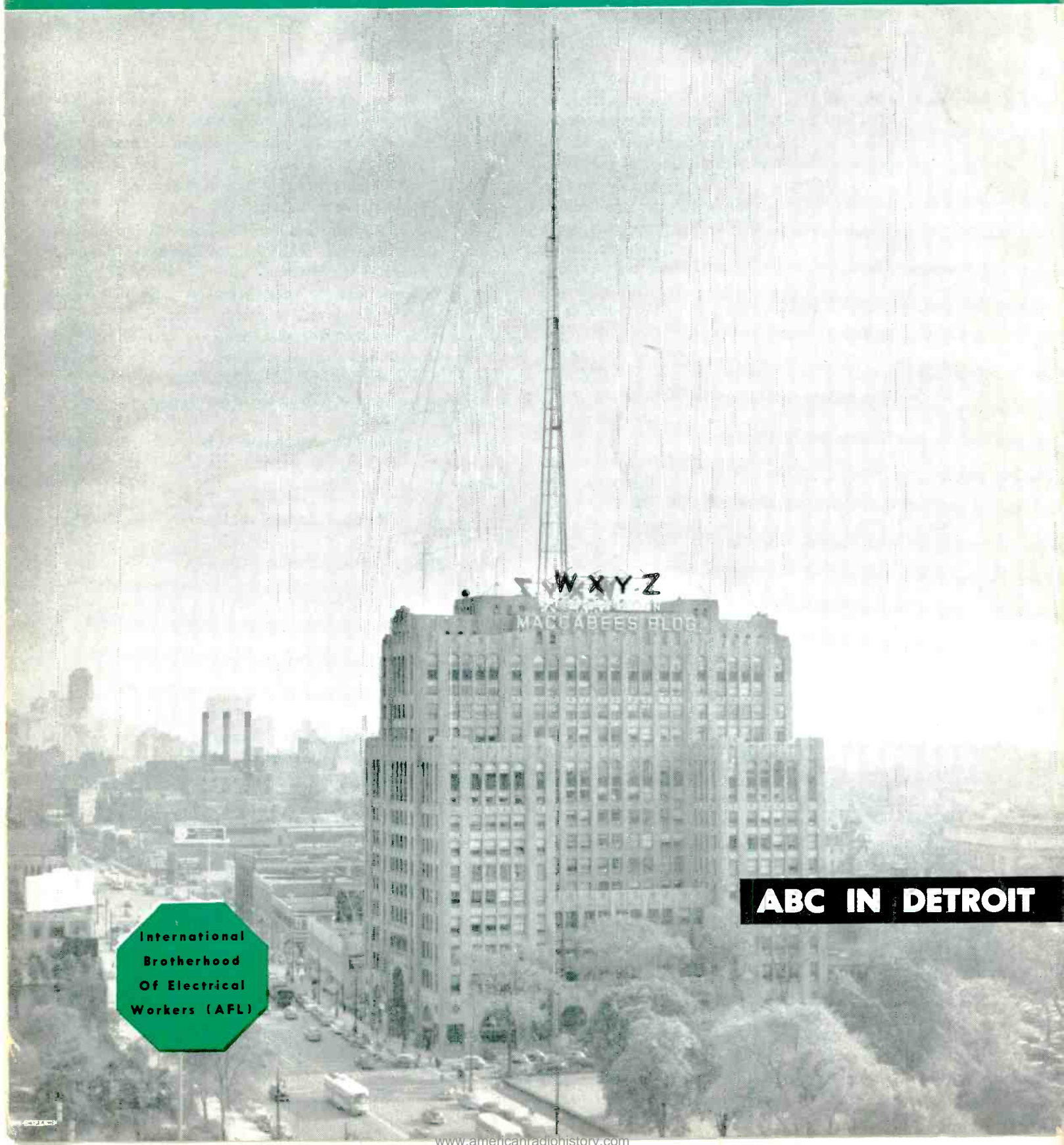


# **RADIO, TV and RECORDING** **TECHNICIAN-ENGINEER**

FEBRUARY, 1952



International  
Brotherhood  
Of Electrical  
Workers (AFL)

**ABC IN DETROIT**

# Everybody Is Trying To Get into the Act!

**A** PROBLEM which has been simmering for several years has recently been acted upon by L. U. 1215, with good prospects of eventual reasonable settlement. The Signal Corps has been responsible, on the whole, for communications facilities at the White House and the Pentagon building. Relatively recently, however, this activity has expanded into the field of broadcasting to the extent that various press conferences, special events and (even) regular program service has been offered to the broadcasting industry via tape, film and disc recordings. These ventures have met with such a marked degree of success that the Air Force has set up similar facilities to do the same thing. Certainly no one can quarrel with the recordings made by the Armed Forces in the field in Korea, Japan or occupied Europe. But when a Service band plays in Washington, D. C., is recorded by government personnel, and is offered for broadcast—it is time to call "Halt!"

The Department of Interior installed studios and equipment and hired personnel to do this very same sort of thing, in about 1940, but with little or no success. That activity is now being resumed, and the Department of Commerce has now also entered the field, although in a much more modest manner. The advent of television has prompted even the Post Office Department to offer "official" films to the television stations and networks, which are produced by personnel of the Department. It is quite obvious that, if these instruments and agencies of the United States Government are allowed to expand, there will be little or no need for the Washington radio stations to maintain field pick-up staffs.

## Controversy Stirred

Accordingly, a short time ago, President Cox of 1215 notified the employers concerned that recordings made by government personnel are not acceptable as broadcast material. This notice precipitated innumerable conferences and considerable controversy. The Signal Corps, the Air Force (and other agencies) claim that their work is made necessary by security considerations. The broadcasters state that they prefer to have their own

employees make the pick-ups concerned, but they do not get sufficient notice to be able to do so, in most cases. Further, in many cases, they are not able to have "industry" engineers present because of the element of security; while, at the same time, reporters and representatives of the broadcasters and wire services are admitted to the events without question.

The only alternative left for the Local Union has been, after conference with the International Office which resulted in the personal approval of President Tracy, to insist that the jurisdiction set forth in the agreements with employers be strictly enforced. White House Press Secretary Joseph Short was consulted, and a very sensible and suitable working arrangement was agreed upon—making certain compromises on special situations which arise only at the White House. So the White House problem was disposed of, very quickly. Mr. Short, incidentally, was found to be a very reasonable and sympathetic listener and is held in very high esteem by the Local Union.

## Broad Implications

While the subject of "government in business" may very well be a problem confined largely to the District of Columbia, as far as broadcasting is concerned, it has a number of aspects with which all of our members and local unions may one day become involved. For that reason, more space will be consumed in our future publications so that the membership will be kept up to date on this matter.

The International Office and 1215 have taken the position that funds derived from taxes should not be diverted to uses which duplicate the facilities which are offered to the government by private industry (i.e., broadcasting) free of any charges. This is an aspect of the problem which should be of considerable interest to the average American, whether he is a member of organized labor or not. But the vital point in this controversy is to have IBEW members do the work involved—jobs and the jurisdiction of work are the basic elements of unionism.

# Out of the Frying Pan

## And into the Fire!

By D. W. Tracy, *President International Brotherhood of Electrical Workers*

**W**HEN the rulers of NABET found themselves in a hot frying pan in their futile efforts to operate an independent union they got desperate and jumped into the fire.

There are sound indications that the membership of NABET held little enthusiasm for the leap. While the vote in favor of CIO affiliation was heavy, it is reported that the votes were cast with little eagerness.

After all, what else could the membership do? NABET was tottering, it had to turn somewhere for assistance, and the only choice the NABET hierarchy gave the members was the ever-willing, but not-always-able CIO. Stalin got a big vote in the last Soviet election, too. He also was the only choice offered the voters.

Now that NABET is bundled up snugly in the CIO house, the fledgling union is out of the frying pan; it has a roof—of dubious construction—over its head. But the NABET rulers are likely to find the fire they've jumped into is a good many degrees hotter than the pan.

