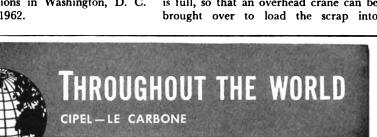


News Briefs

A CINCINNATI SECTIONAL meeting of the Signal Section, AAR, was held in Cincinnati May 5, at which Frank Hacker, supervisor communications and signals, Louisville & Nashville, Latonia, Ky., was elected chairman and J. A. Moore, district signal engineer, New York Central, Indianapolis, was elected vicechairman. The 1961 meeting will be held in Cincinnati, but it is planned to hold alternate sessions in Washington, D. C. beginning in 1962.

NEW YORK CENTRAL is using closed circuit television to enable an operator of a scrap metal shearing machine to view operations at the other end of the machine. The automatic shear cuts metal into scrap lengths from 6 to 48 in. After being cut, a ram ejects the cut scrap. It is this operation which the TV camera brings to the operator. He can see when the scrap bin at the ejection end is full, so that an overhead crane can be brought over to load the scrap into



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Railway track circuitslight signals—electrical aids to navigation, Telephone exchange batteries, etc.

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Germany-CARBONE A.G., Bonames, Frankfurt/Main, Germany Italy-SOCIETA "PILE CARBONIO," via Rasori 20, Milan, Italy

Spain-CIPEL, Juan Bravo, Madrid, Spain

Sweden-SVENSKA A.B. LE CARBONE, Sundbyberg, Sweden U.S.A.-THE CARBONE CORPORATION, Boonton, N. J.

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freight cars. The shear is processing 100 carloads of scrap weekly, turning out 18,000 tons of scrap per month at this NYC Ashtabula, Ohio, scrap and reclamation plant.

NEW YORK CENTRAL has ordered a carrier and microwave system from Collins Radio Co. to link the railroads Big Four building in Indianapolis with the new Avon yard. The microwave system will have one hop of 12.2 miles "Hot" standby equipment will be used with automatic switchover to proted against outages. The system will have 24 voice channels of which 22 will be for voice communication, one for telegraph carrier and one spare channel. The telegraph carrier will handle 6 full duples 100-word-a-minute teleprinter circuits Also included is a 6-point fault alarm system and a maintenance service channel.

SANTA FE has received ICC approval to modify GI tower interlocking at Galesburg, Ill., changing the operation of switches from mechanical to power and changing the point of control from Galesburg to the dispatcher's of fice at Shopton, Iowa.

CHICAGO & EASTERN ILLINOIS and NEW YORK CENTRAL have to ceived ICC approval to remove a mechanical interlocking at a crossing of two main tracks of the C&EI with one main track of the NYC at St. Anne. Ill.

hey will arrange for automatic aproach clearing of all home signals on oth railroads.

SEABOARD AIR LINE has received CC approval to install traffic control stem on single main track, in lieu of atomatic block signaling between Shands nd Greenwood, S.C., 31 miles. Control ill be from a machine at Howells, Ga.

CANADIAN NATIONAL has ordered TC equipment from Union Switch & ignal to be installed on 9.5 miles of ack near the new Montreal yard.

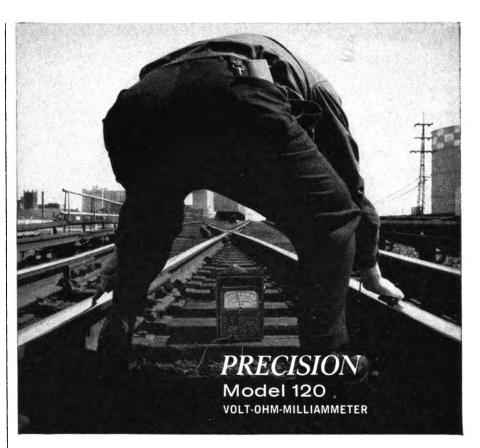
CHESAPEAKE & OHIO has ordered TC equipment and a TCC machine om Union Switch & Signal to be inalled between St. Albans and Crown lill, W. Va., 31 miles.

