F.C.C. Form 304
Revised July, 1940

6/1/41

File No. _____

Call letters KWFT

UNITED STATES OF AMERICA
FEDERAL COMMUNICATIONS COMMISSION

APPLICATION FOR [redacted]) FOR AN EXISTING STANDARD
(Modification of License) BROADCAST STATION 1/

(Submit application and all exhibits, in duplicate, except as otherwise required in this form or the Standards of Good Engineering Practice Concerning Standard Broadcast Stations, to Federal Communications Commission, Washington, D. C. Swear to both copies. If space provided is insufficient attach inserts)

Before executing application see Communications Act of 1934, as amended, Part 1 (Rules of Practice and Procedure), Part 2 (General Rules and Regulations), and Part 3 (Standard Broadcast Rules) of the Commission's Rules and Regulations and the Standards of Good Engineering Practice Concerning Standard Broadcast Stations. All technical terms, such as "normally protected contours" and "objectionable interference", are for convenient reference only and are to be construed as having the same meaning as when used in the Rules and regulations and the Standards. The use of the terms "normally protected contours" and "objectionable interference" shall not be taken as implying any right to protection of such contours or from such interference.

TO THE FEDERAL COMMUNICATIONS COMMISSION:

1. Name of applicant 2/ WICHITA BROADCASTING COMPANY

2. Post-office address: State TEXAS City WICHITA FALLS

Street and number 800 EIGHTH STREET

3. Is this application for--

(a) Authorization to change present location of transmitter of existing station? No If so, what is distance in miles between present location and proposed location of transmitter? XX

(b) Approval of transmitter location and antenna system? No

1/ If any information or documents which are already on file with the Commission are required to be filed with the application, proper reference thereto should be made herein, together with a statement that there has been no change therein since date of filing thereof.

2/ If a corporation, state exact corporate name; if a partnership, state the names of all partners, and the name under which the partnership does business; if an unincorporated association, state the name of an executive officer, the office held by him, and the name of the association.

(c) Authorization to change maximum rated carrier power, which necessitates installation of new equipment? No
If so, applicant represents:
(1) That present maximum rated carrier power is 5000 watts.

(2) That proposed maximum rated carrier power is 5000 watts.

(d) Authorization to install new equipment? No If so, indicate (by check mark) what new equipment is to be installed:

(1) New transmitter XX (2) Change in system of modulation XX
(3) Change in type or number of vacuum tubes in last radio stage XX
(4) Change in automatic frequency control equipment XX (5) Other changes (specify) XX

(e) Changes in antenna system NONE REQUIRED

(f) Other changes (specify fully) INCREASE NIGHTTIME POWER FROM 1000 WATTS TO 5000 WATTS USING THE EXISTING DIRECTIONAL ANTENNA

4. Applicant states--

(a) That the estimated costs 3/ of establishing the station facilities are: Transmitter, $ XX Radiating system: (1) Coupling equipment, $ XX : (2) Antenna, $ XX :
(3) Ground equipment, $ XX : Studio (technical),
$ XX Studio (other than technical), $ XX
Acquiring land, $ XX Improvements to leased property,
$ XX : Engineering fees, $ 1000.00 : Other items (state nature), ATTORNEY $ 500.00
Total, $ 1500.00 that the estimated total annual expense of operation under the proposed plan is $ 70,000.00 and that the estimated total annual revenue under the proposed plan is $ 90,000.00

(b) That there are submitted herewith the detailed facts upon which the estimates in (a) above are predicted BASED UPON THE PAST OPERATION OF KWFT, WE FIND THE AVERAGE MONTHLY OPERATION EXPENSES, EXCLUSIVE OF DEPRECIATION, REPLACEMENT, AND ETC. TO BE APPROXIMATELY $6,000.00 PER MONTH, AND BASED UPON OUR PRESENT INCOME, WE SHOULD HAVE OPERATING PROFIT OF APPROXIMATELY $20,000.00 PER YEAR.

3/ If construction is to be performed under a contract for the completed work, the facts as to such contract must be stated in lieu of estimates as to the several items. In any event, the costs shown must be the costs in place and ready for service, including the amounts for labor, supervision, materials, supplies, and freight.

(c) That the proposed construction is to be financed and paid for in the following manner (including specific statements as to the approximate amount to be met and paid for from each source): Existing capital, $ 1500.00 : New capital $ XX : Loans, $ XX : Profits, $ XX : Donations, $ XX : Credit, $ XX : Other sources (specify), XX $ XX .

(d) That there is attached hereto, on Form 706, a detailed balance sheet of the applicant, as at the close of the month preceding the date of the application showing the financial ability of the applicant to construct and operate the station. 1/ SEE EXHIBIT 1 ATTACHED.

5. (a) Do the reports filed by applicant under Sections 1.361 of the Rules of Practice and Procedure and 43.1 of the Rules and Regulations reflect substantially applicant's status with regard to all conditions stated in such reports as of the date this application was executed?

YES
(Answer Yes or No)

(b) If not, submit a separate detailed statement herewith showing changes. (Full report of changes must also be filed on the forms as required by the above rules.)

APPLICANT'S INTERESTS

6. If applicant, or any partner, officer, member of the governing board, director, or principal stockholder has, or has had, any interest of any character whatever in, or any connection with, any of the following, there is submitted herewith a full and complete disclosure of the nature and extent of the interest in or connection with each. (If neither applicant, nor any of said parties, has, or has had, any such interest or connection, so state) NO SUCH INTEREST

(a) Any application pending before the Commission, or which has been denied within 12 months preceding the date of execution of this application? No

(b) Any radio broadcast station? No

1/ See footnote 1/, Page 1.

(c) Any broadcast station the license of which has been revoked or application for renewal of license for which has been denied? No

(d) Is any party named in 6 directly or indirectly controlled by any party with respect to whom any part of 6 applies? No (Yes or No)

If so, state fully

FACILITIES REQUESTED

7. The class, frequency, power, and hours of operation requested for the proposed station are as follows:

(a) Frequency 620 kilocycles.

(b) Power (night) 5000 watts. (c) Power (day) 5000 watts.

(d) Hours of operation:

(1) Unlimited YES (2) Daytime only XX (3) Limited XX

(4) Sharing with (specify stations) NONE

(5) Other (specify) XX

(e) State number of hours per day proposed station will operate 19

8. (a) Does applicant request the assignment of all or any part of the facilities (i.e., frequency, power, and/or hours of operation) now assigned to any other station or stations? No (Yes or No)

(b) If so, specify the station or stations and state accurately the facilities requested to be withdrawn therefrom XX

TECHNICAL INFORMATION

9. Description of transmitting apparatus proposed to be installed:

(a) Make B. C. A. Mfg. Co. Type No. ~~5-DX~~

ALL DETAILS ON FILE F. C. C.

(b) Oscillator: Type of circuit _____ Number, manufacturer's name, and type of tubes _____

Normal plate current, per tube _____ Plate voltage _____

(c) List buffer and intermediate power amplifier stages, by number and type of tubes in each stage _____

(d) Last radio stage: Number, manufacturer's name, and type of tubes _____

Normal night operation for power requested: Plate current, per tube _____

Plate voltage _____ If greater day power than night power is requested, specify the following:

Normal day operation: Plate current, per tube _____

Plate voltage _____

Describe fully the proposed method and procedure of reducing power at sunset _____

(e) Modulator or last audio stage: Number, manufacturer's name, and type of tubes and how operated (Class "A", "A Prime", or "B") _____

Normal plate current, per tube _____ Plate voltage _____

(f) Which radio stage is modulated? _____

(g) What system of modulation is employed (high level, low level, grid bias in last radio stage etc.)? _____

_____

(h) If low-level modulation is employed, give for modulated radio stage:

Number and type of tubes _____

Plate current, per tube _____ Plate voltage _____

(i) The transmitter is designed for what maximum percentage of satisfactory modulation? _____

_____

_____

(j) State name and type number of modulation monitor _____

R. C. A. MODULATION MONITOR TYPE 66-A

_____

(k) Give Federal Communications Commission approval number 1552

(l) Specify manufacturer's name, type, number, and full-scale reading of the following meters:

(1) In last radio stage:

Plate voltmeter _____

Plate ammeter _____

(2) Antenna ammeter _____

(m) Describe the plate power supply for last radio stage _____

_____

Rating: Current _____ Voltage _____

(n) Maximum carrier power output of transmitter for satisfactory operation is _____ watts.

(o) Maximum rated carrier power of transmitter as determined by orders of the Federal Communications Commission is _____ watts.

10. Description of automatic frequency control equipment:

(a) Make R.C.A. Mfg. Co. Type No. UL4292

ALL DETAILS ON FILE F. C. C.

(b) Give manufacturer's name, type of cut, and temperature coefficient in cycles per degree centigrade of the quartz crystal _____

_____

(c) By whom will unit be calibrated? _____

Calibrated frequency: _____ kilocycles at _____ degrees centigrade.

Proposed operating frequency: _____ kilocycles. (Give exact figure, correct to third decimal place at _____ degrees centigrade.)

(d) State guaranteed accuracy of the calibration: _____ cycles.

(e) State number of frequency control oscillators which will be maintained constantly at correct operating temperature and frequency in heat-controlled chambers _____

(f) Is provision made for instantaneous connection of spare frequency control units? _____

(g) Manufacturer's name and type of automatic temperature control _____

_____

(h) State within what limit automatic temperature control will hold the temperature _____ degrees centigrade.

(i) State temperature coefficient of the frequency control units: _____ cycles per degree centigrade.

(j) Is temperature coefficient positive or negative? _____

(k) State manufacturer's name and rated accuracy of: Thermostat _____

_____ Thermometer _____

(l) Attach the circuit diagram of automatic temperature-control system if not already on file with the Commission.

(m) Attach a sketch or drawing of the automatic temperature-control chamber, if not already on file with the Commission.

(n) Describe checking means used for determining if transmitter retains assigned frequency BY CHECKING WITH SEPARATE FREQUENCY MONITOR AND INDIPENDENT COMMERCIAL FREQUENCY CHECKING SERVICE

(o) State name and type number of separate frequency monitor GENERAL RADIO FREQUENCY MONITOR TYPE 475B/681A

(p) Give Federal Communications Commission approval number 1452

11. Applicant states that there are attached hereto copies of an accurate schematic diagram of the fundamental radio and audio circuits of the transmitter proposed, including antenna and ground or counterpoise connections, antenna feed system, and that it indicates the type of tubes. (This diagram should be a blue print or ink drawing, if possible the size of this application.)

12. (a) Type of antenna4/ DIRECTIONAL ANTENNA - DAY AND NIGHT

(b) Height of vertical load 400 feet. (Height above base insulator or base if grounded.)

(c) Length of flat top (if any) NONE feet.

(d) Give over-all height (in feet) above ground level 405 FEET

(e) Give over-all height (in feet) above mean sea level 1405 FEET

(f) Height (in feet) of building or substructure (distance from ground to base of antenna) 5 FEET

(g) Type (uniform cross section, tapered, etc., guyed or self-supporting) TWO SELF-SUPPORTED, SQUARE, TAPERED, STEEL TOWERS

(h) If not fully described above, give complete details or attach sketch SEE ATTACHED ENGINEERING EXHIBIT

(i) Counterpoise (if used): Type and dimensions NONE

4/ If directional antenna is proposed, complete engineering data thereon, in addition to the information under (a) to (l) inclusive, on each element, shall be submitted in triplicate properly verified by the engineer who designed it. It shall be clearly shown whether directional operation is for day or night or both and if so, whether the same pattern is proposed for both. If not, full information shall be submitted on each pattern.

(j) Antenna ground (if used): How obtained 120 RADIALS, EACH (Number and length
400 FEET LONG, EQUALLY SPACED ABOUT EACH TOWER AND of radials and depth buried, etc.)
BURIED 6 TO 8 INCHES

(k) How is antenna excited (shunt or series)? SERIES

13. From whom will equipment be purchased? (Specify whether new or used ____
NONE REQUIRED If used, where, how long, and what changes have been made or proposed. Attach additional sheets if necessary)

Transmitter R.C.A. MFG. Co. EXISTING

Antenna LEHIGH STRUCTURAL STEEL Co. EXISTING

Studio equipment R.C.A. MFG. Co. EXISTING

Frequency monitor GENERAL RADIO Co. EXISTING

Modulation monitor R.C.A. MFG. Co. EXISTING

Other equipment ____

14. Proposed location of transmitter: State TEXAS County WICHITA

City or town WICHITA FALLS Street and number APPROX. 2.5 MI. WNW AT RESETTLEMENT ROAD

North latitude: Degrees 33, minutes 55, seconds 07

West longitude: Degrees 98, minutes 32, seconds 37

15. (a) Number of broadcasting stations (by call letters) located within various distances of proposed location of transmitter is as follows:

1 mile NONE 2 miles NONE

3 miles NONE (1 POLICE) 8 miles NONE

(b) Number of nonbroadcasting (commercial or Government) RECEIVING stations located within various distances of proposed location of transmitter is as follows:

1 mile NONE 2 miles NONE 3 miles NONE

16. (a) Name and give location of all AIRPORTS within 10 miles of proposed

location of transmitter

KELL FIELD - 5 MILES NORTH OF WICHITA FALLS

(b) Give distance from proposed location of transmitter to each of such airports

KELL FIELD - 5 MILES NNE OF KWFT PLANT

(c) Name and give distance to any established AIRWAYS within 10 miles of proposed location of transmitter

FT. WORTH - WICHITA FALLS - AMARILLO AIRWAY

5 MILES NNE OF KWFT PLANT

17. Attach in triplicate:

(a) Map or maps having reasonable scales (not less than one-half inch per mile) clearly showing:

(1) Proposed location and present location if existing station;

(2) The character of the surrounding area, particularly the retail business, wholesale business, manufacturing, residential, and unpopulated areas (by symbols, cross-hatching, colored crayons, or other means);

(3) The density and distribution of population;

(4) The heights of all tall buildings or other structures in the vicinity of the antenna, indicating their location and how marked for air navigation;

(5) The location of airports, airways, and other radio stations, including receiving stations, except broadcast or amateur;

(6) The terrain and types of soil.

(b) Aerial photograph or photographs taken of the proposed location of the antenna showing clearly the character of the area within the 250 mv/m contour. (Ordinary photographs will be accepted if they

clearly show the terrain to the 250 mv/m contour and are taken in at least eight directions from the site: North, northeast, east, etc.)

18. (a) Attach triplicate map or maps (same map or maps supplied for section 17 (a) may be used) having reasonable scales showing the following: 5/ 6/

(1) The 250, 25, 5, and 2 mv/m contours and if existing station show the same contours for licensed operation.

(2) If existing station, present normally protected or interference-free contours of the station (whichever includes the least area--all sources of interference must be considered in determining interference-free contours 5/) for both day and night operation.

(3) The normally protected contours of the station as proposed by your application for both night and day operation (without regard to interference from other stations).

(4) The interference-free contours of the station as proposed by your application for both night and day operation (if station would be limited inside the normally protected contours by any other station or stations).

(5) The present normally protected or interference-free contours of other stations to which objectionable interference may be caused by operation of the station as proposed by your application.

(6) The interference-free contours of the stations in (5) above considering the interference resulting from the operation of the station as proposed by your application.

5/ See Standards of Good Engineering Practice Concerning Standard Broadcast Stations, Section I.

6/ Maps showing service contours shall exclude the areas which do not receive adequate service due to interference from electrical apparatus. All towns and cities having population in excess of those given in Table II of Section I of the Standards of Good Engineering Practice or other areas not receiving adequate service due to interference from electrical apparatus shall not be included in the tabulation of areas and populations within the service contours. The 1930 Census Minor Civil Division maps should be used in making population counts, subtracting any towns or cities not receiving adequate service and where the contour cuts a minor division, assume uniform distribution of population within division to determine the population included in the contours unless a more accurate count is made.

(b) Attach statement giving the conductivities, effective field intensities, interference fields and other pertinent data used for determining the contours required above.

