ENGINEERING EXHIBIT
IN SUPPORT OF AN
APPLICATION FOR MODIFICATION
OF CONSTRUCTION PERMIT

KZLA LOS ANGELES, CALIFORNIA
1540 kHz , 10kW/50kW-LS , DA-2

Applicant : CAPITAL CITIES COMMUNICATIONS , INC.

September 1981

CARL T. JONES ASSOCIATES
Consulting Engineers

ENGINEERING EXHIBIT
IN CONNECTION WITH
MODIFICATION OF CONSTRUCTION PERMIT
KZLA - LOS ANGELES, CALIFORNIA
1540 kHz - 10 kW/50 kW-LS - DA-2

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September, 1981

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FCC Form 301 — FEDERAL COMMUNICATIONS COMMISSION — Section V-A

STANDARD BROADCAST ENGINEERING DATA

Name of Applicant: Capital Cities Communications, Inc.

1. Indicate by check mark the purpose of this application. (The items of this Section that are applicable to, and must be answered for, each category are shown to the right of the category.)

- ☐ Construct a new station
- ☐ Change station location to a different city or town
- ☐ Change power
- ☐ Change transmitter location
- ☐ Change frequency
- ☐ Change from DA to Non-DA
- ☐ Change from Non-DA to DA
- ☒ Change in antenna system
- ☐ Change in antenna system (including increase in height by addition of FM or TV antenna)

→ All items

- ☐ Install new Auxiliary Transmitter
- ☐ Install new Alternate Main Transmitter

→ 2 thru 7, and 10

- ☐ Change transmitter (non type accepted)
- ☐ Change Main Studio Location to point outside city limits and not at transmitter site

→ 2 thru 7

- ☐ Change Hours of Operation
- ☐ Other (specify): →

→ 2 thru 7 (and appropriate other items)

If this application is not for a new station, summarize briefly the nature of the changes proposed:

Add top-loading to all towers and replace the theoretical pattern with MEOV's with an augmented standard pattern.

2. Facilities requested

Frequency	Hours of operation	Power in kilowatts Night	Day
1540 kHz	U	10	50

3. Station location

State	City or town
California	Los Angeles

4. Transmitter location

State	County
California	Los Angeles

City or town	Street Address (or other identification)
Los Angeles	4600 Carter Drive

5. Main studio location

State	County
California	Los Angeles

City or town	Street and number, if known
Los Angeles	5700 Sunset Boulevard

6. Remote control point location

State	City or town
California	Los Angeles

Street Address (or other identification): 5700 Sunset Boulevard

7. Transmitter

Make	Type No.	Rated Power
Harris	MW-50	50 kW
General Electric	BT-50	50 kW

(If the above transmitter has not been accepted for licensing by the F.C.C., attach as Exhibit No. N/A a complete showing of transmitter details. Showing should include schematic diagram and full details of frequency control. If changes are to be made in licensed transmitter include schematic diagram and give full details of change.)

8. Antenna monitor

Make	Type No.
Delta Electronics	DAM-1

9. Modulation monitor

Make	Type No.
On File - No Change	

10. Antenna system, including ground or counterpoise

Non-Directional Antenna: Day ☐ Night ☐

Directional Antenna:
- Day only (DA-D) ☐
- Night only (DA-N) ☐
- Same constants and power day and night (DA-1) ☐
- Different constants or power day and night (DA-2) ☒

(If a directional antenna is proposed submit complete engineering data. Show clearly whether directional operation is for day or night or both. If day and night patterns are different give full information on each pattern. This information is in addition to the information in Paragraph 10 and is submitted as Exhibit No. 1-105 and signed by the engineer who designed the antenna system.)

Type radiator	Height in feet of complete radiator above base insulator, or above base if grounded.
Guyed Vertical	250'

Overall height in feet above ground. (Without obstruction lighting)	Overall height in feet above mean sea level. (Without obstruction lighting)
252'	1330'

Overall height in feet above ground. (With obstruction lighting)	Overall height in feet above mean sea level. (With obstruction lighting)
255'	1333'

If antenna is either top loaded or sectionalized, describe fully as Exhibit No. 117 See Statement

Excitation: Series ☒ Shunt ☐

Geographical coordinates (to nearest second). For directional antenna give coordinates of center of array. For single vertical radiator give tower location.

North latitude	West longitude
34 04 43	118 11 05

If not fully described above, give further details and dimensions including any other antennas mounted on tower and associated isolation circuits as Exhibit No. 117 (Height figures should not include obstruction lighting.)

Submit as Exhibit No. 118 a plot of the transmitter site showing boundary lines, and roads, railroads, or other obstructions; and also layout of the ground system or counterpoise. Show number and dimensions of ground radials or if a counterpoise is used, show height and dimensions.

11. Attach as Exhibit No. On File a sufficient number of aerial photographs taken in clear weather at appropriate altitudes and angles to permit identification of all structures in the vicinity. The photographs must be marked so as to show compass directions, exact boundary lines of the proposed site, and locations of the proposed 1000 mv/m contour for both day and night operation. Photographs taken in eight different directions from an elevated position on the ground will be acceptable in lieu of the aerial photographs if the data referred to can be clearly shown.

12. Allocation Studies:

A. Attach as Exhibit No. 109-115 map or maps, having reasonable scales, showing the 1000, 25, 5, 2, normally protected and interference-free contours in mv/m for both day and night operation both existing and as proposed by the application. On the map or maps showing the 25 mV/m, 5 mV/m and interference-free contours, clearly indicate the legal boundaries of the proposed community of license and the business and residential areas therein. Submit a statement identifying the source or sources relied upon for the placement of those boundaries. (NOTE: The 2mv/m night contour need not be supplied if service is not rendered thereto.)

B. (1) For daytime operation, attach as Exhibit No. 107 an allocation study, utilizing Figure M-3 of the Rules or an accurate full scale reproduction thereof and using pertinent field strength measurement data where available, a full scale exhibit of the entire pertinent area to show the following:

(a) Normally protected, the interference-free, and the interfering contours for the proposed operation along all azimuths.

(b) Complete normally protected and interference-free contours of all other proposals and existing stations to which objectionable interference would be caused.

(c) Interfering contours over pertinent arcs of all other proposals and existing stations from which objectionable interference would be received.

(d) Normally protected and interfering contours over pertinent arcs of all other proposals and existing stations which require study to show the absence of objectionable interference.

(e) The 0.1 mv/m groundwave contour of Class I-B stations and appropriate studies to establish compliance with Section 73.187 when operation is proposed on a U. S. Class I-B channel.

(f) Plot of the transmitter location of each station or proposal requiring investigation, with identifying call letters, file numbers, and operating or proposed facilities.

(g) Properly labeled longitude and latitude degree lines, shown across entire exhibit.

(2) For daytime operation, when necessary to show more detail, attach as Exhibit No. 108 an additional allocation study, utilizing World or Sectional Aeronautical charts to clearly show interference or absence thereof.

(3) For daytime operation, attach as Exhibit No. 106 a tabulation of the following:

(a) Azimuths along which the ground wave contours were calculated for all stations or proposals shown on allocation study exhibits required by B(1).

(b) Inverse distance field strength used along each azimuth.

(c) Basis for ground conductivity utilized along azimuths specified in (3) (a). If field strength measurements are used, the measurements must be either submitted or be properly identified as to location in Commission files.

C. For nighttime operation, attach as Exhibit No. See Statement, allocation data to include the following:

(1) Proposed nighttime limitation to other existing or proposed stations with which objectionable interference would result, as well as those other proposals and existing stations which require study to clearly show absence of objectionable interference.

(2) All existing or proposed nighttime limitations which enter into the nighttime R.S.S. limitation of each of the existing or proposed facilities investigated under C (1) above.

(3) All existing and proposed limitations which contribute to the R.S.S. nighttime limitation of the proposed operation, together with those limitations which must be studied before being excluded.

(4) A detailed interference study plotted upon an appropriate scale map if a question exists with respect to nighttime interference to other existing or proposed facilities along bearings other than on a direct line toward the facility considered.

(5) Utilizing an appropriate scale map, clearly show the normally protected and interference-free contours of each of the existing and proposed stations which would receive nighttime interference from the proposed operation.

6. The detailed basis for each nighttime limitation calculated under C (1) (2) (3) and (4) above, including copy of each pertinent radiation pattern in the vertical plane and basis therefor.

13. Attach as Exhibit No. 116 tables of the areas and populations within the contours included in Paragraph 12(A) above, as well as within the normally protected and interference-free contours of each station or proposed operation to which interference would be caused according to the Commission Rules.

(NOTE: See the Standard Broadcast Technical Standards. In determining the population that would receive primary service, the field intensity levels required are those given in Section 73.182(g). The latest U. S. Census Minor Civil Division and/or subdivisions such as Enumeration Districts or Block Statistics are to be used in making population counts. The populations of places or portions thereof, within any contour, which would not receive a primary service, are to be listed. Where contours cut a division or subdivision, a uniform distribution of population within the division or subdivision is to be assumed in determining the population included in the contours, unless a more accurate count is made).

14. Attach as Exhibit No. On File - No Change map or maps having reasonable scales clearly showing the following:

(a) Proposed antenna location

(b) Heights of buildings or other structures and terrain elevations in the vicinity of the antenna, indicating the location thereof.

(c) Transmitter location and call letters of all radio stations (except amateur) and the location of established commercial and government receiving stations within 2 miles of the proposed transmitter location. Call letters and locations of broadcast stations, including FM and television, within 5 miles must be shown.

(d) Terrain

15. If this application is for modification of construction permit state briefly as Exhibit No. See Statement the present status of construction and indicate when it is expected that construction will be completed.

16. Environmental statement. See Part 1, Subpart I of the rules.

Would a Commission grant of your application be a major action as defined by Section 1.1305 of the Commission's rules?

YES [ ] If yes, submit as Exhibit No. the required statement in accordance with Section 1.311 of the rules.

NO [X] If no, explain briefly. The site is an existing facility.

I certify that I represent the applicant in the capacity indicated below and that I have examined the foregoing statement of technical information and that it is true to the best of my knowledge and belief.

Date September 29, 1981

Signature Wilhelm G Ball
(check appropriate box below)

Address 7901 Yarnwood Court
(Include ZIP Code)

Springfield, Virginia 22153-2899

Telephone No. (703) 569-7704
(Include area code)

[ ] Technical Director

[X] Registered Professional Engineer

[ ] Chief Operator

[ ] Consultant

[ ] Other (Specify)

Broadcast Application | FEDERAL COMMUNICATIONS COMMISSION | Section V-G (Antenna)

ANTENNA AND SITE INFORMATION *(See Instructions B, Section 1)*

NAME OF APPLICANT: Capital Cities Communications, Inc.

CALL SIGN: KZLA

CLASS OF STATION: II

STATION LOCATION: Los Angeles, California

FACILITIES REQUESTED: 1540 kHz - 10 kW/50 kW-LS - DA-2

PURPOSE OF APPLICATION *(Put "X" in appropriate box)*

- [ ] a. New antenna construction
- [X] b. Alteration of existing antenna structure
- [ ] c. Change in location

LEGAL COUNSEL: Joel Rosenbloom, Esq.

ADDRESS: 1666 K St., Washington, DC 20006

CONSULTING ENGINEER: Carl T. Jones Associates

ADDRESS: 7901 Yarnwood Ct., Springfield, VA 22153-2899

3. Has the FAA been notified of proposed construction?

- [ ] YES If yes, give date and office where notice was filed.
- [X] NO

1. LOCATION OF ANTENNA

STATE	COUNTY	CITY OR TOWN
California	Los Angeles	Los Angeles

Exact antenna location *(street address)*. If outside city limits, give name of nearest town and distance and direction of antenna from the town.

4600 Carter Drive
Los Angeles, California

Geographical coordinates (to nearest second).
For directional antenna give coordinates of center of array.
For single vertical radiator give tower location.

North latitude ° ' "	West longitude ° ' "
34 04 43	118 11 05

2. Is the proposed site the same or immediately adjoining the transmitter-antenna site of other stations authorized by the Commission or specified in another application pending before the Commission?

- [ ] YES [X] NO If yes, give call sign: _____

4. FEATURES OF SURROUNDING TERRAIN

Submit as Exhibit No. 124 a chart on which is plotted the exact location of the antenna site, and also the relative location and height of any natural formation or existing man-made structures (trees, water tanks, towers, buildings, etc.) which, in the opinion of the applicant, would tend to shield the antenna from aircraft. The chart used shall be a 7.5 or 15 minute series topographic quadrangle (choice depending upon proximity of the antenna site to landing areas) or photo copy. On the chart include 1) a scale of miles, 2) sufficient latitude and longitude lines, clearly labeled, so that the location of sites may be verified, and 3) the name of the map from which the exhibit is reproduced. These charts may be purchased from the U.S. Geological Survey, Washington, D.C. 20242 or, for areas west of the Mississippi River, from the U.S. Geological Survey, Denver, Colorado 80225.

(Exception - Where the proposed antenna site is within the boundary of landing area, submit a self-made, large scale map showing antenna site runways and existing man-made structures).

5. List all landing areas within 10 miles of antenna site. Give distance and direction to the nearest boundary of each landing area from the antenna site.

	Landing Area	Distance	Direction
(a)	El Monte	8.2 miles	5 degrees
(b)	Shepard (Pvt.)	8.3 miles	110 degrees
(c)			

6. Description of antenna system (If directional, give spacing and orientation of towers).
3 250 foot (141 degrees) top loaded radiators spaced 90 degrees (159.9') apart on a bearing of 255 degrees True.

Type

Description of tower(s): Guyed, Vertical, Uniform, Cross-section

Self-supporting / Guyed / Tubular (Pole)	#1	#2	#3	#4	#5	#6
Tower (height figures should include obstruction lighting)						
Height of radiating elements	250'	250'	250'			
Overall height above ground	255'	255'	255'			
Overall height above mean sea level	1033'	1033'	1033'			

7. If a combination of Standard, FM, or TV operation is proposed on the same multi-element array (either existing or proposed) submit as Exhibit No. N/A a horizontal plan for the proposed antenna system, giving heights of the elements above ground and showing their orientation and spacing in feet. Clearly indicate if any towers are existing.

8. Submit as Exhibit No. 117 a vertical plan sketch for the proposed total structure (including supporting building if any) giving heights above ground in feet for all significant features. Clearly indicate existing portions, noting lighting, and distinguish between the skeletal or other main supporting structure and the antenna elements.

I certify that I represent the applicant in the capacity indicated below and that I have examined the foregoing statement of technical information and that it is true to the best of my knowledge and belief.

September 29, 1981 *(date)* Signature: William G Ball *(check appropriate box below)*

- [ ] Technical Director
- [ ] Chief Operator
- [X] Registered Professional Engineer
- [ ] Consultant

CARL T. JONES ASSOCIATES
CONSULTING ENGINEERS
7901 YARNWOOD COURT
SPRINGFIELD, VIRGINIA 22153
(703) 569-7704

ENGINEERING STATEMENT OF WILLIAM G. BALL AND C. THOMAS JONES
IN CONNECTION WITH
MODIFICATION OF CONSTRUCTION PERMIT
KZLA - LOS ANGELES, CALIFORNIA
1540 kHz - 10 kW/50 kW-LS - DA-2

GENERAL

Capital Cities Communications, Inc., licensee of KZLA, has authorized this firm to prepare this engineering exhibit in support of its application for modification of construction permit to request permanent authority for the antenna system changes described below and to specify new standard radiation patterns for day and night operation to supersede the presently authorized theoretical pattern and MEOV's.

KZLA is a Class II standard broadcast station operating on 1540 kHz with a daytime power of 50 kW and a nighttime power of 10 kW using directional antenna systems day and night (DA-2). KZLA has been granted a construction permit (BP-20,262) which authorizes changes in the nighttime maximum expected operating values (MEOV's) to provide sufficient adjustment latitude to compensate for distortion in radiation pattern nulls that have been present since the original construction of the station.

Prior to readjustment in compliance with the newly authorized values and proofs-of-performance on the day and night arrays, Capital Cities Communications, Inc. initiated a program to completely refurbish the entire antenna system. Rebuilding included:

- Installation of new phasing and antenna impedance matching equipment
- Installation of new transmission lines
- Repair and replacement of antenna ground system as required
- Installation of 50' x 50' ground screens at the bases of the towers
- Installation of new housings for antenna impedance matching equipment

. Installation of a new sampling system which is in compliance with Section 73.68 of the Commission's Rules

Refurbishment of the ground system caused substantial changes in the mutual impedance of the antennas which, in turn, resulted in very high base operating impedances and extremely high antenna base voltages in the 50 kW daytime mode of operation. The high voltages (on the order of 60,000 volts at the base of the center tower) caused component failures and corona discharges making operation with the authorized daytime system impossible. Evaluation of the situation led to adoption of antenna top-loading as the solution to the high voltage problems. Special temporary authority was granted by the Commission for the purpose, and top-loading elements were added to each antenna. By increasing the electrical height, and thereby reducing base impedances, voltages at the bases of the antennas were reduced to manageable values. The top-loading procedure proved to be successful and the antenna systems were adjusted within tolerances specified in the station's current FCC authorization. A complete proof-of-performance was conducted for the day and night operations.

PROPOSED RADIATION PATTERNS

The proposed KZLA standard radiation patterns were calculated in accordance with Section 73.150 of the Rules, and the nighttime pattern was modified, utilizing the method described in Section 73.152, to accommodate the increased MEOV's authorized in BP-20,262.

Figure 1 is a description sheet for the proposed antenna system, and Figure 2 is a tabulation of augmentation data for the modified nighttime standard pattern. Figure 3 is the equation used in calculating the patterns, and Figures 4 and 5 are sample calculations for the day and night patterns respectively. Figures 6 and 7 are the tabulated fields and polar diagram for the daytime standard pattern, and Figures 8 and 9 are corresponding exhibits pertaining to the night pattern. Figures 10 through 33 are tabulations and diagrams of the nighttime pattern calculated at intervals of 5 degrees from 5 degrees to 60 degrees above the horizontal. Vertical slices comparing present and proposed nighttime patterns were prepared at azimuth intervals of 5 degrees completely around the compass and are shown in Figures 34 through 105. It should be noted that, with the exception of a deminimus area at azimuth 60 degrees and at a vertical angle in excess of 30 degrees above the horizon (see Figure 46), present radiation values exceed proposed values. For this reason, a detailed nighttime allocation study is not being submitted.

DAYTIME ALLOCATION STUDY

A complete allocation study was performed for the proposed KZLA day operation and it was determined that no new interference will be caused to any other authorized or proposed operation. Figure 106 is a tabulation of stations considered in the daytime allocation study and includes inverse distance fields and ground conductivities used in the study. Figure 107 is a map showing the daytime allocation study, and Figure 108 is a more detailed study demonstrating that there is no 2 and 25 mV/m overlap with station KACY as a result of the top loading.

COVERAGE CONTOURS

Coverage contours were based on measured ground conductivity data submitted to the Commission in the KZLA proof-of-performance dated June 9, 1981 and upon additional measurements which are being submitted as part of this application. Measured data were applied over the arcs of plus and minus 10 degrees from the azimuth of the measurement radial and over the full distance to which measurements were made. Beyond the extent of the measurement data, conductivities were established from Figure M-3 of the Commission's Rules.

Inverse distance fields from the currently authorized patterns were utilized in computing present coverage and fields from the proposed standard daytime pattern and the proposed modified standard nighttime pattern were used in calculating proposed contours. Present and proposed daytime contours are shown in Figures 109 through 112, and present and proposed night coverage is shown in Figures 113 through 115. Figure 116 is a tabulation of present and proposed populations and areas.

ANTENNA SYSTEM

The authorized KZLA antenna system consists of three, in-line antennas oriented at an azimuth of 75 degrees and spaced 90 degrees (160') apart. The easternmost tower is designated No. 1, the center tower is No. 2, and the western tower is No. 3. Under special temporary authority, the uppermost guy wires were bonded to the tower and were insulated at appropriate distances from the top, producing an additional electrical height of 11.26 degrees in Towers No. 1 and No. 3, and 22.51 degrees in Tower No. 2. The effective electrical height of Tower 1 and 3 thus became 152.26 degrees and for Tower 2, 163.51 degrees. Figure 117

is a vertical sketch representative of the antennas. Figure 118 is a sketch showing property boundaries, ground system perimeter, and tower layout.

FIELD INTENSITY MEASUREMENTS

Field intensity measurements submitted in this application were made on radials at 273 degrees and 285 degrees true for the purpose of accurately establishing KZLA proposed contours in the coastal region northwest of Los Angeles. The 273 degree radial is new and is submitted in its entirety. Figure 119 is a tabulation of measurement points, and Figure 120 is an analysis graph of the 273 degree measurements. New measurements on the 285 degree radial constitute an extension of the 285 degree radial submitted in the June 9, 1981 proof-of-performance. The March and June, 1981 measurements on the KZLA 285 degree radial were made by Mr. John Harvey Rees, an engineer employed by this firm, with a Potomac Instruments FIM-21 field intensity meter, Serial No. 452. This meter was last calibrated on May 15, 1980. The June, 1981 measurements on the KZLA 273 degree radial were made by Mr. Chuck Saintclair, an engineer employed by KZLA, under instruction from this office. Mr. Saintclair used an FIM-41 field intensity meter, Serial No. 202 which was last calibrated on June 17, 1979. Both field intensity meters were compared with each other at various levels of signal intensity and were found to agree within the manufacturer's specifications. Complete data including the proof-of-performance measurements were tabulated in Figure 121 and shown on the analysis graph in Figure 122. Location of new measurement points on both radials are shown in Figure 123.

AERONAUTICAL CONSIDERATIONS

No changes in location or height of the KZLA antennas have been proposed and none were effected in the refurbishment of the antenna system. Under these circumstances, submission of FCC Form 301, Section V-G and FAA notification are not required. However, review of the KZLA files pertaining to ground elevation and tower heights discloses that there may be some discrepancies, and Section V-G is being submitted for clarification of the record. The overall height above mean sea level shown in Figure 117 concurs exactly with the height for KZLA shown on the current Los Angeles Sectional Aeronautics Chart. (See Figure 124).

STATUS OF CONSTRUCTION

All work in connection with the KZLA construction permit (BP-20,262) has been completed and an application for license has been filed with the Commission.

DATED: September 29, 1981

William G. Ball

C. Thomas Jones

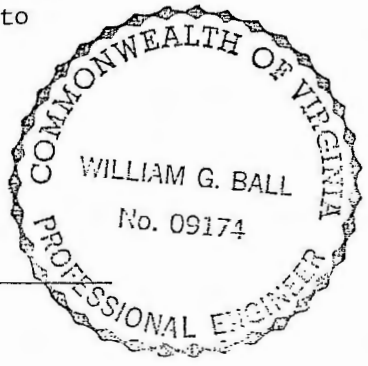
COMMONWEALTH OF VIRGINIA)
) SS
COUNTY OF FAIRFAX)

I, William G. Ball being first duly sworn, upon oath depose and say that the facts contained in the foregoing statement by me subscribed are true of my own personal knowledge except for those facts pertaining to matters of which official notice may be taken or appearing in recognized reliable sources for such facts, and these facts I verily believe to be true.

I am a Consulting Radio Engineer, an employee in the firm of Carl T. Jones Associates, with offices located in Springfield, Virginia.

My education and experience are a matter of record with the Federal Communications Commission. I am a Registered Professional Engineer in the Commonwealth of Virginia, Registration No. 9174; and in the State of Ohio, Registration No. 44778.

This firm has been retained by Capital Cities Communications, Inc. to prepare this engineering exhibit. I have either prepared or directly supervised the preparation of technical information contained in this report and the facts stated in this engineering exhibit are true of my knowledge except as to such statements as are herein stated to be on information and belief; as to such statements, I believe them to be true.



William G Ball
William G. Ball

Subscribed and sworn to before me this 29th day of September, 1981.

Mary L. Foust
Notary Public

My Commission Expires: June 24, 1985

COMMONWEALTH OF VIRGINIA)
) SS
COUNTY OF FAIRFAX)

I, C. Thomas Jones being first duly sworn, upon oath depose and say that the facts contained in the foregoing statement by me subscribed are true of my own personal knowledge except for those facts pertaining to matters of which official notice may be taken or appearing in recognized reliable sources for such facts, and these facts I verily believe to be true.

I am a Graduate Radio Engineer, an employee in the firm of Carl T. Jones Associates, with offices located in Springfield, Virginia.

My education and experience are a matter of record with the Federal Communications Commission.

This firm has been retained by Capital Cities Communications, Inc. to prepare this engineering exhibit. I have either prepared or directly supervised the preparation of technical information contained in this report and the facts stated in this engineering exhibit are true of my knowledge except as to such statements as are herein stated to be on information or belief; as to such statements, I believe them to be true.

C. Thomas Jones

C. Thomas Jones

Subscribed and sworn to before me this 29th day of September, 1981.

Mary L. Jones

Notary Public

My Commission Expires: June 24, 1985

FIGURE 1

ANTENNA SYSTEM SPECIFICATIONS
KZLA - LOS ANGELES, CALIFORNIA
1540 kHz - 10 kW/50 kW-LS - DA-2

Geographic Coordinates: North Latitude: 34° 04' 43"
West Longitude: 118° 11' 05"

Number of Radiating Elements: Day - Three
Night - Three

Power: Day - 50 kW
Night - 10 kW

Type Elements: Self supporting, uniform cross section, series fed with top-loading. Radiators are 250' above insulation.

Spacing and Orientation of Elements: Tower No. 2 is spaced 159.9 feet (90°) from Tower No. 1 and oriented at 225 degrees True. Tower No. 3 is spaced 319.8 feet (180°) from Tower No. 1 and is oriented at 255 degrees True.

Top Loading: Tower No. 1 and 3 are top loaded 11.26 degrees and Tower No. 2 is top loaded 22.51 degrees by the top guy wires.

Parameters:	#1	#2	#3
Day Field Ratio	0.492	1.161	0.497
Day Phase Angle	129.78	-17.4	-129.78
Night Field Ratio	0.49	1.00	0.49
Night Phase Angle	105.0	0.0	-105.0

Daytime RMS: 1607.62 mV/m (227.35 mV/m/kW)

Nighttime RMS: 707.55 mV/m, controlled 650 mV/m (205.55 mV/m/kW)

Ground System: Each tower is centered on a 50' x 50' ground screen bordered by a 4" copper strap. 120 radials, each 200 feet long, are equally spaced around each tower. In addition radials are shorted and bonded to a transverse copper strap midway between towers. The radials are not shortened where they extend beyond the property since an easement has been obtained.

William G. Ball

FIGURE 2

TABULATION OF AUGMENTATION DATA
KZLA - Los Angeles, California
1540 kHz - 10 kW/50 kW - DA-2

CENTRAL AZIMUTH	$\sqrt{A}$	SPAN	E (MAX)
0.0	50.820	10.0	235.62
5.0	59.768	20.0	184.80
20.0	16.100	30.0	63.98
30.0	21.000	40.0	36.90
40.0	10.700	20.0	25.51
45.0	17.200	20.0	29.11
50.0	16.000	10.0	29.85
55.0	17.700	10.0	23.10
60.0	18.300	10.0	36.19
65.0	29.900	10.0	45.42
70.0	49.000	10.0	60.95
75.0	79.900	20.0	88.05
85.0	66.220	20.0	74.53
95.0	34.510	10.0	44.42
100.0	-15.900	10.0	19.55
105.0	113.700	80.0	116.10
110.0	-18.500	30.0	105.97
120.0	52.200	30.0	74.42
125.0	36.750	10.0	61.69
130.0	44.000	10.0	75.96
135.0	-59.500	60.0	68.23
160.0	81.300	110.0	371.17
255.0	353.200	220.0	1189.99
310.0	134.000	60.0	934.77
345.0	-97.130	20.0	425.13
350.0	-26.950	10.0	361.16
355.0	71.000	10.0	301.42

FIGURE 3

PATTERN EQUATION

The standard pattern is based on the theoretical radiation pattern which is mathematically calculated as follows:

$$E(\phi,\theta)_{th} = k \sum_{i=1}^{n} F_i \, f_i(\theta) \, \angle S_i \cos\theta \cos(\phi i - \phi) + \psi_i$$

K = Multiplying constant which determines pattern size.

n = Number of towers in the array.

i = The i^{th} element in the array.

F_i = Field ratio of the i^{th} tower in the array.

θ = Vertical elevation angle from the horizontal plane.

$f_i(\theta)$ = Vertical plane radiation characteristic of the i^{th} tower.

(a) For a non-top loaded tower $f(\theta)$ is given by

$$f(\theta) = \frac{\cos(F \sin\theta) - G}{(1 - \cos G)\cos\theta}$$

where the electrical height of the radiator

(b) for a top-loaded tower $f(\theta)$ is given by

$$F(\theta) = \frac{\cos B \cos(A \sin\theta) - \sin\theta \sin B \sin(A \sin\theta) - \cos(A+B)}{\cos\theta(\cos B - \cos(A+B))}$$

Where A is the physical height of the tower in electrical degrees B is the difference, in electrical degrees, between the apparent height and the actual physcial height.

$G = A+B$

S_i = Electrical spacing of the i^{th} tower from the reference point.

ϕ_i = Orientation of the i^{th} tower from true north.

ϕ = Azimuth with respect to true north.

ψ_i = Electrical phase angle of the current in the i^{th} tower.

The standard pattern is constructed as follows:

$$E(\phi,\theta)_{std} = 1.05 \{E(\phi,\theta)_{th}\}^2 + Q^2$$

$E(\phi,\theta)_{std}$ = Inverse field at one mile.

Q is the greater of the following quanties:

a. $.025\, g(\theta) \cdot E_{rss}$ or

b. $g(\theta)\ P_{kw}$

If the shortest tower is less than or equal to 0.5 wavelength, then, $g(\theta) = f(\theta)$. If the shortest tower is greater in height than 0.5 wave length, then,

$$g(\theta) = \frac{\sqrt{\{f(\theta)\}^2 + 0.0625}}{1.030776}$$

P_{kw} = Power In kW. If P_{kw} is less than 1 kW then

P_{kw} = 1 kW

$$E_{rss} = k\sqrt{\sum_{i=1}^{m} F_i^2}$$

The augmented pattern is given by

$$E(\phi,\theta)aug = \{E(\phi,\theta)_{std}\}^2 + A\ G(\theta)\ \cos\ (180\ \frac{D_A}{S}\}^2$$

A = Augmentation (may be negative) at the central azimuth of augmentation.

S = Angular span on range.

D_A = Absolute horizontal angle between the azimuth at which the augmented pattern value is to be computer and the central azimuth of augmentation (D_A cannot exceed 1/2 S).

Where spans overlap the above formula for $E(\phi,\theta)aug$ is applied once for each augmentation in ascending order of central azimuth of augmentation.

FIGURE 4

SAMPLE CALCULATION
FOR DAYTIME PATTERN

For $\phi = 0°$ and $\theta = 0°$

The towers are top loaded as follows:

$A_1 = 141°$; $B_1 = 11.26°$; $G_1 = 152.26°$
$A_2 = 141°$; $B_2 = 22.51°$; $G_2 = 163.51°$
$A_3 = 141°$; $B_3 = 11.26°$; $G_3 = 152.26°$

@ $\theta = 0$, *All* $f(\theta) = 1$ *and* $\cos(\theta) = 1$

$K = 1466.09$
$RSS = 1987.04$

$F_1 \times f_i(1) \angle S_1 \times \cos\theta \times \cos(\phi_1 - \phi) + \psi_1 =$

$.424 \times 1 \angle 90° \times \cos(75°-0°) + 146.92° =$

$.492 \angle 170.214°$

$F_2 \times f_i(2) \angle S_2 \times \cos\theta \times \cos(\phi_2 - \phi) + \psi_2 =$

$1.161 \times 1 \angle 0° \times 1 \times \cos(0°-0°) + 0° = 1 \angle 0°$

$F_3 \times f_i(3) \angle S_3 \times \cos\theta \times \cos(\phi_3 - \phi) + \psi_2 =$

$.497 \times 1 \angle 90° \times 1 \times \cos(255°-0°) + (-112.64) =$

$.497 \angle -135.934°$

$$E(\phi,\theta)_{th} = 1466.09 \times (.492e^{j170.214} + 1.161e^{j0} + .497e^{-j135.934})$$
$$= 1466.09 \times .4129 = 605.285$$

Q = the greater of the two quantities

$6 \times \sqrt{PW(kW)} = 6 \times \sqrt{50} = 42.4264$

or

$.025 \times RSS = .025 \times 1987.04 = 49.676$

Therefore $Q = 49.676$

$$E(\phi,\theta)_{std} = 1.05 \times (605.285^2 + 49.676^2)^{1/2} =$$

$$= 1.05 \times (607.32)$$

$$= 637.7 \text{ mV/m}$$

FIGURE 5

SAMPLE CALCULATION
FOR NIGHTTIME PATTERN

For $\phi = 0°$ and $\theta = 5°$

Towers are top loaded as follows:

$A_1 = 141°$; $B_1 = 11.26°$; $G_1 = 152.26°$
$A_2 = 141°$; $B_2 = 22.51°$; $G_2 = 163.51°$
$A_3 = 141°$; $B_3 = 11.26°$; $G_3 = 152.26°$

@ $\theta = 5°$

$$f\theta_{1\&3} = \frac{\cos(11.26) \times \cos[141\sin(5)] - \sin(5) \times \sin(11.26) \times \sin[141\sin(5)] - \cos(152.26)}{\cos(5) \times [\cos(11.26) - \cos(152.26)]}$$

$$f\theta_{1\&3} = \frac{.958 - .004 - (-.885)}{1.859} = .990$$

$$f\theta_{2} = \frac{\cos(22.51) \times \cos[141\sin(5)] - \sin(5) \times \sin(22.51) \times \sin[141\sin(5)] - \cos(163.51)}{\cos(5) \times [\cos(22.51) - \cos(163.51)]}$$

$$f\theta_{2} = \frac{.903 - .007 - (-.959)}{1.876} = \frac{1.854}{1.876} = .989$$

$K = 555.883$
$RSS = 676.307$

$F_1 \times f_1 / S_1 \cos(\theta) \times \cos(\phi_1 - \phi) + \psi_1 =$

$.49 \times .990 \ /0 \times \cos 5 \times \cos(0-0) + 105 = .431 \ /105$

$F_2 \times f_2(\theta) \ /S_2 \cos(\theta) \times \cos(\phi_2 - \phi) + \psi_2$

$1 \times .989 \ /90 \cos(5) \times \cos(255-0) + 0 = .989 \ /-23.205$

$F_3 \times f_3(\theta) \ /S_3 \cos(\theta) \times \cos(\phi - \phi) =$

$.49 \times .990 \ /180 \cos 5 \times \cos(255-0) - 105 = .431 \ /-151.41$

$$E(\phi,\theta)_{th} = 555.883 \times (.431e^{j105} + .989e^{-j23.205} + .431e^{-j151.41})$$

$$E_{(th)} = 555.883 \times .389 = 216.212$$

STD Pat

$Q = 18.9737$
$f(\theta)_{sha} = .99$ *(sha = short antenna)*

$$E_{std} = 1.05\sqrt{(216.2)^2 + (.99 \times 58.9737)^2}$$
$$= 1.05 \times 217.027 = 227.878$$

The following augmentations apply:

A_2	E_{std}	Span	E_{max}
0°	230.074	10	235.62
5°	174.868	20	184.80
255°	1136.370	220	1189.99

The first "A" is calculated as follows:

$A = E(\phi,0)^2 aug - E(\phi^1,0)^2 std$

@ 0° $E(\phi,2)aug = 235.62$
$E(\phi,0)std = 230.074$

$A_0 = 235.62^2 - 230.074^2 = 2582.739$

@ 5°

$A_5 = 184.80^2 - 174.868^2 = 3572.223$

@ 255°

$A_{255} = 1189.99^2 - 1136.37^2 = 124750.24$

Applying Multiple Augmentations

$$E(\phi,\theta)aug = \sqrt{E(\phi,\theta)^2 std + A[g(\theta) \times \cos(180 \times \frac{DA}{S})]^2}$$

Since the towers are less than 180 degrees tall:

$g(\theta) = f(\theta)$

a $\theta = 5°$, $g(\theta) = .990$

$$DA = ABS\ (\phi aug - \phi) = 0° - 0°$$

$$E(\phi,\theta)aug = [227.878^2 + 2582.739 \times (.99 \times \cos(180° \times \frac{0°}{10°}))^2]^{1/2}$$

$$E(\phi,\theta)aug = [227.878^2 + 2582.739 \times (.99 \times \cos(0))^2]^{1/2}$$

$$E(\phi,\theta)aug = 233.3661$$

Applying the next augmentation:

$$DA = ABS\ (\phi aug - \phi) = ABS(5-0) = 5$$

$$E(\phi,\theta)aug = [233.3661^2 + 3572.223 \times (.99 \cos(\frac{180° \times 5°}{20°}))]^{2\ 1/2}$$

$$E(\phi,\theta)aug = [233.3661^2 + 3572.223 \times (.99 \cos(180° \times .25))]^{2\ 1/2}$$

$$E(\phi,\theta)aug = [233.3661^2 + 3572.223 \times (.99 \cos(45°))^2]^{1/2}$$

$$E(\phi,\theta)aug = (233.3661^2 + 1750.5679)^{1/2}$$

$$= 237.0871$$

And the last augmentation:

$$DA = ABS(255°-0°) = ABS(255°-0°+360°) = 105.00$$

$$E(\phi,\theta)aug = [237.0871^2 + 124750.24 \times (.99 \times \cos(180° \times \frac{105°}{220°}))^2]^{1/2}$$

$$= [237.0871^2 + 124750.24 \times (.99 \times \cos(85.91°))^2]^{1/2}$$

$$= (237.0871^2 + 622.25)^{1/2}$$

$$= 238.3\ mV/m$$

FIGURE 6

DAYTIME HORIZONTAL FIELDS
KZLA - LOS ANGELES, CALIFORNIA
1540 kHz - 10 kW/50 kW - LS - DA-2

AZIMUTH (DEGREES)	E THEO. (MV/M)	E STD. (MV/M)	AZIMUTH (DEGREES)	E THEO. (MV/M)	E STD. (MV/M)
0	605.3	637.7	180	1317.2	1384.1
5	566.9	597.5	185	1489.3	1564.7
10	545.1	574.7	190	1662.2	1746.1
15	534.6	563.8	195	1830.5	1922.8
20	532.0	561.1	200	1990.1	2090.3
25	535.6	564.8	205	2137.5	2245.0
30	545.1	574.7	210	2270.5	2384.6
35	560.4	590.7	215	2387.6	2507.5
40	580.9	612.2	220	2488.3	2613.2
45	605.5	637.9	225	2572.7	2701.9
50	632.0	665.6	230	2641.6	2774.2
55	657.9	692.8	235	2695.9	2831.2
60	680.9	716.9	240	2736.6	2873.9
65	699.0	735.8	245	2764.9	2903.6
70	710.4	747.8	250	2781.5	2921.0
75	714.4	751.9	255	2786.9	2926.8
80	710.4	747.8	260	2781.5	2921.0
85	699.0	735.8	265	2764.9	2903.6
90	680.9	716.9	270	2736.6	2873.9
95	657.9	692.8	275	2695.9	2831.2
100	632.0	665.6	280	2641.6	2774.2
105	605.5	637.9	285	2572.7	2701.9
110	580.9	612.2	290	2488.3	2613.2
115	560.4	590.7	295	2387.6	2507.5
120	545.1	574.7	300	2270.5	2384.6
125	535.6	564.8	305	2137.5	2245.0
130	532.0	561.1	310	1990.1	2090.3
135	534.6	563.8	315	1830.5	1922.8
140	545.1	574.7	320	1662.2	1746.1
145	566.9	597.5	325	1489.4	1564.7
150	605.3	637.7	330	1317.2	1384.1
155	665.8	701.0	335	1151.6	1210.3
160	751.8	791.1	340	998.4	1049.6
165	863.5	908.2	345	863.5	908.2
170	998.4	1049.6	350	751.8	791.1
175	1151.6	1210.3	355	665.8	701.0

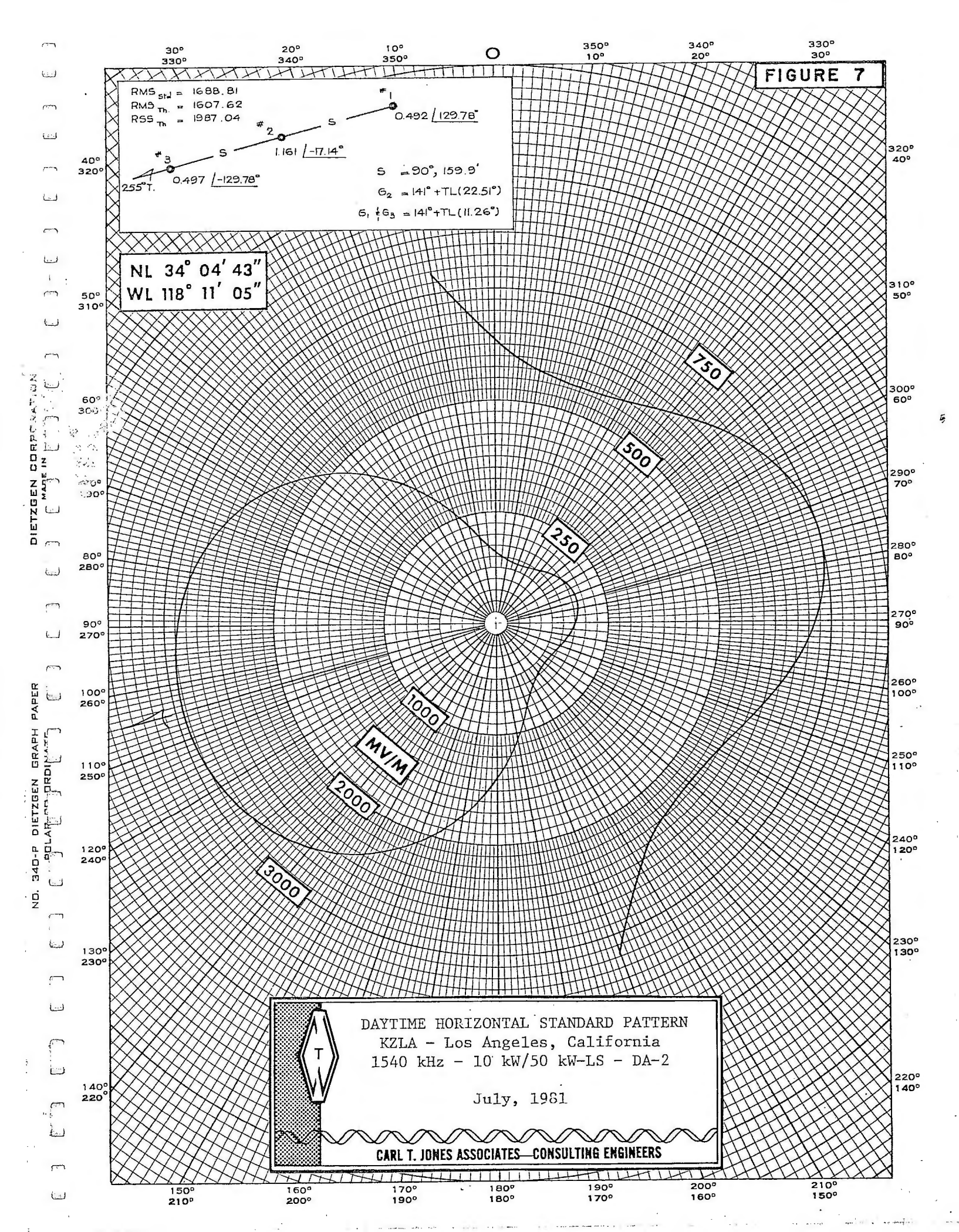


FIGURE 7
RMS Std = 1688.81
RMS Th. = 1607.62
RSS Th = 1987.04
#1
0.492 /129.78°
#2
S
1.161 /-17.14°
#3
S
0.497 /-129.78°
255°T.
S = 90°, 159.9'
G2 = 141° + TL(22.51°)
G1 & G3 = 141° + TL(11.26°)
NL 34° 04' 43"
WL 118° 11' 05"
750
500
250
1000
MV/M
2000
3000
DAYTIME HORIZONTAL STANDARD PATTERN
KZLA - Los Angeles, California
1540 kHz - 10 kW/50 kW-LS - DA-2
July, 1981
CARL T. JONES ASSOCIATES—CONSULTING ENGINEERS
DIETZGEN CORPORATION
NO. 340-P DIETZGEN GRAPH PAPER
POLAR CO-ORDINATE

FIGURE 8

NIGHTTIME HORIZONTAL FIELDS
KZLA - LOS ANGELES, CALIFORNIA
1540 KHZ - 10 KW / 50 KW - LS - DA -2

AZI (DEG)	E THEO (MV/M)	E STD. (MV/M)	E AUG. (MV/M)	AZI (DEG)	E THEO (MV/M)	E STD. (MV/M)	E AUG. (MV/M)
0	218.3	230.1	240.7	180	634.5	666.5	691.0
5	165.5	174.9	184.8	185	704.0	739.5	766.2
10	120.6	128.2	135.2	190	769.1	807.8	836.7
15	84.1	90.5	91.9	195	828.3	869.9	901.2
20	55.8	61.9	65.7	200	880.9	925.1	958.8
25	35.3	42.1	48.4	205	926.4	972.9	1009.1
30	21.8	30.3	37.8	210	964.8	1013.2	1052.0
35	14.2	24.9	32.4	215	996.3	1046.3	1087.7
40	11.3	23.2	31.9	220	1021.5	1072.7	1116.6
45	11.8	23.5	31.1	225	1041.0	1093.3	1139.5
50	14.7	25.2	32.2	230	1055.7	1108.7	1157.0
55	18.7	28.0	33.1	235	1066.4	1119.9	1170.0
60	22.9	31.2	36.2	240	1073.8	1127.7	1179.3
65	26.5	34.2	45.4	245	1078.6	1132.7	1185.4
70	28.8	36.3	86.0	250	1081.2	1135.5	1188.9
75	29.7	37.0	98.2	255	1082.1	1136.4	1190.0
80	28.8	36.3	103.4	260	1081.2	1135.5	1188.9
85	26.5	34.2	109.6	265	1078.6	1132.7	1185.4
90	22.9	31.2	110.0	270	1073.8	1127.7	1179.3
95	18.7	28.0	114.1	275	1066.4	1119.9	1170.0
100	14.7	25.2	112.8	280	1055.7	1108.7	1157.0
105	11.8	23.5	115.0	285	1041.0	1093.3	1140.0
110	11.3	23.2	114.9	290	1021.5	1072.7	1118.6
115	14.2	24.9	114.4	295	996.3	1046.3	1091.8
120	21.8	30.3	108.9	300	964.8	1013.2	1058.3
125	35.3	42.1	104.4	305	926.4	972.9	1017.1
130	55.8	61.9	99.9	310	880.9	925.1	967.6
135	84.1	90.5	101.6	315	828.3	869.9	909.4
140	120.6	128.2	135.3	320	769.1	807.8	843.0
145	165.5	174.9	182.7	325	704.0	739.5	769.6
150	218.3	230.1	240.6	330	634.5	666.5	690.9
155	278.3	292.9	306.5	335	561.9	590.3	609.2
160	344.4	362.2	378.4	340	488.0	512.8	523.0
165	414.9	436.1	454.5	345	414.9	436.1	436.6
170	488.0	512.8	533.2	350	344.4	362.2	362.4
175	561.9	590.3	612.7	355	278.3	292.9	305.6

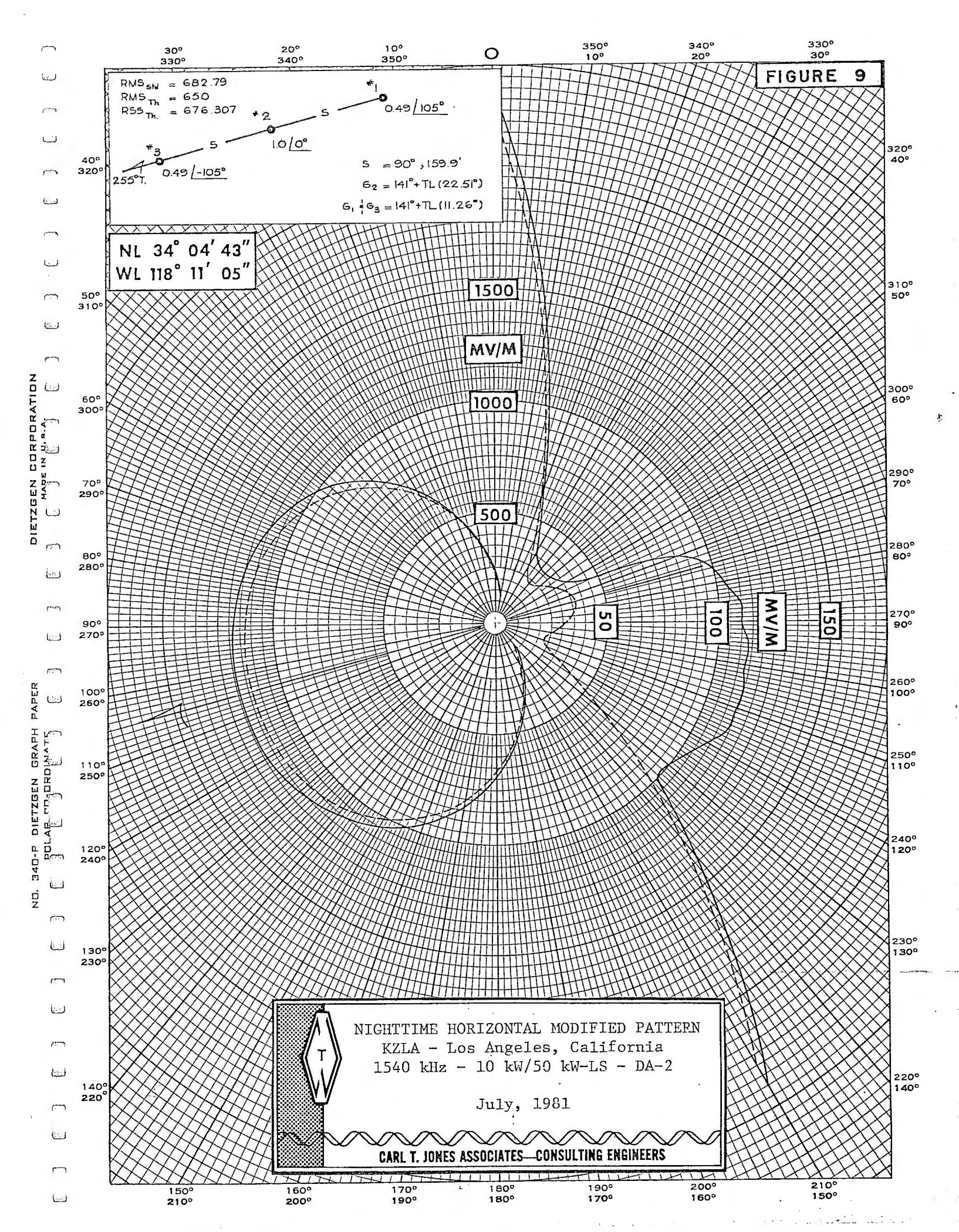


FIGURE 9
RMS_sw = 682.79
RMS_Th = 650
RSS_Th. = 676.307
#1
0.49/105°
#2
S
1.0/0°
#3
S
0.49/-105°
255°T.
S = 90°, 159.9'
θ2 = 141°+TL(22.51°)
θ1 & θ3 = 141°+TL(11.26°)
NL 34° 04' 43"
WL 118° 11' 05"
1500
MV/M
1000
500
50
100
MV/M
150
30° 330°
20° 340°
10° 350°
0
350° 10°
340° 20°
330° 30°
40° 320°
50° 310°
60° 300°
70° 290°
80° 280°
90° 270°
100° 260°
110° 250°
120° 240°
130° 230°
140° 220°
320° 40°
310° 50°
300° 60°
290° 70°
280° 80°
270° 90°
260° 100°
250° 110°
240° 120°
230° 130°
220° 140°
150° 210°
160° 200°
170° 190°
180° 180°
190° 170°
200° 160°
210° 150°
NIGHTTIME HORIZONTAL MODIFIED PATTERN
KZLA - Los Angeles, California
1540 kHz - 10 kW/50 kW-LS - DA-2
July, 1981
CARL T. JONES ASSOCIATES—CONSULTING ENGINEERS
DIETZGEN CORPORATION
MADE IN U.S.A.
NO. 340-P DIETZGEN GRAPH PAPER
POLAR COORDINATES

