem, and particularly in the consideration of whether or not we could support that bill.

We decided that this would probably be the most reasonable approach in view of the fact a good many of these conflicts have been solved and are being solved by the individuals involved themselves. We are happy to see that. We don't think we should interfere where the people can appropriately get together.

This bill is designed to give us the authority to move into a specific area where no other solution seems apparent. I might say that as I recall it, this bill has the unanimous support of the seven Commissioners.

Senator McGEE. Thank you very much, Mr. Commissioner.

Senator Moss, we are here to weigh some of the consequences and evaluate some of wrinkles in the carrying out of the bill that you initiated. Do you have any observations that you could share with us at this moment?

Senator Moss. I am very pleased to be here, Senator McGee.

Senator McGee sat in Salt Lake City yesterday, where we had a hearing similar to this, and heard of the problems the people in Utah and some in Nevada have with the workings of the so-called booster bill. In general, our people are very happy with the operation so far. With a few minor suggestions, they were glad to be able to get television into our remote regions.

I am also glad to note that the Federal Communications Commission has now submitted a suggested bill covering CATV's. I haven't had time to read the bill and consequently make no comment on it at this time. But I point out that originally the legislation which was introduced would have covered both boosters and CATV's in an attempt to give jurisdiction to the Commission to solve these conflicts that cannot be solved locally.

For various reasons the community antennas were eliminated from the legislation that was adopted, and to this time they have not been regulated in any way, have apparently not been subject to the jurisdiction of the Federal Communications Commission. I firmly believe that the community antennas must be subject to jurisdiction just as much as the boosters in order to have order in working out the problems, and to get away from overlaps, conflicts, and other difficulties which arise in this communications field.

I will read this bill carefully, and I hope that it will solve some of the few problems of conflict that are left. As Senator McGee pointed out—or Commissioner Lee pointed out—many of these conflicts have been resolved on the local level, as they properly should be, but some do remain and I think will have to be determined ultimately by the Federal Communications Commission.

I look forward to hearing the testimony today and to seeing how the system is working here in Wyoming. Senator McGee has taken the lead in this field with the Senate Commerce Committee. I am grateful to him for inviting me to sit with the committee. I do not happen to be a member of the Commerce Committee, but I am, of course, vitally concerned with this particular problem and, therefore, have joined the committee on these hearings. I am glad to be here and I will listen with great interest.

Senator MCGEE. Thank you very much, Senator Moss.

How much Senator Moss is interested is reflected not only in his own legislation that pioneered this question, but in the simple fact that in Utah there are 133 booster installations. Utah, the State of Washington, Colorado, Montana, and Wyoming constitute among them the overwhelming majority of the TV booster systems in the United States. The sum total of 20 States have nearly a thousand such installations at the present time, but the concentration is in the 5 Mountain States just alluded to.

We are here to try to find suggestions to the questions of how the legislation has been working. Has it imposed hardships? Have there been rulings that are difficult to comply with? Are there constructive suggestions for simplifying the procedures? These are the kinds of things that we are seeking at this particular moment.

With that we will turn to the opening witness, after I make a short acknowledgment on behalf of the chairman of the Senate Communications Subcommittee, Senator John O. Pastore. Senator Pastore had originally intended to be here today. The break of some things in Washington involving New England required that he cancel out at the last minute.

Senator Pastore is from a State that has no basic interest in the booster question. I say with all due respect to my colleagues here that Senator Pastore in far away Rhode Island is probably the most knowledgeable man on this whole question. He has become a dedicated crusader to this particular issue and the resolving of the conflicts of various sorts that have arisen within it. He believes firmly that the more television that we can get to the most people is the legitimate goal and purpose of this committee, and he agrees in that respect with the purposes of the FCC itself.

So with that we turn to the first witness this morning, Mr. Robert Bailey, of the Farmers TV in Worland, Wyo.

Mr. Bailey.

STATEMENT OF ROBERT BAILEY, FARMERS TV ASSOCIATION,
WORLAND, WYO.

Mr. BAILEY. Good morning. We are here before this body as a violator, we find. In the summer of 1959 the Farmers TV Association started its original drive and advertised in the paper that deposits would be accepted at appliance dealers in Worland.

The county attorney took upon himself to call up those appliance dealers and told them that we were an illegitimate organization and that if the appliance dealers accepted any deposits from the general public they might be in violation of something that might get them in trouble.

This was the first indication that we had organized resistance to our booster, and it just so happens that the county attorney is the legal counselor for the cable system in Worland. We had more evidence of that this fall when the FAA sent a man up from Denver to check into a violation around the airport, the new site of our booster.

Senator McGEE. This would be a conflict of their signal at the airport?

Mr. BAILEY. No, sir. It was a purported violation of location in relation to the airport.

The man came up from Denver and searched all morning for this obstruction and couldn't find it. So he hunted up our president, Mr. Glen Swing, who took him out and showed him the installation.

The FAA ruling is that any installation within 3 miles of an airport has to have a glide path clearance of 7°, and this installation has a glide path clearance of 1°. So the man was a little miffed in the implication in the letter that had brought him to Worland. Nevertheless, it caused us expense and delay.

That is just one of the many illustrations. I have here some information furnished by an adversary of ours, which is the only identification we have, to the Bureau of Land Management. This is purporting to our moving the equipment.

Senator McGEE. This is in the form of a letter that you have received?

Mr. BAILEY. No. This accompanied a letter to the Bureau and the Bureau gave this to us and said we are sorry, but we have to abide by this, and gave us 90 days in which to clear it up.

Senator McGEE. How did the Bureau of Land Management get involved in this?

Mr. BAILEY. We moved our construction from one site to another. Unfortunately we moved it after July 7, not knowing that we were violating this section.

Senator McGEE. You mentioned July 7. That was the date of which the operations of the new law went into effect?

Mr. BAILEY. Yes, sir. We had been operating from the first site since October 1959. After much technical assistance and work we could not get a clear signal there that was acceptable to our area that we served.

Since we had power there, we delayed moving as long as possible because we have to put in a mile and a half of power to the acceptable site. We have a very nice signal near the airport. Actually what has happened, we were on the one hand approximately 8 miles northwest

of Worland and moved our construction to a new site $5\frac{1}{2}$ miles south-east of Worland. It is just a difference of two sand hills.

I realize that technically that is a violation. Actually our rebroadcast is not violating anything under the jurisdiction of the FCC. It does not interfere with any signals, it does not interfere with any of the operations of any other communications, but it is technical; it is a technical point.

Senator McGEE. You are talking then in terms of a possible violation rather than a real violation. You were producing a picture long before July 7?

Mr. BAILEY. Oh, yes. I appreciate that correction. The reason I said "violation" is that we have been accused by somebody who hasn't been identified to us that we are a violator. It is reasonable to assume that it is a cable company, because they were the ones who reported us to the FAA.

Senator McGEE. And so the avowed charges against you as being in violation stem from two conditions or considerations: one, that you may stand in violation of the regulations of the FAA as your operation might affect the glide path.

Mr. BAILEY. That has been corrected.

Senator McGEE. That has been corrected and disproved.

Mr. BAILEY. Yes, sir.

Senator McGEE. The second is that you may have stood in violation in terms of location of your site on land and under the control of the Bureau of Land Management?

Mr. BAILEY. Yes, sir.

Senator McGEE. And that was merely a transfer for a better signal from one sand hill to another.

Mr. BAILEY. Yes, sir. Now, our plea is this, as we sit before the committee: We are a nonprofit organization. Nobody in our organization receives a salary. We are only doing this in the public interest. Many of our personnel who work in our organization do so at a sacrifice to their own personal income, and they all have contributed money to this thing.

Somebody is opposing us who probably has spent more for legal counsel than we raised altogether in our whole organization.

We believe that we are complying with the law except for this technical point that has been taken on our moving the equipment. Therefore, we ask the Commission to issue us our 347 because we will have to qualify with all their technical requirements when we file our 346, on the grounds that the principle of the thing takes precedence over the method of moving.

Senator McGEE. This has been called to the attention of the Commission, and I am sure it speaks fairly of the Commission's intent that there will be a quick decision on this question, the question of whether the repeater constructed—that is, this transfer of the repeater—requires special consideration.

Mr. BAILEY. The reason it is important to us is that we have this 90-day deadline from the Bureau. The Bureau has been very cooperative. They cannot issue a right-of-way permit, which has been called to their attention by our adversary, until we have a license. Their hands are tied.

Senator McGEE. Do you have any other questions that you care to raise at this point, or that we might at least put before the Commission for subsequent consideration here, Mr. Bailey?

Mr. BAILEY. No, sir, I haven't. I appreciate being in an organization now that is considered legitimate.

Senator McGEE. What about the mechanical and the technical operations of the booster?

Mr. BAILEY. We had considerable difficulty with our first site. As it turned out, that wasn't the best engineering. But since we moved to the new site, we have had no trouble.

Senator McGEE. You have no particular complaints about complying with the regulations that the FCC has set up for it?

Mr. BAILEY. None whatsoever, except that we were lax in our moving after a certain date. We didn't realize we were in violation.

Senator McGEE. Thank you very much, Mr. Bailey.

(The following letter was subsequently submitted for the record:)

WORLAND, WYOMING, February 24, 1961.

HON. GALE W. MCGEE,
U.S. Senate,
Washington, D.C.

DEAR SENATOR MCGEE: I observed over TV the Interstate and Foreign Commerce Committee hearing in Casper, Wyo., on February 22, 1961, on the matter of the effectiveness of last year's television booster law passed by Congress.

First, I would like to compliment your committee in conducting these local hearings for I feel it affords the opportunity for many people to explain the various television problems in their local areas. Even though I am general counsel for the Wyoming Community Antenna Television Association, and am somewhat prejudiced for the cable systems, I still am of the opinion that from these hearings can come a solution to solve all facets of the Wyoming television industry.

The reason that I am writing you, Senator McGee, is because I was indirectly involved in the Casper hearing by your first witness, Mr. Robert Bailey, of Worland, Wyo. He made certain misrepresentations concerning myself which I would like to clarify to the committee. He referred to me in his testimony when he made mention of the fact that:

"* * * The county attorney of Washakie County, who is also the attorney for the local cable television system, advised the local appliance dealers that they could be prosecuted if they took local donations for the local booster that was being contemplated at that time. * * *"

I am, at the present time, county and prosecuting attorney of Washakie County, Wyo., and I was at the time Mr. Bailey referred to in his testimony. The point that I would like to clear up is that I was contacted by three local appliance dealers at the time mentioned by Mr. Bailey, but I was contacted in the capacity as the attorney for their companies and not in any way involved as county attorney. I advised the appliance dealers as their counsel that there had been in other towns in Wyoming some undesirable results from collecting the money for the local boosters and advised them as their attorney not to use their local stores for the collections.

This morning on the 24th day of February, 1961, I confronted Mr. Robert Bailey and took him to the appliance dealers and they verified my above statement. Mr. Bailey apologized and stated that he perhaps should not have involved me or my office in the hearing but, of course, it already being in the record, I thought perhaps this explanation letter should be sent so that you could make same a part of the record. I am quite conscientious about my office as county attorney, and would not in any way involve same in any such circumstance as represented to your committee at the recent hearing.

If there is any information that I can supply to your office or your committee on this television problem in order that same can be resolved in a satisfactory manner to everyone concerned, please feel free to call upon me..

Very respectfully,

HAROLD JOFFE,
Attorney at Law.

Senator McGEE. The next witness will be Mr. Bubar, from Laramie Electronics.

There is still some issue of conflict in Laramie, Wyo., between the group, Laramie Electronics, which Mr. Bubar represents this morning, and the Laramie Community TV Co.

I have in my hand a letter from Mr. C. O. Hammond, the manager of the Laramie Community TV Co. I would like to make his letter to me, in behalf of the committee, a part of the record at this point as well.

(The letter from Mr. C. O. Hammond follows:)

LARAMIE COMMUNITY TV Co.,
Laramie, Wyo., February 20, 1961.

Senator GALE McGEE,
Care of Senator McGee's Casper Office,
Casper, Wyo.

DEAR SENATOR MCGEE: I was pleased to hear that you will be taking testimony regarding the impact of the new booster legislation in Casper on Tuesday, February 22, 1961. I sincerely appreciate your letter inviting me to appear at the hearing; however, prior commitments preclude my being at the meeting but I would like to give my viewpoints for the record.

I have always felt that in licensing VHF boosters, many problems would arise concerning interference with existing facilities, etc. However, since the enabling legislation has been passed, I feel that the FCC should adhere strictly to the requirements as set forth in the rules to minimize the interference problems.

While it is too early to predict the success along these lines, I am sure the success or failure will depend upon the enforcement agency. I feel that too often these matters are taken too lightly, especially by those living in isolated areas. We must always remember that the ether is a limited resource that is being burdened more and more each day to handle the terrific load of communications. This use is increasing very rapidly, and since the ether is limited, it must be used wisely. We cannot forget that every signal sent into the ether may have an effect on existing facilities, whether they be military, governmental, industry, or entertainment.

With these thoughts in mind, I hope that the Government agencies involved will preserve one of our most useful limited resources.

Yours very truly,

C. O. HAMMOND, *Manager.*

STATEMENT OF DONALD BUBAR, PRESIDENT, ALBANY ELECTRONICS, INC., LARAMIE, WYO.

Mr. BUBAR. Would it be possible to have that read, or would you prefer not to?

Senator MCGEE. We can read it, yes. The letter says, in general, that he was very delighted that there would be testimony regarding the impact of the booster legislation on community TV, and on other facets of the communications problem.

"I have always felt," he says:

I have always felt that in licensing VHF boosters, many problems would arise concerning interference with existing facilities, etc. However, since the enabling legislation has been passed, I feel that the FCC should adhere strictly to the requirements as set forth in the rules to minimize the interference problems.

While it is too early to predict the success along these lines, I am sure the success or failure will depend upon the enforcement agency.

That puts the bee on you, Commissioner Lee.

We must always remember that the ether is a limited resource that is being burdened more and more each day to handle the terrific load of communications. This use is increasing very rapidly—

and so forth.

The burden of Mr. Hammond's note to the committee is that while mindful of the areas of possible interference or conflict, that he believes that the way out will be found by the enforcement agency. He has no other specific complaints.

Mr. BUBAR. I was just interested in what their views are.

I would like to start out by reading a copy of a letter that we sent on January 18 to the FCC, and also their answer. I think it explains somewhat our past situation.

Senator McGEE. Would you be able to summarize the letter and the response? We can put the letters in the record in full.

(Mr. Bubar's letter of January 18, 1961, and the FCC letter of January 26, 1961, follow:)

ALBANY ELECTRONICS, INC.,
Laramie, Wyo., January 18, 1961.

Subject: VHF translator.

FEDERAL COMMUNICATIONS COMMISSION,
Washington, D.C.

GENTLEMEN: We are holders of FCC permits BTR-949 and BTR-950 for temporary operation of VHF translators on channels 10 and 12, respectively. We wish to know if permits have been granted to Collier Electronic Co., or Laramie Community TV Co. to operate VHF television repeaters on channels 11 and 13 picking up KTVR-TV channel 2, Denver and KRMA-TV channel 6, Denver?

The operation of these repeaters by the local CATV system has been and still is causing us severe interference. We were on the air with channels 10 and 12 approximately 6 months prior to the CATV company installation of channels 11 and 13. It is, in our opinion, the sole purpose of the CATV operation to create interference on the translator system so that the people of the community would continue their cable service.

We have no objection to their operation of a cable service but feel that they cannot operate both translators and a cable service and act in the public interest. It is our opinion that it is not in the public interest to allow two different organizations to operate translators covering the same area; since we started our translator program 3 years ago and the CATV has opposed every attempt to provide the people of Laramie with this service we do not feel that their television repeater operation is justified. Between our organization and the CATV it is apparent that only one can operate successfully in this area, and if the people are to have good quality translator television it had better not be the cable company.

If they have not been granted a permit to operate we would like to have the necessary steps taken to have them put off the air immediately. In the event they have been granted temporary permits please advise us of their permit numbers and enter this letter as a formal protest to their being granted a construction permit. If more details are required, please contact me.

Yours truly,

D. W. BUBAR, *President.*

FEDERAL COMMUNICATIONS COMMISSION,
Washington, D.C., January 26, 1961.

ALBANY ELECTRONICS, INC.,
Laramie, Wyo.

(Attention: D. W. Bubar, President).

GENTLEMEN: This refers to your letter dated January 18, 1961, inquiring as to whether permits have been granted to Collier Electric Co. of Laramie Community TV Co., to operate VHF television repeaters on output channel 11 and 13 serving Laramie, Wyo.

Temporary authorizations (BTR-971, BTR-972) were granted on December 27, 1960, to Laramie Community TV Co. to operate VHF television repeaters on output channels 11 and 13 serving Laramie.

You indicate in your letter that the above-mentioned television repeater stations are operated by "the local CATV system" and are causing severe interference to the operation of your VHF repeater stations, which transmit on channels 10 and 12. Section 4.703(a) of the Commission's Rules provides in perti-

ment part that, "If interference develops between VHF translators, the problem shall be resolved by mutual agreement among the licensees involved."

If and when Laramie Community TV Co. files application for modification or replacement of its present facilities with technically acceptable VHF translator equipment, the Commission may raise a question as to the purpose for which such translators are to be operated in the light of the applicant's local CATV enterprise.

Your interest in writing to the Commission concerning this matter is appreciated.

Very truly yours,

BEN W. WAPLE, *Acting Secretary.*

Senator MCGEE. What was the burden of your letter to the FCC, and what did they tell you?

Mr. BURAR. Briefly, our situation is this: We have been operating two transmitters since the middle of 1959. We are using channels 10 and 12 for transmitting. About 6 months after we went on the air the cable system in Laramie put two translators on the air using channels 11 and 13.

Immediately when they went on the air we developed a severe interference problem. It is our feeling that the only reason they put those translators on the air was for interference purposes, to foul up our whole system, and it was quite effective.

Since that has happened we have corresponded with the FCC on several occasions and talked to the cable system. We have tried to get a decision on just exactly who was going to operate translators in this area and who isn't. We feel the cable system, that they are operating in the cable system, has no business in the translator field. They can take one or the other, but they are operating conflicting systems.

In this letter we requested the FCC to notify us on whether or not they have granted temporary permits to the cable system for their operations. If they had, we asked that they enter our letter as a protest against that licensing and to let us know just exactly what they would do.

They answered us quite promptly and in their answer said they had granted temporary permits to the cable system. I will read just one paragraph.

Senator MCGEE. Please do.

Mr. BURAR (reading):

If and when Laramie Community TV Co. files application for modification or replacement of its present facilities with technically acceptable VHF translator equipment, the Commission may raise a question as to the purpose for which such translators are to be operated in the light of the applicant's local CATV enterprise.

That didn't tell us anything. We don't know for sure where we are going or when we are going to get there. We feel that the Commission should at this time tell us who is going to be the one who is going to run these translators. If it is going to be the cable system, we will get out of it. But two of them can't operate. We would just like a definite decision.

Senator MCGEE. Apparently from the communications from the Commission you are going to get that definite decision. This has only been a temporary authorization for the time being. The Commission has expressed a willingness to try to resolve this question in terms of

determining the intent, if possible, of the request that it has received.

Does the interference continue at the present time?

Mr. BUBAR. Yes. It has gone on continuously, particularly with the channel 12 operation. It was so bad for a long time that 12 was just useless. It might just as well have been off the air.

I realize that they will get around to it, but we have to go to the people and tell them all these things. We have told them for 2 years now that something is coming up pretty soon, we are going to get a decision.

Senator McGEE. It is just around the corner.

Mr. BUBAR. It is just around the corner. And still we thought with the licensing we would get a decision. Now I see the decision is probably, if they extend another 2 months, it will be January 1962 before we will have a decision. Maybe not even then. We have got to do something sooner than that.

Senator McGEE. I think the purpose of this hearing this morning, Mr. Bubar, is to express the real sense of urgency in the presence of Commissioner Lee so that he may carry this back to the Commission. This isn't the kind of thing, given the basis of your legalized operation, that can be continually delayed for whatever reason; that the sense of urgency is greater in your instance, perhaps, than in the conflicting instance.

Mr. BUBAR. I might add that one of the reasons we are concerned is that our construction permits are coming up. We also propose putting in this nonduplication system to prevent channel 5 signals from Cheyenne being duplicated in our area. Channel 5 wants us to put that system in before we get our construction permits, or at least have it well underway. It is going to involve an expenditure of two to three thousand dollars minimum, plus a lot of time to put this thing in.