CHICAGO & NORTH WESTERN as received approval from the ICC to inall automatic block signals and autotatic train control systems on 3 miles of rain track, to provide for either direction inning, on 4.3 miles of another track, and n each of two tracks for 0.9 miles. Two ew interlockings are to be installed and nother remote controlled. All this is in onnection with leasing two main tracks the Chicago Transit Authority between hicago and Vale, Ill., approximately .5 miles.

DELAWARE & HUDSON has reeived ICC relief from the requirements f Section 136.410, RS&I, to the extent 1at 28 hand-operated main track switches ill not be equipped with electric locks. hese switches are on industrial tracks in ngle track CTC territory between Cresent and Afton, N. Y. Trains will not be ermitted to clear the main track at these witches. The ICC also granted relief conerning 9 hand-throw switches in CTC erritory between Hudson and Carbonale, Pa.

SOUTHERN PACIFIC will set up wo radio repeater stations on a 9,000-ft igh ridge of Mt. Lemmon north of Tucon, Ariz. One station will provide instant ommunication for trains in the area oughly between Maricopa and the New lexico border. The other will allow suervisors in radio-equipped automobiles keep in touch with what's going on. SP is presently using radios in Tucson, hoenix, Tolleson, Mesa, Gila, Casa rande, Wilcox and Yuma, but coverage s generally limited to a radius of about 5 miles. Tests indicate the new stations rill permit radio coverage to trains and ighway mobile units from Estrella, 23 niles west of Maricopa, and from Phoeiix all the way east to Steins, N. M., 4 niles east of the state line. Recently SP

(Continued on page 66)



And Why It Was Chosen By

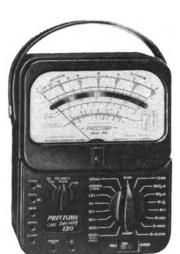
The Long Island Rail Road

The Problem:

The Long Island Rail Road needed a rugged, portable, all-purpose field analyzer for checking signal relays and line circuits ... and for measuring and adjusting both AC and DC track circuit voltages.

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Model 120

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EXTRA-LOW RESISTANCE RANGE

2 ohms at center scale (R x 1/10)

EXTRA-LOW VOLTAGE RANGES 0.3 V full scale DC, 1.2 V full scale AC

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EXTENDED LOW-GURRENT NAMES BU AT TITS DU range
DC POLARITY REVERSING SWITCH
WIDE FREQUENCY RESPONSES AC AND DB RANGES flat from
15 cps to 100 Kc±1 Db
"TRANSIT" POSITION ON RANGE SELECTOR protects meter
during transportation
ONLY 2 PLUG-JACKS SERVE ALL STANDARD RANGES
RUGGED 50 MICROAMP PACE METER ±2% accuracy

1% MULTIPLIERS AND SHUNTS WEIGHT 4 lbs. PRICE \$44.95

Chances are you have a field maintenance, production or servicing problem that can be solved by the *PRECISION* 120.

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If so, you will be interested to learn that the Model 120, and all other PRECISION test instruments, are available to you now, for a free trial...in your plant...under actual operating conditions...without obligation. For complete information...plus a copy of the comprehensive, new PRECISION TEST INSTRUMENT CATALOG, write on your company letterhead to:



PRECISION Apparatus Co., Inc. (A SUBSIDIARY OF PACOTRONICS, INC.) 70-31 84th Street, Glendale 27, Long Island, N. Y.

Export: Morhan Exporting Corp., 458 B'way, N. Y. 13 Canada: Atlas Radio Corp., Ltd., 50 Wingold Ave., Toronto

NEWS BRIEFS

(Continued from page 65)

cut in a special station at Tucson's 22nd Street yard, this one allowing car inspectors to give quick reports over walkietalkie sets.

GREAT NORTHERN has received ICC approval to install traffic control on single main track between Bainville and Dodson, Mont., about 200 miles. Control of 16 locations will be from Havre, Mont., and will be in lieu of automatic block signaling between Bainville and Dodson. Also included will be installation of electric locks on 29 hand-operated main track switches and on 5 hand-operated crossovers

DELAWARE & HUDSON has received ICC approval for installation of traffic control between Carbondale and Hudson, Pa., about 32 miles. Sections of one of two main tracks will be removed and the remaining single and double track mainline will be provided for operation by signal indication in both directions.