Every attempt by the CIO to invade the broadcasting industry has been abortive. There is no reason to expect a miracle at this date.

By grabbing the CIO coattails, the master councilors at NABET slapped a glove against a lot of good, progressive AFL unions—the American Federation of Radio Announcers, the American Federation of Musicians, the Associated Actors and Artists of America, the International Alliance of Stage Employees, the Radio and Television Directors' Guild and all the other AFL unions which have employees associated with the broadcasting industry.

These unions are loyal affiliates of the American Federation of Labor, and they have been supporters of the AFL's constant campaign to bring about real labor unity, a unity which the American worker has not enjoyed since the CIO left the parent federation a number of years ago.

Those unions certainly cannot be expected to be cheered by the sight of a splinter union in the broadcasting industry running into the arms of the CIO. As a matter of plain fact, if NABET runs into a strike problem—as all union organizations do sooner or later—can it logically expect any cooperation from the actors, the announcers, the musicians, the teamsters who move around studio equipment or the stage hands?

You need friends and help when you become involved in a labor dispute. And, you don't make friends by turning your back on the very people you're going to need when trouble comes.

The division of labor in our nation—the secession of the CIO—has been one of the great economic tragedies of our time. It has cost the American working man a lot of progress.

Likewise, the division of workers in the broadcasting industry is tragic. It also works a hardship on everybody involved.

The most unfortunate aspect of this division is that the engineers and technicians are failing to present a solid front at the very time when solidarity is of the most importance. We all realize that the impact of television is bringing sweeping changes to all phases of broadcasting and recording. Even at this stage of the industry's development, it is virtually impossible to assess correctly the full significance of these changes.

Every engineer in the industry has a vital stake in this drama which is unfolding daily. It is a time when he needs alert, strong representation, an organization which can assure him a place of security during these days of fast-moving developments.

He cannot get that kind of representation from a union which is still shaky on its feet and which has virtually declared war on the unions of his fellow workers.

NABET's divisionist tactics cannot help anybody in the broadcasting industry, but they can hurt us all. These disciples of disunity can cost broadcasting engineers and technicians a lot of progress, achievements which could be realized if everybody would pull together.

When the going gets rough, NABET will find the fire is mighty hot—too hot for a union still in the teeth-cutting stage.

But, it is a shame that the NABET councilors have to learn the hard way—and, in so doing, work unnecessary hardship on skilled craftsmen who need a solid union to meet the complex problems of a rapidly-changing industry.

The IBEW, a strong and successful union in broadcasting for more than a quarter of a century, offers broadcasting and recording engineers vigorous, responsible representation at a time when such leadership is needed most.

## Correction: IBEW Has Been In Broadcasting Since '26!

Ordinarily, a publication dislikes admitting that a statement it printed was in error. The error to which Brother W. F. Ludgate of St. Louis calls our attention in the following letter is the exception to that rule. We are pleased to add a few more years to the IBEW's experience in broadcast organization and bargaining. Brother Ludgate writes:

"803 East Walnut Street,  
Robinson, Illinois  
December 22, 1951

"Mr. J. SCOTT MILNE, *International Secretary*  
1200 Fifteenth Street, N. W.  
Washington 5, D. C.

DEAR SIR AND BROTHER:

"Today I received the first issue of THE IBEW TECHNICIAN-ENGINEER and enjoyed reading through it. Congratulations upon this new venture in publications.

"There are several errors in this issue, however, and it is about these I am writing. Page 10 is very much in error as to the beginning of radiomen in St. Louis. Your columns credit us as beginning in 1932. This is erroneous. The radiomen in St. Louis employed at the various broadcast stations joined Local Union 1 during the year 1926 and were classified as "Class E Radiomen." A strike took place at KMOX in November, 1926, which forced recognition of the Radio Union in St. Louis. This was the first broadcast station to be struck by union labor.

"I happen to be the oldest member in point of service of any St. Louis union radioman. My employment dates with KSD, the *St. Louis Post Dispatch*, to June, 1922—which antedates by several years at least the earliest date of employment of any other St. Louis radioman now employed there.

"I have in my possession the By-Laws of Local Union 1, revised June 4, 1929 and approved by James P. Noonan, president, June 10, 1929. Section 13, page 51 covers the rules governing St. Louis radiomen at that time. I also have a copy of the Working Rules of Class E. Radio-Division, Local Union 1, IBEW, for 1930, a 15 page book chock full of rules governing our work, approved by H. H. Broach, International President, on November 8, 1930.

"The St. Louis radiomen held their own meetings from 1926 to 1940, separate from those of L. U. 1. During those 14 years, I served this division—either in the capacity of chairman or secretary. Our first agreements, while set down on paper, were 'gentlemen's agreements' in that they were not signed. Both sides lived up to them fairly well, but by verbal acknowledgment only.

"As time goes on, these dates are going to loom up more in importance, and let's give recognition to those

## RADIO, TV and RECORDING TECHNICIAN-ENGINEER

Published monthly by the International Brotherhood of Electrical Workers (AFL), 1200 Fifteenth St., N. W., Washington, D. C., for the men and women employed in the recording, radio and television industries.

D. W. TRACY  
*President*

J. SCOTT MILNE  
*Secretary*

VOLUME I



NUMBER 2

Application for second-class mail privileges under the Act of Aug. 24, 1912, (Sec. 34-20, Postal Laws and Regulations, 1948 edition) pending.

PRINTED ON UNION MADE PAPER

who are entitled to it. The IBEW has a lot of 25-year radiomen in St. Louis; I know of at least a dozen, myself included. I will be happy to send in these by-laws mentioned above if you would care for them for historical purposes.

"Yours Fraternally,  
W. F. LUDGATE,

Card No. 600650, Local Union 1217."

(EDITOR'S NOTE: International Secretary Milne replied to this letter, with thanks, and mentioned that the by-laws referred to are already in the IBEW archives. We are always happy to get our history straight, and are indebted to Brother Ludgate for his trouble in bringing his story to our attention.)

### Local Union 45 Signs Agreement

As this issue goes to press, L. U. 45 announces that a new agreement with KLAC-TV has just been signed. The latest issue of "Local Transmitter" contains a summary of the agreement written by the negotiating committee; among new provisions they list a \$15.00 differential (or 12 per cent, whichever is higher) for Crew Chiefs, an automobile allowance of 12 cents per mile, four-week vacations after three years of service, relief after one hour at an operation position and after two hours at remotes, etc., etc. The wage scale is a five-year progression beginning at \$82.50 per week and running to \$145.00 for all men except Crew Chiefs, who are provided with a differential.

This new agreement represents real progress; the 1950 agreement provided for the highest rates in the area. Now the top has been reached again in the Los Angeles area, by the efforts of a fine negotiating team, in an independent TV station. The terms of the KLAC-TV agreement give us all something to aim for and prove that teamwork pays off!

**The IBEW Technician-Engineer**



---

## **National Progress Meeting**

### **Planned for Early Spring**

**A**S soon as the rush of business is over, which is a problem at the start of every new year, all the International Representatives assigned to radio will meet at the International Office to confer on plans for activities in the future. A two or three day meeting in Washington will afford them the opportunity of comparing notes, experiences and the like. Part of the session will be devoted to legal questions; IBEW General Counsel Louis Sherman will meet with them and be able to guide their thinking as far as legal aspects of the operation of a union are considered.

President Tracy is looking forward to talking to the representatives and will outline his plans and prospects

for the future. While the International Office receives detailed weekly reports from its representatives in the field, there is a gap in the exchange of information which cannot be filled by any other means than personal contact and discussion.

The agenda for this meeting will produce much food for thought and argument and will produce closer coordination of the nation-wide activities of the organization. Plans are afoot to have digests of subjects published in the next issue of *THE TECHNICIAN-ENGINEER* so that everyone will have the benefit of the information and news which will result.