We would like to know whether or not we are going to be the ones to operate the translator before we spend this money and time.

Senator McGEE. Tell the committee: Do the translators now operated by the CATV carry the same programs that you carry?

Mr. BUBAR. No. There is a point I forgot to mention, too. They pick up channel 2 from Denver and they are transmitting it on 11. They are also picking up channel 6 from Denver, and here is the point I want to bring out: About 20 miles south of Laramie they pick up the channel 6 signal from Denver, they change it to channel 8. They use vertically polarized transmitting antennas, beam it directly to their tower, which is located directly on the edge of town, change channel 8 to 6, feed it to their cable system to their subscribers, take it out the other edge of town, run it up to a translator, change the 6 back to 13 and transmit again.

They are offering a relay, and it is strictly a relay. They are using vertical polarized antennas, and nobody else can get it. So they actually have two antennas operating and they have a license for one, on that one channel.

Senator McGEE. You have no quarrel as it is now operating with the CATV cable operations?

Mr. BUBAR. No. We would be perfectly happy if they will just take those translators off the air and leave us alone and we will leave them alone. If we can't compete with them, against their cable system, that is strictly a competitive problem. We feel it shouldn't be allowed to operate.

Senator McGEE. You have no qualms about competition with the CATV cable?

Mr. BUBAR. No, so long as they stay out of the translators. As far as the rules and regulations go, we feel they are adequate and no problems.

Senator McGEE. That is, the requirements set up by the FCC, you are capable and willing to meet—have met in fact.

Mr. BUBAR. Yes, sir. It is just the quality end of the thing, and time.

Senator McGEE. Senator Moss, do you have any questions that you want to raise?

Senator Moss. No. It is very interesting, but I have no questions.

Senator McGEE. Thank you very much, Mr. Bubar.

Mr. Marshall Macy?

STATEMENT OF MARSHALL MACY, NEWCASTLE TV ASSOCIATION, NEWCASTLE, WYO.

Mr. MACY. Senator, we have two prepared statements, of which I have enough copies for everyone, including the reporter.

Senator McGEE. Very fine. We can't forget our humanized IBM here.

Can you make extracts from your prepared testimony? Your prepared testimony will appear intact.

(Statements follow:)

FEBRUARY 13, 1961.

DEAR SENATOR MCGEE: We would like to take just one small instance of the constant harassment we have undergone at the hands of the FCC since they purported to establish "simple" regulations for the existing VHF TV translators.

1. First releases from the FCC indicated that we would have to subscribe to volume III of the rules and regulations (\$4.50). Sometime later we thought we read between the lines that we probably should have volume IV, but we weren't sure and inasmuch as it was taking a lot of time to keep up with the revision sheets which we were getting just for the one volume, we decided against volume IV.

2. It now appears that the section which is going to get us in trouble will be found in volume I. This apparently was revised some time or other to say that we would have to advertise in a daily paper (our weekly papers aren't recognized, apparently) for a total of four advertisements every time we sent anything to the FCC offices. If the expense of legal advertising weren't ridiculous enough to impose on small operators of TV translators, the decision as to which daily paper enjoys the widest circulation in our community is certainly ridiculous. (We estimate that Rapid City, Casper, Cheyenne, Sheridan, Denver, and the New York Times all occupy roughly equal positions of repute.)

3. Now then, the lawyer in Washington (hired by the equipment manufacturer who is furnishing the new equipment for one of our channels) sends us a letter saying that he has submitted our application to the FCC that day and that we must publish the "enclosed" material twice each week for the next 2 weeks—and then return the affidavits of publication so that they can be handed back to the FCC within 5 days of the close of the 2-week period. By the time we got the letter from the lawyer, it was too late to figure out which paper will meet the requirements and still meet the time deadline on the first week's requirement. Of course, to hope to get the affidavit from the newspaper to us, sign the necessary forms, and then to get it to the lawyer in Washington so he can get it to the FCC within 5 days of the close of the period is utterly impossible.

4. As matters stand on this date, we have apparently violated section 1.359 (c) of the regulations on all of our applications—and we still don't know what the regulation is. We now have the file cabinet filled with correspondence from nearly every corner of the globe, yet we still have no idea of how we are coming on the applications. "Simple" application procedures have run our own total to exactly 183 pages (by count) delivered to FCC, Washington.

5. It is nearly criminal that no one had the forethought to take a complete transcript of the discussions held with the FCC representatives when they were out in this country last summer. The statement was made several times that the forms would be simple enough that any of the groups around the State of Wyoming would be able to complete them without professional help—and certainly that we would need not fear any difficulty from the officials in "FCC, Washington."

6. We feel that the entire problem is one of trying to operate the whole thing from such a distance that they have no concept of the problems here on the spot. Our group, for one, pleaded to have the whole problem handled on the basis of "unit by unit." The Denver office of FCC, with its firsthand knowledge of the units, terrain, people, etc., could have handled the situation without anything approaching this much confusion, we believe.

Very truly yours,

NEWCASTLE TV ASSOCIATION, INC.
GLEN D. BARR, *President*.

NEWCASTLE, WYO., *February 22, 1961.*

Senator GALE MCGEE,
Casper, Wyo.

DEAR SENATOR MCGEE: The Newcastle T.V. Association, Inc., has applied for construction permits for four channels of TV for the community of Newcastle. We feel that there are several things which could and should be done to make more sense of the present regulations:

(1) We seem to find great confusion on interpretation of the present rules—and can get no help from the FCC. Might it be possible and reasonable to require the FCC Commissioners to visit, say one station of each class or type in each State each year?

(2) Some means should be found, we believe, to force the policymakers to acquaint themselves with the problems found in the field. Possibly the FCC could be required to hold annual hearings in a couple of dozen places around the Nation? This would allow the smaller, less well financed groups to get a hearing on their grievances.

(3) One of the specific problems in the FCC regulations is the matter of power. Visual peak-power output of 1-watt maximum is indicated for this service and is one of the most difficult ways to measure transmitter power (used for no other radio service, we believe). We would suggest a simple voltage and current measurement of plate power input (used by the FCC for regulation of citizen's band, amateur, and many commercial radio services, to name a few).

(4) Another problem, we feel, is that of identifying our stations every 30 minutes. The "mother stations" are required to identify only once in 60 minutes. Thus, we find ourselves tearing up the program in the middle of the torrid love scene, etc. It would seem that if the hourly identification is adequate for the "mother," it should suffice for the "slave" stations.

(5) In our situation, at least, it would be very helpful if we could be given permission to continue the experimentation relative to the location of the equipment, best type of transmitting antennas, etc.

(6) Provision should be made for licensing two or more nonidentical units for emergency use in case the original equipment is forced out of service by lightning damage, etc. We understand the present regulations to preclude the use of any equipment other than exact duplicates of what is requested on the original application. Many of us will have equipment capable of factory upgrading to meet specifications—once we receive the new type, approved equipment, and should be allowed to use it (after factory modification) for emergency service.

(7) Our community has an inexpensive (\$500 Argus) TV camera (closed circuit) which preliminary study indicates could be used for local origination of shows for an additional outlay of \$25 or \$30. Would it be unthinkable to propose the legalizing of this sort of experimental programing for a few hours each week? It appeals to us as a possible move toward TV "locals" such as we presently have in radio. These would be a sort of hybrid translator and local, with approval from the mother station concerning which programs would be dropped to allow local time.

NEWCASTLE T.V. ASSOCIATION, INC.,
GLEN BARR, *President of Board*.

Senator McGEE. Will you identify yourself for the record?

Mr. MACY. My name is Marshall Macy, with the Newcastle TV Association, Inc., of Newcastle, Wyo.

Commissioner Lee, I would like, on behalf, I think, of the entire intermountain West, maybe, to thank both Congress and the FCC for the help they have given us.

Both of these testimonies will seem a little harsh at times because in the press of our full-time business jobs any effort we have to expend seems like more than we would like. This first sheet that I have given you refers to one problem which we have felt rather severely, and that has been the fact that we are unable to keep ourselves posted on the day-to-day rules changes. The FCC has not kept us informed of what things are going to be required. This particular one refers to the problem of advertising, the fact that you are applying, and if our telephone conversations with the lawyer and with your office, Senator, and consequently with the FCC offices, are correct, apparently we have to advertise every blessed thing that comes up. It must be done in the daily newspaper. Newcastle has no daily newspaper. We are unable to decide which of five or six daily newspapers would meet the requirements.

Senator McGEE. Would the Commissioner care to comment on this point?

Mr. LEE. Senator, I think that it would be fair to say that the first time I heard of this particular problem was last night in a discussion. I will go off on a little bit of a tangent as a lone member. I do not think that it is necessary for a repeater—I should say it was not intended that it would be necessary for a repeater to advertise for a renewal of a license. The basic philosophy, and the basic problem between advertising locally, was from the standpoint of the station, the originating programing station, serving the needs of the area from a programing standpoint.

Based on that interpretation and a repeater picking up a signal from a so-called mother station, this doesn't meet the criteria, of certainly what I had in mind, as to the reasons for advertising. I just can't see any need for it, because this would be a problem of inviting somebody to come in and say "We could do a better job than you are doing for the community for programing reasons." Since you have no control over programing I frankly don't think that this was intended to apply. I will look into it.

Senator McGEE. Thank you, Mr. Commissioner, for that comment. We do want the record to show that this was personally volunteered by you. This is not a Commission judgment, but your personal judgment on it, but it is enlightening. I think the fact is still clear that there has been no decision on this. But with the urging of Commissioner Lee there will be a decision taken on it.

Mr. MACY. This is actually our big point, the fact that we spent considerable money and considerable time, as well as your staff and the FCC staff. We are unable to reach these people on a human, horsensense-type level of operation.

In the meantime we have done everything in our power to comply with the regulation. It cannot be complied with in Newcastle, Wyo. They want the certified affidavits back from the newspaper to our group, signed and notarized and back to the FCC, Washington, within

5 days of the last publication, as an example. It cannot be done. Mail service simply just doesn't do it. This is the big bone of contention, who could we get to talk to.

Senator McGEE. We thank you for bringing that in focus, Mr. Macy.

Mr. MACY. Our second letter to you, Senator, covers some seven points that we have felt were worthy of comment at least. The first two of them note the problem that we have just covered, the fact that we would like either the Commission to meet possibly in a half dozen places around the Nation where the small finance groups could get with them and chat with them about some of these things that are difficult, or maybe turn some of this back to a more local level. I personally feel that FCC, Denver, could take care of many of the problems rather than having to fight through.

Senator McGEE. The Commission, may I interject, did send out a team immediately after the legislation was signed into law.

Mr. MACY. Yes, sir; I know.

Senator McGEE. And we hope that this would become a habit.

Mr. MACY. We were not well informed by said team.

Senator McGEE. That is they didn't give you the kind of helpful information that you felt you were entitled to?

Mr. MACY. I think they gave us all the information they felt they could, and very little of it has proven to be fact in subsequent months. It was a very rosy picture painted at that time. It was supposed to be a thin brochure, and any one of us could sit down and write it out, the application for the license I am referring to. It has proven to require Washington lawyers and the best engineering ability we have been able to scrape up in our rural community.

But be that as it may, we are complying and we are reasonably well pleased with the final result.

Senator McGEE. Would it be fair to group together, Mr. Macy, your points 1 and 2 in this communication?

Mr. MACY. Yes, sir.

Senator McGEE. That would urge the Commissioner, or the Commissioners, or some one of them, to keep in close touch in the field contacts and this question.

Mr. MACY. Right.

Senator McGEE. I think the presence of Commissioner Lee here this morning is a notable step in that direction. I certainly agree with the emphasis that you strike there.

I notice in the third point you raise the question of power, the engineering power in the booster operation. The burden of your suggestion is that 1 watt, which is the present regulation, may not be enough?

Mr. MACY. I think it is that plus the fact that many simpler methods of power measurement might be to everyone's advantage. Peak power as now specified in the law is difficult to measure and requires complicated equipment that crossroads towns simply cannot afford and do not have. This is a relatively minor thing and can probably be taken care of by factory manufacturing procedures.

Senator McGEE. Does the 1 watt, as it now operates, serve your area?

Mr. MACY. We do not know. I would say eventually the answer is "No," that the type of coverage, so-called class A coverage, would require something in excess of that.

Senator McGEE. How many people do you know are in your coverage area now?

Mr. MACY. The four translators operated by my group are designed primarily for coverage of about 4,500 to 5,000 people.

Senator McGEE. What is the greatest distance involved there?

Mr. MACY. I hate to take the time of this group, but our distance is not the problem. We are talking probably in 3, 4 or 5 miles maximum. However we do have a problem of interference because of the proximity of several different groups—mine and three others, to be specific—and we feel that we are going to have to do some work with polarization in order to do the best job, the type of thing I am sure we all had in mind. And if we go to vertical polarization we are going to have to have a full circle coverage. This will mean unity gain antennas rather than high gain power increasing antennas. We propose that effective radiated power will be a much better measurement if we must stick with this type of terminology, otherwise let's just go to DC plate input power.

Senator McGEE. Your next point has to do with the identifying signal.

Mr. MACY. A very small point, but the fact that we are tearing or are going to tear up the middle of a great many network programs, because the mother stations are not required—

Senator McGEE. This came up in the Salt Lake hearings yesterday at which the suggestion was expressed that the intent was that the mother stations make the identification, but not the ones out on the fringe, the repeaters, as such. And you suggest here, you find yourselves in the processes of tearing up the middle of a torrid love scene.

Mr. MACY. Or something like that.

Senator McGEE. We don't want to tear up the middle of anybody's torrid love scene if we can avoid it. I think our interest is in the intent of trying to keep this as simple as possible, and we are hoping that there will not be introduced interruptions just for the sake of interruptions.

Mr. MACY. This is precisely the point, that the regulations are designed to say not to identify frequently, but they tell you it must be within five minutes of a half hour. And the network programming is not designed to accept this type of interference haphazardly.

Senator McGEE. I think this comes as a repeated suggestion, which I think will carry some force in the ultimate calculation.

Mr. MACY. The big problem to me is point five. In the experimentation problem we have no indication from FCC that there will be any provision for furthering the art, so to speak. As matters now stand we have been asked to specify very explicitly the manufacturer of the equipment down to the transmission line and the transmitting antennas. As I understand it this means that whatever you now have you are stuck with. Of course this thing only happened, the total booster translator picture is a result of Yankee ingenuity. We feel that we still need some leeway. I think some provision could and should be made to allow us to change polarization of the transmission. Would it be impossible to move this translator a quarter of a mile? I can't see that it would injure any service.

Senator McGEE. Mr. Commissioner?

Mr. LEE. On this whole problem, Senator, I don't want to participate in your hearings but I do feel as something occurs to me it might be well for the record to reflect that viewpoint. I was impressed with the testimony of the witness to the effect that technical help is difficult to obtain for these small communities. In my touring around this part of the country a year or so ago it did occur to me that through the organizations of the boosters that a very worthwhile function of the organization, as such, would be to provide engineering help for these little individual communities, because of the fact that the association perhaps could afford to retape, let's say, an engineer who would help you out in these problems.

Whether any of us like it or not, the problem is largely technical, and you have to have some good technical help.

On this other point, Mr. Zapple points out to me that there is going to be a Western translator conference in Salt Lake City. I will try very hard—it doesn't give me much time here—as soon as I get back I will try to have a knowledgeable fellow from the FCC there to help people process applications and to ask questions and so on and to see what the problems are. I would certainly urge that you do not overlook engineering, that these things could be self-defeating over a large area of the country if not given some overall thought. This booster organization furnishing this sort of a service appeals to me.

Mr. MACY. I agree with you. The thing that I am pleading for is an open mind relative to the engineering feature. The thing is now at the place where, as we see it, there is no place for engineering continuing improvement. Particularly if we are going to have to advertise every time we change a comma. This is a big problem and was the interpretation that we had gotten.

Senator MCGEE. Let me commend the Commissioner first with the remark just made that they will send a knowledgeable expert to the western translator conference that is scheduled for Salt Lake City on March 3 and 4. I think this reflects not only the proper attitude from the Commission's point of view, it also reflects the emerging sophistication of the TV booster community, that they are capable of bringing together the high powered people that I note listed on the program there, to discuss the very question that you are raising here this morning. I would think that some integration of the interests of the many local booster operations through this kind of expression would go a long way toward reducing this to some manageable solution.

Mr. MACY. It is coming very close.

My other two points here are also technical; but I would like to just mention them.

One is the fact that almost all of these boosters have some equipment which we had all planned, I believe, to—our group, specifically has planned to purchase new equipment for each channel. After that is received then to take the equipment we have been using, have it upgraded to meet specifications and available as a standby in case of lightning damage and so on. The provisions now are that this may not be done. We may only replace a unit with one identical to it. A small point that I think could be cleared up with a sentence change by the FCC. But we have been unable to get to them with this sort of thing. That is the reason I bring it up here.

Senator McGEE. Your request would be that while you go along with the convenience package idea in the beginning, that there ought to be some flexibility in terms of replacement with parts that you already have that are likewise acceptable?

Mr. MACY. Yes.

And finally, if we may open an area that I am sure will be a wound for many years, we feel that there is a possibility of local programing with extremely inexpensive equipment, the programing to be about on a par with the presently used translators, extremely amateur issue. Our specific community has equipment available which has been tested by persons and which would suffice.

Senator McGEE. This is of course a significant policy step that you are suggesting there.

Mr. MACY. Too much for today, but maybe in years to come.

Senator McGEE. At least let the record show that you are throwing the suggestion in for whatever it is worth.

Thank you, Mr. Macy, for your contribution.

Mr. MACY. Thank you.

Senator McGEE. Mr. Lee Johnson, of the Wyoming TV Association in Sheridan, Wyo. Is Mr. Johnson here?

(No response.)

Is Ed Macy here, from Upton?

(No response.)

Senator McGEE. Mr. Dick Plunkett and Mr. Ralph Rekord, from Gillette, Wyo.

Would the two of you come up.

Mr. Commissioner?

Mr. LEE. On the matter of the possibility of local programing, I think the witness understated it when he said this would be a solitary item. I cannot resist however, indicating that this is one of the reasons why at the Commission we encourage the use of the UHF translator. This of course is available at high power.

I think personally that those people using UHF translators have a much better case to make for converting this thing into a local station at some point when the population grows, when the community can support it and so on, because there would be a channel available for full power and there wouldn't be any technical reasons why it wouldn't be possible to do local programing.

Senator McGEE. I would assume it is fair to say that the Commission, and certainly Congress, are deeply concerned with keeping in operation local live television. This becomes a central concern.

Mr. Plunkett and Mr. Rekord, will you identify yourselves.

STATEMENTS OF DICK PLUNKETT AND RALPH REKORD, GILLETTE, WYO.

Mr. PLUNKETT. I am Mr. Plunkett, of Gillette, Wyo.

Mr. REKORD. I am Ralph Rekord.

Senator McGEE. And your association?

Mr. PLUNKETT. Gillette TV and Wyoming TV.

Senator McGEE. Will you proceed, Mr. Plunkett?

Mr. PLUNKETT. We have very few troubles.

Senator McGEE. Let the record show that.

Mr. PLUNKETT. We are pretty happy with the work.

As to the FCC application that we have to advertise in a daily newspaper, we don't have a daily newspaper.

We have about 8 or 10 towns around us that do not have a daily newspaper. We went ahead and advertised in the Sheridan paper. It cost \$29.17 to advertise, for each station. That is the only thing that we have had any trouble with in our application. There are a couple of questions we forgot to answer.

I have a letter here from the News-Record to Senator McGee, I believe, and this committee.

Senator McGEE. We will make this letter a part of the record, if that is agreeable with you, Mr. Plunkett.

(The letter follows:)

THE NEWS-RECORD,
Gillette, Wyo., February 2, 1961.

Senator GALE MCGEE,
Washington, D.C.

DEAR MR. MCGEE: You were connected with the study made into the TV booster station legislation and how it could be handled under the FCC.

We have two stations underway in this community. The new law has prescribed that application for the station must be advertised in a publication, and I find that the law has discriminated against the weekly newspaper. This is a situation such as I have never heard of before—a legally recognized weekly newspaper, and in this case of the News-Record, being the only newspaper in the county—not being qualified to run this legal publication.

Specifically, I take issue with requirements imposed by Public Law 86-752 (approved September 13, 1960) and these requirements (which became effective December 12, 1960) are contained in section 1.359 of the Commission's rules, the pertinent paragraphs of which are set forth below for your convenient reference:

"(c) An applicant filing any application or an amendment thereto on or after December 12, 1960, which is subject to the provisions of this section (except for applications for stations in the international broadcast service) shall cause to be published a notice of such filing at least twice a week for 2 weeks immediately following notification by the Commission pursuant to sections 1.354, 1.355, 1.356, 1.357, or 1.358, in a daily newspaper of general circulation published in the community in which the station is located or is proposed to be located, or, if there is no such daily newspaper published in the community, then in the daily newspaper having the greatest general circulation in the community * * *."