19. As determined by the 1930 Census: 5/ 7/

(a) State number of persons residing within the contours required by section 18 (a) (1).

	250 mv/m	25 mv/m	5 mv/m	2 mv/m
Night PROPOSED	2,208	71,604	248,485	691,805
Day PROPOSED	2,208	71,604	248,485	691,805

(b) State areas and number of persons residing within the contours required by section 18 (a) (2).

	Contour (mv/m)	Areas (sq. mi.)	Persons
Night EXISTING	3.2	6,350	167,707
Day EXISTING	0.5	103,000	2,096,543

(c) State areas and number of persons residing within the contours required by section 18 (a) (3).

	Contour (mv/m)	Areas (sq. mi.)	Persons
Night PROPOSED	2.5	24,000	555,383
Day PROPOSED	0.5	103,000	2,096,543

(d) State areas and number of persons residing within the contours required by section 18 (a) (4). 8/

	Contour (mv/m)	Areas (sq. mi.)	Persons
Night PROPOSED	3.2	17,890	434,797
Day PROPOSED	0.5	103,000	2,096,543

5/ See footnote 5/, page 11.

7/ Supplemental population estimates may be also submitted based upon later census estimates, if considered substantially different from the 1930 Census.

8/ If interference is from more than one station, show totals and attach figures of each station.

(e) State areas and number of persons residing within the contours required by section 18 (a) (5). 9/

	Contour (mv/m)	Areas (sq. mi.)	Persons
Night		DOES NOT APPLY	
Day		DOES NOT APPLY	

(f) State areas and number of persons residing within the contours required by section 18 (a) (6). 9/

	Contour (mv/m)	Areas (sq. mi.)	Persons
Night		DOES NOT APPLY	
Day		DOES NOT APPLY	

(g) Attach full explanation of methods used in determining the areas and populations.

20. Proposed location of main studio: State TEXAS County WICHITA

City or town WICHITA FALLS Street and number 800 EIGHTH STREET

Other studios maintained by station No

PROPOSED SERVICE

21. (a) Describe fully the character of program service proposed, showing the total average daily time to be devoted to each type of program, the sources of each, and attach as exhibits copies of all contracts or the substance of all understandings covering program service.

SHOWN BY WEEKLY PROGRAM ATTACHED AS EXHIBIT 6

9/ If interference is to more than one station, attach figures for each station.

(b) The following is an analysis of the average number of hours proposed to be devoted monthly to the types of programs indicated including the percentage of the total monthly time during which it is proposed to carry commercial and sustaining programs. (The combined totals should equal 100 percent of the monthly time station is operated.)

Commercial Programs			Sustaining Programs		
	Number of hours	Percentage of total monthly hours station operated		Number of hours	Percentage of total monthly hours station operated
(1) Entertainment	208	40%	(1) Entertainment	171.6	33%
(2) Educational	32.2	6%	(2) Educational	52.	10%
(3) Religious	20.8	4%	(3) Religious	20.8	4%
(4) Agricultural		0	(4) Agricultural	15.6	3%
(5) Fraternal		0	(5) Fraternal		0
(6) News			(6) News		
(7)		INCLUDED IN EDUCATIONAL	(7)		INCLUDED IN EDUCATIONAL

22. Describe fully any new or additional service not now rendered in the area to be served which will be given by the proposed station or as a result of the construction proposed in the application. Show how the proposed service will differ from service presently rendered in the area.

KWFT PROPOSES TO SERVE A LARGER AREA NIGHTTIME THAN IT IS NOW SERVING BY VIRTUE OF THE INCREASED POWER WITH THE SAME TYPE PROGRAM SERVICE HERETOFORE USED. THE INCREASED AREA (EXCEPT THAT POSITION ADJACENT TO FORT WORTH AND DALLAS) IS NOT NOW RECEIVING A DEPENDABLE RADIO SERVICE FROM ANY RADIO STATION.

23. If any change, set forth fully plans for staffing the station and set forth as fully as possible in Exhibit XX the name, address, citizenship, experience, and salary of each member of station personnel. Show the position and duties of each and the specific part

each will take in carrying out applicant's proposed plan of program service. If none, so state NONE REQUIRED

24. (a) What percentage of the total monthly time will be used for mechanical records (i.e., phonograph records, electrical transcriptions, etc.)? 14% MONTHLY

(b) Does applicant contemplate obtaining programs from a chain? YES. If so, what percentage of the total monthly time will be used for chain programs (i.e., programs both paid and sustaining)? 45% MONTHLY

(c) Has any correspondence been had, or have any negotiations, discussions, or understandings (oral or written) been entered into with respect to chain or network programs? NONE WITH RESPECT TO THIS APPLICATION (Yes or No)

If so, attach as Exhibit 3 a full and detailed description thereof with copies of all correspondence, understandings, and contracts.

(d) Does applicant retain the right to determine at all times what programs shall in the public interest be broadcast? YES (Yes or No)

Attach as Exhibit 4 a statement fully describing this condition, show to what extent applicant will or will not have such right and cite the contract provisions upon which applicant relies in making this statement.

FULL INFORMATION

25. Applicant states that if any further information is necessary for a full disclosure with respect to construction, location, facilities, operation, service, assets, obligations, or otherwise not already fully explained, the following is a complete disclosure with respect thereto

COMPLETE DISCLOSURE IS MADE

26. Applicant states--
That the direct objects to be attained by the construction, changes in construction or modification of license contemplated by the application are as follows: TO INCREASE THE SERVICE AREA OF KWFT NIGHTTIME THROUGHOUT TEXAS AND OKLAHOMA, PARTICULARLY IN THAT PORTION OF THE PROPOSED INCREASED COVERAGE AREA THAT DOES NOT NOW RECEIVE DEPENDABLE RADIO SERVICE FROM ANY OTHER BROADCAST STATION. THE PROPOSED NIGHTTIME INCREASE WILL SERVE APPROXIMATELY 300,000 PEOPLE NOT NOW RECEIVING DEPENDABLE RADIO SERVICE, NIGHTTIME, FROM ANY REGIONAL RADIO STATION.

EXHIBITS IDENTIFIED

27. There are attached hereto the following described and identified exhibits, which have been prepared by applicant (if an individual or partnership) or by or under the direction of the officer or officers of applicant whose respective names and official titles appear opposite the exhibit prepared by each. (List here all exhibits attached to the application.)

Exhibit No.	Description of information	Name of officer (1) by whom or (2) under whose direction exhibit was prepared (show which)	Official title
1	F.C.C. 706 FORM	JOE B. CARRIGAN	PRESIDENT
2	ENGINEERING EXHIBITS	JOE B. CARRIGAN	PRESIDENT
3	NETWORK PROGRAMS	JOE B. CARRIGAN	PRESIDENT
4	CONTROL OF PROGRAMS	JOE B. CARRIGAN	PRESIDENT
5	AUTHORIZATION OF APPLICATION	DOROTHY DIEBOLD	ASST. SECRETARY
6	WEEKLY PROGRAM KWFT	JOE B. CARRIGAN	PRESIDENT

28. There are listed below the names and addresses of all counsel (legal, engineering, accounting, or persons in any other capacity), together with the name and address of firm, if any, with which connected who prepared or assisted in preparing the application and/or exhibits. (Identify opposite the name of each such person the item number of this application and/or the exhibit which he prepared or assisted in preparing. Where the answer contained in any such item or exhibit involves representations of fact an affidavit must be furnished from the person on whose knowledge the statement is based to the effect that the facts stated are true of his own knowledge, except as to such statements as are therein stated on information and belief, and as to such statements he believes them to be true. Where the statement of information consists of expert opinion such statement must be signed by the attorney, engineer, or accountant. There must also be included in such statement a full description of the qualifications of the expert.) 1/

Item or Exhibit No.	Description of information	Name and address of the party who prepared or assisted in preparing the Item or Exhibit and name and address of firm with which connected.
2	ENGINEERING EXHIBITS	A. EARL CULLUM, JR. CONSULTING RADIO ENGINEER DALLAS, TEXAS
X	LEGAL REPRESENTATION	JOE B. CARRIGAN WICHITA FALLS, TEXAS BRYON G. CARSON WASHINGTON, D.C.

AUTHORITY OF ANY OTHER REGULATORY AGENCY OBTAINED

29. If any part of the proposal involved in this application is subject to regulation or approval by any other Federal or State body, show here the character and status of such proceeding and submit certified copies of all pleadings filed therewith, together with any orders issued by said body No

1/ See footnote 1/, page 1.

30. If the construction permit is granted, the construction will be commenced IMMEDIATELY and will be completed and the station ready for operation IMMEDIATELY

31. The applicant waives any claim to the use of any particular frequency or of the ether as against the regulatory power of the United States because of the previous use of the same, whether by license or otherwise, and requests a construction permit, modification of construction permit or modification of license in accordance with this application.

32. (A) Applicant, if a legal entity other than an individual or partnership, states:

(a) That the making of this application is authorized by RESOLUTION (Resolution or act) of the BOARD OF DIRECTORS AND STOCKHOLDERS (Board of directors or other governing body) adopted at a meeting held at WICHITA FALLS, TEXAS (Place) on JANUARY 13, 1941 (Date)

(b) That there are attached hereto as Exhibits 5 properly certified copies of extracts from the minutes of said meeting affirmatively showing:

(1) That a quorum of members required by the bylaws having authority to act was present.

(2) That the resolution was voted upon favorably by a majority (or the number required by the bylaws) of those present and having authority to vote on the resolution.

(3) That the officer executing this application is authorized to do so.

(B) If application is executed on behalf of applicant by attorney

1/ See footnote 1/ on page 1.

there is attached hereto as Exhibit XX cogent evidence of his authority to act. 10/

33. All the statements made in the application and attached exhibits are considered material representations, and all the exhibits are a material part hereof and are incorporated herein as if set out in full in the application.

Dated this 2nd day of March, 1941.

WICHITA BROADCASTING COMPANY
(Name of applicant) 2/

By [signature]
PRESIDENT
(Authorized officer or attorney) 10/

(Be sure all necessary information is furnished and all questions are fully answered. If any portions of the application are not applicable, specifically so state, and show reasons therefor. Defective applications may be returned without consideration--Sec. 1.72, Rules of Practice and Procedure.)

2/ See footnote 2/ on page 1.

10/ Must be executed by applicant if an individual; by one of the partners of applicant, if a partnership; by an officer of applicant, if a corporation or association or by attorney of applicant only under conditions shown in Sec. 1.121, Rules of Practice and Procedure, in which event satisfactory evidence of disability of applicant or his absence from the continental United States, and authority of attorney to act must be submitted with application.

(OVER)

STATE OF TEXAS)
) ss:
COUNTY OF WICHITA)

JOE B. CARRIGAN, being duly (sworn upon his oath, (affirmed according to law,

deposes and says that he is the _____
(If applicant is not an individual, show

PRESIDENT OF WICHITA BROADCASTING COMPANY
official relationship of affiant to applicant)

above-named applicant, and that the facts stated in the foregoing application and all exhibits attached thereto are true of his own knowledge, except as to such statements as are therein stated on information and belief, and as to such statements he believes them to be true. (See Sec. 1.121, Rules of Practice and Procedure.)

Joe B. Carrigan
Affiant

Subscribed and sworn to before me this 27th day of March, 1941

Jo Grace Payne
Notary Public.

[SEAL]

(Notary public's seal must be affixed where law of jurisdiction requires, otherwise state that law does not require seal.)

My commission expires June 1, 1941.

STATEMENT OF A. EARL CULLUM, JR. IN CONNECTION WITH THE APPLICATION OF WICHITA BROADCASTING COMPANY, WICHITA FALLS, TEXAS, LICENSEE OF RADIO STATION KWFT, FOR MODIFICATION OF LICENSE TO CHANGE THE OPERATING ASSIGNMENT FROM 5000 WATTS DAYTIME 1000 WATTS NIGHTTIME TO 5000 WATTS UNLIMITED TIME ON THE 620 KILOCYCLE CHANNEL.

****

I, A. Earl Cullum, Jr., am a consulting radio engineer with offices located in Dallas, Texas. I graduated from the Massachusetts Institute of Technology in 1931 with a Bachelor of Science Degree in Communication Engineering. My experience includes almost continuous employment by broadcast stations since 1922. Since 1936 I have maintained an office as a consulting radio engineer. I have been employed by the Wichita Broadcasting Company, licensee of Radio Station KWFT, Wichita Falls, Texas, to make an allocation study of the 620 kilocycle channel and to prepare the necessary engineering exhibit for an application for modification of license to change the operating assignment from 5000 watts daytime 1000 watts nighttime to 5000 watts unlimited time using the existing directive antenna.

EXISTING OPERATING CONDITIONS

The existing assignment of Radio Station KWFT provides for operation at Wichita Falls, Texas on the 620 kilocycle channel with 5000 watts daytime 1000 watts nighttime using a directive antenna during daytime and nighttime hours. Complete details, including the proof of performance of the existing directive antenna, are on file with the Federal

COMMUNICATIONS COMMISSION, FILE B3-P-2461.

MEASUREMENTS TAKEN ON THE EXISTING OPERATION INDICATE THAT THE SOIL CONDUCTIVITY SURROUNDING THE KWFT PLANT SITE IS QUITE GOOD. THE 250 AND 25 MILLIVOLTS PER METER CONTOURS OF THE EXISTING OPERATION WERE DETERMINED BY AN ANALYSIS OF THE MEASUREMENTS FILED WITH THE FEDERAL COMMUNICATIONS COMMISSION, FILE B3-P-2461. THE MORE DISTANT CONTOURS WERE DETERMINED BY USING THE SOIL CONDUCTIVITY MAP OF THE FEDERAL COMMUNICATIONS COMMISSION.

AN ALLOCATION STUDY HAS BEEN MADE OF THE EXISTING NIGHTTIME CONDITIONS ON THE 620 KILOCYCLE CHANNEL. THE LIMITATIONS TO THE STATIONS WERE CALCULATED USING THE FEDERAL COMMUNICATIONS COMMISSION SECOND HOUR SKY-WAVE CURVES AND A RATIO OF 20 TO 1 FOR DESIRED TO UNDESIRED SIGNAL. THE STUDY SHOWS THE FOLLOWING TO BE EXISTING NIGHTTIME CONDITIONS:

LIMITATION TO	LIMITATION FROM	DISTANCE MILES	POWER WATTS	UNATTENUATED FIELD	INTERFERENCE LEVEL
WTMJ	KWFT	860	1000 DA	82	0.80
WROL	KWFT	845	1000 DA	287	2.90
WSUN	KWFT	1025	1000 DA	87	0.52
KTAR	KWFT	780	1000 DA	82	0.99
KGW	KWFT	1520	1000 DA	294	0.59
KWFT	WTMJ	860	5000 DA	245	2.40
KWFT	WROL	845	500 DA	142	1.43
KWFT	WSUN	1025	5000 DA	200	1.20
KWFT	KTAR	780	5000 DA	170	2.07
KWFT	KGW	1520	5000 DA	270	0.55
KWFT	CJRM	1190	1000	175	0.67
KWFT	RSS				3.17

PROPOSED OPERATING CONDITIONS

KWFT PROPOSES TO OPERATE WITH 5000 WATTS UNLIMITED TIME USING THE EXISTING DIRECTIVE ANTENNA DURING DAYTIME AND NIGHTTIME HOURS. COMPLETE SPECIFICATIONS OF THE PROPOSED DIRECTIVE ANTENNA ARE ATTACHED. MEASUREMENTS TAKEN ON THE EXISTING OPERATION INDICATES THAT THE SOIL CONDUCTIVITY SURROUNDING THE KWFT PLANT SITE IS QUITE GOOD. THE 250 AND 25 MILLIVOLTS PER METER CONTOURS OF THE PROPOSED OPERATION WERE DETERMINED BY AN ANALYSIS OF THE MEASUREMENTS FILED WITH THE FEDERAL COMMUNICATIONS COMMISSION, FILE B3-P-2461. THE MORE DISTANT CONTOURS WERE DETERMINED BY USING THE SOIL CONDUCTIVITY MAP OF THE FEDERAL COMMUNICATIONS COMMISSION.