---

## **Coordination of Radio Locals**

### **To Be Discussed at Conferences**

**M**ANY local unions have offered the suggestion that the Radio and Television Broadcasting and Recording men hold an annual progress meeting, which would afford them the opportunity to meet and talk to each other and to discuss their problems and plans. International Representatives have been making inquiries, in the course of their travels about the country, and have found that there is a tremendous interest and growing enthusiasm in the prospect. The matter has been taken up with President Tracy and he has expressed his wholehearted approval.

This will be one of the subjects which will be given thorough discussion at the meeting of the International Representatives at the International Office and announce-

ment of the place and the time will be made in the next issue of *THE TECHNICIAN-ENGINEER*. It behooves each local union to lay tentative plans for the meeting—no local union can afford to be without representation. So as to equalize expenses as much as possible, the meeting will likely be held in some midwestern city.

It is by no means too early for planning and thinking about subjects which should be presented for consideration. The number of days which the meeting will be in session will depend, for the most part, on the number of subjects and their length. At the present time it appears that two or three days of concentrated work will suffice. More definite plans can be laid when the local unions have examined their interests and problems.

# CBS Election Set January 24

The Chicago Regional Office of the National Labor Relations Board was the scene of a conference on CBS cases 13-RC-1888 and 21-RC-1983, at 10:30 a. m., Thursday, January 3, 1952. Director of Personnel Relations Robert Kalaidjian and Attorney Howard Klein represented CBS. Assistant to the I. P., Lawson Wimberly, General Counsel Louis Sherman and International Representatives Harold Becker and Albert Hardy represented the IBEW, along with Business Manager H. Walter Thompson of Local Union 1220. NABET Executive Secretary George Maher appeared for his CIO-affiliated organization.

Field Examiner Lieberman, acting for the NLRB Regional Director, opened the conference with the statement that Regional Director Madden was in receipt of notice from the IATSE that that organization had decided to withdraw from participation in the election except for the unit involving the film editors and cutters in Hollywood petitioned for in 21-RC-1983. In other words, the only participation of the IATSE in the coming elections will be in the interest of Local 776, involving the six film editors and cutters in the CBS Hollywood operation. (Unit (b) of the NLRB decision).

## ELECTION ON JANUARY 24th

Despite the position taken by the IBEW that the NLRB decision should be carried out and the election held within 30 days of December 17, Examiner Lieberman stated that the mechanics of the Board and the Regional Offices would prevent holding the election before Thursday, January 24th. Because of the nation-wide scope of the election, and the jurisdiction resting with the Chicago office, the ballots will be returned to Chicago for counting in the presence of representatives of all the interested parties on January 31, at one o'clock p. m.

## BALLOTS

All men on duty January 24, 1952 will have the opportunity of casting their ballots in person at the polling places. A thorough discussion of the problems of men whose day off might fall on election day, as well as the problems of vacations and leaves of absence resulted in agreement that mail ballots would be provided for these men—which, to be valid, must be returned in the self-addressed envelopes to the Chicago NLRB office by 12 o'clock Noon, January 31st. CBS will provide the necessary payroll information as well as lists of men who should receive ballots by mail. Thus, everyone who has any interest in the election will be able to cast a ballot—an objective insisted upon by IBEW.

## ELIGIBILITY AND POLLING PLACES

All parties affirmed their understanding of the Board directive that the eligibility date for all voters is the payroll period for the week ending December 15, 1951. Likewise, after careful examination of all the factors, it was agreed that the company's list of suggested polling places be made official. The various places and the number of men involved (roughly, pending actual verification to the Board on January 18) looks like this:

<i>City</i>	<i>Polling place</i>	<i>Number of men</i>
Minneapolis .....	1. Studio 3, WCCO.....	11
	2. Transmitter, Anoka, Minn.....	6
Boston .....	1. Control Room, 13th Floor, 182 Tremont Street	8
	2. Transmitter, Medford, Mass.....	6
St. Louis .....	1. Master Control Room, KMOX.....	13
	2. Transmitter, E. St. Louis.....	5
San Francisco .....	1. KCBS Studio, Palace Hotel.....	13
	2. Transmitter, Novato, Calif.....	6
Delano .....	1. Transmitter, Delano, Calif.....	11
Los Angeles .....	1. Room 209, 6121 Sunset Blvd.	78
	2. Office near Master Control, 1313 N. Vine Street	58
	3. KNX Transmitter, Torrance.....	6
	4. Mt. Wilson Transmitter Bldg.....	7
Chicago .....	1. Studio, WBBM.....	28
	2. Transmitter, Itasca, Ill.....	7

<i>City</i>	<i>Polling place</i>	<i>Number of men</i>
New York .....	1. Lounge, Studio Bldg., 52nd St.....	175
	2. Lounge, 15 Vanderbilt Ave.....	214
	3. 418 E. 54th St.....	115
	4. 421 W. 54th St.....	57
	5. Transmitter, Wayne, N. J.....	3
	6. Transmitter, Brentwood, L. I.....	9
	7. Transmitter, Columbia Island.....	8
	8. 24th floor, 485 Madison Ave.....	30

## HOLLYWOOD FILM EDITORS AND CUTTERS

The IBEW chose to withdraw from participation in an election involving Group (b) of the NLRB decision because (1) it was the obvious intent of the Board that this Group should constitute a separate bargaining unit, and (2) the IBEW acknowledges the impregnable position of the IATSE with respect to Hollywood film editors and cutters. Note that this withdrawal is consistent with the position the Local Union involved previously took when its former Business Manager Roy Tindall (who now represents NABET) saw fit to exclude this work from IBEW jurisdiction nearly two years ago in the CBS Hollywood agreement.

NABET now tries to pass the buck for its responsibility in delaying the negotiation of a new contract with CBS by saying that the IATSE intervention has delayed the election. Why does NABET hide the fact that at the Chicago conference, NABET's Representative Maher vigorously protested against the withdrawal of IATSE from the ballot?

The truth of the matter is that the employees of CBS have been delayed since May 1951 in securing their rightful compensation because NABET filed the petition which started this NLRB proceeding—and not because IBEW or IATSE or AFRA or AFM intervened after the case has been started by NABET. NABET has persistently used stalling tactics in the case, hoping that something would turn up to change its unfavorable standing with CBS employees.

The withdrawal of the IATSE is a real service both to the IBEW and the A. F. of L. Here is a concrete example of the common interests of two A. F. of L. unions being put above any selfish interests. This is the sort of concerted action that points up the reason for belonging to the A. F. of L.—action that pays off in real benefits to the individual members, as well as to the unions and the Federation.

## VOTING PROCEDURE

As to observers in the election, to get back to the meat of the news, each Local Union will necessarily be charged with the responsibility of seeing that each polling place is covered by an official observer.

Election notices will be posted in all the normal working areas by CBS. As is usual, sample ballots will be shown in the notices. Each member is urged to examine the notices very carefully. Everyone owes it to himself to vote and see that his ballot is valid. Those who are normally off duty on election day may vote by mail as explained above, if they wish to do so. On the other hand, if a change of work schedules at the last minute brings a man in to work, he may cast his ballot either in person or still use his mail ballot. Board procedure will compensate for any man voting twice. Should any man cast his ballot by mail and then make an appearance at the polls, he will not invalidate his vote by doing so. Only the personally-cast ballot will be counted when the ballot box reaches Chicago. The ballots, with return envelopes, will be mailed from Chicago on or about the 18th. Any man (on a day off, on vacation or leave of absence) who does not receive his ballot by mail should make plans to appear personally at his polling place. Obviously, too much cannot be said for the need of sending the ballot, properly marked, by return mail to Chicago.

As soon as the mailed and personal ballots are counted on the 31st of January, the results will be wired all the Local Unions.

Questions may, and probably will, arise as to the voting places, procedures and so on. The NLRB notices will probably be specific and clear. If, after notices are posted, there is a question in any member's mind, he should contact his Local Union for information. If the Local does not have the answer, a wire or telephone call to the International Office is in order. This is an important election—there is no excuse for lack of information.