FRENCH NATIONAL RAILWAYS have some interesting features on a recent single-track remote controlled signaling project in electrified territory. The

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Editor, Railway Signaling and Communications, 30 Church Street, New York 7, New York.

track circuits operate at 300, 850, 1,500 and 2,000 cps. The 300 and 850 cps track circuits, used for the longer sections, are coded at 15 and 21 cps. The higher frequency circuits, always short, use steady feeds. Electrically locked switches are trailable. A branch line connection has switchpoints 52 ft 6 in. long for operation at 75 mph. At stations in the busier central portion, the control machine will store four preselected routes. The next stored set of controls becomes effective upon the approach of a train. The operator may change, nullify, or delay the preset controls if conditions necessitate.

ARGENTINE STATE RAILWAYS have contracted with General Railway

Signal Co. for signaling equipment modernize portions of four railways their system, CTC will be installed by tween La Paz and Alto Verde, 49 mile A 35-mile carrier link will transmit the CTC codes from the sectional-type on trol machine in Mendoza to the first field location, Alto Verde. A second CTC is stallation will be made between Victor and Pergamino, 122 miles, with a s tional control machine at Retiro. Can link will also be employed in this instal

Automatic block signaling will be stalled between Retiro and Boulogne St Mer, 13 miles; Buenos Aires and Tapiale 7.3 miles; Lynch and Pereyra, 6.6 mile and Retiro and Jose C. Paz, 24 mil Equipment will be provided for the control of interlockings in this automati block territory, including several to be controlled by Syncrostep remote control Also to be installed, is a large unit-win relay interlocking at Federico Lacroz terminal.

NEW YORK CENTRAL has under study the modernization of its entire communications system through a micro wave network, an automatic teletype writer system, direct long distance dialing and high speed data transmission. A microwave system will replace the West Shore division pole line between Syracuse and Buffalo, about 150 miles, NYCI 1959 annual report states.

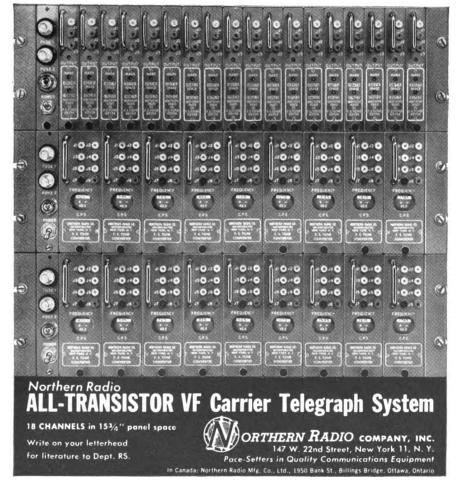
Trade Publications

INSULATION RESISTANCE, A 3 page manual describes procedures for maintenance testing of insulation resistance. Associated Research, Inc., 3777 W. Belmont Ave., Chicago 18, Ill.

EMERGENCY POWER. An 8-page folder describes the Porta-watt emergency power distribution system designed for use with portable generators. Each Portawatt system has overload protection and the connectors are waterproof. One sys tem includes a flasher. Tuffline Division, Whitney Blake Co., Dept. RSC, New Haven 14, Conn.

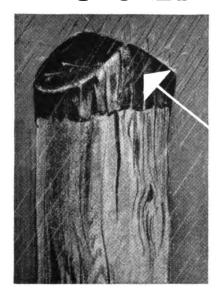
DC to AC INVERTER. A 4-page folder, M-110, describes the installation and operation of the Onan transistorized 1 kva inverter called Instapac. The device was designed to provide ac power from batteries in the event of commercial power interruption primarily for microwave installations. D. W. Onan & Sons Inc., Dept. RSC, Minneapolis 14, Minn.

STUNT BOX. A 20-page booklet describes the Teletype model 28 Stunt Box. A stunt box provides a third shift characteristic for teleprinters, allowing such (Continued on page 68



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Fungus decay, plus shrinking-awelling, freezing-thawing of moisture, can wreak havoc with your pole tops. And the damage can quickly extend right down to the crossarm area to cause expensive replacement of the whole pole. Why invite trouble? Take positive action now for long-lasting pole top protection.