FIGURE 10

VERTICAL ANGLE 5 DEGREES

AZI (DEG)	E THEO (MV/M)	E STD. (MV/M)	E AUG. (MV/M)	AZI (DEG)	E THEO (MV/M)	E STD. (MV/M)	E AUG. (MV/M)
0	216.1	227.8	238.3	180	626.6	658.2	682.6
5	164.0	173.3	183.1	185	695.2	730.2	756.8
10	119.6	127.1	134.1	190	759.4	797.6	826.3
15	83.5	89.8	91.2	195	817.8	858.9	890.0
20	55.4	61.5	65.2	200	869.8	913.5	946.9
25	35.0	41.7	48.0	205	914.8	960.8	996.7
30	21.4	29.9	37.3	210	952.8	1000.7	1039.1
35	13.7	24.4	31.9	215	984.1	1033.5	1074.5
40	10.6	22.7	31.4	220	1009.1	1059.7	1103.3
45	11.0	22.9	30.5	225	1028.5	1080.1	1126.0
50	13.6	24.4	31.5	230	1043.2	1095.5	1143.4
55	17.4	26.9	32.1	235	1053.9	1106.7	1156.4
60	21.4	29.9	35.0	240	1061.3	1114.5	1165.7
65	24.9	32.7	44.1	245	1066.1	1119.5	1171.8
70	27.2	34.7	84.6	250	1068.8	1122.4	1175.3
75	28.0	35.4	96.8	255	1069.6	1123.3	1176.4
80	27.2	34.7	101.9	260	1068.8	1122.4	1175.3
85	24.9	32.7	108.2	265	1066.1	1119.5	1171.8
90	21.4	29.9	108.6	270	1061.3	1114.5	1165.7
95	17.4	26.9	112.7	275	1053.9	1106.7	1156.4
100	13.6	24.4	111.6	280	1043.2	1095.5	1143.4
105	11.0	22.9	113.7	285	1028.5	1080.1	1126.5
110	10.6	22.7	113.7	290	1009.1	1059.7	1105.2
115	13.7	24.4	113.2	295	984.1	1033.5	1078.6
120	21.4	29.9	107.8	300	952.8	1000.7	1045.4
125	35.0	41.7	103.4	305	914.8	960.8	1004.6
130	55.4	61.5	98.9	310	869.8	913.5	955.6
135	83.5	89.8	100.8	315	817.8	858.9	898.1
140	119.6	127.1	134.1	320	759.4	797.6	832.6
145	164.0	173.3	181.1	325	695.2	730.2	760.1
150	216.1	227.8	238.2	330	626.6	658.2	682.4
155	275.4	289.8	303.3	335	555.0	583.1	601.9
160	340.6	358.1	374.2	340	482.2	506.7	516.7
165	410.1	431.0	449.3	345	410.1	431.0	431.6
170	482.2	506.7	526.9	350	340.6	358.1	358.4
175	555.0	583.1	605.3	355	275.4	289.8	302.4

TABULATION OF NIGHTTIME VERTICAL PATTERN
KZLA - Los Angeles, California
1540 kHz - 10 kW/50 kW-LS - DA-2

July, 1981

CARL T. JONES ASSOCIATES—CONSULTING ENGINEERS

5 ° VERTICAL RADIATION PATTERN

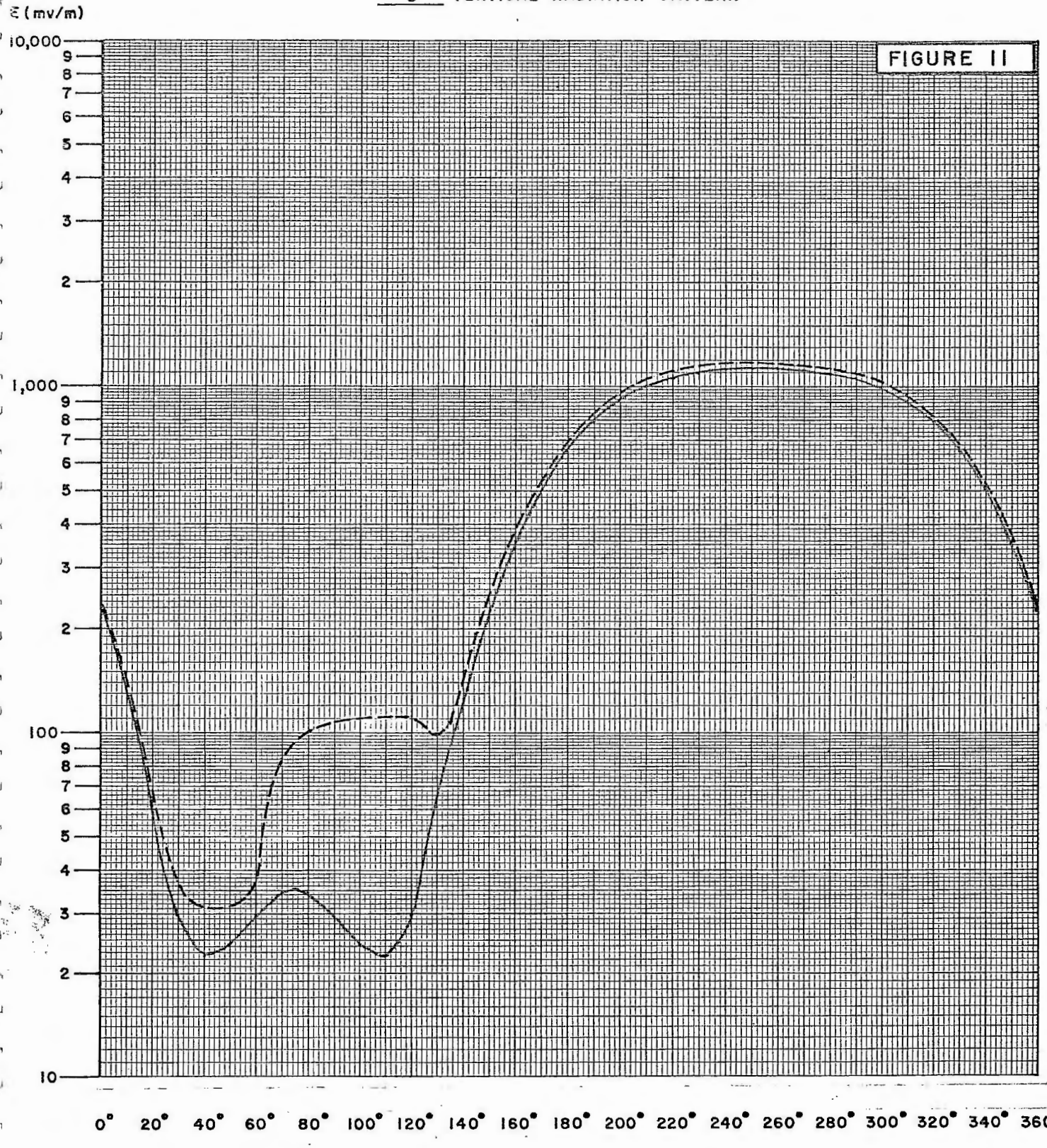


FIGURE 11

NIGHTTIME VERTICAL AUGMENTED PATTERN
KZLA - Los Angeles, California
1540 kHz - 10 kW/50 kW-LS - DA-2

July, 1981

CARL T. JONES ASSOCIATES—CONSULTING ENGINEERS

FIGURE 12

VERTICAL ANGLE 10 DEGREES

AZI (DEG)	E THEO (MV/M)	E STD. (MV/M)	E AUG. (MV/M)	AZI (DEG)	E THEO (MV/M)	E STD. (MV/M)	E AUG. (MV/M)
0	209.8	221.1	231.3	180	603.5	634.0	657.7
5	159.6	168.6	178.1	185	669.4	703.1	729.0
10	116.7	124.0	130.7	190	731.0	767.8	795.9
15	81.6	87.8	89.2	195	787.3	826.9	857.2
20	54.2	60.1	63.7	200	837.4	879.5	912.2
25	34.1	40.6	46.6	205	881.0	925.2	960.3
30	20.5	28.8	36.0	210	917.8	963.9	1001.5
35	12.4	23.2	30.6	215	948.3	995.9	1035.9
40	8.9	21.3	30.0	220	972.8	1021.6	1064.0
45	8.7	21.2	28.9	225	991.9	1041.7	1086.4
50	10.7	22.2	29.4	230	1006.4	1056.9	1103.6
55	13.9	24.1	29.4	235	1017.1	1068.1	1116.5
60	17.4	26.4	31.7	240	1024.5	1075.9	1125.7
65	20.4	28.7	40.6	245	1029.4	1081.0	1131.9
70	22.4	30.4	80.8	250	1032.1	1083.9	1135.4
75	23.2	30.9	92.6	255	1033.0	1084.8	1136.5
80	22.4	30.4	97.8	260	1032.1	1083.9	1135.4
85	20.4	28.7	104.0	265	1029.4	1081.0	1131.9
90	17.4	26.4	104.6	270	1024.5	1075.9	1125.7
95	13.9	24.1	108.8	275	1017.1	1068.1	1116.5
100	10.7	22.2	107.9	280	1006.4	1056.9	1103.6
105	8.7	21.2	110.1	285	991.9	1041.7	1086.9
110	8.9	21.3	110.1	290	972.8	1021.6	1066.0
115	12.4	23.2	109.6	295	948.3	995.9	1039.9
120	20.5	28.8	104.5	300	917.8	963.9	1007.6
125	34.1	40.6	100.3	305	881.0	925.2	968.0
130	54.2	60.1	96.3	310	837.4	879.5	920.6
135	81.6	87.8	98.4	315	787.3	826.9	865.1
140	116.7	124.0	130.8	320	731.0	767.8	802.0
145	159.6	168.6	176.1	325	669.4	703.1	732.3
150	209.8	221.1	231.2	330	603.5	634.0	657.6
155	266.8	280.8	293.8	335	534.9	561.9	580.3
160	329.3	346.3	361.9	340	465.1	488.7	498.5
165	396.0	416.2	434.0	345	396.0	416.2	416.7
170	465.1	488.7	508.4	350	329.3	346.3	346.6
175	534.9	561.9	583.6	355	266.8	280.8	292.9

TABULATION OF NIGHTTIME VERTICAL PATTERN
KZLA - Los Angeles, California
1540 kHz - 10 kW/50 kW-LS - DA-2

July, 1981

CARL T. JONES ASSOCIATES—CONSULTING ENGINEERS

10° VERTICAL RADIATION PATTERN

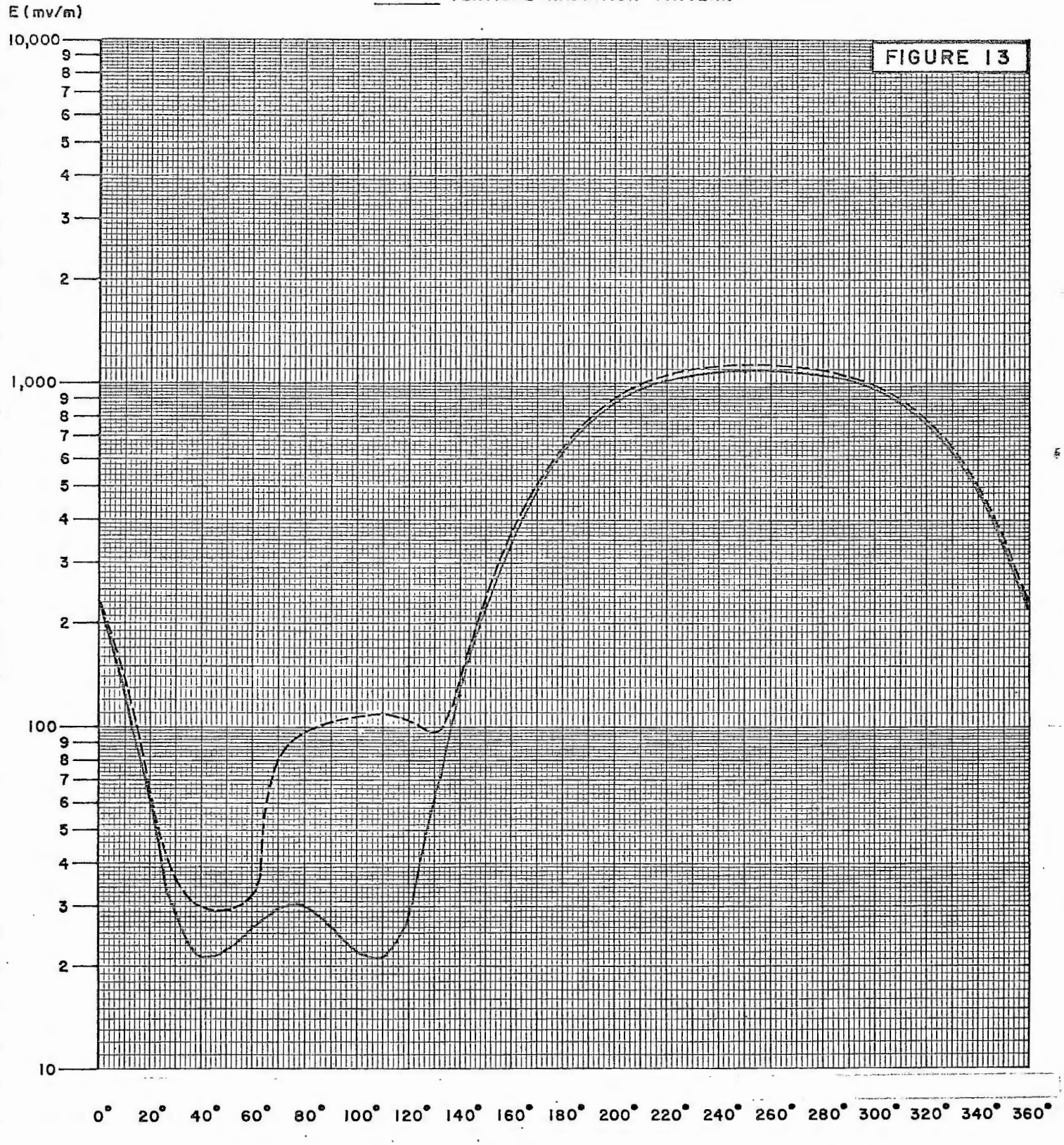


FIGURE 13

NIGHTTIME VERTICAL AUGMENTED PATTERN
KZLA - Los Angeles, California
1540 kHz - 10 kW/50 kW-LS - DA-2

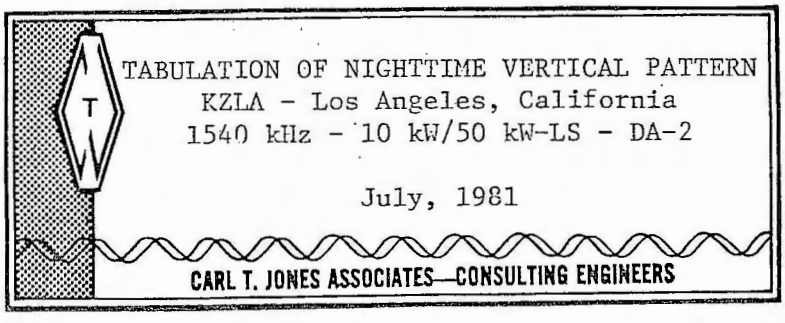
July, 1981

CARL T. JONES ASSOCIATES—CONSULTING ENGINEERS

FIGURE 14

VERTICAL ANGLE 15 DEGREES

AZI (DEG)	E THEO (MV/M)	E STD. (MV/M)	E AUG. (MV/M)	AZI (DEG)	E THEO (MV/M)	E STD. (MV/M)	E AUG. (MV/M)
0	199.7	210.5	220.1	180	567.0	595.6	618.4
5	152.5	161.1	170.1	185	628.4	660.1	685.0
10	112.0	119.0	125.3	190	686.1	720.6	747.6
15	78.7	84.6	85.9	195	738.9	776.1	805.2
20	52.4	57.9	61.3	200	786.1	825.6	857.0
25	32.7	38.9	44.6	205	827.2	868.8	902.5
30	19.1	27.1	34.0	210	862.3	905.6	941.6
35	10.7	21.3	28.6	215	891.4	936.1	974.6
40	6.4	19.4	27.9	220	915.0	960.9	1001.6
45	5.3	19.0	26.6	225	933.6	980.4	1023.2
50	6.4	19.4	26.7	230	947.8	995.4	1040.1
55	8.7	20.3	26.0	235	958.3	1006.4	1052.8
60	11.4	21.8	27.4	240	965.8	1014.2	1062.0
65	13.8	23.3	35.8	245	970.7	1019.4	1068.1
70	15.5	24.4	75.2	250	973.5	1022.3	1071.6
75	16.1	24.8	86.6	255	974.4	1023.3	1072.8
80	15.5	24.4	91.6	260	973.5	1022.3	1071.6
85	13.8	23.3	97.8	265	970.7	1019.4	1068.1
90	11.4	21.8	98.6	270	965.8	1014.2	1062.0
95	8.7	20.3	102.9	275	958.3	1006.4	1052.8
100	6.4	19.4	102.2	280	947.8	995.4	1040.1
105	5.3	19.0	104.4	285	933.6	980.4	1023.7
110	6.4	19.4	104.5	290	915.0	960.9	1003.5
115	10.7	21.3	104.0	295	891.4	936.1	978.4
120	19.1	27.1	99.2	300	862.3	905.6	947.5
125	32.7	38.9	95.4	305	827.2	868.8	909.9
130	52.4	57.9	92.0	310	786.1	825.6	865.1
135	78.7	84.6	94.5	315	738.9	776.1	812.8
140	112.0	119.0	125.4	320	686.1	720.6	753.5
145	152.5	161.1	168.2	325	628.4	660.1	688.1
150	199.7	210.5	220.0	330	567.0	595.6	618.3
155	253.0	266.3	278.7	335	502.9	528.4	546.0
160	311.4	327.5	342.4	340	437.9	460.2	469.6
165	373.5	392.6	409.6	345	373.5	392.6	393.1
170	437.9	460.2	479.1	350	311.4	327.5	327.7
175	502.9	528.4	549.2	355	253.0	266.3	277.8



15° VERTICAL RADIATION PATTERN

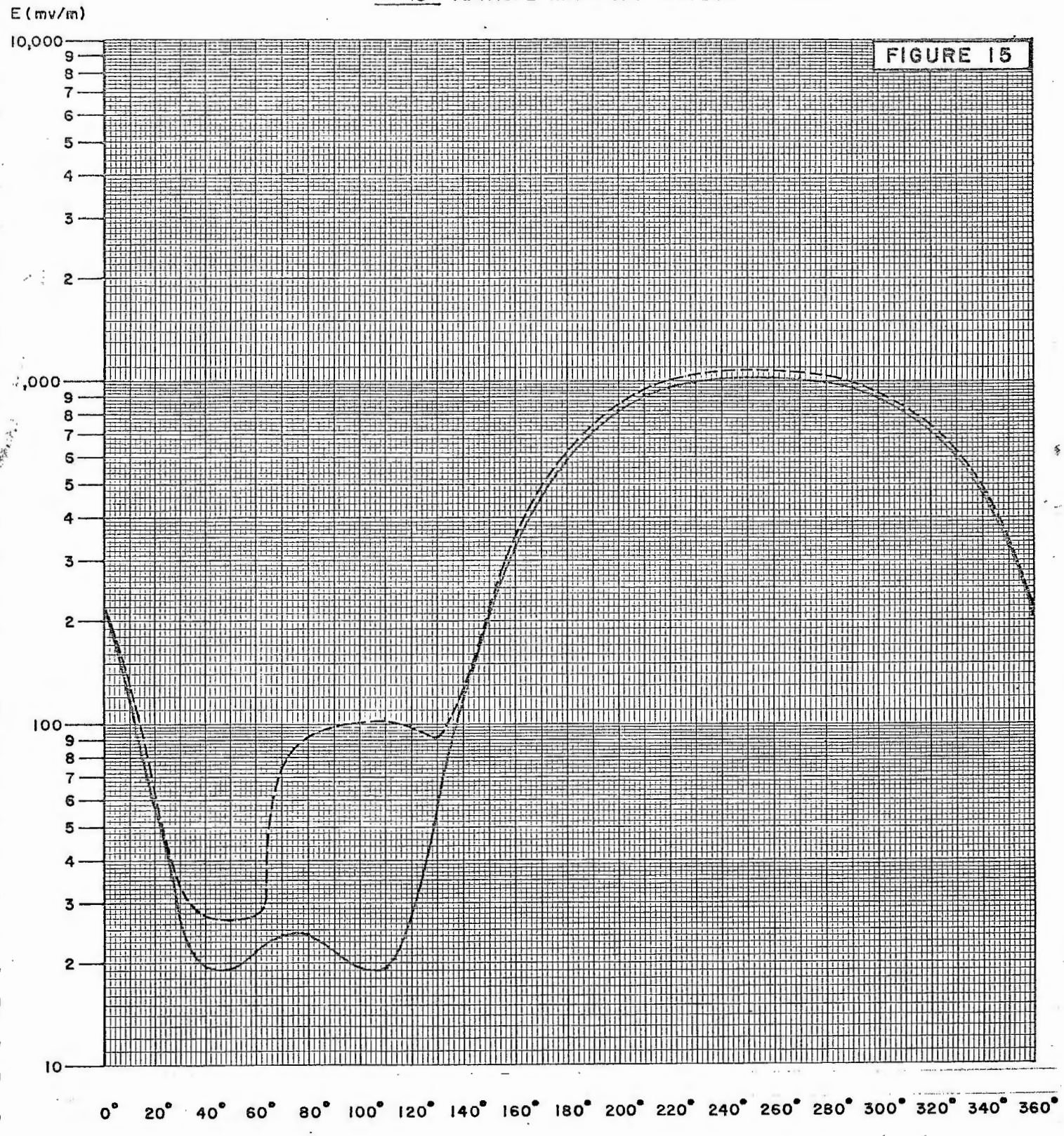


FIGURE 15

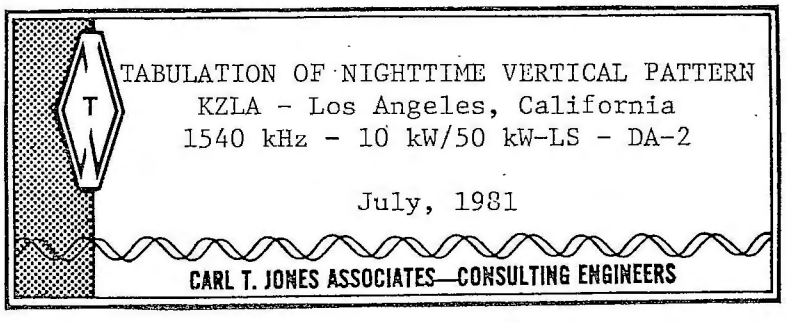
NIGHTTIME VERTICAL AUGMENTED PATTERN
KZLA - Los Angeles, California
1540 kHz - 10 kW/50 kW-LS - DA-2

July, 1981

CARL T. JONES ASSOCIATES—CONSULTING ENGINEERS

VERTICAL ANGLE 20 DEGREES

AZI (DEG)	E THEO (MV/M)	E STD. (MV/M)	E AUG. (MV/M)	AZI (DEG)	E THEO (MV/M)	E STD. (MV/M)	E AUG. (MV/M)
0	186.3	196.4	205.4	180	519.5	545.7	567.3
5	143.1	151.2	159.5	185	575.3	604.3	627.8
10	105.8	112.4	118.2	190	627.8	659.4	684.9
15	74.8	80.4	81.5	195	676.0	710.0	737.6
20	50.0	55.2	58.2	200	719.3	755.5	785.2
25	31.1	36.8	42.0	205	757.3	795.4	827.3
30	17.6	25.1	31.5	210	789.9	829.6	863.7
35	8.8	19.3	26.1	215	817.2	858.2	894.5
40	3.8	17.4	25.5	220	839.5	881.6	920.1
45	1.7	17.0	24.3	225	857.3	900.3	940.7
50	1.6	17.0	24.1	230	871.0	914.8	956.9
55	2.9	17.2	22.8	235	881.4	925.6	969.3
60	4.6	17.6	23.5	240	888.8	933.4	978.3
65	6.3	18.2	31.2	245	893.7	938.5	984.4
70	7.5	18.6	68.8	250	896.5	941.5	987.9
75	7.9	18.8	79.5	255	897.4	942.5	989.0
80	7.5	18.6	84.3	260	896.5	941.5	987.9
85	6.3	18.2	90.3	265	893.7	938.5	984.4
90	4.6	17.6	91.3	270	888.8	933.4	978.3
95	2.9	17.2	95.4	275	881.4	925.6	969.3
100	1.6	17.0	94.9	280	871.0	914.8	956.9
105	1.7	17.0	97.1	285	857.3	900.3	941.2
110	3.8	17.4	97.1	290	839.5	881.6	921.8
115	8.8	19.3	96.7	295	817.2	858.2	898.1
120	17.6	25.1	92.3	300	789.9	829.6	869.2
125	31.1	36.8	89.1	305	757.3	795.4	834.3
130	50.0	55.2	86.4	310	719.3	755.5	792.9
135	74.8	80.4	89.4	315	676.0	710.0	744.8
140	105.8	112.4	118.2	320	627.8	659.4	690.5
145	143.1	151.2	157.8	325	575.3	604.3	630.8
150	186.3	196.4	205.3	330	519.5	545.7	567.2
155	234.9	247.2	258.8	335	461.5	484.8	501.4
160	287.9	302.8	316.8	340	402.6	423.0	431.9
165	344.3	361.9	377.8	345	344.3	361.9	362.3
170	402.6	423.0	440.8	350	287.9	302.8	303.0
175	461.5	484.8	504.5	355	234.9	247.2	258.0



20° VERTICAL RADIATION PATTERN

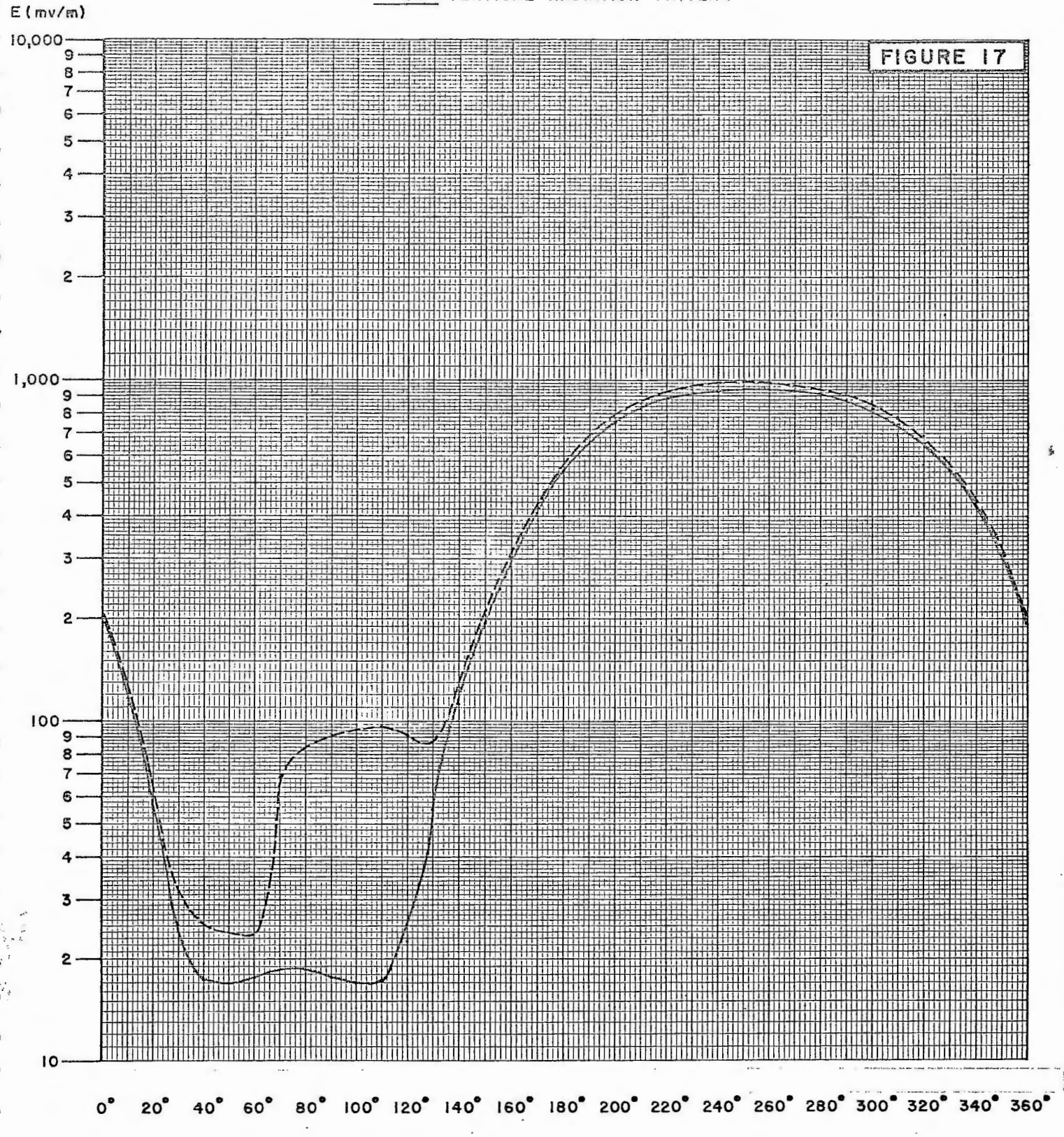


FIGURE 17

NIGHTTIME VERTICAL AUGMENTED PATTERN
KZLA - Los Angeles, California
1540 kHz - 10 kW/50 kW-LS - DA-2

July, 1981

CARL T. JONES ASSOCIATES—CONSULTING ENGINEERS

FIGURE 18

VERTICAL ANGLE 25 DEGREES

I G)	E THEO (MV/M)	E STD. (MV/M)	E AUG. (MV/M)	AZI (DEG)	E THEO (MV/M)	E STD. (MV/M)	E AUG. (MV/M)
0	170.5	179.7	187.8	180	464.2	487.7	507.8
5	131.9	139.4	146.9	185	513.5	539.4	561.3
10	98.4	104.5	109.7	190	560.0	588.2	612.0
15	70.2	75.3	76.3	195	602.9	633.2	659.0
20	47.3	52.0	54.7	200	641.6	673.9	701.6
25	29.5	34.6	39.2	205	675.8	709.8	739.5
30	16.3	23.0	28.9	210	705.4	740.9	772.6
35	7.2	17.2	23.6	215	730.4	767.1	800.9
40	1.4	15.5	23.0	220	751.1	788.8	824.6
45	1.6	15.5	22.2	225	767.7	806.3	843.8
50	2.8	15.7	22.1	230	780.8	820.0	859.2
55	2.7	15.7	20.8	235	790.8	830.5	871.0
60	1.9	15.6	21.1	240	798.0	838.0	879.7
65	1.0	15.5	27.9	245	802.9	843.2	885.6
70	0.3	15.4	62.4	250	805.7	846.1	889.1
75	0.1	15.4	72.2	255	806.6	847.1	890.2
80	0.3	15.4	76.6	260	805.7	846.1	889.1
85	1.0	15.5	82.2	265	802.9	843.2	885.6
90	1.9	15.6	83.2	270	798.0	838.0	879.7
95	2.7	15.7	87.1	275	790.8	830.5	871.0
100	2.8	15.7	86.7	280	780.8	820.0	859.2
105	1.6	15.5	88.6	285	767.7	806.3	844.3
110	1.4	15.5	88.6	290	751.1	788.8	826.2
115	7.2	17.2	88.2	295	730.4	767.1	804.3
120	16.3	23.0	84.3	300	705.4	740.9	777.8
125	29.5	34.6	81.7	305	675.8	709.8	746.1
130	47.3	52.0	79.9	310	641.6	673.9	708.8
135	70.2	75.3	83.4	315	602.9	633.2	665.7
140	98.4	104.5	109.7	320	560.0	588.2	617.2
145	131.9	139.4	145.3	325	513.5	539.4	564.1
150	170.5	179.7	187.8	330	464.2	487.7	507.7
155	213.6	224.8	235.4	335	413.1	434.0	449.5
160	260.4	273.8	286.7	340	361.3	379.7	387.9
165	310.0	325.9	340.6	345	310.0	325.9	326.3
170	361.3	379.7	396.2	350	260.4	273.8	274.1
175	413.1	434.0	452.3	355	213.6	224.8	234.7

TABULATION OF NIGHTTIME VERTICAL PATTERN
KZLA - Los Angeles, California
1540 kHz - 10 kW/50 kW-LS - DA-2

July, 1981

CARL T. JONES ASSOCIATES—CONSULTING ENGINEERS

25° VERTICAL RADIATION PATTERN

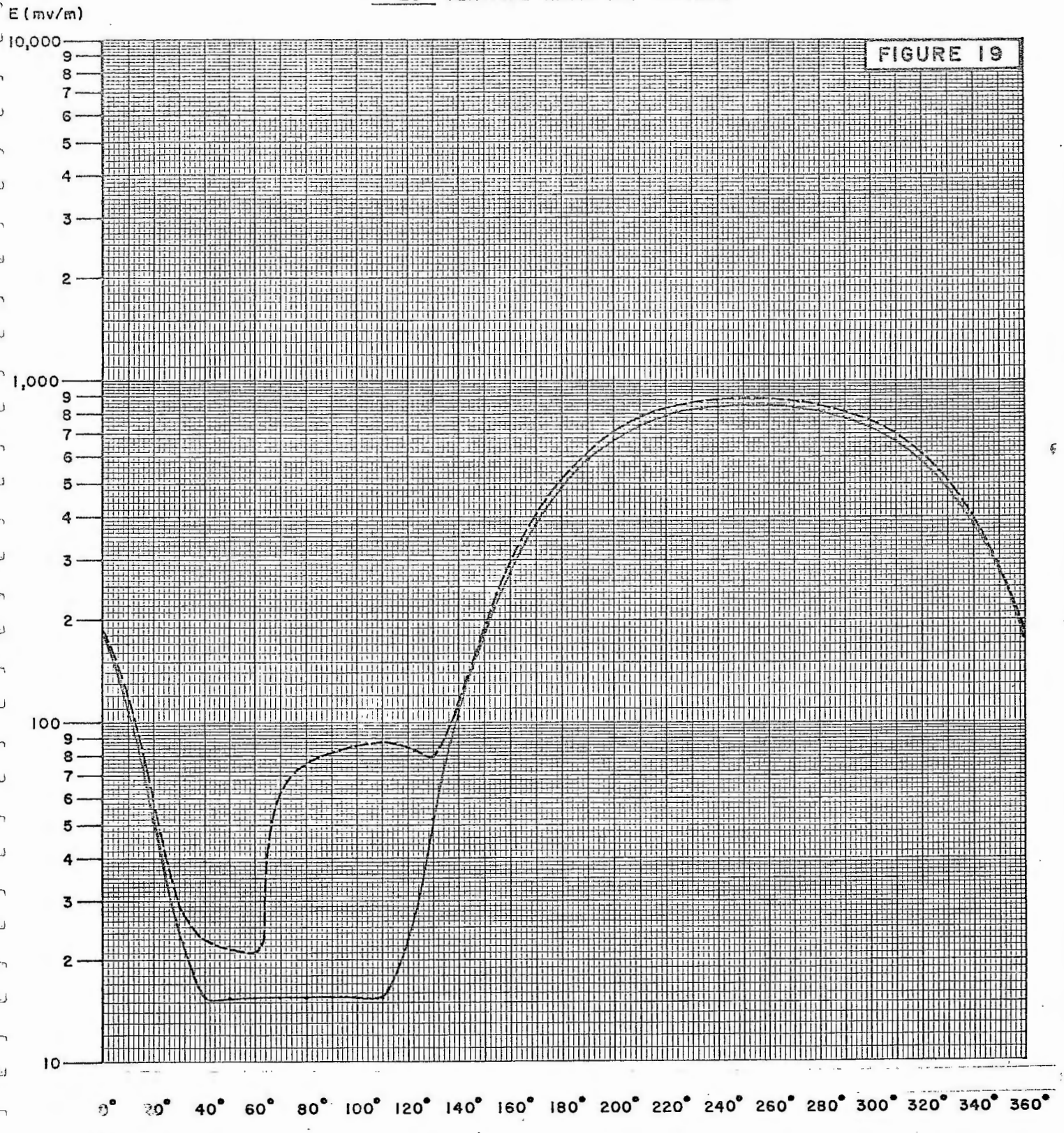


FIGURE 19

NIGHTTIME VERTICAL AUGMENTED PATTERN
KZLA - Los Angeles, California
1540 kHz - 10 kW/50 kW-LS - DA-2

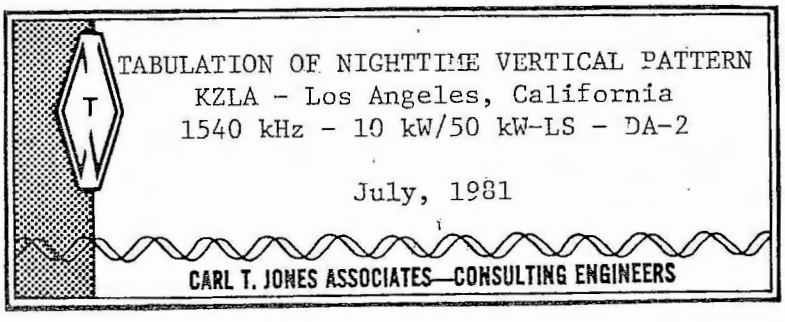
July, 1981

CARL T. JONES ASSOCIATES—CONSULTING ENGINEERS

FIGURE 20

VERTICAL ANGLE 30 DEGREES

AZI (DEG)	E THEO (MV/M)	E STD. (MV/M)	E AUG. (MV/M)	AZI (DEG)	E THEO (MV/M)	E STD. (MV/M)	E AUG. (MV/M)
0	152.9	161.2	168.5	180	404.6	425.0	443.5
5	119.5	126.2	132.8	185	446.9	469.4	489.6
10	90.1	95.6	100.1	190	486.9	511.4	533.3
15	65.0	69.7	70.6	195	524.0	550.4	574.1
20	44.4	48.6	50.9	200	557.7	585.8	611.3
25	27.9	32.4	36.4	205	587.7	617.3	644.6
30	15.3	21.2	26.3	210	613.9	644.8	674.0
35	6.2	15.3	21.0	215	636.3	668.2	699.3
40	0.1	13.8	20.6	220	655.0	687.8	720.6
45	4.0	14.4	20.2	225	670.2	703.9	738.3
50	6.1	15.2	20.6	230	682.4	716.6	752.5
55	7.0	15.7	19.9	235	691.7	726.4	763.5
60	7.2	15.7	20.2	240	698.6	733.7	771.7
65	7.0	15.7	26.0	245	703.3	738.6	777.4
70	6.8	15.6	56.3	250	706.0	741.5	780.7
75	6.7	15.5	65.0	255	706.9	742.4	781.8
80	6.8	15.6	68.9	260	706.0	741.5	780.7
85	7.0	15.7	73.9	265	703.3	738.6	777.4
90	7.2	15.7	74.8	270	698.6	733.7	771.7
95	7.0	15.7	78.3	275	691.7	726.4	763.5
100	6.1	15.2	77.8	280	682.4	716.6	752.5
105	4.0	14.4	79.4	285	670.2	703.9	738.7
110	0.1	13.8	79.3	290	655.0	687.8	722.1
115	6.2	15.3	78.9	295	636.3	668.2	702.3
120	15.3	21.2	75.6	300	613.9	644.8	678.7
125	27.9	32.4	73.8	305	587.7	617.3	650.6
130	44.4	48.6	72.9	310	557.7	585.8	617.9
135	65.0	69.7	76.7	315	524.0	550.4	580.2
140	90.1	95.6	100.2	320	486.9	511.4	538.1
145	119.5	126.2	131.4	325	446.9	469.4	492.1
150	152.9	161.2	168.4	330	404.6	425.0	443.4
155	190.1	200.1	209.6	335	360.9	379.2	393.3
160	230.3	242.2	253.8	340	316.6	332.7	340.2
165	272.8	286.7	300.2	345	272.8	286.7	287.1
170	316.6	332.7	347.8	350	230.3	242.2	242.4
175	360.9	379.2	395.9	355	190.1	200.1	209.0



30° VERTICAL RADIATION PATTERN

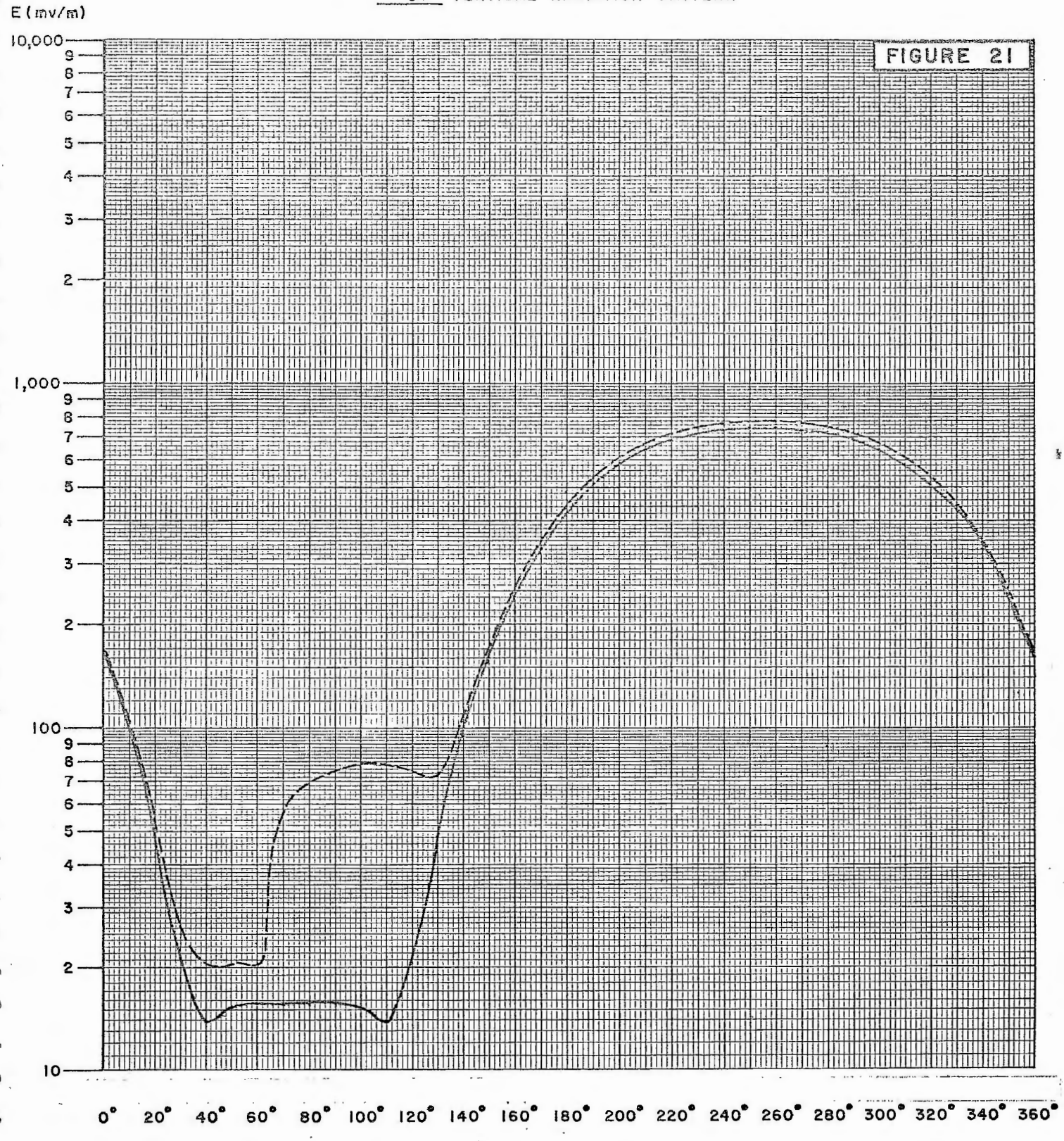


FIGURE 21

NIGHTTIME VERTICAL AUGMENTED PATTERN
KZLA - Los Angeles, California
1540 kHz - 10 kW/50 kW-LS - DA-2

July, 1981

CARL T. JONES ASSOCIATES—CONSULTING ENGINEERS

FIGURE 22

VERTICAL ANGLE 35 DEGREES

AZI (DEG)	E THEO (MV/M)	E STD. (MV/M)	E AUG. (MV/M)	AZI (DEG)	E THEO (MV/M)	E STD. (MV/M)	E AUG. (MV/M)
0	134.5	141.8	148.2	180	343.9	361.3	378.0
5	106.3	112.2	118.0	185	379.1	398.2	416.5
10	81.2	86.1	90.0	190	412.5	433.3	453.2
15	59.6	63.7	64.4	195	443.7	466.1	487.6
20	41.4	45.1	47.0	200	472.3	496.0	519.2
25	26.5	30.4	33.7	205	497.9	522.9	547.7
30	14.8	19.7	24.0	210	520.4	546.5	573.0
35	6.0	13.6	18.6	215	539.8	567.0	595.1
40	0.5	12.1	18.1	220	556.3	584.2	613.9
45	4.9	13.2	18.1	225	569.9	598.5	629.6
50	7.8	14.6	19.1	230	580.9	610.0	642.4
55	9.6	15.7	19.1	235	589.4	619.0	652.4
60	10.5	16.4	19.8	240	595.8	625.7	660.0
65	10.9	16.7	24.7	245	600.2	630.3	665.2
70	11.1	16.8	50.4	250	602.8	633.0	668.3
75	11.1	16.8	57.9	255	603.6	633.9	669.3
80	11.1	16.8	61.3	260	602.8	633.0	668.3
85	10.9	16.7	65.5	265	600.2	630.3	665.2
90	10.5	16.4	66.3	270	595.8	625.7	660.0
95	9.6	15.7	69.1	275	589.4	619.0	652.4
100	7.8	14.6	68.5	280	580.9	610.0	642.4
105	4.9	13.2	69.8	285	569.9	598.5	630.0
110	0.5	12.1	69.6	290	556.3	584.2	615.3
115	6.0	13.6	69.3	295	539.8	567.0	597.9
120	14.8	19.7	66.7	300	520.4	546.5	577.3
125	26.5	30.4	65.6	305	497.9	522.9	553.2
130	41.4	45.1	65.6	310	472.3	496.0	525.1
135	59.6	63.7	69.6	315	443.7	466.1	493.2
140	81.2	86.1	90.0	320	412.5	433.3	457.5
145	106.3	112.2	116.8	325	379.1	398.2	418.8
150	134.5	141.8	148.1	330	343.9	361.3	377.9
155	165.7	174.4	182.8	335	307.6	323.2	335.9
160	199.2	209.5	219.9	340	270.9	284.7	291.4
165	234.5	246.5	258.5	345	234.5	246.5	246.9
170	270.9	284.7	298.2	350	199.2	209.5	209.7
175	307.6	323.2	338.3	355	165.7	174.4	182.2

TABULATION OF NIGHTTIME VERTICAL PATTERN
KZLA - Los Angeles, California
1540 kHz - 10 kW/50 kW-LS - DA-2

July, 1981

CARL T. JONES ASSOCIATES—CONSULTING ENGINEERS

35° VERTICAL RADIATION PATTERN

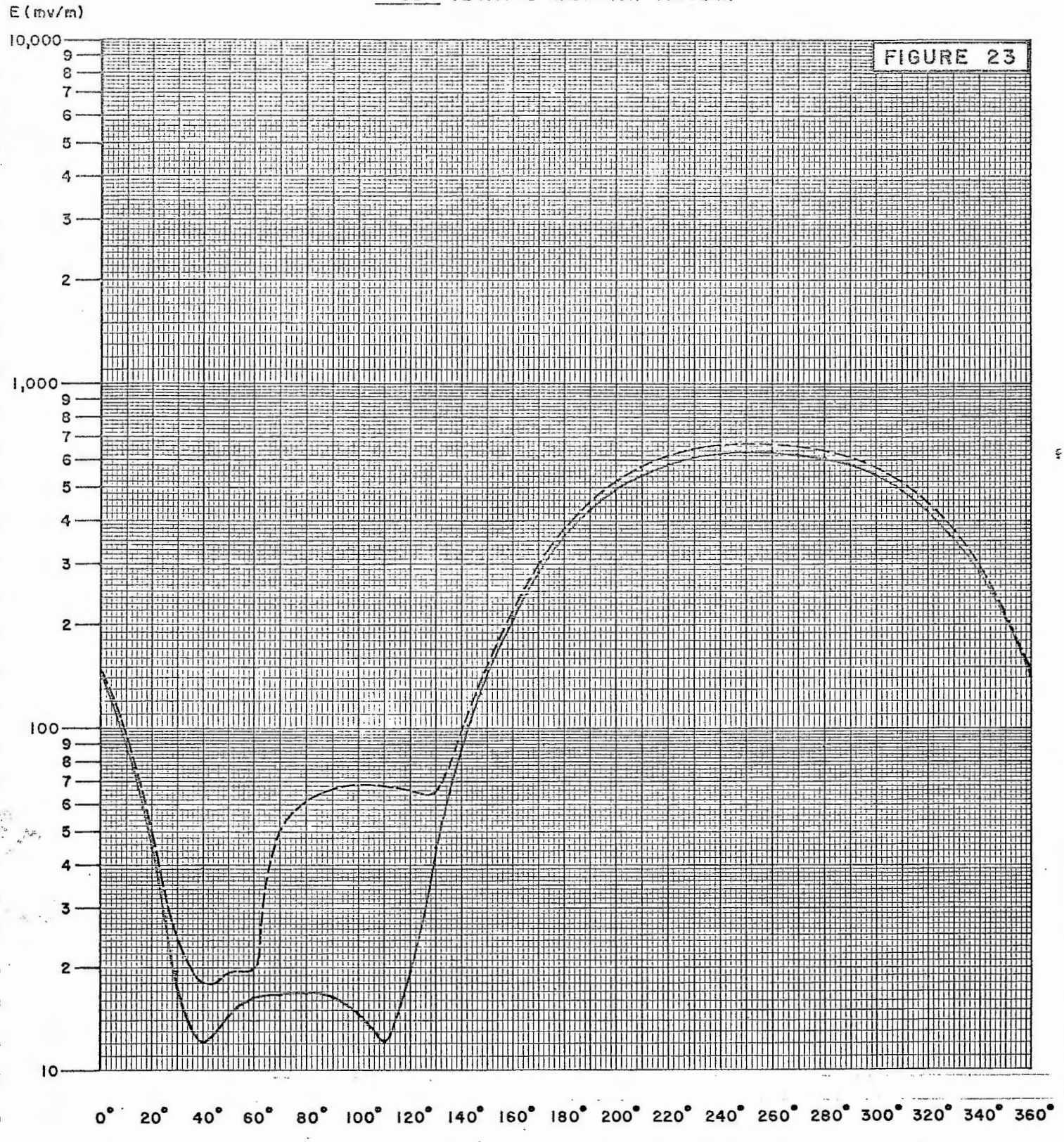


FIGURE 23

NIGHTTIME VERTICAL AUGMENTED PATTERN
KZLA - Los Angeles, California
1540 kHz - 10 kW/50 kW-LS - DA-2