Can you find out to whom the law is trying to address this notice? To the people of the community in which the applicant wishes to install the booster station, or to TV station owners in the area? If it would be to the former group, then, most certainly, the weekly would qualify much more than the daily, which in this case is the Sheridan Press. If it would be to the TV stations of the area, then a personal letter would come much closer to doing the job—especially in our area where we have Casper in one direction and Rapid City, S.D., in the other—and that's all.

We think this legislation is preposterous. Basically, the TV booster legislation was made so that small communities could bring in the TV signal. Consequently there is not going to be a daily newspaper in a big majority of the cases in these communities, but there is going to be a weekly.

We would be grateful for any information that you could give us in this matter. Perhaps you may find that this whole thing has been misinterpreted, and we would thank you for that information too.

Yours truly,

JACK K. NISSELIUS.

P.S.—For your information, section 1.359 is contained in volume I of the FCC Rules and Regulations.

Senator MCGEE. Did anyone receive a directive from the FCC that this is the way it had to be?

Mr. PLUNKETT. Right here sir.

(Handing document to the chairman.)

Senator McGEE. The burden of the suggestion was that according to the Commission's rule, that you should have to file this announcement in the nearest daily newspaper.

Mr. PLUNKETT. The daily newspaper? They would not let us take a weekly paper.

Senator McGEE. Perhaps the Commission was not in a position to take into account this great gap in northeastern Wyoming, where we have some very fine weekly newspapers, but there is not a daily newspaper?

Mr. PLUNKETT. That is right. We have complied with the rules and regulations there. And now we are just waiting and blaming FCC if we don't get our license.

Senator McGEE. The interpretation, I am advised by counsel, that you are referring to here, Mr. Plunkett, really was intended to apply to radio and TV operators and not originally to boosters, and that there has not been a judgment on the booster question. One could clear that up.

Mr. PLUNKETT. It has our code number on it for our booster station.

Senator McGEE. In that case it would seem to me that it would be very much in order for the Commission to take into account this special question of the unavailability and the cost in the nearest daily newspaper in measuring the requirements for the boosters in areas such as Gillette.

We will put this statement from the FCC in the record at the same time.

(The document follows:)

FEDERAL COMMUNICATIONS COMMISSION,
Washington, D.C.

[Address all communications to the Secretary. When complying with this procedure, refer to code S700. Application File No. BPTTV-47]

NOTICE TO APPLICANTS

Examination of the reference application indicates that the local publication requirements imposed by Public Law 86-752, approved September 13, 1960, apply thereto. These requirements, which became effective on December 12, 1960, are contained in section 1.359 of the Commission's rules, the pertinent paragraphs of which are set forth below for your convenient reference:

"(c) An applicant filing any application or an amendment thereto on or after December 12, 1960, which is subject to the provisions of this section (except for applications for stations in the international broadcast service) shall cause to be published a notice of such filing at least twice a week for the two weeks immediately following the tendering for filing of such application or amendment, or at least twice a week for the two weeks immediately following notification by the Commission pursuant to §§ 1.354, 1.355, 1.356, 1.357, or 1.358, in a daily newspaper of general circulation published in the community in which the station is located or is proposed to be located, or, if there is no such daily newspaper published in the community, then in the daily newspaper having the greatest general circulation in the community: *Provided, however,* That in the case of an application for a permit pursuant to section 325(b) of the Communications Act, the Notice shall be published in a newspaper of general circulation in the principal area to be served in the United States by the foreign radio broadcast station. If the application seeks modification, assignment, transfer or renewal of an operating broadcast station, the applicant shall also cause the notice to be broadcast over that station twice a week between the hours of 10:00 a.m. and 10:00 p.m. for the two weeks immediately following the tendering for filing of such application, or for the two weeks immediately following notification by the Commission pursuant to §§ 1.354, 1.355, 1.356, 1.357 or 1.358. The notice shall state:

"(1) The name of the applicant, if the applicant is an individual; the names of all partners, if the applicant is a partnership; or the names of all officers and directors and of those persons holding 10 percent or more of the capital stock or other ownership interest if the applicant is a corporation or an unincorporated association (in the case of applications for assignment or transfer of control, information should be included for all parties in the application).

"(2) The purpose for which the application was filed (i.e., construction permit, modification, transfer or assignment of control, renewal, etc.).

"(3) The date when the application or amendment was filed with the Commission.

"(4) The call letters, if any, of the station, and the frequency or channel on which the station is operating or proposes to operate.

"(5) In the case of an application for construction permit for a new station, the facilities sought, including type and class of station, power, location of studios, transmitter site and antenna height.

"(6) In the case of an application for modification of a construction permit or license, the exact nature of the modification sought.

"(7) In the case of an amendment to an application, the exact nature of the amendment.

"(8) In the case of applications for a permit pursuant to section 325(b) of the Communications Act, the call letters and location of the foreign radio broadcast station, the frequency or channel on which it operates and a description of the programs to be transmitted over the station.

"(d) Within five days of the last day of publication or broadcast of the notice required by paragraph (c), the applicant shall file a statement in triplicate with the Commission, setting forth the dates on which the notice was published, the newspaper in which the notice was published, the text of the notice, and, where applicable, the dates and times that the notice was broadcast."

Section 1.359 is contained in Volume I—FCC Rules and Regulations—a copy of which may be obtained from the Superintendent of Documents, Government Printing Office, Washington 25, D.C., for \$2.

You are cautioned that failure to comply with the above-mentioned requirements may result in dismissal of your application.

Senator McGEE. I would like to add to the record a letter addressed to me personally from Jack Misselius, the News-Record, the weekly newspaper in Gillette, in addition to the statement that he had supplied earlier.

(The document follows:)

THE NEWS-RECORD,
Gillette, Wyo., February 21, 1961.

U.S. SENATE TV BOOSTER SUBCOMMITTEE.

To Whom It May Concern:

I take issue with requirements imposed by Public Law 86-752 (approved Sept. 13, 1960) and these requirements (which became effective Dec. 12, 1960) are contained in section 1.359 of the Commission's rules, the pertinent paragraphs of which are set forth below for your convenient reference:

"(c) An applicant filing any application or an amendment thereto on or after December 12, 1960, which is subject to the provisions of this section (except for applications for stations in the international broadcast service) shall cause to be published a notice of such filing at least twice a week for the 2 weeks immediately following notification by the Commission pursuant to sections 1.354, 1.355, 1.356, 1.357 or 1.358, in a daily newspaper of general circulation published in the community in which the station is located or is proposed to be located, or, if there is no such daily newspaper published in the community, then in the daily newspaper having the greatest general circulation in the community * * *."

We ask the question, Why is the weekly newspaper discriminated against in this legislation? Who is to decide what daily newspaper has the biggest coverage in any given small community? And what if that said daily is out of the State, let alone the county, of the said concerned small community?

We believe this legislation in the matter of the publication of the notice has missed the coverage of the readers who should be informed of this TV booster proposed for their community. Basically, the TV booster legislation was made so that small communities could bring in the TV signal. Consequently, there is not going to be a daily newspaper in a big majority of the cases in these communities. But there is going to be a weekly.

Therefore, I propose that legislation be enacted to amend the above quoted paragraph of section 1.359 of the FCC rules and regulations to also include any legally published weekly newspaper of general circulation in any of these said communities where there is no daily newspaper. Since the above publication mentions four publications of the notice, this could be the same for the weeklies.

Leaving a choice of either newspaper classification, then the small communities not having any newspaper could have a choice for their publication.

Thank you for your attention to this matter.

Yours truly,

JACK K. NISSELIUS.

Senator McGEE. I think you can rest assured that this matter, which is properly within the concern of this committee and the Commission, will be promptly cleared up.

Mr. PLUNKETT. Thank you.

Mr. REKORD. One other item, Senator McGee. We are in the same boat that Worland is in. After the deadline for new installations, which was July 7 of last year, we found two signals that were approximately four times the power that we had in our present location.

Our applications have gone in to move these to these new locations, and we are very eager to get those moved.

We even went so far as to have powerlines run to them, and one thing and another. We would like to know if there is any way that we could get a temporary permit to move to our new locations.

Senator McGEE. I think generally this would be a matter that the FCC would have to make a decision on. We will certainly join you in stressing the urgency of this, and ask for no delay in a judgment on that.

Mr. REKORD. In one instance we have approximately 30 microvolts; in our new location we have 300 microvolts. It is a difference of that much.

As anyone knows 30 or 40 microvolts is not much television. But 300 is really satisfactory.

Senator McGEE. We will say the same thing then that we said to Mr. Bailey when he testified; that this must be resolved quickly.

Mr. REKORD. Yes, but that was one of our points.

Senator McGEE. I am glad that you made it for the record. It only adds to the cumulative need for a decision being made there.

Are there any other points that you would like to raise?

Mr. PLUNKETT. Just another question.

Has any license actually been issued yet?

Senator McGEE. I am advised that the present status is that of temporary authorization.

Mr. REKORD. He does not mean licenses. He means building permits.

Senator McGEE. That I would have to check with the Commissioner.

Mr. LEE. As I understand it, we gave these temporary licenses to about 1,100 who filed the form 347.

Mr. PLUNKETT. We had those.

Mr. LEE. In that form you agreed to file another one by February 1. I really don't know, Senator.

Senator McGEE. I think it would be fair to say that probably not—

Mr. LEE. Probably not. We extended that February date, as I recall, to April-something.

Mr. PLUNKETT. We are 47 and 48, and in my opinion it looks like in that length of time we should have got that many in the works, that the Commission issue these licenses for boosters to build. That is what I am getting at.

Have they actually issued any license at all to go ahead with your building permit?

Mr. LEE. I really don't know. I could not answer that.

Senator McGEE. I think it is highly doubtful that any licenses have been issued on that basis. But there has been an extension. I assume that now the tempo will pick up very measurably.

Mr. PLUNKETT. Thank you.

Senator McGEE. Thank you very much, gentlemen.

Mr. Darwin Hillberry, of Riverton.

Welcome once again to one of our booster hearings, Mr. Hillberg. We have been very appreciative of your earlier appearances. I think this makes your third or fourth appearance before one of our sessions. Your contributions have always been constructive and helpful.

We look forward to what you may have to suggest this morning.

STATEMENT OF DARWIN HILLBERRY, RIVERTON, WYO.

Mr. HILLBERRY. Thank you, Senator. This is my fourth appearance. My name is Darwin Hillberry. I am technical director of the Wyoming TV Repeater Association.

Included in this statement is a copy of our TV Channel Coordinator Form; we have this program in effect now. The Tri-State Association and the National TV Translator Association are working on the same program. The problem we are having is due to no clearcut responsibility for authority for issuing or allocation of TV channels that are used or will be used in Wyoming. We are at present sending this form along with the Form 346 to the FCC. The FCC does not recognize this form as a necessity; however, in the report and order they state that they think the translator operators should police this problem.

At this time the manufacturers, the distributors, and mail order salesmen of translator equipment are selling translators like TV sets and automobiles. These distributors don't care what channel they sell; they just want to sell their equipment.

According to the FCC rules the translator operators have to take care of their own interference problems. With the present rules the translator operators have no protection from their neighbors 20 miles down the road, or from the distributors of equipment.

We, as the Wyoming TV Translator Association, would like included an exhibit on Form 346, a channel or frequency coordinating committee statement of the channel that is best suited for the given area.

Senator McGEE. That will be included.

Mr. HILLBERRY. Just as an exhibit on the form.

Senator McGEE. As an exhibit.

Mr. HILLBERRY. Wyoming, to our knowledge, is the only organization that has this plan in effect now. If this was set up on a national basis, we would turn over our files to the National Channel Coordinator. With these provisions we believe the coordinator should be a

nonprofit organization, and should not sell or represent any manufacture, or distributors of translators, or any kind of electronic equipment.

We think this is one of our biggest problems, and without some kind of a system, there will soon be complete chaos in the translator field.

We feel if the Interstate and Foreign Commerce Committee, would help us in getting this made a part of Form 345, it would save many problems, and also get television to people who are not getting it now, it will not get it because of interference.

Thank you for this opportunity to make this statement.

Senator MCGEE. We thank you for that statement.

I hope that you will take this form which you have suggested, and which I think is commendable—and the Commissioner just whispered to me that he thinks it is the right kind of approach to make—that it might properly become a subject of discussion at this translator's conference, for example. And if you can get agreement on how you would prefer to proceed on it, that it has been accepted in other areas and would be a proper approach here, that it would permit the agreement on, for example, some expert engineer who would represent quite a group of you, and likewise put this on an orderly basis.

Mr. HILLBERRY. That is what we need. If we do not have it we are going to have a mess in a few years. Today they don't recognize it, and you can buy a translator now in the mail.

Senator MCGEE. Mr. Commissioner, would you like to comment on this?

Mr. LEE. Yes, I would like to make an observation.

I think this suggestion is somewhat along the lines of my previous comments with respect to having a qualified engineer who would act in different areas. Some form such as this is probably the answer. In our experience at the Commission in other services we have a great deal of experience with what we call frequency coordinating committees. These are individuals who, in effect, do the engineering work for us. They are responsible people. When they certify an engineering fact to us, we accept it, and we have never had any trouble.

I would hope that this would be the development in this area.

Mr. HILLBERRY. The problem is that we need this thing now. We do not need it 6 months from now, because we are going to be in a mess then.

Mr. LEE. In this instance, if I may be so bold, this becomes your problem to work it out organizationally, rather than ours.

Mr. HILLBERRY. We have this plan in effect now, on maps, where we plotted all the translators on a map of Wyoming, their coverage areas.

There is nothing to prevent these men from buying these mail order outfits and not letting us know about it. Six months later the man down the road wants one and we do not know if there is one there.

Mr. LEE. We have been examining equipment as fast as the manufacturers are sending it in. We have approved I think three or four. We call this type acceptance. That particular equipment, the mere purchase of it, means that it meets our rules. This does not mean that you cannot use other equipment. But you would have to make a showing that the other equipment meets our rules.

Mr. HILLBERRY. We have gone into that. We have set up this association in Wyoming. We have two second-class licensed men now.

We have gotten a deal set up to get this equipment, like you were talking awhile ago, about this engineer—we call them technical directors, because none of us are engineers—but we are going around with this equipment to type-accept these things and to help these people all over the State—it is a State deal—through the membership. This is the thing we want help on now so that we can have control before it gets out of hand.

Senator MCGEE. Is it conceivable in your mind that such a session as projected in Salt Lake City on the 3d and 4th of March would be a useful clearinghouse for this kind of thing to get some of your people together?

Mr. HILLBERRY. I think it would. But we can go down to Salt Lake City and talk about it for 2 days. We need it included as an exhibit now, not a year from now. That is the problem we have, because then it is going to be out of control.

Senator MCGEE. I would assume that both the FCC and the committee will receive a full report and recommendations from this conference that would be very helpful.

Mr. HILLBERRY. We will be there in attendance.

Senator MCGEE. Thank you very much, Mr. Hillberry.

I would like to put in the record a letter that I received from Mr. Lee Johnson, whom I called upon earlier for testimony, from Sheridan. He was speaking for the Wyoming TV Association. Mr. Hillberry has made a statement in their behalf.

I would ask at this point that Mr. Johnson's letter be added to the record.

(The letter from Mr. Johnson follows:)

WYOMING TV REPEATER ASSOCIATION,
Sheridan, Wyo., January 6, 1961.

Senator GALE MCGEE,
U.S. Senate Building,
Washington, D.C.

DEAR SENATOR: Here we are again, asking for your help. You may already be acquainted with the situation but I will try to state the problem as it appears here along with our efforts to cope with it in Wyoming.

As you will remember the FCC in their report and order docket 12116, FCC 59-1211, December 2, 1959, recognized the need for an allocations authority but declined the job themselves saying on page 13 (same report and order): "The proponents of VHF translators claim they can work out such problems among themselves. We are of the view that they should." The various State associations and the tristate organization have attacked the problem, but the stumbling stone in the approach to a solution seems to be the FCC itself. We don't seem to be able to get a direct answer to the question, "Will they honor our recommendations?" The rules and regulations carry enough threat to force the operators of translators to cooperate, at the same time without a promise of recognition any agency set up to try to forestall inference is doomed to failure.

We in Wyoming can cope with the problem until certain selfish interests get themselves interested in becoming prospective translator operators with the idea in mind of delaying licenses with conflicting applications. This is not a resolvable problem at the present time.

Last summer the Wyoming association set up a committee to work with other associations toward a solution of this problem but at this late date nothing is definite on a large scale, so our committee has come up with the following as a temporary solution at the Wyoming level. But, again we need the assurance that our work will be recognized by the FCC. Here is where we ask you to carry the ball. In the past you have shown a remarkable ability to grasp the mechanics of our problems and come up with a workable solution. I am wondering if you might take the time to approach the FCC on this problem and

possibly present for their consideration the temporary solution as our committee has proposed for us in Wyoming. It is my thought that you may have some ideas that might result in a permanent solution of the allocations and interference problem.

I am enclosing copies of the letter we propose to send along to the FCC with the application form 346. These would be attached to all applications that we are asked to service, provided there are no conflicts, if conflicting applications are presented the problems would have to be resolved before the applicants would gain our blessings.

I would appreciate your views on the situation at your earliest convenience.

Sincerely,

WYOMING TV REPEATER ASSOCIATION,
LEE R. JOHNSON, *Vice President.*

From the

WYOMING TV REPEATER ASSOCIATION'S
COMMITTEE OF TV TRANSLATOR CHANNEL ALLOCATIONS
AND INTERFERENCE

Presenting

(Name of organization)

(Address)

The Wyoming TV Repeater Association, Committee on Channel Allocations and Interference, certifies that the above has on file with the association a copy of the FCC application form 346 (July 1960) identical to the application as made to the Federal Communications Commission. The above has agreed to advise this committee of the disposition of this application and of any revisions made to the application.

The Wyoming TV Repeater Association will hold all such license information in an orderly file to be forwarded to a central channel allocations authority as may be founded at some later date.

The Wyoming TV Repeater Association's Committee on TV Translator Channel Allocations and Interference, has examined the application attached hereto and believes that no interference to existing communications or to other translator installations will result from the granting of the facilities requested.

Interference Committee Chairman.

*Technical Director, Wyoming TV Repeater
Association.*

Association.

To receive channel No.-----	To transmit channel No.-----
Power output-----	Radiating antenna-----
Direction-----	ERP-----
Direction-----	ERP-----
Direction-----	ERP-----
Location coordinates-----	

Senator McGEE. The next witness, Mr. John Glode, Elk Mountain TV Association, from Saratoga.

**STATEMENT OF JOHN GLODE, ON BEHALF OF THE ELK MOUNTAIN
TV ASSOCIATION, SARATOGA, WYO.**

Mr. GLODE. Senator McGee and Senator Moss, I have a prepared statement.

Senator McGEE. We are prepared to receive your statement.

Let me acknowledge the presence in the room, obviously, of a large group from the local scene—I assume that they are a political science

class—to observe a public hearing. Professor Rekord brought his group in for this purpose. This is one of the ways of looking at the operations of a democratic government in the laboratory, as it were, rather than in a textbook. I think it is the combination that makes it much more meaningful.

We want to commend the professor and his class for taking the time to do this. We are sorry that we don't have sufficient seats to go around, but we do appreciate your presence here this morning.

Now would you proceed, Mr. Glode?

Mr. GLODE. I am John Glode. I am the representative of the Elk Mountain TV Association, an organization of the residents of the Elk Mountain, Saratoga, and encampment areas, located in Carbon County, Wyo. I am treasurer of that association.

We are operating VHF boosters in all three of these areas and have temporary authorization to operate VHF television broadcast repeater stations. In general we concur with the licensing procedure of the FCC but would like to submit the following information to the Senate Interstate and Foreign Commerce Committee.

We feel that the 1 watt of rated power output established by the FCC is far from adequate in our area and in our opinion is discriminating against those persons living in the fringe of our broadcast area.

Compulsory filing of FCC form 346 by April 1, 1961, does not allow adequate time to make proper selection of equipment or to make necessary tests of equipment in order to determine which manufacturer's product will provide the desired results. This, of course, means that TV companies' operating booster equipment are placed at the mercy of suppliers as they must list on form 346 the type of equipment they will use before they have an opportunity to study and make tests of equipment they may wish to use.