AN ALLOCATION STUDY HAS BEEN MADE OF THE PROPOSED NIGHTTIME CONDITIONS ON THE 620 KILOCYCLE CHANNEL. THE LIMITATIONS TO THE STATIONS WERE CALCULATED USING THE FEDERAL COMMUNICATIONS COMMISSION SECOND HOUR SKY-WAVE CURVES AND A RATIO OF 20 TO 1 FOR DESIRED TO UNDESIRED SIGNAL. THE STUDY SHOWS THE FOLLOWING TO BE THE PROPOSED NIGHTTIME CONDITIONS:

LIMITATION TO	LIMITATION FROM	DISTANCE MILES	POWER WATTS	UNATTENUATED FIELD	INTERFERENCE LEVEL
WTMJ	KWFT	860	5000 DA	184	1.81
WROL	KWFT	845	5000 DA	643	6.49
WSUN	KWFT	1025	5000 DA	195	1.17
KTAR	KWFT	730	5000 DA	184	2.21
KGW	KWFT	1520	5000 DA	658	1.33
CJRM	KWFT	1190	5000 DA	655	2.53

LIMITATION TO	LIMITATION FROM	DISTANCE MILES	POWER WATTS	UNATTENUATED FIELD	INTERFERENCE LEVEL
KWFT	WTMJ	860	5000 DA	245	2.40
KWFT	WROL	845	500 DA	142	1.43
KWFT	WSUN	1025	5000 DA	200	1.20
KWFT	KTAR	780	5000 DA	170	2.07
KWFT	KGW	1520	5000 DA	270	0.55
KWFT	CJRM	1190	1000	175	0.67
KWFT	RSS				3.17

LIST OF EXHIBITS ATTACHED

IN MAKING THE ALLOCATION STUDY, DESIGNING THE DIRECTIVE ANTENNA, AND MAKING A STUDY OF THE COVERAGE FOR EACH CONDITION, A NUMBER OF EXHIBITS WERE PREPARED. ATTACHED WILL BE FOUND THE FOLLOWING EXHIBITS PREPARED BY ME OR UNDER MY DIRECTION:

1. SPECIFICATIONS OF PROPOSED DIRECTIVE ANTENNA FOR RADIO STATION KWFT.
2. DIRECTIVE ANTENNA DESIGN FORMULA.
3. DIRECTIVE ANTENNA CALCULATIONS FOR 5000 WATTS.
4. ANTENNA AND GROUND SYSTEM SPECIFICATIONS.
5. REFERENCES SUPPORTING DIRECTIVE ANTENNA DESIGN FORMULA.
6. (A) DIRECTIVE ANTENNA GROUND-WAVE PATTERN BASED ON THEORETICAL CALCULATIONS AND PROOF OF PERFORMANCE MEASUREMENTS.
6. (B) TABULATION OF DIRECTIVE ANTENNA GROUND-WAVE PATTERN CALCULATIONS.
7. DIRECTIVE ANTENNA SKY-WAVE PATTERNS AND TABULATIONS OF CALCULATIONS.
8. MAP OF NORTH AMERICA SHOWING THE EXISTING ASSIGNMENTS ON THE 620 KILOCYCLE CHANNEL.

9. (A) MAP SHOWING THE 250 MILLIVOLTS PER METER CONTOUR FROM THE DIRECTIVE ANTENNA USING 5000 WATTS OF POWER ON 620 KILOCYCLES.

9. (B) MAP SHOWING THE 25 MILLIVOLTS PER METER CONTOUR FROM THE DIRECTIVE ANTENNA USING 5000 WATTS OF POWER ON 620 KILOCYCLES.

9. (C) MAP SHOWING THE 5.0, 2.0 AND 0.5 MILLIVOLTS PER METER CONTOURS FROM THE DIRECTIVE ANTENNA USING 5000 WATTS OF POWER ON 620 KILOCYCLES.

9. (D) MAP SHOWING THE 2.5 AND 3.2 MILLIVOLTS PER METER CONTOURS FROM THE DIRECTIVE ANTENNA USING 5000 WATTS OF POWER ON 620 KILOCYCLES.

10. (A) MAP SHOWING THE 250 MILLIVOLTS PER METER CONTOUR FROM THE DIRECTIVE ANTENNA USING 1000 WATTS OF POWER ON 620 KILOCYCLES.

10. (B) MAP SHOWING THE 25 MILLIVOLTS PER METER CONTOUR FROM THE DIRECTIVE ANTENNA USING 1000 WATTS OF POWER ON 620 KILOCYCLES.

10. (C) MAP SHOWING THE 5.0 AND 2.0 MILLIVOLTS PER METER CONTOURS FROM THE DIRECTIVE ANTENNA USING 1000 WATTS OF POWER ON 620 KILOCYCLES.

10. (D) MAP SHOWING THE 2.5 AND 3.2 MILLIVOLTS PER METER CONTOURS FROM THE DIRECTIVE ANTENNA USING 1000 WATTS OF POWER ON 620 KILOCYCLES.

11. PHOTOGRAPHS SHOWING THE KWFT PLANT SITE AND THE SURROUNDING AREA.

POPULATION ANALYSIS OF COVERAGE MAPS

A POPULATION ANALYSIS HAS BEEN PREPARED BASED ON THE CALCULATED COVERAGE MAPS, THE 1930 CENSUS FIGURES, AND THE STANDARDS OF THE FEDERAL COMMUNICATIONS COMMISSION CONCERNING COVERAGE. TOTAL POPULATION FIGURES WERE DETERMINED BY AN ANALYSIS OF POPULATION DISTRIBUTION USING MINOR CIVIL DIVISION MAPS. FROM THE TOTAL POPULATION FIGURES WITHIN EACH CONTOUR THE URBAN AREAS OF 2500 OR GREATER RECEIVING LESS THAN 2.0 MILLIVOLTS PER METER, AND THE URBAN AREAS OF 10,000 OR GREATER RECEIVING LESS THAN 5.0 MILLIVOLTS PER METER WERE SUBTRACTED. THE FOLLOWING IS A TABULATION OF THE COVERAGE FIGURES AS TAKEN FROM EACH POPULATION STUDY:

KWFT - 620 KC - 5000 WATTS DA

CONTOUR	POPULATION 1930	SQ. MI.
WITHIN THE 25 MV/M CONTOUR	71,604	
WITHIN THE 5.0 MV/M CONTOUR	248,485	
WITHIN THE 3.2 MV/M CONTOUR	434,797	17,890
WITHIN THE 2.5 MV/M CONTOUR	555,383	24,000
WITHIN THE 2.0 MV/M CONTOUR	691,805	
WITHIN THE 0.5 MV/M CONTOUR	2,096,543	103,000

KWFT - 620 KC - 1000 WATTS DA

CONTOUR	POPULATION 1930	SQ. MI.
WITHIN THE 25 MV/M CONTOUR	52,093	
WITHIN THE 5.0 MV/M CONTOUR	117,402	
WITHIN THE 3.2 MV/M CONTOUR	167,707	6,350
WITHIN THE 2.5 MV/M CONTOUR	230,709	8,970
WITHIN THE 2.0 MV/M CONTOUR	296,096	

A POPULATION STUDY OF THE 250 MILLIVOLTS PER METER CONTOURS HAS BEEN MADE BY AN ACTUAL COUNT OF HOUSES EXISTING WITHIN THESE

CONTOURS. IT HAS BEEN ASSUMED THAT 4 PEOPLE RESIDE WITHIN EACH HOUSE. IN VIEW OF THE FACT THAT THIS POPULATION STUDY WAS BASED ON EXISTING CONDITIONS, WE HAVE OBTAINED THE 1940 CENSUS FIGURES FOR THE CITY OF WICHITA FALLS, TEXAS AND WICHITA COUNTY, SO THAT THEY CAN BE USED IN CONNECTION WITH THIS STUDY. THE FOLLOWING IS A TABULATION OF THE COVERAGE FIGURES AS TAKEN FROM EACH POPULATION STUDY:

KWFT - 620 KC - 5000 WATTS DA

CONTOUR	SOURCE	POPULATION
WITHIN THE 250 MV/M CONTOUR	COUNT HOUSES	2,208
WITHIN THE CITY OF WICHITA FALLS	1940 CENSUS	45,112
WITHIN THE COUNTY OF WICHITA	1940 CENSUS	73,604

KWFT - 620 KC - 1000 WATTS DA

CONTOUR	SOURCE	POPULATION
WITHIN THE 250 MV/M CONTOUR	COUNT HOUSES	420
WITHIN THE CITY OF WICHITA FALLS	1940 CENSUS	45,112
WITHIN THE COUNTY OF WICHITA	1940 CENSUS	73,604

FROM THE ABOVE IT WILL BE SEEN THAT THE EXISTING OPERATION PROVIDES COVERAGE DURING DAYTIME HOURS TO APPROXIMATELY 2,096,543 PEOPLE WITHIN THE NORMALLY PROTECTED 0.5 MILLIVOLTS PER METER CONTOUR, AND PROVIDES COVERAGE DURING NIGHTTIME HOURS TO APPROXIMATELY 167,707 PEOPLE WITHIN THE PROTECTED 3.2 MILLIVOLTS PER METER CONTOUR. THE PROPOSED OPERATION WILL PROVIDE COVERAGE DURING DAYTIME HOURS TO APPROXIMATELY 2,096,543 PEOPLE WITHIN THE NORMALLY PROTECTED 0.5 MILLIVOLTS PER METER CONTOUR AND WILL PROVIDE COVERAGE DURING NIGHTTIME

HOURS TO APPROXIMATELY 434,797 PEOPLE WITHIN THE PROTECTED 3.8 MILLIVOLTS PER METER CONTOUR.

IT WILL BE NOTED FROM AN ANALYSIS OF THE POPULATION RESIDING WITHIN THE 250 MILLIVOLTS PER METER CONTOURS THAT THE POPULATION SURROUNDING THE KWFT PLANT HAS INCREASED SINCE THE KWFT PLANT WAS ESTABLISHED IN 1939. THIS INCREASE IN POPULATION IS DUE TO THE HOUSES BUILT IN WICHITA GARDENS, A RESETTLEMENT PROJECT, AND IN WICHITA VALLEY FARMS, AN INDUSTRIAL HOME PROJECT. IT IS MY UNDERSTANDING FROM THE STATION MANAGEMENT THAT KWFT HAS NOT HAD ANY COMPLAINTS FROM THE RESIDENTS OF THE AREA SURROUNDING THE PLANT SITE.

A. EARL CULLUM, JR.

FEBRUARY 25, 1941

STATE OF TEXAS)
) ss
COUNTY OF DALLAS)

A. EARL CULLUM, JR., BEING DULY SWORN, UPON HIS OATH DEPOSES AND SAYS THAT THE FACTS STATED IN THE FOREGOING, TOGETHER WITH ALL EXHIBITS ATTACHED THERETO, ARE TRUE OF HIS OWN KNOWLEDGE, EXCEPT AS TO SUCH STATEMENTS AS THEREIN STATED TO BE ON INFORMATION AND BELIEF, AND AS TO SUCH STATEMENTS HE BELIEVES THEM TO BE TRUE.

A. EARL CULLUM, JR.

SWORN TO AND SUBSCRIBED BEFORE ME THIS 25TH DAY OF FEBRUARY 1941.

NOTARY PUBLIC IN AND FOR
DALLAS COUNTY, TEXAS

MY COMMISSION EXPIRES JUNE 1, 1941.

A. EARL CULLUM, JR.
CONSULTING RADIO ENGINEER
HIGHLAND PARK VILLAGE
DALLAS, TEXAS

SPECIFICATIONS OF PROPOSED ANTENNA FOR RADIO STATION KWFT

FREQUENCY	620 KILOCYCLES
RATED POWER DAY	5000 WATTS - DIRECTIONAL
RATED POWER NIGHT	5000 WATTS - DIRECTIONAL
NUMBER OF TOWERS	2 TOWERS
MAKE OF TOWER	LEHIGH STRUCTURAL STEEL CO.
TYPE OF TOWER	SELF SUPPORTED, SQUARE, TAPERED
TOWER BASE WIDTH	5% OF TOWER HEIGHT
TOWER FEED SYSTEM	SERIES FEED
TOWER HEIGHT ABOVE INSULATORS	400 FEET
TOWER HEIGHT ABOVE GROUND	405 FEET
TOWER HEIGHT ABOVE SEA-LEVEL	1405 FEET
LINE OF TOWER	N155.5E REFERRED TO TRUE NORTH
TOWER SPACING ELECTRICAL	317 DEGREES
TOWER SPACING PHYSICAL	1398 FEET
TOWER CURRENT RATIO	0.63 TO 1.00
TOWER PHASING	44.0 DEGREES NORTHWEST LEADING
NUMBER OF GROUND RADIALS	120 EQUALLY SPACED ABOUT EACH TOWER
LENGTH OF GROUND RADIALS	400 FEET
TRANSMISSION LINES	300 OHM OPEN-WIRE LINES
ANTENNA AMMETERS	THERMAL AND REMOTE THERMAL METERS
CURRENT RATIO MEASUREMENTS	CURRENT MONITOR FROM SAMPLING LOOPS
CURRENT PHASE MEASUREMENTS	PHASE MONITOR FROM SAMPLING LOOPS
LOCATION	SAME AS EXISTING LOCATION
	N. LAT. 33° 55' 07"
	W.LONG. 98° 32' 37"

EXHIBIT 1

DIRECTIVE ANTENNA DESIGN FORMULA:

$$F_1(E) = \sqrt{1 + (M)^2 + 2M \cos (A - KD \cos\Theta \cos\Phi)} \quad (1)$$

$$F_x(E) = \frac{\cos (A \sin\Theta) - \cos A}{(\cos \Theta)(1 - \cos A)} \quad (2)$$

$$K = \frac{1 - \cos A}{\sin A} \quad (3)$$

$$P = (R_1 \times I_1^2) + (R_2 \times I_2^2) \quad (4)$$

$$E = 37.25 \times I \times K \times F_1(E) \times F_x(E) \quad (5)$$

WHERE

E IS FIELD INTENSITY IN MILLIVOLTS PER METER AT ONE MILE
P IS ACTUAL RADIATED POWER IN WATTS
I_1 IS CURRENT AT BASE OF ELEMENT 1 OPERATING DIRECTIONAL
I_2 IS CURRENT AT BASE OF ELEMENT 2 OPERATING DIRECTIONAL
R_1 IS RESISTANCE AT BASE OF ELEMENT 1 OPERATING DIRECTIONAL
R_2 IS RESISTANCE AT BASE OF ELEMENT 2 OPERATING DIRECTIONAL
M IS RATIO BETWEEN THE CURRENTS IN THE ELEMENTS
A IS PHASE BETWEEN THE CURRENTS IN THE ELEMENTS
A IS HEIGHT OF THE ELEMENTS
Θ IS ANGLE FROM HORIZONTAL TO RADIATION VECTOR
Φ IS ANGLE FROM LINE OF ELEMENTS OF RADIATION VECTOR
KD IS ELECTRICAL DISTANCE BETWEEN THE ELEMENTS

EXHIBIT 2

DIRECTIVE ANTENNA CALCULATIONS FOR 5000 WATTS

RATED POWER 5000 WATTS

TRANSMISSION LOSSES
- TRANSMISSION LINES
- PHASING EQUIPMENT
- COUPLING TRANSMISSION LINES TO ANTENNA
- CURRENT AND PHASE METER LOSSES
- GROUND RESISTANCE LOSSES

TOTAL PROBABLE LOSSES 4.0 %

ACTUAL RADIATED POWER EXPECTED IS (5410) x (1.00 - 0.04)

THEN	P	5190 WATTS	GIVEN
	R_1	30.8 OHMS	(6)
	R_2	42.0 OHMS	(6)
	M	0.63	GIVEN
	A	44 DEGREES	GIVEN
	KD	317 DEGREES	GIVEN
	A	92 DEGREES	GIVEN

SOLVING THE DIRECTIVE ANTENNA FORMULAS

VECTOR CURRENT I IS 10.45 (4)

FORM FACTOR K IS 1.02 (3)

FIELD INTENSITY AT ONE MILE IN ANY DIRECTION) E IS $397 \times F_1(E) \times F_X(E)$ (5)

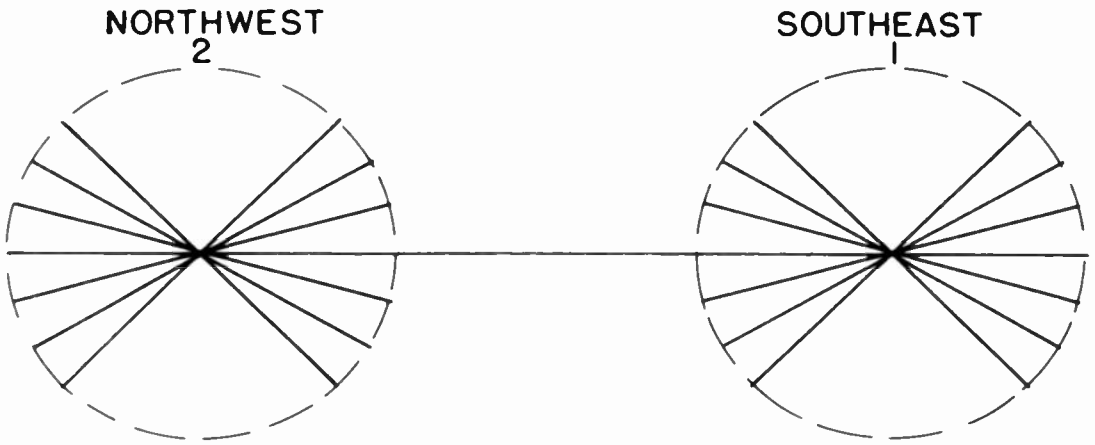
VARIOUS VALUES WERE THEN ASSIGNED TO Θ AND Φ AND THE CORRESPONDING VALUES OF $F_1(E)$, $F_X(E)$ AND E DETERMINED. THE RESULTS OF EACH OF THESE CALCULATIONS ARE LISTED ON EACH OF THE ATTACHED EXHIBITS.