The OSMOSE Pole Topper is a reinforced cap of bituminous compound with 5% penta...the only item of its kind on the market today. Costs only \$1.25 each! Results indicate it will add up to 20 years of extra "top life". Comes as a simple do-it-your-self unit. Lightweight, easy to carry and clean to handle. Can be applied in only one minute. Fits snug and will not crack or peel. For use on new and salvage poles in the yard, as well as standing poles.

OSMOSE Pole Toppers can be applied under contract or by your own linemen. Keep a supply on every line truck as standard equipment. For complete details, including special Pole Topper Fluid, write: Osmose Wood Preserving Co. of America, Inc., 990 Ellicott St., Buffalo 9, N.Y.



NEWS BRIEFS

(Continued from page 66)

functions as: mechanically initiating internal functions within the typing unit of the page printer set; electrically controlling functions within the page printer set; and electrically controlling external functions. Teletype Corp., Dept. RSC, 4100 Fullerton Ave., Chicago 39, Ill.

TRAINING MANUALS. Recent educational publications include Understanding Microwaves, No. 107; Direct Current Electricity, No. 200-9; Fractional Horsepower Motors and Repair, No. 236; and How to Troubleshoot TV Sync Circuits, No. 249. John F. Rider Publisher, Inc., 116 W. 14th St., New York 11, N. Y.

REGISTRY OF TRANSPORTA-TION RADIO. The 72-page 1960 listing includes mobile and relay radio systems operated by taxi, auto emergency, railroad, and motor carrier services. Names, addresses, control points, frequencies and call letters are listed in the first part. A second part provides a list of stations by operating frequencies. "1960 Registry of Transportation Radio Systems," \$4. Communication Engineering Book Co., Dept. RSC, Monterey, Mass.

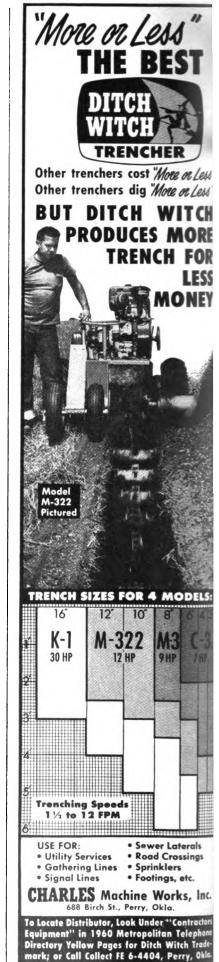
Railroad Personnel

NEW YORK CENTRAL. As reported in the May issue of Railway Signaling and Communications Thomas V. Coleman has been appointed communications engineer of the New York district, at New York. Mr. Coleman is a native of Houston and attended the University of Texas. He was an assistant project engineer with Page Communications Engineers, Inc., in Hawaii before joining the railroad. He also served as an officer in the U. S. Army Signal Corps both in this country and abroad.

SANTA FE. E. K. Metzdorf, superintendent of communications at Topeka, Kan., retired May 1. D. R. Weems, superintendent of communications at Amarillo, Texas, has been transferred to Topeka, succeeding Mr. Metzdorf. M. D. Breeden, communications engineer at Los Angeles, has been promoted to telegraph engineer at Chicago, succeeding Joseph H. Nail, promoted to superintendent of communications at Amarillo, Texas. J. A. McCulloch, assistant engineer at Chicago, has been promoted to telephone engineer there.

Photographs and biographical sketches of Messrs. Weems and Nail appeared in Railway Signaling and Communications, Sept. 1959, p. 58.

Mr. Breeden was born at Covington, Ky., in 1914, and entered Santa Fe service as an electrician on the road's Coast Lines in 1945. He was promoted to as-



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H. R. Beck

M. D. Breeden

istant engineer in 1951 and in 1952 was amed telephone engineer at Topeka, Can. In 1955 he was promoted to comnunications engineer at Los Angeles.

Mr. McCulloch was born at Pillsbury, V. D., in 1923 and attended South Daota State Agricultural College and the vaval Aeronautics Training Center at Memphis, Tenn. He began his railroad areer with the Santa Fe as a helper lectrician at Los Angeles in 1947, and ollowing several advancements was pronoted to assistant engineer at Chicago 1959.