July, 1981

CARL T. JONES ASSOCIATES—CONSULTING ENGINEERS

FIGURE 24

VERTICAL ANGLE 40 DEGREES

AZI (DEG)	E THEO (MV/M)	E STD. (MV/M)	E AUG. (MV/M)	AZI (DEG)	E THEO (MV/M)	E STD. (MV/M)	E AUG. (MV/M)
0	116.0	122.3	127.8	180	285.0	299.4	314.3
5	92.8	98.0	102.9	185	313.4	329.2	345.6
10	72.1	76.4	79.7	190	340.5	357.7	375.5
15	53.9	57.5	58.2	195	365.9	384.4	403.7
20	38.3	41.6	43.2	200	389.3	408.9	429.7
25	25.4	28.6	31.2	205	410.5	431.2	453.4
30	14.9	18.8	22.2	210	429.4	450.9	474.7
35	6.6	12.5	16.6	215	445.8	468.2	493.4
40	0.2	10.4	15.5	220	459.8	482.9	509.5
45	4.5	11.4	15.7	225	471.6	495.2	523.1
50	7.8	13.3	16.9	230	481.2	505.3	534.2
55	10.0	14.8	17.5	235	488.7	513.3	543.1
60	11.5	16.0	18.6	240	494.4	519.3	549.8
65	12.4	16.7	22.9	245	498.4	523.4	554.5
70	12.8	17.0	44.3	250	500.7	525.9	557.3
75	13.0	17.2	50.7	255	501.5	526.7	558.2
80	12.8	17.0	53.5	260	500.7	525.9	557.3
85	12.4	16.7	57.1	265	498.4	523.4	554.5
90	11.5	16.0	57.5	270	494.4	519.3	549.8
95	10.0	14.8	59.8	275	488.7	513.3	543.1
100	7.8	13.3	59.1	280	481.2	505.3	534.2
105	4.5	11.4	60.1	285	471.6	495.2	523.4
110	0.2	10.4	59.9	290	459.8	482.9	510.7
115	6.6	12.5	59.8	295	445.8	468.2	495.9
120	14.9	18.8	57.9	300	429.4	450.9	478.5
125	25.4	28.6	57.7	305	410.5	431.2	458.3
130	38.3	41.6	58.4	310	389.3	408.9	435.1
135	53.9	57.5	62.4	315	365.9	384.4	408.7
140	72.1	76.4	79.7	320	340.5	357.7	379.4
145	92.8	98.0	101.9	325	313.4	329.2	347.6
150	116.0	122.3	127.7	330	285.0	299.4	314.2
155	141.4	148.8	156.1	335	255.7	268.7	280.1
160	168.5	177.2	186.3	340	226.2	237.7	243.7
165	196.9	207.1	217.6	345	196.9	207.1	207.4
170	226.2	237.7	249.7	350	168.5	177.2	177.4
175	255.7	268.7	282.2	355	141.4	148.8	155.6

TABULATION OF NIGHTTIME VERTICAL PATTERN
KZLA - Los Angeles, California
1540 kHz - 10 kW/50 kW-LS - DA-2

July, 1981

CARL T. JONES ASSOCIATES—CONSULTING ENGINEERS

40° VERTICAL RADIATION PATTERN

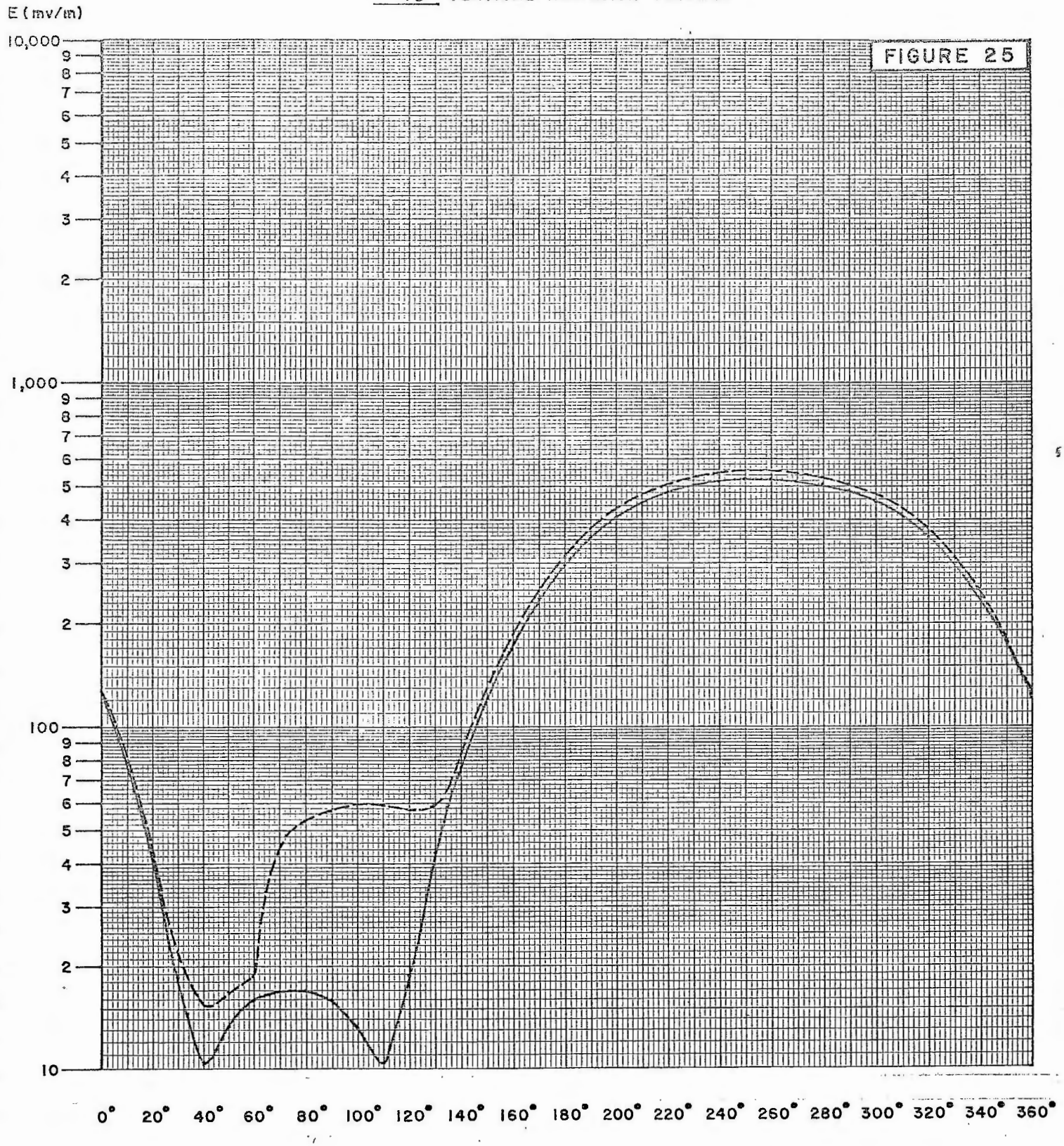


FIGURE 25

NIGHTTIME VERTICAL AUGMENTED PATTERN
KZLA - Los Angeles, California
1540 kHz - 10 kW/50 kW-LS - DA-2

July, 1981

CARL T. JONES ASSOCIATES—CONSULTING ENGINEERS

FIGURE 26

VERTICAL ANGLE 45 DEGREES

AZI (DEG)	E THEO (MV/M)	E STD. (MV/M)	E AUG. (MV/M)	AZI (DEG)	E THEO (MV/M)	E STD. (MV/M)	E AUG. (MV/M)
0	98.1	103.4	108.0	180	230.1	241.8	254.9
5	79.7	84.1	88.2	185	252.4	265.1	279.6
10	63.0	66.8	69.4	190	273.6	287.5	303.2
15	48.2	51.4	51.9	195	293.7	308.5	325.6
20	35.3	38.1	39.3	200	312.3	328.0	346.5
25	24.4	27.1	29.1	205	329.3	345.8	365.6
30	15.2	18.3	20.8	210	344.5	361.8	382.8
35	7.8	12.0	15.2	215	357.9	375.9	398.2
40	1.9	9.0	13.3	220	369.4	388.0	411.5
45	2.7	9.3	12.9	225	379.2	398.3	422.9
50	6.1	10.9	14.1	230	387.3	406.8	432.3
55	8.6	12.6	14.9	235	393.8	413.6	439.9
60	10.4	14.0	16.2	240	398.7	418.7	445.7
65	11.5	14.9	20.0	245	402.1	422.3	449.8
70	12.1	15.5	37.8	250	404.2	424.5	452.2
75	12.3	15.7	43.2	255	404.9	425.2	453.0
80	12.1	15.5	45.6	260	404.2	424.5	452.2
85	11.5	14.9	48.4	265	402.1	422.3	449.8
90	10.4	14.0	48.7	270	398.7	418.7	445.7
95	8.6	12.6	50.5	275	393.8	413.6	439.9
100	6.1	10.9	49.9	280	387.3	406.8	432.3
105	2.7	9.3	50.7	285	379.2	398.3	423.2
110	1.9	9.0	50.6	290	369.4	388.0	412.6
115	7.8	12.0	50.8	295	357.9	375.9	400.4
120	15.2	18.3	49.8	300	344.5	361.8	386.2
125	24.4	27.1	50.2	305	329.3	345.8	369.9
130	35.3	38.1	51.5	310	312.3	328.0	351.2
135	48.2	51.4	55.3	315	293.7	308.5	330.0
140	63.0	66.8	69.4	320	273.6	287.5	306.7
145	79.7	84.1	87.4	325	252.4	265.1	281.4
150	98.1	103.4	108.0	330	230.1	241.8	254.9
155	118.1	124.3	130.6	335	207.4	217.9	227.9
160	139.4	146.6	154.4	340	184.4	193.8	199.0
165	161.6	169.9	179.1	345	161.6	169.9	170.2
170	184.4	193.8	204.3	350	139.4	146.6	146.7
175	207.4	217.9	229.7	355	118.1	124.3	130.2

TABULATION OF NIGHTTIME VERTICAL PATTERN
KZLA - Los Angeles, California
1540 kHz - 10 kW/50 kW-LS - DA-2

July, 1961

CARL T. JONES ASSOCIATES—CONSULTING ENGINEERS

45° VERTICAL RADIATION PATTERN

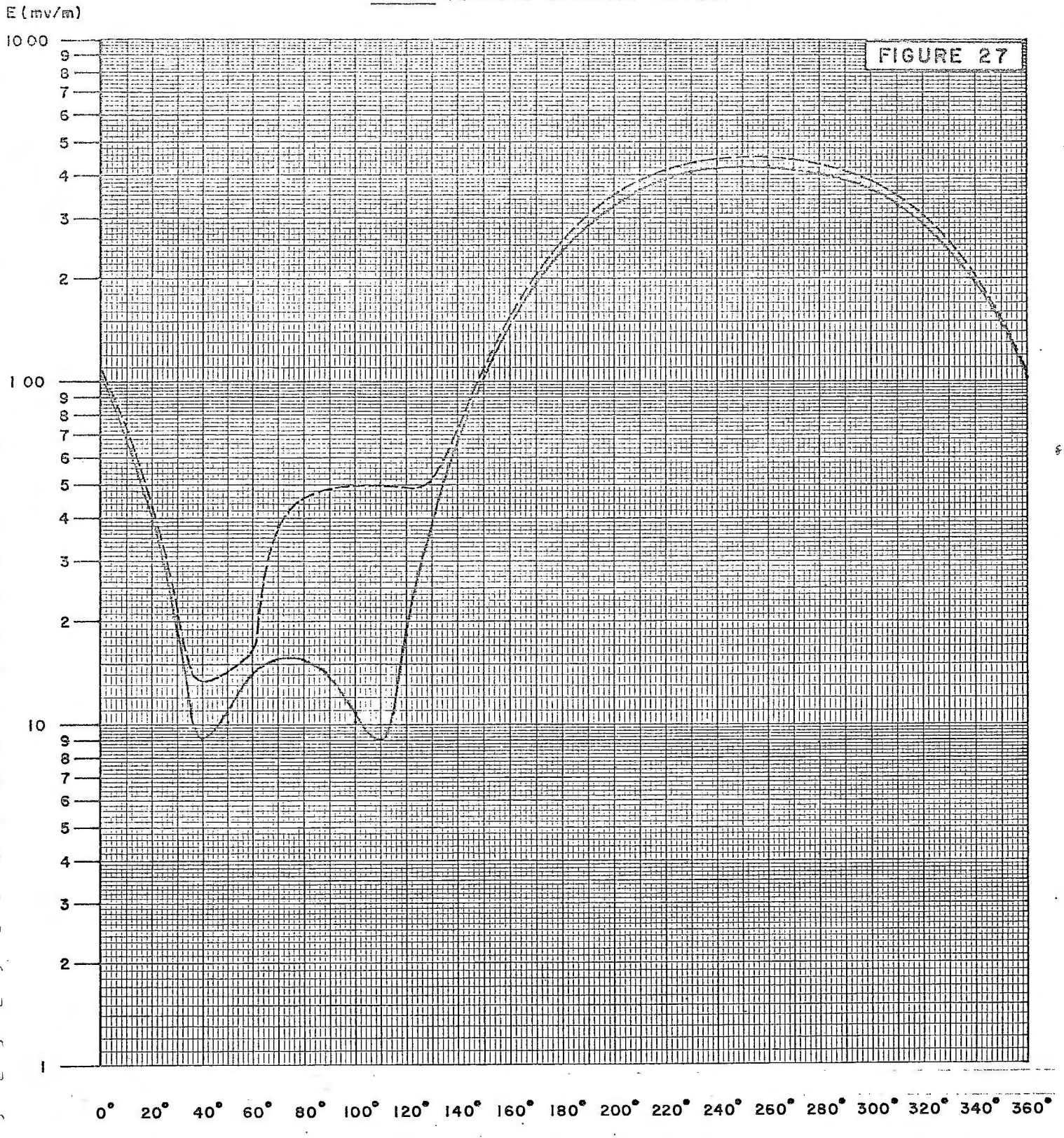


FIGURE 27

NIGHTTIME VERTICAL AUGMENTED PATTERN
KZLA - Los Angeles, California
1540 kHz - 10 kW/50 kW-LS - DA-2

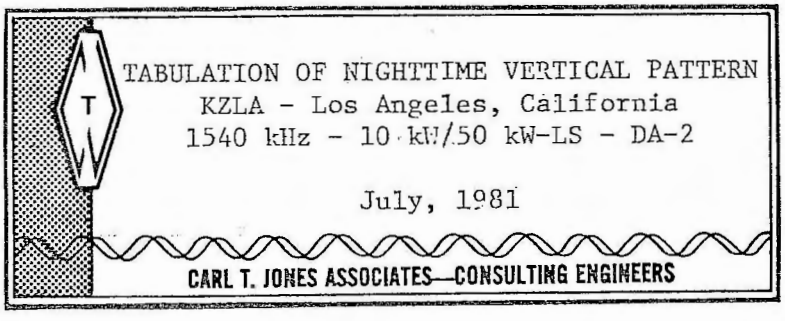
July, 1981

CARL T. JONES ASSOCIATES—CONSULTING ENGINEERS

FIGURE 28

VERTICAL ANGLE 50 DEGREES

AZI (DEG)	E THEO (MV/M)	E STD. (MV/M)	E AUG. (MV/M)	AZI (DEG)	E THEO (MV/M)	E STD. (MV/M)	E AUG. (MV/M)
0	81.4	85.8	89.6	180	181.0	190.2	201.6
5	67.2	71.0	74.3	185	197.8	207.8	220.4
10	54.3	57.4	59.6	190	213.9	224.7	238.5
15	42.6	45.3	45.7	195	229.2	240.7	255.7
20	32.3	34.7	35.6	200	243.4	255.7	271.9
25	23.4	25.6	27.1	205	256.5	269.4	286.8
30	15.8	18.1	19.9	210	268.4	281.9	300.3
35	9.4	12.3	14.5	215	278.9	292.9	312.5
40	4.2	8.5	11.7	220	288.1	302.6	323.2
45	0.0	7.3	10.5	225	295.9	310.8	332.4
50	3.2	8.1	10.9	230	302.5	317.7	340.0
55	5.7	9.5	11.5	235	307.7	323.2	346.3
60	7.5	10.8	12.7	240	311.8	327.5	351.0
65	8.7	11.7	16.0	245	314.6	330.5	354.4
70	9.4	12.3	31.1	250	316.3	332.2	356.4
75	9.7	12.5	35.6	255	316.9	332.8	357.1
80	9.4	12.3	37.6	260	316.3	332.2	356.4
85	8.7	11.7	39.9	265	314.6	330.5	354.4
90	7.5	10.8	40.1	270	311.8	327.5	351.0
95	5.7	9.5	41.6	275	307.7	323.2	346.3
100	3.2	8.1	41.1	280	302.5	317.7	340.0
105	0.0	7.3	41.9	285	295.9	310.8	332.6
110	4.2	8.5	42.1	290	288.1	302.6	324.1
115	9.4	12.3	42.7	295	278.9	292.9	314.4
120	15.8	18.1	42.4	300	268.4	281.9	303.3
125	23.4	25.6	43.4	305	256.5	269.4	290.5
130	32.3	34.7	45.1	310	243.4	255.7	276.0
135	42.6	45.3	48.4	315	229.2	240.7	259.6
140	54.3	57.4	59.6	320	213.9	224.7	241.5
145	67.2	71.0	73.6	325	197.8	207.8	222.0
150	81.4	85.8	89.5	330	181.0	190.2	201.6
155	96.6	101.7	106.9	335	163.9	172.2	180.9
160	112.7	118.6	125.2	340	146.6	154.1	158.6
165	129.4	136.1	144.0	345	129.4	136.1	136.3
170	146.6	154.1	163.1	350	112.7	118.6	118.7
175	163.9	172.2	182.5	355	96.6	101.7	106.6



50° VERTICAL RADIATION PATTERN

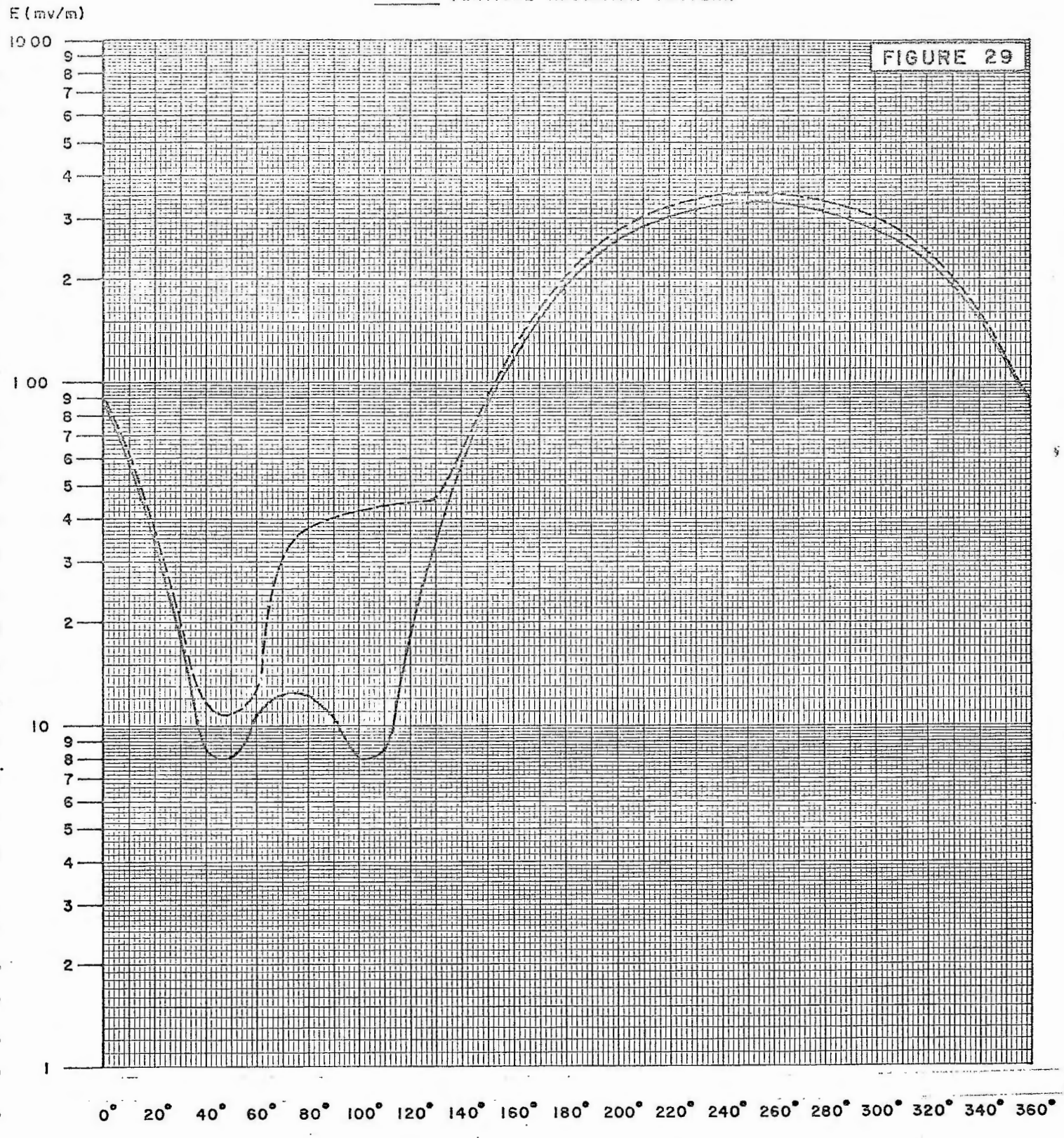


FIGURE 29

NIGHTTIME VERTICAL AUGMENTED PATTERN
KZLA - Los Angeles, California
1540 kHz - 10 kW/50 kW-LS - DA-2

July, 1981

CARL T. JONES ASSOCIATES—CONSULTING ENGINEERS

FIGURE 30

VERTICAL ANGLE 55 DEGREES

E THEO (MV/M)	E STD. (MV/M)	E AUG. (MV/M)	AZI (DEG)	E THEO (MV/M)	E STD. (MV/M)	E AUG. (MV/M)	
0	66.1	69.7	72.8	180	138.5	145.6	155.4
5	55.7	58.8	61.4	185	150.7	158.3	169.2
10	46.0	48.7	50.3	190	162.4	170.6	182.6
15	37.2	39.5	39.8	195	173.6	182.3	195.3
20	29.3	31.3	32.0	200	184.0	193.3	207.4
25	22.3	24.2	25.2	205	193.7	203.5	218.6
30	16.3	18.1	19.3	210	202.6	212.8	228.8
35	11.1	13.1	14.5	215	210.5	221.1	238.1
40	6.8	9.2	11.3	220	217.5	228.4	246.3
45	3.2	6.8	9.1	225	223.5	234.7	253.5
50	0.3	5.9	8.4	230	228.5	240.0	259.5
55	1.9	6.3	8.2	235	232.7	244.4	264.4
60	3.6	7.0	8.9	240	235.8	247.7	268.1
65	4.8	7.8	11.8	245	238.1	250.0	270.8
70	5.4	8.2	24.6	250	239.4	251.5	272.4
75	5.6	8.4	28.3	255	239.9	251.9	273.0
80	5.4	8.2	30.0	260	239.4	251.5	272.4
85	4.8	7.8	32.0	265	238.1	250.0	270.8
90	3.6	7.0	32.2	270	235.8	247.7	268.1
95	1.9	6.3	33.5	275	232.7	244.4	264.4
100	0.3	5.9	33.3	280	228.5	240.0	259.5
105	3.2	6.8	34.2	285	223.5	234.7	253.7
110	6.8	9.2	34.8	290	217.5	228.4	247.2
115	11.1	13.1	35.7	295	210.5	221.1	239.8
120	16.3	18.1	36.0	300	202.6	212.8	231.4
125	22.3	24.2	37.3	305	193.7	203.5	221.8
130	29.3	31.3	39.1	310	184.0	193.3	210.9
135	37.2	39.5	41.8	315	173.6	182.3	198.7
140	46.0	48.7	50.3	320	162.4	170.6	185.1
145	55.7	58.8	60.8	325	150.7	158.3	170.5
150	66.1	69.7	72.8	330	138.5	145.6	155.3
155	77.3	81.4	85.7	335	126.1	132.5	139.9
160	89.0	93.7	99.2	340	113.6	119.4	123.3
165	101.2	106.4	113.0	345	101.2	106.4	106.6
170	113.6	119.4	127.1	350	89.0	93.7	93.8
175	126.1	132.5	141.3	355	77.3	81.4	85.4

TABULATION OF NIGHTTIME VERTICAL PATTERN
KZLA - Los Angeles, California
1540 kHz - 10 kW/50 kW-LS - DA-2

July, 1981

CARL T. JONES ASSOCIATES—CONSULTING ENGINEERS

55° VERTICAL RADIATION PATTERN

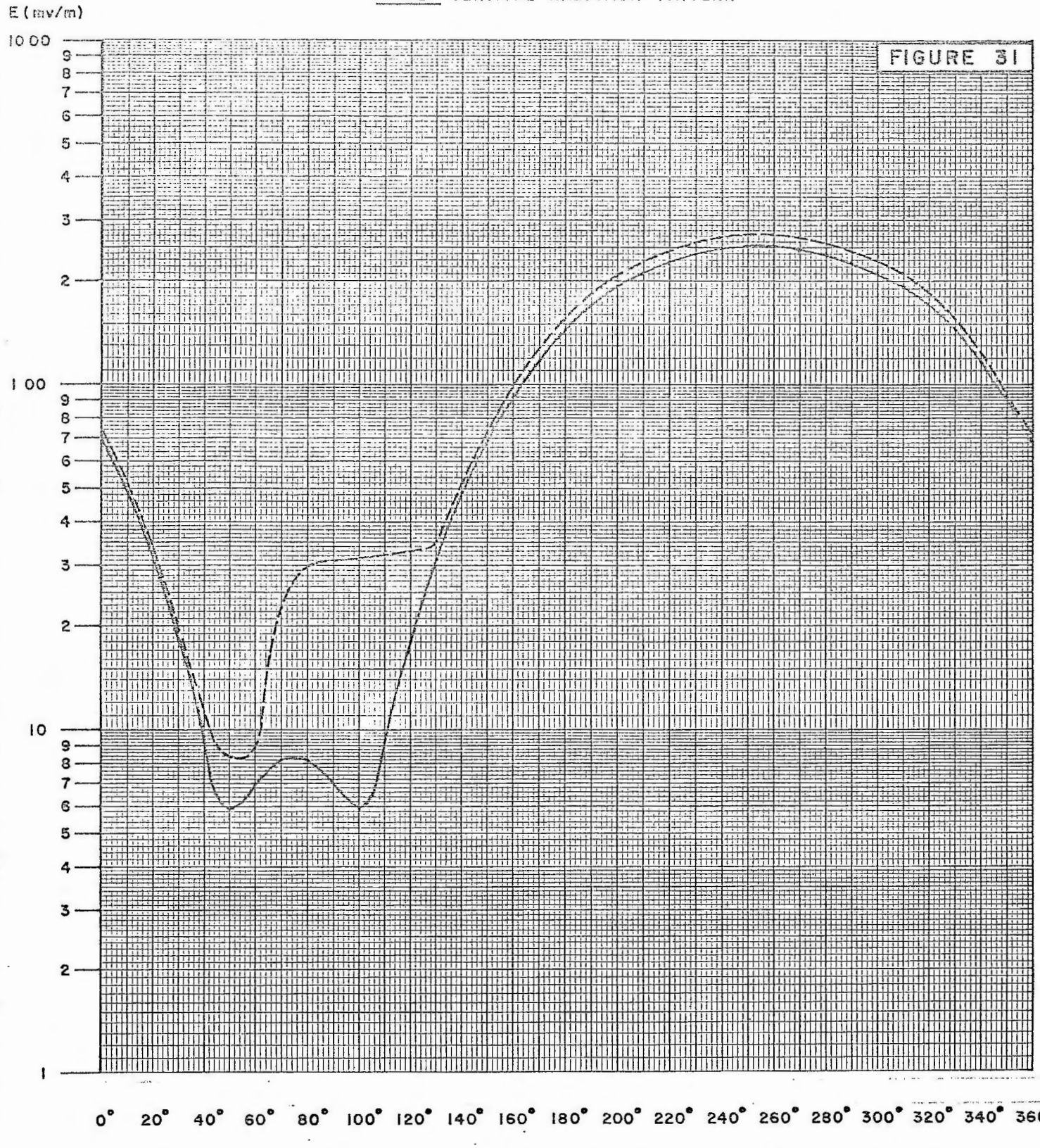


FIGURE 31

NIGHTTIME VERTICAL AUGMENTED PATTERN
KZLA - Los Angeles, California
1540 kHz - 10 kW/50 kW-LS - DA-2

July, 1981

CARL T. JONES ASSOCIATES—CONSULTING ENGINEERS

FIGURE 32

VERTICAL ANGLE 60 DEGREES

E THEO (MV/M)	E STD. (MV/M)	E AUG. (MV/M)	AZI (DEG)	E THEO (MV/M)	E STD. (MV/M)	E AUG. (MV/M)
0	52.7	55.5	58.0	180	102.9	108.1	116.4
5	45.3	47.8	49.8	185	111.3	117.0	126.2
10	38.4	40.6	41.8	190	119.4	125.5	135.7
15	32.0	34.0	34.2	195	127.2	133.7	144.8
20	26.3	28.0	28.4	200	134.6	141.4	153.4
25	21.1	22.6	23.3	205	141.4	148.6	161.5
30	16.5	18.0	18.7	210	147.7	155.1	168.9
35	12.5	14.0	14.8	215	153.3	161.1	175.7
40	9.1	10.7	11.9	220	158.4	166.4	181.8
45	6.3	8.1	9.4	225	162.7	170.9	187.1
50	3.9	6.3	7.9	230	166.4	174.8	191.5
55	2.1	5.2	6.7	235	169.5	178.0	195.2
60	0.7	4.8	6.4	240	171.8	180.5	198.0
65	0.3	4.7	8.5	245	173.5	182.2	200.1
70	0.9	4.8	19.1	250	174.5	183.3	201.3
75	1.1	4.8	22.0	255	174.8	183.6	201.7
80	0.9	4.8	23.4	260	174.5	183.3	201.3
85	0.3	4.7	25.1	265	173.5	182.2	200.1
90	0.7	4.8	25.4	270	171.8	180.5	198.0
95	2.1	5.2	26.6	275	169.5	178.0	195.2
100	3.9	6.3	26.7	280	166.4	174.8	191.5
105	6.3	8.1	27.8	285	162.7	170.9	187.2
110	9.1	10.7	28.7	290	158.4	166.4	182.5
115	12.5	14.0	29.9	295	153.3	161.1	177.2
120	16.5	18.0	30.6	300	147.7	155.1	171.1
125	21.1	22.6	32.0	305	141.4	148.6	164.3
130	26.3	28.0	33.5	310	134.6	141.4	156.5
135	32.0	34.0	35.7	315	127.2	133.7	147.6
140	38.4	40.6	41.8	320	119.4	125.5	137.9
145	45.3	47.8	49.4	325	111.3	117.0	127.4
150	52.7	55.5	57.9	330	102.9	108.1	116.4
155	60.5	63.7	67.2	335	94.3	99.1	105.4
160	68.7	72.2	76.8	340	85.7	90.1	93.3
165	77.1	81.1	86.5	345	77.1	81.1	81.2
170	85.7	90.1	96.5	350	68.7	72.2	72.3
175	94.3	99.1	106.5	355	60.5	63.7	66.9

TABULATION OF NIGHTTIME VERTICAL PATTERN
KZLA - Los Angeles, California
1540 kHz - 10 kW/50 kW-LS - DA-2

July, 1981

CARL T. JONES ASSOCIATES—CONSULTING ENGINEERS

60° VERTICAL RADIATION PATTERN

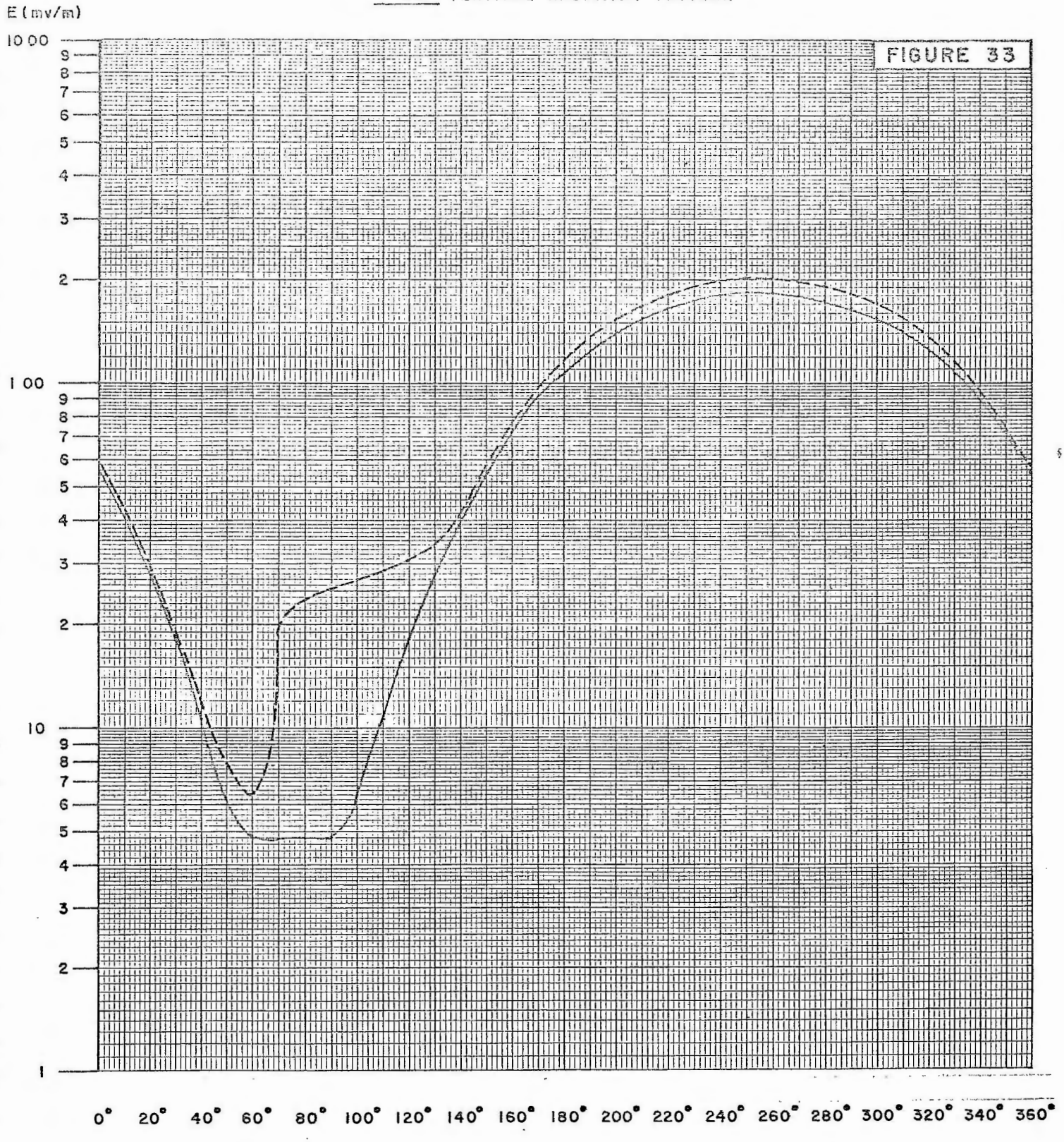
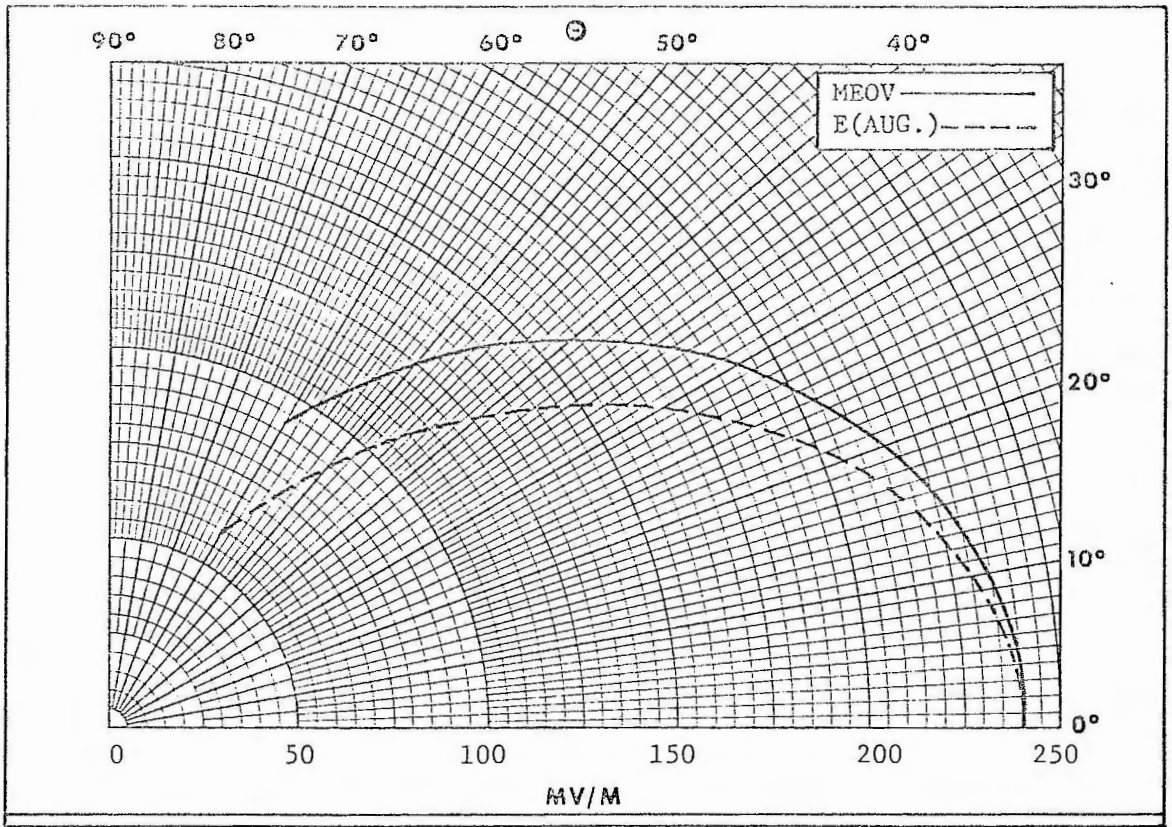


FIGURE 33

NIGHTTIME VERTICAL AUGMENTED PATTERN
KZLA - Los Angeles, California
1540 kHz - 10 kW/50 kW-LS - DA-2

July, 1981

CARL T. JONES ASSOCIATES—CONSULTING ENGINEERS



Tabulation of Radiated Fields

Θ	MEOV	E(AUG.)
0°	240.7	240.7
5	239.2	238.3
10	234.6	231.3
15	227.2	220.1
20	217.2	205.4
25	205.0	187.7
30	191.0	168.5
35	175.6	148.2
40	159.3	127.8
45	142.6	108.0
50	125.7	89.6
55	109.0	72.8
60	92.7	58.0

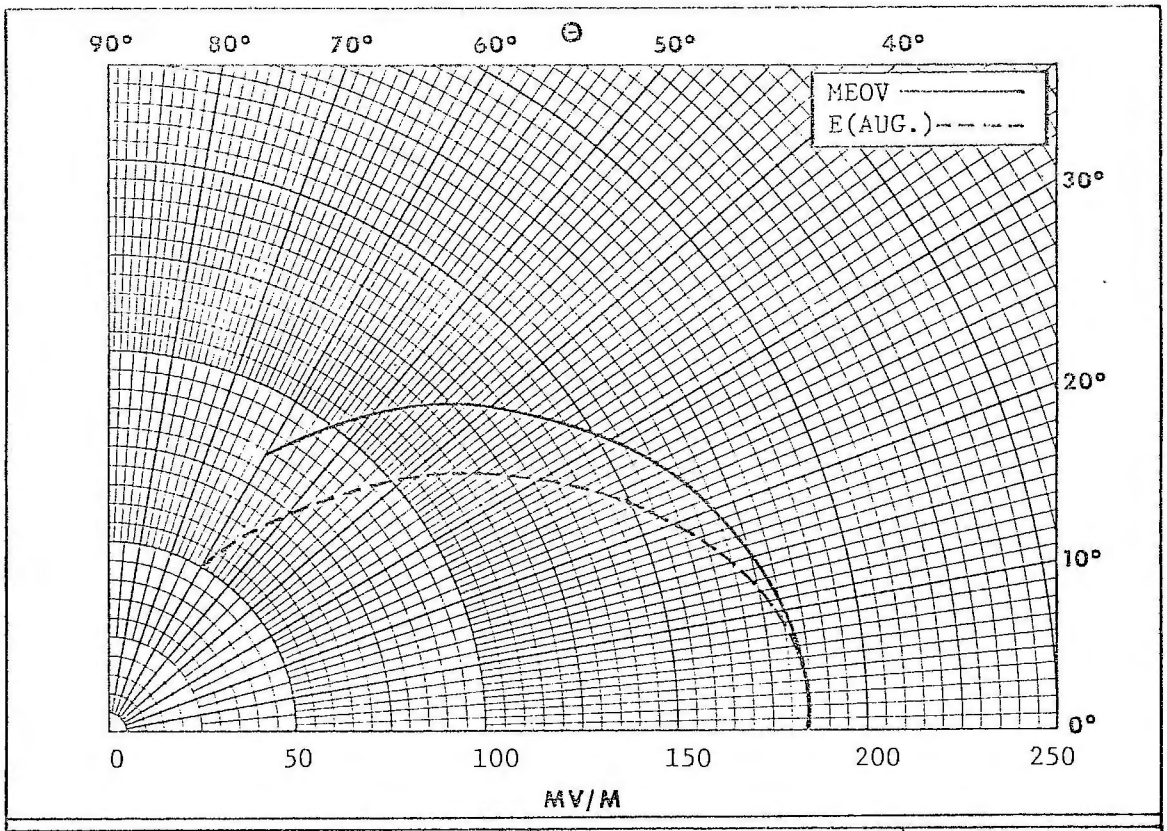
1. Miles	
2. Mid-Point Latitude	
3. Azimuth	0°
4. Horizontal Radiation	
5. Min.-Max. /v (dΘ)	
6. Max. Rad. within dΘ	
7. Skywave Field	
8. LIMIT	

COMPARISON OF PRESENT AND PROPOSED
VERTICAL SLICES
KZLA - Los Angeles, California
1540 kHz - 10 kW/50 kW-LS - DA-2

June, 1981

CARL T. JONES ASSOCIATES—CONSULTING ENGINEERS

FIGURE 35



Tabulation of Radiated Fields

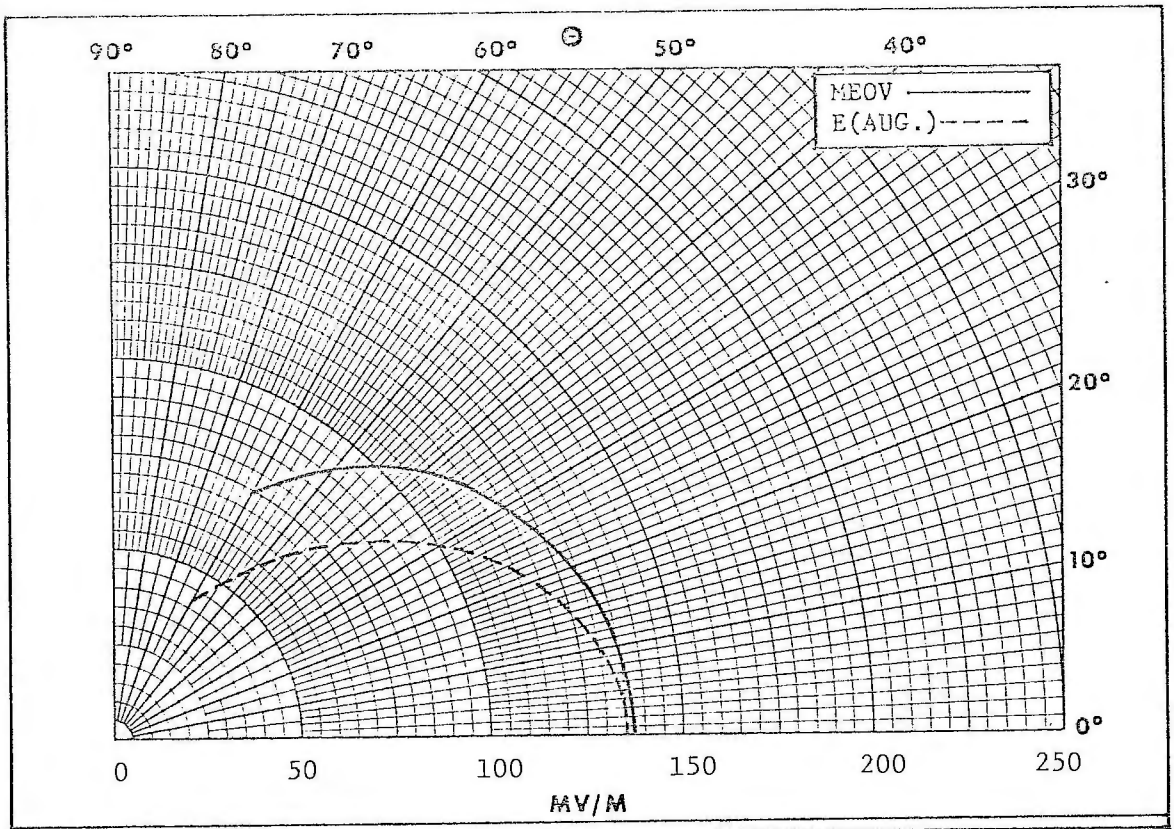
Θ	MEOV	E(AUG.)
0°	184.8	184.8
5	183.9	183.1
10	181.1	178.1
15	176.6	170.1
20	170.4	159.5
25	162.8	146.9
30	153.8	132.8
35	143.6	118.0
40	132.6	102.9
45	120.8	88.2
50	108.5	74.3
55	95.9	61.4
60	83.2	49.8

1. Miles	
2. Mid-Point Latitude	
3. Azimuth	5°
4. Horizontal Radiation	
5. Min.-Max. /v (dΘ)	
6. Max. Rad. within dΘ	
7. Skywave Field	
8. LIMIT	

COMPARISON OF PRESENT AND PROPOSED
VERTICAL SLICES
KZLA - Los Angeles, California
1540 kHz - .10 kW/50 kW-LS - DA-2

June, 1981

CARL T. JONES ASSOCIATES—CONSULTING ENGINEERS



Tabulation of Radiated Fields

Θ	MEOV	E(AUG.)
0°	137.1	135.2
5	136.6	134.1
10	135.3	130.7
15	133.0	125.3
20	129.9	118.2
25	125.8	109.7
30	120.9	100.1
35	115.1	90.0
40	108.4	79.7
45	100.9	69.4
50	92.7	59.6
55	83.8	50.3
60	74.3	41.8

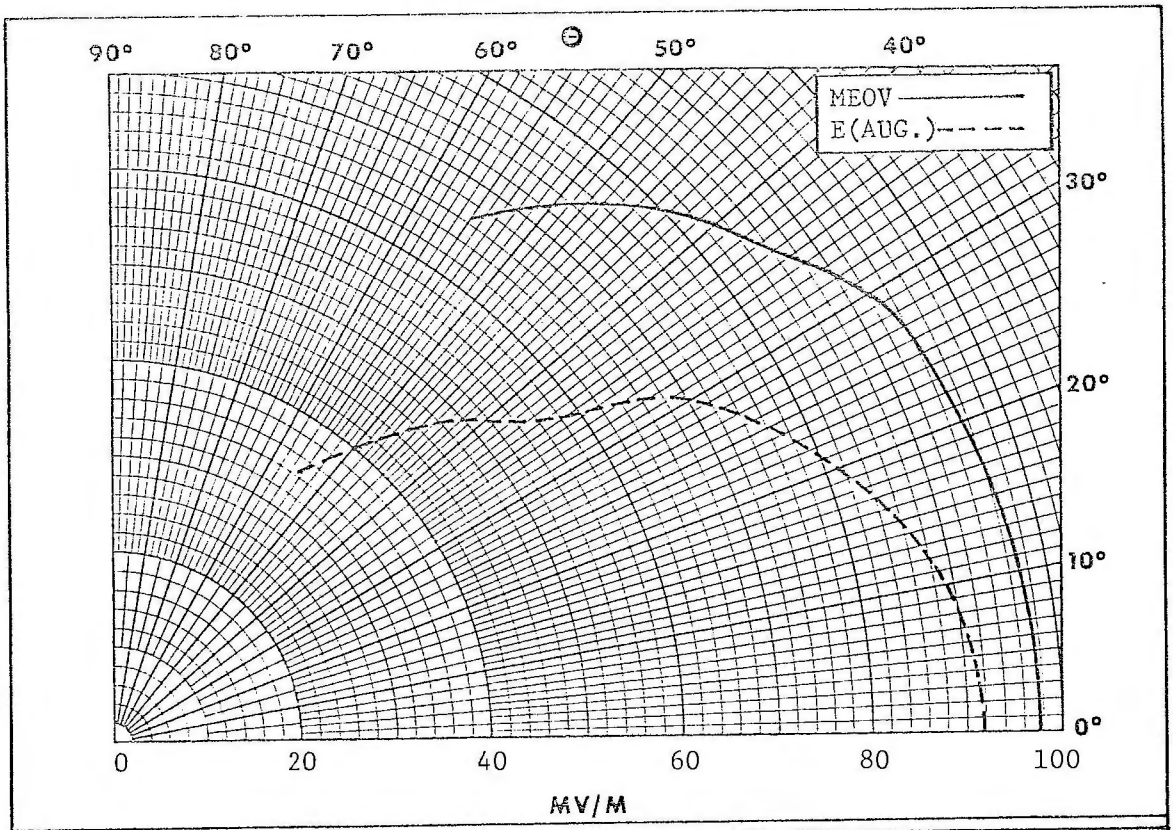
1. Miles	
2. Mid-Point Latitude	
3. Azimuth	10°
4. Horizontal Radiation	
5. Min.-Max. /v (dΘ)	
6. Max. Rad. within dΘ	
7. Skywave Field	
8. LIMIT	

COMPARISON OF PRESENT AND PROPOSED
VERTICAL SLICES
KZLA - Los Angeles, California
1540 kHz - 10 kW/50 kW-LS - DA-2

June, 1981

CARL T. JONES ASSOCIATES—CONSULTING ENGINEERS

FIGURE 37



Tabulation of Radiated Fields

Θ	MEOV	E(AUG.)
0°	97.8	91.9
5	97.7	91.2
10	97.3	89.2
15	96.6	85.9
20	95.7	81.5
25	94.3	76.3
30	92.5	70.6
35	87.1	58.2
40	83.2	51.9
45	78.5	45.7
50	72.8	39.8
55	66.1	34.2
60		

1. Miles	
2. Mid-Point Latitude	
3. Azimuth	15°
4. Horizontal Radiation	
5. Min.-Max. /v (dΘ)	
6. Max. Rad. within dΘ	
7. Skywave Field	
8. LIMIT	