AFTER THE HORIZONTAL RADIATION PATTERN WAS PLOTTED AND PLANIMETERED, THE R.M.S. VALUE OF THE HORIZONTAL FIELD WAS FOUND TO BE 480 MV/M UNATTENUATED AT ONE MILE FROM THE ANTENNA.

EXHIBIT 3

ANTENNA AND GROUND SYSTEM SPECIFICATIONS:

ARRANGEMENT OF TOWERS:



UNIT VECTORS:

CURRENT RATIO	0.63	1.00
PHASE RATIO	+44.0	0.0
BASE RESISTANCE	42.0	30.8
BASE REACTANCE	+36.1	+23.6
VECTOR CURRENT	6.59	10.45
BASE CURRENT	5.80	10.35

EXHIBIT 4

REFERENCES - ACCORDING TO LINE NUMBER

(1) I.R.E. JANUARY, 1937 PAGE 99 (60)

(2) I.R.E. JANUARY, 1936 PAGE 51 (5)

(3) I.R.E. JANUARY, 1936 PAGE 52 (6)

(4) I.R.E. JANUARY, 1937 PAGE 102 (72)

(5) I.R.E. JANUARY, 1937 PAGE 102 (75)

(6) I.R.E. JANUARY, 1937 PAGE 102 (71)

EXHIBIT 5

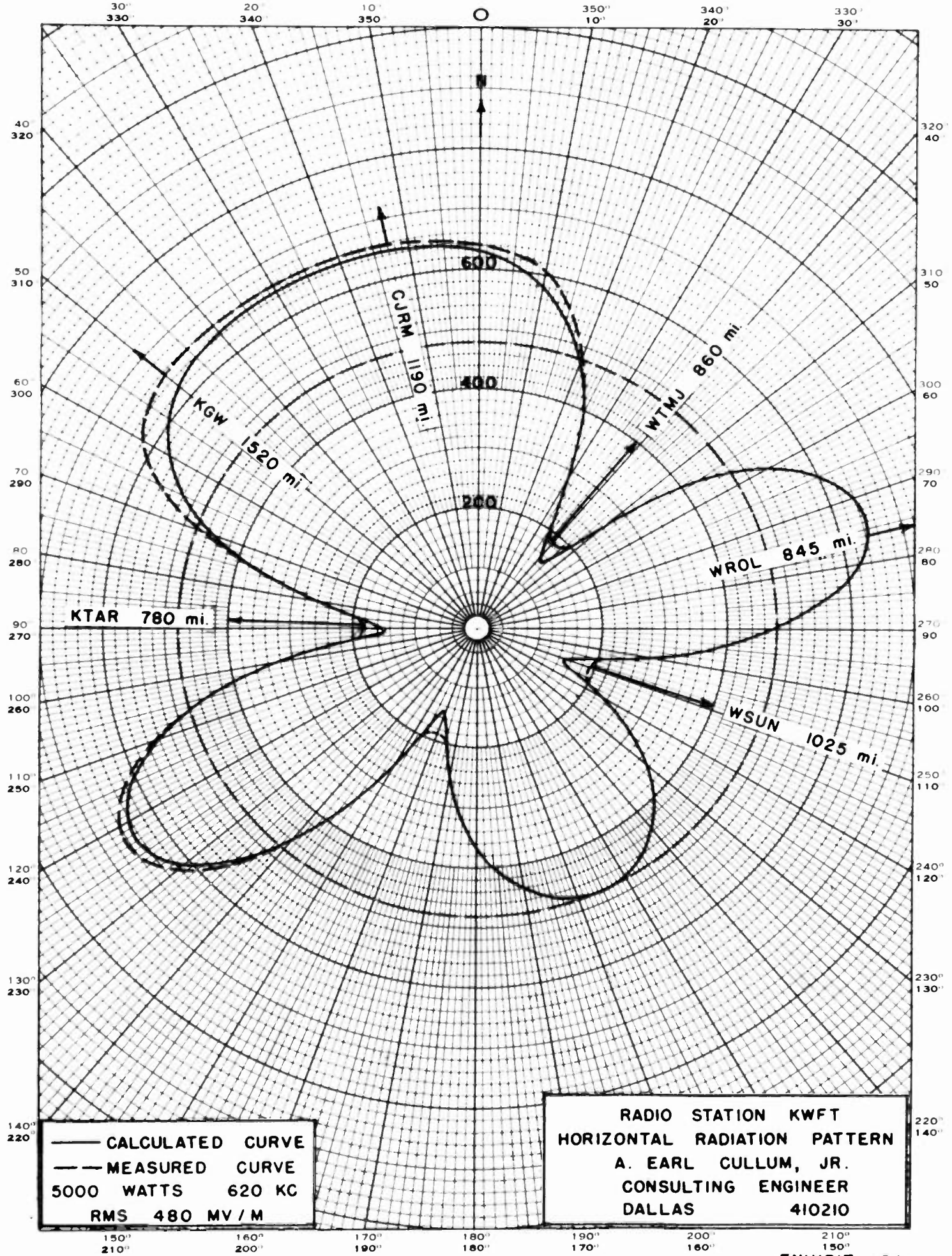


EXHIBIT 6A

A. EARL CULLUM, JR.
CONSULTING RADIO ENGINEER
HIGHLAND PARK VILLAGE
DALLAS, TEXAS

KWFT DIRECTIVE ARRAY

HORIZONTAL RADIATION PATTERN

Bearings	Φ	$f_1(E)$	E_{5000}
155.5 - 155.5	0	1.210	480
145.5 - 165.5	10	1.164	462
135.5 - 175.5	20	1.027	407
125.5 - 185.5	30	0.772	306
115.5 - 195.5	40	0.458	182
105.5 - 205.5	50	0.465	184
095.5 - 215.5	60	0.935	371
085.5 - 225.5	70	1.394	553
075.5 - 235.5	80	1.622	644
065.5 - 245.5	90	1.518	602
055.5 - 255.5	100	1.094	434
045.5 - 265.5	110	0.426	169
035.5 - 275.5	120	0.483	192
025.5 - 285.5	130	0.957	380
015.5 - 295.5	140	1.330	528
005.5 - 305.5	150	1.530	607
355.5 - 315.5	160	1.610	639
345.5 - 325.5	170	1.630	647
335.5 - 335.5	180	1.630	647

EXHIBIT 68

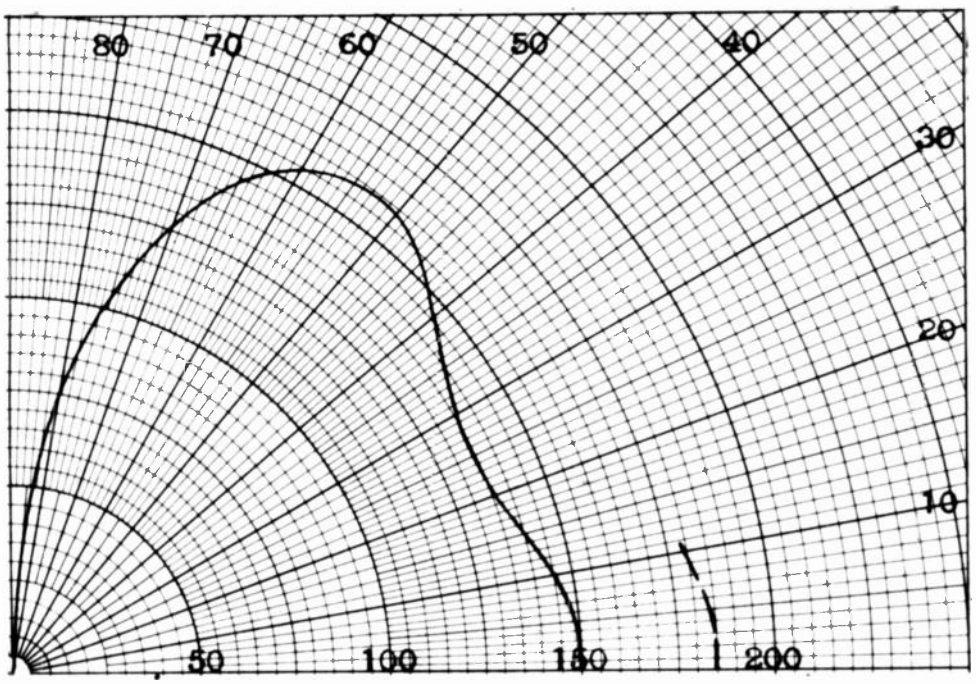
A. EARL CULLUM, JR.
CONSULTING RADIO ENGINEER
HIGHLAND PARK VILLAGE
DALLAS, TEXAS

KWFT DIRECTIVE ARRAY

VERTICAL RADIATION PATTERN

IN PLANE N 39 E

THROUGH NULL TOWARD MILWAUKEE, WISCONSIN



P 5000 Φ 116.5

Θ	$F_1(E)$	$F_x(E)$	E_{5000}
00	0.378	1.000	150
10	0.374	0.978	145
20	0.374	0.914	136
30	0.415	0.816	136
40	0.531	0.694	146
50	0.713	0.560	158
60	0.935	0.416	154
70	1.160	0.275	127
80	1.362	0.140	76
90	-.---	0.000	0

Θ WTMS APPROX. 5.8 DEGREES WITH DISTANCE 860 MILES.

EXHIBIT 7A

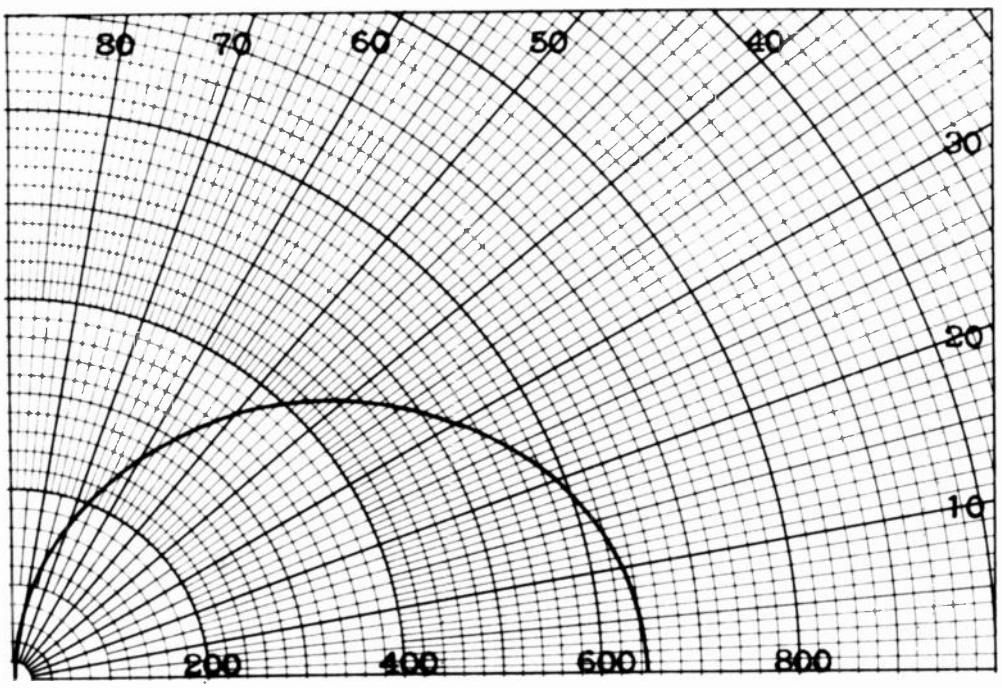
A. EARL CULLUM, JR.
CONSULTING RADIO ENGINEER
HIGHLAND PARK VILLAGE
DALLAS, TEXAS

KWFT DIRECTIVE ARRAY

VERTICAL RADIATION PATTERN

IN PLANES N 73.5 E AND N 237.5 E

THROUGH NARROW MAXIMUM



P 5000 Φ 82

Θ	$F_1(E)$	$F_x(E)$	E_{5000}
00	1.630	1.000	647
10	1.630	0.978	632
20	1.629	0.914	591
30	1.628	0.816	527
40	1.625	0.694	447
50	1.616	0.560	359
60	1.604	0.416	265
70	1.582	0.275	173
80	1.555	0.140	87
90	-.---	0.000	0

EXHIBIT 78

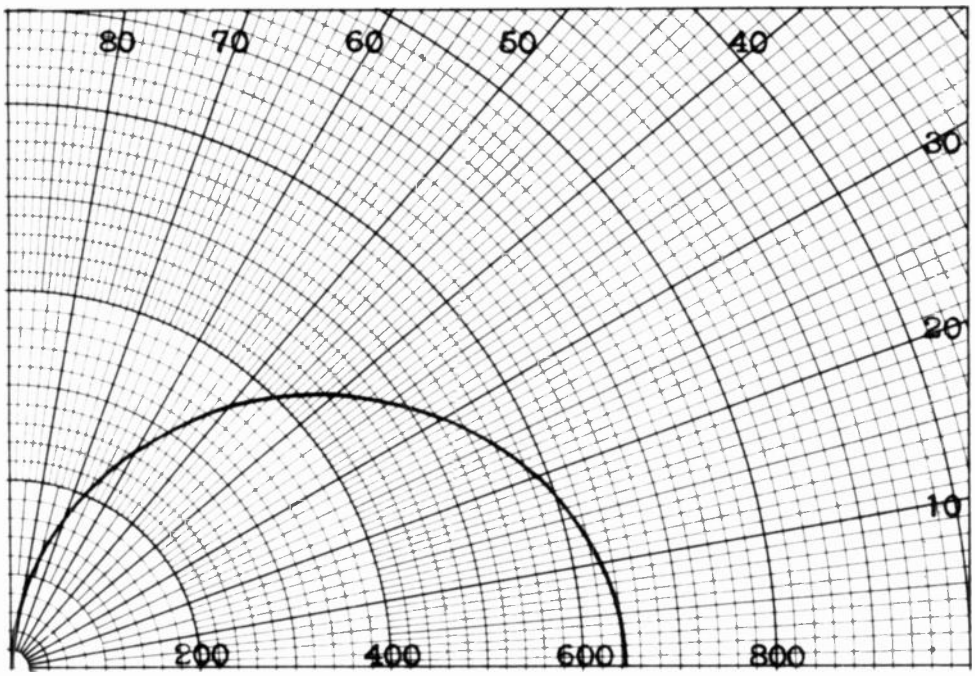
A. EARL CULLUM, JR.
CONSULTING RADIO ENGINEER
HIGHLAND PARK VILLAGE
DALLAS, TEXAS

KWFT DIRECTIVE ARRAY

VERTICAL RADIATION PATTERN

IN PLANE N 76 E

TOWARD KNOXVILLE, TENNESSEE



P 5000 Φ 79.5

Θ	$F_1(E)$	$F_x(E)$	E_{5000}
00	1.620	1.000	643
10	1.621	0.978	629
20	1.622	0.914	589
30	1.629	0.816	527
40	1.630	0.694	448
50	1.628	0.560	361
60	1.619	0.416	267
70	1.596	0.275	174
80	1.562	0.140	87
90	-.---	0.000	0

Θ WROL APPROX. 6.0 DEGREES WITH DISTANCE 845 MILES.