FCC type acceptance and manufacturers data cannot be construed to mean that the equipment is proven or will produce the required results for our area.

We also request engineering assistance from FCC for possible modification of our present equipment to meet existing FCC requirements. A survey of our equipment by a qualified person would enable us to decide what course of action would give us the best results.

Therefore we strongly urge your committee to obtain an extension of time—at least a year—for filing FCC form 346 so that proper engineering and equipment can be obtained without unnecessary expenditure of funds and that serious consideration be given to establishing the maximum power output for each area in accordance with the needs of the area.

We are trying in our organization to service quite a large area. In hearing the testimony of the previous witnesses we find that our problem is somewhat different from some of the others in that we need larger equipment, not less equipment. I will give you a brief history—

Senator MCGEE. By larger equipment do you mean more power?

Mr. GLODE. More power, yes. Specifically we have one transmitter on the east side of Elk Mountain, and that transmitter is serving the town of Elk Mountain and the area surrounding Elk Mountain.

Senator MCGEE. How many people are included in this service?

Mr. GLODE. I would say we are trying to service about 3,000 people altogether. To give you an idea of the area we are trying to cover, it stretches from U.S. 30 to the Colorado line.

Senator MCGEE. Which is how far?

Mr. GLODE. Roughly 40 miles. And a width of about 20 miles. So approximately in the main valley we have 800 miles. Add to that the Elk Mountain area and you might say we are trying to cover 1,000 square miles.

Senator MCGEE. May I ask, Mr. Glode, is there any other communication media there with which an increase in power might pose a conflict?

Mr. GLODE. I am also the secretary-treasurer of the Saratoga TV Co., which company operates a UHF translator at Saratoga. That translator is on 10 watts. And it services nothing but the town of Saratoga. There is no problem of interference whatsoever.

In our efforts to cover this large area, we started out with equipment somewhat in the range of 1 watt, and it did a fair job if we beamed it in one direction and tried to hit one specific target. When you started spreading this thing out, it is more or less like a flashlight. You can beam a small spot out a great distance, but when you try to cover a large area you don't have anything.

So we ended up with a final amplifier with a manufacturer's rated output of 5 watts. We are doing a pretty fair job with that. We still, however, do have our own fringe area within our broadcast area. You can see the problem that we are faced with today. If we proceeded with this licensing, we almost have to abandon the equipment we have. We have spent some \$8,000 on this equipment. It is doing a very commendable job, to a point. If we step out and purchase 1-watt output equipment, we are telling these people who are now receiving TV that they cannot have it.

You might raise the question, Why don't you put up more units? We come into this conflict of too many channels. Also we do not have much choice as to location of broadcast. We have to set up where the signal is. It so happens that we have one known good signal in the valley to work with, and that comes from Cheyenne. We have been trying to work with the Casper signal but it is much weaker. Our results there have been sort of inadequate.

What are we to do with this? You have put a deadline of April 1 for filing of this 346. Do we ask these people to contribute more money to buy new equipment and we do not know what we are going to have when we put it up? We have been at this for about 3 years and we finally came up with something that is workable with this so-called rated output of 5 watts. We are not sure what we are doing. We are like the rest of these small communities; we are businessmen, we are ranchers and we have our own jobs. We are not TV technicians. However, we are reasonably sure that we are putting out well over 1 watt right now, possibly in the range of 3.

Senator MCGEE. May I ask a question, for the record: Have you considered the possibility of converting this to UHF? What problems would that pose for you?

You say that Saratoga is on UHF now.

Mr. GLODE. This terrain around the Platte Valley is so hilly, and UHF just will not cover as well as VHF in a given terrain with a given amount of power.

Most manufacturers have a tendency to oversell their equipment. When we first entered into this UHF program some 5 years ago— Senator McGEE. It is known as the "hard sell."

Mr. GLODE. The hard sell. You could get any kind of information: "It is good for 20 miles, it is good for 30, depending." That isn't so. You might be able to be lucky in one spot out here to hit something. We have a U.S. hatchery out of town, about 4 miles. The picture out there is pretty snowy. Just below the transmitter it is 10,000 microvolts, possibly. As we get across town, 1 mile from that UHF transmitter, you can see the difference in the picture. You are not telling me that you are going to have a good picture out there 30 miles.

They have come out with this 100-watt unit, but I seriously question that it will cover our area.

Besides a fringe area we have what I would call shaded areas. They are not line-of-sight with the transmitter. We have ranches up every one of those creeks; and each one of them is entitled to a TV signal, just as well as the people in the town.

We feel that with more power than we have today, that even though they are shaded they will get a picture. They have a snowy picture right now; they are watching it.

We find that we had the same experience receiving this channel 5 from Cheyenne. When Cheyenne was on lower power, we just about didn't get a picture in there. As soon as they went up to 100,000 watts, even though the snowy range is in the way, we got a picture. We feel that ours would be the same situation with each one of these areas, what we call our fringe areas.

Senator McGEE. May I say that many of us wish that we would get more of a snowy picture than we have been getting out here right now.

If I gather the substance of your suggestion here, Mr. Glode, it is that, in a situation of the Saratoga Valley, with the mountainous terrain and the hills that are not regular at all, that you would find UHF less a difficulty from the financial point of view than from the actual operational points of view; that it does run into more difficulties than the VHF—of course, this has been demonstrated before in hearings in other areas—and you are petitioning for consideration of an increase in power permit in order adequately to service this valley. You think that your wattage now may be in the neighborhood of 3; you would like to go as much as 5.

Mr. GLODE. I would say 3 to 5.

Possibly we might like to go to 10.

There is another reason I will bring out for that. In order to get coverage in the upper part of the valley, we had to set up a station to receive our own signal and broadcast it out on channel 6. So there I suppose we are in violation. I am not sure whether we are or not.

We think that with one good location we can do the job; eliminating something that we are running now. We are running actually in the Platte Valley right now, we have four stations. One at Elk Mountain, which means we are running five stations. One of them of course is not concerned with Elk Mountain TV. It is a UHF. But nevertheless it is servicing the same area.

Senator McGEE. Of course, you are mindful of the Commission's problem on this, that is, while you may have no other competing sources of communications in the Saratoga Valley, there is still the

question of the power, increase in power, which conceivably can interfere with other channels, not in the TV business but in other elements of communications. Say in the airwaves. And that is the reason it has been necessary for the Commission to try to establish some kind of regulation over the power; and that it may not be enough to suggest that increasing your power would not interfere with the existing UHF operations, or with any known live television signal in the area, or a cable system, and still could pose a problem. So that this would have to be looked into and studied very carefully by experts.

I would gather that the burden of your suggestion, whether the increase would be 3, 5, 10 or what, that is not so much the issue. It is the fact that consideration be given to flexibility in the power in local considerations whenever all checks would suggest that that would produce no greater problem.

Mr. GLODE. Another item along that line, this compulsory filing by April 1. What are we to do? We are up against the blaze there. We don't want to buy this 1-watt equipment if we are even going to have a chance of going to something better.

I would say this: That if we so much as had one good one, certainly we would need that smaller one at Elk Mountain. We are not asking for much more there. However, we believe that you have your problem of your ranches around there that are around the fringe areas of that Elk Mountain transmitter. Aren't they entitled to a TV signal?

What would 3 watts or 5 watts do at Elk Mountain? Possibly give it to these ranchers in the outlying area. The thing we should try to do right now is try to solve this problem and not let it go on because a year from now we are going to be faced with the same problem and they will never give up the clamoring for this TV.

What happens to you when you stop changing equipment? We have about \$6,000 in basic equipment, not counting the shacks and the towers. We have an offer on that, on a trade-in, with your type-accepted equipment, of \$600-some-odd. It is just barely broken in, some of that equipment. Some of it we just got in. Do you see why we are objecting to making a change now? We would be faced with the same thing. You could come out a year from now and say, "You can put up 10 watts." Do you know how much they will offer us for this equipment? Ten percent, if we are lucky. This is the public's money we are dealing with here. We feel that we should protect it.

Senator MCGEE. Consistent with the interests of all.

Mr. GLODE. We are not trying to interfere or be unreasonable. You can see our position.

Senator MCGEE. I am sure the Commissioner can see that you are up against the blaze as you describe it. Would you care to do anything about that blaze, Mr. Commissioner?

Mr. LEE. Yes. I think that in all frankness I should make a statement here; as everyone I am sure in this room knows, we have struggled with this problem for a long time. I think part of the consideration the witness has indicated is that he is not a technician, and neither am I. But there are a lot of technicians who have to look at this thing.

We did look at it very hard and, with the urging and the interest of the Senate in mind, with particular reference to the Western States, I might say we almost reluctantly came up with a 1-watt

limitation; which we felt was within the degree of calculated risk that we could take not only with interference today but potential interference at some future time. I think it would be unfair for me to encourage you to think that the Commission would appreciably raise that power limitation. I just don't know. I do not want to encourage you. We worked this thing out with all of the organizations concerned. We found that the 1-watt limitation apparently took care of 90-some percent of the problem. Now we are faced with the few specifics that it did not take care of. I just don't know what the answer would be. I don't think you should write off UHF too quickly. It might not be a bad idea to consult with somebody. We have, after all, some 345 operating UHF translators that are doing rather well. You may have, probably do have, a unique situation here. But I don't think you should sell it short, because in the UHF you can safely go to I think 100 watts. We have some very good experience with it. There is a real advantage in that, as the previous witness has indicated, this might really give you the roots for a real full-fledged station some day, whereas on the VHF translator I would say this would be extremely doubtful. But if you are on a UHF translator your community as a rule can afford to go into the business, and you could probably originate local programs. I thought the record ought to have that little bit of a pessimistic air there because I don't think it is fair to mislead people. I think this would be quite a trick, get a substantial power increase.

Senator McGEE. I ought to add, in keeping this in its total context, that there were any number of similar situations that we have received yesterday in Salt Lake City, Senator Moss' hometown, in which there were petitions in given areas, and well-described areas with geographic characteristics of a certain sort, urging a larger power allowance; at least a willingness to explore this on a local basis in line with the Commission's total problem of keeping the channels unentangled; to see if it were not possible to allow a little more power, for local reasons, because of this vastness of space and the sheerness of mountains in this part of the United States.

It may have some merit likewise in opening up the area. I think it is very proper, however, to take a more cautious view, because the compounding of the overlapping of channels and of signals is not fairly represented by just examining the other communications media in a particular area.

Do you have anything else to suggest there, Mr. Glode?

Mr. GLODE. In view of the fact that we are a little undecided as to what equipment might best serve us, we have prices of \$900 for a unit to over \$2,000. They have been thrown at us here so fast. This type acceptance is so new, we definitely feel we should have more time before we make a decision. This April 1 deadline is really a burden on us.

Senator McGEE. As I understand, one of the approved packages or kits is a bit under \$1,000.

Mr. GLODE. Yes. But how are we to know whether it is comparable to one that sells for \$2,000? What are the differences? It takes time. You have to look into these things. When you say April 1, we have to commit ourselves on that equipment. I don't think it is fair. We have TV right now. All we are trying to do is legalize it.

Senator McGEE. In any case, it is because of the peculiar local circumstances in your case, and as you know you have the right to petition the Commission for a waiver.

Mr. GLODE. Is there a form to that effect?

Mr. ZAPPLE. Just a letter.

Mr. GLODE. Should that be sent to Denver?

Mr. LEE. FCC, Washington.

Mr. GLODE. And put us on a test basis?

Mr. LEE. Ask for a waiver of this provision for the amount of time that you think you need—30 days, 60 days, 6 months, and take your chances. This would have to be acted on by the full Commission.

Senator McGEE. It doesn't put out this blaze that you are up against, but it does maybe give you one coat of asbestos for a little while that will enable you to perhaps continue operating and let experience in the instigation of these new operations accumulate so that if there is to be a change or modification at all you have a chance to benefit by it.

Mr. GLODE. As a previous witness has suggested, we also feel that we should have more specific information from the FCC, particularly some engineering assistance, if possible. I think where the FCC is serving for the public, they should be working with the public. I think a man working out of the FCC office could come around and tell us what we have, what we have to do, what possibilities there are.

What I am trying to do is get away from a person trying to sell equipment. We want some impartial observer, someone who is serving our interest, to come around and tell us what he thinks can be done. I don't know whether this could be worked out or not. It would certainly be a great public service to the people throughout this western area to have engineering service available from the FCC office.

Senator McGEE. I am sure that while that has some limitations, too, because of the sheer physical limitations, manpower limitations, that it does not leave unavailable the possibility likewise of the group itself making available, through a sharing of an expert engineer, his services, so that there may be two or three ways to approach that.

Mr. GLODE. I believe that covers most of the points that we have. Thank you.

Senator McGEE. We thank you very much, Mr. Glode.

Now a delegation from Douglas, Wyo. Is Joe Sullivan here, and Otto Bolin?

Senator Moss, we are hearing some very familiar stories here today, most of which occurred yesterday in Salt Lake City as well.

Senator Moss. Yes, many of the problems are the same, as we would expect them to be, because we have essentially the same problem in Utah: vast distances and mountain ranges to contend with. This request for flexibility on power limitation came up a number of times in a number of areas. Our people felt that they must be permitted to have more than 1 watt of power in order to cover the area that they were attempting to serve.

We didn't run into this deadline filing quite as much yesterday as we have today.

Senator McGEE. Joe, would you identify yourself for the record, and Mr. Bolin?

STATEMENT OF J. B. SULLIVAN, ACCOMPANIED BY OTTO BOLIN,
DOUGLAS, WYO.

Mr. SULLIVAN. I am J. B. Sullivan, from Douglas, Wyo.

Mr. Otto Bolin represents the Douglas community. We have no formal organization down there. As many of the former witnesses have testified, it is a volunteer sort of a proposition in Douglas to get TV coverage.

Our particular problem in Douglas, as I understand it, is this, and I don't know whether any of the others testifying this morning have the same problem: We have a TV booster in Douglas and receive the signal of the Scotts Bluff station—KSTF.

Senator McGEE. Channel 10, the satellite of channel 5 in Cheyenne?

Mr. SULLIVAN. Yes, sir. We also receive a direct signal from Casper, channel 2.

Senator McGEE. This is the one over which you are now appearing?

Mr. SULLIVAN. Yes, sir.

The problem which Douglas has is simply this: that part of the town is able to receive the direct signal from Casper, but is unable to receive channel 10. Part of the residents receive channel 10 and are not able to receive channel 2.

In our application we were informed that it was necessary to obtain the permission of the mother station at Scottsbluff in order to continue our present operation. As we understand the problem there is an overlap then of programing between our direct signal and our TV booster.

As I said, part of the residents do not receive the channel 2 signal at all. If we were to regulate our TV signal it would be necessary, as I understand the regulations, on the overlap, to black out overlapping programs. We have determined that in doing that—there is a total coverage or total broadcasting on the booster station of 92 hours and 45 minutes in comparing the programing—we would be required to blackout approximately 29 hours and 35 minutes, or 47 shutoffs. Our technicians and the man who works on the booster say that it is virtually impossible to obtain equipment which would accomplish that purpose. And in doing so, in accomplishing that shutoff on our booster, then we are shutting off about a third of the residents of the community from any TV at all.

Senator McGEE. As a matter of information isn't it possible that they, for example, through a booster properly located, a translator, could change this signal to another channel and avoid this overlap to which you referred, and thus still make available the reception to all the people of Douglas?

Mr. BOLIN. Do you mean there, Senator McGee, that we change our booster from channel 10 to channel 2? If we change it from 10 to 2—

Senator McGEE. No. Change it to another channel.

Mr. BOLIN. We have only two choices in Douglas, channels 10 and 2. There is no other signal that we can secure. On channel 2, in the summertime, because of our particular terrain, we get an awful lot of skip broadcasts which actually make channel 2 hardly good to anybody in the summer. Our best signal, being on the higher wavelength, is better to pick up channel 10, which would miss the skip. In order to do that we will have to comply with the blacking out

according to the channel 10 regulations, and a third of the time the people in our one end of the town will have no TV.

We have basically a particular terrain problem which most places don't have. We have a hill that comes down through part of our town. It is an odd situation. It is one that doesn't fit the books, you might say.

Senator MCGEE. You have put your finger on two aspects of your problem, if I understand your situation correctly. One is the terrain. The other is the network problem itself, that is, where there is some attempt to avoid duplication.

Mr. BOLIN. We understand the problems in duplication in getting the revenues as far as our national advertisers are concerned. We just don't fit the picture. We are just an odd circumstance.

Senator MCGEE. Mr. Commissioner?

Mr. LEE. I think, Senator, this brings up a very important principle that you would be interested in. I don't propose to give the answer. Apparently, since you must have the permission of the originating station for programing, the station, of course, in almost every instance I would think would be very happy to give it. But apparently the network affiliation that they have, because of their agreements with other stations, will tell this station, "Do not give that programing or you are going to have trouble with us," because that area is served by someone else, which immediately raises this overall problem of network control over a station, which is before us in the very broad aspect as to whether or not the Federal Government should regulate the network as such.

In other words, we regulate not only the station, we license the station. The question is then raised, should the network have the right to tell a station what they should or should not do in this area. It is a very interesting point. It is not going to be solved today.

Mr. BOLIN. I think basically it resolves down to who gets credit for the revenues?

Mr. LEE. That is right.

Mr. BOLIN. It isn't a duplication of the program so much as to who is going to get credit for covering our community.

Mr. LEE. That is right. The source of a good part of the television revenue is, of course, Madison Avenue. And Madison Avenue buys this station expecting to get this coverage. If the other station also gets the coverage through a translator, there is a conflict, and this is the problem.

Mr. SULLIVAN. If we continue on the blackout as is suggested, then we are actually cutting down our coverage rather than extending it. We are kind of up against a blaze, too, if we go out and ask for contributions for additional money to buy equipment to comply with the regulations and then cut our programing down and cut some of our residents out entirely. Actually, we are virtually in the same position as having two separate communities, one receiving the direct signal and one receiving the booster signal.

Senator MCGEE. There is no way out because of the peculiarity of the geography.

Mr. BOLIN. We have an odd situation. We don't fit the pattern of any general regulation. We realize that. We are in a spot. We would like to continue. Actually, we have no objection from KTWO of having the 10 come into our area, but still channel 10 objects to us having

it. The only place we can get a decent signal is 5 miles out, quite a way off the highway, which is very difficult to get to. We can run our lines out there, as far as shutoffs, and such as that, close to the highway. They suggested that they send us the week's program in advance, and then we cut our tape, which so far we have not been able to find the timeclock which we can run for a week with that number of shutoffs. Forty-seven a day is quite a few.

In the case of emergency, where you have a special program like you have at the U.N., with the fight and one thing and another, those things come up so fast it would be impossible for us to adhere to their strict regulations. We just couldn't do it.

Senator McGEE. It is obvious from the uniqueness of this particular question, which is not unlike the questions at our hearings earlier developed in Lewiston, Idaho, as a case in point, that it is going to be thrashed out because it doesn't fit the pattern.

It falls into the very difficult area which the Commission is now proposing in the suggested new legislation, likewise in the terms of the question of overlapping jurisdictions and the duplication of programs.

I think the most that can be said here this morning is that this is one of those things that we are going to have to sweat out and see where we find the best and the fairest solution.

Mr. BOLIN. In the sweating-out period, which kind of bothers us, if we invest in one type of equipment and then we were changed, I think this April 1 deadline in our case probably is a hardship.

Senator McGEE. Because of the special circumstances here I think you would have every basis for filing a petition for waiver in order to receive consideration on this very point.

Mr. BOLIN. We shall do that.

Mr. SULLIVAN. We are anxious to work out something where as many people as possible in our community can receive coverage.

Senator McGEE. Right. You are caught in two or three binds here.

Mr. BOLIN. Actually if we had channel 2, without the skip in the summertime which we get, the odd circumstance there, where no one has a good signal to pick up, still we can get a decent one from Cheyenne. But if we do that we eliminate a third of the programming to about half of our community.

Senator McGEE. I think the first step would be to petition for a waiver in this particular instance.

Mr. SULLIVAN. Thank you, very much.

Senator McGEE. Thank you, very much.

Has Mr. Ed Macy, from Upton, Wyo., come in?

(No response.)

Senator McGEE. Mildred Ernst, Thermopolis, Wyo.?

I would like to put in the record a letter I received from Mr. J. B. Sullivan, that expresses some of the issues we were just discussing. Likewise a letter I received from Mr. Macy, from Upton.

(Letters follow:)

DOUGLAS, WYO., December 21, 1960.