COMPARISON OF PRESENT AND PROPOSED
VERTICAL SLICES
KZLA - Los Angeles, California
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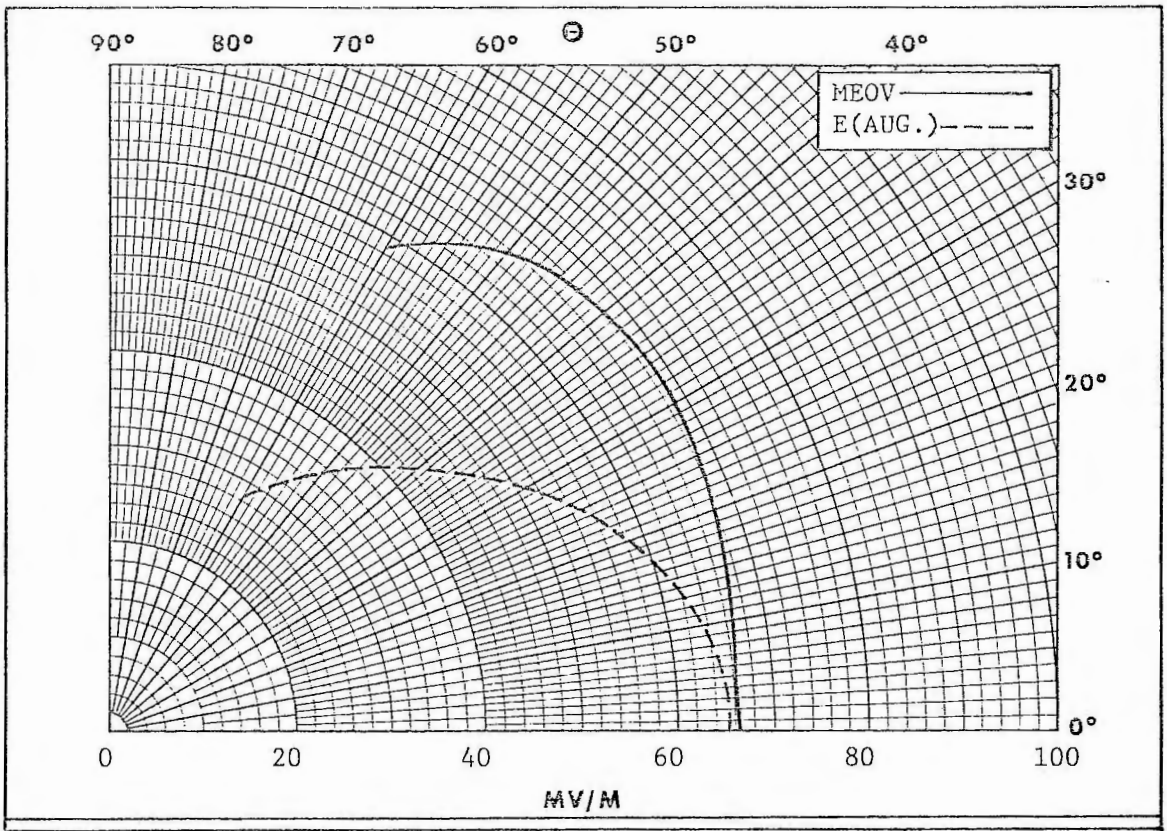
June, 1981

CARL T. JONES ASSOCIATES—CONSULTING ENGINEERS



Tabulation of Radiated Fields

Θ	MEOV	E(AUG.)
0°	66.6	65.7
5	66.6	65.2
10	66.9	63.7
15	67.2	61.3
20	67.7	58.2
25	68.2	54.7
30	68.7	50.9
35	68.9	47.0
40	68.6	43.2
45	67.6	39.3
50	65.7	35.6
55	62.8	32.0
60	58.6	28.4

1. Miles	
2. Mid-Point Latitude	
3. Azimuth	20°
4. Horizontal Radiation	
5. Min.-Max. ∠v (dΘ)	
6. Max. Rad. within dΘ	
7. Skywave Field	
8. LIMIT	

COMPARISON OF PRESENT AND PROPOSED
VERTICAL SLICES
KZLA - Los Angeles, California
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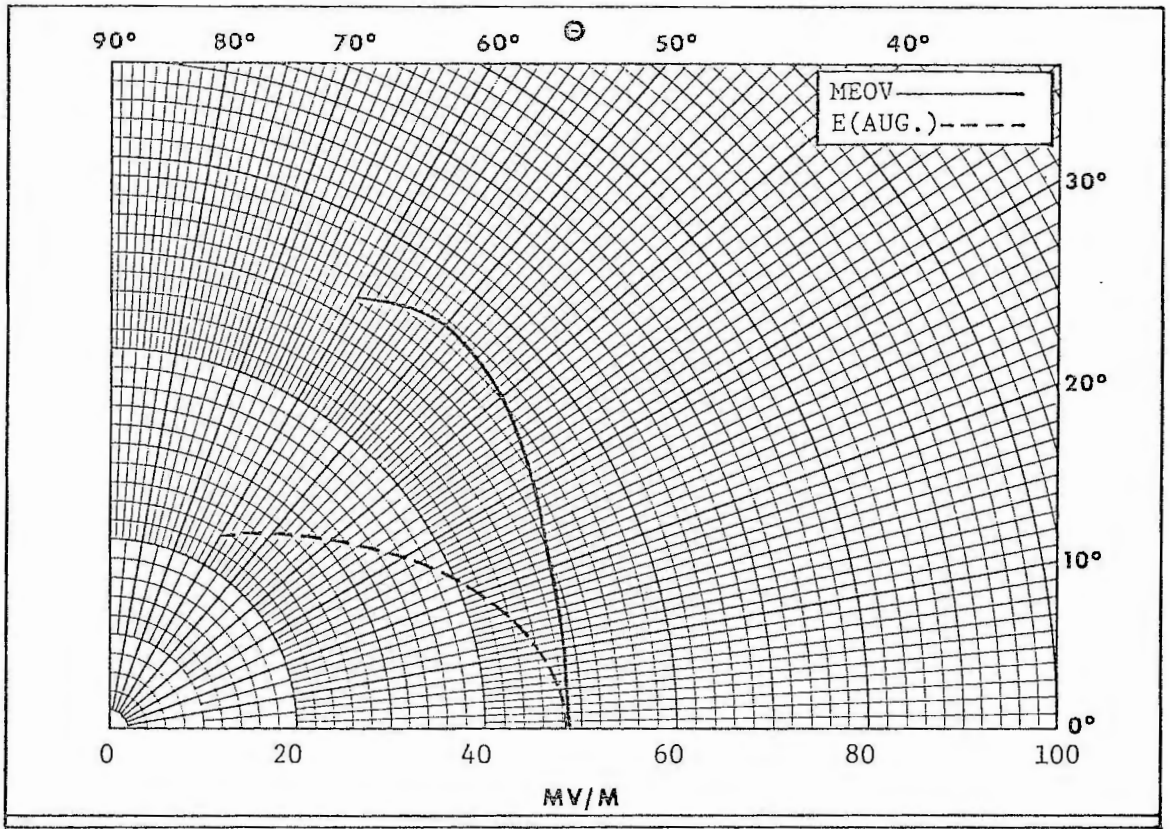

Tabulation of Radiated Fields

Θ	MEOV	E(AUG.)
0°	48.7	48.4
5	48.7	48.0
10	48.9	46.6
15	49.3	44.6
20	49.9	42.0
25	50.8	39.2
30	52.0	36.4
35	53.4	33.7
40	54.6	31.2
45	55.4	29.1
50	55.5	27.1
55	54.6	25.2
60	52.4	23.3

1. Miles	
2. Mid-Point Latitude	
3. Azimuth	25°
4. Horizontal Radiation	
5. Min.- Max. /v (dΘ)	
6. Max. Rad. within dΘ	
7. Skywave Field	
8. LIMIT	

COMPARISON OF PRESENT AND PROPOSED
VERTICAL SLICES
KZLA - Los Angeles, California
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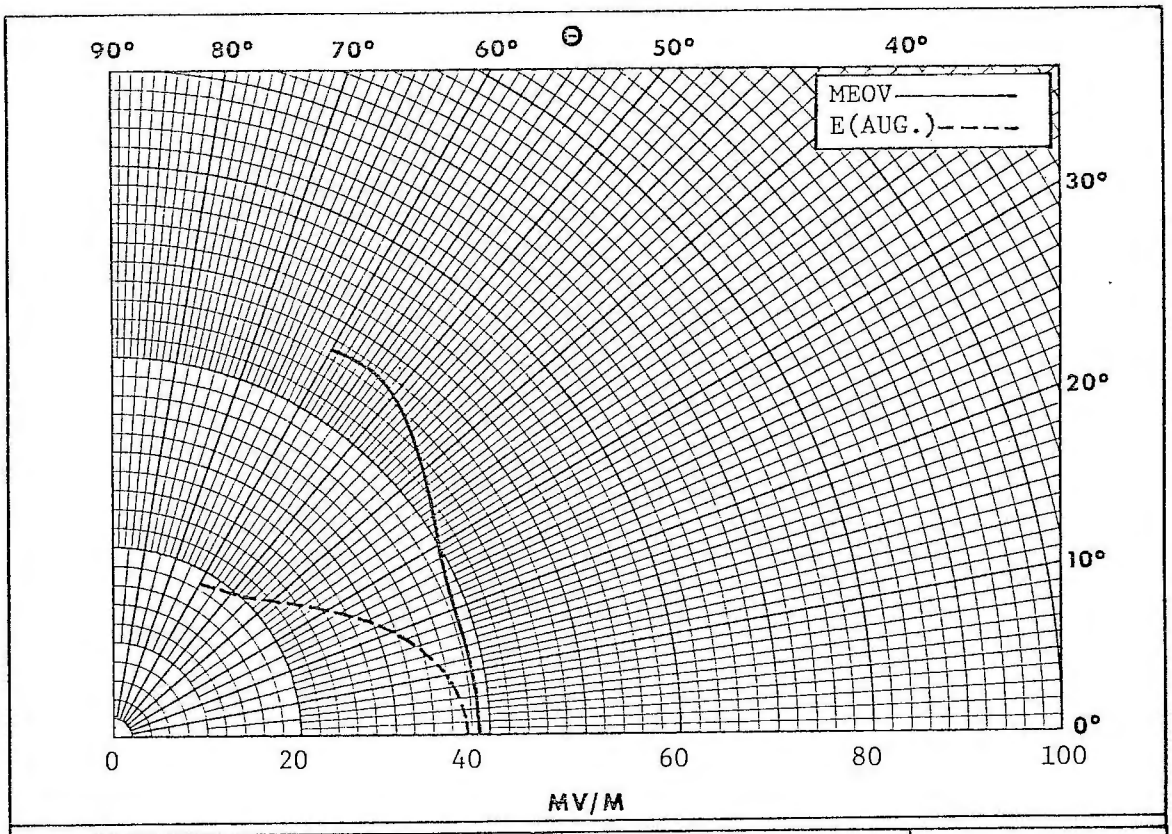

Tabulation of Radiated Fields

Θ	MEOV	E(AUG.)
0°	38.9	37.8
5	38.9	37.3
10	38.7	36.0
15	38.5	34.0
20	38.6	31.5
25	39.1	28.9
30	40.1	26.3
35	41.7	24.0
40	43.5	22.2
45	45.4	20.8
50	46.9	19.9
55	47.5	19.3
60	46.9	18.7

1. Miles	
2. Mid-Point Latitude	
3. Azimuth	30°
4. Horizontal Radiation	
5. Min.- Max. ∠v (dΘ)	
6. Max. Rad. within dΘ	
7. Skywave Field	
8. LIMIT	

COMPARISON OF PRESENT AND PROPOSED
VERTICAL SLICES
KZLA - Los Angeles, California
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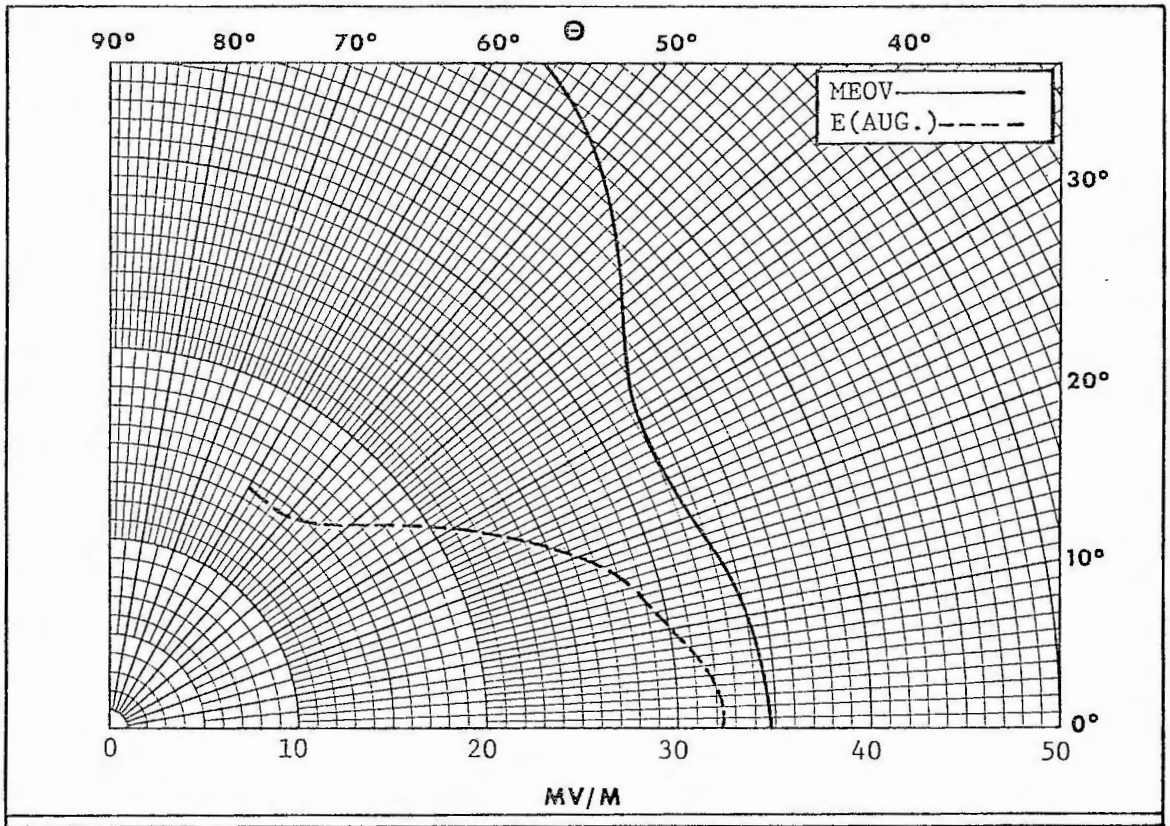

Tabulation of Radiated Fields

Θ	MEOV	E(AUG.)
0°	34.8	32.4
5	34.6	31.9
10	34.1	30.6
15	33.3	28.6
20	32.6	26.1
25	32.2	23.6
30	32.4	21.0
35	33.4	18.6
40	35.2	16.6
45	37.5	15.2
50	39.7	14.5
55	41.4	14.5
60	42.1	14.8

1. Miles	
2. Mid-Point Latitude	
3. Azimuth	35°
4. Horizontal Radiation	
5. Min.-Max. /v (dΘ)	
6. Max. Rad. within dΘ	
7. Skywave Field	
8. LIMIT	

COMPARISON OF PRESENT AND PROPOSED
VERTICAL SLICES
KZLA - Los Angeles, California
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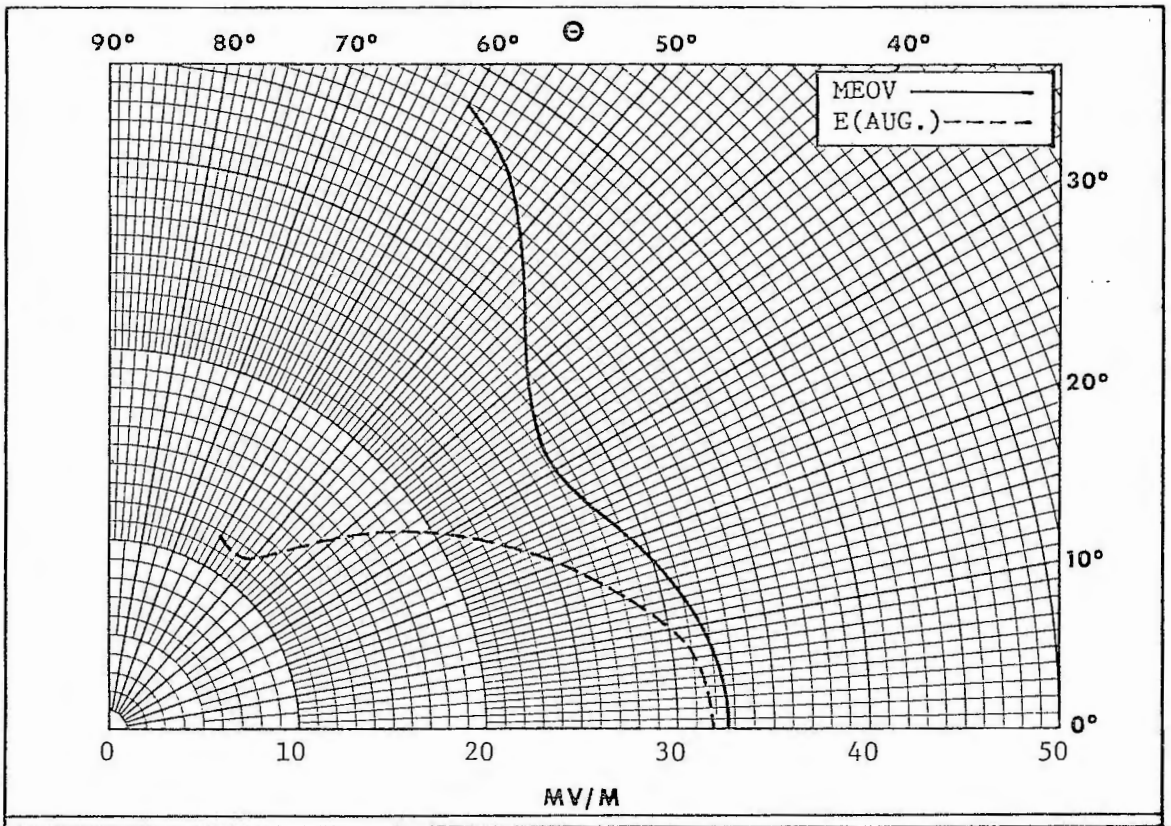
CARL T. JONES ASSOCIATES—CONSULTING ENGINEERS



Tabulation of Radiated Fields

Θ	MEOV	E(AUG.)
0°	32.7	31.9
5	32.4	31.4
10	31.6	30.0
15	30.5	27.9
20	29.2	25.5
25	28.0	23.0
30	27.3	20.6
35	27.6	18.1
40	28.9	15.5
45	31.1	13.3
50	33.8	11.7
55	36.3	11.3
60	37.9	11.9

1. Miles	
2. Mid-Point Latitude	
3. Azimuth	40°
4. Horizontal Radiation	
5. Min.-Max. ∠v (dΘ)	
6. Max. Rad. within dΘ	
7. Skywave Field	
8. LIMIT	

COMPARISON OF PRESENT AND PROPOSED
VERTICAL SLICES
KZLA - Los Angeles, California
1540 kHz - 10 kW/50 kW-LS - DA-2

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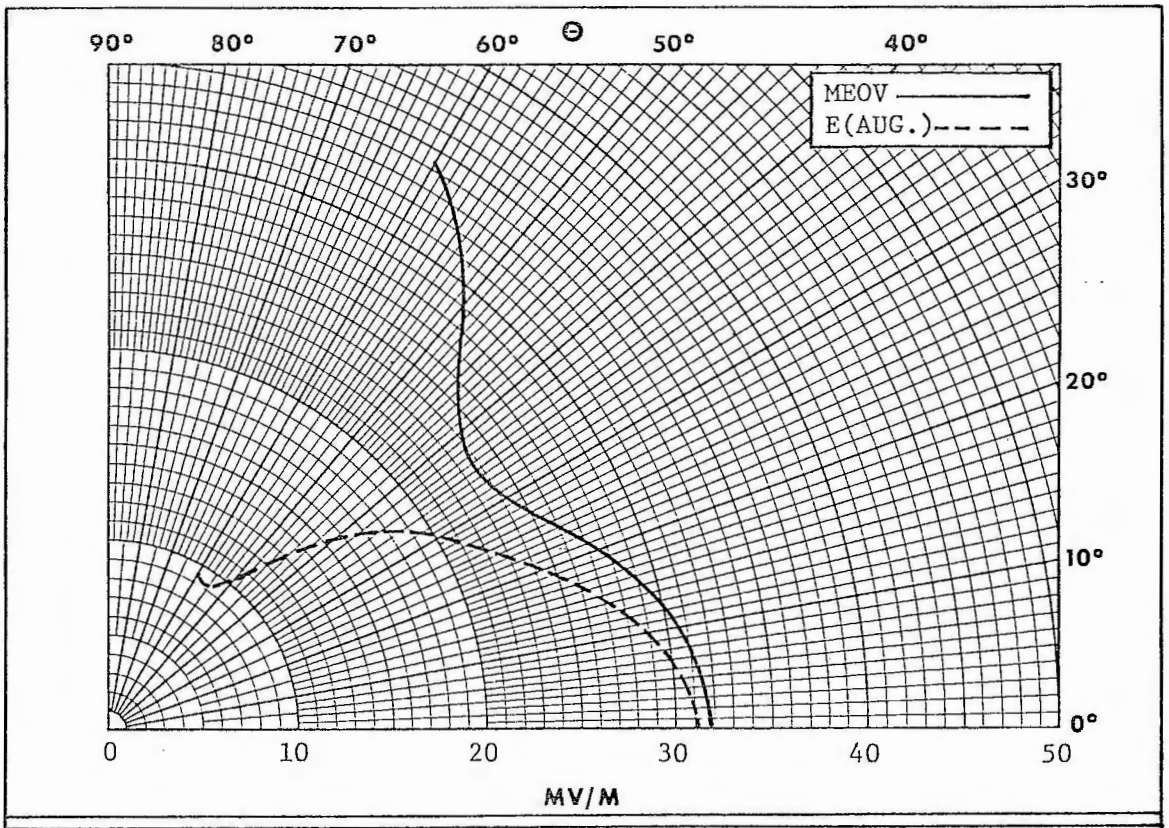

Tabulation of Radiated Fields

Θ	MEOV	E(AUG.)
0°	31.9	31.1
5	31.6	30.5
10	30.6	28.9
15	29.1	26.6
20	27.4	24.3
25	25.7	22.2
30	24.4	20.2
35	23.8	18.1
40	24.4	15.7
45	26.4	12.9
50	29.2	10.5
55	32.1	9.1
60	34.4	9.4

1. Miles	
2. Mid-Point Latitude	
3. Azimuth	45°
4. Horizontal Radiation	
5. Min.- Max. /v (dΘ)	
6. Max. Rad. within dΘ	
7. Skywave Field	
8. LIMIT	

COMPARISON OF PRESENT AND PROPOSED
VERTICAL SLICES
KZLA - Los Angeles, California
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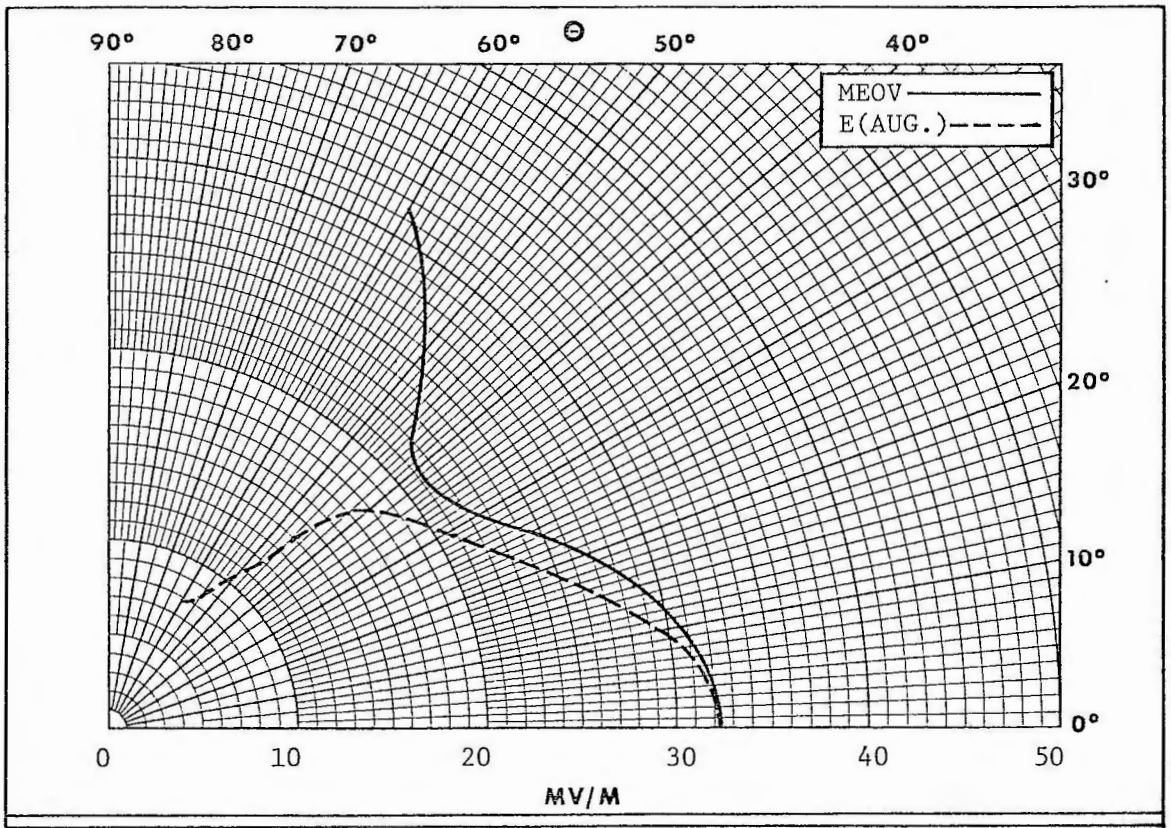

Tabulation of Radiated Fields

Θ	MEOV	E(AUG.)
0°	32.3	32.3
5	31.8	31.5
10	30.5	29.4
15	28.7	26.7
20	26.6	24.1
25	24.5	22.1
30	22.6	20.6
35	21.4	19.1
40	21.4	16.9
45	22.8	14.1
50	25.5	10.9
55	28.7	8.4
60	31.6	7.9

1. Miles	
2. Mid-Point Latitude	
3. Azimuth	50°
4. Horizontal Radiation	
5. Min.-Max. /v (dΘ)	
6. Max. Rad. within dΘ	
7. Skywave Field	
8. LIMIT	

COMPARISON OF PRESENT AND PROPOSED
VERTICAL SLICES
KZLA - Los Angeles, California
1540 kHz - 10 kW/50 kW-LS - DA-2

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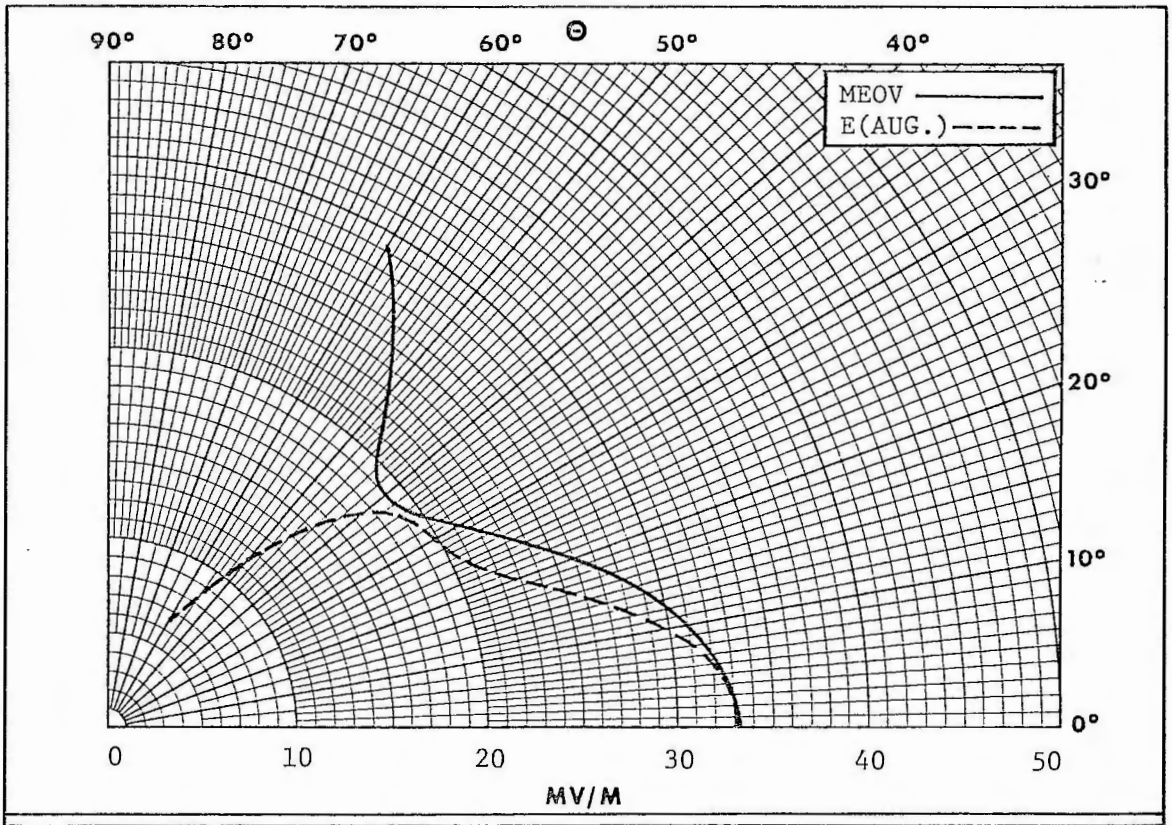
CARL T. JONES ASSOCIATES—CONSULTING ENGINEERS

FIGURE 45



Tabulation of Radiated Fields

Θ	MEOV	E(AUG.)
0°	33.2	33.1
5	32.6	32.5
10	30.9	29.4
15	28.5	26.0
20	25.9	22.8
25	23.3	20.8
30	21.2	19.9
35	19.6	19.1
40	19.1	17.5
45	20.1	14.9
50	22.7	11.5
55	26.0	8.2
60	29.3	6.7

1. Miles	
2. Mid-Point Latitude	
3. Azimuth	55°
4. Horizontal Radiation	
5. Min.- Max. /v (dΘ)	
6. Max. Rad. within dΘ	
7. Skywave Field	
8. LIMIT	

COMPARISON OF PRESENT AND PROPOSED
VERTICAL SLICES
KZLA - Los Angeles, California
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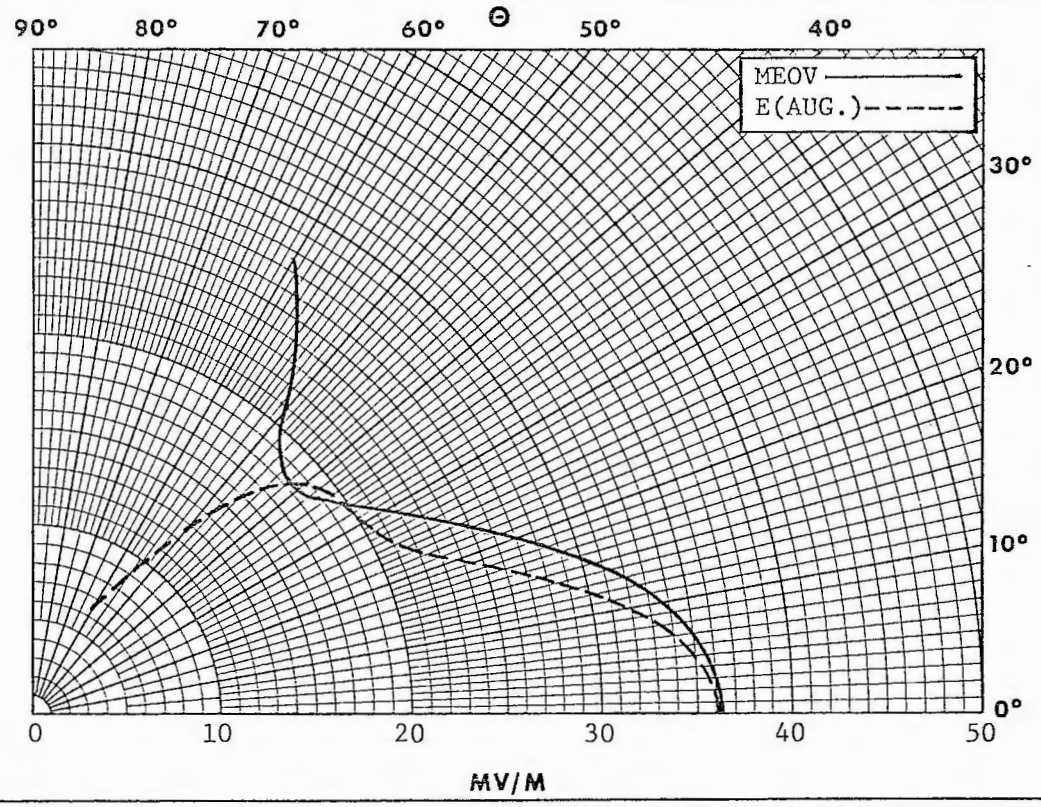

Tabulation of Radiated Fields

Θ	MEOV	E(AUG.)
0°	36.4	36.2
5	35.6	35.0
10	33.5	31.7
15	30.5	27.4
20	27.2	23.5
25	24.1	21.1
30	21.4	20.2
35	19.4	19.8
40	18.3	18.6
45	18.8	16.2
50	20.9	12.7
55	24.2	8.9
60	27.6	6.4

1. Miles	
2. Mid-Point Latitude	
3. Azimuth	60°
4. Horizontal Radiation	
5. Min.- Max. ∠v (dΘ)	
6. Max. Rad. within dΘ	
7. Skywave Field	
8. LIMIT	

COMPARISON OF PRESENT AND PROPOSED
VERTICAL SLICES
KZLA - Los Angeles, California
1540 kHz - 10 kW/50 kW-LS - DA-2

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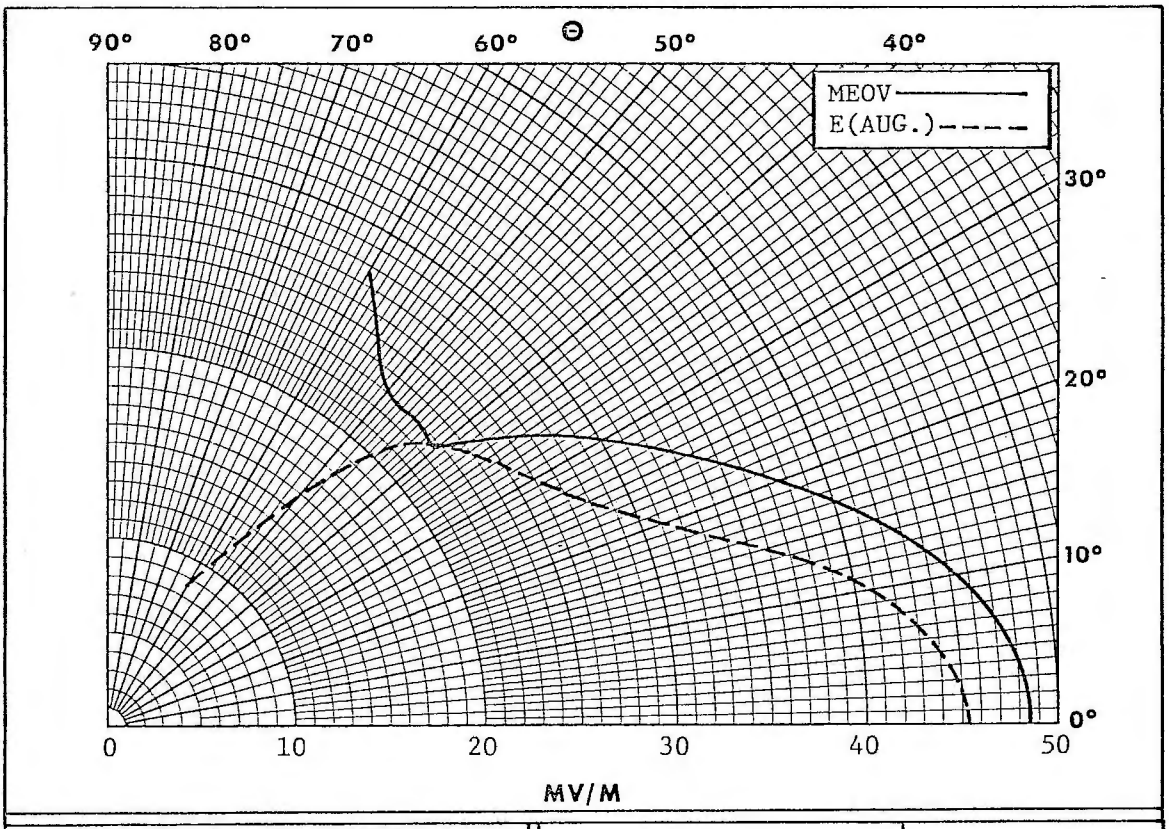
CARL T. JONES ASSOCIATES—CONSULTING ENGINEERS

FIGURE 47



Tabulation of Radiated Fields		
Θ	MEOV	E(AUG.)
0°	48.6	45.4
5	47.7	44.1
10	45.3	40.6
15	41.7	35.8
20	37.7	31.2
25	33.7	27.9
30	30.1	26.0
35	26.8	24.7
40	22.8	22.9
45	23.1	20.0
50	23.1	16.0
55	25.0	11.8
60	27.7	8.5

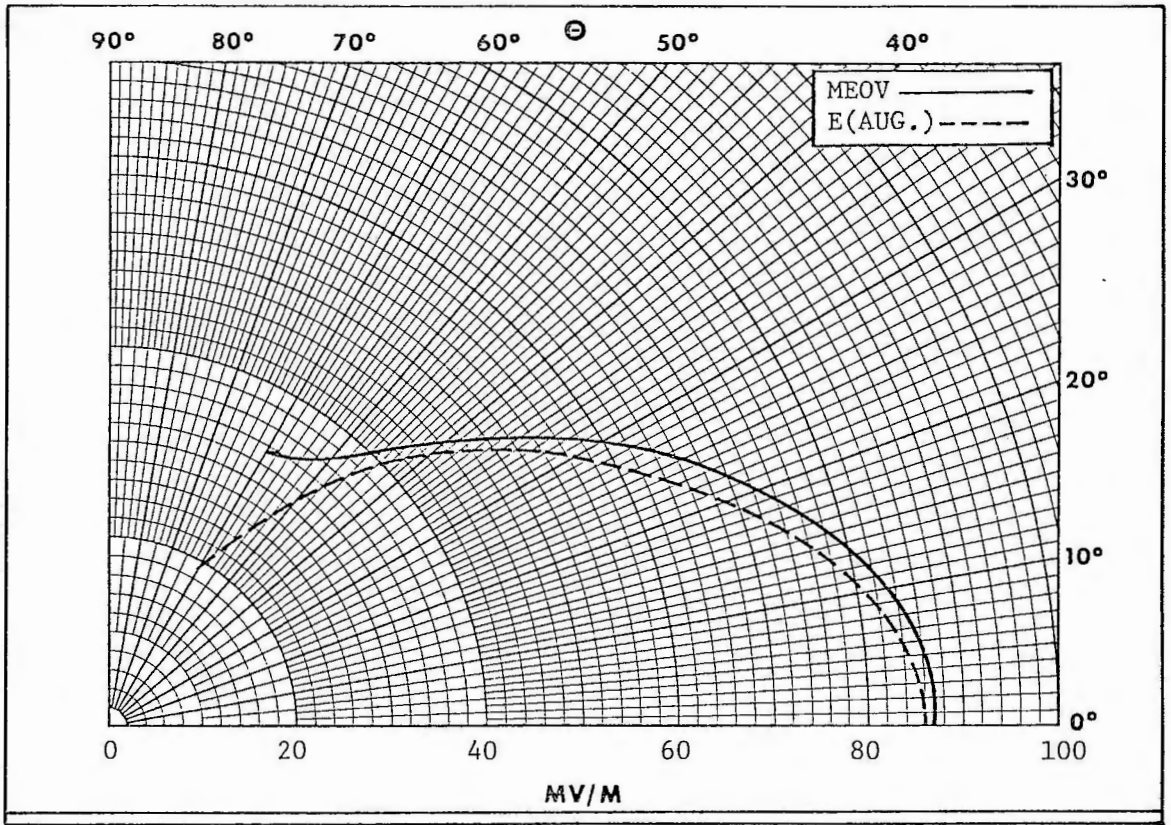
1. Miles	
2. Mid-Point Latitude	
3. Azimuth	65°
4. Horizontal Radiation	
5. Min.- Max. ∠v (dΘ)	
6. Max. Rad. within dΘ	
7. Skywave Field	
8. LIMIT	

COMPARISON OF PRESENT AND PROPOSED
VERTICAL SLICES
KZLA - Los Angeles, California
1540 kHz - 10 kW/50 kW-LS - DA-2

June, 1981

CARL T. JONES ASSOCIATES—CONSULTING ENGINEERS

FIGURE 48



Tabulation of Radiated Fields

Θ	MEOV	E(AUG.)
0°	87.3	86.0
5	86.2	84.6
10	83.1	80.8
15	78.4	75.2
20	72.7	68.8
25	66.4	62.4
30	59.8	56.3
35	53.2	50.4
40	46.9	44.3
45	41.2	37.8
50	36.9	31.1
55	34.4	24.6
60	33.5	19.1

1. Miles	
2. Mid-Point Latitude	
3. Azimuth	70°
4. Horizontal Radiation	
5. Min.- Max. /v (dΘ)	
6. Max. Rad. within dΘ	
7. Skywave Field	
8. LIMIT	

COMPARISON OF PRESENT AND PROPOSED
VERTICAL SLICES
KZLA - Los Angeles, California
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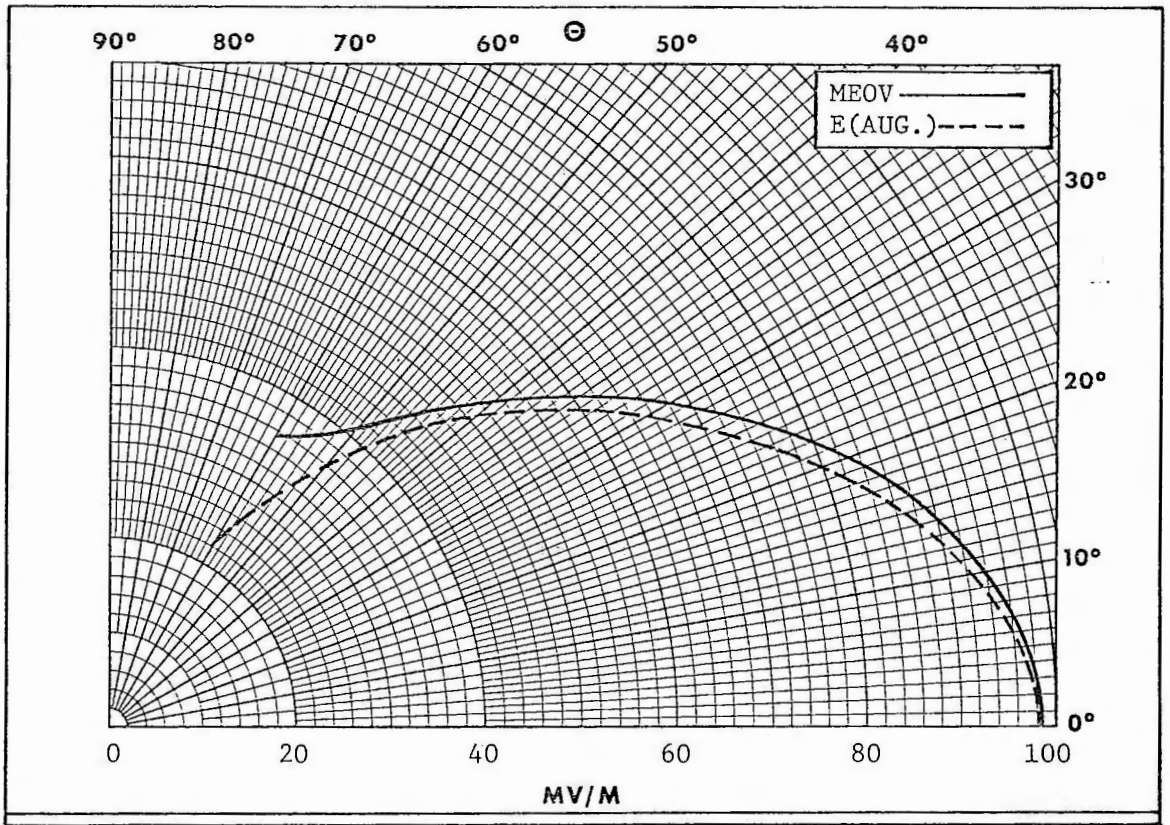
CARL T. JONES ASSOCIATES—CONSULTING ENGINEERS



Tabulation of Radiated Fields

Θ	MEOV	E(AUG.)
0°	98.5	98.2
5	97.3	96.8
10	94.0	92.6
15	88.9	86.6
20	82.5	79.5
25	75.5	72.2
30	68.0	65.0
35	60.5	57.9
40	53.2	50.7
45	46.6	43.2
50	41.2	35.6
55	37.5	28.3
60	35.5	22.0

1. Miles	
2. Mid-Point Latitude	
3. Azimuth	75°
4. Horizontal Radiation	
5. Min.-Max. ∠v (dΘ)	
6. Max. Rad. within dΘ	
7. Skywave Field	
8. LIMIT	

COMPARISON OF PRESENT AND PROPOSED
VERTICAL SLICES
KZLA - Los Angeles, California
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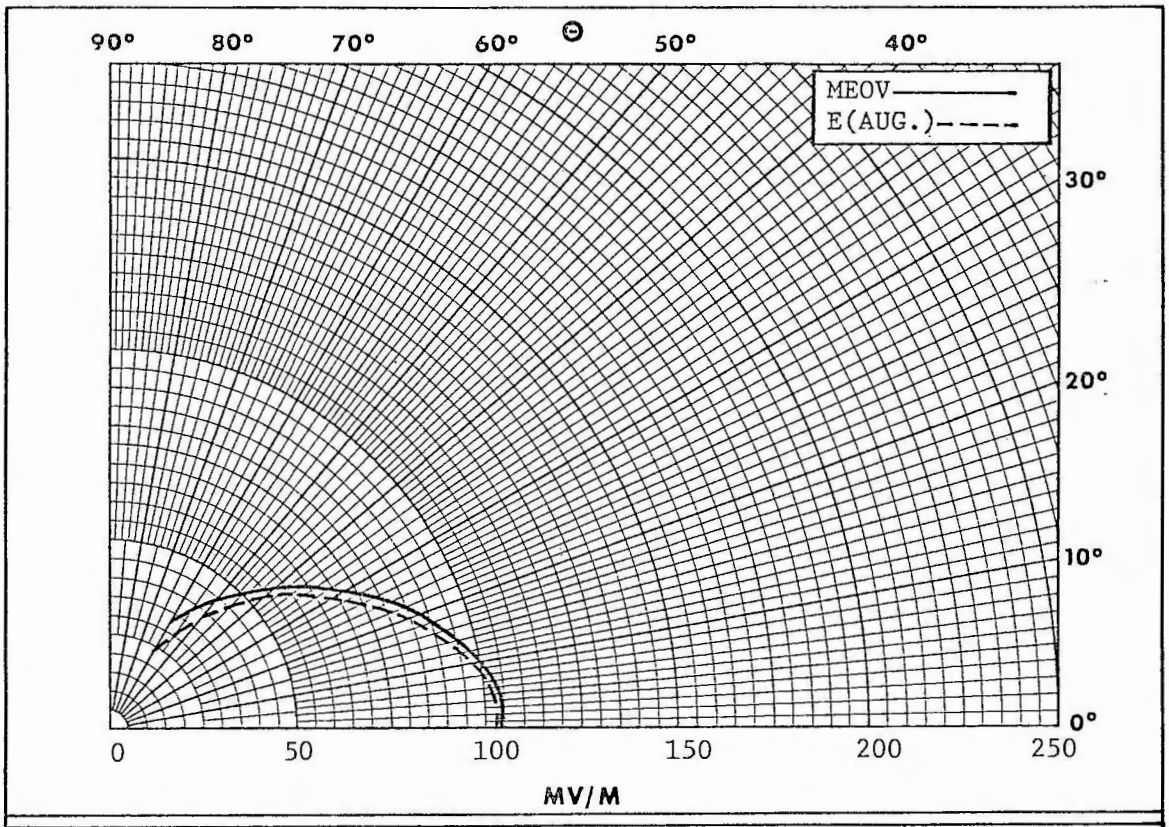
CARL T. JONES ASSOCIATES—CONSULTING ENGINEERS



Tabulation of Radiated Fields

Θ	MEOV	E(AUG.)
0°	104.2	103.4
5	103.1	101.9
10	99.6	97.8
15	94.4	91.6
20	87.8	84.3
25	80.4	76.6
30	72.5	68.9
35	64.6	61.3
40	56.8	53.5
45	49.6	45.6
50	43.7	37.6
55	39.5	30.0
60	37.0	23.4

1. Miles	
2. Mid-Point Latitude	
3. Azimuth	80°
4. Horizontal Radiation	
5. Min.-Max. /v (dΘ)	
6. Max. Rad. within dΘ	
7. Skywave Field	
8. LIMIT	

COMPARISON OF PRESENT AND PROPOSED
VERTICAL SLICES
KZLA - Los Angeles, California
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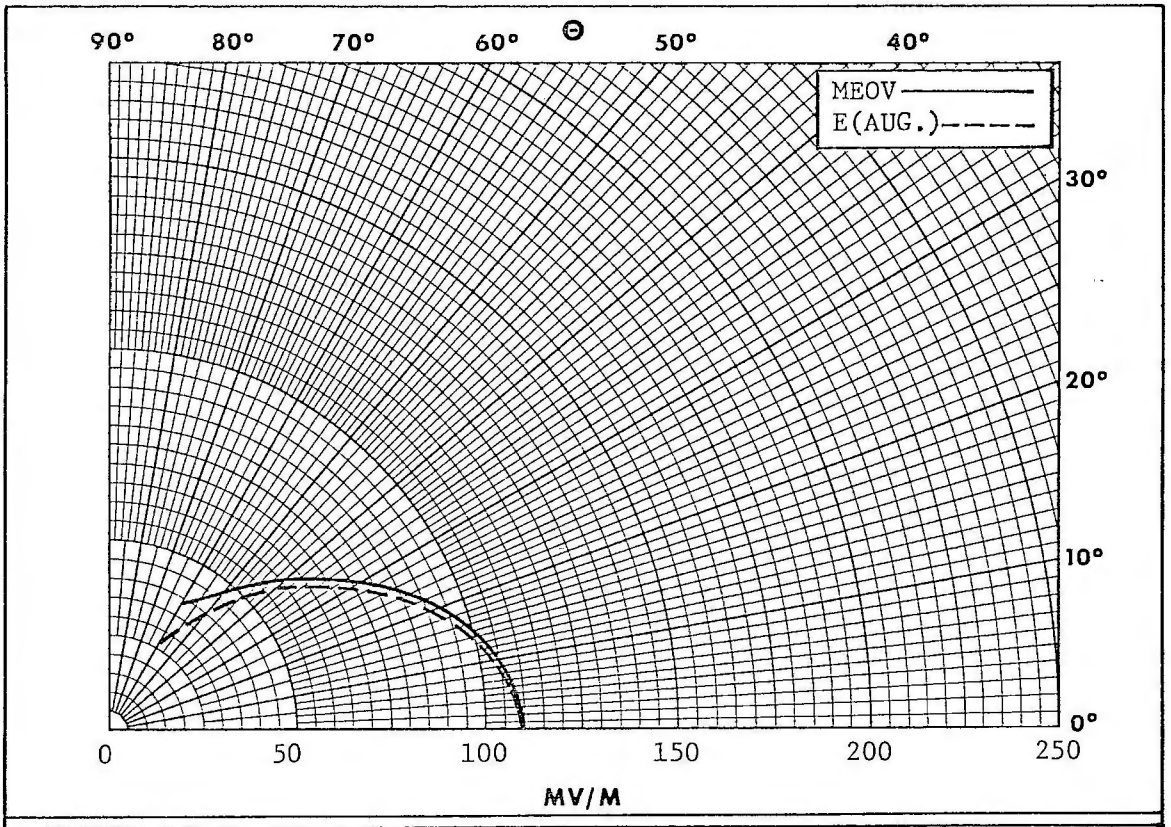
CARL T. JONES ASSOCIATES—CONSULTING ENGINEERS



Tabulation of Radiated Fields

Θ	MEOV	E(AUG.)
0°	109.6	109.6
5	108.4	108.2
10	105.0	104.0
15	99.7	97.8
20	92.9	90.3
25	85.2	82.2
30	77.0	73.9
35	68.6	65.5
40	60.4	57.1
45	52.8	48.4
50	46.4	39.9
55	41.7	32.0
60	38.8	25.1

1. Miles	
2. Mid-Point Latitude	
3. Azimuth	85°
4. Horizontal Radiation	
5. Min.-Max. /v (dΘ)	
6. Max. Rad. within dΘ	
7. Skywave Field	
8. LIMIT	