(Editor's Note: This article, which first appeared in a Fact Sheet mailed to CBS members, is reprinted here for the information of all members.)

# ABC in Detroit

By Kurt R. Schmeisser  
Business Manager, L. U. 1218



**W**XYZ, ABC in Detroit, was purchased by the American Broadcasting Company during the year 1946. At the time of this purchase, it was generally believed that the engineers who were then members of the IBEW, would switch to another union. An NLRB election however, proved otherwise and today there are 64 engineers at WXYZ, all members of the IBEW and Local Union 1218. These engineers overwhelmingly approved a new contract which was recently negotiated by a committee of WXYZ engineers and International Representative Freeman Hurd. These engineers, like the officers of L. U. 1218, believe in the principles and the practice of conciliation and arbitration and consequently there has never been any strike action at WXYZ.

Let us take a trip through the WXYZ facilities, starting out at the AM Studio Building. We see a former mansion converted into six radio studios, as well as a fully-equipped master controlroom. Conveniently located adjacent to the controlroom are recording facilities for disc as well as magnetic tape recording. Many well-known dramatic shows emanate from these studios, such as "The Lone Ranger," "The Green Hornet," and others. In order to accommodate the many dif-

ferent program feeds, the controlroom equipment was so designed that three different program channels can be switched simultaneously to as many as seven different outgoing lines and very often this system is used to its full capacity. Occasionally, the feeds from this controlroom go to other networks including the CBC (Canadian Broadcasting Corp.). This studio building is located in a picturesque setting on Detroit's Eastside, opposite from the Detroit River Front.

The AM Transmitter Building of WXYZ is located some fourteen miles from the AM studios and is on Detroit's Westside, near the City of Dearborn. It consists of a standard 5DX RCA Transmitter, a directional antenna system which uses two towers at night, while during the day only one tower is in use and an auxiliary 1 kw transmitter for emergency service. Normal radiated power output of WXYZ is five kilowatts. FM monitoring facilities have been provided to give standby service in case of telephone line failure. A well-equipped workshop, complete living quarters, and a two-car garage make this location a pleasant place to work.

WXYZ-TV and WXYZ-FM are located virtually in the center of metropolitan Detroit. Surrounded by the

Right: The WXYZ Mobile Unit at the Detroit River Races. Chief Engineer Charles Kocher, pointing, directs Cameramen John Doran and Don Farmer.

Below: Protected with an Arctic face mask, Engineer Zack Lee does a remote in zero weather.







In recording room, Engineer Ray Spejna checks a taped program.



Supervisor Ed Simons making log entries at the AM transmitter.

Detroit Art Institute, the Main Public Library, the many buildings of Wayne University and the Engineering Society of Detroit, the Maccabees Building with the WXYZ antenna has become a landmark for Detroiters. The effective radiated power output of WXYZ-FM is 30 kilowatts, while the effective radiated power of WXYZ-TV is 29.7 kilowatts visual and 13.9 kilowatts aural. Located in this building are the four television studios, two on the first floor and two on the fifteenth floor. The TV and FM transmitters and a master controlroom with adjacent Telecine Room are also located on the fifteenth floor. The largest studio on the first floor provides access by automobile. WXYZ-TV was the first television station in Detroit and Michigan to provide for the demonstration and operation of automobiles within a television studio.

WXYZ-TV started telecasting on October 9, 1948, and, although the other Detroit television stations were operating on temporary FCC authorizations, it was the first to complete final facilities installation and submit satisfactory proof of performance to the Federal Communications Commission, thus qualifying for and obtaining the regular commercial television station license in Detroit and Michigan. In 1949, WXYZ-TV was the first Detroit TV station to schedule full time television programming, starting at 7 a. m. every week-day morning and at the same time extending its night-time operation past midnight. Since its opening, many outstanding local and network shows have originated from this station which, like other ABC stations, operates on Channel 7.

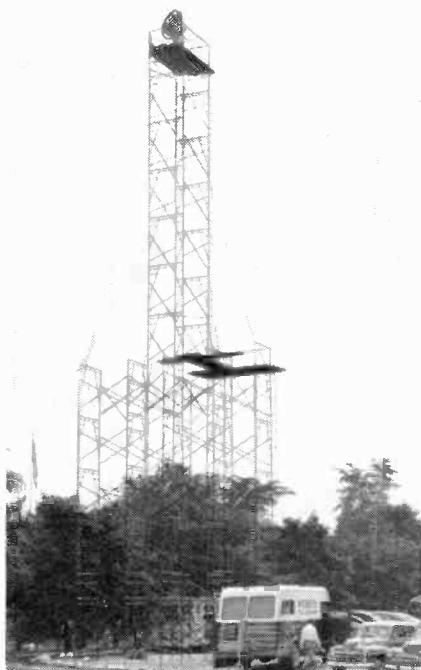
In addition to the studio facilities, a remote television truck complete with cameras, power supplies, microwave equipment, mobile radiotele-

phone and other necessary gear, has enabled the WXYZ engineering department to do an outstanding job of remote television programs. For example, a daily two-hour remote went on the air for a period of better than three months from Detroit's major airport at Willow Run, Mich., which is located about twenty-eight airmiles from the TV studio building. It was microwaved every morning in a single hop! The engineers on this particular assignment started out at 3 a. m. every morning in order to get things ready for the airshow which was scheduled at 7 a. m. But, the technical director on this show, James Brinn, assures us that the boys really liked that shift in spite of the fact that they had to go to bed with the chickens.

Many interesting remote programs have originated at WXYZ-TV such as the Annual Boat Races on the Detroit River, and an interesting sidelight on one of these remotes was the microwaving of video signals from the conning tower of one of Uncle Sam's submarines. This was also the first on-the-air use of the Zoomar Lens by any TV station in Detroit. Another outstanding remote program was a Championship Golf Tournament (The Motor City Open-1950). Using five working cameras and two full remote crews as well as two complete microwave set-ups, WXYZ-TV had complete television coverage of the eighteen-hole golf course.

A thrilling episode for Detroit television viewers was a shot by Golf Pro Sunny Burke, whose long putt at the eighteenth hole rimmed the cup, and, after a few breathtaking moments, the ball finally fell into the hole. All this on close-up camera by means of a forty-inch Reflector Lens, making it full screen size!

During 1951, the City of Detroit



An 85-foot tower set up to microwave a recent golf tournament.



Engineering drawings are expertly done by IBEW Engineer John Gulevich.



Engineer Dan Angelich shoots a wheel production line at a Chevrolet plant.



Vic Adams, Supervisor, Hal Dushane, and Lou Dumon, all maintenance engineers at work.

celebrated its 250th anniversary and many civic events were telecast, including the gigantic birthday parade which lasted for several hours. Again, two remote crews at different locations and using two microwave set-ups and many cameras, gave Detroiters outstanding coverage of this historic event. Another remote program was recently originated from Windsor, Ontario, in Canada. The WXYZ engineers had to bring along their own power on this one, since the available power at Windsor was 25 cycles a.c. The portable power supply was a gas-engine driven alternator of 10 kva capacity and supplied all needed power at 60 cycles to operate the TV gear in the truck and also lighting. This occasion was the visit of Princess Elizabeth and her Royal Party and the telecast, originated by WXYZ-TV, was the first international television program which was fed and carried by stations from coast to coast, thus again making television history.