Senator GALE W. MCGEE,
Senate Office Building,
Washington, D.C.

DEAR SENATOR MCGEE: As no doubt you are aware, the recent TV booster regulation by FCC requires local booster stations to obtain permission of the mother station to rebroadcast their programs. The mother station for the Douglas area is channel 10, Scotsbluff and Cheyenne. It is our understanding that we can obtain only a limited permit from Cheyenne after January 1, which will involve the elimination in Douglas of one-third of the reception from that channel.

Only about two-thirds of the Douglas residents are able to receive live television from KTWO, Casper. The other one-third are unable to receive Casper because of the peculiar terrain, mountains, and geography of the area. Because of the terrain difficulty we are advised that we are unable to boost Casper to the Douglas residents who are now unable to secure that channel direct.

We feel that the regulations by the FCC authorizing the booster stations are for the purpose of assuring television coverage to everyone. Under our peculiar circumstances in Douglas, in order to comply with the FCC provision one-third of our residents will be without TV, or under the limited permission for the booster these residents would only receive television reception two-thirds of the time.

We are advised by Mr. Bob Berger, manager of the Casper station KTWO, that he has no objection whatever to our present full-time booster station in Douglas. We have been unable to discuss the matter with Mr. McCracken, the president of the Cheyenne television stations, or to fully explain our situation to him because he has been ill. We realize that his station is endeavoring to comply with the regulation, but we feel that some special consideration should be given our situation.

Would it be possible for you to secure for us an extension of time until the matter can be satisfactorily resolved? We feel that, without a doubt, when we have had an opportunity to explain the situation to Mr. McCracken, he will be agreeable to issuing the necessary letter of authority required.

Yours very truly,

J. B. SULLIVAN,
CHAS. G. IRWIN,
OTTO T. GALLU.

HON. GALE W. MCGEE,
U.S. Senate,
Washington, D.C.

UPTON, WYO., January 11, 1961.

DEAR SENATOR MCGEE: As members of the Upton TV Committee, we have operated a translator here for the benefit of the people of Upton as a community project for the past several years, and under the terms of the new FCC ruling, we made application last fall and have the approval which permits us to transmit on channels 13 and 7 until October 31, 1961.

We are now confronted with quite a dilemma due to FCC regulations which state, "existing stations eligible to obtain temporary authorization, under section 4.700 of the rules, for continued operation with their present equipment, must, on or before February 1, 1961, file with the Commission an application for authorization to construct a station or modify existing equipment as to comply with all of the requirements of section 4.701 through 4.784 of the rules."

Referring to FCC Form 346, section III, page 1, this requires that we send to the FCC, the make of the translator, the type and rated power and all other pertinent data regarding its construction and output.

The manufacturers of these translators, to our knowledge, have not been able to have any approved as yet and we don't see how we can very well apply for a nonapproved translator without having to make an entirely new application again, providing the type and make which we might secure may not be approved.

It seems that more time should be granted these small translator setups in order that we may be able to see and try out approved translators before listing them with the FCC or before actual purchase.

We would appreciate hearing from you at your earliest convenience as applications are supposed to be in by February 1.

Very truly yours,

UPTON, WYO., TV COMMITTEE,
By J. E. ACKERMAN
J. E. MACY

Senator McGEE. Good morning, Mrs. Ernst.

The next witness is Mildred Ernst, Thermopolis, Wyo.

**STATEMENT OF MRS. MILDRED ERNST, COOWNER OF KWRB-TV,
THERMOPOLIS, WYO.**

Mrs. ERNST. I am coowner of channel 10, KWRB-TV, in Thermopolis, Wyo.

Of course, the boosters pose a problem to us, a very serious one.

There are advantages to boosters; they definitely have a place in the scheme of things. They can bring signals to some of the remote communities that, due to geographical location, have no signal or perhaps only one signal with only one network's coverage. But there are also a great many disadvantages to the overall picture of broadcasting.

When a station invests capital and goes into operation it signs, voluntarily, a network contract, perhaps with two or three networks. I happen to have all three network affiliations. The network affiliation guarantees us no duplication in our primary coverage when we sign with them. If we refuse a network program and there is more than one television station in the area, the network is free to place it with the other station, and of course we have no right to complain because we have turned it down. But if we do accept it then we are given the assurance that we have nonduplicated coverage in the area.

So with boosters the same show may be available on a multiple number of channels at the same time in our primary coverage area.

In one of our towns the same show can be seen: (1) on our station; (2) on a booster on KWOK, of Billings, Mont.; (3) on a booster for KTWO, of Casper, Wyo.; and (4) on three channels on the cable in the town bringing the signal in—KWOK, Billings; KWID, Idaho Falls, Idaho; and KTWO, in Casper.

In other words, there are six places on the dial that the people in that town can see the same live network show at the same identical time, and I am supposed to have nonduplicated coverage for that show.

Senator McGEE. At least you would have viewer saturation.

Mrs. ERNST. I would have viewers if I didn't have to divide it with six other people showing the same show at the same time. When I go into a local merchant and say, "I have a spot open next to Hennessy" we will say, for a name, they will say, "Fine. I know everybody in town watches it. But who are they watching? Are they watching KWID, KWOK, or KTWO on the cable, or watching it on one of the boosters, or are they watching you?" I have no chance of making a local station sale against that kind of competition. It makes it just a little bit rough.

The small station has to have network programming or it will go broke. There is no other way out of it. By mutual net and station agreements it should be on the local live station only.

If the boosters and the cable could set up time blocks—and it can be done, because radio stations have done it for years to switch from one network to another automatically—to black out when a local live show is carried on a local station, so that it wouldn't be carried, we wouldn't be depriving the people of anything because they still would have the show available to them.

I don't want to deprive anyone of any television at all, because television in my business. Radio has been my business since 1917, and television for the past 3½ years.

I want them all to have all the television possible, but I would like to have the protection that when I have a network show that I don't have to divide my audience and my primary rabbit-ear coverage, so to speak, with six other people. It makes it just too rough.

We wouldn't deprive the general viewers of a thing if the boosters and the cable could black out. That is something that I don't know. Naturally the boosters are not broadcasters. It is something new to them and they haven't had these problems that the Commission has fought with for years, and that broadcasters have.

Boosters and cable can't do a local job for the public in the way of public service.

For example, last night about 6 o'clock the police department at Worland, Wyo. called, asking me to broadcast the description of a child who had disappeared at 8 o'clock yesterday morning and nobody could find hide nor hair of him. We ran at every station break descriptions of that child, asking everybody to be on the lookout for him and to help get people out to look for him. We, of course, give service of that nature to all of our towns—the sheriff's office, the reform school, the State industrial school, the police departments, the mayors, the school officials, churches, civic organizations—they are all given that kind of service which would be impossible for boosters to do because KTWO in Casper and KWOK in Billings and Salt Lake and Idaho Falls couldn't possibly run the spots for our local people as the need arose. Only a local station can do that.

That is another reason why I feel that local license-free television should be protected to assure its continuance.

Senator MCGEE. If I may interject there, Mrs. Ernst.

It is the wish of the Commission, and the purpose of the Congress, to try to encourage and protect local television. This is essential in the consideration. The overlapping of these problems, of course, is the thing which everybody is trying to work out a happy solution to. This case that you describe is not at all unlike the case in Lewiston, Idaho. There is a decision pending on that at the Commission. There will be, we hope, some guidelines that may tend to unravel this entire twinge of these factors. Likewise the point that you raise about the duplication of programs was a part of the issue at stake in the legislation proposed in the Congress last year to try to supply a useful formula of nonduplication to work out with the CATV systems. Of course, that was recommitted. But one of the proposals in the new legislation now being advanced by the FCC looks to that particular instance, where, as they say in their background description, the Commission's jurisdiction might be exercised in appropriate situations in the field of duplication by CATV systems, of programs being carried otherwise by the local stations.

So it is this area in which there is a serious study at the present time, and out of which we hope will come a constructive policy position.

Mrs. ERNST. The Commissioners can remember back to the other chaos that we had in radio in the early days. It has been frightening to me to see the possibility of the same repetition in television un-

less they can move, and I know that they have a million things that they have to do, and they have to take them in turn.

But, as I state, small markets cannot exist without network shows. Not only for the revenue we derive from the network but for the programming we derive. If I had to buy time for the hours that I am on the air that the network has now ordered shows on my station, I couldn't stay in business. I would be black long before this. How long can I keep these network shows if it becomes general knowledge and accepted that any booster, anywhere, any distance, can pick up a signal, put up a booster, and bring the same shows into my area. I am going to lose them. That is a problem that has got to be considered, because we have got to have the programming as well as the revenue from the network if we stay alive in small television.

This pin that I am wearing was presented to me last night on camera during a telecast in conjunction with the National Future Farmers of America Week. The Hot Spring County Future Farmers held a regular meeting on camera to show what their work is, how they conduct their meetings, and what their organization stands for. They have the right in their bylaws to nominate and elect an honorary member to the Future Farmers of America. They chose to nominate and elect me as the honorary member and presented me last night with a full membership and this gold pin in appreciation for the work that KWRB-TV had done for them, for all of the farmers in our area, and for other people in the community. I felt very humble and very highly honored to accept this pin last night.

Senator McGEE. Indeed you should. And will you accept our congratulations here, Mrs. Ernst?

Mrs. ERNST. Thank you.

We have had several similar awards. Generally from the outlying areas that have no TV in that part of the State except ours.

Senator McGEE. You do have boosters that carry your signals?

Mrs. ERNST. In the towns. The boosters are in the towns.

We have given permission, subject to network approval, to two boosters, both of which are in our FCC secondary coverage area according to the engineering map that the FCC has on file. I will never grant permission for a booster outside of our secondary coverage if they have any other signal in there. And I don't think that any station should grant permission to boosters to carry their signal with duplication closer to another listed television station.

Senator McGEE. What you are saying is that you wouldn't propose to invade the viewing area of KOOK, or KTWO?

Mrs. ERNST. Or any other station, no matter where.

Senator McGEE. I suppose there would have to arise a theoretical question of where that dividing line would be drawn?

Mrs. ERNST. I have taken the FCC engineering coverage map as my area that I say I will grant permission to boosters. That is what they give me as my primary and my secondary coverage. That I will grant permission to, subject to the FCC approval; and one that I have granted to has received the network approval. The other one came in later and I don't know if all the forms have been filled out yet by them or not. But I have been notified that in the town of Dubois they have clearance as soon as the FCC gives them their new license and they have bought their new equipment now to meet all of the requirements.

I agree with the FCC allocation plan of frequency and power alloca-

tions. I believe that all stations should just grant their permission for boosters within their coverage.

I believe that the network shows belong to the network, and that they should be broadcast or telecast only as networks grant affiliations to stations and boosters, and the networks are granting affiliations to the boosters that they feel are proper and in the proper coverage pattern of the mother station.

Senator MCGEE. Of course this again opens up a question which is not for you to determine, the question of bringing the networks themselves into the same rules of the game that apply to the local stations.

Mrs. ERNST. It isn't for me to determine. I do have an opinion on it. I do feel that the network programs belong to the networks. I feel that anyone that originates something, it is their property and they should have some say in what is done with it and how it is handled.

Senator MCGEE. But they are using the airwaves that belong to the people of the United States.

Mrs. ERNST. Indirectly, yes, they are using the airwaves.

Senator MCGEE. Quite directly I would assume. Again, that is not the issue here. This is a curious story in the emergence of the TV industry, and radio as well. Here was something that all agreed in the 1920's was the property only of the people of the United States; the airwaves. And by a process of just building piece on piece, as "Topsy grew" as the old story goes, what is a public property licensed out for private use with responsibility has gradually, through inattention and lethargy and one thing or another, been assumed to be a private property, which it is not. I think this is the thing which the vigor of Commissioners like Commissioner Lee and the new climate around the Commission these days is going to have a new look at, to see if we can't reestablish the public interest in the airwaves. That is the only reason I mention that particular point.

Mrs. ERNST. I believe also that no station should be permitted to give permission to a booster or cable to carry network shows in any area that is closer to another station carrying that same program legally licensed and affiliated.

Senator MCGEE. You have the FCC empowered to prohibit their doing that.

Mrs. ERNST. We have in standard broadcast. But as yet in cable TV and in boosters that is still in the formulative stage, so to speak.

Senator MCGEE. But it would be conceivable in this new legislation that the FCC is proposing.

Mrs. ERNST. Yes. I definitely believe in our American system of broadcasting. I feel that even with our shortcomings—and I can recognize and face a good many shortcomings we have—we are a young industry and I still believe we have the best broadcasting system in the world and I still think that the FCC has done a very fine job; that they have been handicapped in a great many ways because they have had a terrific load put upon them. I think that eventually they will get everything straightened out in the television industry the same as they did in the radio broadcasting industry, if we don't all of us jump on them too hard and make too many demands on them at one time until they are bogged down and don't know which way to move.

Senator McGEE. And if these blazes, against which some of us have been backed up, don't consume those who are closest to them.

Mrs. ERNST. I think that they should encourage more local television stations rather than just boosters. It is possible that they could have, in some of these towns, a small, low-powered television station locally that would cover 40, 50, or 60 miles, where they could have an off-the-air pickup to do their programing, and maybe not even a live camera but could give local news and weather over a slide for local protection for the real small towns. I think possibly that more of that should be encouraged, rather than a promiscuous granting of permission—not permission, but allowing these boosters that we have had spring up all over the country.

Senator McGEE. One of the goals of the committee has been to get as many local live TV stations into the business as possible. But you are caught again in that gap, that in many areas, for economic reasons, it is not possible or conducive to a local group opening a TV station. Do we then let the potential viewers there languish as second- or third-class TV citizens until "X" number of months or years ahead? This is a difficult question. Our only hope would be, in booster legislation, that we don't try to legislate a system of policies that would discourage the eventual live TV station.

Mrs. ERNST. While we were looking at the interim, what is interim? What is going to happen to local live stations like ours if these boosters are put in every one of our local towns, to the place where we have no revenue and we go dark? Then all of the ranchers and the farmers who are really remote have nothing.

I am responsible, when we went into TV, I am responsible for a good many thousands of people purchasing TV receivers, and if we went black they would have a piece of furniture that isn't really attractive if it doesn't work.

Senator McGEE. And sometimes isn't attractive when it does.

Mrs. ERNST. That is quite true. But it would be much less so if they could receive nothing.

Senator McGEE. Let's face it very bluntly.

Mrs. ERNST. That is something we have to face.

Senator McGEE. The boosters are not in business at all if we don't have live local TV stations.

Mrs. ERNST. That is true.

Senator McGEE. And therefore there is a built-in interest for the booster operators as well to keep local TV going.

Mrs. ERNST. But how many of them have really realized that? As I say they are not broadcasters. They haven't made this study of it that you have and the Commissioners have and that the Senate committee has. I have listened to some of the testimony here this morning and they all say we are not engineers. In the broadcast industry, if a man does not broadcast and is not an engineer he jolly well has to hire them quick.

Senator McGEE. We have all been learning. No one knows all the answers. We have been learning the nature of the problem. This is what is permitting I think the evolution of the intelligent policies, intelligent minimums, intelligent regulations that will keep everybody alive and healthfully so. That is the reason we are here this morning.

Mrs. ERNST. As a broadcaster of about some 40 years' standing, I

think that these field trips that the Senate committee and the Commissioners have been making are one of the biggest things that has happened to us. I for one want to go on record as saying I am very, very happy that they are being made, and I am very happy to be able to come and meet with you here in the field because I know that it is the only way that people in Washington can possibly comprehend the problems of the people out here in the Wyoming spaces.

Senator MCGEE. Thank you very much for that statement, Mrs. Ernst.

Are there any other aspects of this that you care to raise?

Mrs. ERNST. No, that pretty well covers what I wanted to bring up.

Again I thank you for the privilege of being here today. If there are any other questions that you want to ask me, I will be here for the rest of the hearing.

Senator MCGEE. That is fine. We thank you for coming in. Your many years of experience have always proved helpful because you can draw upon some very harsh experiences sometimes as guidance for others.

Mrs. ERNST. Thank you.

I have communications received here from two TV associations in the neighboring areas of Montana that I would ask be made a part of the record at this particular moment.

(Letters follow:)

PHILLIPS COUNTY TV ASSOCIATION, INC.,
Malta, Mont., February 18, 1961.

Senators MCGEE and MOSS.

Senate Interstate and Foreign Commerce Committee.

DEAR SENATORS: Being unable to attend your most important conference we wish to take this opportunity to inform you of difficulties we have ran into in our translator operations. We are in the process of installing a UHF translator to serve the entire county of Phillips from one location. This UHF rig will feed six small VHF satellites. Our problem arises from the fact we cannot change any equipment on these VHF translators until we have filed a form 346 with the FCC. To file this form (346) we must change our equipment to receive UHF and conduct a series of tests to be sure the translator location and coverage are adequate. The way the rules read at present we must either break the law or file a form 346 on suspicion.

All the clubs in this area are up against the same thing. We would surely appreciate it if you would bring this to the attention of Commissioner Robert E. Lee.

Respectfully,

ZANE W. ROBINSON, *Secretary.*

ROY TV CLUB,
Roy, Mont., February 20, 1961.

Senator MCGEE,
Wyoming.

DEAR SENATOR MCGEE: I am much relieved that someone has finally discovered that these applications are too complicated. I am secretary treasury for this TV club and for 4 months our maintenance man and myself, have studied and gathered information. He runs a business and is very short of time. I have spent almost full time.

There is just no place you can find some of this information. So I have had to go to a Government surveyor, and take advantage of his friendship to our family. He is already too busy handling his own job, and that is where I got latitude, longitude, altitude, degree of direction on the antennas and legal land descriptions—For free.

We have men in the club, who could have done this just as well, but would their signature have meant anything to FCC, we couldn't take the chance. They have no title such as, technical director, chief engineer or consulting engineer, as asked for in the application.

The FCC rule on being off the air, as it is, we have no leverage on the members and the whole community, to make a stand, to even get all the members together, to raise the extra funds, for having these applications filled out for us. As long as the TV picture is good, the viewers are very content to sit home and enjoy it and let someone else figure a way.

All this sounds as though we do not have the funds available for conversion. Well, we do, and in the bank. And our applications are about as ready as we can make them. We have the funds for next year's operational expense too.

I would like to ask: Where and how do we get a polar diagram, etc., section 111, page 2, paragraph 9? If we could get that, then I could list the exhibits and have the application notarized. We have everything else.

These are the changes I'd like to see:

1. Provision for change of officers. But notify FCC of any changes.
2. Total population in range of translator. Where TV signal is concerned. Where does one community leave off and another begin? Out here communities are determined by the old trails, TV signals pay no attention to that.
3. Number of paid memberships.
4. Number of TV's receiving from this translator, who are nonpaying.
5. Number of homes unable to receive within this area. Why?
6. Financial statement and history of organization. Amount of dues, cost of membership, assessments, whichever applies. I feel this would reveal the potential and reliability of the organization.
7. Make provision for more than one translator, operated in common.
8. One topographical map for each translator, and mark upon them:
 - (a) Translator site.
 - (b) Altitude.
 - (c) Actual reception pattern.
 - (d) Land description of translator: NE $\frac{1}{4}$, NE $\frac{1}{4}$, sec. 11, T.18 N. R. 20 E.M.M.
9. Mother station, channel, call letters.
10. Receiving channel.
11. Transmitting channel.
12. Type and manufacturers model number of translator, converter, etc., etc.
13. Has there been any changes made on translator or any homemade devices added if so what?
 14. Antenna type.
15. Has there been any changes made on antenna or homemade devices added if so, what?
 16. Vertical plan view with measurements.
 17. Horizontal plan view with measurements.

We can't understand how you could need more than the above information. Section 1, page 2, section 11, page 2 are OK.

Section 111 page 2 paragraph 9, has us stopped. I don't know where to get this information.

We have had one translator running for 3 years and have had good reception, although we found it to our advantage to install voltage regulators on each translator. Made a great saving in tubes.

We have a very good maintenance man. Who has always been interested in TV and has studied a good deal on his own. He has taken no examinations, but I feel he could. We have been more fortunate than most communities.

Thanking you for this opportunity, we are,

ROSE B. RINDAL,
Secretary and Treasurer.

Senator McGEE. Is Mr. Bill Grove here from Cheyenne?

Mr. GROVE. Good morning, Senator.

Senator McGEE. Would you identify yourself for the record?