COMPARISON OF PRESENT AND PROPOSED
VERTICAL SLICES
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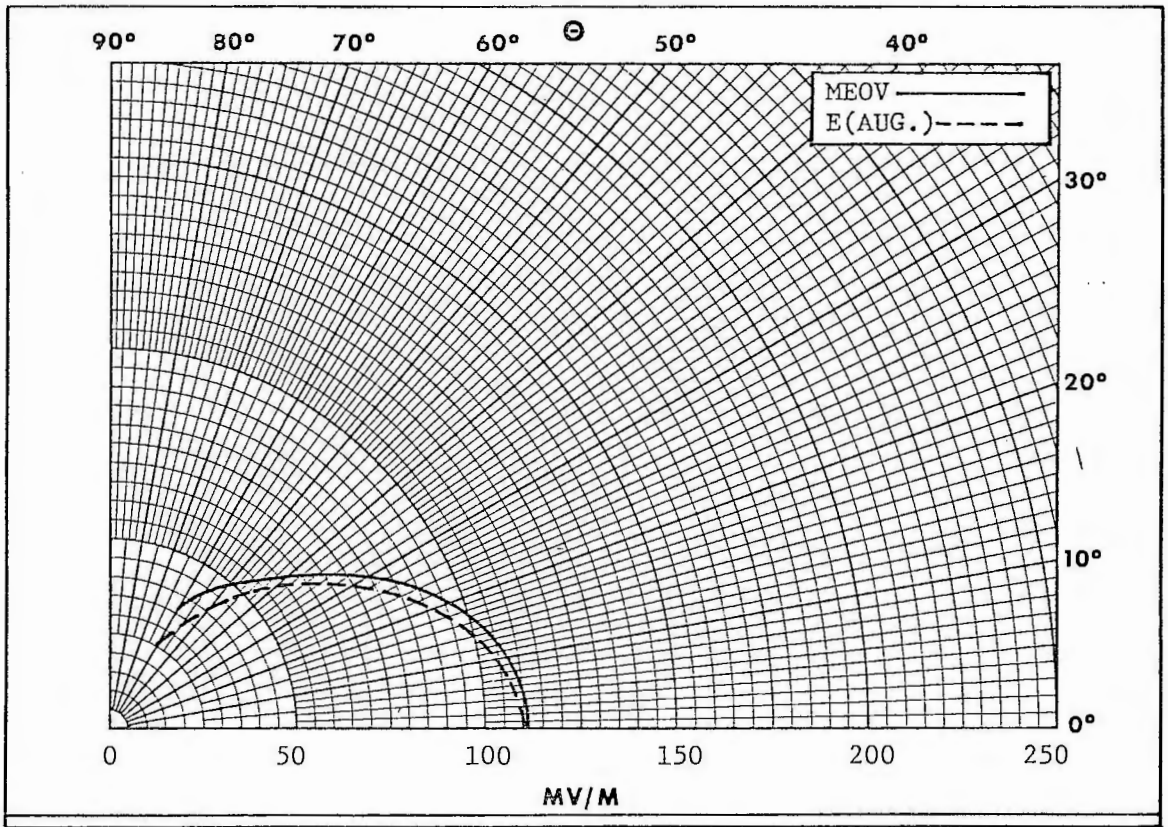
CARL T. JONES ASSOCIATES—CONSULTING ENGINEERS

FIGURE 52



Tabulation of Radiated Fields

Θ	MEOV	E(AUG.)
0°	111.8	110.0
5	110.7	108.6
10	107.3	104.6
15	102.0	98.6
20	95.3	91.3
25	87.6	83.2
30	79.3	74.8
35	70.7	66.3
40	62.3	57.5
45	54.5	48.7
50	48.1	40.1
55	43.4	32.2
60	40.2	25.4

1. Miles	
2. Mid-Point Latitude	
3. Azimuth	90°
4. Horizontal Radiation	
5. Min.-Max. $\angle\gamma$ (dΘ)	
6. Max. Rad. within dΘ	
7. Skywave Field	
8. LIMIT	

COMPARISON OF PRESENT AND PROPOSED
VERTICAL SLICES
KZLA - Los Angeles, California
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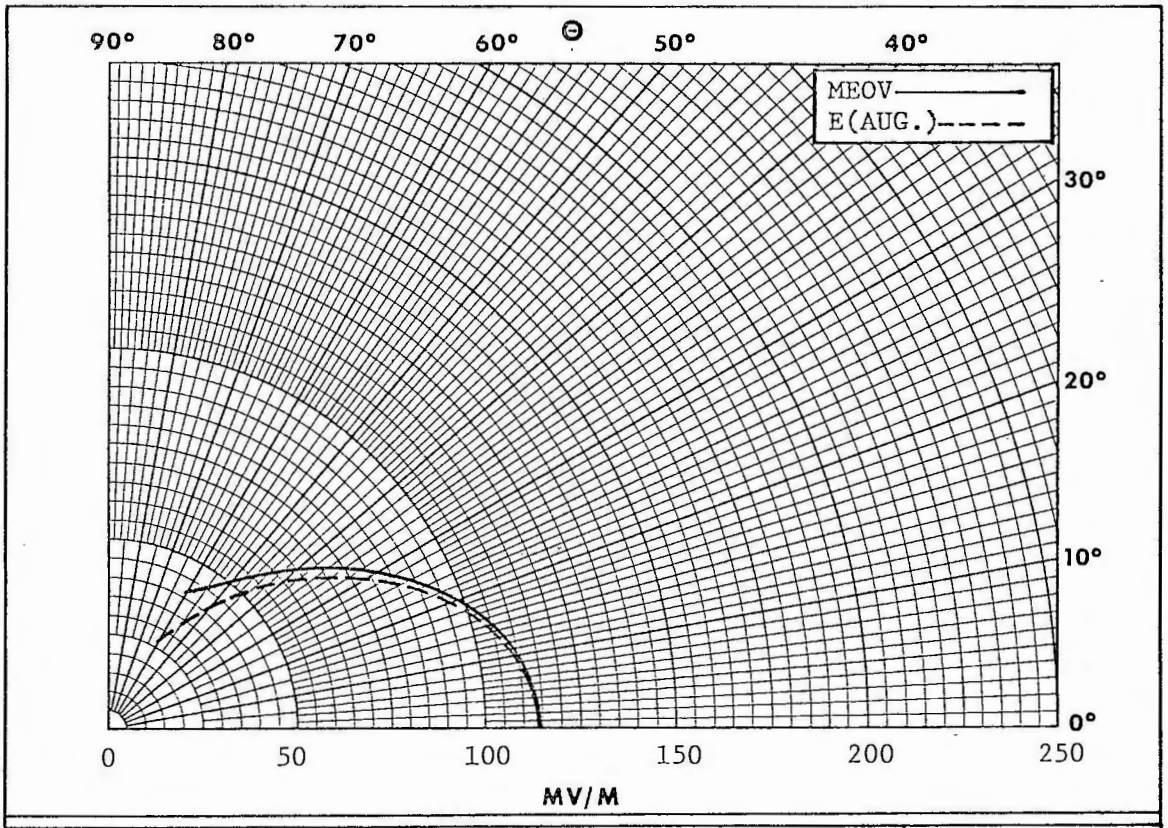
CARL T. JONES ASSOCIATES—CONSULTING ENGINEERS

FIGURE 53



Tabulation of Radiated Fields

Θ	MEOV	E(AUG.)
0°	114.1	114.1
5	112.9	112.7
10	109.6	108.8
15	104.5	102.9
20	97.8	95.4
25	90.0	87.1
30	81.6	78.3
35	72.8	69.1
40	64.3	59.8
45	56.5	50.5
50	50.1	41.6
55	45.3	33.5
60	42.0	26.6

1. Miles	
2. Mid-Point Latitude	
3. Azimuth	95°
4. Horizontal Radiation	
5. Min.-Max. /v (dΘ)	
6. Max. Rad. within dΘ	
7. Skywave Field	
8. LIMIT	

COMPARISON OF PRESENT AND PROPOSED
VERTICAL SLICES
KZLA - Los Angeles, California
1540 kHz - 10 kW/50 kW-LS - DA-2

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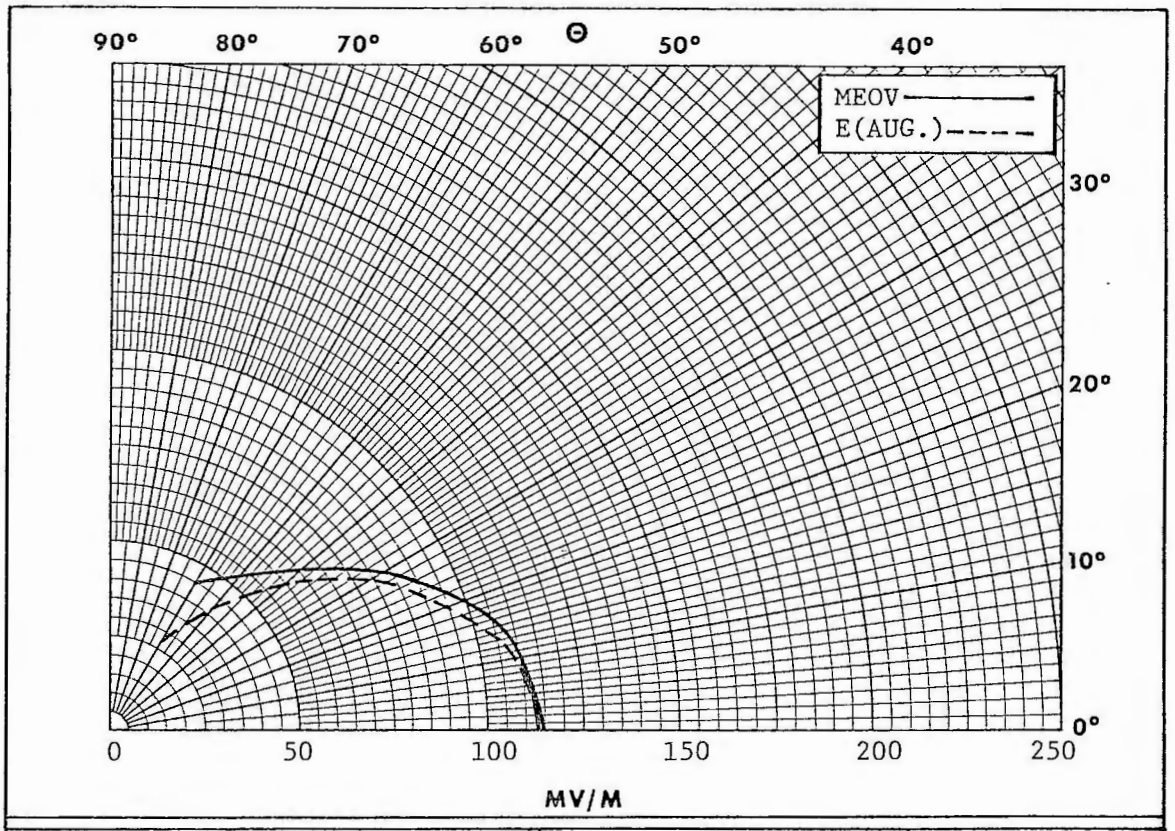
CARL T. JONES ASSOCIATES—CONSULTING ENGINEERS

FIGURE 54



Tabulation of Radiated Fields

Θ	MEOV	E(AUG.)
0°	115.5	112.8
5	114.4	111.6
10	111.2	107.9
15	106.1	102.2
20	99.5	94.9
25	91.7	86.7
30	83.2	77.8
35	74.4	68.5
40	66.0	59.1
45	58.3	49.9
50	52.1	41.1
55	47.4	33.3
60	44.0	26.7

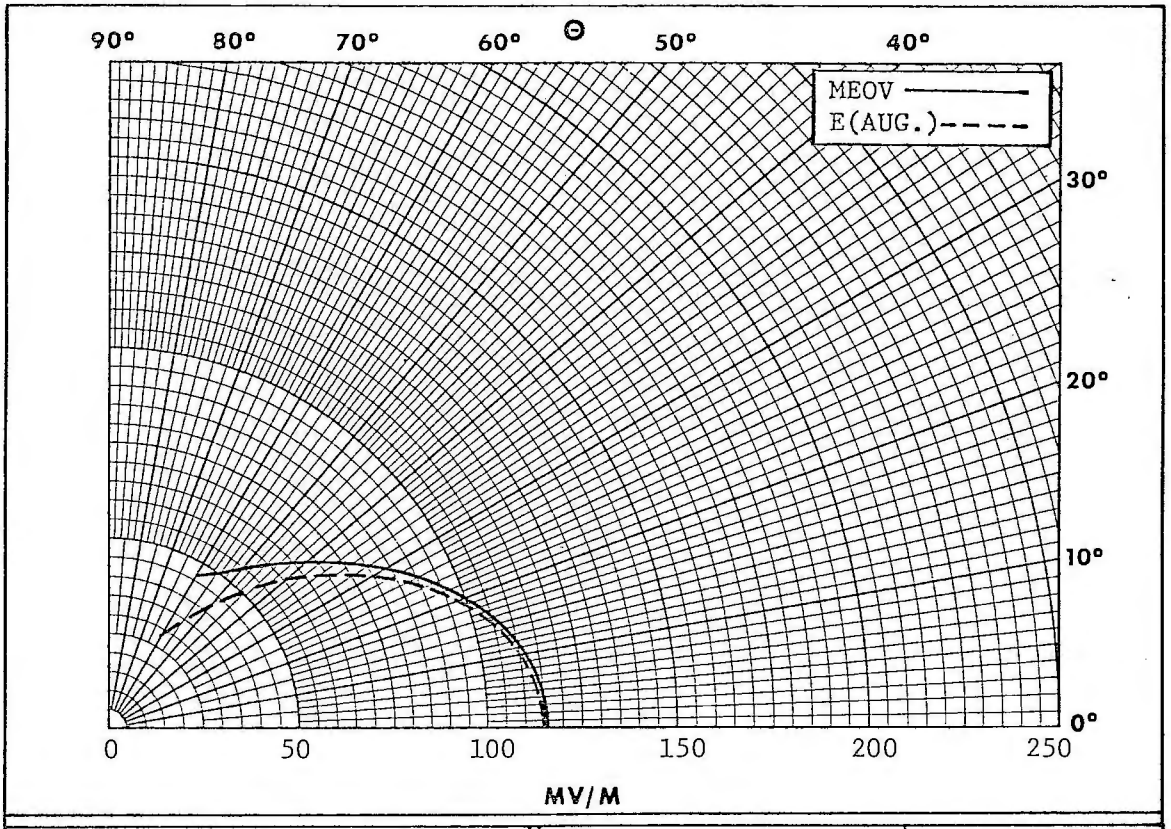
1. Miles	
2. Mid-Point Latitude	
3. Azimuth	100°
4. Horizontal Radiation	
5. Min.-Max. ∠v (dΘ)	
6. Max. Rad. within dΘ	
7. Skywave Field	
8. LIMIT	

COMPARISON OF PRESENT AND PROPOSED
VERTICAL SLICES
KZLA - Los Angeles, California
1540 kHz - 10 kW/50 kW-LS - DA-2

June, 1981

CARL T. JONES ASSOCIATES—CONSULTING ENGINEERS

FIGURE 55



Tabulation of Radiated Fields

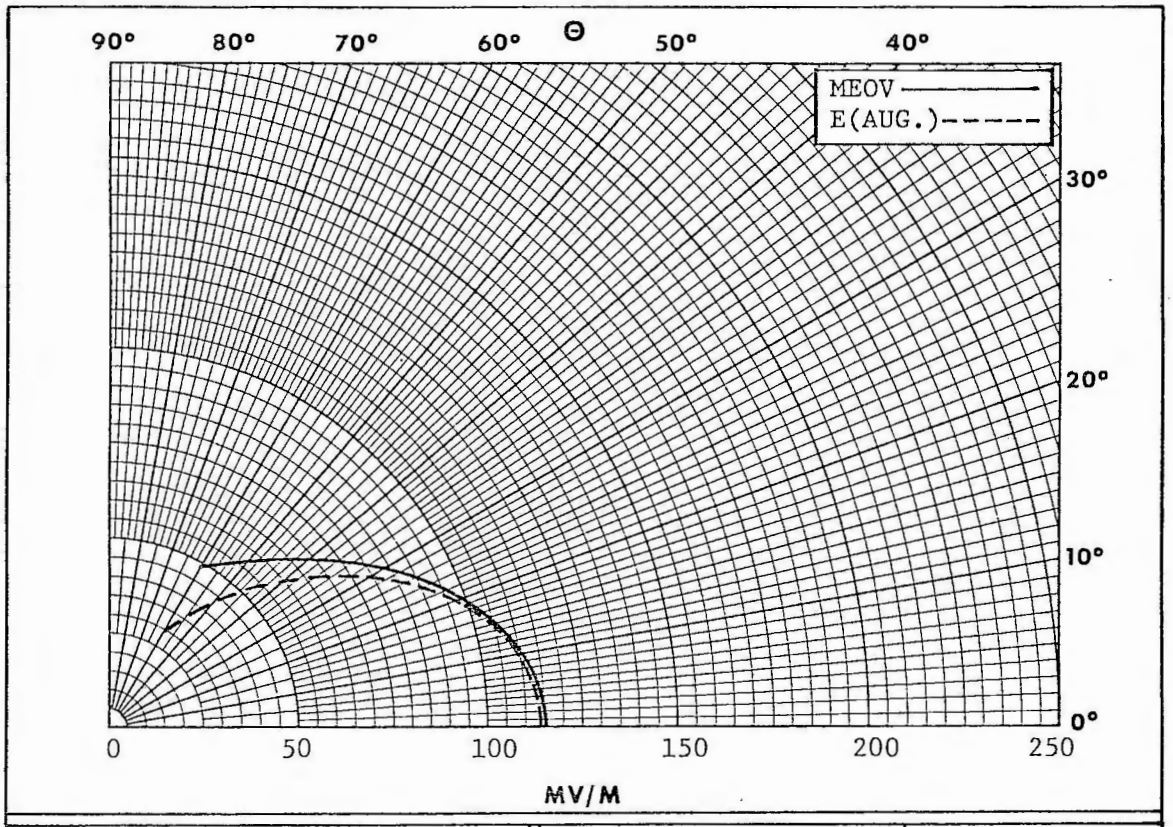
Θ	MEOV	E(AUG.)
0°	116.2	115.0
5	115.1	113.7
10	111.9	110.1
15	106.9	104.4
20	100.4	97.1
25	92.6	88.6
30	84.2	79.4
35	75.6	69.8
40	67.4	60.1
45	60.2	50.7
50	54.3	41.9
55	49.7	34.2
60	46.3	27.8

1. Miles	
2. Mid-Point Latitude	
3. Azimuth	105°
4. Horizontal Radiation	
5. Min.-Max. /v (dΘ)	
6. Max. Rad. within dΘ	
7. Skywave Field	
8. LIMIT	

COMPARISON OF PRESENT AND PROPOSED
VERTICAL SLICES
KZLA - Los Angeles, California
1540 kHz - 10 kW/50 kW-LS - DA-2

June, 1981

CARL T. JONES ASSOCIATES—CONSULTING ENGINEERS



Tabulation of Radiated Fields

Θ	MEOV	E(AUG.)
0°	115.1	114.9
5	114.0	113.7
10	111.0	110.1
15	106.1	104.5
20	99.7	97.1
25	92.3	88.6
30	84.2	79.3
35	76.1	69.6
40	68.5	59.9
45	61.8	50.6
50	56.5	42.1
55	52.2	34.8
60	48.7	28.7

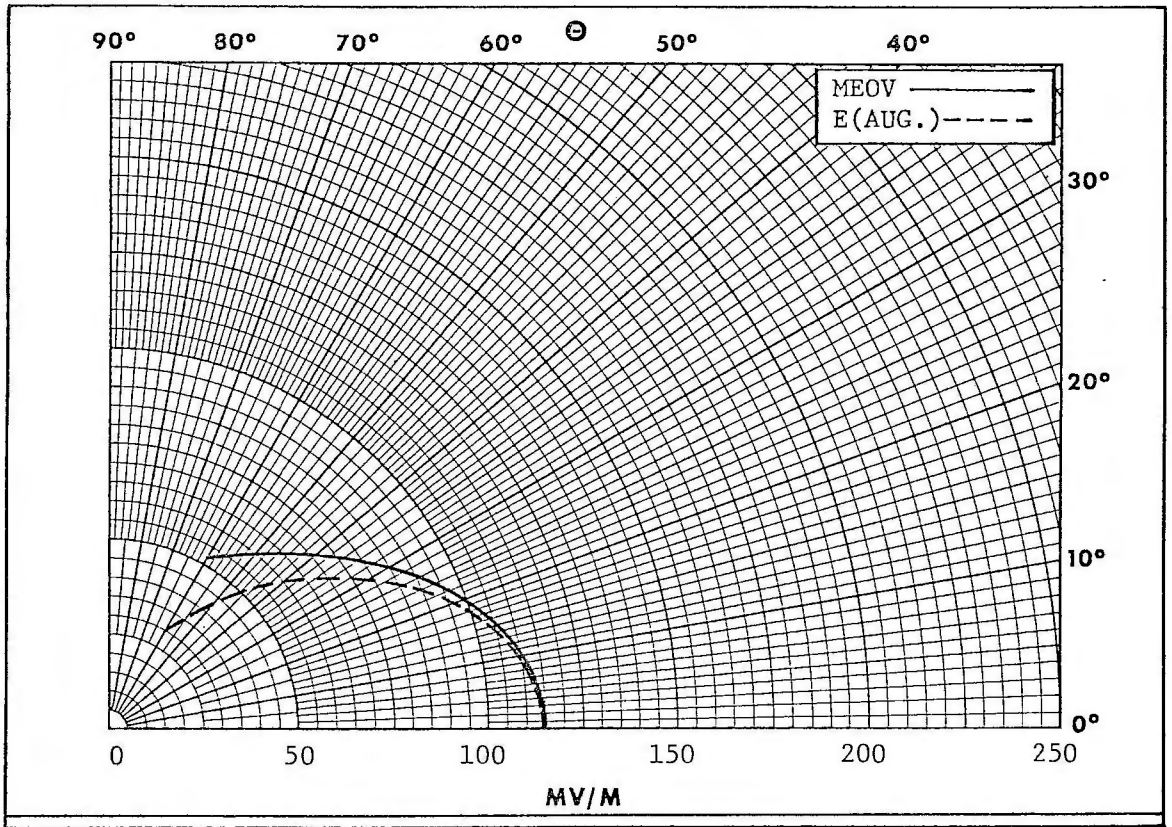
1. Miles	
2. Mid-Point Latitude	
3. Azimuth	110°
4. Horizontal Radiation	
5. Min.-Max. ∠V (dΘ)	
6. Max. Rad. within dΘ	
7. Skywave Field	
8. LIMIT	

COMPARISON OF PRESENT AND PROPOSED
VERTICAL SLICES
KZLA - Los Angeles, California
1540 kHz - 10 kW/50 kW-LS - DA-2

June, 1981

CARL T. JONES ASSOCIATES—CONSULTING ENGINEERS

FIGURE 57



Tabulation of Radiated Fields

Θ	MEOV	E(AUG.)
0°	114.4	114.4
5	113.4	113.2
10	110.4	109.6
15	105.7	104.0
20	99.6	96.7
25	92.6	88.2
30	85.0	78.9
35	77.6	69.3
40	70.7	59.8
45	64.7	50.8
50	59.8	42.7
55	55.6	35.7
60	51.7	29.9

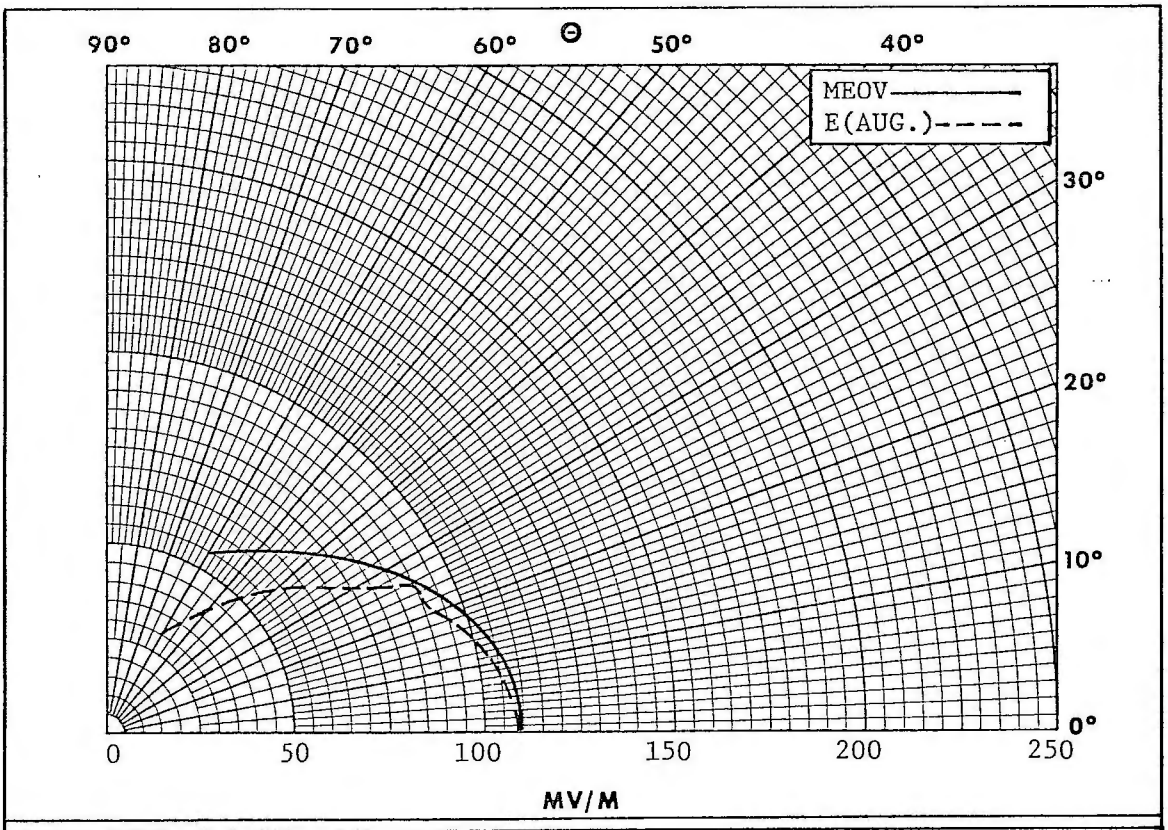
1. Miles	
2. Mid-Point Latitude	
3. Azimuth	115°
4. Horizontal Radiation	
5. Min.-Max. /v (dΘ)	
6. Max. Rad. within dΘ	
7. Skywave Field	
8. LIMIT	

COMPARISON OF PRESENT AND PROPOSED
VERTICAL SLICES
KZLA - Los Angeles, California
1540 kHz - 10 kW/50 kW-LS - DA-2

June, 1981

CARL T. JONES ASSOCIATES—CONSULTING ENGINEERS

FIGURE 58



Tabulation of Radiated Fields

Θ	MEOV	E(AUG.)
0°	109.5	108.9
5	108.6	107.8
10	106.0	104.5
15	101.9	99.2
20	96.5	92.3
25	90.4	92.3
30	84.1	75.6
35	77.9	66.7
40	72.2	57.9
45	67.2	49.8
50	62.9	42.4
55	58.9	36.0
60	54.7	30.6

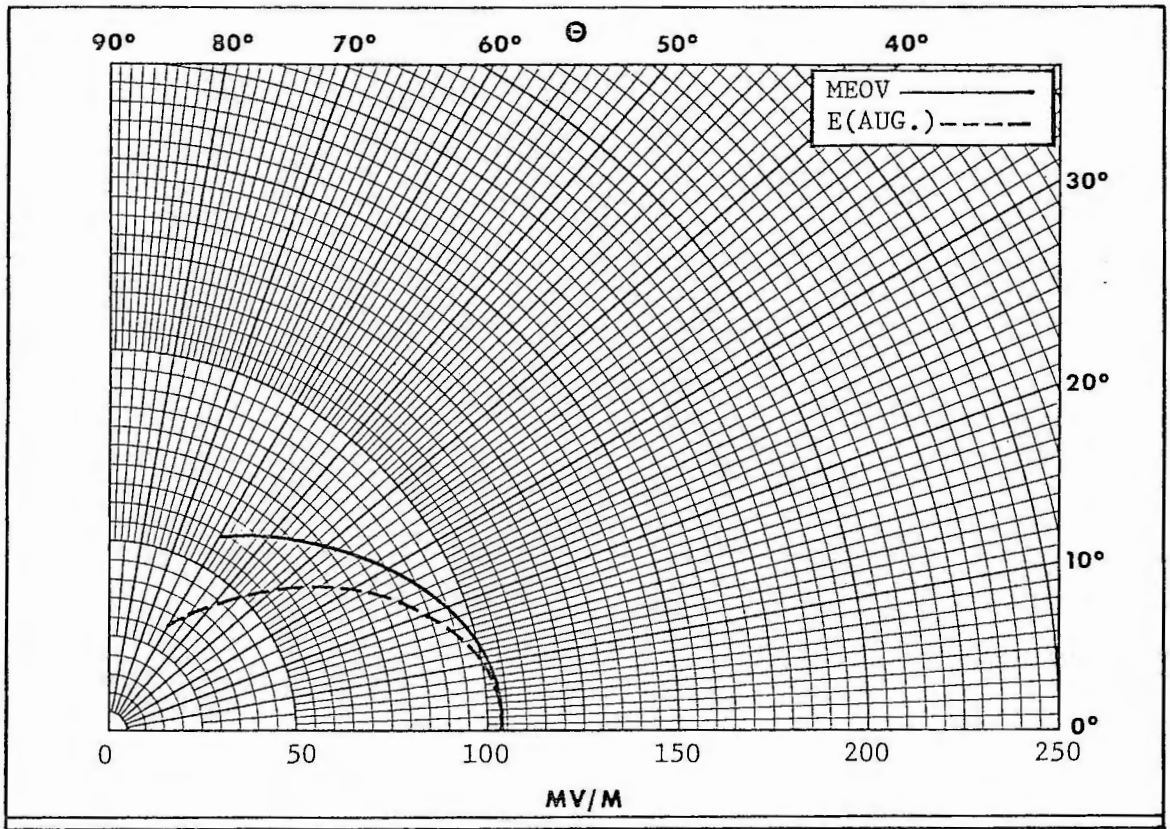
1. Miles	
2. Mid-Point Latitude	
3. Azimuth	120°
4. Horizontal Radiation	
5. Min.-Max. /v (dΘ)	
6. Max. Rad. within dΘ	
7. Skywave Field	
8. LIMIT	

COMPARISON OF PRESENT AND PROPOSED
VERTICAL SLICES
KZLA - Los Angeles, California
1540 kHz - 10 kW/50 kW-LS - DA-2

June, 1981

CARL T. JONES ASSOCIATES—CONSULTING ENGINEERS

FIGURE 59



Tabulation of Radiated Fields

Θ	MEOV	E(AUG.)
0°	104.5	104.4
5	103.7	103.4
10	101.6	100.3
15	98.4	95.4
20	94.2	89.1
25	89.5	81.7
30	84.6	73.8
35	79.9	65.6
40	75.4	57.7
45	71.2	50.2
50	67.2	43.4
55	63.0	37.3
60	58.3	32.0

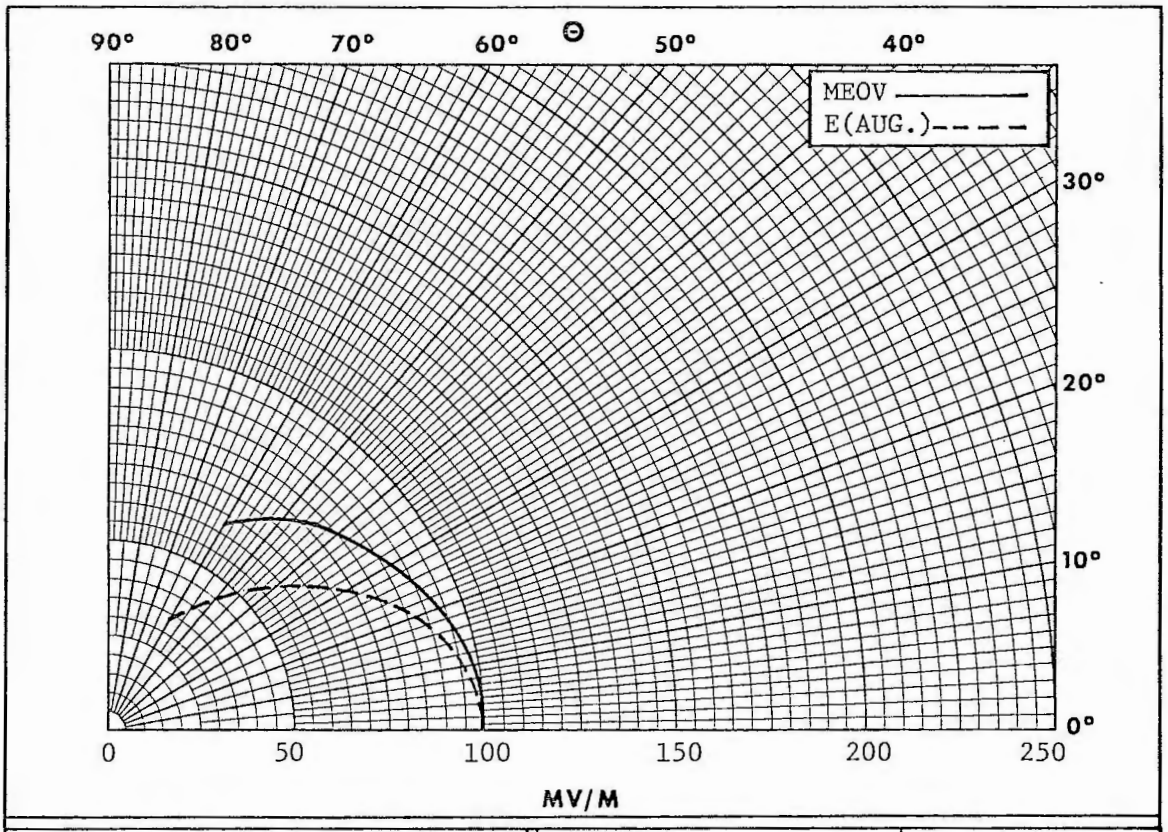
1. Miles	
2. Mid-Point Latitude	
3. Azimuth	125°
4. Horizontal Radiation	
5. Min.-Max. /v (dΘ)	
6. Max. Rad. within dΘ	
7. Skywave Field	
8. LIMIT	

COMPARISON OF PRESENT AND PROPOSED
VERTICAL SLICES
KZLA - Los Angeles, California
1540 kHz - 10 kW/50 kW-LS - DA-2

June, 1981

CARL T. JONES ASSOCIATES—CONSULTING ENGINEERS

FIGURE 60



Tabulation of Radiated Fields

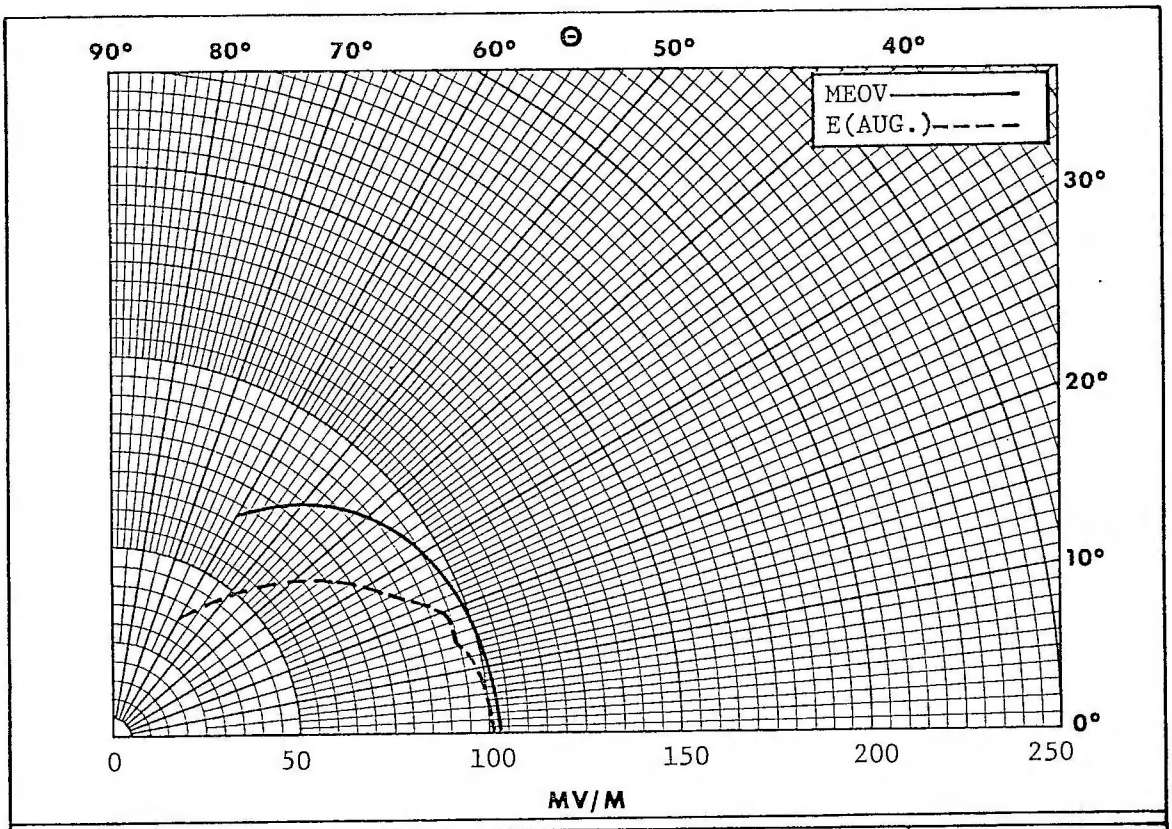
Θ	MEOV	E(AUG.)
0°	99.9	99.9
5	99.4	98.9
10	98.1	96.3
15	96.0	92.0
20	93.4	86.4
25	90.4	79.9
30	87.2	72.9
35	83.9	65.6
40	80.4	58.4
45	76.6	51.5
50	72.5	45.1
55	67.7	39.1
60	62.2	33.5

1. Miles	
2. Mid-Point Latitude	
3. Azimuth	130°
4. Horizontal Radiation	
5. Min.- Max. /v (dΘ)	
6. Max. Rad. within dΘ	
7. Skywave Field	
8. LIMIT	

COMPARISON OF PRESENT AND PROPOSED
VERTICAL SLICES
KZLA - Los Angeles, California
1540 kHz - 10 kW/50 kW-LS - DA-2

June, 1981

CARL T. JONES ASSOCIATES—CONSULTING ENGINEERS



Tabulation of Radiated Fields

Θ	MEOV	E(AUG.)
0°	102.7	101.6
5	102.5	100.8
10	101.9	98.4
15	100.9	94.5
20	99.5	94.5
25	97.6	83.4
30	95.3	76.7
35	92.4	69.6
40	88.8	62.4
45	84.6	55.3
50	79.5	48.4
55	73.6	41.8
60	66.7	35.7

1. Miles	
2. Mid-Point Latitude	
3. Azimuth	135°
4. Horizontal Radiation	
5. Min.- Max. /v (dΘ)	
6. Max. Rad. within dΘ	
7. Skywave Field	
8. LIMIT	

COMPARISON OF PRESENT AND PROPOSED
VERTICAL SLICES
KZLA - Los Angeles, California
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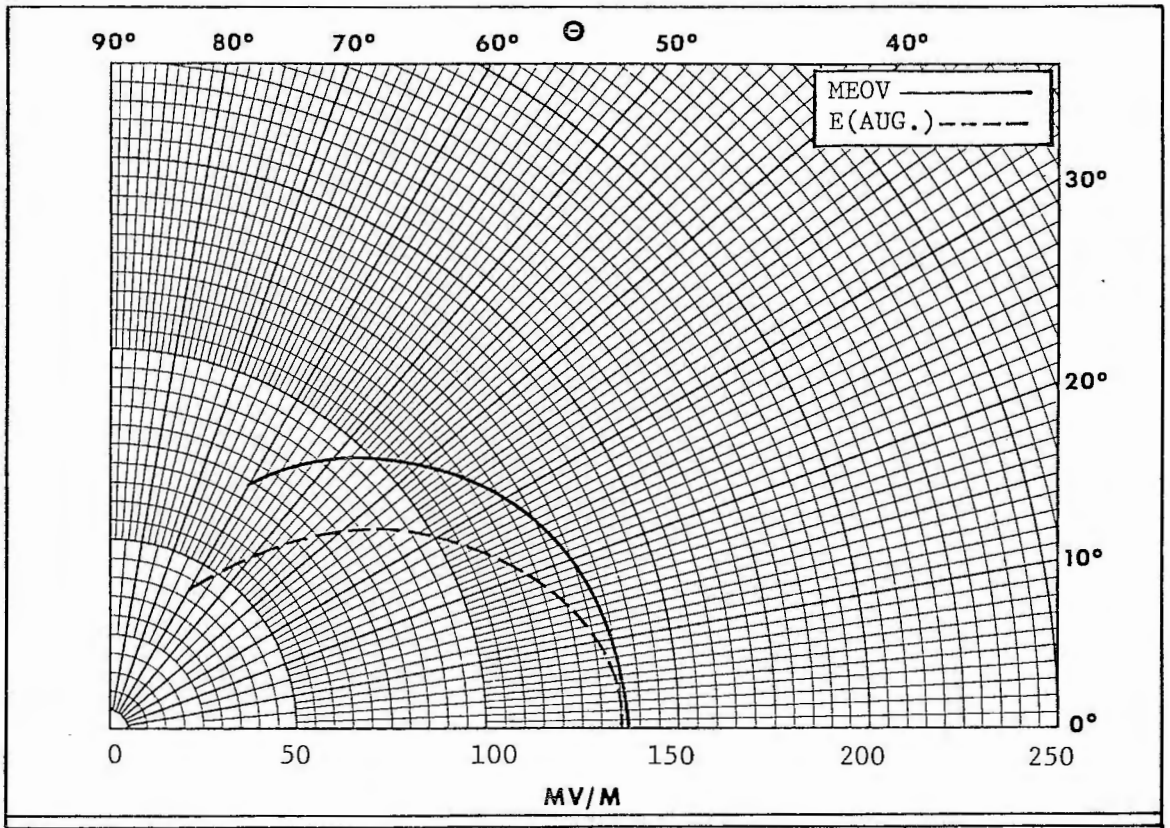
June, 1981

CARL T. JONES ASSOCIATES—CONSULTING ENGINEERS



Tabulation of Radiated Fields

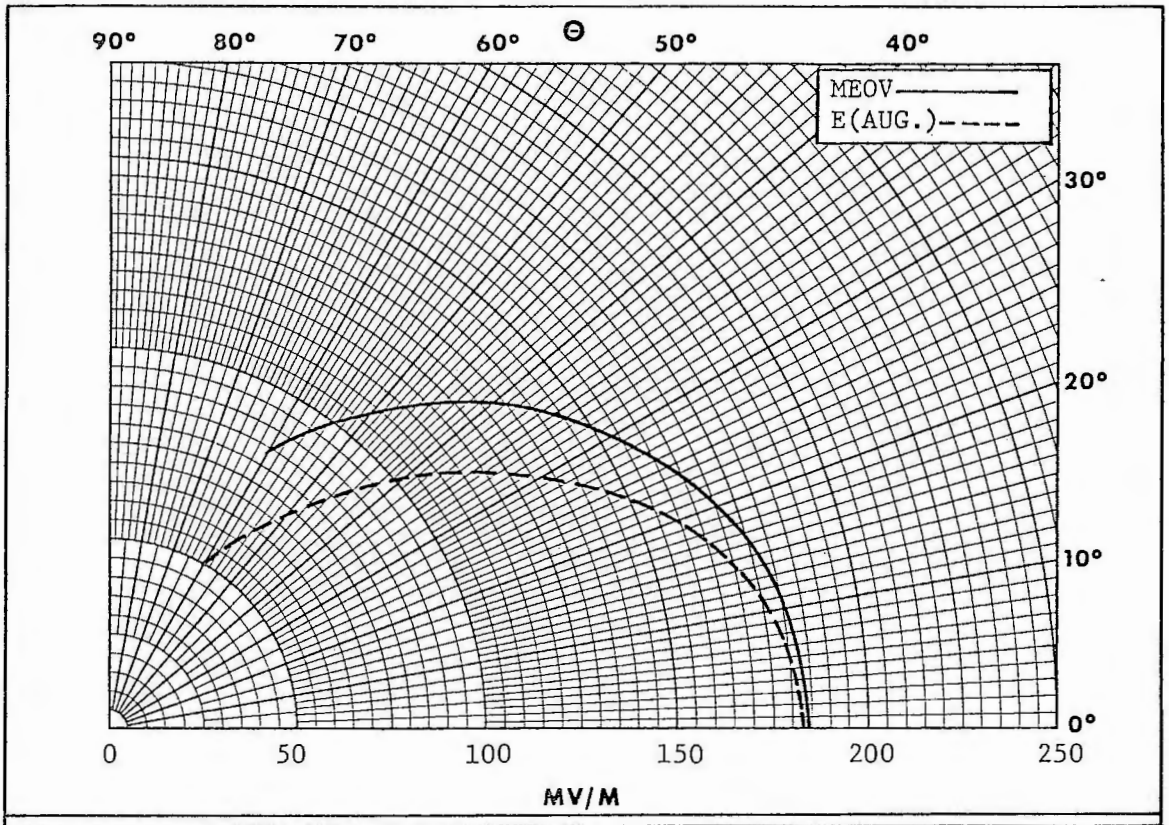
Θ	MEOV	E(AUG.)
0°	137.1	135.3
5	136.6	134.1
10	135.3	130.8
15	133.0	125.4
20	129.9	118.2
25	125.8	109.7
30	120.9	100.2
35	115.1	90.0
40	108.4	79.7
45	100.8	69.4
50	92.7	59.6
55	83.8	50.3
60	74.3	41.8

1. Miles	
2. Mid-Point Latitude	
3. Azimuth	140°
4. Horizontal Radiation	
5. Min.- Max. /v (dΘ)	
6. Max. Rad. within dΘ	
7. Skywave Field	
8. LIMIT	

COMPARISON OF PRESENT AND PROPOSED
VERTICAL SLICES
KZLA - Los Angeles, California
1540 kHz - 10 kW/50 kW-LS - DA-2

June, 1981

CARL T. JONES ASSOCIATES—CONSULTING ENGINEERS



Tabulation of Radiated Fields

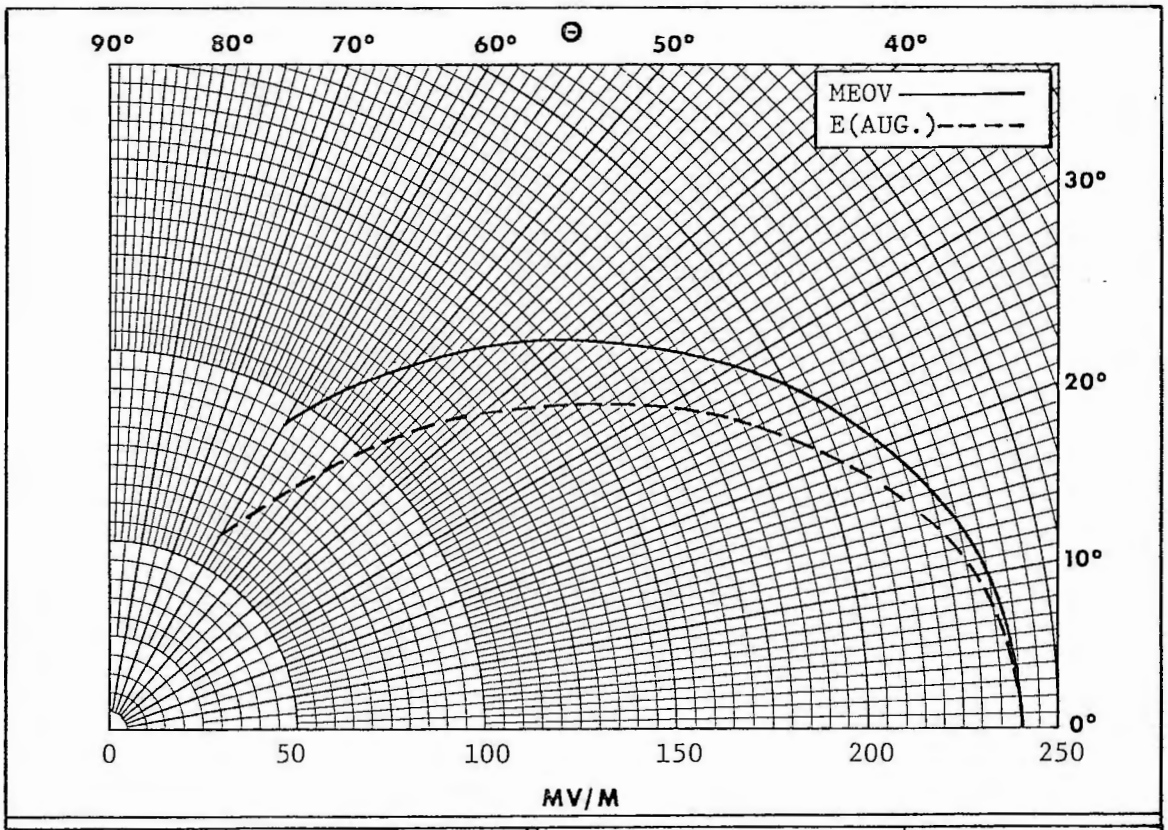
Θ	MEOV	E(AUG.)
0°	184.8	182.7
5	183.9	181.1
10	181.1	176.1
15	176.6	168.2
20	170.4	157.8
25	162.8	145.3
30	153.8	131.4
35	143.6	116.8
40	132.6	101.9
45	120.8	87.4
50	108.5	73.6
55	95.9	60.8
60	83.2	49.4

1. Miles	
2. Mid-Point Latitude	
3. Azimuth	145°
4. Horizontal Radiation	
5. Min.-Max. /v (dΘ)	
6. Max. Rad. within dΘ	
7. Skywave Field	
8. LIMIT	

COMPARISON OF PRESENT AND PROPOSED
VERTICAL SLICES
KZLA - Los Angeles, California
1540 kHz - 10 kW/50 kW-LS - DA-2

June, 1981

CARL T. JONES ASSOCIATES—CONSULTING ENGINEERS



Tabulation of Radiated Fields

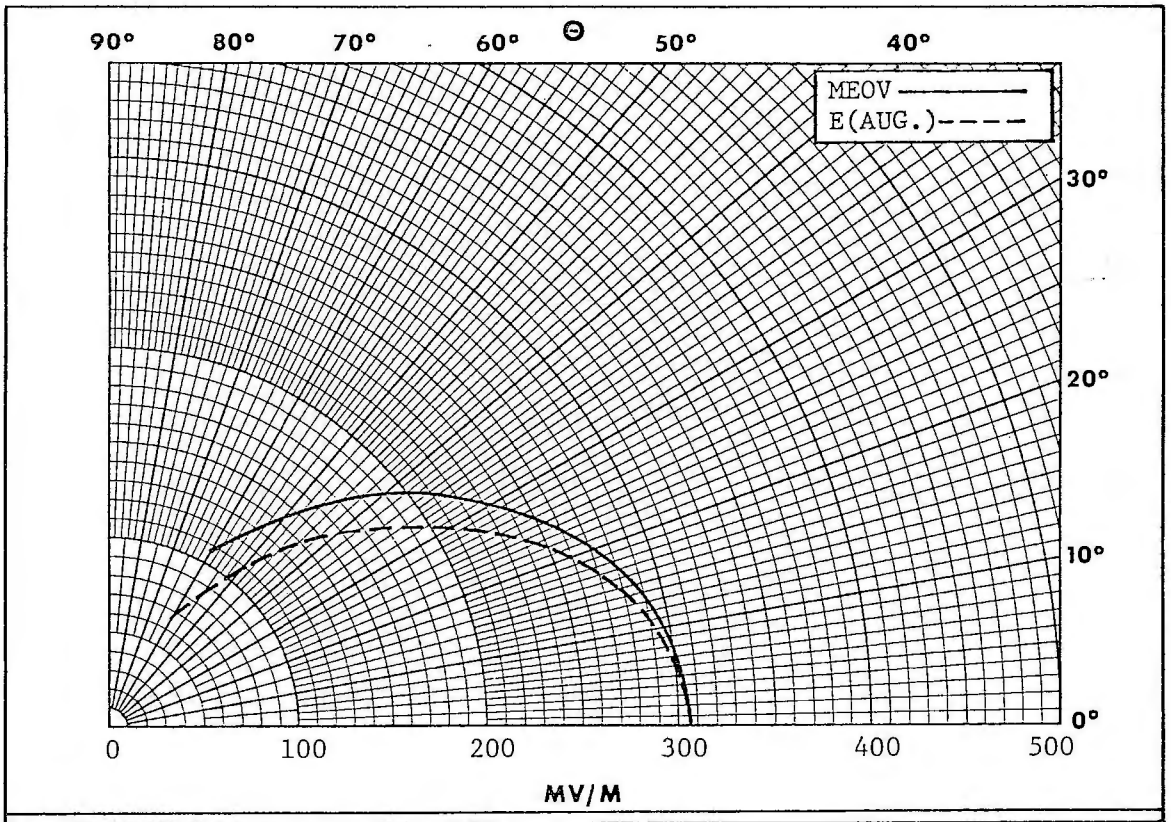
Θ	MEOV	E(AUG.)
0°	240.7	240.6
5	239.2	238.2
10	234.6	231.2
15	227.2	220.0
20	217.2	205.3
25	205.0	187.8
30	191.0	168.4
35	175.6	148.1
40	159.3	127.7
45	142.6	108.0
50	125.7	89.5
55	109.0	72.8
60	92.7	57.9