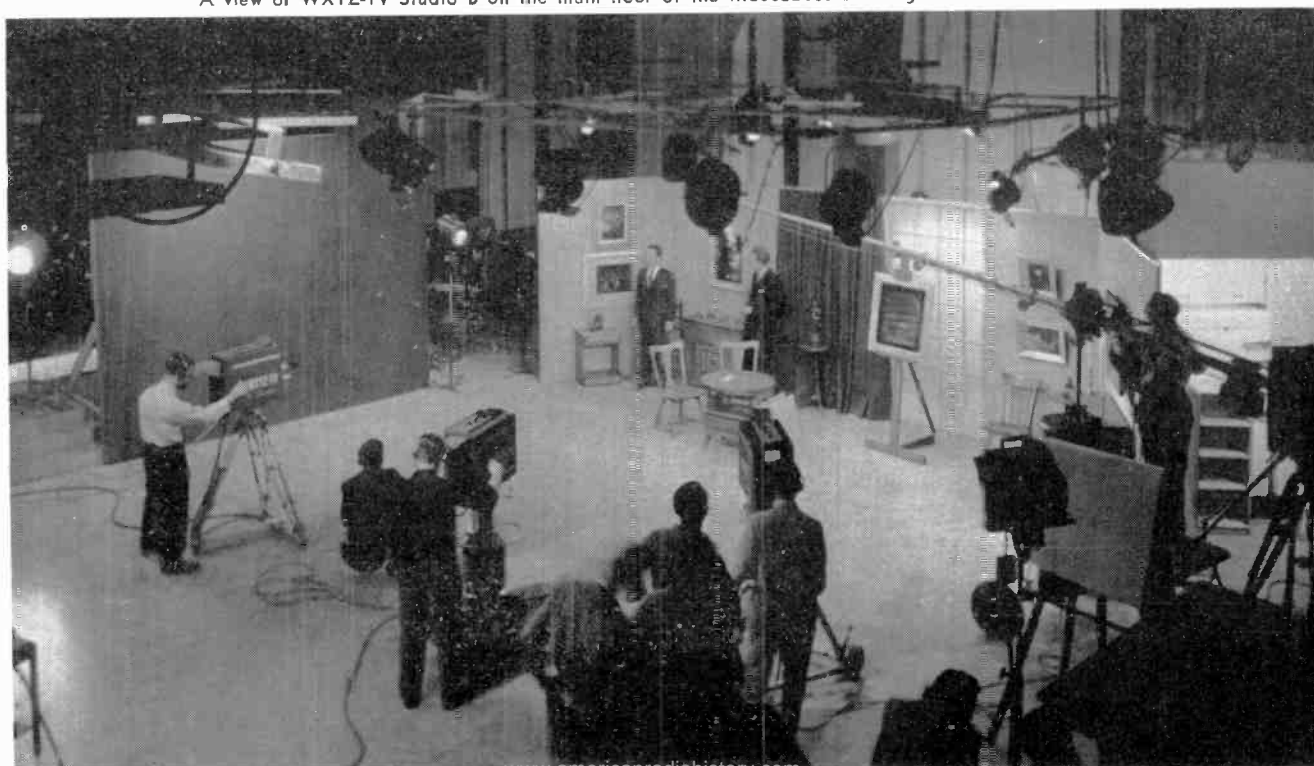
In sports, too, the WXYZ-TV remote staff has outstanding operations in picking up boxing, wrestling,

bowling, football, baseball, roller-derby, skating, horse-racing, midget auto racing, jalopy racing and others. While on the subject of midget racing, on one of the telecasts an accident occurred on the track and, due to two cars colliding at high speed, one of the midget racers was thrown into the air and narrowly missed Engineer Bruno Yank, on one of the cameras, by a mere matter of inches. Bruno managed to stay calm through the whole thing however, and thus provided Detroiters one of the biggest television thrills they had ever seen. Other remotes which might be classified as unusual were telecasts from a hospital operating room, from a Detroit police station, the Detroit Fire Department Training School, Grosse Isle Naval Base, the Detroit Zoo and even used car lots.

Speaking of the unusual, the engineers in the TV studios still remember the time when a pistol expert from the Detroit Police Department fired a revolver right at the camera lens. A piece of bullet-proof glass

*(Continued on page 14)*

A view of WXYZ-TV Studio B on the main floor of the Maccabees Building in Downtown Detroit.



# U-H-F Does Not Spell Lemon!

Once the Big FCC Freeze Thaws, Ultra High Frequency Will Go Commercial for First Time And 'Take TV Into the Byways of the Nation'

**L**AST September more than 150 AM station engineers, consultants, and attorneys assembled at Bridgeport, Conn., to inspect a 850-856 mc television station and to discuss the technical aspects of ultra high frequency television. They delved into transmitters, converters, antennas, and asked questions about propagation.

To many of those present for the four-day RCA seminar, uhf seemed just a way out of a pending FCC log jam . . . the rear seat in the television bleachers.

To these skeptics, FCC Chairman Wayne Coy, a luncheon speaker, had something to say:

"You're going to have the surprise of your life," said Coy. "Uhf is not the lemon some people think it is."

He pointed to uhf's relative freedom from some types of interference and to the FCC's fond plans for allocating uhf stations so as to eliminate or minimize oscillator radiation, image and intermodulation interference, and other potential ills. He called attention to the fact that primary service areas for uhf stations is expected to be as great as, if not greater than, for vhf,

"I'm so sold on uhf, I'd like to see all TV go to uhf," he enthusiastically stated.

## Commissioners Enthusiastic

Fellow commissioners, though rejecting the idea that all TV should go to uhf, are, nevertheless, enthusiastic about the uhf potential too. The present vhf channels limit TV station allocations considerably. Uhf, meanwhile can go to 200 kw. and higher and broaden the whole picture.

The FCC, awfully cautious since it burned its fingers in color, is reported to be fostering uhf as one way out of the current big freeze on all station allocations. Material shortages for station construction are, of course, a causative factor in the freeze, but the allocations problem is the primary consideration.

Once the facts on uhf propagation are all at hand, and the materials picture improves somewhat, the FCC is expected to put uhf on a commercial basis.

When this happens, RCA President Folsom sees an eventual 3,000 stations and 50,000,000 receivers growing out of the combined vhf and uhf spread. Uhf is expected to add 70 new channels to the 12 already set for vhf bands.

Dr. W. R. G. Baker, VP in charge of electronics at GE, forecasts a minimum of 36 uhf stations after the freeze is lifted, and 141 new vhf outlets, making a total of 248 TV stations. At the end of five years he foresees

166 uhf stations and 343 vhf, or a total of 500. He admitted his estimate was conservative.

"Uhf stations are going to take TV into the byways of the nation," says A. L. Chapman, VP of the radio and television division at Sylvania.

Many manufacturers and station applicants are already toeing the mark for the lifting of the freeze.

Sets to receive uhf are already on the market. All models in the new Motorola line will be available with built-in uhf turners. Most manufacturers are showing off uhf tuners.

## Tube Developed

The Klystron, perfected last year, has done much to make uhf more attractive, since it permits station powers high enough (200 kw) to give satisfactory coverage in many areas.

An item of uhf receiver test equipment—a "sweep-marker generator"—was unveiled last October at the National Electronics Conference in Chicago. Designed as a factory production instrument, the gear was demonstrated by RCA Engineer J. F. Sterner.

Experimental propagation is underway. A National Production Authority authorization for construction materials went to John H. Poole's experimental KM2XAZ in California. The FCC has issued a permit for Poole to move the station from Long Beach to Mt. Wilson for uhf experimental work.

Sylvania got an experimental uhf grant in September to operate on 509-529 and 870-890 mc in Emporium, Pa., with call letters KG2XDU.

Some people in the industry anticipate that the FCC will "unfreeze" the uhf channels ahead of the others, because competition for these channels is not so intense. Applications for vhf stations far outnumbered the available channels before everything froze. Uhf applications were slow coming (By October 20 only 16 uhf applications were on file.) and there would be plenty of vacancies in the uhf channels in many localities. Many industry leaders think it will be the first quarter of 1953 before any vhf applications go out, even to towns as small as 50,000, which have the edge in FCC grants in this category. In smaller towns, where uhf-only is available, grants may come without hearings, producing stations on the air by the end of this year. Applicants for uhf channels which have no competing applications will be in a good position and should not have to face a combined judgment with vhf applicants.

There is no policy as yet on who gets uhf or vhf in intermixed cities.

In his talk in Bridgeport, FCC Chairman Coy favored taking the proposed 200 kw ceiling off uhf. It is believed that the Commission would lift such a ceiling, anyway, once its sure tropospheric interference won't be severe.