**STATEMENT OF WILLIAM C. GROVE, EXECUTIVE VICE PRESIDENT
AND GENERAL MANAGER OF FRONTIER BROADCASTING CO.,
CHEYENNE, WYO.**

Mr. GROVE. My name is William C. Grove. I am executive vice president and general manager of Frontier Broadcasting Co., licensee of station KFBC-TV, channel 5, Cheyenne and KSTF, channel 10 in Scottsbluff, Nebr.

I wish to express my great appreciation that our distinguished Senator, the Honorable Gale W. McGee, has found time in his extremely busy schedule to come back to his home State once again and interest himself in the very serious problems that exist in connection with the bringing of television service to the citizens of this sparsely settled State.

I have testified before this committee on previous occasions and wish to incorporate my earlier testimony by reference in this proceeding. Thus, I will not burden this record by repeating the facts stated earlier.

Senator McGEE. It will be so ordered.

Mr. GROVE. It is gratifying indeed that pursuant to the early proceedings of this committee, the FCC has begun the process of licensing VHF boosters or translators. That they do and will perform a very important function in bringing as much television service as possible to the people of our State and neighboring States is beyond question.

A great deal of my earlier testimony before this committee has to do with the problem brought about by the artificial extension of distant metropolitan city television stations into areas designed to be covered and covered by local standard free TV stations. I will have little additional to say on the CATV problem except to note that under its change of chairmanship, the Federal Communications Commission has shown an enlightened viewpoint on this matter which is greatly appreciated by all small station television broadcasters and which, if carried through, will certainly result in a great improvement in the situation and should lead to the relief we have worked so many years to achieve.

Senator McGEE. It ought to be mentioned that there have been some measurable improvements in this field on the local level, where they have been worked out between the various interests involved. I think note should be taken of that for the record.

Mr. GROVE. In that regard, Senator, to my desk yesterday came the February 20 issue of Television Digest and on page 10 there is a story to the effect that the FCC has forwarded its suggested CATV legislation to Congress, precisely along the lines indicated by the Honorable Fred Ford, Chairman, in his recent address in Washington.

Senator McGEE. We put that in the record at the beginning of the morning deliberations, with some comments on the burden of the proposal, including the emphasis on the difference between the FCC current proposal and the legislation that we had before the Congress last year.

Mr. GROVE. I am disturbed and alarmed, however, by the second sentence in the first paragraph of the story:

It's still understood that the Commission, watching CATV-station conflicts fade, isn't hot for enactment.

I presume they refer there to these agreements that have been worked out that you referred to, Senator.

I sincerely hope that this is an example of inaccurate reporting and that the facts are not as stated. It is true that in a half dozen cases or so around the country, agreements have been worked out between the CATV and the local or nearby station. In every case that I know of, however, this has come about purely and simply because the Com-

mission, under its present leadership, is following the policy of designating for hearing the microwave requests of a CATV system when such microwave request is opposed by a broadcaster. Actually, the mere fact that such agreements for peaceful coexistence have come into being, furnishes adequate verification of the position long argued by myself that there is a solution to this problem, even though the spokesmen of the CATV have argued strenuously and without reservation that the nonduplication, which is the heart of these agreements, referred to is utterly unworkable. It must be pointed out, however, that the great majority of these problems are far from settlement and there is no present indication whatever that they will be settled, except in those cases where the broadcaster finds himself in a position to oppose, and effectively, something that the CATV wants very much. Certainly in the case of Laramie, Wyo., there has been no indication whatever of a willingness on the part of the CATV to nonduplicate the programs of KFBC-TV. This is also true in Alliance, Nebr., Gering, Nebr., and, to the best of my belief, at least half a dozen other locations in Wyoming which involve stations other than those with which I am identified.

Mrs. Ernst brought that out a few minutes ago in this meeting.

The operator of the CATV system in Gering has stated under oath to the FCC that it plans to operate a CATV system in Scottsbluff, Nebr., in an identical manner to the operation of its Gering, Nebr., system. Gering is but a mile away from Scottsbluff. Our channel 10 station is permitted by the FCC to identify itself as Scottsbluff-Gering. Furthermore, the failure of the CATV to voluntarily enter such arrangements leading to a solution of the problem has kept from coming into existence many small-town, free broadcasting stations. For example, I will mention the case of Sterling, Colo., Sidney, Nebr., and the earlier record of this committee contains testimony that possibly as many as 16 stations have been kept from coming into being in Montana.

It is true there is an outstanding construction permit for a low-power station at Sterling, but as things stand now, if this station ever actually comes into being, there will be an addition of one to the problem areas because of the unrestricted operation of the CATV system there.

Other examples where there has been no solution and none in sight are Twin Falls, Idaho, and Rapid City, S. Dak. Thus it is clear that the need for legislation placing the CATV under the jurisdiction of the FCC continues undiminished. It is my hope that the Subcommittee on Communications will introduce and support either the bill offered by the FCC or some other similar type of legislation in order to assure a solution to this problem.

Senator McGEE. I am sure I speak fairly for the chairman of the subcommittee to which you have just referred, Senator Pastore, that with this proposed legislation now having received the approval of the Bureau of the Budget—and it is going to be introduced—that there will be additional hearings in Washington so that we may spell these out in some detail.

Incidentally I may say to the viewing audience at this particular point, that if you are at the moment getting a snowy image on your screen over KTWO, may I suggest that it is not the reception, but

it is snowing here in Casper. So that there should be no confusion between the coincidence of the two.

Mr. GROVE. I am very happy to hear, Senator, that there will be hearings on this bill. I hope that I may have an opportunity to testify.

Senator McGEE. You will have.

Mr. GROVE. Thank you, sir.

Now may I turn to the booster question. I wish to point out and I will give specific examples, the booster or VHF translator can and does in certain cases pose the same identical problem that the local broadcaster faces from uncontrolled CATV penetration into the area he covers. The depressing affect upon the economic welfare and the program structure of the local or nearby TV station from duplication is the same whether the duplication is caused by CATV or VHF translator. Let me elaborate on two specific cases—Scottsbluff, Nebr., and Hay Springs, Nebr. There are and have been for some time VHF translators operating in each of these two towns. The translator serving Scottsbluff carries the full program schedule of KDUH-TV in Hay Springs, Nebr., which station has a CBS primary affiliation. The translator operating in Hay Springs transmits the full program schedule of KSTF, channel 10, of Scottsbluff, which is also a CBS primary. Both stations, however, do carry substantial programing from one additional network in the case of Hay Springs and two additional networks in the case of Scottsbluff. The net result is that approximately 50 percent of the programing of KSTF is duplicated by the booster operating in its town and the same is true in the case of the booster or translator operating in Hay Springs. When the booster is duplicating, it is difficult to see where it is rendering a public service. That it is rendering a public service when it is transmitting a different program from that carried by the local station is self-evident. The harmful affect on the local station by this duplication has been spelled out in great length in previous testimony and will not be repeated here. I will say only that even a casual investigation of the effect on a station of the numbers in terms of thousands of listeners at any given quarter hour as represented by the various rating services, will leave no shadow of a doubt in the investigator's mind of this effect.

Now, just as in the case of the CATV, there is an answer and a solution to this problem, all in the public interest. The answer is fairly simple, if once understood. All that is required where there is duplication is for the translator to install a clock mechanism which will switch the translator off at such times as is necessary to prevent the duplication. Such a clock mechanism is manufactured and marketed by the Simplex Time Recorder Co.

I had planned to bring a catalog sheet but, if I may, I will send that in later.

Senator McGEE. If you will send that in later that will be fine.

Mr. GROVE. It sells for \$535 and there will be a slight additional cost in some cases for thermostat controls and additional cylinders, but the cost in any event, should not exceed \$600. My company operated such

a clock for a similar purpose for a year and a half. The application at that time was the switching of radio network facilities for another station located, as a matter of fact, right here in Casper. The clock was placed in our audio control room in Cheyenne and a cylinder was prepared by the station in Casper so that its network programing needs would be met a week in advance. The cylinder was simply mailed to Cheyenne and our announcer inserted the cylinder in the clock. It is the plan of my company to furnish a detailed description of how this clock mechanism operates when it files its request with the Commission for rulemaking. As a matter of fact, the boosters in the following towns have agreed with Frontier Broadcasting Co. to accomplish nonduplication: Laramie, Wyo.; Douglas, Wyo.; Hay Springs, Nebr.; Gordon, Nebr.; Rushville, Nebr.; Chadron, Nebr.

It seems clear that the FCC should adopt further rules to accomplish this. At the present time my company is faced with trying to implement this solution on a case-to-case basis. There are boosters in Gordon, Rushville and Chadron, Nebr., in addition to that in Hay Springs. All of these towns are covered thoroughly by KDUH operating on channel 4 in Hay Springs. The operators of the boosters in those towns have asked channel 10 for permission to retransmit its signal. We have consistently refused to give the permission needed by the booster to secure its license from the FCC unless the booster will agree to install a clock and so operate the booster so as to prevent duplication of the Hay Springs station's programs. My company has little to gain by this, except we feel, we have to be consistent. At the same time, we have filed objections with the FCC to the licensing on a non-restricted basis of the booster located in Scottsbluff which is duplicating the programs of our channel 10 station there. Here again, we take a beating public relationswise because our efforts are misconstrued and it is made to appear that we oppose any operation of the Scottsbluff booster at all.

Actually this is the article that I had in mind at this place. I have another one.

Senator McGEE. I suggest that we include this article in the record at this point.

(Articles follow:)

[From the Sheridan County Star, Rushville, Nebr.]

BOOSTERS CAN'T GET HELP FROM KSTF

To date the TV boosters in Gordon, Rushville, Hay Springs, and Chadron have not received much cooperation from KST-TV in Scottsbluff in order to assure the continuance of programs.

The first thing that all local TV boosters must do to meet the new FCC requirements is to secure permission from the Scottsbluff station to rebroadcast their programs. Despite repeated contacts, the Scottsbluff station has thus far not shown much interest.

All booster stations are going to be required to make modifications to bring their power down to one watt, to provide a device that will identify the booster station by call letters every 30 minutes and other minor changes required by the FCC.

In Mitchell, Nebr., these changes are expected to cost about \$700 and at Scottsbluff it will cost about \$700 to alter the booster there that rebroadcasts the programs from Hay Springs.

[From the Scottsbluff (Nebr.) Daily Star-Herald]

FRONTIER BROADCASTING SEEKS FCC RESTRICTION ON CHANNEL 7

Frontier Broadcasting Co. of Cheyenne, operators of KSTF television station at Scottsbluff, has filed a petition with the Federal Communications Commission at Washington, asking that Free Community Television be restricted in its rebroadcasts of KDUH-TV from Hay Springs.

KDUH-TV is satellite of the Rapid City station operated by Duhamel Enterprises, Inc.

Service on the petition has been made upon Free Community TV-Channel 7, care of J. L. Warfield of Scottsbluff; Charles V. Wayland of a Washington legal firm representing Duhamel Enterprises, Inc., and Thomas K. Fisher, attorney for Columbia Broadcasting System, Inc., with offices in New York City.

The petition notes that channel 7 rebroadcasts some of the CBS programs which are duplicates of those offered by KSTF. It asks that the FCC's temporary operating permit to channel 7 be reconsidered.

The petition claims that the duplication represents a possible loss of advertising revenue to KSTF.

It asks that Free Community TV be required to supply the FCC with a copy of any written permission it has received from KDUH-TV for such rebroadcast privileges. It also asks the FCC to take appropriate steps toward rescinding its grant of special temporary authority and issuance of a new authorization specifically conditioned upon nonduplication of the programs of station KSTF.

Frontier suggests that it would be possible at reasonable cost to install a clock mechanism which would permit the booster to operate on a nonduplicating basis.

The channel 7 booster was set up last winter by Warfield and Charles D. Williams of Scottsbluff and Chet Calderwood of Gering. Calderwood serves as engineer of the booster and holds a first-class radio license.

Funds were contributed by popular subscription. Williams said here Monday: "We would hate to see the booster discontinued."

He said it was set up as a community movement and no one here derives any revenue from its operation.

"It simply serves to provide some variety and prevents a 'captive' television audience," he stated.

He invited persons desiring to keep the channel going, to write their comments and address them to Free Community Television, Box 695, Scottsbluff. They could be presented to the FCC.

A similar booster station has operated for a number of years at Chadron. Prior to establishment of the Hay Springs satellite, it rebroadcast from KOTA-TV, Rapid City.

Since establishment of the Hay Springs station, the Chadron booster has been broadcasting KSTF programs in that area and is continuing to do so.

Mr. GROVE. The impression gained thereby is contrary to the facts and when the Scottsbluff booster was having trouble raising finances, my company offered to install, operate, and maintain the booster at its own expense but on a nonduplication basis. Thus, we are ready to assume the financial burden of bringing competition into our area but competition from other programs, not our own. This, we hold to be in the public interest.

My company plans in the near future to file a rulemaking request with the FCC that it amend its rules on translators so as to eliminate duplication. It is difficult to see why the FCC would request authority from the Congress to accomplish nonduplication by the CATV when it has, up to now, ignored the identical problem in the case of the VHF booster over which it clearly has adequate authority.

It is our belief that very possibly this is because we and others have not adequately and clearly and forcefully brought this matter to the attention of the FCC. We are appreciative of the enormous workload of the Commission and are mightily encouraged by the position the Chairman has taken on the CATV matter and we have every confidence that the FCC will ultimately resolve the problem

of duplication by the translator. It is with much appreciation that I note the presence at this proceeding of the Honorable Robert Lee, member of the Federal Communications Commission and I think Commissioner Lee's presence here is clear evidence that the Commission is deeply interested in the solution to the problem presented in licensing a vast number of new TV stations. My company simply wishes to be helpful in any way it can to the FCC in reaching these solutions in the public interest.

I should like, if I may, to add a little bit from our viewpoint on the Douglas, Wyo., question which was covered here.

Senator MCGEE. Please do.

Mr. GROVE. I think it should be clear that our responsibilities to the request of the Douglas people for our permission to use the channel 10 signal entails a little bit of what might be utterly termed "self-sacrifice." We like the coverage. Channel 10 loves the coverage it has in Douglas. We like the people in Douglas. We like to know that they want our service. But we feel that this thing is very fundamental and very important, and that Douglas, being across the State line from Nebraska, is in Wyoming, and it is much closer to Casper than it is to Scottsbluff, and that Douglas should, if possible, be served by the Casper station primarily. And when we replied to the translator people in Douglas, we suggested that perhaps they should put their translator on channel 2, and bring the Casper service to Douglas, and then, if beyond that—and it is very understandable that they would—they desire an additional signal to get at times at least a choice of programs, that we would then give them permission to use the channel 10 programs on a nonduplication basis.

It seems to me that that is the clear-cut and logical solution to the problem, and the type of thing that we intend to ask the Commission to look at when we file our rulemaking request. I will say if it is shown that there is not a signal from channel 2 to work a booster there—but that is not my understanding, my understanding is that there is—if there weren't, we of course would take a different viewpoint because we certainly don't intend to withhold service from anybody.

We think that we can resist, and resist we certainly shall with everything at our command, the duplication of our own stations in our area from an outside service, the duplication of programs, specific programs—I am not talking about, and we are not objecting to, having an additional signal—we are perfectly willing to compete against all of the other programs that can be brought in but we certainly do intend to make every effort to eliminate the duplication from whatever source of our programs in the area we cover, and we feel we have to to say alive.

I think that our position is sound and I think it is entirely in agreement with the basic concept and the allocation plan of the Federal Communications Commission pursuant to the act of Congress.

With a little hesitation I feel inclined to mention something I have in my hand here, because it deals on the matter.

Mrs. Ernst testified earlier that in many and perhaps most of the towns that her station serves the very identical programs are also available to a great many of the listeners, maybe not from just one additional source but from three or four additional places. The

effect is disastrous, because we all live and die by the number rating of our audience which is done by the various nationwide rating services, over which we have absolutely no control. We have no way of stopping these services if we care to, from making these measurements and publishing the information as fact.

Also in the cover in small print there is language which defines the meaning and the basis under which these numbers are arrived at. But, notwithstanding that, the numbers that are printed are used as gospel fact on Madison Avenue where the money is spent and where the programs are placed.

Senator McGEE. I think there is an inclination in the Congress to react against the fact that nobody else seems to have any control over those figures, either. There has already been instituted an investigation to check the so-called rating systems to which so many have, without freedom of choice, become slaves.

Mr. GROVE. I have no opinion as to the accuracy of this number, or how it is arrived at. But it does allocate to Mrs. Ernst's station, on the average, Sunday through Saturday, from 6 to 10 p.m., 2,200 sets tuned to her signal. I can certainly tell you that you cannot sell programs in Madison Avenue or spot announcements with numbers like that against you.

Senator McGEE. This matter of duplication, of course, which is the central one there, is one which you, Mr. Grove, helped to pioneer in the discussions that we were holding a year or so ago in regard to the CATV live broadcasters overlapping areas. I think it is an important contribution to remember that this is not a unique one in that bilateral relationship, that it likewise arises as to questions within the TV booster operations and the Commission and the Congress must address itself to that with equal vigor; and that the maintenance of an economic survival on a local TV basis continues to be our principal concern.

I want to thank you very much for your contribution.

I would like to put in the record a letter from Mr. John Flitner, an individual subscribing to television there, who is having trouble with the cable. It is above ground and every time a truck or tractor goes down the street he loses his TV image. A tractor went down the street just a few minutes before the Rose Bowl game. It is this kind of privation that they would like to have adjudicated.

Put that in the record at this point.

(Letter follows:)

DECEMBER 27, 1960.

PUBLIC SERVICE COMMISSION,
State Board of Equalization,
Cheyenne, Wyo.

GENTLEMEN: The purpose of this letter is to register a complaint on behalf of Dale E. Foe, Greybull, Wyo. Mr. Foe lives in an upstairs apartment east and south of his business, Foe-Saunders Lumber & Hardware Co., Greybull, Wyo. The apartment is also located on Seventh Street, which is a gravel street just east of the Chicago, Burlington & Quincy Railroad right-of-way on the north side of an alley running east and west between First Avenue South and Second Avenue South. In May or June 1960, at the request of Mr. Foe, the Western Television Corp. Worland, Wyo., connected the apartment for cable television. The cable was laid on the ground and crosses an alley and a street, to wit: Second Avenue South near its junction with Seventh Street. The cable lies at ground level on a gravel street. Lumber trucks, bentonite trucks, moving vans, automobile carriers, and other heavy equipment and machinery cross this ground cable each and every day.

The Western Television Corp. makes a charge of \$6.50 per month for the service of cable television. Western Television Corp. has been asked to bury the cable, or otherwise correct the service so that the constant cutting of the cable and the attendant loss of television service could be corrected. Mr. Foe has talked to the local manager, Mr. McKim of Basin, Wyo. Mr. Foe advises me that he has called Western Television Corp., Worland, Wyo., and that he has received assurances that his problem would be corrected as soon as "the digger returns to Greybull from Worland; the local manager can schedule the request," or some other excuse. The work has never been done.

Yesterday, December 26, 1960, Mr. Foe was unable to watch the televised football games because the cable was cut and service could not be restored that day. While the problem seems minor and petty, there is speculation in some quarters that none of the managers of Western Television Corp. or any of its employees, for that matter, were unable to see the televised bowl games, if they so chose to do so. More important, trivial and small though the monthly fee may be, Mr. Foe feels that he is not receiving the service.

In fact he feels so strongly about the matter that copies are being sent to all of the below listed parties with the request that the matter be corrected immediately.

Very truly yours,

JOHN D. FLITNER, *Attorney.*

Senator McGEE. Welcome to the screen, Bill. I won't mention that Bill McCracken was a student of mine at one time in the university, more years ago than we care to remember.

STATEMENT OF WILLIAM D. McCRAKEN, OFFICER OF FRONTIER BROADCASTING CO., CHEYENNE, WYO.

Mr. McCRAKEN. Most of my testimony was given by Mr. Grove. I would like to give thanks to Senator McGee, Senator Moss, and Commissioner Lee for coming over here and giving us a chance to testify.

As an officer of KSTF-TV, channel 10, Scottsbluff, and KFBC-TV channel 5, Cheyenne, I would like to reiterate that the stations are not by any means trying to withhold from anybody any type of programming whatsoever. We believe that in any city, large or small, or any area, such as the rural communities, a multiple system should be enforced in some respect where you will have nonduplication of the signal that is already in there.

But by putting in such systems as clocks, you could protect your smaller stations, since we all realize in Wyoming and a good part of the West that we will not be able to have regular television stations. We cannot afford it.

Again when you get back to Madison Avenue they will not be able to compete. In this respect we are, as a statement of the company policy, very much in favor of getting TV to everyone, whether it be our signal or, when we are carrying one program and a booster station is carrying another one, for them to have those programs at all times.