1. Miles	
2. Mid-Point Latitude	
3. Azimuth	150°
4. Horizontal Radiation	
5. Min.-Max. /v (dΘ)	
6. Max. Rad. within dΘ	
7. Skywave Field	
8. LIMIT	

COMPARISON OF PRESENT AND PROPOSED
VERTICAL SLICES
KZLA - Los Angeles, California
1540 kHz - 10 kW/50 kW-LS - DA-2

June, 1981

CARL T. JONES ASSOCIATES—CONSULTING ENGINEERS



Tabulation of Radiated Fields

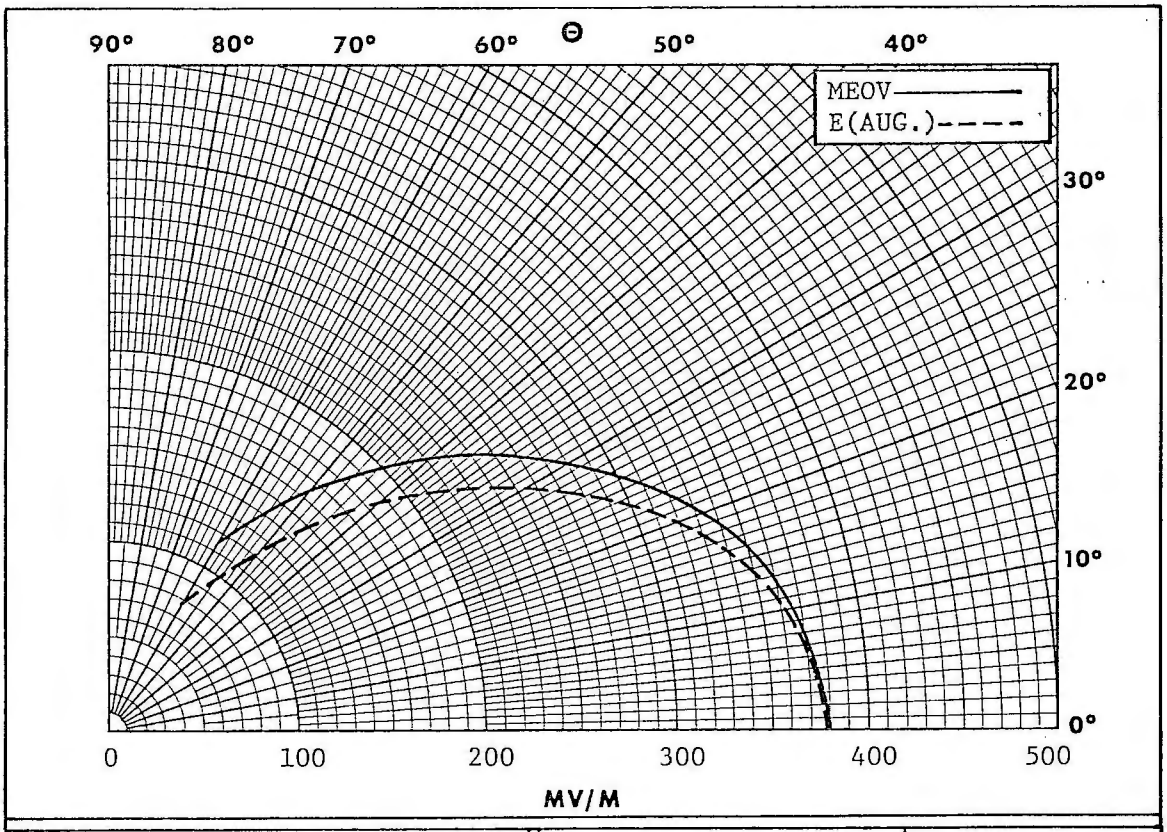
Θ	MEOV	E(AUG.)
0°	306.5	306.5
5	304.2	303.3
10	297.4	2093.8
15	286.4	278.7
20	271.6	258.8
25	253.9	235.4
30	233.8	209.6
35	212.2	182.8
40	189.7	156.1
45	167.1	130.6
50	144.9	106.9
55	123.5	85.7
60	103.2	67.2

1. Miles	
2. Mid-Point Latitude	
3. Azimuth	155°
4. Horizontal Radiation	
5. Min.- Max. /v (dΘ)	
6. Max. Rad. within dΘ	
7. Skywave Field	
8. LIMIT	

COMPARISON OF PRESENT AND PROPOSED
VERTICAL SLICES
KZLA - Los Angeles, California
1540 kHz - 10 kW/50 kW-LS - DA-2

June, 1981

CARL T. JONES ASSOCIATES—CONSULTING ENGINEERS



Tabulation of Radiated Fields

Θ	MEOV	E(AUG.)
0°	379.0	378.4
5	375.8	374.2
10	366.4	361.9
15	351.2	342.4
20	331.1	316.8
25	307.1	286.7
30	280.3	253.8
35	251.7	219.9
40	222.4	186.3
45	193.4	154.4
50	165.4	125.2
55	139.0	99.2
60	114.4	76.8

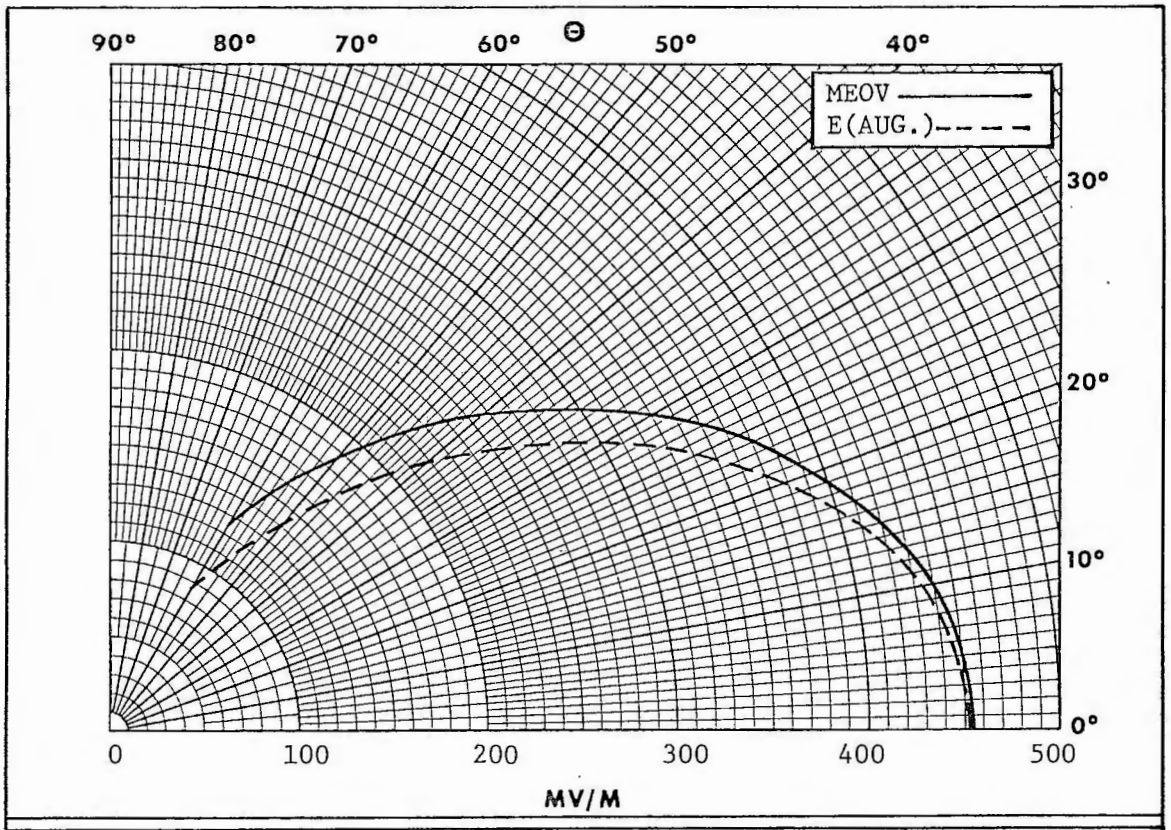
1. Miles	
2. Mid-Point Latitude	
3. Azimuth	160°
4. Horizontal Radiation	
5. Min.- Max. /v (dΘ)	
6. Max. Rad. within dΘ	
7. Skywave Field	
8. LIMIT	

COMPARISON OF PRESENT AND PROPOSED
VERTICAL SLICES
KZLA - Los Angeles, California
1540 kHz - 10 kW/50 kW-LS - DA-2

June, 1981

CARL T. JONES ASSOCIATES—CONSULTING ENGINEERS

FIGURE 67



Tabulation of Radiated Fields

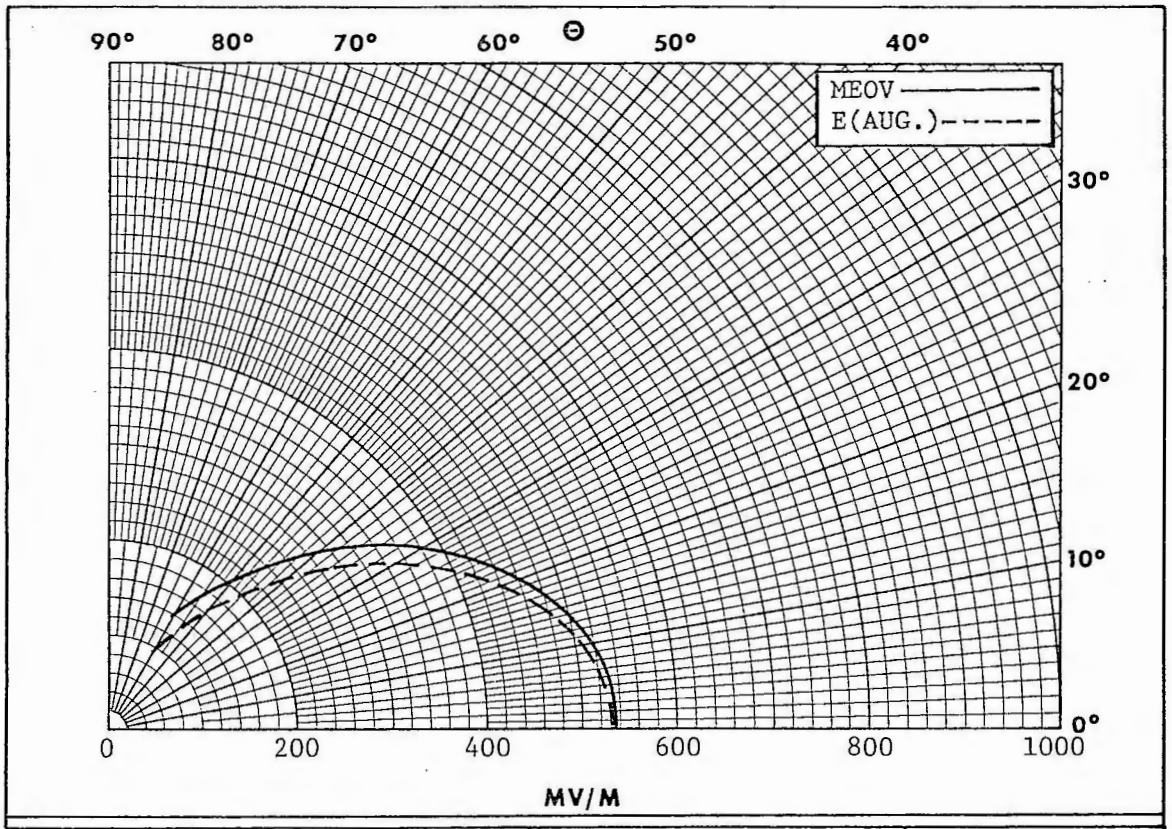
Θ	MEOV	E(AUG.)
0°	455.9	454.5
5	451.7	449.3
10	439.5	433.9
15	419.9	409.6
20	394.0	377.8
25	363.3	340.6
30	329.1	300.2
35	293.0	258.5
40	256.5	217.6
45	220.8	179.1
50	186.7	144.0
55	155.0	112.0
60	126.0	86.5

1. Miles	
2. Mid-Point Latitude	
3. Azimuth	165°
4. Horizontal Radiation	
5. Min.- Max. $\angle v$ (dΘ)	
6. Max. Rad. within dΘ	
7. Skywave Field	
8. LIMIT	

COMPARISON OF PRESENT AND PROPOSED
VERTICAL SLICES
KZLA - Los Angeles, California
1540 kHz - .10 kW/50 kW-LS - DA-2

June, 1981

CARL T. JONES ASSOCIATES—CONSULTING ENGINEERS



Tabulation of Radiated Fields

Θ	MEOV	E(AUG.)
0°	537.0	533.2
5	531.8	526.9
10	516.6	508.4
15	492.3	479.1
20	460.3	440.8
25	422.4	396.2
30	380.5	347.8
35	336.6	298.2
40	292.5	249.7
45	249.6	204.3
50	209.2	163.1
55	171.9	127.1
60	138.3	96.5

1. Miles	
2. Mid-Point Latitude	
3. Azimuth	170°
4. Horizontal Radiation	
5. Min.- Max. /v (dΘ)	
6. Max. Rad. within dΘ	
7. Skywave Field	
8. LIMIT	

COMPARISON OF PRESENT AND PROPOSED
VERTICAL SLICES
KZLA - Los Angeles, California
1540 kHz - 10 kW/50 kW-LS - DA-2

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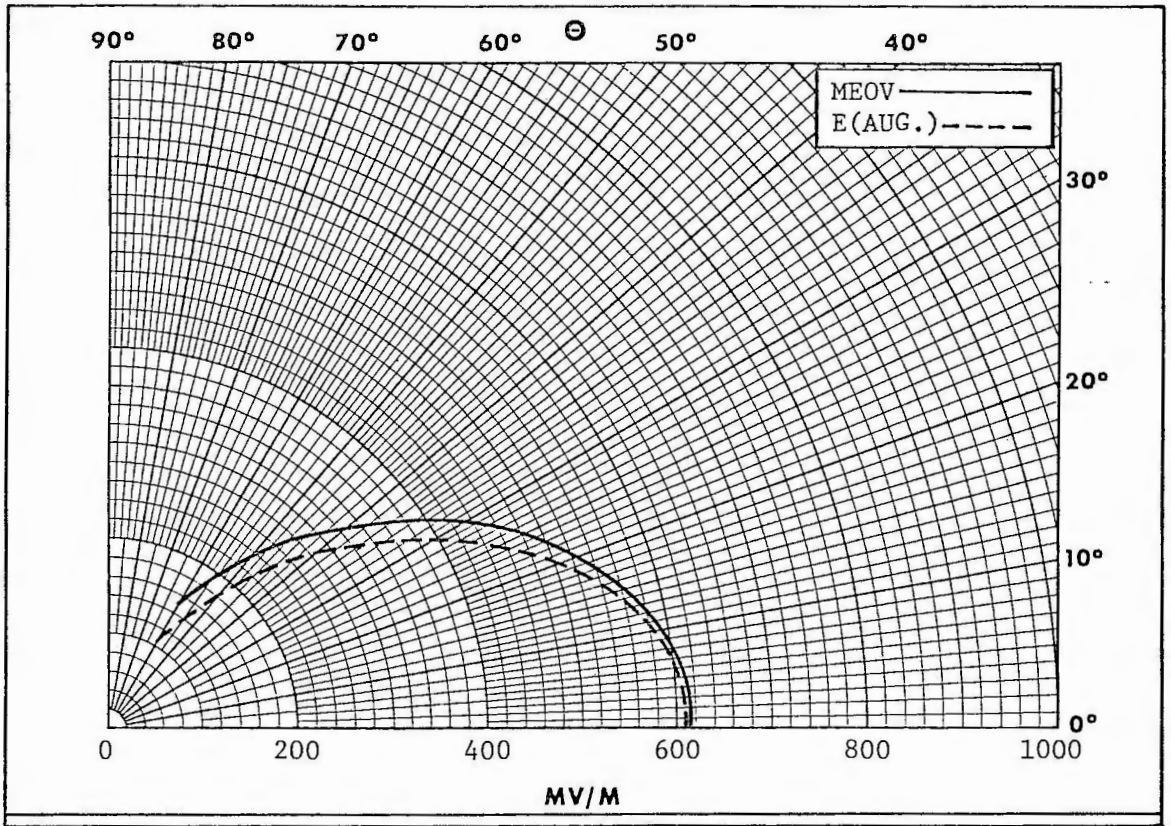
CARL T. JONES ASSOCIATES—CONSULTING ENGINEERS

FIGURE 69



Tabulation of Radiated Fields

Θ	MEOV	E(AUG.)
0°	617.9	612.7
5	611.7	605.3
10	593.5	583.6
15	564.4	549.2
20	526.3	504.5
25	481.2	452.3
30	431.6	395.9
35	379.9	338.3
40	328.2	282.2
45	278.2	229.7
50	231.4	182.5
55	188.7	141.3
60	150.4	106.5

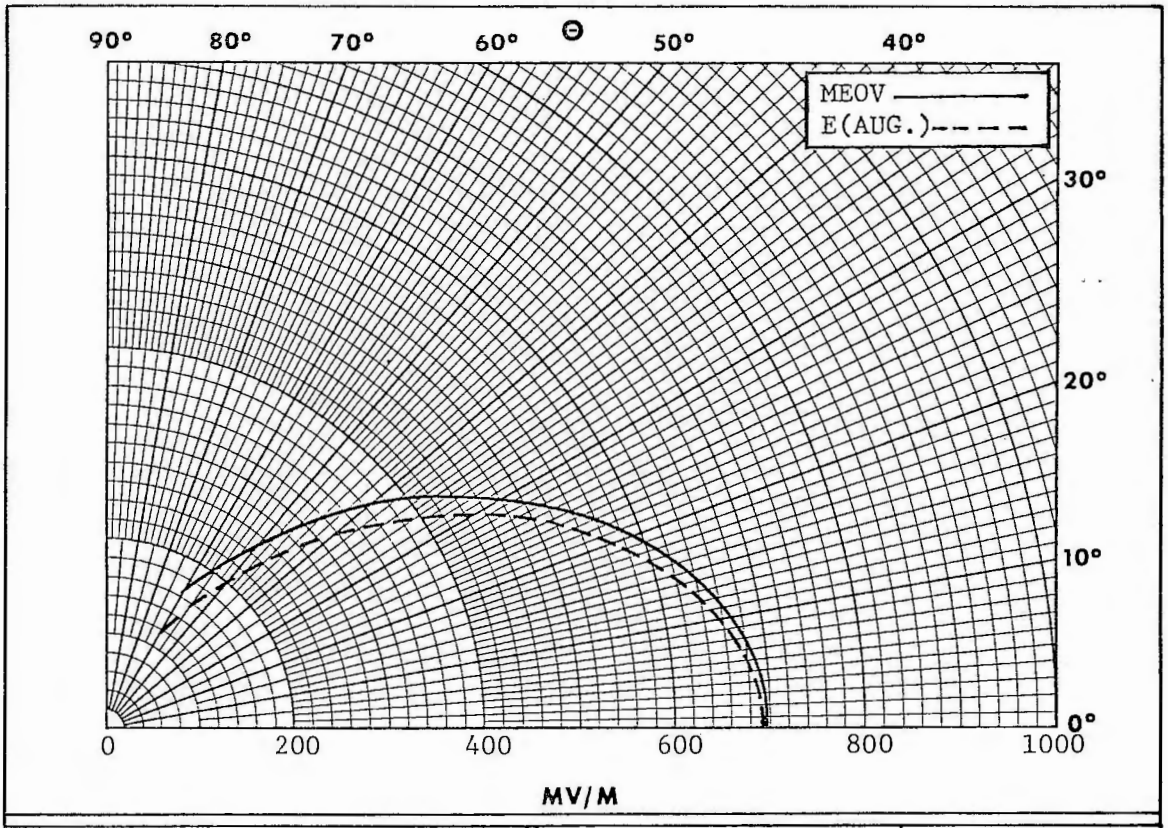
1. Miles	
2. Mid-Point Latitude	
3. Azimuth	175°
4. Horizontal Radiation	
5. Min.-Max. /v (dΘ)	
6. Max. Rad. within dΘ	
7. Skywave Field	
8. LIMIT	

COMPARISON OF PRESENT AND PROPOSED
VERTICAL SLICES
KZLA - Los Angeles, California
1540 kHz - 10 kW/50 kW-LS - DA-2

June, 1981

CARL T. JONES ASSOCIATES—CONSULTING ENGINEERS

FIGURE 70



Tabulation of Radiated Fields		
Θ	MEOV	E(AUG.)
0°	697.9	691.0
5	690.7	682.6
10	669.6	657.7
15	635.9	618.4
20	591.7	567.3
25	539.6	507.8
30	482.6	443.5
35	423.0	378.0
40	363.8	314.3
45	306.8	254.9
50	253.7	201.6
55	205.5	155.4
60	162.6	116.4

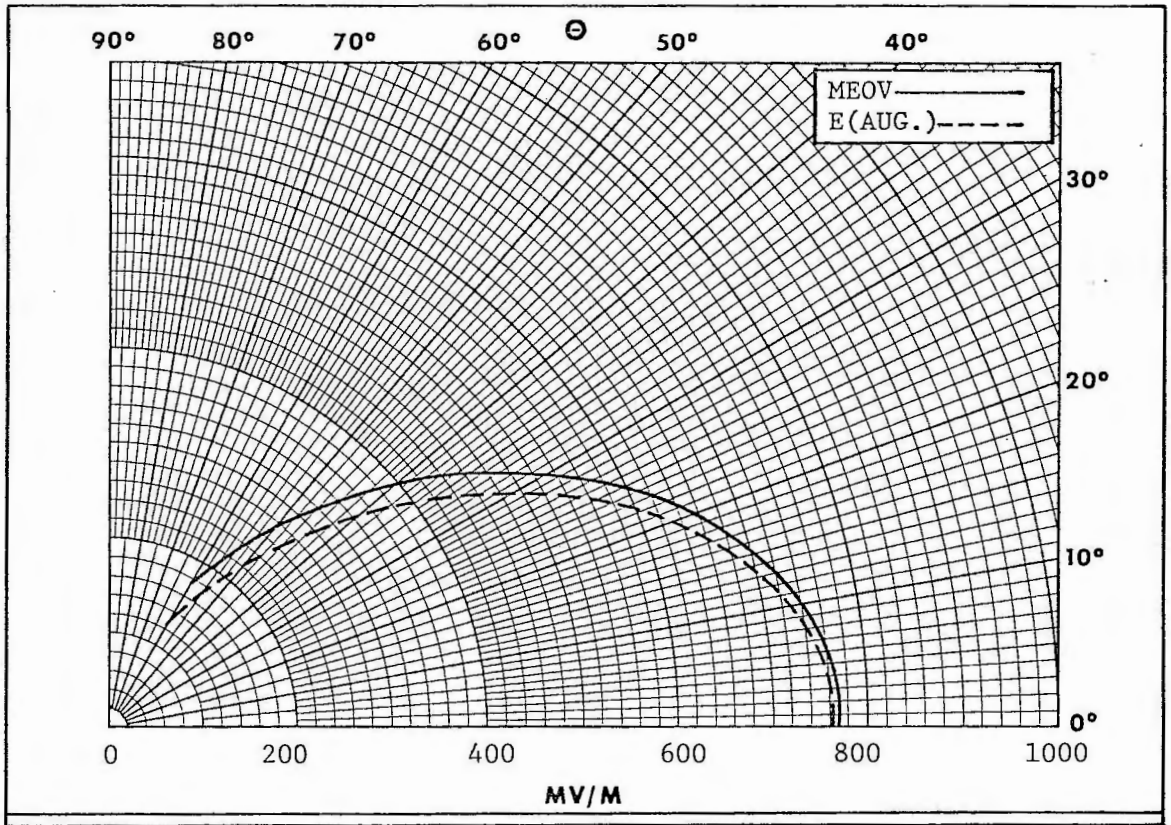
1. Miles	
2. Mid-Point Latitude	
3. Azimuth	180°
4. Horizontal Radiation	
5. Min.- Max. /v (dΘ)	
6. Max. Rad. within dΘ	
7. Skywave Field	
8. LIMIT	

COMPARISON OF PRESENT AND PROPOSED
VERTICAL SLICES
KZLA - Los Angeles, California
1540 kHz - 10 kW/50 kW-LS - DA-2

June, 1981

CARL T. JONES ASSOCIATES—CONSULTING ENGINEERS

FIGURE 71



Tabulation of Radiated Fields

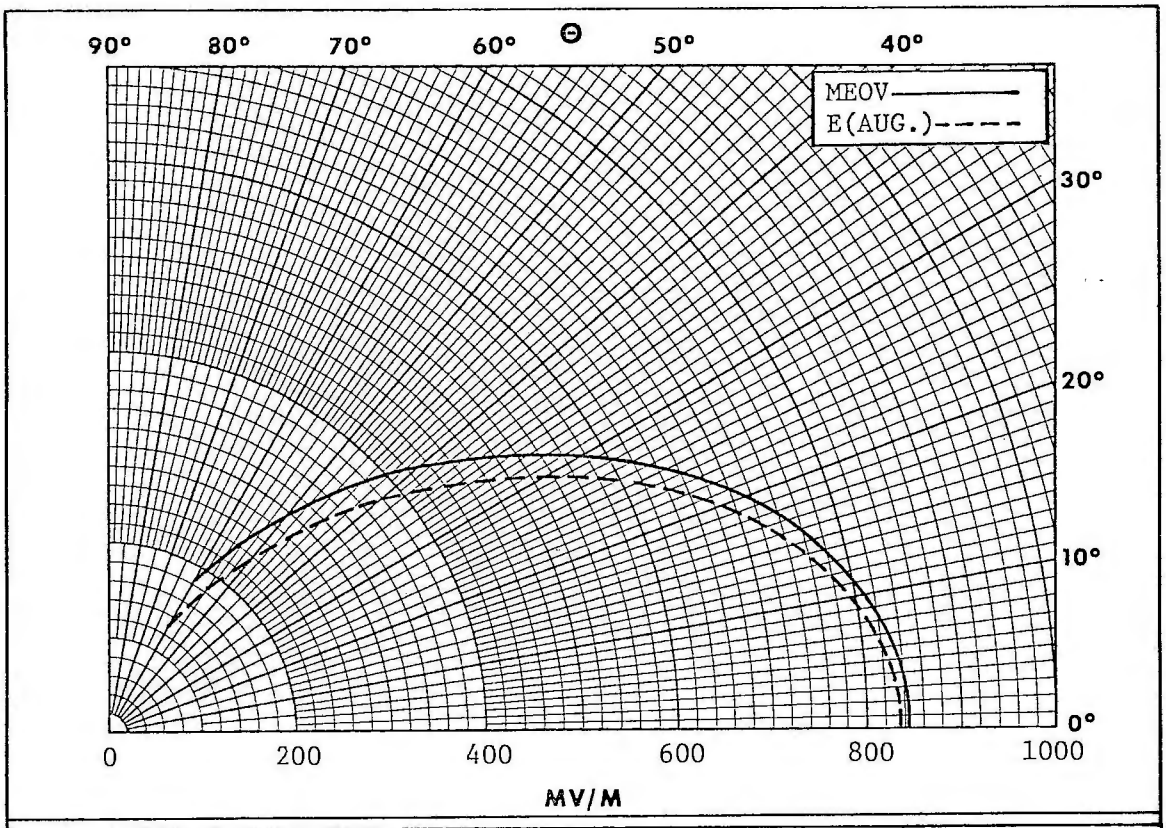
Θ	MEOV	E (AUG.)
0°	773.9	766.2
5	765.7	756.8
10	741.9	729.0
15	703.9	685.0
20	654.1	627.8
25	595.4	561.3
30	531.1	489.6
35	464.3	416.5
40	397.9	345.6
45	334.3	279.6
50	275.1	220.4
55	221.6	169.2
60	174.3	126.2

1. Miles	
2. Mid-Point Latitude	
3. Azimuth	185°
4. Horizontal Radiation	
5. Min.-Max. $\angle v$ (dΘ)	
6. Max. Rad. within dΘ	
7. Skywave Field	
8. LIMIT	

COMPARISON OF PRESENT AND PROPOSED
VERTICAL SLICES
KZLA - Los Angeles, California
1540 kHz - 10 kW/50 kW-LS - DA-2

June, 1981

CARL T. JONES ASSOCIATES—CONSULTING ENGINEERS



Tabulation of Radiated Fields

Θ	MEOV	E (AUG.)
0°	845.3	836.7
5	836.3	826.3
10	810.0	795.9
15	768.0	747.6
20	713.1	684.9
25	648.3	612.0
30	577.4	533.3
35	503.8	453.2
40	430.7	375.5
45	360.7	303.2
50	295.8	238.5
55	237.3	182.6
60	185.7	135.7

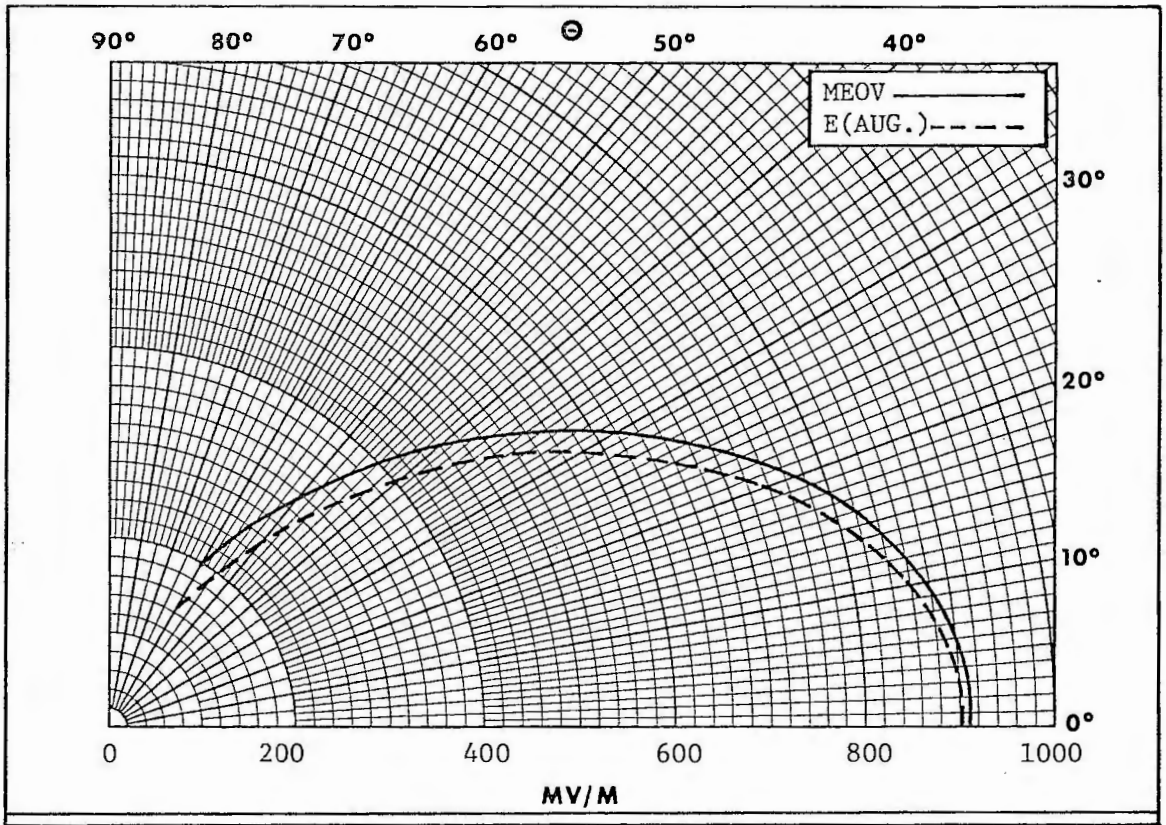
1. Miles	
2. Mid-Point Latitude	
3. Azimuth	190°
4. Horizontal Radiation	
5. Min.- Max. /v (dΘ)	
6. Max. Rad. within dΘ	
7. Skywave Field	
8. LIMIT	

COMPARISON OF PRESENT AND PROPOSED
VERTICAL SLICES
KZLA - Los Angeles, California
1540 kHz - 10 kW/50 kW-LS - DA-2

June, 1981

CARL T. JONES ASSOCIATES—CONSULTING ENGINEERS

FIGURE 73



Tabulation of Radiated Fields

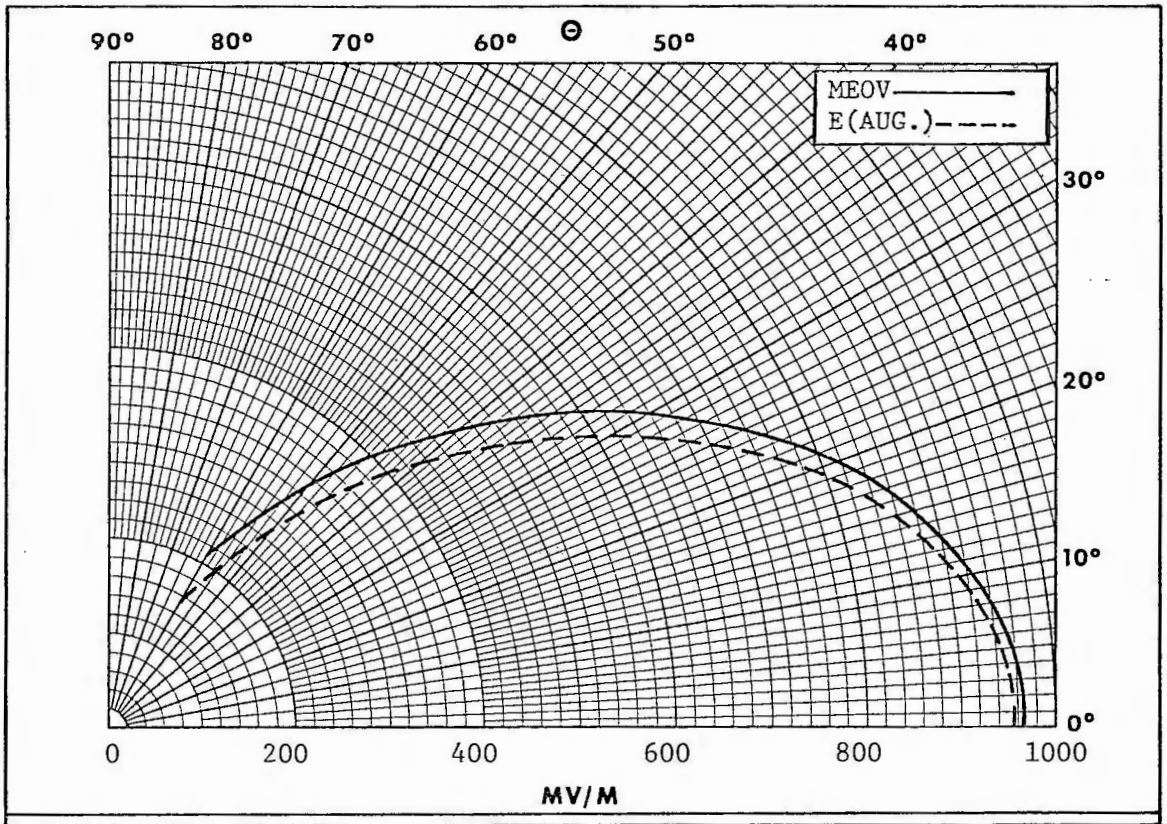
Θ	MEOV	E (AUG.)
0°	910.9	901.2
5	901.2	890.0
10	872.7	857.2
15	827.2	805.2
20	767.7	737.6
25	697.6	659.0
30	620.7	574.1
35	540.9	487.6
40	461.7	403.7
45	385.8	325.6
50	315.6	255.7
55	252.4	195.3
60	196.8	144.8

1. Miles	
2. Mid-Point Latitude	
3. Azimuth	195°
4. Horizontal Radiation	
5. Min.- Max. /v (dΘ)	
6. Max. Rad. within dΘ	
7. Skywave Field	
8. LIMIT	

COMPARISON OF PRESENT AND PROPOSED
VERTICAL SLICES
KZLA - Los Angeles, California
1540 kHz - 10 kW/50 kW-LS - DA-2

June, 1981

CARL T. JONES ASSOCIATES—CONSULTING ENGINEERS



Tabulation of Radiated Fields

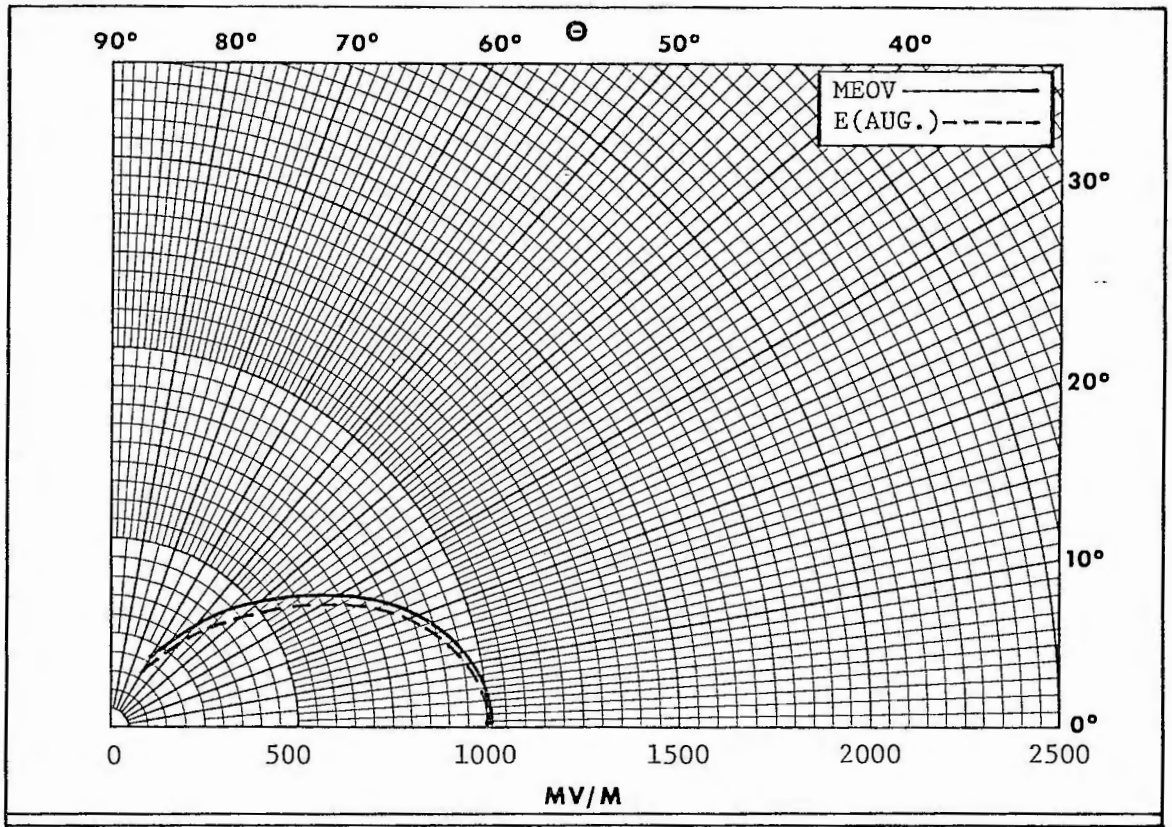
Θ	MEOV	E (AUG.)
0°	967.7	958.8
5	957.4	946.9
10	927.1	912.2
15	878.7	857.0
20	815.4	785.2
25	740.7	701.6
30	658.8	611.3
35	573.7	519.2
40	489.1	429.7
45	408.2	346.5
50	333.2	271.9
55	265.8	207.4
60	206.5	153.4

1. Miles	
2. Mid-Point Latitude	
3. Azimuth	200°
4. Horizontal Radiation	
5. Min.-Max. ∠v (dΘ)	
6. Max. Rad. within dΘ	
7. Skywave Field	
8. LIMIT	

COMPARISON OF PRESENT AND PROPOSED
VERTICAL SLICES
KZLA - Los Angeles, California
1540 kHz - 10 kW/50 kW-LS - DA-2

June, 1981

CARL T. JONES ASSOCIATES—CONSULTING ENGINEERS



Tabulation of Radiated Fields

Θ	MEOV	E (AUG.)
0°	1018.9	1009.1
5	1008.1	996.7
10	976.3	960.3
15	925.6	902.5
20	859.0	827.3
25	780.5	739.5
30	694.2	644.6
35	604.5	547.7
40	515.2	453.4
45	429.6	365.6
50	350.4	286.8
55	279.0	218.6
60	216.3	161.5

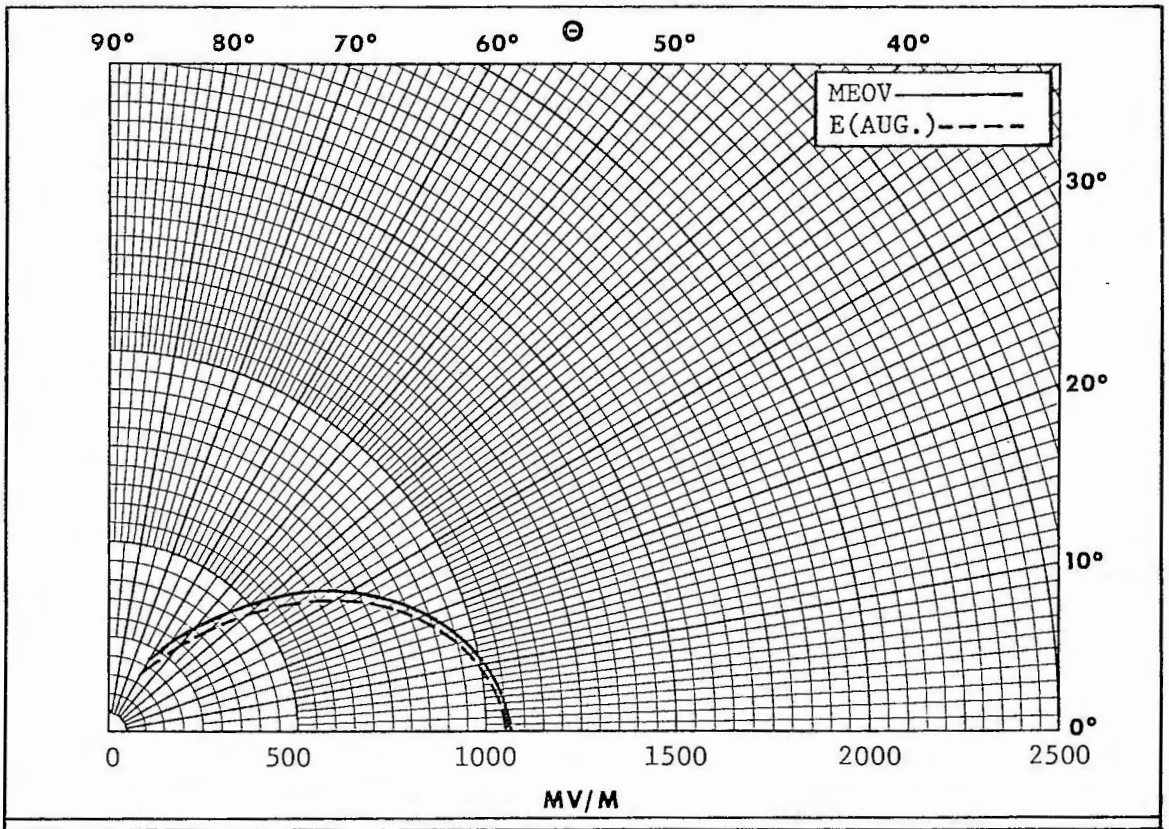
1. Miles	
2. Mid-Point Latitude	
3. Azimuth	205°
4. Horizontal Radiation	
5. Min.- Max. ∠v (dΘ)	
6. Max. Rad. within dΘ	
7. Skywave Field	
8. LIMIT	

COMPARISON OF PRESENT AND PROPOSED
VERTICAL SLICES
KZLA - Los Angeles, California
1540 kHz - 10 kW/50 kW-LS - DA-2

June, 1981

CARL T. JONES ASSOCIATES—CONSULTING ENGINEERS

FIGURE 76



Tabulation of Radiated Fields

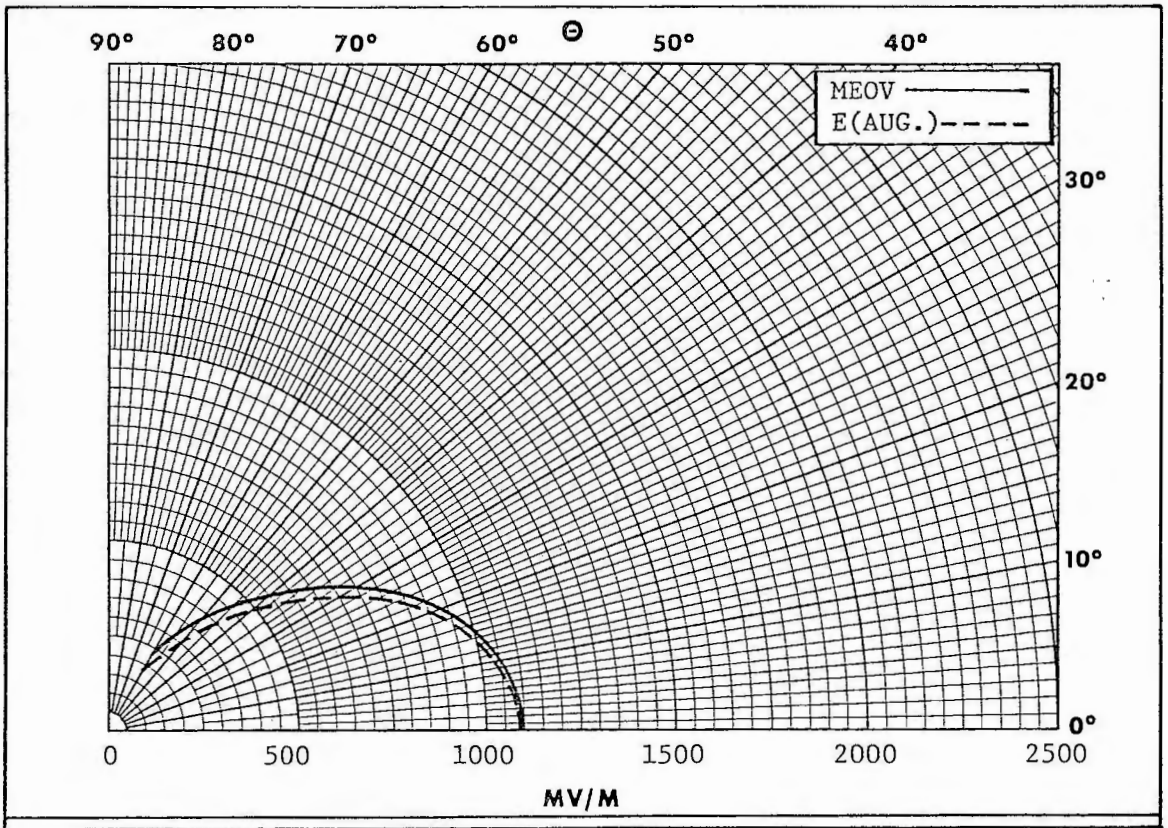
Θ	MEOV	E (AUG.)
0°	1060.9	1052.0
5	1049.7	1039.1
10	1016.8	1001.5
15	964.3	941.6
20	895.2	863.7
25	813.7	772.6
30	724.0	674.0
35	630.5	573.0
40	537.4	474.7
45	448.0	382.8
50	365.0	300.3
55	290.3	228.8
60	224.6	168.9

1. Miles	
2. Mid-Point Latitude	
3. Azimuth	210°
4. Horizontal Radiation	
5. Min.-Max. /v (dΘ)	
6. Max. Rad. within dΘ	
7. Skywave Field	
8. LIMIT	

COMPARISON OF PRESENT AND PROPOSED
VERTICAL SLICES
KZLA - Los Angeles, California
1540 kHz - 10 kW/50 kW-LS - DA-2

June, 1981

CARL T. JONES ASSOCIATES—CONSULTING ENGINEERS



Tabulation of Radiated Fields

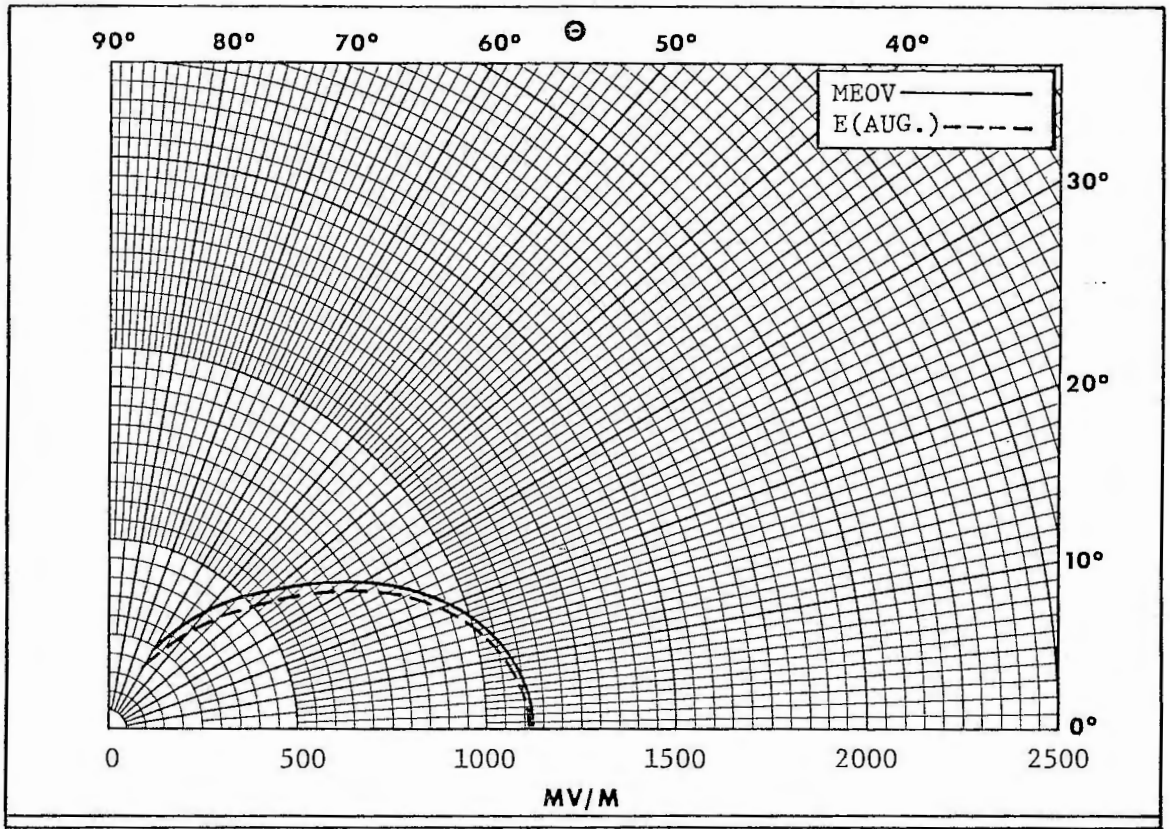
Θ	MEOV	E (AUG.)
0°	1095.9	1087.7
5	1084.4	1074.5
10	1050.8	1035.9
15	996.9	974.6
20	926.1	894.5
25	842.2	800.9
30	749.8	699.3
35	653.3	595.1
40	557.0	493.4
45	464.4	398.2
50	378.3	312.5
55	300.5	238.1
60	232.3	175.7