EXHIBIT 7C

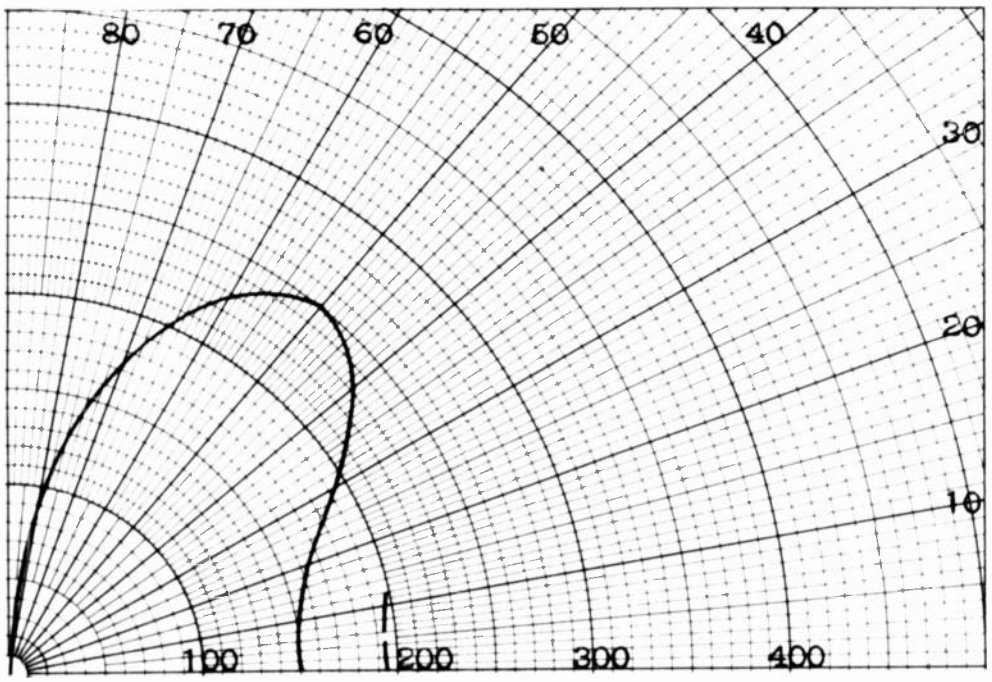
A. EARL CULLUM, JR.
CONSULTING RADIO ENGINEER
HIGHLAND PARK VILLAGE
DALLAS, TEXAS

KWFT DIRECTIVE ARRAY

VERTICAL RADIATION PATTERN

IN PLANE N 109 E

THROUGH NULL TOWARD ST. PETERSBURG, FLORIDA



P 5000 Φ 46.5

Θ	$F_1(E)$	$F_x(E)$	E_{5000}
00	0.380	1.000	151
10	0.391	0.978	152
20	0.453	0.914	164
30	0.605	0.816	194
40	0.842	0.694	232
50	1.125	0.560	250
60	1.390	0.416	229
70	1.576	0.275	172
80	1.628	0.140	91
90	-.---	0.000	0

Θ WSUN APPROX. 3.8 DEGREES WITH DISTANCE 1025 MILES.

EXHIBIT 7D

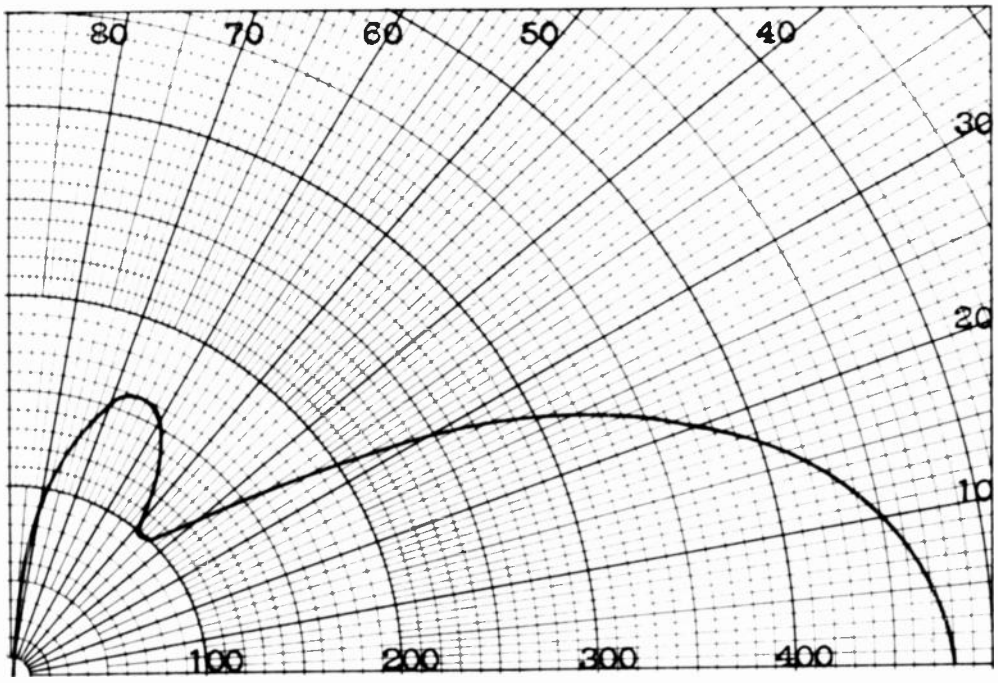
A. EARL CULLUM, JR.
CONSULTING RADIO ENGINEER
HIGHLAND PARK VILLAGE
DALLAS, TEXAS

KWFT DIRECTIVE ARRAY

VERTICAL RADIATION PATTERN

IN PLANE N 155.5 E

THROUGH SMALL MAXIMUM



P 5000 Φ 00

Θ	$F_1(E)$	$F_x(E)$	E_{5000}
00	1.210	1.000	480
10	1.164	0.978	452
20	1.027	0.914	373
30	0.772	0.816	250
40	0.458	0.694	126
50	0.465	0.560	103
60	0.935	0.416	154
70	1.394	0.275	152
80	1.622	0.140	91
90	-.---	0.000	0

EXHIBIT 7E

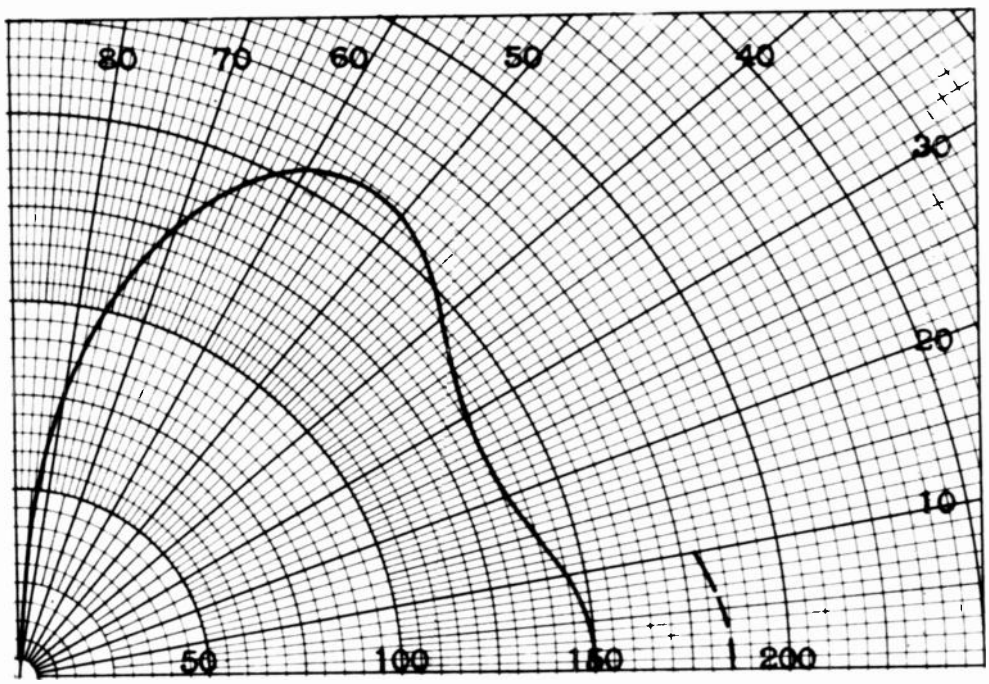
A. EARL CULLUM, JR.
CONSULTING RADIO ENGINEER
HIGHLAND PARK VILLAGE
DALLAS, TEXAS

KWFT DIRECTIVE ARRAY

VERTICAL RADIATION PATTERN

IN PLANE N 272 E

THROUGH NULL TOWARD PHOENIX, ARIZONA



P 5000 Φ 116.5

Θ	$F_1(E)$	$F_x(E)$	E_{5000}
00	0.378	1.000	150
10	0.374	0.978	145
20	0.374	0.914	136
30	0.415	0.816	136
40	0.531	0.694	146
50	0.713	0.560	158
60	0.935	0.416	154
70	1.160	0.275	127
80	1.362	0.140	76
90	-.---	0.000	0

Θ KTAR APPROX. 7.0 DEGREES WITH DISTANCE 780 MILES.

EXHIBIT 7F

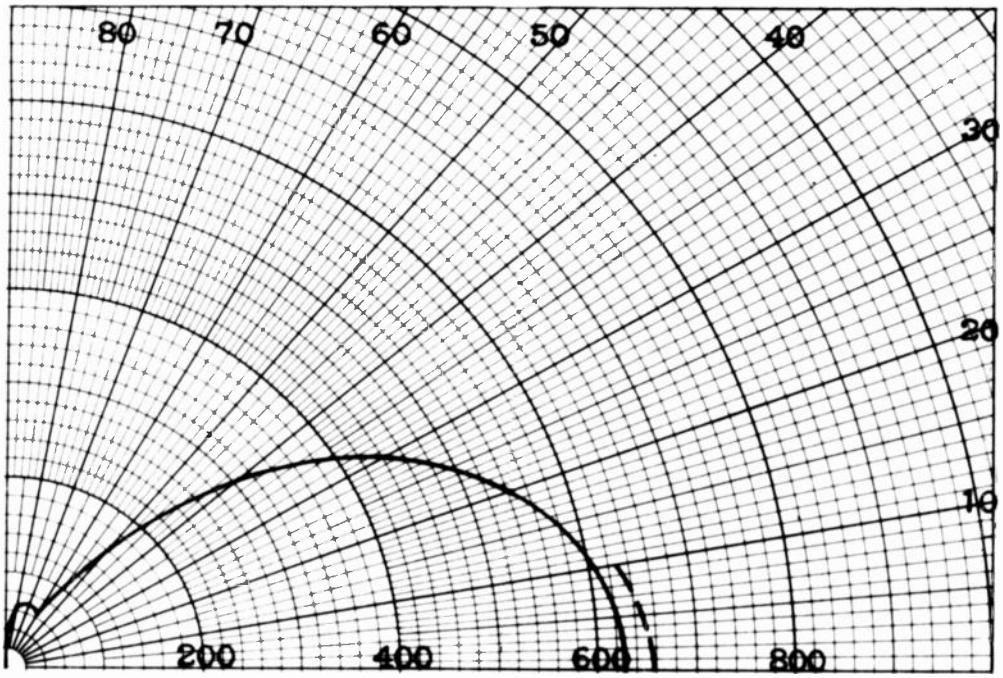
A. EARL CULLUM, JR.
CONSULTING RADIO ENGINEER
HIGHLAND PARK VILLAGE
DALLAS, TEXAS

KWFT DIRECTIVE ARRAY

VERTICAL RADIATION PATTERN

IN PLANE N 310 E

TOWARD PORTLAND, OREGON



P 5000 Φ 154.5

Θ	$F_1(E)$	$F_x(E)$	E_{5000}
00	1.585	1.000	629
10	1.560	0.978	605
20	1.502	0.914	545
30	1.368	0.816	443
40	1.116	0.694	307
50	0.740	0.560	164
60	0.383	0.416	63
70	0.636	0.275	69
80	1.147	0.140	64
90	-.---	0.000	0

Θ KGW APPROX. 0.0 DEGREES WITH DISTANCE 1520 MILES.