We do feel that the CATV problem with the booster stations is such that they could, and have, I believe, in certain cases, closed down smaller stations. That is what I believe the main concern should be, because there is no station, I believe, that would want anybody to go without TV.

Where Wyoming is such a ranching and farm community, we do think that booster television has every bit its place in this area more than the East or more than California or any of those areas.

That pretty much is the statement of the policies of KFBC. We do believe that peaceful coexistence—I don't bring that term up in its present world implications—can be had.

Senator McGEE. Let's call it constructive cooperation.

Mr. McCRAKEN. Very fine. This testimony is even briefer than I thought because, as I said, Mr. Grove has been able to come up with solutions to many of the other stations. For instance, the problem at Douglas. I just want to get on the record that our station is in complete accord with anybody who wants television, and we will be glad to do anything we can to help them.

Senator McGEE. We thank you for this Bill, and particularly for your reemphasis of the importance of keeping local, live television in business.

Mr. McCRAKEN. I am afraid a few stations throughout the country have been put off the air because of such problems, and it could happen here. As soon as that happens you will find eventually television stations in Denver, you may find one in Billings, and you may not even find that. Your smaller stations will be forced off the air.

Senator McGEE. It is conceivable we will get all of our programs from New York.

Mr. McCRAKEN. It is by boosters, and your local merchant hasn't got a chance to compete with the merchant in Denver because he hasn't any media through which to advertise his product.

Senator McGEE. Believe me, we intend to keep the local operation going.

Mr. McCRAKEN. Again, many thanks to you people for coming up here. I realize you have busy schedules.

Senator McGEE. Thank you very much.

Lawrence Berger, for the time being I will assume the role of station manager—KTWO—and challenge Mr. Berger to try to meet the time limitations that he imposed on us. He encouraged us to try to hit a half hour interval for the convenience of the programing of KTWO. The time is yours.

STATEMENT OF LAWRENCE BERGER, GENERAL MANAGER OF KTWO-TV, CASPER, WYO.

Mr. BERGER. My name is Lawrence Berger. I am the general manager of KTWO television and radio here in Casper, Wyo.

The booster problem grew by a process of natural selection. In no case did we encourage the boosters. At no time have we ever constructed one. They just grew. In a good number of cases we didn't know we had a booster until a letter would come in asking, "Where is your program schedule?"

We believe at the station, and my own philosophy, that as many signals as you can get off the air you are entitled to. If they are both "Gunsmoke," that is a problem. That happens probably 10 to 20 percent of the time. It depends on the market again, also, and the stations. It is hard to pin down what program at what time.

Senator McGEE. Many of us wish that neither one of them would be "Gunsmoke."

Mr. BERGER. That is possible. But it is immaterial.

The only statement that I want to make, because I do want to get this off on time, is that these boosters grew by natural selection, and the only way that they can live is by natural selection. It is hard to govern them, even by using such things as timing devices.

A booster today is no longer located right in the middle of town because if it is located in the middle of town you wouldn't need the booster in the first place. It is usually located in an inaccessible location. A time clock has to be changed every day. Some boosters are not attended except once a month. Especially in the winter, when you have bad weather. It will be difficult to change that clock. The stations change program daily and boosters must change daily. It is hard to find from stations what station is carrying what program at what time.

I discussed this the other day at the NAB: the problem of natural selection, whether the people will put up their money to support a booster or not, is the only determining factor that will keep a booster in action. If the local station does the same programing with the same picture quality and every other engineering facet, then I doubt if the booster would survive in the first place.

That is all that I have to say. Thank you very much for coming.

Senator McGEE. Thank you very much, Mr. Berger. You have timed that beautifully, at least as far as KTWO's time is concerned. We have approximately 4 minutes remaining.

I would like to put in the record at this point a very intelligent letter from Mr. Mike Leon, of Story, Wyo., who raises a question about the programing. It involves I think the dropping here, perhaps, of CBS "The Great Challenge" as a subtraction of expected service from the viewing area. In any case the content is intelligently put, and is worthy of the consideration of the committee.

(Letter follows:)

STORY, WYO., February 20, 1961.

Mr. JAMES FAGAN,
*Fagan & Fagan, Attorneys,
Casper, Wyo.*

DEAR MR. FAGAN: I would like to take the opportunity provided by the forthcoming television meeting in Casper to comment upon program selection as we experience it in Sheridan County.

Our sources here in Story are two stations. One is KOOK in Billings. The other is KTWO in Casper. We would have no reception at all without booster stations.

At the outset, I should make clear that a certain number of programs we receive here are excellent by any standards. The Bell Telephone Hour and the Mitch Miller and Perry Como productions are examples. Too, although we are aware that a great deal more violence and triviality appear on our screen than is adequate to our tastes or we deem appropriate for children, it is not the purpose of this letter to disparage the "Western" or detective-murder story per se.

It is, rather, to point out that on the channels we receive the so-called blood and thunder episode has completely preempted the reasonable amount of time which should be given to programs of public service and esthetic merit.

Let me illustrate. One of the finest achievements in television history is the production "Winston Churchill—The Valiant Years." This is a documentary which is now being seen around the country. Time Magazine calls it a superb series. It can be received in Cheyenne. But it is not broadcast on either channel we receive here.

I could cite case after case of topnotch productions which, notwithstanding national acclaim, have not been made available to our area. Among them in recent weeks have been a pro and con debate on medical care for the aged, documentaries by Edward R. Murrow and others, and the like.

It is true that certain events of national and international import are broadcast on our channels, Dag Hammarskjold's recent speech before the United Nations being a case in point. But this is sporadic, not regular, fare, and although it is important in its own right, it cannot substitute for an orderly schedule of informative and/or artistic value.

This weekend, for example, CBS is providing the country with a new series called "The Great Challenge." On this first panel Adlai Stevenson, Arnold Toynbee, Paul Samuelson, and Henry Kissinger discuss "The World Strategy of the United States as a Great Power." Surely this program has at least some competitive claims against one of the multitude of murder yarns or horse operas which it might displace. Yet it is not listed for broadcast on either channel we receive.

I am aware that a television station must select its programs on the basis of many and sometimes conflicting claims. I think it correct, however, to believe that television has much to do with creating tastes in the first place. In any case, we have a clear imbalance in our area between programs of purely transitory significance and those to which a person may turn to inform himself or, equally important, to enjoy the lasting benefits of the Nation's artistic achievements. Clearly, there is a dreary homogeneity of programming for our area which cannot be justified on the grounds that there are no alternatives (which there are). Nor can it be justified on the grounds that a majority of viewers wants things as they are. Such a justification merits skepticism for reasons too numerous to mention here.

I should hardly care to argue the case of television as the sine qua non of modern life. Surely, no household should overdepend upon it. Notwithstanding, it remains that television has a growing amount to offer of significant thought and adult stimulation. Our times require that no citizen be denied access to sources of information and inspiration from which he can derive his own vital conclusions. This statement pertains, I believe, to the rural dweller dependent upon one or two booster stations as much as to the urbanite who has at his command a variety of television choice. The needs of certain assumed tastes are being overmet to a disturbing extent in our area at this point. The claims of other tastes should now be considered.

Sincerely yours,

MIKE LEON.

Senator McGEE. Senator Moss, would you care to share any windup view here at this point in the hearing?

Senator Moss. I am sure that I do not have any technical advice to give.

It seems to me that we have had a very thoughtful presentation here this morning, and a presentation of the problems that exist. I was particularly interested in the testimony of the representatives of the television stations because that part we hadn't covered to any degree yesterday. This nonduplication problem is one that plagued us greatly when we considered the legislation in Congress, and one that has not been solved as yet. Obviously we must find a solution.

I felt, from the start, that the CATV's should be under regulation the same as the boosters, and therefore I hope that the legislation now proposed by the FCC will bring them under jurisdiction so that we can have a reasonable control of all media of broadcasts and eliminate some of these problems which threaten local television in some places.

I want to reiterate what Senator McGee said so forcefully two or three times, that the objective and the purpose is to keep local television healthy and alive. It is possible that we could get all of our signals from one or two points in the United States, but that is not the purpose, in fact our objective is to encourage local television to the greatest extent possible.

I congratulate the people who have come here this morning in giving us this information. Many of you, most of you, traveled long distances to appear. It is this sort of devotion and interest of the citi-

zenry that enables the Commission and the Congress to act intelligently in this field.

Senator McGEE. Thank you, Senator Moss.

The Chair has just been advised that we have two or three additional arrivals here. Through the dispensation of Mr. Berger and his station, we are permitted to continue broadcasting for just a few moments. I would ask the first of the witnesses still pending to come forward to the witness chair.

First will be Mr. Lee Johnson, from Sheridan, whom we called on earlier. He was not able to get here earlier as he traveled a considerable distance.

STATEMENT OF LEE R. JOHNSON, VICE PRESIDENT, WYOMING TV REPEATER ASSOCIATION, SHERIDAN, WYO.

Mr. JOHNSON. This is very short, Senator.

My name is Lee R. Johnson; I am a duly elected vice president of the Wyoming TV Repeater Association.

It is gratifying to think that you in Washington are concerned with the reaction of our Wyoming citizens to your actions in Washington, D.C. It is the opinion of the Wyoming TV Repeater Association that this hearing is premature, and it is the hope of this association that you will consider a hearing on this same subject about 3 months from now. Most of our Wyoming TV Clubs that have filed their FCC Form 346 have not as yet been advised of whether the application is accepted by the Commission or not. The majority of Wyoming clubs have delayed filing the Form FCC 346 even though most of them had prepared to file before the February 1st deadline; this delay I believe is an effort on their part to be right the first time. Unless we can get more information about changing these regulations and rules, we are never going to be right. This thing can be on forever.

For instance, at the same time that the FCC had a team out here explaining the way to license these boosters, painting a very rosy picture, the FCC was making a new rule which tied up almost everyone which has been filed to date. As I understand it, Mr. Lee has cleared that up this morning.

Many TV clubs are presently waiting to see what will be offered in new equipment before filing their application.

There is much concern over the apparent reversal of the attitude of the FCC to the approach to licensing of TV-VHF translators. Last summer following the Commission's report and order setting up the licensing of VHF translators, the FCC sent a team of their legal and engineering staff out here to explain their action and point out to our people just how easy it would be to comply with these regulations and also how simple the application form would be.

The only problem developed so far is concerned with advertising a recently enacted rule, section 1.359.

In September we met with this FCC team, who outlined the necessary items in complying with FCC regulations and filing of Form 346, painting a rosy atmosphere of cooperation and helpful attitude of getting everyone licensed with the minimum of effort on everyone's part, promising a revised Form 346 that in their own words

"anyone who can read can fill out." At the same time, the Commission itself is setting up the provisions in section 1.359. The Commission sent with the Form 346 a short instruction sheet on how to prepare the Form 346. Nowhere had section 1.359 been mentioned and the change of the law effective December 12, 1960, was not mentioned until the FCC started delaying applications for lack of the proof of this advertising compliance.

If this is an example of the cooperation to be expected in the future, we may expect not to live long enough to see the VHF translator licensed.

Thank you for this opportunity to make this statement.

Senator McGEE. Thank you for the suggestion with regard to the possibility of an additional hearing on this. I think the record should be clear on that point. This is not a cutoff hearing. This is a checkup hearing at a point where it is regarded as useful to find out how the preliminaries were going on. One of the things we have learned is that we are going to need more time and clarification on some of the operations, some of the rulings from the Commission. This is precisely why we have been out here in the West to take this testimony. And as we proceed to that stage I assure you that there will be additional checkups on the experience that follows in the wake of that, and what follows from still another set of experiences. We don't intend to let this grow into a rut as was permitted much earlier in the emergence of the communications experiences in this country. We intend to ride herd on it more or less continuously in order that we can profit from our emerging experience as we go along, from the experiences that you, working in the field or on the mountain tops, so to speak, can convey to us in your day to day operations. So that is the real purpose of being here now, and why we will be back again.

Mr. JOHNSON. Mr. Beamer has traveled here from Montana.

Senator McGEE. Fine. We will call on Mr. Jim Beamer, from Livingston, Mont. While we are waiting for Mr. Beamer to come forward I would like to add in the record a statement that Mr. Hillberry, from Riverton, who testified earlier, would like to contribute for the record on the question of duplication.

(Statement follows:)

STATEMENT OF DARWIN HILLBERRY

In regards to duplication, I live in Riverton, Wyo., which is in the primary coverage area of KWRB-TV, station channel 10. We operate a VHF translator on KTWO-TV's station. Also there is a cable system in Riverton. We do not feel the duplication is a problem. If the station owner, would clean up their network pictures, until they are as good or better than the translator. In this event there would be no need of having our booster, as they both have the same networks. I feel that with engineers the stations have to have they should be able to produce a better picture with a 60,000 watt station, than we as field technicians can produce with 1 watt.

STATEMENT OF JIM BEAMER, SECRETARY, TRI-STATE TV REPEATER ASSOCIATION, LIVINGSTON, MONT.

Mr. BEAMER. Senator McGee, I have had troubles with the Montana legislature the last few days. We have a bill up there before the legislature to establish permissive tax districts to support this.

Senator McGEE. With all the great foresight and power of Wyoming, I don't think any of it will permit us to interfere with the Wyoming Legislature.

Mr. BEAMER. I apologize for going into this line. I didn't have time to prepare.

Senator McGEE. Your informal comments will be even more important.

Mr. BEAMER. May I submit within the required 10 days a further statement?

Senator McGEE. Yes, indeed. Any statement you care to submit will be received by the committee for the record.

Mr. BEAMER. Thank you.

One of the things I would like to comment on is this new ruling by the Federal Communications Commission on newspaper advertising. It has been covered very well. I would like to state the position of the Tri-State TV Repeater Association of which I am the secretary. We have subscribed to the Federal Register in order to keep abreast of all of the comments and all of the rules and regulations that the FCC has prescribed. Unfortunately the issue that this one particular item came out it was never received by me. I was entirely in the dark on it until the clubs came bounding in with piles of mail asking what this is all about.

I think that one of the prime things that should be done is better methods of communications between the Federal Communications Commission and possibly the State organizations; to disseminate information through to the clubs so that they will have a better and more thorough understanding of what the Federal Communications Commission is asking them to do.

I know that this is an unusual request to make, and I am aware that it is one that might not be in the best interests to grant, yet I feel that I must make it to be fair to the clubs of which I am the secretary.

I think also that there has been quite a lot of comment on duplication of programing or nonduplication of programing, whichever you prefer, before the committee this morning. I would like to comment just briefly on that, and that is this: That I know, over gallons of coffee and some real late hours, that heads of State organizations, especially in Wyoming and Idaho and Montana, have discussed this question thoroughly. We have tried to arrive at some conclusions in our own limited fashion. These conclusions I will admit have not been comprehensive or complete. Yet we have attempted to solve this thing in our own way. I would suggest this: That possibly a meeting might be set up between the broadcasters and the boosters, as such—the booster representatives as such—and something more firm might come out of this thing. This is merely a suggestion on my part.

I think the boosters are well aware of a need for the local mother station. The fact of the matter is that we support the local mother stations in all respects. We encourage their growth, we would like to see them become more numerous, and we take this position not only for ourselves but we also say this, that in regard to the CATV question we think we have a very vital interest in seeing that regulations are placed on them to do the same thing. I think that—this is my own personal opinion on this thing; I can't speak for the Wyo-

ming Association, of which I am sort of an ex-officio member, if I may say so—we have got a problem on this thing that needs to be cleared up. It is one that is hard. I think that I can safely say that I think the same limitations that would be imposed on the CATV system might possibly be imposed on the boosters themselves.

Just briefly, we have one suggestion that might be applicable. Mr. Grove said this morning that he would like to see nonduplication. Mr. Berger, another broadcaster, said that nonduplication as such to some extent is actually not feasible. We might suggest that possibly a major and minor network commitment, whereby the boosters would recognize the major commitment but would be allowed to operate on minor commitments, might be feasible. This is an area that could come up for discussion.

Senator McGEE. Would you identify for the record your distinction between a major and minor commitment?

Mr. BEAMER. If the station carries to a greater extent CBS programming, then we would consider that as a major CBS affiliate. And if another station carried—and by the same token they could carry minor portions of NBC and ABC programming. Then if another station—

Senator MONRONEY. Regardless, in other words, of the importance of the ABC or NBC program, if it was a rare occasion for them to carry that, it would be regarded as minor?

Mr. BEAMER. Yes; that is correct. I offer this publicly as one solution to the problem. This is open for discussion.

I think that that is about all the comments that I have at this time. I would like to thank the committee for allowing me to appear.

We are very glad to see you out here, Senator. Montana feels that you are her champion in matters of television. Thank you. (The following letter was subsequently submitted for the record:)

TRI-STATE TV TRANSLATOR ASSOCIATION,
Livingston, Mont., March 7, 1961.

SENATE INTERSTATE AND FOREIGN COMMERCE COMMITTEE,
*New Senate Office Building,
Washington, D.C.:*

In reference to the hearing on television matters, held by Senator McGee in Casper, Wyo., February 22, I would be most appreciative if the following statement would be included as part of the record of this hearing.

For the record, I am James Beamer from Livingston, Mont., and am secretary of the Tri-State TV Translator Association.

A number of problems vital to the well-being of the translators, has arisen and all of them seem to demand prompt and immediate action by the Federal Communications Commission and other interested parties, to prevent a breakdown in service to some, if not all, of the translators in not only Wyoming and Montana, but throughout the entire West.

In line with our general overall view of the necessity of having local broadcasting stations develop in our unsettled region of the West, we would like to offer these comments for the good of the industry. The need for expansion of the present broadcasting system to supply signals for use by our VHF translators makes this comment timely and pertinent.

Without equivocation, we believe that the one segment of the auxiliary devices bringing television into an area, that presently is unregulated, cries to the heavens for regulation by the FCC. We are now talking about the CATV systems within the United States and their potential that has already been demonstrated for destroying local telecasting in our small communities. The need for regulation, by the Commission, to benefit nonduplication of programming and consent, as applied to all other radio services, of the originating station for re-broadcast permission must be made. Congress should supply the authority for

this if necessary. Without these forms of regulation, the CATV system is free to expand and destroy all small market television stations in our areas.

UHF stations are especially vulnerable to the effect of a CATV system primarily because of the added cost to the individual viewer of the converter necessary to adapt the TV set to receive the signal from the local UHF television station. We are speaking of UHF stations that are now defunct in Yakima and Walla Walla, Wash. There have been others in the eastern part of the United States that you have heard voluminous testimony on, in prior hearings.

There have been VHF TV stations that have closed for the same financial impact reasons. Even the town the hearing was being held in has had a television station close for the stated reason of CATV impact. Montana has had two stations close with one reopened that now presents a very peculiar situation which will be referred to later on. Butte, Mont., had two stations at one time with one closed because of financial difficulties and presently the CP has been issued but never effected because of the lack of ability to determine the future insofar as CATV competition is concerned. Of the 16 television stations allocations that have been made in Montana, only 8 are presently in use. We fearfully predict that unless some form of CATV regulation is effected, most of the remaining eight TV stations allocations will never be applied for. We are fearful of this because all eight of the proposed locations have now and will have a CATV system operating within the heart of the market area of each allocation. Most of these CATV systems now are microwave fed with signals from far outside the market area of any major Montana city with the associated disastrous economic effect upon the TV station.

The question of the need for legislative regulation of the CATV industry will have to be examined in the light of what is best for the viewing public. Within the television industry, as a whole, there is a division of opinion between the proponents and the opponents of this legislation. Some of the CATV industry, while not particularly happy at Federal regulations, as such, accept the idea of regulations. Within the TV station operators group, there are those who say they are happy with the CATV systems and the additional coverage they receive, while others have been hampered by reduced income, and in some cases, forced out of business due to the CATV systems. In the West, we state very simply that the CATV system is not designed, nor can it economically serve all of the people here.

Because of the difference of the opinion within the industry, we then believe it is necessary to look at John Q. Public and see if his best interest is served by the CATV system or by a TV station or if he would be better off to have a regulated CATV system plus the television station. Without regulations on the CATV, John is liable to be faced with the two possible choices. With regulations, he will not have to make this decision. His decision, I am sure, would be one that he has available to him now and hope for the best for his neighbor that has something different. He would not mind, or probably notice, if a nonduplication program were put into effect, because all of the programs that he wishes to see would still be available for him. The only difference would be that they would be coming from the local station instead of far distant stations.

It therefore appears necessary to us for the Congress to decide for John Q. Public and not force him to face the unpleasant fact that what benefits him in one instance will hurt his neighbor in another.