Julian N. Friedman, assistant signal igineer at Los Angeles, retired April 30. ie joined the Santa Fe as a signal helper in the Albuquerque division in 1913, dvancing through various positions to ssistant signal engineer of the Coast ines, to which he was appointed in 1958.

CANADIAN NATIONAL. As reorted in the May issue of Railway Sigaling and Communications, H. R. Beck as been appointed engineer of signals, ystem, at Montreal. A sketch of his caeer appeared in that issue.

Hugh A. Marquis, superintendent, CN elegraphs, at Moncton, N.B., has reired. L. Russell DeLong, assistant plant upervisor, radio, at St. John's, Nfld., has een transferred in the same capacity to Moncton, and has been succeeded by lobert F. Symonds, microwave radio inpector. Mr. Marquis was born at Bathrst, N.B. His first permanent job with he railway was as a lineman in 1917. ollowing a number of promotions he was ppointed plant inspector at Levis, Que., 1 1929; plant supervisor at Moncton in 936; plant assistant to the general superisor at Toronto in 1943, and in 1944 was romoted to superintendent, first district, IN Telegraphs, at Moncton.

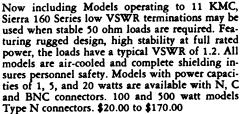
CHESAPEAKE & OHIO. U. H. Auckrman has been appointed assistant engieer-signals, succeeding R. H. Behymer, etired. P. L. Wheeler has succeeded Mr. uckerman as assistant signal engineer. appointed circuit engineer, succeeding Ir. Wheeler, is M. A. Sims, who is suceeded as signal inspector by D. D. Vheeler, a draftsman, and a brother of L. Wheeler. All have headquarters at tichmond, Va. Frank J. Smith, signal (Continued on page 70)

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Model 160 50 ohm Coaxial Loads





Model 185A Average-Reading Termination **Wattmeters**

Sierra 185A series are particularly useful in terminating rf coaxial transmission systems, measuring average powers between 20 and 1,000 MC, and as dummy loads for testing and adjusting CW and FM transmitters and oscillators. Three models with maximum power dissipation of 15, 100 and 500 watts, and power ranges of 0 to 5/15, 0 to 30/100 and 0 to 150/500 watts, respectively. Accuracy is ± 5% and VSWR is 1.2. Female Type N connectors. Model 185A-15FN, \$170.00; 185A-100FN, \$260.00; 185A-500FN, \$315.00.



Model 164A Average Power Monitor

Sierra 164A Series Bi-Directional Power Monitors are now available with plug-ins down to 2 MC. Four plug-ins provide full scale ranges of 1, 5, 10 and 50 watts through frequencies 25 to 1000 MC. Two medium-power units provide full scale ranges 10, 50, 100 and 500 watts, 25 to 1000 MC. Two high-power units provide full scale ranges of 50, 100, 500, 1000 watts, 2 through 75 MC. Model 164 is now available with Type N, C, HN, UHF and LC connectors. Model 164, \$115.00; plug-ins, \$70.00 to \$170.00.



Model 194A-A Bi-Directional Peak Power Monitor

Covering 200 to 1,215 MC, Sierra 194A-A Peak Power Monitor offers two important, time-saving features—peak power is read directly without computation and a reversible directional coupler permits incident or reflected power readings simply by turning one knob. Peak powers to 30 Kw are covered in 4 ranges. Measurement accuracy is ± 10% full scale at pulse widths down to 0.1 usec or repetition rates as low as 10 pps. Minimum duty cycle 0.04% for specified accuracy. \$460.00.

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NEWS BRIEFS

(Continued from page 69)

supervisor at Grand Rapids, Mich., has retired.

Mr. Auckerman, 53, began his rail career in 1929 as a signal apprentice on the Richmond division of the C&O. He was advanced to signal foreman and signal maintenance foreman at Richmond, and to signal inspector at Huntington, W. Va. He returned to Richmond as a circuit designer, was promoted to circuit engineer, and then to assistant signal engineer.

P. L. Wheeler was born in Ashland, Ky., in 1927 and studied electrical engineering at the University of Kentucky. He entered C&O service as a signal helper in 1944 at Russell. He has since advanced on the Ashland division and at Richmond to assistant signalman, signal maintainer, signal draftsman, circuit draftsman and circuit designer.