EXHIBIT 7G

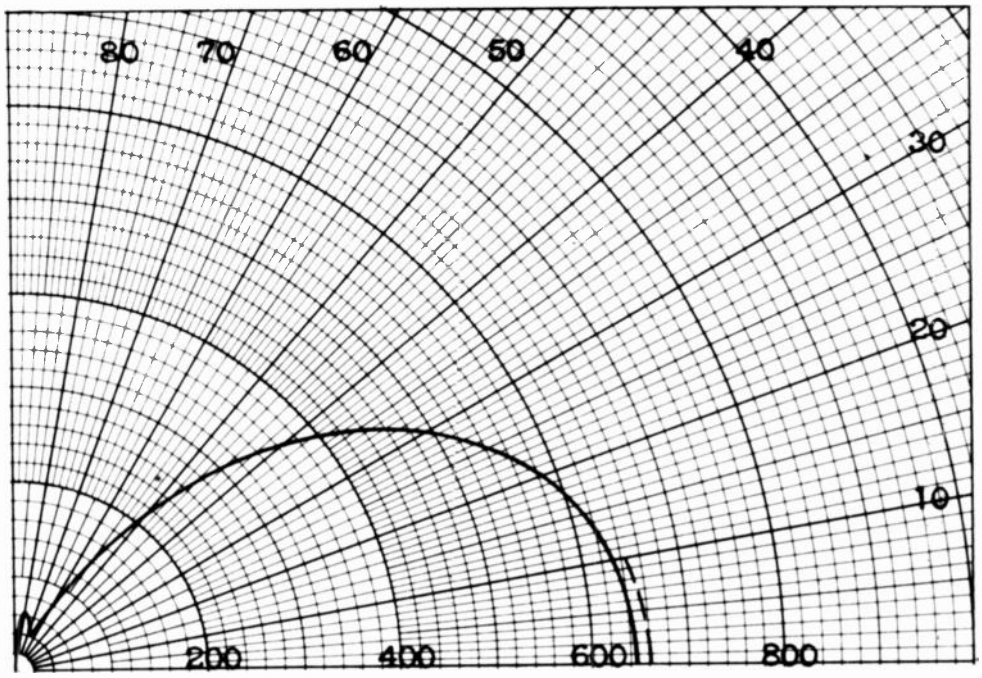
A. EARL CULLUM, JR.
CONSULTING RADIO ENGINEER
HIGHLAND PARK VILLAGE
DALLAS, TEXAS

KWFT DIRECTIVE ARRAY

VERTICAL RADIATION PATTERN

IN PLANE N 335.5 E

THROUGH LARGE MAXIMUM



P 5000 Φ 180

Θ	$F_1(E)$	$F_x(E)$	E_{5000}
00	1.630	1.000	647
10	1.630	0.978	632
20	1.610	0.914	585
30	1.530	0.816	495
40	1.330	0.694	366
50	0.957	0.560	212
60	0.483	0.416	80
70	0.426	0.275	46
80	1.094	0.140	61
90	-.---	0.000	0

EXHIBIT 7H

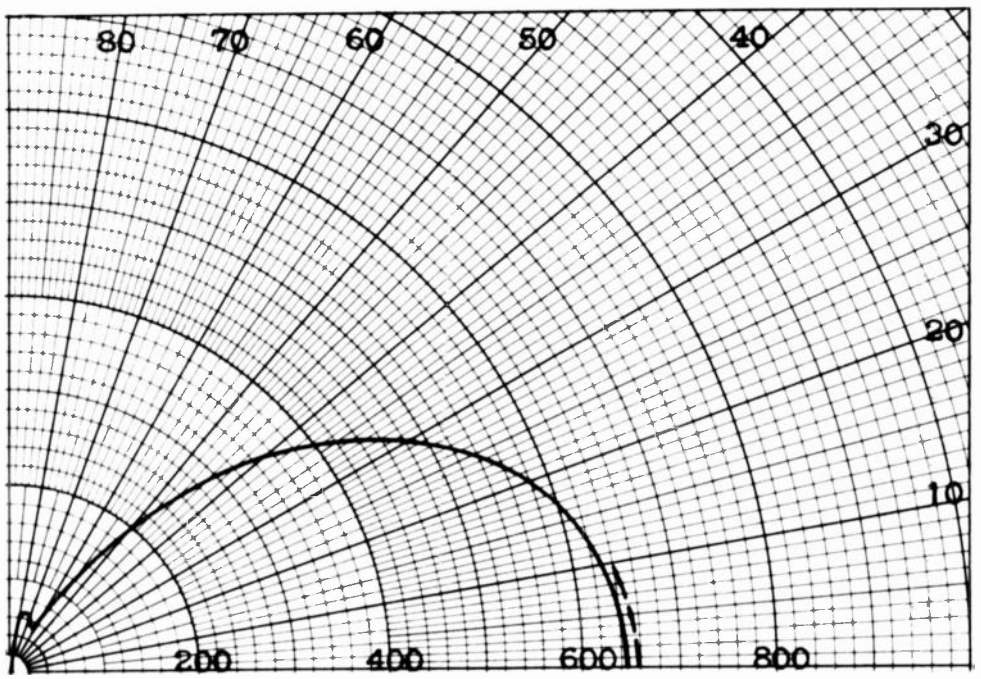
A. EARL CULLUM, JR.
CONSULTING RADIO ENGINEER
HIGHLAND PARK VILLAGE
DALLAS, TEXAS

KWFT DIRECTIVE ARRAY

VERTICAL RADIATION PATTERN

IN PLANE N 347 E

TOWARD REGINA, SASKATCHEWAN



P 5000 Φ 168.5

Θ	$F_1(E)$	$F_x(E)$	E_{5000}
00	1.628	1.000	646
10	1.624	0.978	630
20	1.595	0.914	579
30	1.496	0.816	485
40	1.288	0.694	354
50	0.909	0.560	202
60	0.453	0.416	75
70	0.553	0.275	60
80	1.106	0.140	62
90	-.---	0.000	0

Θ CJRM APPROX. 2.0 DEGREES WITH DISTANCE 1190 MILES.

EXHIBIT 71

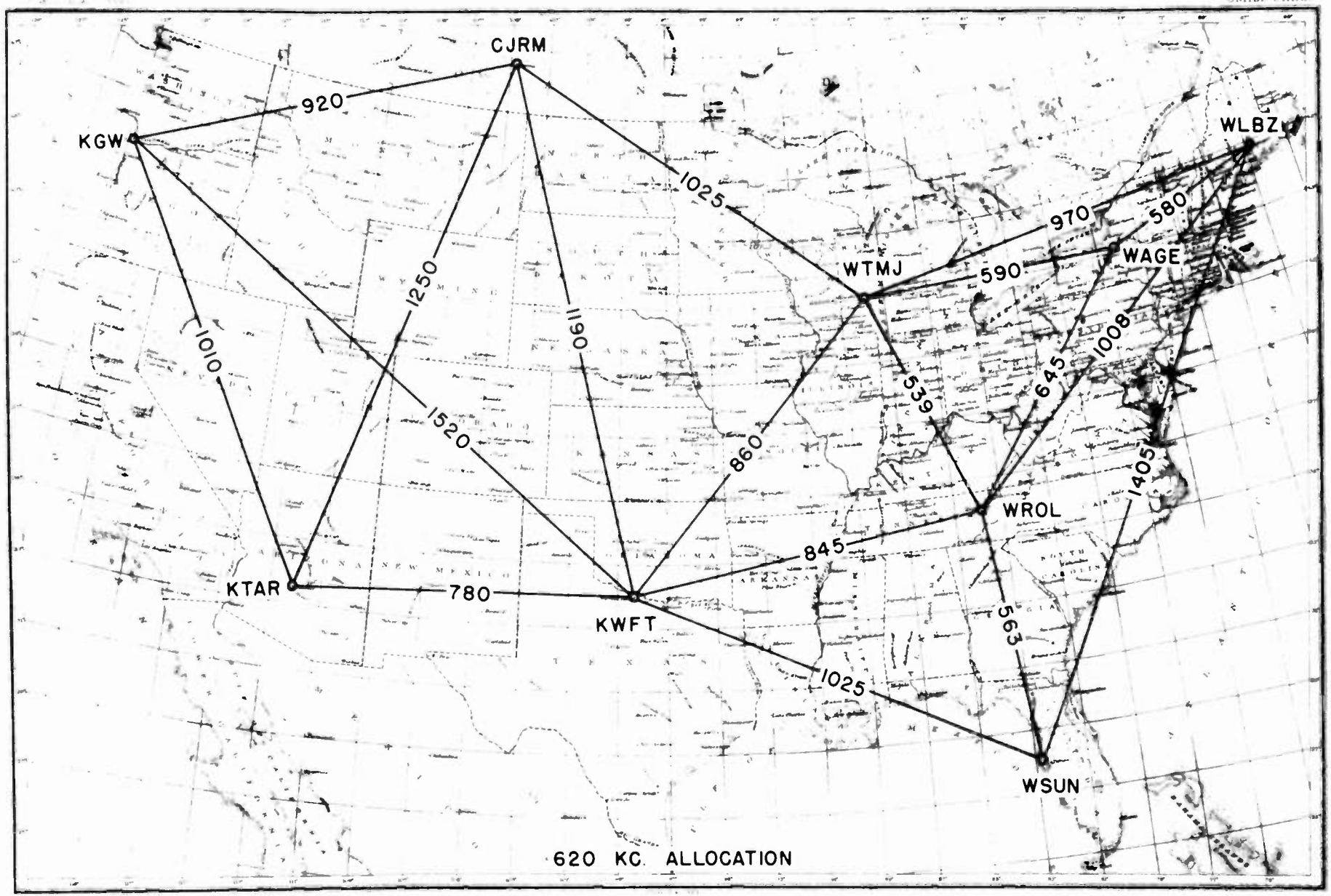
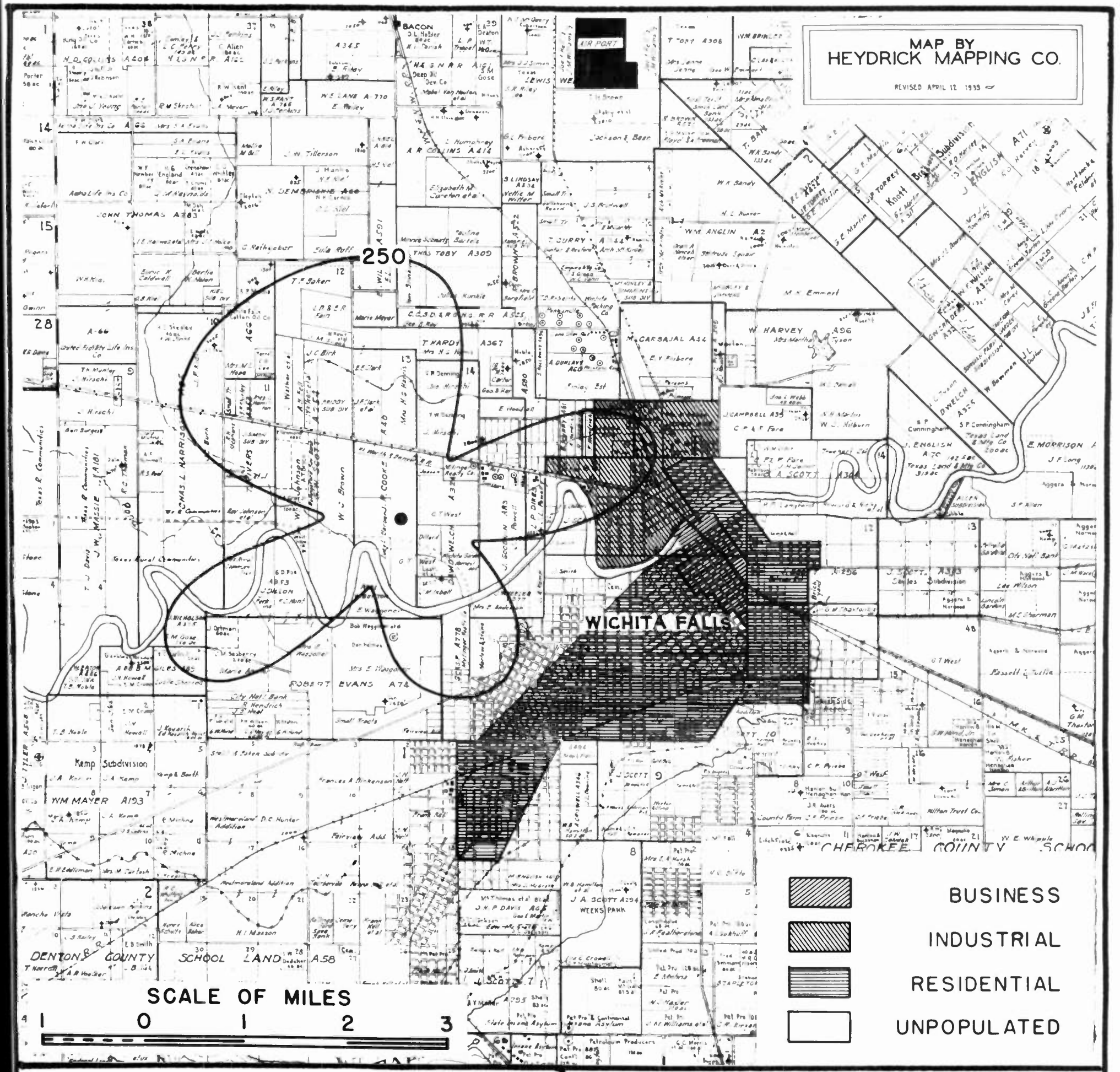
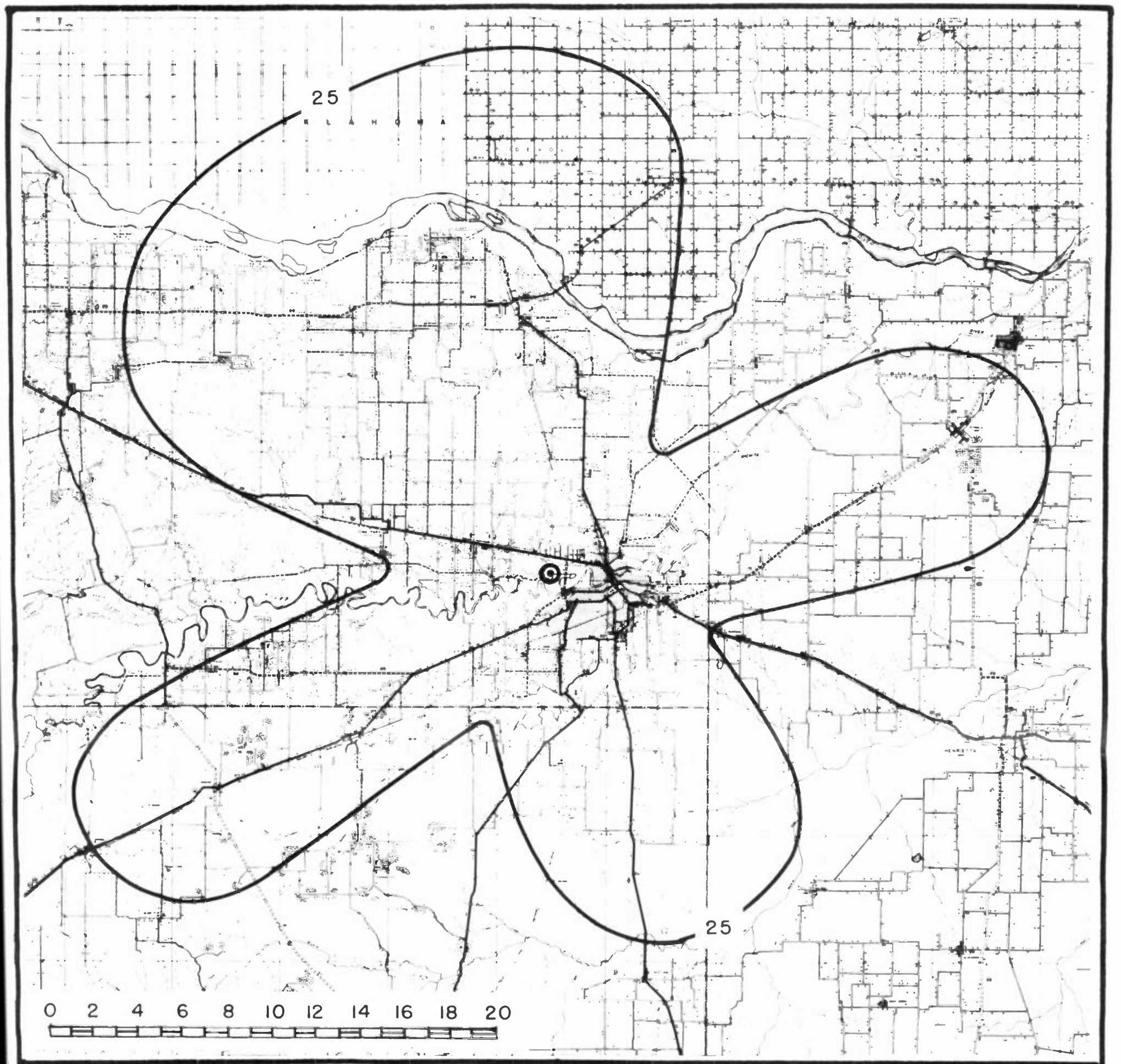


EXHIBIT 8



WICHITA FALLS, TEXAS
AND SURROUNDING TERRITORY
A. EARL CULLUM, JR.
RADIO ENGINEERING CONSULTANT

RADIO STATION KWFT
PROPOSED OPERATION
620 KC. 5000 WATTS—DA.
EXHIBIT NUMBER 9A



WICHITA FALLS, TEXAS
AND SURROUNDING TERRITORY
A. EARL CULLUM, JR.
RADIO ENGINEERING CONSULTANT

RADIO STATION KWFT
PROPOSED OPERATION
620 KC. 5000 WATTS—DA.
EXHIBIT NUMBER 9B

F. C. C. Form No. 726
Revised April 1944

File Nos BALRY-54
BALRE-56
Construction permit 276
or License Nos. 384
Call letters K W F R
K P A K

UNITED STATES OF AMERICA

FEDERAL COMMUNICATIONS COMMISSION

CONSENT TO ASSIGNMENT OF RADIO STATION CONSTRUCTION PERMIT OR LICENSE

REMOTE PICKUP (Class of station) BROADCAST

To WICHITA BROADCASTERS, A PARTNERSHIP, JOE B. CARRIGAN, MRS. JOE B. CARRIGAN, P.K. SMITH TRUSTEE, P. K. SMITH, MRS. CLAUDE M. SIMPSON, JR. (Name of licensee)
(Insert: assignor if voluntary assignment or assignee if involuntary)

Box 420, Wichita Falls, Texas
(Address)

The consent of the Federal Communications Commission is hereby granted to the assignment of {construction permit / station license} No. ~~BRRY-276~~ ~~BRRE-384~~, dated ~~6-27-46~~ 6-27-46 authorizing {~~construction~~ / operation} of the transmitting apparatus in the ~~Broadcast Pickup~~ Area of (Street), Wichita (City or town), Texas (State)

from WICHITA BROADCASTERS, A PARTNERSHIP, JOE B. CARRIGAN, MRS. JOE B. CARRIGAN, P. K. SMITH, TRUSTEE, P. K. SMITH, MRS. CLAUDE M. SIMPSON, JR.
(Insert: assignor if voluntary assignment or assignee if involuntary)

to K W F T, INC.
(Assignee)

under authority of the Communications Act of 1934.