The peculiarity in Helena, Mont., which was mentioned in the above, has been established by the operator of the CATV system in Helena purchasing KXLJ-TV also in Helena. While wearing the cap of the CATV system, this operator in the past has vigorously denied the need for any regulations upon the CATV system. Now with the operator wearing the caps of the CATV and a broadcaster, we find he is putting into effect the very same program upheld by Senator Pastore in the last session of Congress on S. 2653. Voluntarily this operator has deleted, on his CATV system, the programs that will be used by KXLJ. The anomaly of the situation is that he will do voluntarily, when financial interest demands, what he professed to claim as destructive of the CATV industry when confronted with legislation of this type.

We sincerely and urgently ask that this problem be reexamined on a legislative basis for action by the Congress in the best interests of our sparsely settled States.

Late last year, the Commission invited comments from the major networks in the United States on their proposed consent of permission for rebroadcast to television translators. The reason for this invitation was that the Commission

apparently did not feel the present form of grant was in the public interest and some question developed as to whether the restrictions the networks insisted upon would make them liable under the Clayton Act. To my knowledge, there has been no decision made by the Commission as to the propriety of the networks position. In case of an adamant position is held by the networks on their restrictions we think that Congress might review section 325 of the Broadcast Act relative to this position of the networks. We do not advocate or necessarily want an unrestricted use of signals as we would believe this would defeat our prime hope of seeing more local television stations established. We do believe there is an area though, that should be subject to examination. At the outset, let me state that it is not our intention or desire to create economic hardship on our primary source of television. We do think the public interest would be more satisfied if two sources of programs can be given, but if the impact would be so great as to destroy the local station, then we believe the TV station should be the one to survive. The impact would therefore have to be examined where protests of a station to a translator service is entered.

As we understand it, the networks are only going to give permission of rebroadcast to a translator when it uses the signal of the nearest network affiliate TV station. This in effect prevents any duplication of programming of a translator of the local station from a more distant station. We respect this as being in the public interest.

The difficulty lies in the fact that a number of our single small market stations have commitments with the use of the programming of all three networks. While the near station might use more CBS programming and the distant station might use more NBC programming, nevertheless, the present network commitments would demand a refusal of rebroadcast permission from the more distant station. As we find it here, all of our stations now use a varying amount of ABC programming which would also prevent the translator from gaining rebroadcast permission. This 3-network commitment by our stations will necessarily mean then a reduction in the number of translators stations that are in operation today. We do not believe this is essentially in the public interest.

We feel that some examination might be made of allowing this present rebroadcast permission to stand and yet relax it somewhat by making it necessary for the translator to have only the rebroadcast permission of the major network commitment of the mother station. This would reduce a great portion of the duplication that would occur between the station and the translator, yet the nonduplication control by the network, which we believe is necessary, would be retained to that extent.

One thing we want to make crystal clear is that we are not advocating one program to be placed on the CATV system and yet a different program to be placed on the translators. We firmly believe that whatever is good for one will automatically be good for the other.

The Commission is at present investigating the possibility of establishing an on-channel UHF booster service in docket number 13294, and we commend the Commission for its active interest for making television available to our remote areas. In comments that we have submitted to the Commission, we stated that we thought it would be mostly in the public interest, for financial reasons, to wait until their proposed legislation could be obtained.

The Commission, we understand, is going to ask for legislation to be introduced to make it necessary for all television sets built for interstate trade to be equipped to receive either UHF or VHF channels.

Our position is that we support the Commission's proposed legislation to the fullest extent possible and urge this committee to give favorable consideration when this legislation is placed before them. The immediate advantage financially to the growing number of UHF television areas would not be great, yet over the period of years it will generate a necessary financial equality in home reception. No longer will the individual viewer in a UHF area be forced to the extra expense of adapting his television set to receive the UHF signal. With mass production of the TV sets, the additional cost should not be burdensome to the VHF area receptionist and the great objection by the individual to UHF will have been eliminated.

Consternation has been created among the television clubs upon receipt of a requirement of the FCC to advertising, in a daily newspaper of general circulation, the fact the club was making an application for construction permit to modify their translator to meet existing FCC standards. It was not until the clubs had their applications returned with this requirement that they knew of

its existence. As a matter of fact, this rule was adopted December 12, 1960, none of the State organizations had any knowledge of its existence, even though most State organizations subscribed to the Federal Register to keep abreast of the latest regulations that affect their member clubs.

The State organizations, have in the past, and do so again, offer their services as the liaison agent between the FCC and the member clubs for rapid dissemination of information concerning new regulations or changes in existing regulations as authorized by the FCC. We believe this would be a service that would be rapid and efficient and with proper explanation by the State organization, would make the acceptance and application of this directive easier for everyone concerned.

Although it has not been accepted in the past, we again respectfully submit it as a solution to a sometimes confused situation. It must be remembered the greater share of these clubs operating VHF translators are not familiar with FCC procedures.

Again, we would compliment this committee upon its earnest endeavor to make television available for everyone.

Respectfully submitted.

JAMES BEAMER.

Senator MONRONEY. Thank you very much.

I hasten to add that both Senators Mike Mansfield, and Lee Metcalf sent all of us along out here with their heartfelt blessings because they realize how closely Montana is attuned on this question. They were among the early instigators of action in this field of trying to bring some order out of a rapidly developing new area in communications.

Now, as we approach the roundup in this hearing, I would like to ask Commissioner Lee if he has any thoughts that he would like to leave with us.

Mr. LEE. I don't think I would care to comment in too much detail. I have been very happy to be here at this meeting. I think these hearings in the field are very helpful. It is too bad that it is physically not possible for bureaucracy, as big as it is, to be able to do more of this. But there are just practical limitations. Certainly I will be back to the Commission or try to translate the feeling of urgency and the spirit of the concern that has been expressed here today. We will certainly try to do everything that we can. We do have some 3 million licensees. Jim Beamer mentioned that there ought to be a better way of communicating with people. Again I think I would say in all frankness, I think maybe that is part of your problem in that area. For example, the first time I heard about this advertising with respect to repeaters was last night. I think Mr. Zapple mentioned it. If there was a channel of some kind so that some responsible person representing large numbers came in quickly with a request for an interpretation, I don't think we would have had to have had this problem.

I think that I will go back a somewhat wiser man, Senator. I am very happy to be here.

Senator MCGEE. We are certainly grateful to you, Commissioner Lee, for coming all the way out here and for having to get here the hard way, that is, take a chance on whether there would be any opportunity to get into Casper at all. Believe me, it has been a pleasure to have you here and to have my colleague, Senator Moss, here.

We bring into focus now on what has become an open-end program instead of a finalized 11:30 terminal time, a number of questions that you summarized best, Mr. Commissioner, by saying that you carry

back to the Commission the sense of urgency for decisions, for rule-making, for judgments in these areas where people are really suspended in midair and not able to move in any given direction until they get a little more guidance from your shop. We are delighted to know that that may well be forthcoming rather soon.

The questions that have been brought to the floor here and that will demand careful study include not only that of urgency, but that of the increasing of the power, for example, on the booster level from 1 watt to X number of watts, depending upon whatever the local requirements permit or demand, consistent with the overall communications that the FCC has on a much larger scale. It also likewise brings into focus once again as we had a year ago on another context, the question of duplication, the question that is not confined to live broadcasters and CATV systems alone but likewise involves the television boosters as well.

Again the central drive toward keeping a live local TV and increasing it where possible becomes the important concern of this committee.

The flexibility of the local booster people in maneuvering with new equipment possibilities, as well as with the geographical location of their equipment, likewise has been stressed.

The question of publication of notice in newspapers and what newspapers and by whom I think can be subject to very ready clarification now because of the testimony that has come before this committee in these particular hearings.

Any waivers that may be in order before the new April 1 deadline will receive consideration. There are local questions of particular identification that certainly recommend a favorable answer to a petition of the waiver for April 1 as a deadline.

Finally, the need for some type of coordinated expert technical advice, whether it be through the FCC, through the cooperation of the booster associations themselves, certainly has been called for.

Finally, the question of a ruling that would permit the boosters, operating as satellites from a mother station, to reduce the time required for identification, would certainly lend itself to addition on the part of the FCC.

These are some of the useful suggestions that have been made. They are not all-inclusive, but they are indicative of the kind of constructive exchange that comes out of a meeting of this type, not in Washington on a high level, but back home on the ground at the highest level of all, and that is where the TV viewers themselves are to be found; for they are the ones around whom the whole question centers, and to whose benefit every policy projection, every endeavor on the part of the Commission or the Congress, is to be addressed.

With that, we conclude the sessions of this committee and express our gratitude to TV station KTWO for making available its time and its services throughout these morning deliberations.

Thank you and goodbye.

(Whereupon, at 11:47 a.m., the subcommittee was adjourned.)

(The following communications were subsequently supplied for the record:)

VALLEY MOTEL,
Ten Sleep, Wyo.

Hon. Senator McGEE.

DEAR SENATOR: We of the Ten Sleep free TV Booster Club will not be able to send a representative to the hearing at Casper, so will try to explain our position in regards to serving our community with TV.

We are boosting KTWO Casper with very good results. And putting TV in the home of at least 90 percent of our community or the eastern half of Washakie County, population approximately 400.

We have a cable system in our town that has been in operation approximately 3 years and is serving not more than 20 homes and could not serve more than 50 percent of homes due to so much rural area.

Our only problem is in raising necessary money to meet license requirements of the FCC. More time would be appreciated.

Yours sincerely,

GOLDEN M. ALLRED.

FORRESTER AGENCY, LTD.,
Cortez, Colo., February 23, 1961.

Senator GALE MCGEE,
Senate Building, Washington, D.C.

DEAR SENATOR: I was extremely pleased to read of the hearing you and Senator Frank E. Moss held Monday concerning television booster operations. I am the secretary-treasurer of Four Corners TV Club located at Cortez, Colo., and am always thankful when our legislators take such an active interest in helping television for our remote areas.

One of the suggestions mentioned in the newspaper article was the concept of setting up "mother" booster stations so that rebroadcast could be made from one central point. We, here in the Four Corners area, have already done just this. We have an extensive booster installation on top of Madden Peak near Mancos, Colo., which rebroadcasts a signal that is rebroadcast by Dolores, Dove Creek, and Pleasant View, Colo., and Mexican Hat, Utah. With this relaying of signals we are able to bring television to approximately 4,000 homes ranging from the Aztec area of San Juan County, N. Mex., all the way through and including Blanding and Monticello, Utah. We receive our original signal from KGGM-TV, KOAT-TV, and KOB-TV in Albuquerque, N. Mex. We have found this system to be very effective, and would be most happy to send any operators interested a full report on our method of operating these units.

We are also very interested in obtaining an increase in the allowed power output. If we are forced to operate under present FCC requirements, it will mean our organization will have to spend an additional \$6,000 of our viewers' funds.

Again, we wish to extend our thanks to you and Senator Moss for your help with our problems. If we may be of any service to either you or Senator Moss, please do not hesitate to call on us.

Respectfully,

FOUR CORNERS TV CLUB,
MACK FORRESTER,
Secretary-Treasurer.

MANILA, UTAH, February 27, 1961.

Honorable Senator McGEE, of Wyoming
Senate Office Building, Washington, D.C.

DEAR SENATOR: We were unable to send a representative to the hearing on television translator stations held in Casper, Wyo., Wednesday, February 22, 1961, but we desire to comment on our television problems.

First I want to thank you and Senator Moss for the interest and help given the rural citizens to obtain television. We desire your continued help for one or two items.

Some of the national networks apparently have been dilatory in setting up procedures to grant translator stations permission to use network programs for the permanent license as required by the Federal Communications. To date, we have been unable to secure this permission from the American Broadcasting Co. Any help you can give will be appreciated.

The other point that we desire help is an exception to the one-watt output limitation for translator stations serving remote rural areas. For example, we have a central television equipment house located on Dutch John Mountain and direct one set of broadcast antennas southeast to Dutch John located 5 miles away and a second set of broadcast antennas northwest to Manila, Utah, located 20 miles away. At present we split the one-watt television signal and send part to Manila and part to Dutch John. Under existing rules if we increase the output to one watt in each antenna direction, we must secure a license for the Manila direction and one for the Dutch John direction for a total of six licenses for the three Salt Lake channels which we use. This would require extra expense of coders and automatic switches which seems unnecessary. At a later date we may install a third antenna and direct it to the north to serve a compressor station on the El Paso gasoline located about 30 miles away. This would require another license.

A second example is the installation of the Lyman Television Association located on Hickey Mountain about 5 miles northwest of Lone Tree, Wyo., which is the source of the relayed television signal that we use. In this system broadcast antennas are installed in three directions; one north toward Lyman, located 18 miles away, one north northeast toward Little America, located 28 miles away, and one south toward Lone Tree, Wyo., and Dutch John, Utah, located 47 miles away. Under existing regulations, a license is required for each direction in order to broadcast with a power of one watt for each antenna direction.

The existing equipment used in the two examples above includes a Westbury CV-1 crystal converter and a Westbury high-level amplifier AHP-3. According to the manufacturers' data, the maximum voltage on the final amplifier is 10 volts. When using a 75-ohm cable system, the maximum output is 1.33 watts computed from the formula: watts equal voltage squared, divided by resistance in ohms.

In conclusion, in remote rural areas it is requested that consideration be given to increasing the power output enough to allow from 1 to 1.5 watts for each broadcast antenna direction that is connected to the central equipment and that one license cover the central equipment and the several broadcast antennas for each channel.

Very truly yours,

GENE CAMPBELL,
President, Flaming Gorge Community TV.

SHERIDAN, WYO., February 27, 1961.

Honorable Senator GALE W. MCGEE,
U.S. Senate, Washington, D.C.

DEAR SENATOR MCGEE: As secretary of the Wyoming TV Repeater Association I wish to make the following points on behalf of this organization.

At the hearings conducted by you in Casper, Wyo., on February 22, testimony was given by Mr. William C. Grove, of KFBC-TV, and by Mrs. Mildred Ernst, of KWRB-TV, expressing their concern with the VHF TV repeater stations operating in the broadcast area of their stations. It was their contention that without a nonduplication program these repeater stations were seriously affecting the economy of their stations. We of this organization do not agree that a nonduplication is a solution to their problems; in fact, when considering all the factors involved, we contend that the VHF TV repeater stations have contributed largely to the fact that these local TV broadcast stations have been able to stay on the air, since by these repeater stations a selection of TV channels is made available by antenna to the TV viewers in these areas. Without this choice of programs a great many more viewers would have long since gone to CATV and thereby be lost completely to the local TV station, unless that CATV system carries the local TV broadcast station's program as one of their channels. When this is done the local TV station's program is shared with other stations' programs on other channels of equal quality, or in some cases,

better quality, which duplicate the local station's programs. In the case of the repeater station this is not apt to occur since a TV broadcast station should certainly be capable of delivering a much superior quality picture to the TV viewers than a repeater station that is limited to one watt of power and forced to use whatever signal is available to them at a common site for both receiving and transmitting. We, therefore, contend that the TV viewers on antenna will watch the local station when a program appears on the local station and a repeater station at the same time and in fact will continue to leave their TV set tuned to the local station except when favorite program is scheduled on a repeater station that does not appear on the local station's schedule. In this case a nonduplication program would not help the local station but would only add an increased financial burden to the repeater station that in effect is assisting the local TV station in staying on the air.

Another point we think should be made at this time is that of the 1-watt power allowed the TV repeater stations. It was obviously necessary to limit the power of these TV repeater stations at some safe level to start this program to license VHF TV repeater stations. However, we do not feel that the subject of a possible increase in power should be closed, but should be left open to future development, based on individual merits at the time of a license renewal.

In closing we wish to point out that the television channels are actually property of the people and the TV broadcasters are only given permission to use those channels to serve the people. When a group of people in the fringe area of a TV broadcast station are denied the use of the signal on that channel to provide for themselves, on the nonprofit basis, a usable signal by repeater, we cannot agree that the TV broadcaster has used that channel in the best interest of the people.

EDWIN W. MOYER,
Secretary, Wyoming TV Repeater Association.

[Wyoming State Journal, Dec. 16, 1958]

TRANSLATOR MAY BE BUILT HERE TO GET TELEVISION PROGRAMS FROM CASPER

An effort will be made to get a translator built so television programs from Channel 2 in Casper can be seen in Lander.

It will cost about \$1,500 to build and \$20 a month for power and repairs, according to information given to Lander businessmen by a Casper TV official.

The programs would not duplicate those already being seen over channel 10 from Thermopolis inasmuch as the Casper station is affiliated with the ABC network, whereas channel 10 has CBS programs.

Channel 2 is on the air from 6:30 in the morning until midnight.

The Casper station will not build translators to expand its coverage, so it will be up to residents here to pay for it.

The Casper station said it would furnish a man to come out and find a place to put the translator.

People living in the vicinity of Lander hill can get channel 2 now, so it's possible a translator might go there. However, that matter is one the technical person will probably decide.

The translator's programs can be seen about 8 miles away from the translator, in all directions, according to Bob Berger, of channel 2 in Casper. In some cases, the programs can be picked up beyond that distance.

Frank Hicks, publisher of the Buffalo Bulletin, said Buffalo residents had a translator put in just about 6 months ago.

Hicks said that they had some trouble with it at first and didn't get too good a picture but now reception is fine.

U.S. SENATE,
February 24, 1961.

HON. JOHN O. PASTORE,
*Chairman, Communications Subcommittee, Senate Commerce Committee,
New Senate Office Building, Washington, D.C.*

DEAR SENATOR PASTORE: The decision of the Communications Subcommittee of the Senate Commerce Committee to hold hearings in Casper and Salt Lake City to take testimony on the efforts of the FCC to license boosters under recent legislation was deeply appreciated. The citizens of the many small communities of the West who have been struggling with the problem of obtaining adequate television reception for several years were pleased with this further evidence of the subcommittee's continuing concern for the orderly development of a television system for all the people.

It was particularly gratifying that in response to our invitation the hearing in Casper was attended by FCC Commissioner Robert E. Lee. It is my hope and expectation that through Commissioner Lee's presence the Commission will have gained a more intimate knowledge of the special problems in our area and I shall be watching closely to see whether those problems which were discussed at Casper are taken up and acted upon by the Commission in a timely fashion.

The record of this hearing certainly demonstrates that delays in the issuing of construction permits for local boosters are both costly and, to an extent, unnecessary. I should like to enumerate briefly some of the problems which were spelled out in the testimony of the various witnesses during this hearing.

1. The current FCC regulations require that notice of application for a construction permit shall be carried in the local daily newspaper or, in case there is no local daily newspaper, in the daily newspaper which has the largest local circulation. Many of the communities in Wyoming which are most interested in the construction of a booster are too small to have a daily newspaper and it seems unnecessarily burdensome to require local sponsors to make a count to find out which paper reaches the most homes in the community. It would seem that this requirement might well be simplified so that adequate notice could be obtained through the use of weekly newspapers, posted bulletins or other means.

2. Present FCC regulations may not take adequate account of the need for experimentation with different types of equipment and with different rebroadcasting locations to enable the local community to enjoy signals of the best available quality. One of the complaints most frequently voiced was that present regulations do not permit the construction of rebroadcasting facilities with enough power to reach the whole community.

3. The testimony indicates a desire on the part of local booster operators who are earnestly desirous of acting in conformity with FCC regulations for more efficient contact with the Commission. In this area of concern several suggestions were advanced: That more FCC representatives with the technical knowledge to aid local operators in such technical work as completing applications and selecting suitable equipment be assigned to this work, that simplified forms be made available so that local operators who are not professional engineers may be aided in completing the necessary paperwork, that applications, once made, be processed more quickly by the Commission and that the April deadline for construction permits be extended.

4. Another problem was raised upon which we have taken testimony before. This was the duplication of the signals of local broadcasting stations by boosters bringing in signals from more distant stations.

This is not an exhaustive list of all the items which were raised and discussed in the course of the hearings, but it will suffice to indicate the range, depth, and usefulness of the testimony which was taken.

I cannot close this report without noting the great strides which have been made in the development of efficient and economical equipment since the passage of our legislation. It is obvious both that these strides could have been made years ago had the Commission seen fit to act at that time, and that technical change in the direction of even greater efficiency and economy will take place in the near future.

The citizens of many areas in Wyoming and the mountainous West owe to the continuing interest of this subcommittee under your farsighted leadership the fact that they have television today. The record of these hearings will maintain and further the very fine relationship which has grown up between these citizens and our subcommittee.

Sincerely,

GALE W. MCGEE, *U.S. Senator.*