Today, the average TV station has about 15 kw ERP (effective radiated power) on Channels 2-6, 25 kw on Channels 7-13. According to one source, the FCC intends to allow 100 kw for Channels 2-6, 200 for 7-13, and go higher for uhf.

Results with uhf 850 mc signals, as of September 15, showed . . .

- \* with 40 kw ERP, median field intensity of at least 10,000 uv/m is obtained out to five miles,

- \* tilting the antenna downward, 1.3 degrees increases the signal 10 db out to five miles, decreases it beyond that, reduces tropospheric field 12 db at 100 miles.

The old AM "power complex" which says a station has to have more power in order to obtain greater range is being shaken by uhf experiments with higher antenna towers. Investigators have found that the height of the antenna above the average terrain is going to mean more in TV than the assigned power.

For uhf stations, currently due to get 200 kw, a 500-foot antenna would give 29 miles of Grade A service, 41 miles of Grade B. With a 1000-foot tower and same power, there would be 40 miles of Grade A, 52 miles of Grade B.

The addition of 500 feet of antenna gives about the same results, from the distance standpoint, as a six-to eight-times increase in power. Of course, there is still no substitute for power in making indoor antennas work and driving signals behind buildings.

### Research Completed

The FCC's Technical Research Division undertook several investigations into the physical effects of uhf, in an effort to compile working information for the Commission. With previous FCC technical findings in vhf as a starting point, the Division delved into variations of time fading, antenna heights, terrain distribution, and other important considerations of frequencies in the band of 470 to 890 mc/s.

Investigators found that the overall variations with time for the uhf band are approximately normal. It was shown that the overall fading is approximately independent of frequency, decreases slowly with increasing antenna height and increases with distance. A multiple regression curve was developed, describing the overall time fading as a function of distance and antenna height.

A study of the variation of field intensities with time at fixed locations brought out the following . . .

- The overall time variations of the field intensity in decibels have approximately normal distributions, at least between the 10 and 90 per cent fields for the uhf

band, as they do for the vhf band. Time fading is much smaller for the distances involved than the terrain variation.

- It was apparent that the overall range of time fading at a given distance is practically independent of frequency, at least within 45 miles, from approximately 40 mc/s to 3000 mc/s.

- The decrease in fading with increasing antenna height is small, being only about one-half decibel as either the transmitting or receiving antenna height is doubled.

- Within line of sight the overall time fading in decibels is approximately independent of frequency, proportional to the log of the product of antenna heights, and linear with distance.

The Division reported that sufficient progress was made in this study of uhf propagation within line of sight to enable the construction of a family of field intensity curves for various transmitting antenna heights at one or more frequencies in the ultra high band. With this information, the Commission can make a fairly good estimate of the services proposed in the many uhf applications. Once the freeze thaws, the commissioners will be able to allocate with a pretty good degree of accuracy.

Allocations in areas of rough terrain, however, will be a problem.

When it comes time to study allocations for stations located in areas of particularly rugged terrain, no methods of statistical or empirical determination of propagation can be entirely reliable. The terrain tilt (i. e., whether it is rising or falling terrain) and the terrain sequence (i. e., relative location of the various ridges and hills) are important in determining the level of the median field intensity. Not even the antenna height above the average terrain for the whole radial can take these latter factors into account. In fact, none of the presently known more complicated methods of determination, such as tilted plane or diffraction methods, adequately take into account all of the factors.

### Formula Is Set

With these factors in mind, the FCC investigators developed an empirical reference formula "which indicates that the mean radial intensity varies with the square root of receiving antenna height, with the first power of transmitting antenna height, and with inverse distance squared." It was concluded that the inverse distance squared trend is a good one. For allocation purposes a 30-foot receiving antenna height standard has been adopted.

Investigators found that they could not segregate the antenna radials for smooth and rough terrain until a better system for estimating median intensity for the radial has been devised.

They cited the findings at two of their test stations:

*(Continued on page 14)*

# TECHNICAL NOTES

## Barium Titanate in Circuit?

The possible elimination of vacuum tube amplifiers in electronic circuits through the use of ceramic, crystal-line materials is indicated in a recent Army Signal Corps development report.

The material is barium titanate, best known for piezo-electric properties which make it suitable for crystal phono pick-ups. The development report reveals that it has a high dielectric constant at high frequencies. Research also revealed that barium titanate has an electrical "memory" characteristic useful in electronic computers and TV equipment.

## Underwater TV for Navy

In addition to developing above-water uses for television, the Navy now has an underwater television camera which can go down dozens of fathoms and search the ocean deeps.

Developed by the Navy's Bureau of Ships, the camera will save valuable time and help to safeguard human life. In depths of more than 200 feet, a diver spends the greater part of the dive in the descent and ascent, and, walking around on the ocean floor, he stirs up silt. A TV camera may be quickly lowered and raised, and with suspended lights personnel on board ship may make lengthy observations of the ocean bottom, even filming the televised picture for future reference if necessary.

Salvage operations in the future may be completely planned before a diver ever goes down to do the actual work.

## Big Year Seen for Radio and TV

Barring an all-out war, there is every reason for the radio-television industry to look forward to a productive year in 1952, the president of the Radio-Television Manufacturers Assn., Glen McDaniel, said in a recent statement.

He looked for the following developments in 1952:

- A lifting of the three-year-old "freeze" on TV station construction.

"While only a few small-city stations are likely to go on the air during the latter half of the year . . . a steady increase in construction of TV stations will follow for the next several years."

- Ultra high frequency television will make its debut as a companion service to vhf.

- Development of compatible color television will continue, but the governmental ban on production of color TV sets will eliminate color as a market factor in 1952.

- Production of electronic equipment for the military

## 'Shop Talk' Needed!

TECHNICAL NOTES is intended as a section of "shop talk" by and for the readers of THE IBEW TECHNICIAN-ENGINEER. Its columns are open to your diagrams and your own solutions to engineering problems. In these first two issues the editors have used items of general interest, but they are anxious that you take over. Send us your own technical articles. Share your solutions and ideas with brother engineers. The mailing address for manuscripts and illustrations: THE IBEW TECHNICIAN-ENGINEER, IBEW Building, 1200 Fifteenth Street, N. W., Washington 5, D. C.

services will reach its peak in the first quarter of 1952, aggregating about \$600 million a quarter, and will remain at that level throughout the year.

This belief is predicated on an anticipated increase in the output of some basic raw materials and the fact that a large share of the military program is outside the mass-production field and consequently not competitive with civilian goods except in its use of materials.

## V-Neckline Code Goes on March 1

The television industry's self-regulation code against low-cut necklines, off-color jokes, and the like, goes into effect March 1.

As set forth by its unplanned parent, the National Association of Radio and Television Broadcasters, the code establishes tenets for good programming and advertising and provides for the appointment of a five-member national review board to supervise administration of the code.

One important factor to be considered in the NARTB's self-imposed policing job is that the taxpayers will probably be saved \$75,000, which has been urged upon Congress as a first-year appropriation should the government-regulating Benton Bill go through the Washington hopper.

## Moonlight Pics at 1/5 second!

TV cameramen working under hot lights for proper exposures will appreciate this: A Tokyo optical company claims to have developed a "revolutionary" camera lens (f 0.7). It's reported to be fast enough to take moonlight pictures at one-fifth of a second. The development, actually consisting of eight lenses, will require a specially-designed camera.



## ABC in Detroit

*(Continued from page 10)*

of course prevented any damage but a lady called the station the next day and complained that this shot had put her TV set out of business and would someone please come out and fix it right away since it was the station's fault when the bullet hit her set.

### Beserk Motorcycle

Another time, a motorcycle ran berserk in one of the studios, chasing the engineers around the floor and finally crashing into the rear end of an expensive racing car. Television remotes have also come from as far as Akron, Ohio, when the WXYZ-TV staff went down there to originate a remote of the International Soap Box Derby to be fed to the ABC network. They have also travelled to Midland, Mich., home of the Dow Chemical Company to do a closed circuit telecast, and Ann Arbor, Mich., home of the University of Michigan to do basketball remotes.