The Commission's consent to said assignment is based on the representations made by the assignor and/or assignee that the statements contained in, or made in connection with, the application are true and that the undertakings of the parties upon which this assignment is authorized will be carried out in good faith.

The actual assignment of the {construction permit / station license}, including delivery of said {construction permit / station license} to the assignee, shall be completed within 30 days from the date hereof; and notice in letter form thereof shall forthwith be furnished the Commission by the assignee, showing when the acts necessary to give effect to the assignment have been completed. Upon furnishing the Commission with such written notice, assignee is authorized to begin the {construction / operation} of the station in accordance with all the terms and conditions of said {construction permit / station license} This consent shall not authorize the {construction / operation} of said station by assignee unless and until such notification has been forwarded to the Commission.

It is hereby directed that this consent, when effective, be attached to the above-described {construction permit / station license}, posted as required by Section 2.51 of the Rules and Regulations.

Dated this 18th day of December, 1947

BY DIRECTION OF THE FEDERAL COMMUNICATIONS COMMISSION.

T. J. Slowie
Secretary.

[SEAL]
jc

F. C. C. FORM NO. 370
REV. MAY, 1946

UNITED STATES OF AMERICA
FEDERAL COMMUNICATIONS COMMISSION

File No. BP-FM-994
Call Letters KWFT-FM

FM BROADCAST STATION CONSTRUCTION PERMIT

Subject to the provisions of the Communications Act of 1934, subsequent Acts, and treaties, and all regulations heretofore or hereafter made thereunder, and further subject to the conditions set forth in this permit, authority is hereby granted to WICHITA BROADCASTERS, A PARTNERSHIP, JOE B. CARRIGAN, MRS. JOE B. CARRIGAN P. K. SMITH, TRUSTEE, P. K. SMITH AND MRS. CLAUDE M. SIMPSON, JR.
to construct a radio transmitter station located and described as follows:

1. Location of transmitter: State Texas County Wichita
City or Town Wichita Falls
Street and number Approx. 2.5 miles WNW at Resettlement Road.
North Latitude: Degrees 33 Minutes 55 Seconds 07
West Longitude: Degrees 98 Minutes 32 Seconds 37

2. Location of main studio: State Texas County Wichita
City or town Wichita Falls
Street and number Approx. 2.5 miles WNW at RSettlement Road.

3. Description of transmitting apparatus and antenna system:

Transmitter: RCA, Type No. BTF-3B, rated power 3 kw.
Operating power output: 3 kw.

Antenna: Western Electric, Type No. 54-A, 8-section Cloverleaf.
Horizontal field pattern: omnidirectional.
Antenna supporting structure: 364-foot steel tower also used as one element of directional antenna system for Station KWFT.
Overall height above ground: 407 feet.

Tower to be painted and lighted in accordance with attached specifications.

4. Operating assignment:
   (a) Frequency 98.1 Megacycles.
   (b) Effective radiated power 9.5 Kilowatts.
   (c) Antenna height above average terrain 370 feet.
   (d) Hours of operation - Unlimited
5. Date of required commencement of construction 5-20-47
6. Date of required completion of construction 11-20-47
7. Equipment and program tests may be conducted pursuant to Sections 3.216 and 3.217 of the Commission's rules, following the completion of construction in exact accord with this permit. The authority herein contained to conduct tests shall not be construed as a radio broadcasting station license, but only to make tests incident and necessary to proper construction of the station, and the Commission reserves the right to cancel or modify such authority.
8. This permit shall be automatically forfeited if the station is not ready for operation within the time specified or within such further time as the Commission may allow unless completion of the station is prevented by causes not under the control of the permittee.

Dated this 28th day of March, 1947

By direction of the FEDERAL COMMUNICATIONS COMMISSION,

T. J. Slowie
Secretary

(SEAL)

F. C. C. Form No. 715-7
(Spec. No. A-3-A)
(Adopted May 24, 1944)

Date March 28, 1947

FILE NO.* [illegible]

CALL LETTERS* [illegible]

OBSTRUCTION MARKING
ANTENNA TOWER(S) OR SUPPORTING STRUCTURE(S)

Red temporary warning lights (not less than two 100-watt standard obstruction lights) shall be displayed on top of this construction from sunset to sunrise when 150 feet in overall height and continue to be displayed during further construction. Moreover, the permanent obstruction lights shall be installed and placed in operation immediately (but in no event later than 10 days) after completion of construction to the height authorized by the Commission.

The tower shall be painted throughout its height with alternate bands of international orange and white, terminating with international orange bands at both top and bottom. The width of the international orange bands shall be from 30 to 40 feet. The white bands shall be approximately one-half the width of the international orange bands.

The tower shall be cleaned or repainted as often as necessary to maintain good visibility.

For night marking there shall be installed at the top of the tower a 300-m m electric code beacon of the double Fresnel-lens type, or equal, equipped with two 500-watt lamps (PS–40 clear, Code-Beacon type) and aviation red-color shades. Both lamps shall burn simultaneously. The code beacon shall be equipped with a flashing mechanism producing not more than 40 flashes per minute with a luminous period of 1 second and a period of darkness of ½ second, but not less than 20 flashes per minute with a luminous period of 2 seconds and period of darkness of 1 second.

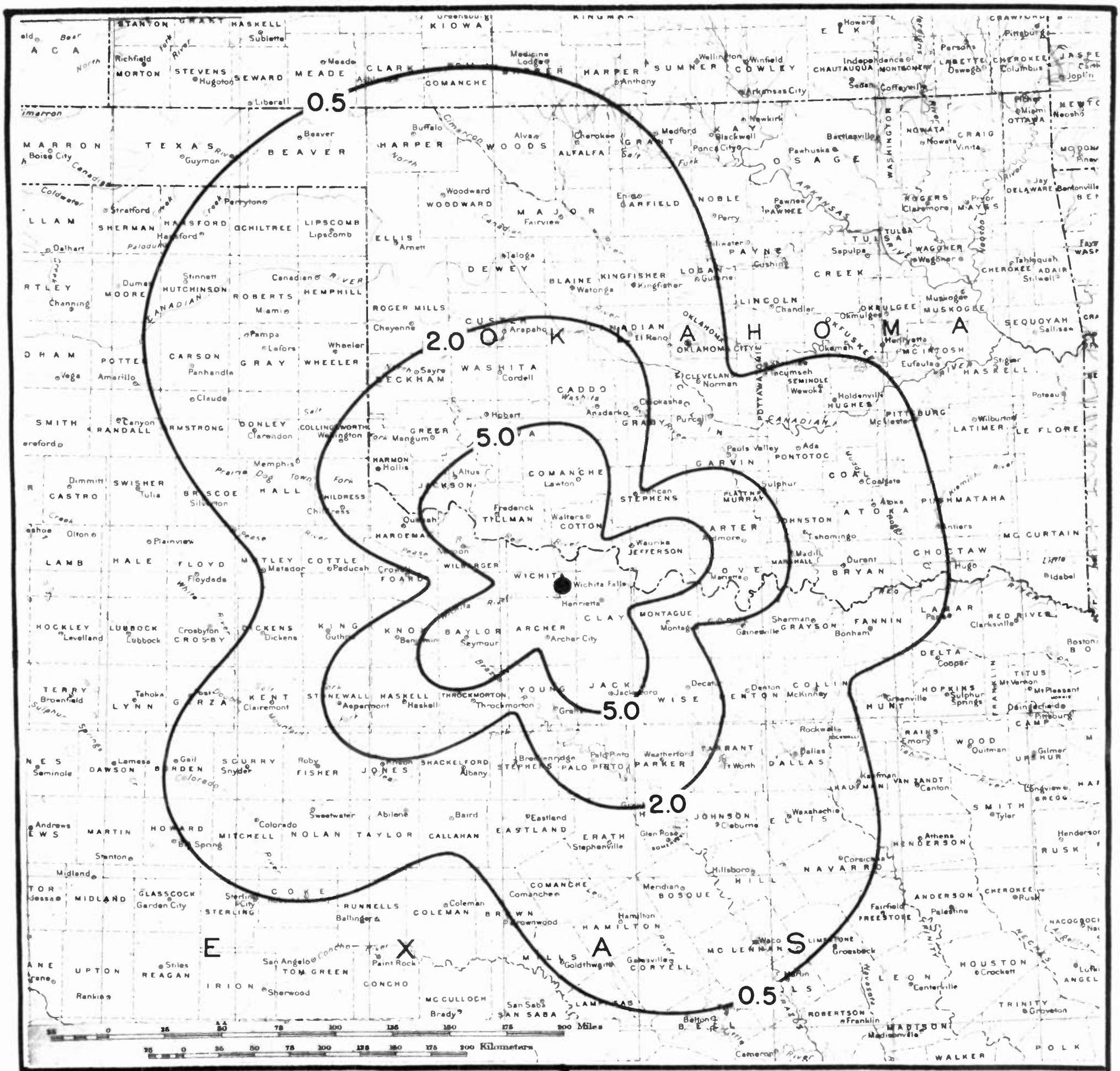
On levels at approximately two-thirds and one-third of the over-all height of the tower, there shall be installed at least two 100-watt lamps (A–21 clear, Traffic-Signal type) enclosed in aviation red Fresnel or prismatic (heat resisting preferred) obstruction light globes. Each light shall be mounted so as to insure unobstructed visibility of at least one light at each level from aircraft at any angle of approach.

All lighting shall be exhibited from sunset to sunrise.

At least 25 percent spare lamps of each type in use shall be provided for immediate replacement purposes.

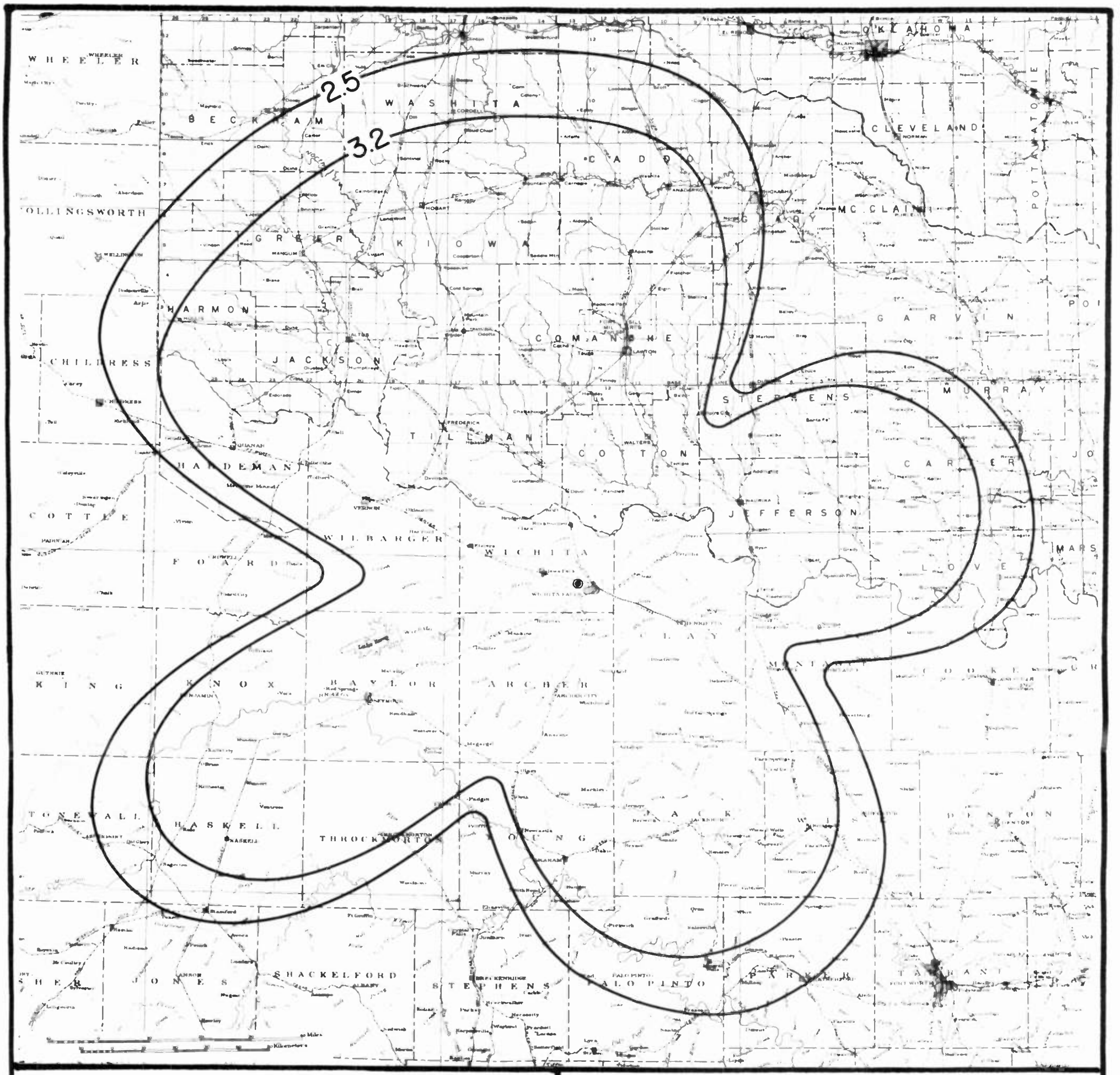
It is to be expressly understood that the issuance of the foregoing specifications is in no way to be considered as precluding additional or modified marking or lighting as may hereafter be required under the provisions of Section 303(q) of the Communications Act of 1934, as amended.

*THIS SPECIFICATION IS A PART OF AND SHALL BE ATTACHED TO THE CURRENT INSTRUMENT OF AUTHORIZATION.