1. Miles	
2. Mid-Point Latitude	
3. Azimuth	215°
4. Horizontal Radiation	
5. Min.-Max. /v (dΘ)	
6. Max. Rad. within dΘ	
7. Skywave Field	
8. LIMIT	

COMPARISON OF PRESENT AND PROPOSED
VERTICAL SLICES
KZLA - Los Angeles, California
1540 kHz - 10 kW/50 kW-LS - DA-2

June, 1981

CARL T. JONES ASSOCIATES—CONSULTING ENGINEERS



Tabulation of Radiated Fields

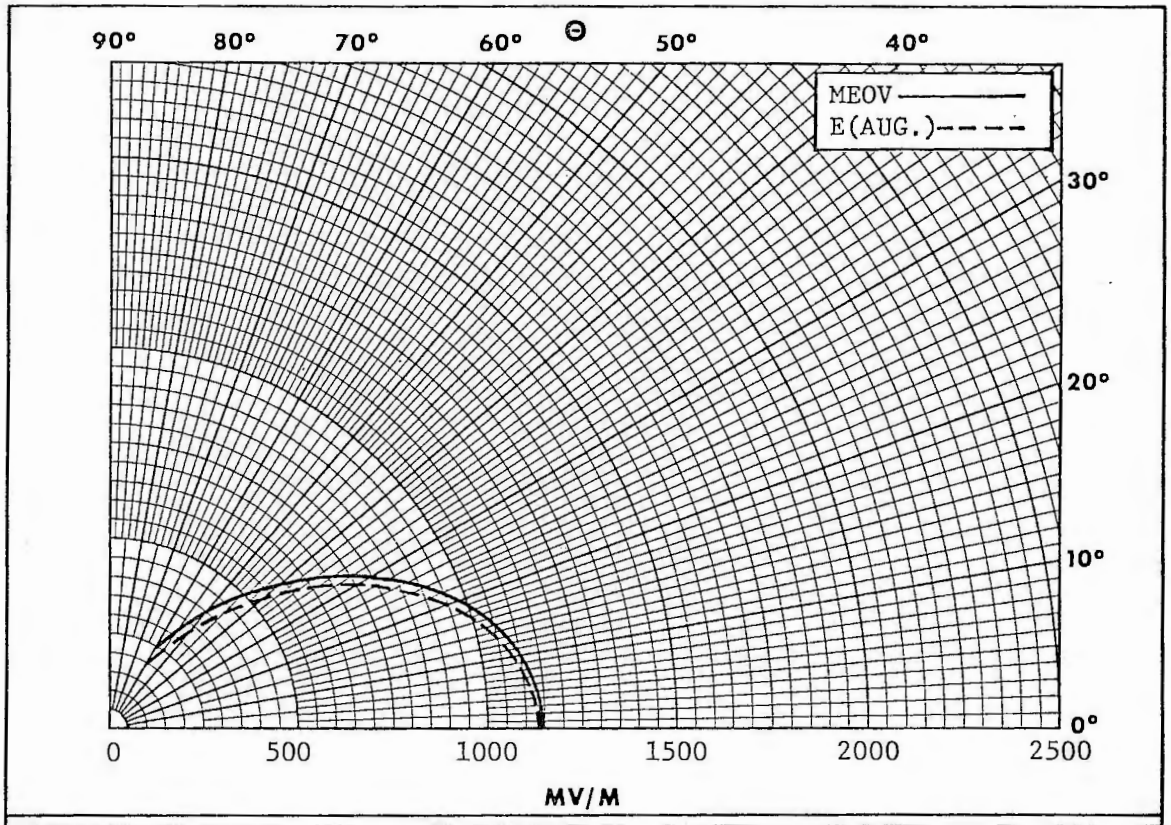
Θ	MEOV	E (AUG.)
0°	1123.6	1116.6
5	1112.0	1103.3
10	1077.8	1064.0
15	1023.1	1001.6
20	951.1	920.1
25	865.5	824.6
30	771.1	720.6
35	672.3	613.9
40	573.5	509.5
45	478.3	411.5
50	389.6	323.2
55	309.4	246.3
60	238.9	181.8

1. Miles	
2. Mid-Point Latitude	
3. Azimuth	220°
4. Horizontal Radiation	
5. Min.-Max. /v (dΘ)	
6. Max. Rad. within dΘ	
7. Skywave Field	
8. LIMIT	

COMPARISON OF PRESENT AND PROPOSED
VERTICAL SLICES
KZLA - Los Angeles, California
1540 kHz - 10 kW/50 kW-LS - DA-2

June, 1981

CARL T. JONES ASSOCIATES—CONSULTING ENGINEERS



Tabulation of Radiated Fields

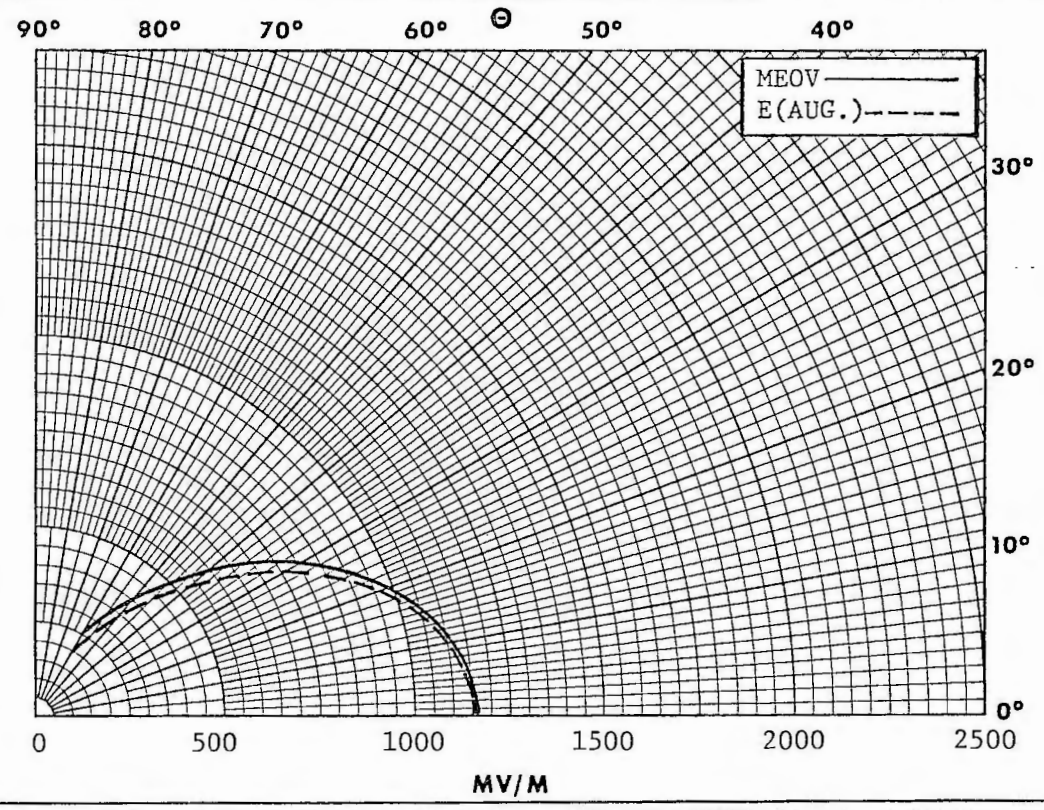
Θ	MEOV	E (AUG.)
0°	1145.1	1139.5
5	1133.4	1126.0
10	1098.9	1086.4
15	1043.6	1023.2
20	970.7	940.7
25	884.2	843.8
30	788.4	738.3
35	687.9	629.6
40	587.2	523.1
45	489.9	422.9
50	399.1	332.4
55	316.9	253.5
60	244.5	187.1

1. Miles	
2. Mid-Point Latitude	
3. Azimuth	225°
4. Horizontal Radiation	
5. Min.-Max. ∠v (dΘ)	
6. Max. Rad. within dΘ	
7. Skywave Field	
8. LIMIT	

COMPARISON OF PRESENT AND PROPOSED
VERTICAL SLICES
KZLA - Los Angeles, California
1540 kHz - 10 kW/50 kW-LS - DA-2

June, 1981

CARL T. JONES ASSOCIATES—CONSULTING ENGINEERS



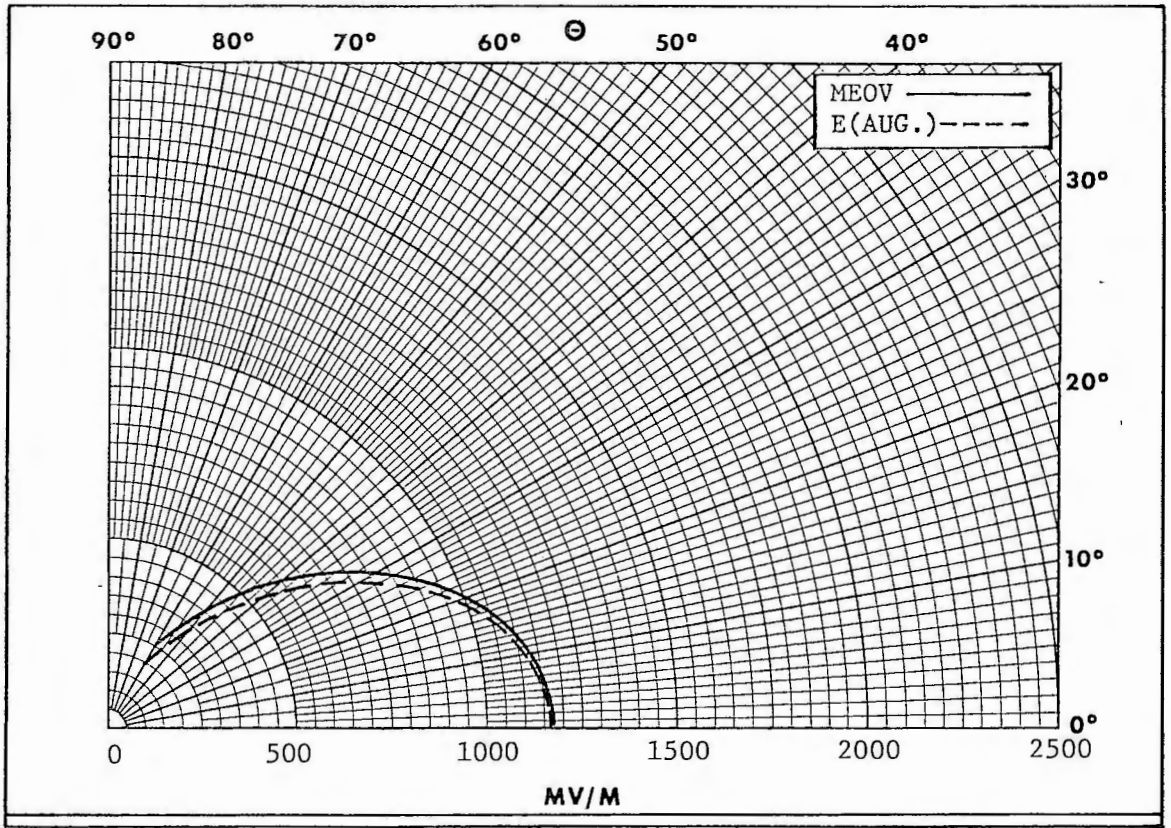
Tabulation of Radiated Fields		
Θ		
0°	1161.1	1157.0
5	1149.3	1143.4
10	1114.7	1103.6
15	1059.2	1040.1
20	985.9	956.9
25	898.6	859.2
30	801.9	752.4
35	700.3	642.4
40	598.2	534.2
45	499.3	432.3
50	406.9	340.0
55	323.1	259.5
60	249.1	191.5

1. Miles	
2. Mid-Point Latitude	
3. Azimuth	230°
4. Horizontal Radiation	
5. Min.-Max. $\angle\gamma$ (dΘ)	
6. Max. Rad. within dΘ	
7. Skywave Field	
8. LIMIT	

COMPARISON OF PRESENT AND PROPOSED
VERTICAL SLICES
KZLA - Los Angeles, California
1540 kHz - 10 kW/50 kW-LS - DA-2

June, 1981

CARL T. JONES ASSOCIATES—CONSULTING ENGINEERS



Tabulation of Radiated Fields

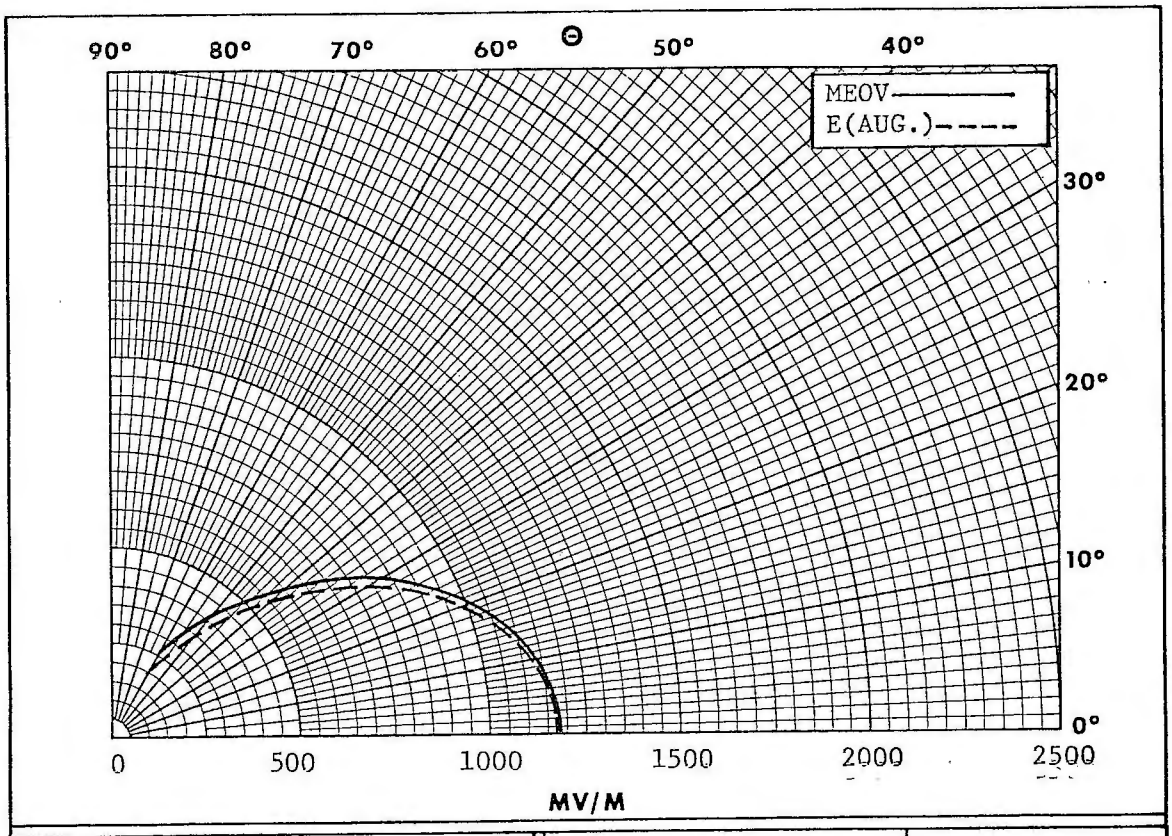
Θ	MEOV	E (AUG.)
0°	1173.0	1170.0
5	1161.3	1156.4
10	1126.6	1116.5
15	1071.0	1052.8
20	997.5	969.3
25	909.9	871.0
30	812.6	763.5
35	710.2	652.4
40	607.0	543.1
45	507.0	439.9
50	413.3	346.3
55	328.2	264.3
60	253.0	195.2

1. Miles	
2. Mid-Point Latitude	
3. Azimuth	235°
4. Horizontal Radiation	
5. Min.-Max. ∠v (dΘ)	
6. Max. Rad. within dΘ	
7. Skywave Field	
8. LIMIT	

COMPARISON OF PRESENT AND PROPOSED
VERTICAL SLICES
KZLA - Los Angeles, California
1540 kHz - 10 kW/50 kW-LS - DA-2

June, 1981

CARL T. JONES ASSOCIATES—CONSULTING ENGINEERS



Tabulation of Radiated Fields

Θ	MEOV	E (AUG.)
0°	1181.1	1179.3
5	1169.3	1165.7
10	1134.7	1125.7
15	1079.1	1062.0
20	1005.6	978.3
25	917.8	879.7
30	820.2	771.7
35	717.3	660.0
40	613.5	549.8
45	512.7	445.7
50	418.1	351.0
55	332.0	268.1
60	255.9	198.0

1. Miles	
2. Mid-Point Latitude	
3. Azimuth	240°
4. Horizontal Radiation	
5. Min.- Max. ∠v (dΘ)	
6. Max. Rad. within dΘ	
7. Skywave Field	
8. LIMIT	

COMPARISON OF PRESENT AND PROPOSED
VERTICAL SLICES
KZLA - Los Angeles, California
1540 kHz - 10 kW/50 kW-LS - DA-2

June, 1981

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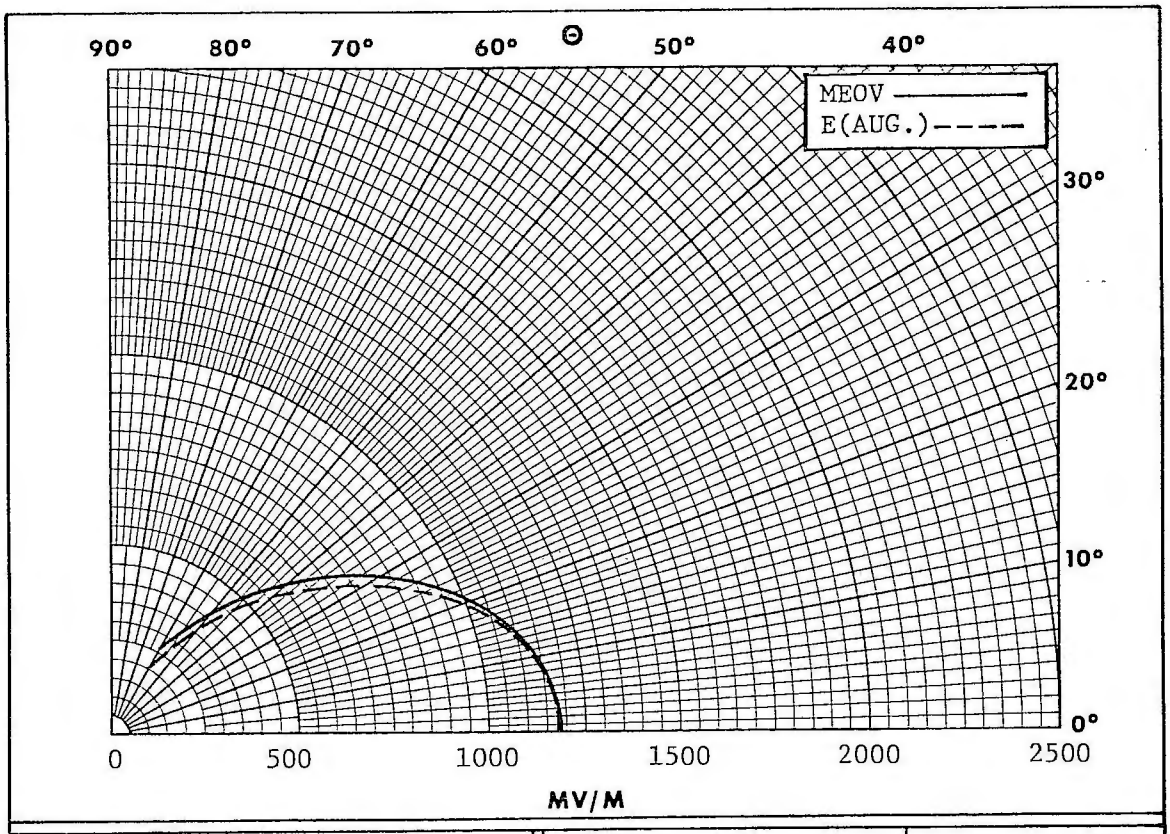
FIGURE 83



Tabulation of Radiated Fields

Θ	MEOV	E (AUG.)
0°	1186.2	1185.4
5	1174.5	1171.8
10	1139.9	1131.9
15	1084.4	1068.1
20	1010.9	984.4
25	923.1	885.6
30	825.3	777.4
35	722.2	665.2
40	617.9	554.5
45	516.6	449.8
50	421.3	354.4
55	334.6	270.8
60	257.9	200.1

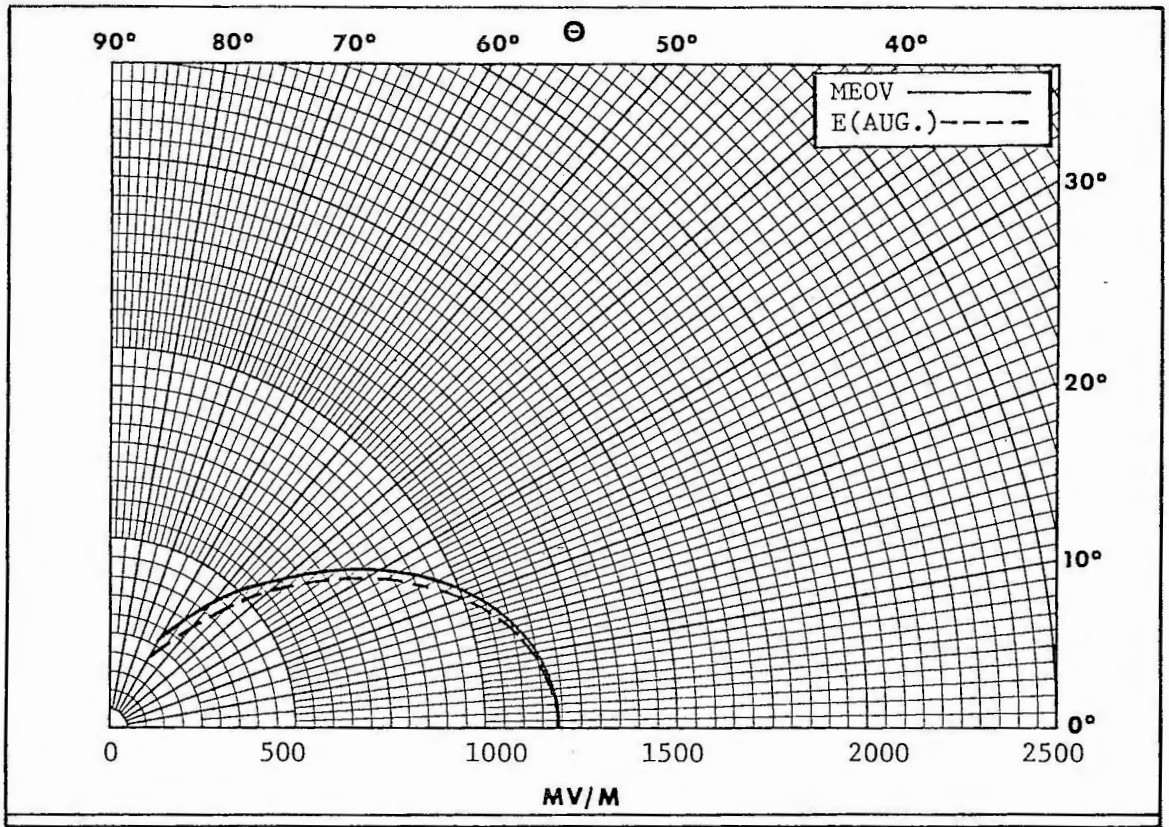
1. Miles	
2. Mid-Point Latitude	
3. Azimuth	245°
4. Horizontal Radiation	
5. Min.- Max. /v (dΘ)	
6. Max. Rad. within dΘ	
7. Skywave Field	
8. LIMIT	

COMPARISON OF PRESENT AND PROPOSED
VERTICAL SLICES
KZLA - Los Angeles, California
1540 kHz - 10 kW/50 kW-LS - DA-2

June, 1981

CARL T. JONES ASSOCIATES—CONSULTING ENGINEERS

FIGURE 84



Tabulation of Radiated Fields

Θ	MEOV	E (AUG.)
0°	1189.2	1188.9
5	1177.5	1175.3
10	1143.0	1135.4
15	1087.5	1071.6
20	1014.0	987.9
25	926.2	889.1
30	828.4	780.7
35	725.1	668.3
40	620.6	557.3
45	519.0	452.2
50	423.3	356.4
55	336.2	272.4
60	259.1	201.3

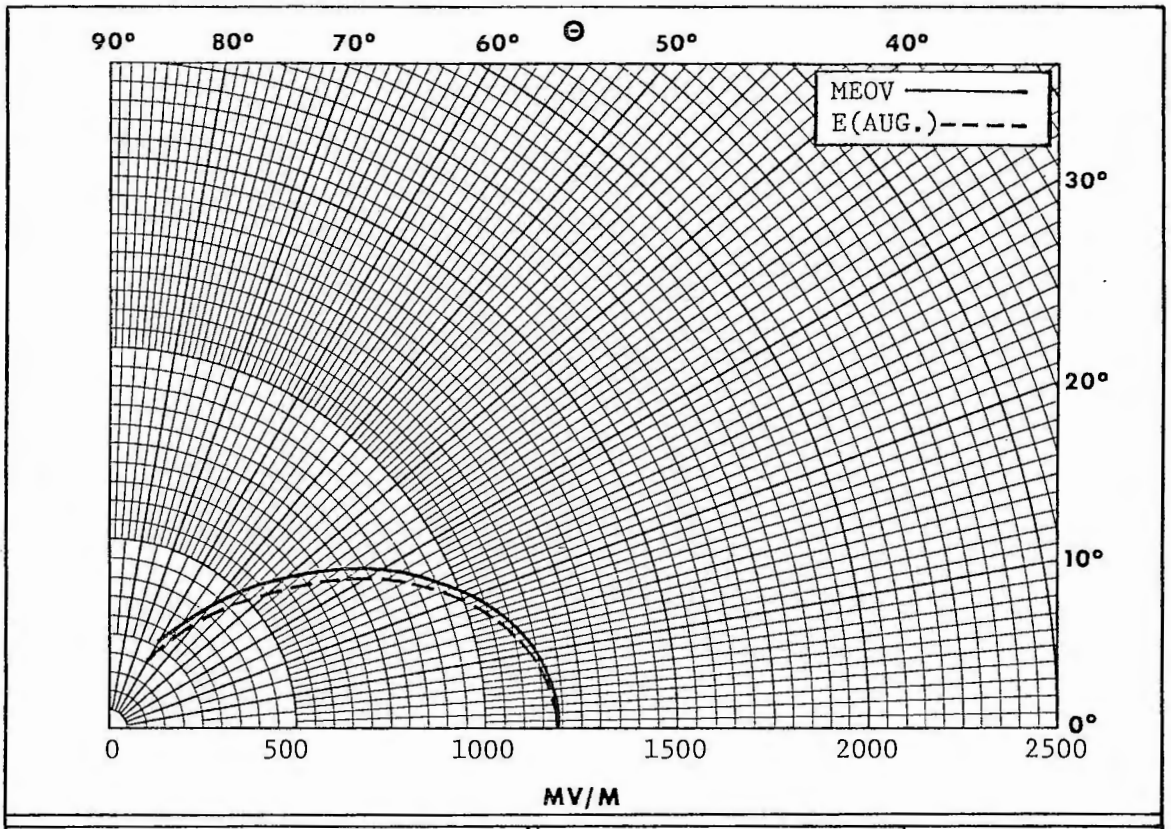
1. Miles	
2. Mid-Point Latitude	
3. Azimuth	250°
4. Horizontal Radiation	
5. Min.- Max. ∠v (dΘ)	
6. Max. Rad. within dΘ	
7. Skywave Field	
8. LIMIT	

COMPARISON OF PRESENT AND PROPOSED
VERTICAL SLICES
KZLA - Los Angeles, California
1540 kHz - 10 kW/50 kW-LS - DA-2

June, 1981

CARL T. JONES ASSOCIATES--CONSULTING ENGINEERS

FIGURE 85



Tabulation of Radiated Fields

Θ	MEOV	E (AUG.)
0°	1190.0	1190.0
5	1178.3	1176.4
10	1143.8	1136.5
15	1088.4	1072.8
20	1014.9	989.0
25	927.2	890.2
30	829.3	781.8
35	726.0	669.3
40	621.5	558.2
45	519.7	453.0
50	424.0	357.1
55	336.7	273.0
60	259.5	201.7

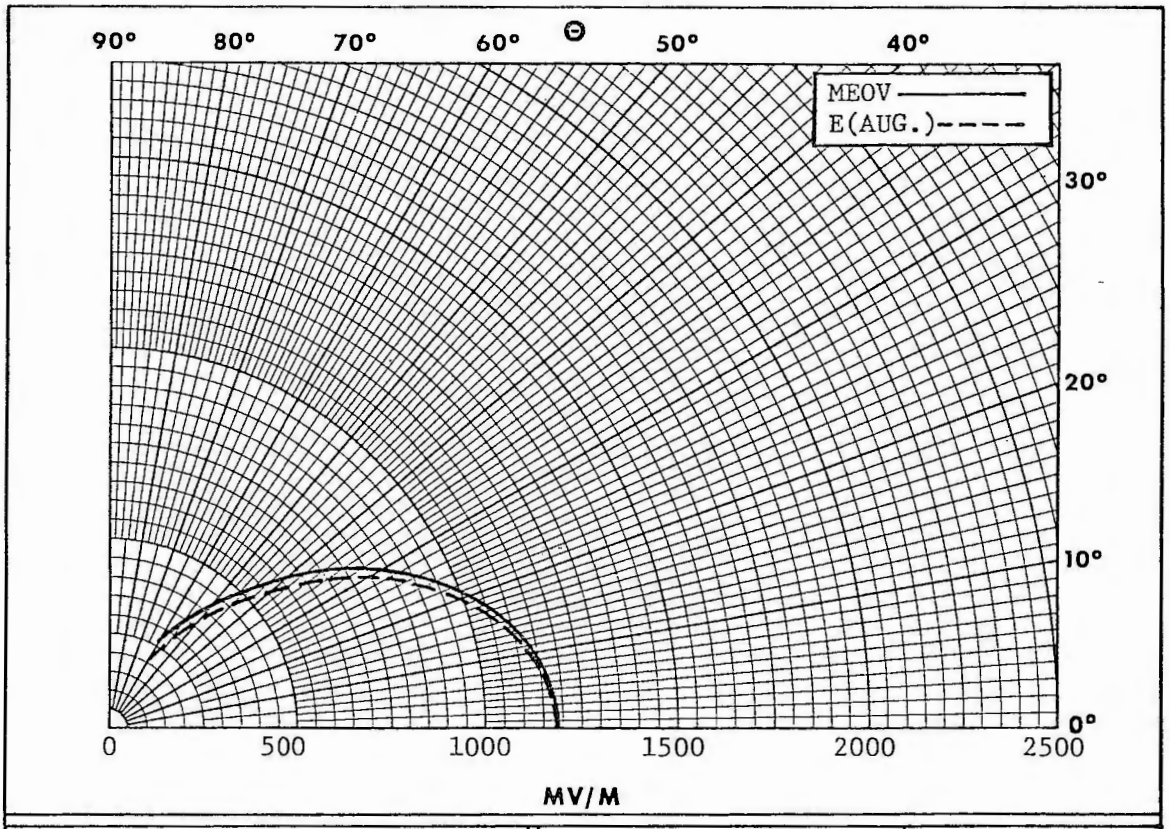
1. Miles	
2. Mid-Point Latitude	
3. Azimuth	255°
4. Horizontal Radiation	
5. Min.-Max. /v (dΘ)	
6. Max. Rad. within dΘ	
7. Skywave Field	
8. LIMIT	

COMPARISON OF PRESENT AND PROPOSED
VERTICAL SLICES
KZLA - Los Angeles, California
1540 kHz - 10 kW/50 kW-LS - DA-2

June, 1981

CARL T. JONES ASSOCIATES—CONSULTING ENGINEERS

FIGURE 86



Tabulation of Radiated Fields

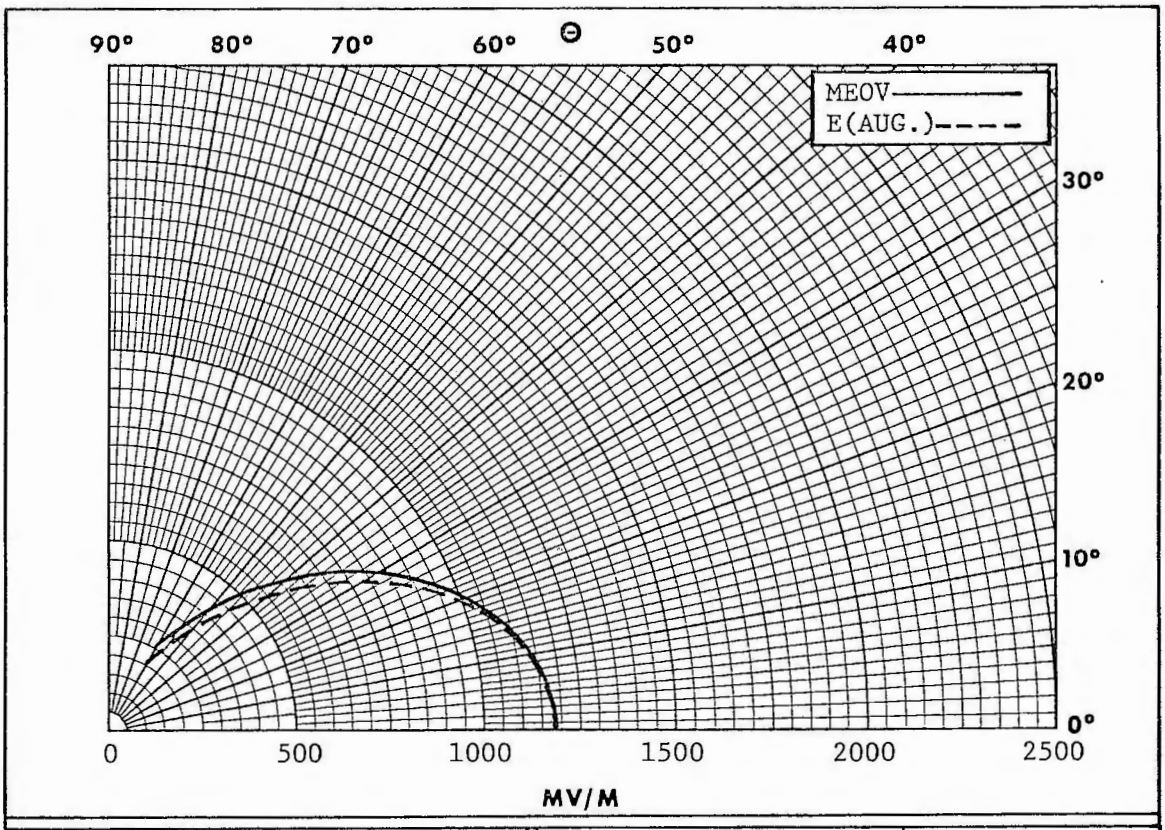
Θ	MEOV	E (AUG.)
0°	1189.2	1188.9
5	1177.5	1175.3
10	1143.0	1135.4
15	1087.5	1071.6
20	1014.0	987.9
25	926.2	889.1
30	828.4	780.7
35	725.1	668.3
40	620.6	557.3
45	510.0	452.2
50	423.4	356.4
55	336.2	272.4
60	259.1	201.3

1. Miles	
2. Mid-Point Latitude	
3. Azimuth	260°
4. Horizontal Radiation	
5. Min.- Max. /v (dΘ)	
6. Max. Rad. within dΘ	
7. Skywave Field	
8. LIMIT	

COMPARISON OF PRESENT AND PROPOSED
VERTICAL SLICES
KZLA - Los Angeles, California
1540 kHz - 10 kW/50 kW-LS - DA-2

June, 1981

CARL T. JONES ASSOCIATES—CONSULTING ENGINEERS



Tabulation of Radiated Fields

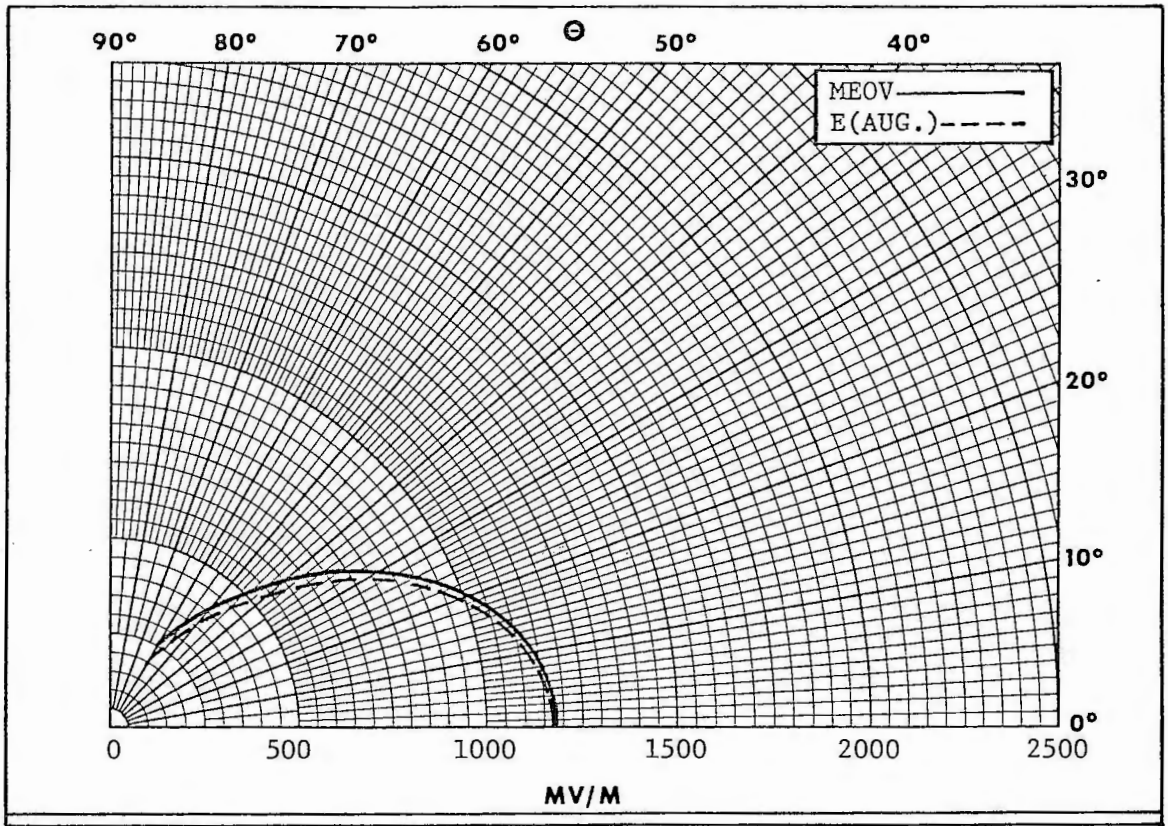
Θ	MEOV	E (AUG.)
0°	1186.2	1185.4
5	1174.5	1171.8
10	1139.9	1131.9
15	1084.4	1068.1
20	1010.9	984.4
25	923.1	885.6
30	825.3	777.4
35	722.2	665.2
40	617.9	554.5
45	516.6	449.8
50	421.3	354.4
55	334.6	270.8
60	257.9	200.1

1. Miles	
2. Mid-Point Latitude	
3. Azimuth	265°
4. Horizontal Radiation	
5. Min.-Max. ∠v (dΘ)	
6. Max. Rad. within dΘ	
7. Skywave Field	
8. LIMIT	

COMPARISON OF PRESENT AND PROPOSED
VERTICAL SLICES
KZLA - Los Angeles, California
1540 kHz - 10 kW/50 kW-LS - DA-2

June, 1981

CARL T. JONES ASSOCIATES—CONSULTING ENGINEERS



Tabulation of Radiated Fields

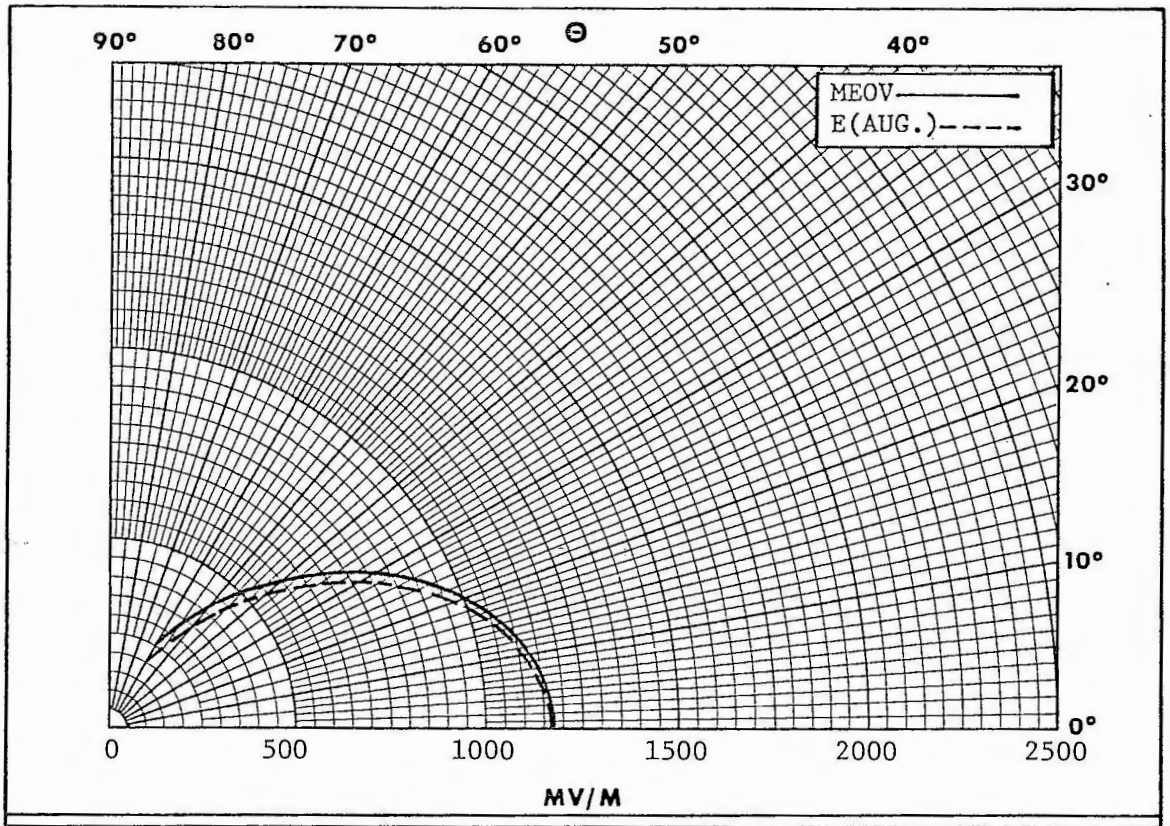
Θ	MEOV	E (AUG.)
0°	1181.1	1179.3
5	1169.3	1165.7
10	1134.7	1125.7
15	1079.1	1062.0
20	1005.6	978.3
25	917.8	879.7
30	820.2	771.7
35	717.3	660.0
40	613.5	549.8
45	512.7	445.7
50	418.1	351.0
55	332.0	268.1
60	255.9	198.0

1. Miles	
2. Mid-Point Latitude	
3. Azimuth	270°
4. Horizontal Radiation	
5. Min.-Max. ∠v (dΘ)	
6. Max. Rad. within dΘ	
7. Skywave Field	
8. LIMIT	

COMPARISON OF PRESENT AND PROPOSED
VERTICAL SLICES
KZLA - Los Angeles, California
1540 kHz - 10 kW/50 kW-LS - DA-2

June, 1981

CARL T. JONES ASSOCIATES—CONSULTING ENGINEERS



Tabulation of Radiated Fields

Θ	MEOV	E (AUG.)
0°	1173.0	1170.0
5	1161.3	1156.4
10	1126.6	1116.5
15	1071.0	1052.8
20	997.5	969.3
25	909.9	871.0
30	812.6	763.5
35	710.2	652.4
40	607.0	543.1
45	507.0	439.9
50	413.3	346.3
55	328.2	264.3
60	253.0	195.2

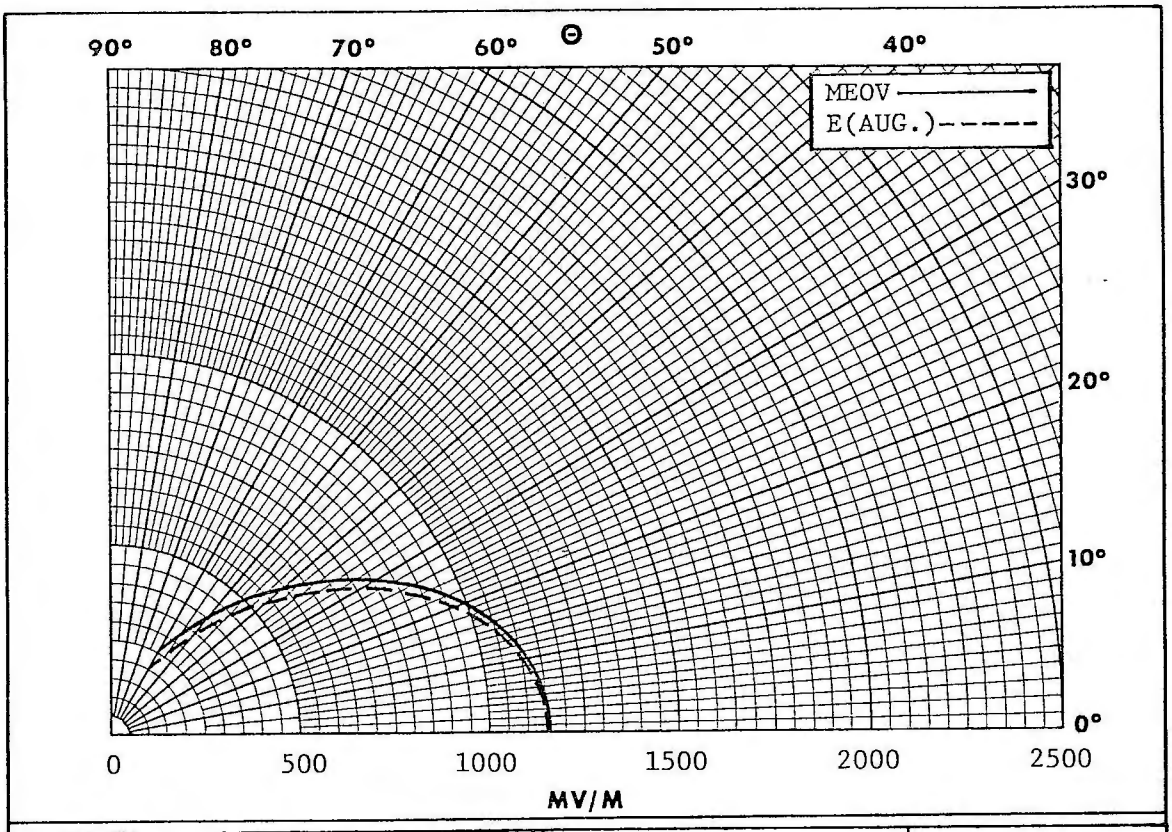
1. Miles	
2. Mid-Point Latitude	
3. Azimuth	275°
4. Horizontal Radiation	
5. Min.-Max. ∠ (dΘ)	
6. Max. Rad. within dΘ	
7. Skywave Field	
8. LIMIT	

COMPARISON OF PRESENT AND PROPOSED
VERTICAL SLICES
KZLA - Los Angeles, California
1540 kHz - 10 kW/50 kW-LS - DA-2

June, 1981

CARL T. JONES ASSOCIATES—CONSULTING ENGINEERS

FIGURE 90



Tabulation of Radiated Fields

Θ	MEOV	E (AUG.)
0°	1161.1	1157.0
5	1149.3	1143.4
10	1114.7	1103.6
15	1059.2	1040.1
20	985.9	956.9
25	898.6	859.2
30	801.9	752.4
35	700.3	642.4
40	598.2	534.2
45	499.3	432.3
50	406.9	340.0
55	323.1	259.5
60	249.1	191.5

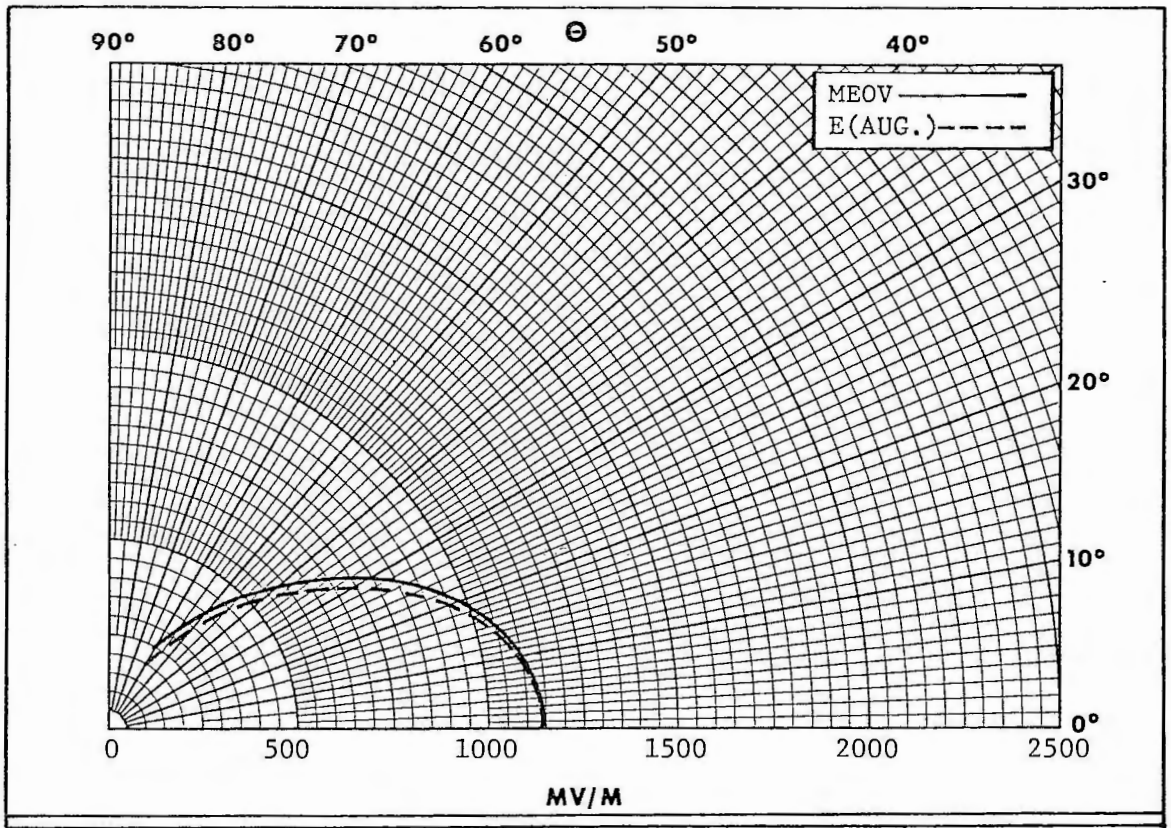
1. Miles	
2. Mid-Point Latitude	
3. Azimuth	280°
4. Horizontal Radiation	
5. Min.-Max. ∠v (dΘ)	
6. Max. Rad. within dΘ	
7. Skywave Field	
8. LIMIT	