Just recently, however, the engineering department was almost stymied when they were supposed to do a remote inside of the Chevrolet gear and axle plant at Detroit. They found that the truck could not be driven into the plant and had to be loaded onto a railroad flatcar. Taking it off one railroad siding and shunting it to another solved this problem in less than two hours for here was the WXYZ remote unit right in the middle of the plant. The result was a very fine telecast which told the story of the production of an automobile wheel from the raw steel stock to the finished product, with outstanding camera shots of gigantic presses and other production machinery, typical of the industry of the Motor City of the World, Detroit.

### Staff Chiefs

WXYZ-Inc., ABC in Detroit, is a wholly-owned subsidiary of the American Broadcasting Company and is headed by James G. Riddell, president and general manager, a veteran in the broadcast field. The technical operations of WXYZ-AM, FM and TV is under the direction of Charles Kocher, chief engineer, while Paul Dudeck is TV station engineer. Among the WXYZ supervisors are AM studio supervisor Jack Tierney, AM transmitter supervisor Ed Simons, TV remote supervisor Paul Jantke, Video maintenance supervisor Hal Dushane and others, all members of IBEW Local 1218.

Perhaps one of the outstanding facts about WXYZ-ABC in Detroit is the spirit of cooperation and coordination within the engineering department as well as with other departments and the sincere pride of all WXYZ engineers who voice the simple, but proven slogan:

"We do good work—"

## TELEVISION ABROAD

It is reported that television is making considerable progress in Western Germany and the Western Sectors of Berlin.

After the war there was a temporary stop to work on television. At that time, the German broadcasting system was split up into eight different organizations. In 1948, the Nordwestdeutscher Rundfunk (NWDR), serving Berlin and Hamburg, resumed work on television in cooperation with a few commercial firms. By 1950, NWDR had set up in Hamburg an experimental apparatus including a film scanner and two studio cameras, and for some months has been making experimental public transmissions of 625 line pictures with negative modulation. All the cameras and scanners are made in Darmstadt by a Bosch subsidiary.

The apparatus used modulates a 0.1kW vision and a 0.06kW sound transmitter (made by Siemens) which at present operates in the region of 100 mc/s, soon to be changed over to the final band of 200 mc/s, in conformity with the decision to adopt the European standards agreed at Geneva in 1950. There are also two wave form generators made by Lorenz.

NWDR has decided to push ahead first of all with the establishment of a proper service in the British sector of Berlin. Its immediate plans are for the establishment of two 10kW transmitters in Hamburg and Langenburg, and three 1kW ones in Hanover, Cologne and Berlin (British sector).

### U-H-F Does Not Spell Lemon

*(Continued from page 12)*

At WSM, Nashville, they discovered that the radial must be classified as smooth terrain, even though the median deviation was 31.5 db, a value greater than that for many of the rough terrain radials. A fairly high ridge in front of the transmitting antenna in the direction of the radial brought down the median deviation. In other words, the sequence of the terrain may be more important than the relative smoothness.

Likewise, they found that it is possible for a rough radial to have a median deviation as low as that for smooth terrain because of rising terrain. Radial No. 8 of their survey at McNary-Reading (Pa.) had a median deviation of only 20.5 db over very rugged but steadily rising terrain.

Hence, the empirical reference formula until such time as a satisfactory way of measuring terrain ruggedness is devised.

Although there was no data available to study the seasonal variation of field intensity distributions, the Division report expected that these variations are greater than for vhf and in the same direction.

The FCC will have to do some interpolation from these initial surveys in allocating vhf channels in areas of rugged terrain.

# Station Breaks



## **New York Executive Board Visits I. O.**

Seven L. U. 1212 Executive Board members, the business manager, and one of his assistants participated in an all-day-long conference at the International Office, November 26. President Servoss headed the delegation and led a very lively and fruitful discussion on problems of both national and local importance.

International President Tracy was particularly interested in a number of suggestions made at the meeting, and stated that so his current views on the general radio, TV and recording fields may be made known to the largest possible number of the membership, he will write a letter on the subject. The letter will include some interesting plans for the future, so at least those portions of the letter which will be of national interest will be reproduced in a future issue of the *TECHNICIAN-ENGINEER*.

Certain specific New York problems which involved legal interpretations and advice were referred to the IBEW's General Counsel, Louis Sherman. However, operational problems, finance, national representation and the shift of International Office personnel were all given careful scrutiny and consideration.

Mutual pledges of cooperation were given and received and the meeting was deemed to be a complete success. President Tracy was led to comment that he was very pleased to see the complete unity of the members of the Executive Board and the officers of the Local Union. "With such a united front and a cooperative team," he said, "progress and success are assured."

## **Hollywood Sighs in Relief**

Hollywood is relieved to know that its big collection of old-time black-and-white film won't depreciate in value so quickly, now that color TV is on the shelf, according to a recent issue of *Billboard*, the show business publication.

## **Job Picture in Broadcasting**

Job prospects for broadcasting engineers and technicians will be increasingly brighter during the next 10 years, according to the new edition of the Labor Department-Veterans Administration's Occupational Outlook Handbook, which is issued for the guidance of Federal agencies, schools, and organizations.

Announcers will find tough competition for employment, however, the handbook adds.

While opportunities in TV broadcasting should expand considerably, it predicts an "eventual decline in sound broadcasting." New TV stations will probably take on several thousand engineers and technicians in the coming decade, although industry will still be a small one.

For announcers, handbook says their field will continue to be overcrowded despite TV expansion. Prospective announcers are advised to try to break in the field in small communities, where competition isn't so keen.

## **Escalator Eliminated at Newark Station**

Local 1212, New York City, reported December 29 that it had negotiated a flat scale contract with Station WVNJ, calling for \$130 weekly and eliminating a three-year escalator clause.

Local 1212 leaders called the new agreement "another momentous step forward for the IBEW."

The new contract with WVNJ, a 5 kw. Newark station, states in its salary provision:

"Each engineer shall receive one hundred and thirty dollars (\$130) as the minimum weekly salary for a forty (40) hour, five (5) day workweek."

"The pattern is once more set by the IBEW," said Charles A. Calame, L. U. 1212 business agent. "The new WVNJ contract only serves to point up the fact that the best wage scales and working conditions are obtained by the IBEW."

## **Station Logs Required from All**

The FCC announced in December that it had finalized its proposed rule to amend sections of Part 3 of its rules to require permittees of all types of stations to maintain and retain station logs. Heretofore, logs were required only by licensed stations. The new rule applies to AM, both commercial and non-commercial (education), and TV.

## **Important Hearings Due**

Late in September the FCC postponed the all-important hearing on the theatre-TV frequencies from November 26 to February 25, 1952. Once the hearing gets underway, insiders expect it to last into the summer.