WICHITA FALLS, TEXAS
AND SURROUNDING TERRITORY
A. EARL CULLUM, JR.
RADIO ENGINEERING CONSULTANT

RADIO STATION KWFT
PROPOSED OPERATION
620 KC. 5000 WATTS—DA.
EXHIBIT NUMBER 9C



WICHITA FALLS, TEXAS
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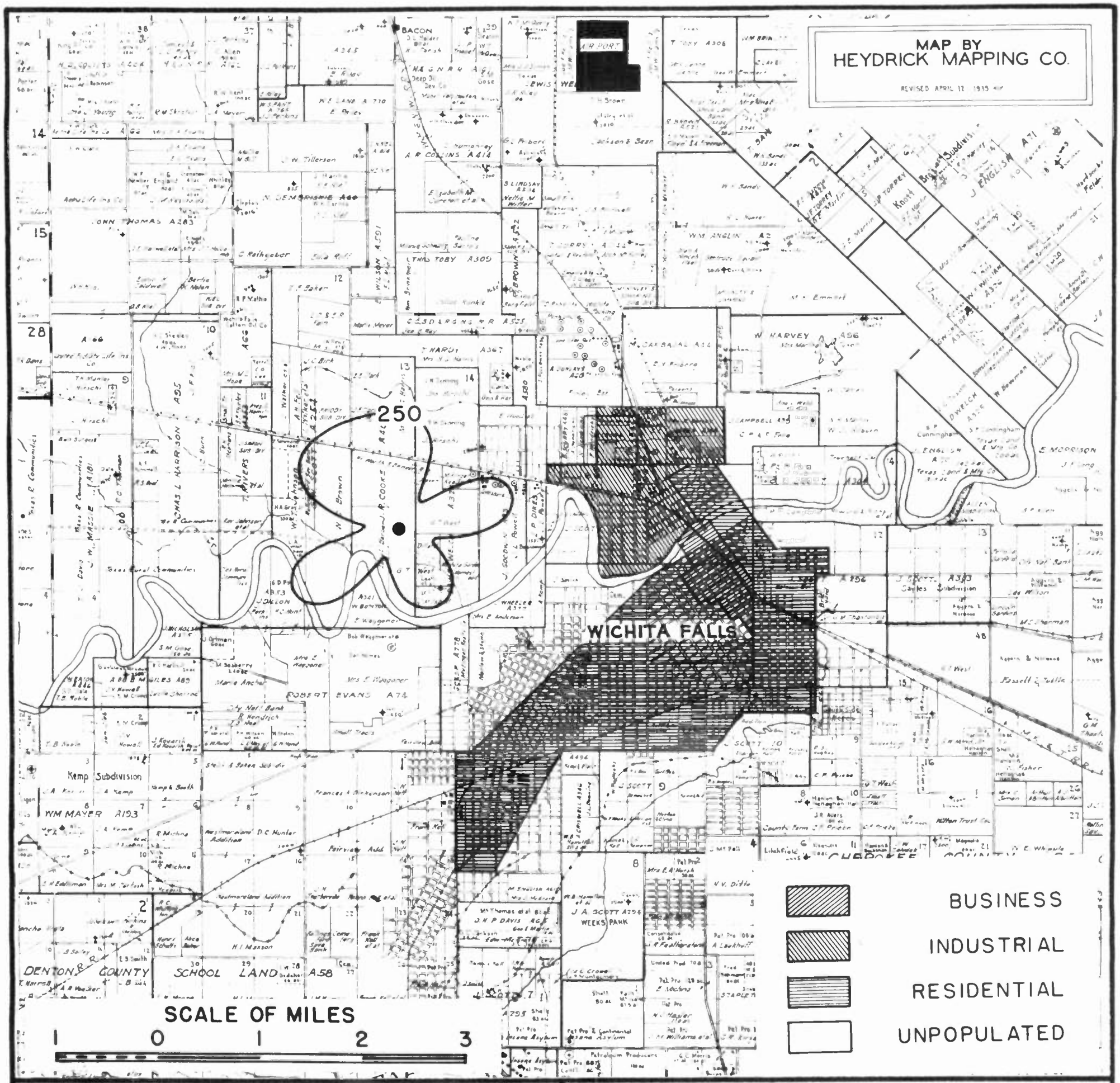
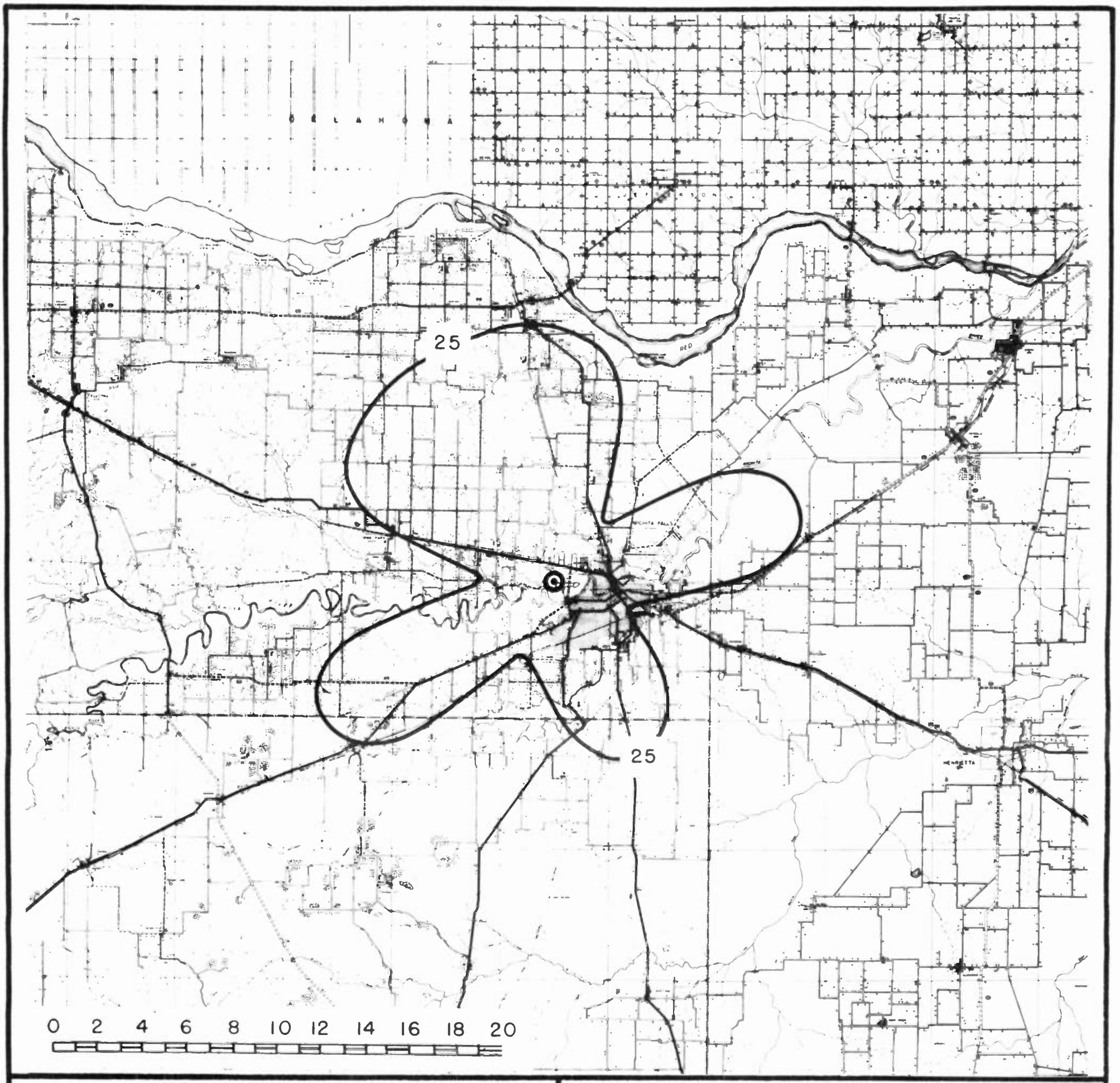
A. EARL CULLUM, JR.
RADIO ENGINEERING CONSULTANT

RADIO STATION KWFT
PROPOSED OPERATION
620 KC. 5000 WATTS—DA.
EXHIBIT NUMBER 9D



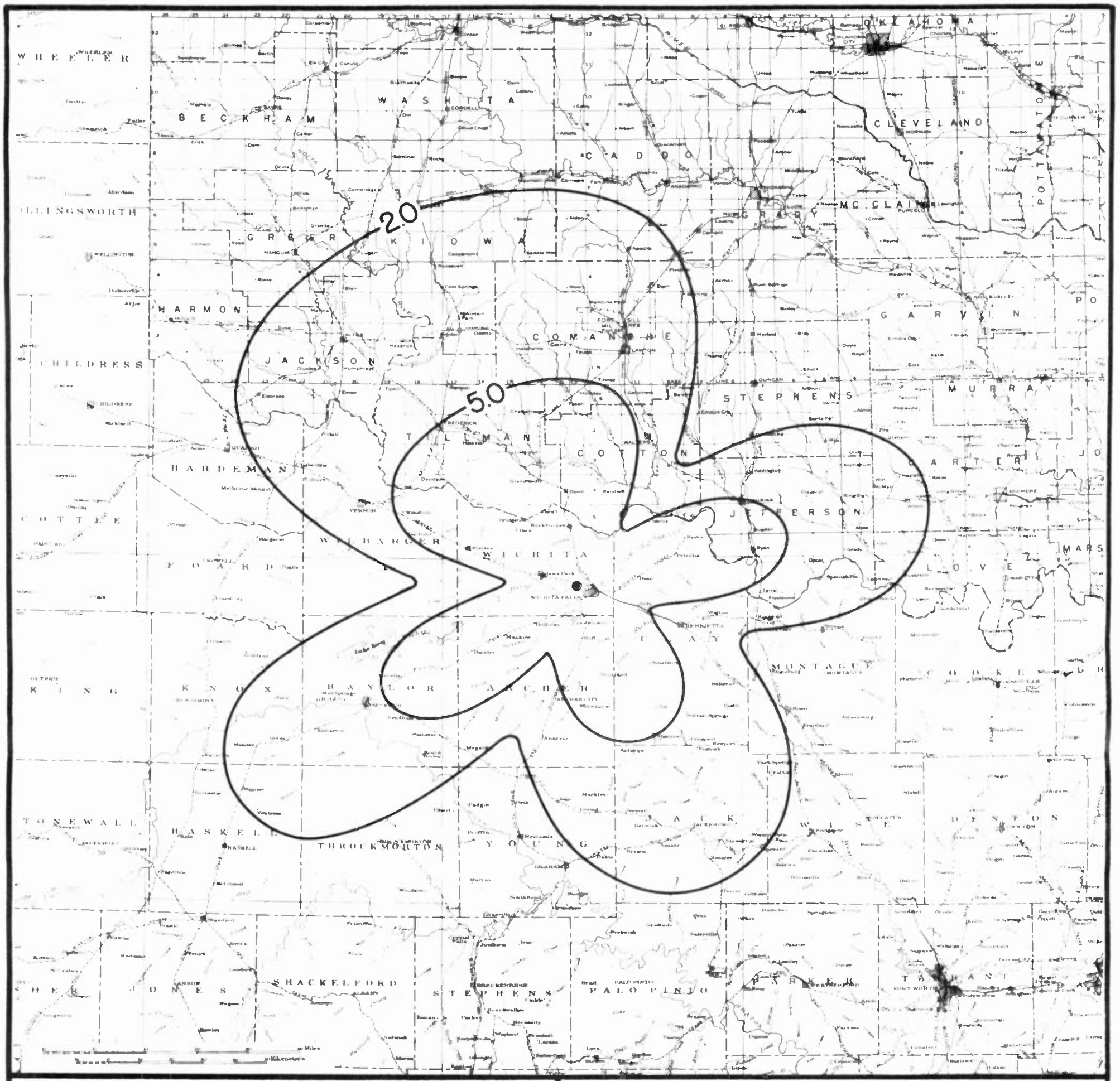
WICHITA FALLS, TEXAS
AND SURROUNDING TERRITORY
A. EARL CULLUM, JR.
RADIO ENGINEERING CONSULTANT

RADIO STATION KWFT
EXISTING OPERATION
620 KC. 1000 WATTS-DA.
EXHIBIT NUMBER 10A



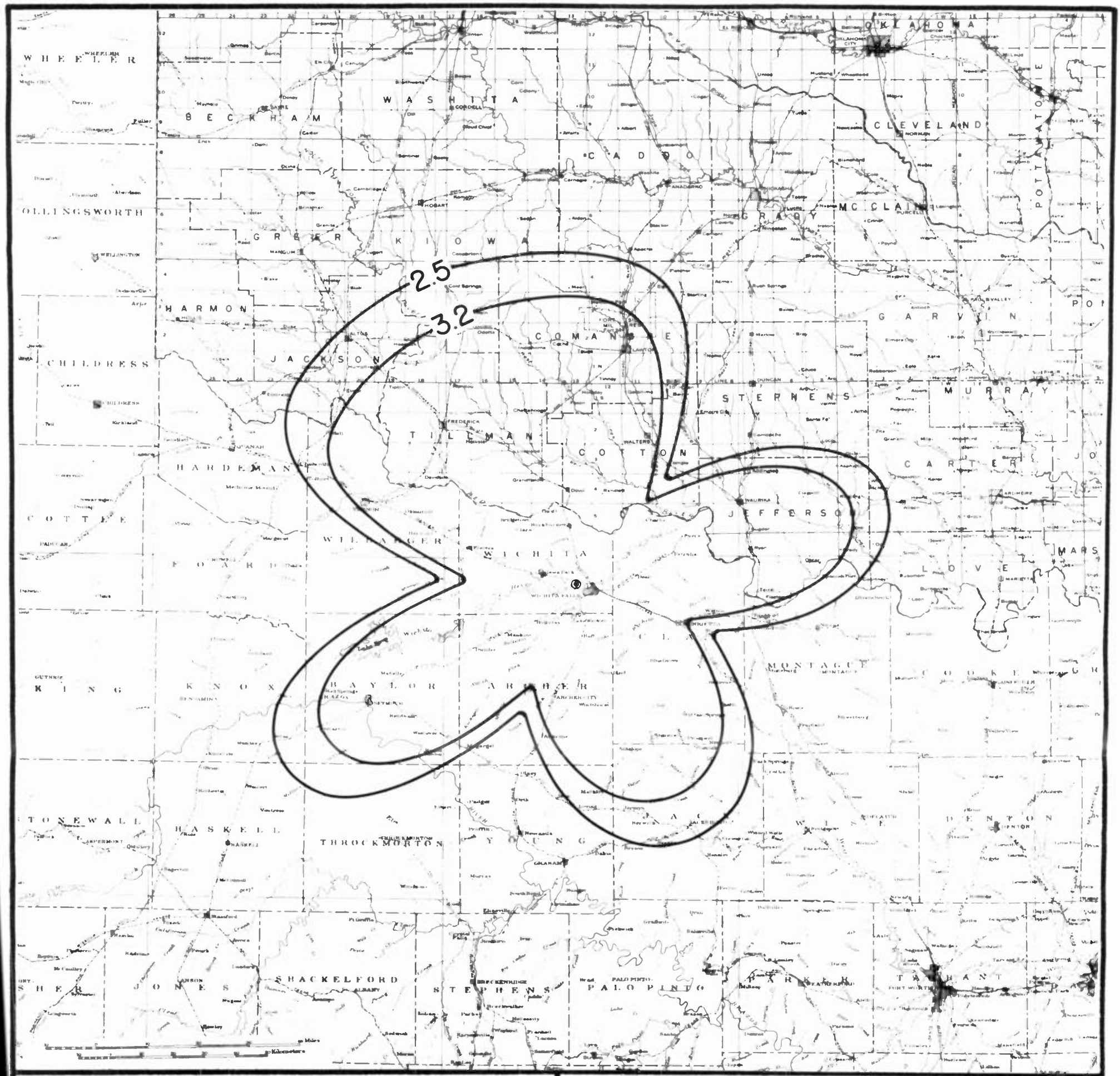
WICHITA FALLS, TEXAS
AND SURROUNDING TERRITORY
A. EARL CULLUM, JR.
RADIO ENGINEERING CONSULTANT

RADIO STATION KWFT
EXISTING OPERATION
620 KC. 1000 WATTS-DA.
EXHIBIT NUMBER 10 B



WICHITA FALLS, TEXAS
AND SURROUNDING TERRITORY
A. EARL CULLUM, JR.
RADIO ENGINEERING CONSULTANT

RADIO STATION KWFT
EXISTING OPERATION
620 KC. 1000 WATTS-DA.
EXHIBIT NUMBER 10C



WICHITA FALLS, TEXAS
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RADIO STATION KWFT
EXISTING OPERATION
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EXHIBIT NUMBER 10D