PITTSBURGH & WEST VIRGINIA. D. Paul Crane, assistant supervisor, communications and signals of the Pennsylvania at Carnegie, Pa., has been appointed supervisor of communications and signals of the P&WV, at Pittsburgh, succeeding Joseph A. Quinlan, who retired March 31.

Supply Trade News

AMERICAN BRAKE SHOE CO. Calvin E. Smith, sales representative, has been appointed district sales manager for the Railroad Products Division, at Houston, Texas.

LENKURT ELECTRIC CO. Herbert K. Krengel, assistant marketing manager,

Signal Training

covers automatic highway also, written circuits. tion write

THE RAILWAY

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Commercial Products Division, has been named commercial marketing manager.

COLLINS RADIO CO. Stanley A. Lawrence has been named assistant division manager-special projects for Collins Western Division. He will serve as a consultant on application of data communications systems. John H. Newitt has been appointed sales engineer in the New England area for the Texas Division.

T. GEORGE STILES CO. Peter J. Salerno has been named vice-president in charge of sales. Mr. Salerno was previously associated for 33 years with The Okonite Co., his most recent assignment being railroad sales specialist for the eastern seaboard states. He was chair-





man of the Railway Communication Suppliers Association in 1956 and of

THE OKONITE CO. Clifton H. S Jr., has been appointed manager-ra road sales, at Chicago. Mr. Sass was formerly Chicago district manager-railroad sales.

Signal Appliance Association in 1958.

SERVO CORP. OF AMERICA. The Railroad Products Division has taken over the manufacture and marketing of Sperry Products Company's complete line of railroad radio communication systems, including types FE and SP radi equipment. Tools and equipment has been moved to Servo's plant in Hick ville, N. Y.

NORTH ELECTRIC CO. Announce the purchase of Power Equipment Ca manufacturer of power supplies for cost puters and other electronic-electric systems. William Tucker, president North Electric, has been elected pre dent of Power Equipment, succeeding S. M. Hanley, who will serve as vid president, sales.

SYNTRON CO. Appointed Robert O. Whitesell & Associates sales and engineering representatives in the central states.

AUTOMATIC ELECTRIC SALES CORP. Joe S. Sheppard has been named a carrier and radio staff engineer. He will be headquartered at Kansas City. Mo., and will serve seven mid-southwestern states. Robert E. Overby has joined AE at the western district office in Burlingame, Calif., as a carrier and radio staff engineer.

EXIDE INDUSTRIAL DIVISION-Electric Storage Battery Co. C. J. Moore, former general sales and marketing manager has been appointed vice-president. marketing.

Obituary

RICHARD BURTON design and staff engineer for Secode Corp., San Francisco. died recently. He was formerly a staff engineer for Bendix Radio.

Since 1909, The Railway Educational Bureau has trained Signalmen for a number of major railroads. This service signaling, crossing protection and the elements of CTC; training is conducted by rail-road men. The signal texts are written by a well known signal engineer. For further informa-

EDUCATIONAL BUREAU

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SIGNALING. COMMUNICATIONS

Editor's Corner

I have just finished an interesting task—that of reading 4,867 pages of testimony in the FCC telephone interconnection hearing, Docket 12940. An abstract of the testimony begins in this issue, and will follow in subsequent issues. We won't print all 4,867 pages of testimony, but enough detail to run through several issues.

My reading chore took about 36 hours, including time to take notes and copy portions of testimony for direct quotation. If you have not read such material, I can tell you that it has a dramatic quality. Often I became so engrossed in what I was reading I "forgot" my notes, especially when I found the testimony contained humor, anger and confusion, the latter when attorneys and

witnesses became involved in long and detailed questions and answers. In such material as this, one can appreciate the complexity of the law.

My sincere thanks go to Messrs. C. E. Dynes and Harold J. Cohen of American Telephone & Telegraph Co., who made it possible for me to read one of AT&T's copies of the testimony. I also wish to extend sincere thanks to Roland C. Davies. editor of Telecommunications Reports, who has granted permission to make use of, and in some cases reproduce, material from his excellent weekly news service.

Bob mcknight