# Local Unions Having Radio Members

Local  
and City

Officer (Business Manager unless noted),  
Address and Telephone

12	Pueblo, Colo.	G. R. Allenbach, 1610 W. 20th St., P. O. Box 612. Phone 3150-M.
45	Hollywood, Calif.	George A. Mulkey, Int'l Rep., 1591 Cross Roads of the World. Phone: Gladstone 8889.
49	Portland, Oreg.	Charles D. Hoffman, 1417 S. W. Third Ave. Phone: BR. 5479.
65	Butte, Mont.	Albert Coombs, 225 S. Dakota St. Phone: 5926.
77	Seattle, Wash.	Lloyd C. Smith, 317 Wall St. Phone: SE. 1744.
108	Tampa, Fla.	Walter L. Lightsey, P. O. Box 905. Phone: 2-6702, 2-1600.
135	La Crosse, Wis.	Grant H. Thrune, 423 King St. Phone: 1116.
202	San Francisco, Calif.	John J. Dunn, 450 Harrison St., Room 202. Phone: Yukon 2-6752.
224	New Bedford, Mass.	James F. Loftus, 361 Reed St. Phone: 2-4291.
253	Birmingham, Ala.	C. M. Baker, Jr., P. O. Box 612. Phone: 2-1830.
271	Wichita, Kans.	Carl E. Gustafson, 1040 South Broadway. Phone: 5-9324.
349	Miami, Fla.	Wm. C. Johnson, 1657 N. W. 17th Ave. Phone: 9-3529.
357	Las Vegas, Nev.	Ralph Legion, 118½ Fremont St. Phone: 2150.
408	Missoula, Mont.	Lee Daigle, 600 W. Kent Ave. Phone: 7348.
413	Santa Barbara, Calif.	D. G. Milne, 934 E. De LaGuerra St.
416	Bozeman, Mont.	Clare D. Ely, 1003 W. Babcock St. Phone: 896.
417	Coffeyville, Kans.	O. H. Vey, R. R. No. 3. Phone: 3975W4.
437	Fall River, Mass.	Geo. H. Cottell, 5 Anawan St. Phone: 9-6823.
449	Pocatello, Idaho	James A. Russell, P. O. Box 256. Phone: 3132.
453	Springfield, Mo.	W. E. Glidewell, 901 West Nichols. Phone: 2279. Res., 3-4583.
477	San Bernardino, Calif.	John M. Carney, 140 E. 18th St. Phone: 84-3498.
501	Meadville, Pa.	W. C. Kohler, 887½ Water St. Phone: 4-0475.
637	Roanoke, Va.	J. T. Robinson, P. O. Box 2503. Phone 3-2189.
640	Phoenix, Ariz.	Henry Van Ess, P. O. Box 1954. Phone: 8-0815.
662	Chattanooga, Tenn.	J. S. Andrews, 803 Underwood, Dalton, Ga. Phone: Dalton 1018-L.
676	Pensacola, Fla.	R. F. Rhodes, 114 East Gregory St. Phone: 6978.
715	Milwaukee, Wis.	Walter L. Reed, 5006 West Burleigh St. Phone: Hilltop 5-1664.
1077	Bogalusa, La.	Houston E. Stafford, Route 3, Box 46. Phone: 1924-M-4.
1139	New Orleans, La.	John E. Dickinson, 5168 Wilton Drive.
1141	Oklahoma City, Okla.	Tom M. Rushing, 1141 N. W. First St. Phone: 7-5449.
1173	Harrisburg, Pa.	Chas. E. Nusbaum, President, 1515 Letchworth Road, Camp Hill, Pa. Phone: 7-9805.
1178	Shreveport, La.	Charles A. Ellis, President, 1426 Oakdale St.
1193	Atlanta, Ga.	John M. Van Horn, P. O. Box 1997.
1212	New York, N. Y.	Chas. A. Calame, 11 West 42nd St., Suite 786. Phone: Pennsylvania 6-8216.
1213	Champaign, Ill.	Gordon L. Holden, President, 1975 North Main, Decatur, Ill. Phone: 3-9573.
1214	Bismarck, N. Dak.	D. C. Birch, General Delivery. Phone: 1272-R.
1215	Washington, D. C.	Kenneth D. Cox, President, 5911 Monroe St., Silver Spring, Md. Phone: SH. 5666.
1216	Minneapolis, Minn.	William Engelbretson, President, 906 Ottawa Ave., St. Paul 7, Minn. Phone CE. 2338.
1217	St. Louis, Mo.	Denis E. Volas, President, R. R. 13, Box 984, Kirkwood 22, Mo. Phone: TE 3-5597.
1218	Detroit, Mich.	Kurt R. Schmeisser, 13117 La Salle Blvd. Phone: Townsend 5-7520.
1219	Youngstown, Ohio	Howard D. Condella, President, 252 Ewing Road, Boardman.
1220	Chicago, Ill.	H. Walter Thompson, President, 400 N. Michigan Ave. Phone: Superior 7-5244.
1221	Omaha, Nebr.	Arthur B. Jones, President, 2865 Vane. Phone: Kenwood 5405.
1222	Denver, Colo.	Lucian M. Long, 1000 Lincoln St. Phone: Keystone 1721.
1223	Portland, Me.	T. A. Leavitt, President, 38 Southwell Ave., S. Phone: 4-3826.
1224	Cincinnati, Ohio	J. Frank Atwood, Jr., 3297 Diehl Road. Phone: Humboldt 6197.
1225	Indianapolis, Ind.	William Hillgartner, President, 1707 East 34th. Phone: Wabash 4640.
1228	Boston, Mass.	George T. Cairns, 506 Brook St., Framingham, Mass. Phone: 6973.
1229	Charlotte, N. C.	A. B. Leonard, President, P. O. Box 2341, Winston-Salem, N. C.
1230	Bridgeport, Conn.	Walter Reif, President, 82 Kohary Drive, Devon, Conn. Phone: Milford 2955-R.
1234	Fort Worth, Tex.	Lon C. Smith, President, 1810 Brittain. Phone: Va. 2610.
1241	Philadelphia, Pa.	Samuel M. Green, Gillom and Hill Aves., Langhorn, Pa. Phone 4491.
1244	Duluth, Minn.	Oliver S. Koski, President, % Y. M. C. A. Phone: 2-0584.
1257	Dallas, Tex.	Eugene M. Roberts, 8918 Daytonia Ave. Phone: F2-3566.
1258	Des Moines, Iowa	D. E. Laird, President, 3419 49th St. Phone: 7-1975.
1259	Kansas City, Mo.	Roy C. Barron, President, 3112 Santa Fe Rd., Independence, Mo. Phone: Clifton 8174.
1264	Mobile, Ala.	H. T. Bailey, 506 Conti St. Phone: 2-3519.
1266	Dayton, Ohio	Fred M. Eames, Jr., President, 4920 Dinsmore Road. Phone: MO. 3-3103.
1272	Quincy, Ill.	Orrin E. Smith, President, 411 Washington. Phone: 6378-W.
1275	Memphis, Tenn.	Clarence G. Rose, President, P. O. Box 5613, Crosstown Branch. Phone: 36-0348.
1281	Providence, R. I.	Wm. H. Pierce, 327 Parkside Dr., Gaspee Plateau, Warwick, R. I. Phone Hopkins 7232.
1282	Springfield, Mass.	Francois Gouin, Harkness Road, Pelham R. F. D., Amherst, Mass. Phone: M2-970.
1286	Louisville, Ky.	Richard V. Bell, President, 3901 Plymouth Road.
1287	Tulsa, Okla.	Charles Laughton, President, Rt. 8, Box 355A.
1292	Peoria, Ill.	Glenn Gaskill, 110 Buerken Court.
1294	Hartford, Conn.	Ralph S. Rice, President, 112 Colonial St., Elmwood, Conn. Phone: 3-4615.
1295	Grand Rapids, Mich.	Calvin J. Miller, President, 2501 Glenbrook, S. W. Phone: Ardmore 6-2485.
1299	Montgomery, Ala.	Owen A. Lehr, President, P. O. Box 1782.
1300	Columbus, Ohio	Frederick J. Distelzweig, President, 1685 South High St. Phone: Garfield 1543.
1318	Halifax, N. S., Canada	V. J. Currie, President, 91 Green Road, Armdale, N. S., Canada.
1343	Trenton, N. J.	Thompson Durand, President, 416 N. Hermitage Ave. Phone 8280.
1349	Rock Island, Ill.	James W. Booth, President, 3803½ McKinley Ave., Davenport, Iowa.
1374	Cedar Rapids, Iowa	Kenneth A. Blake, President, Route No. 1, Mt. Vernon, Iowa. Phone: 6605.
1400	Baltimore, Md.	W. William Getz, 215 N. Curley St. Phone: Orleans 4797.
1622	Pittsburgh, Pa.	James W. Saxon, President, 77 Leet St., Washington, Pa. Phone: 1213.