COMPARISON OF PRESENT AND PROPOSED
VERTICAL SLICES
KZLA - Los Angeles, California
1540 kHz - 10 kW/50 kW-LS - DA-2

June, 1981

CARL T. JONES ASSOCIATES—CONSULTING ENGINEERS

FIGURE 91



Tabulation of Radiated Fields

Θ	MEOV	E (AUG.)
0°	1145.1	1140.0
5	1133.4	1126.5
10	1098.9	1086.9
15	1043.6	1023.7
20	970.7	941.2
25	884.2	844.3
30	788.4	738.7
35	687.9	630.0
40	587.2	523.4
45	489.9	423.2
50	399.1	332.6
55	316.9	253.7
60	244.5	187.2

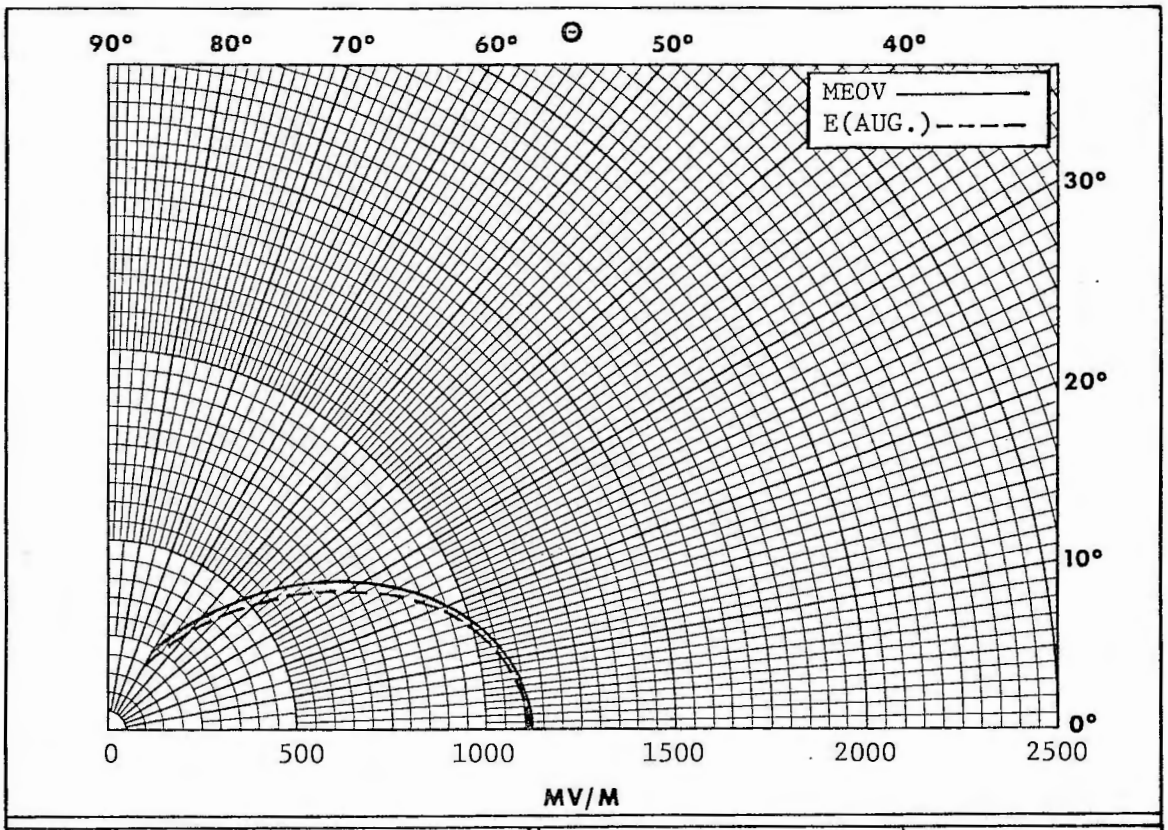
1. Miles	
2. Mid-Point Latitude	
3. Azimuth	285°
4. Horizontal Radiation	
5. Min.- Max. /v (dΘ)	
6. Max. Rad. within dΘ	
7. Skywave Field	
8. LIMIT	

COMPARISON OF PRESENT AND PROPOSED
VERTICAL SLICES
KZLA - Los Angeles, California
1540 kHz - 10 kW/50 kW-LS - DA-2

June, 1981

CARL T. JONES ASSOCIATES—CONSULTING ENGINEERS

FIGURE 92



Tabulation of Radiated Fields

Θ	MEOV	E (AUG.)
0°	1123.6	1118.6
5	1112.0	1105.2
10	1077.8	1066.0
15	1023.1	1003.5
20	951.0	921.8
25	865.5	826.2
30	771.1	722.1
35	672.3	615.3
40	573.5	510.7
45	478.3	412.6
50	389.6	324.1
55	309.4	247.2
60	238.9	182.5

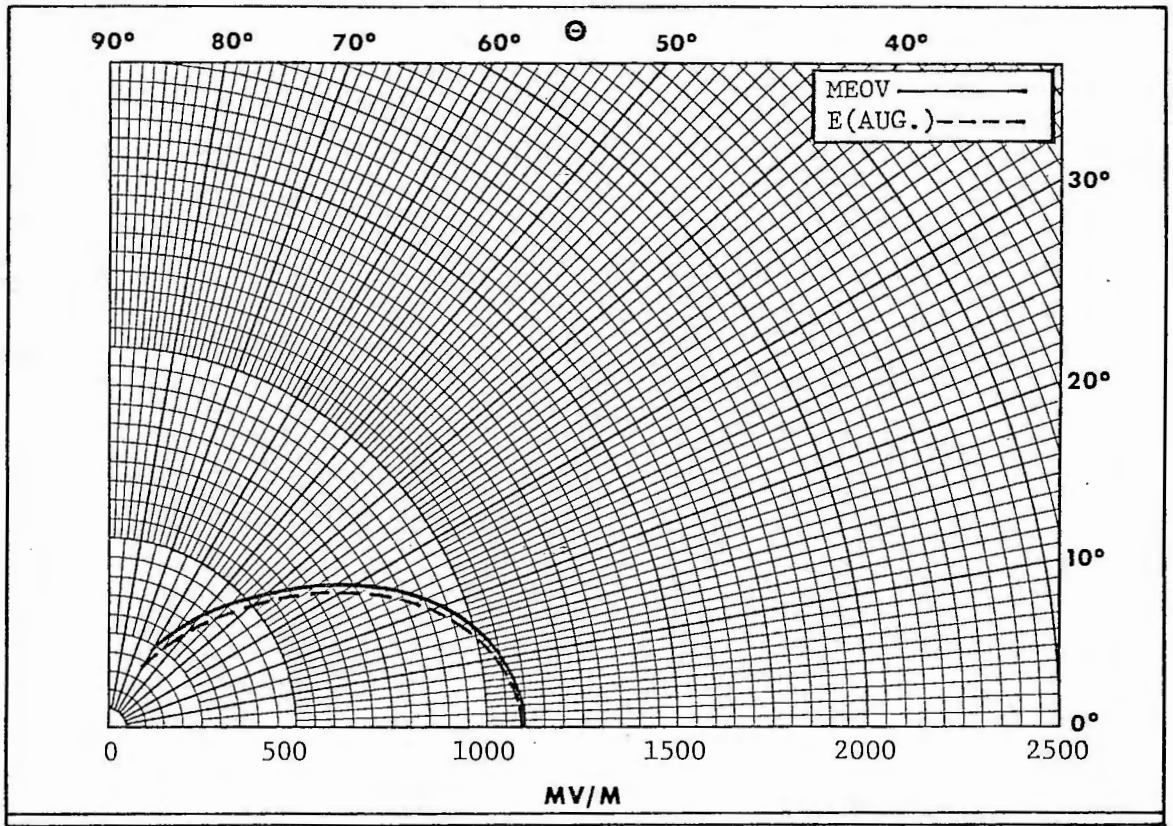
1. Miles	
2. Mid-Point Latitude	
3. Azimuth	290°
4. Horizontal Radiation	
5. Min.- Max. /v (dΘ)	
6. Max. Rad. within dΘ	
7. Skywave Field	
8. LIMIT	

COMPARISON OF PRESENT AND PROPOSED
VERTICAL SLICES
KZLA - Los Angeles, California
1540 kHz - 10 kW/50 kW-LS - DA-2

June, 1981

CARL T. JONES ASSOCIATES—CONSULTING ENGINEERS

FIGURE 93



Tabulation of Radiated Fields

Θ	MEOV	E (AUG.)
0°	1095.5	1091.8
5	1084.4	1078.6
10	1050.8	1039.9
15	996.9	978.4
20	926.1	898.1
25	842.2	804.3
30	749.8	702.3
35	653.3	597.9
40	557.0	495.9
45	464.4	400.4
50	378.3	314.4
55	300.5	239.8
60	232.3	177.2

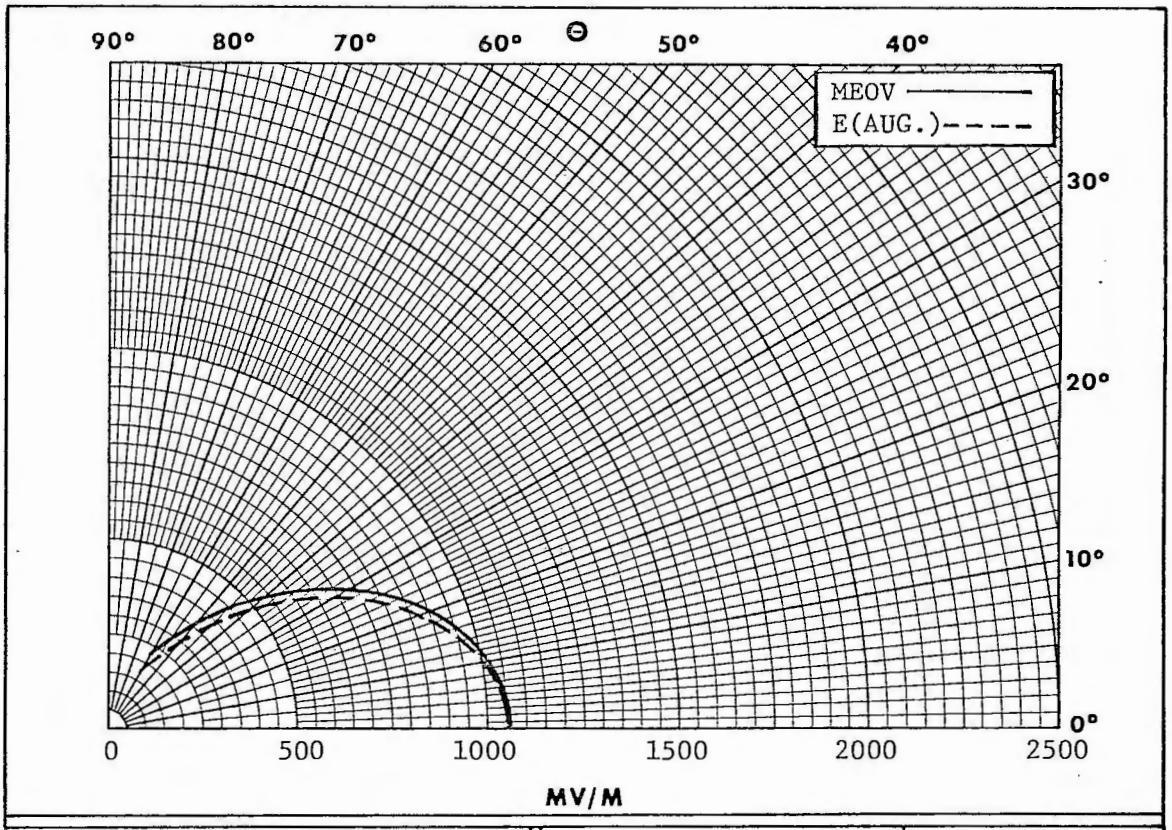
1. Miles	
2. Mid-Point Latitude	
3. Azimuth	295°
4. Horizontal Radiation	
5. Min.-Max. ∠v (dΘ)	
6. Max. Rad. within dΘ	
7. Skywave Field	
8. LIMIT	

COMPARISON OF PRESENT AND PROPOSED
VERTICAL SLICES
KZLA - Los Angeles, California
1540 kHz - 10 kW/50 kW-LS - DA-2

June, 1981

CARL T. JONES ASSOCIATES—CONSULTING ENGINEERS

FIGURE 94



Tabulation of Radiated Fields

Θ	MEOV	E (AUG.)
0°	1060.9	1058.3
5	1049.7	1045.4
10	1016.8	1007.6
15	964.3	947.5
20	895.2	869.2
25	813.7	777.8
30	724.0	678.7
35	630.5	577.3
40	537.4	478.5
45	448.0	386.2
50	365.0	303.3
55	290.3	231.4
60	224.6	171.1

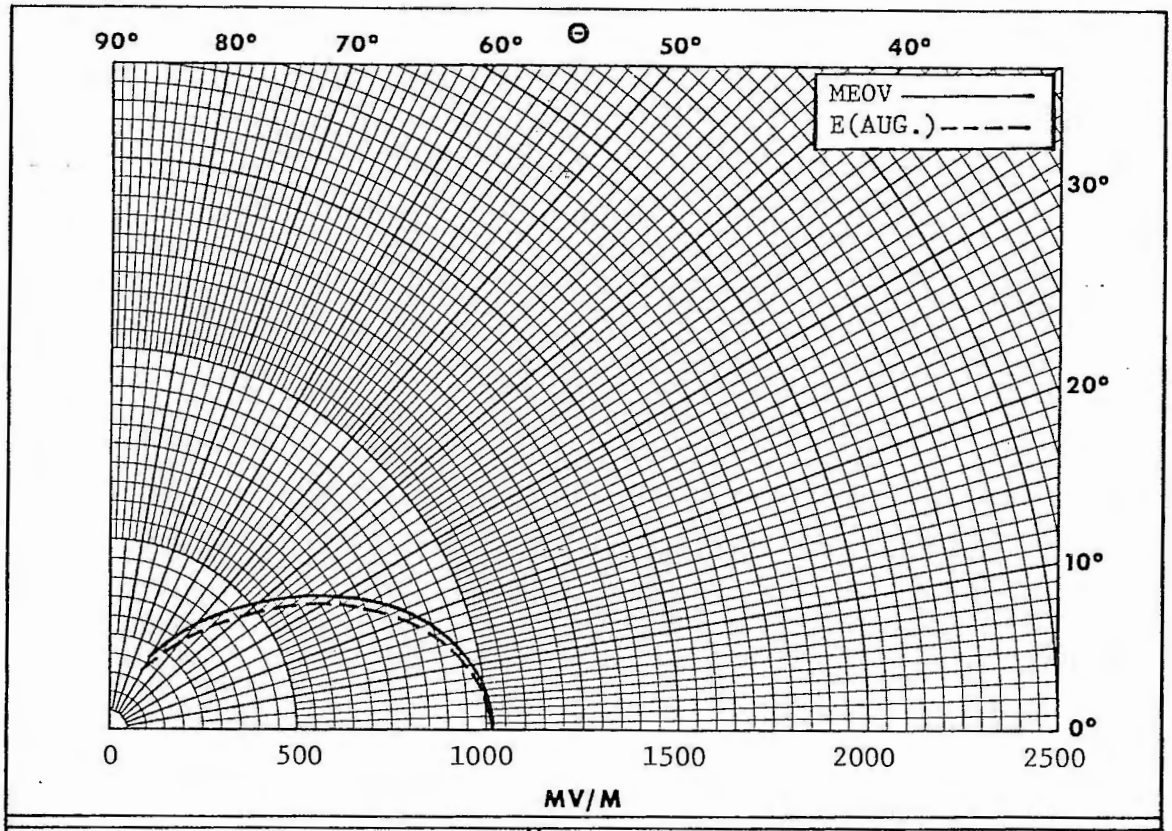
1. Miles	
2. Mid-Point Latitude	
3. Azimuth	300°
4. Horizontal Radiation	
5. Min.- Max. ∠v (dΘ)	
6. Max. Rad. within dΘ	
7. Skywave Field	
8. LIMIT	

COMPARISON OF PRESENT AND PROPOSED
VERTICAL SLICES
KZLA - Los Angeles, California
1540 kHz - 10 kW/50 kW-LS - DA-2

June, 1981

CARL T. JONES ASSOCIATES—CONSULTING ENGINEERS

FIGURE 95



Tabulation of Radiated Fields

Θ	MEOV	E (AUG.)
0°	1018.9	1017.1
5	1008.1	1004.6
10	976.3	968.0
15	925.6	909.9
20	859.0	834.3
25	780.5	746.1
30	694.2	650.6
35	604.5	553.2
40	515.2	458.3
45	429.6	369.9
50	350.4	290.5
55	279.0	221.8
60	216.3	164.3

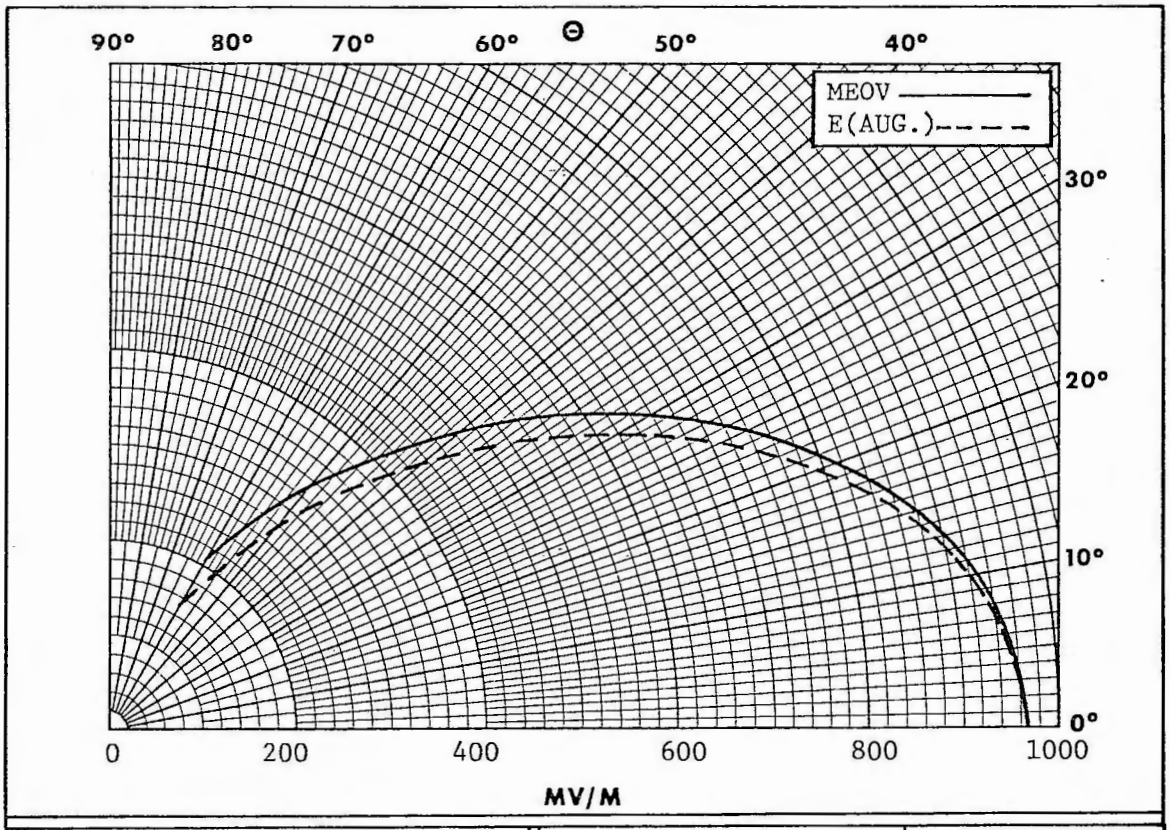
1. Miles	
2. Mid-Point Latitude	
3. Azimuth	305°
4. Horizontal Radiation	
5. Min.- Max. ∠v (dΘ)	
6. Max. Rad. within dΘ	
7. Skywave Field	
8. LIMIT	

COMPARISON OF PRESENT AND PROPOSED
VERTICAL SLICES
KZLA - Los Angeles, California
1540 kHz - 10 kW/50 kW-LS - DA-2

June, 1981

CARL T. JONES ASSOCIATES—CONSULTING ENGINEERS

FIGURE 96



Tabulation of Radiated Fields

Θ	MEOV	E (AUG.)
0°	967.7	967.6
5	957.4	955.6
10	927.1	920.6
15	878.7	865.1
20	815.4	792.9
25	740.7	708.8
30	658.8	617.9
35	573.7	525.1
40	489.1	435.1
45	408.2	351.2
50	333.2	276.0
55	265.8	210.9
60	206.5	156.5

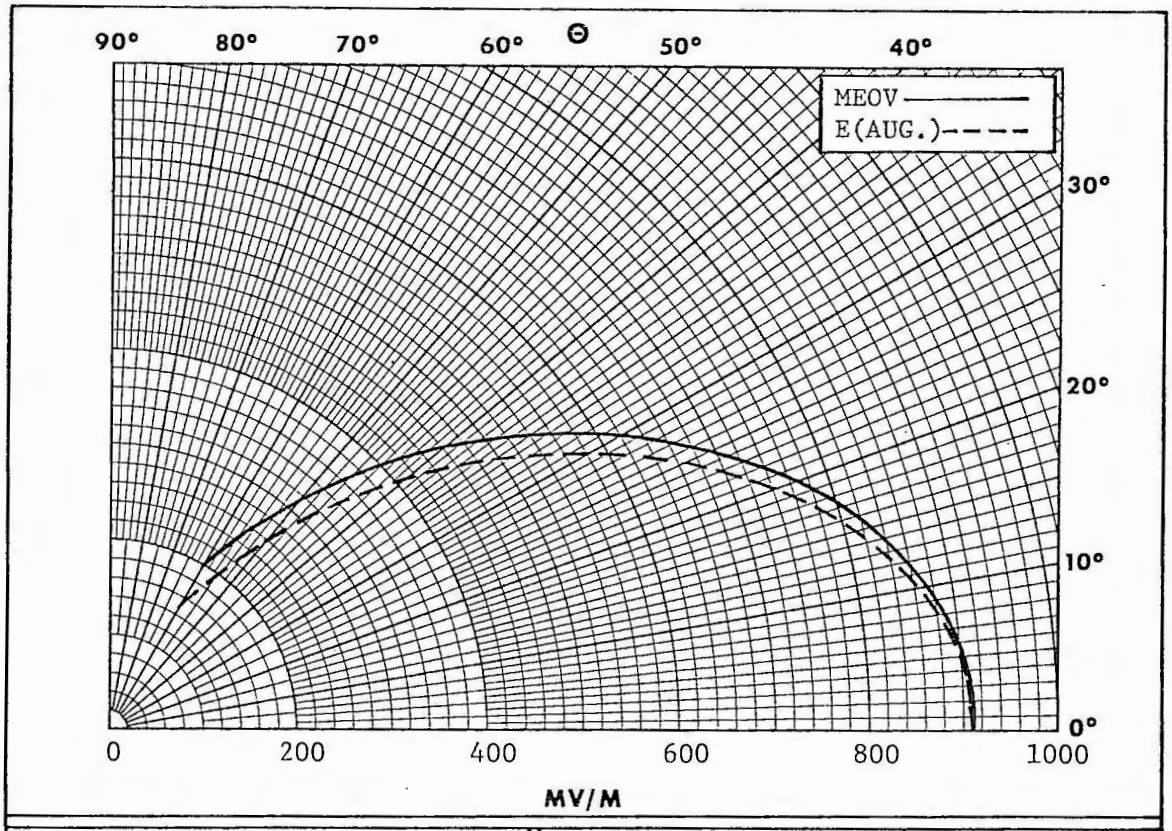
1. Miles	
2. Mid-Point Latitude	
3. Azimuth	310°
4. Horizontal Radiation	
5. Min.- Max. ∠v (dΘ)	
6. Max. Rad. within dΘ	
7. Skywave Field	
8. LIMIT	

COMPARISON OF PRESENT AND PROPOSED
VERTICAL SLICES
KZLA - Los Angeles, California
1540 kHz - 10 kW/50 kW-LS - DA-2

June, 1981

CARL T. JONES ASSOCIATES—CONSULTING ENGINEERS

FIGURE 97



Tabulation of Radiated Fields		
Θ	MEOV	E (AUG.)
0°	910.9	909.4
5	901.2	898.1
10	872.7	865.1
15	827.2	812.8
20	767.7	744.8
25	697.6	665.7
30	620.7	580.2
35	540.9	493.2
40	461.7	408.7
45	385.8	330.0
50	315.6	259.6
55	252.4	198.7
60	196.8	147.6

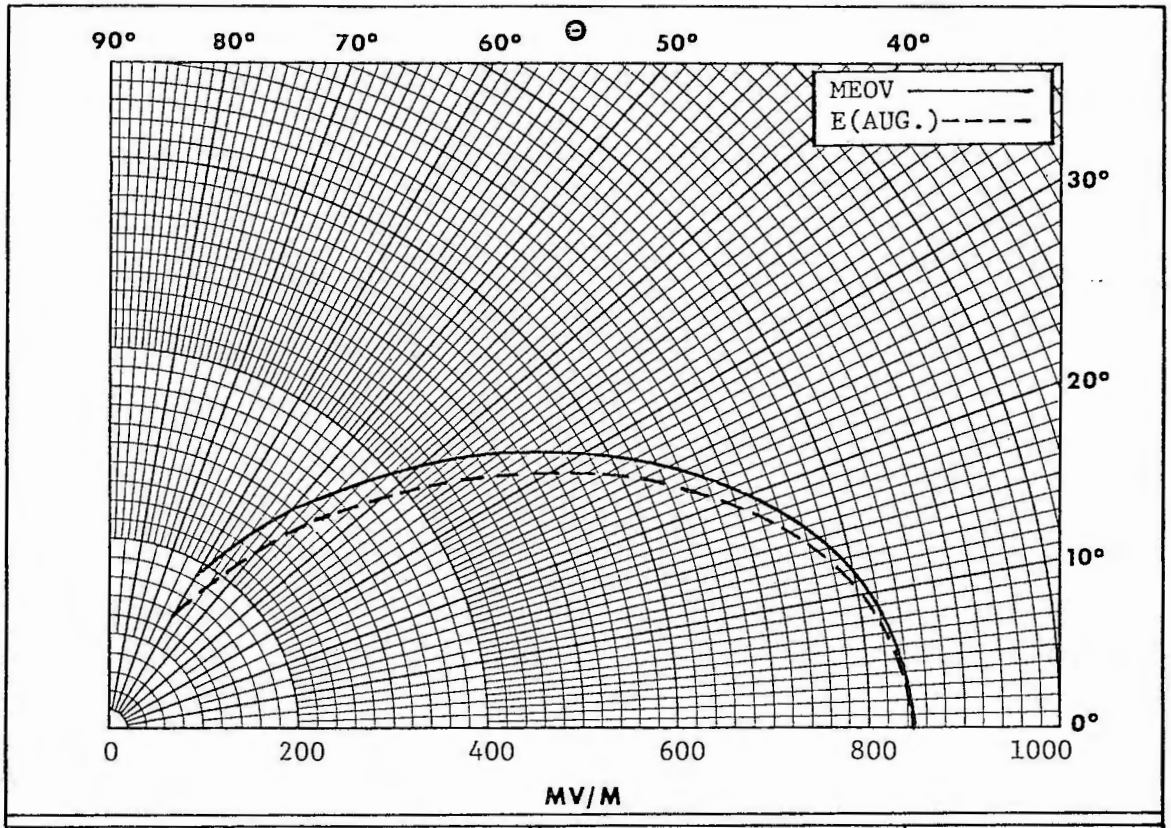
1. Miles	
2. Mid-Point Latitude	
3. Azimuth	315°
4. Horizontal Radiation	
5. Min.-Max. ∠v (dΘ)	
6. Max. Rad. within dΘ	
7. Skywave Field	
8. LIMIT	

COMPARISON OF PRESENT AND PROPOSED
VERTICAL SLICES
KZLA - Los Angeles, California
1540 kHz - 10 kW/50 kW-LS - DA-2

June, 1981

CARL T. JONES ASSOCIATES—CONSULTING ENGINEERS

FIGURE 98



Tabulation of Radiated Fields

Θ	MEOV	E (AUG.)
0°	845.3	843.0
5	836.3	832.6
10	810.0	802.0
15	768.0	753.5
20	713.1	690.5
25	648.3	617.2
30	577.4	538.1
35	503.8	457.5
40	430.7	379.4
45	360.7	306.6
50	295.8	241.5
55	237.3	185.1
60	185.7	137.9

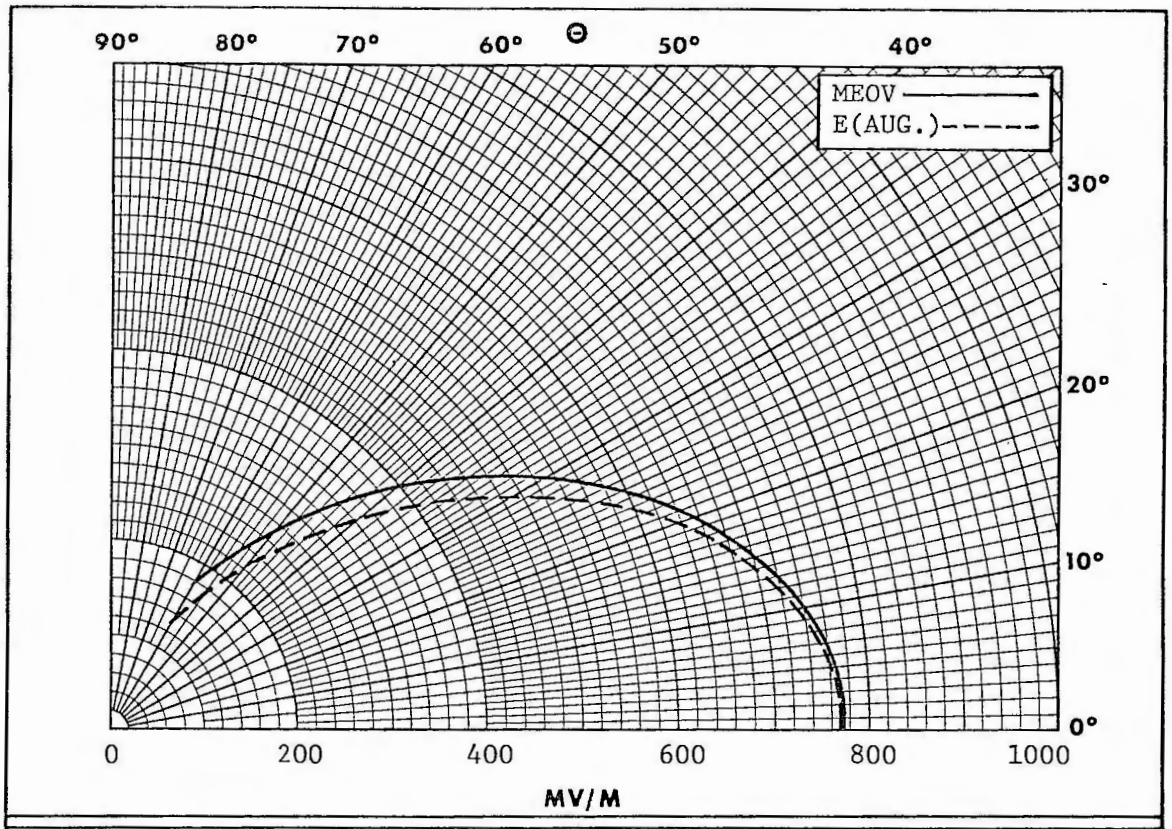
1. Miles	
2. Mid-Point Latitude	
3. Azimuth	320°
4. Horizontal Radiation	
5. Min.- Max. ∠v (dΘ)	
6. Max. Rad. within dΘ	
7. Skywave Field	
8. LIMIT	

COMPARISON OF PRESENT AND PROPOSED
VERTICAL SLICES
KZLA - Los Angeles, California
1540 kHz - 10 kW/50 kW-LS - DA-2

June, 1981

CARL T. JONES ASSOCIATES—CONSULTING ENGINEERS

FIGURE 99



Tabulation of Radiated Fields

Θ	MEOV	E (AUG.)
0°	773.9	769.6
5	765.7	760.1
10	741.9	732.3
15	703.9	688.1
20	654.1	630.8
25	595.4	564.1
30	531.1	492.1
35	464.3	418.8
40	397.9	347.6
45	334.3	281.4
50	275.1	222.0
55	221.6	170.5
60	174.3	127.4

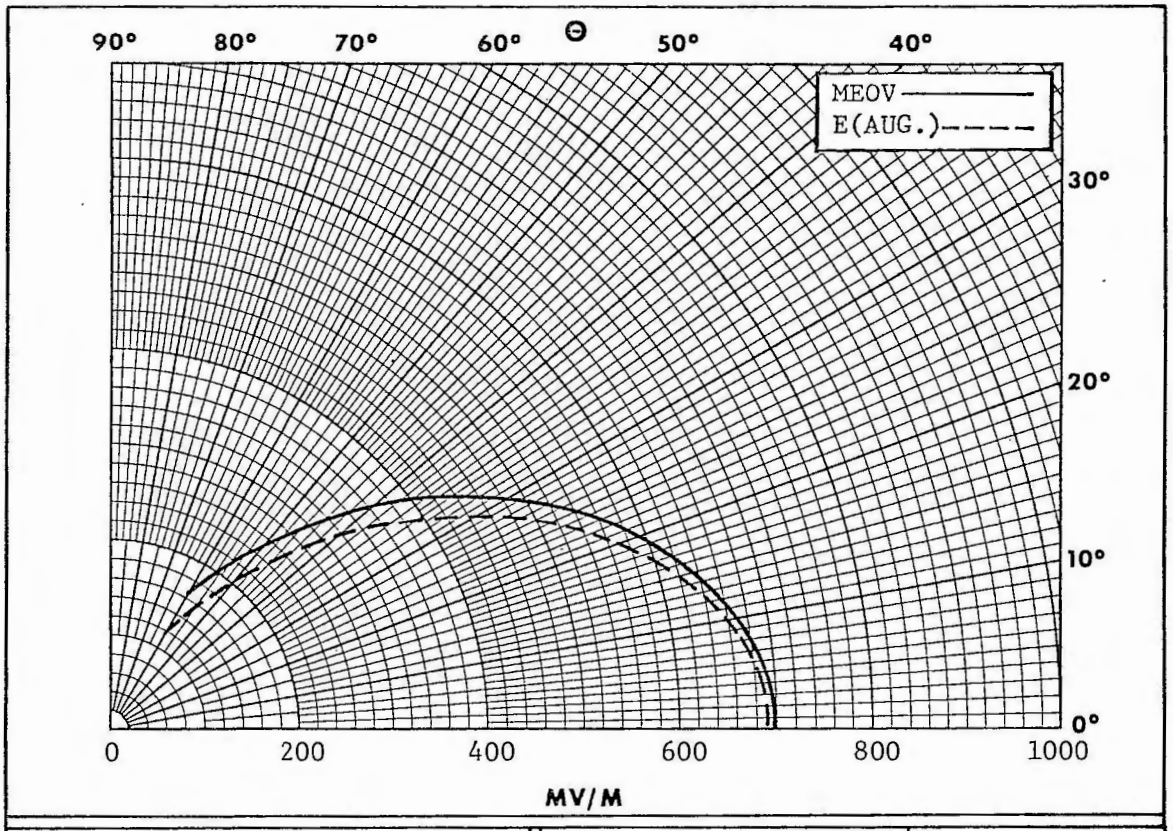
1. Miles	
2. Mid-Point Latitude	
3. Azimuth	325°
4. Horizontal Radiation	
5. Min.-Max. ∠V (dΘ)	
6. Max. Rad. within dΘ	
7. Skywave Field	
8. LIMIT	

COMPARISON OF PRESENT AND PROPOSED
VERTICAL SLICES
KZLA - Los Angeles, California
1540 kHz - 10 kW/50 kW-LS - DA-2

June, 1981

CARL T. JONES ASSOCIATES—CONSULTING ENGINEERS

FIGURE 100



Tabulation of Radiated Fields

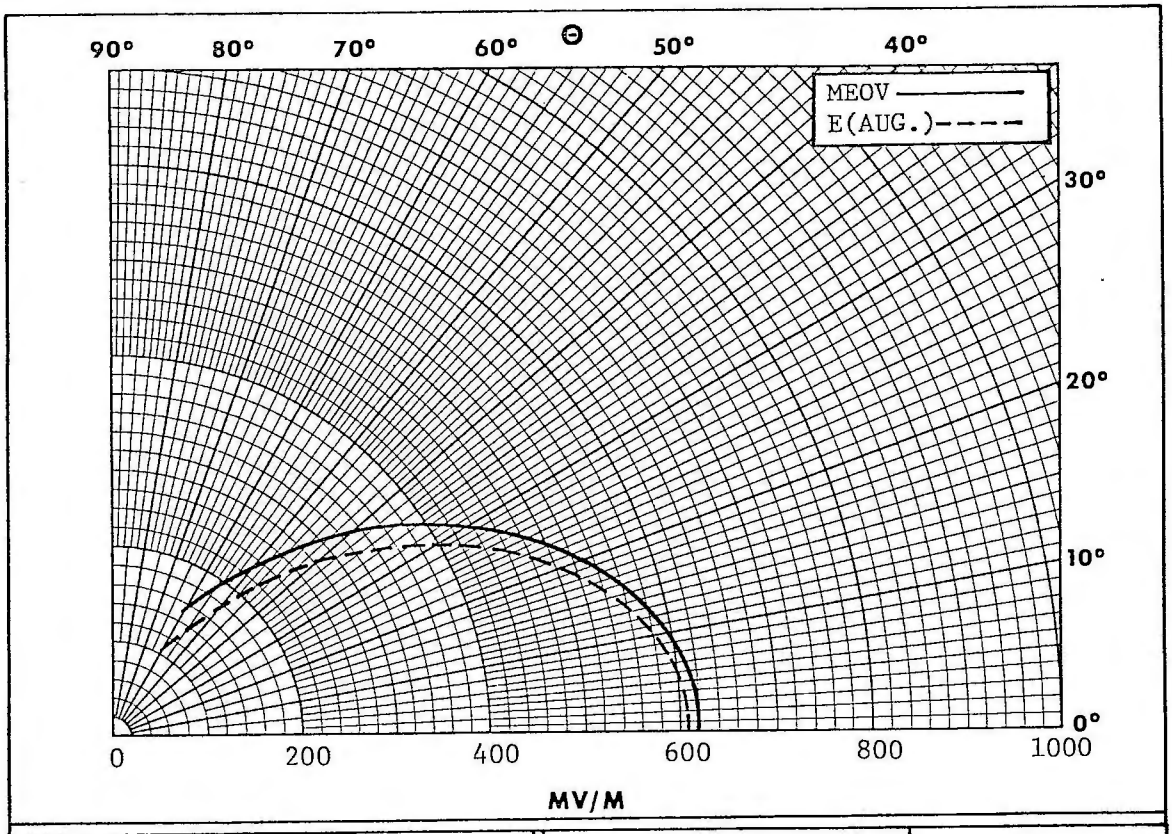
Θ	MEOV	E (AUG.)
0°	697.9	690.9
5	690.7	682.4
10	669.6	657.6
15	635.9	618.3
20	591.7	567.2
25	539.6	507.7
30	482.5	443.4
35	423.0	377.9
40	363.8	314.2
45	306.8	254.9
50	253.7	201.6
55	205.5	155.3
60	162.6	116.4

1. Miles	
2. Mid-Point Latitude	
3. Azimuth	330°
4. Horizontal Radiation	
5. Min.- Max. $\angle\gamma$ (dΘ)	
6. Max. Rad. within dΘ	
7. Skywave Field	
8. LIMIT	

COMPARISON OF PRESENT AND PROPOSED
VERTICAL SLICES
KZLA - Los Angeles, California
1540 kHz - 10 kW/50 kW-LS - DA-2

June, 1981

CARL T. JONES ASSOCIATES—CONSULTING ENGINEERS



Tabulation of Radiated Fields

Θ	MEOV	E (AUG.)
0°	619.8	609.2
5	613.6	601.9
10	595.3	580.3
15	566.2	546.0
20	528.0	501.4
25	482.8	449.5
30	433.1	393.3
35	381.2	335.9
40	329.3	280.1
45	279.2	227.9
50	232.3	180.9
55	189.4	139.9
60	151.0	105.4

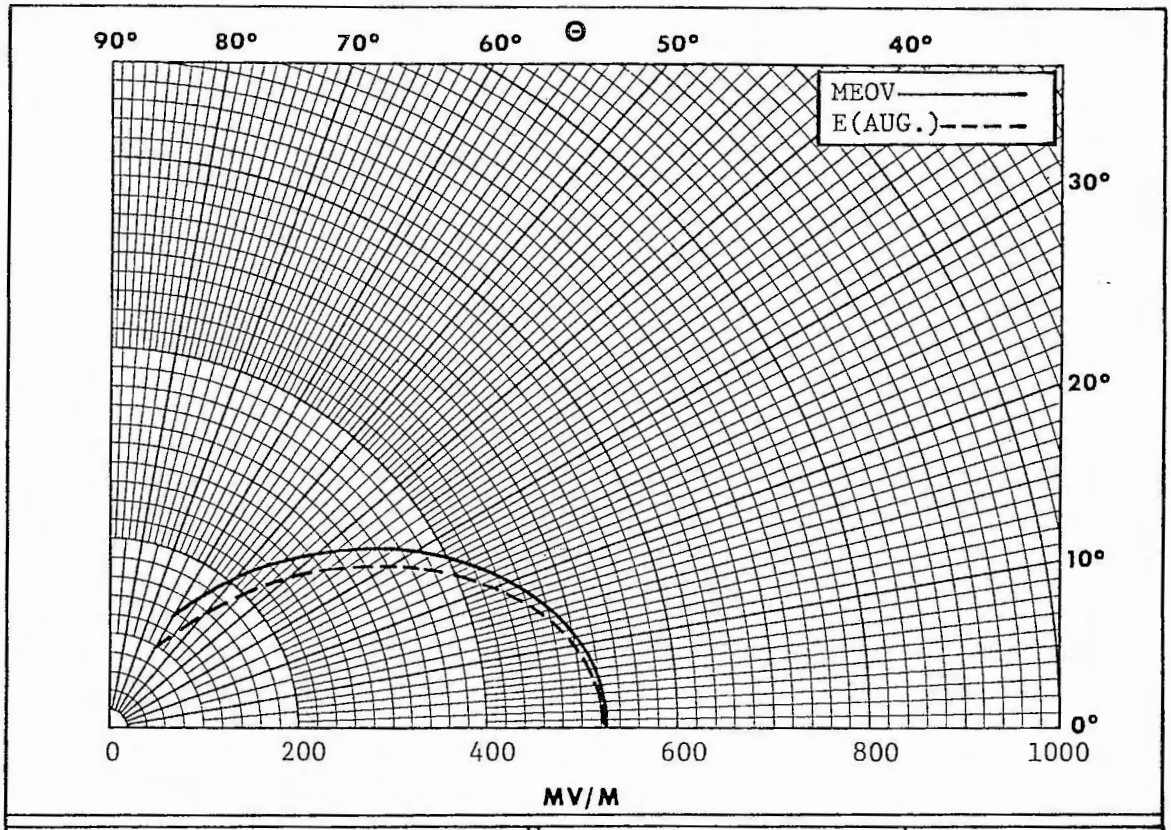
1. Miles	
2. Mid-Point Latitude	
3. Azimuth	335°
4. Horizontal Radiation	
5. Min.- Max. /v (dΘ)	
6. Max. Rad. within dΘ	
7. Skywave Field	
8. LIMIT	

COMPARISON OF PRESENT AND PROPOSED
VERTICAL SLICES
KZLA - Los Angeles, California
1540 kHz - 10 kW/50 kW-LS - DA-2

June, 1981

CARL T. JONES ASSOCIATES—CONSULTING ENGINEERS

FIGURE 102



Tabulation of Radiated Fields

Θ	MEOV	E(AUG.)
0°	526.9	523.0
5	521.9	516.7
10	506.9	498.5
15	483.0	469.6
20	451.5	431.9
25	414.2	387.9
30	373.1	340.2
35	330.0	291.4
40	286.6	243.7
45	244.5	199.0
50	204.8	158.6
55	168.3	123.3
60	135.3	93.3

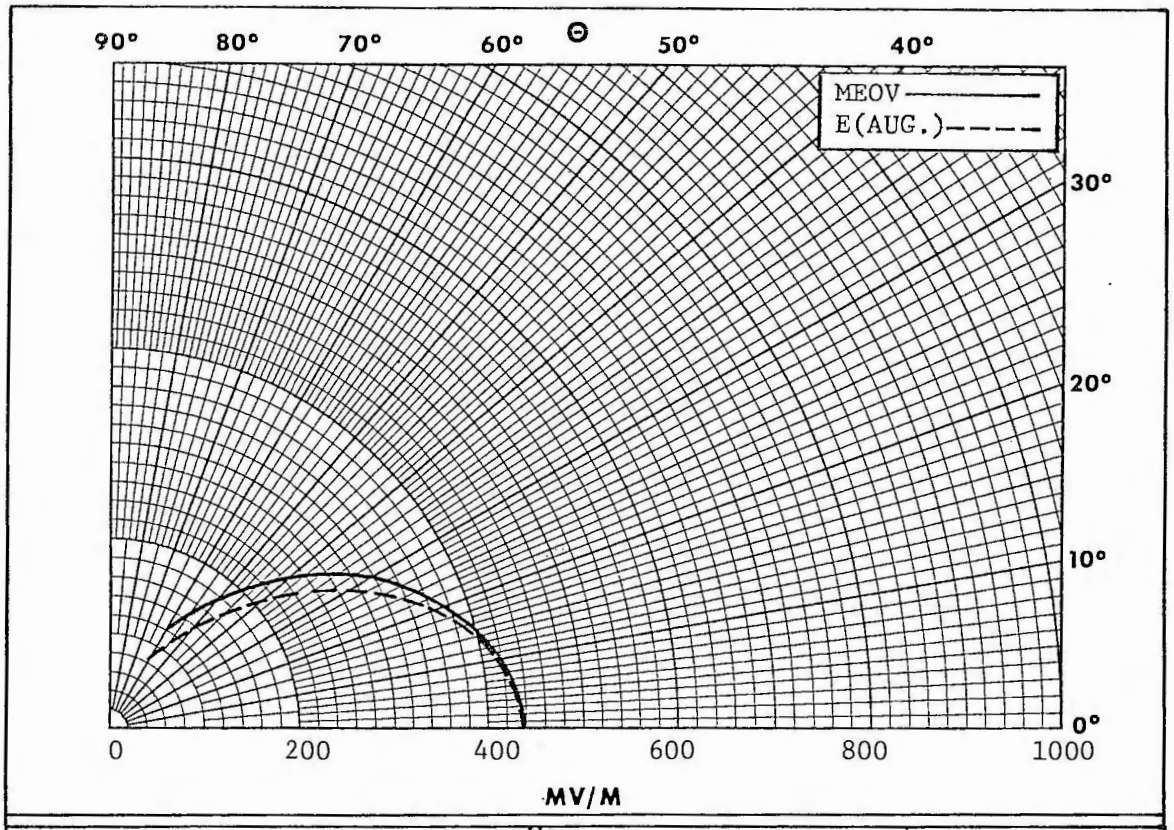
1. Miles	
2. Mid-Point Latitude	
3. Azimuth	340°
4. Horizontal Radiation	
5. Min.-Max. ∠v (dΘ)	
6. Max. Rad. within dΘ	
7. Skywave Field	
8. LIMIT	

COMPARISON OF PRESENT AND PROPOSED
VERTICAL SLICES
KZLA - Los Angeles, California
1540 kHz - 10 kW/50 kW-LS - DA-2

June, 1981

CARL T. JONES ASSOCIATES—CONSULTING ENGINEERS

FIGURE 103



Tabulation of Radiated Fields

Θ	MEOV	E(AUG.)
0°	436.6	436.6
5	432.6	431.6
10	420.9	416.7
15	402.2	393.1
20	377.4	362.3
25	347.9	326.3
30	315.2	287.1
35	280.7	246.9
40	245.7	207.4
45	211.5	170.2
50	178.9	136.3
55	148.5	106.6
60	120.7	81.2

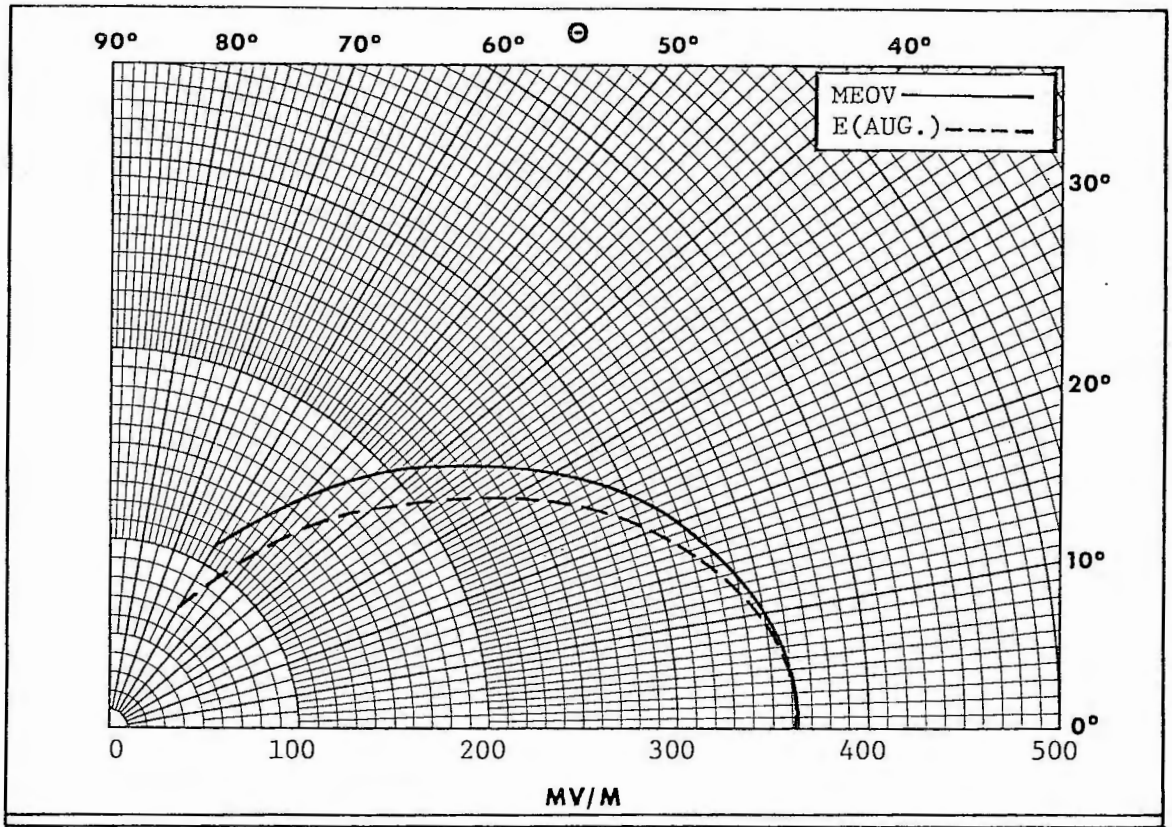
1. Miles	
2. Mid-Point Latitude	
3. Azimuth	345°
4. Horizontal Radiation	
5. Min.-Max. /v (dΘ)	
6. Max. Rad. within dΘ	
7. Skywave Field	
8. LIMIT	

COMPARISON OF PRESENT AND PROPOSED
VERTICAL SLICES
KZLA - Los Angeles, California
1540 kHz - 10 kW/50 kW-LS - DA-2

June, 1981

CARL T. JONES ASSOCIATES—CONSULTING ENGINEERS

FIGURE 104



Tabulation of Radiated Fields

Θ	MEOV	E(AUG.)
0°	362.5	362.4
5	359.5	358.4
10	350.5	346.6
15	336.1	327.7
20	317.1	303.0
25	294.2	274.1
30	268.6	242.4
35	241.4	209.7
40	213.5	177.4
45	185.9	146.7
50	159.1	118.7
55	133.8	93.8
60	110.3	72.3

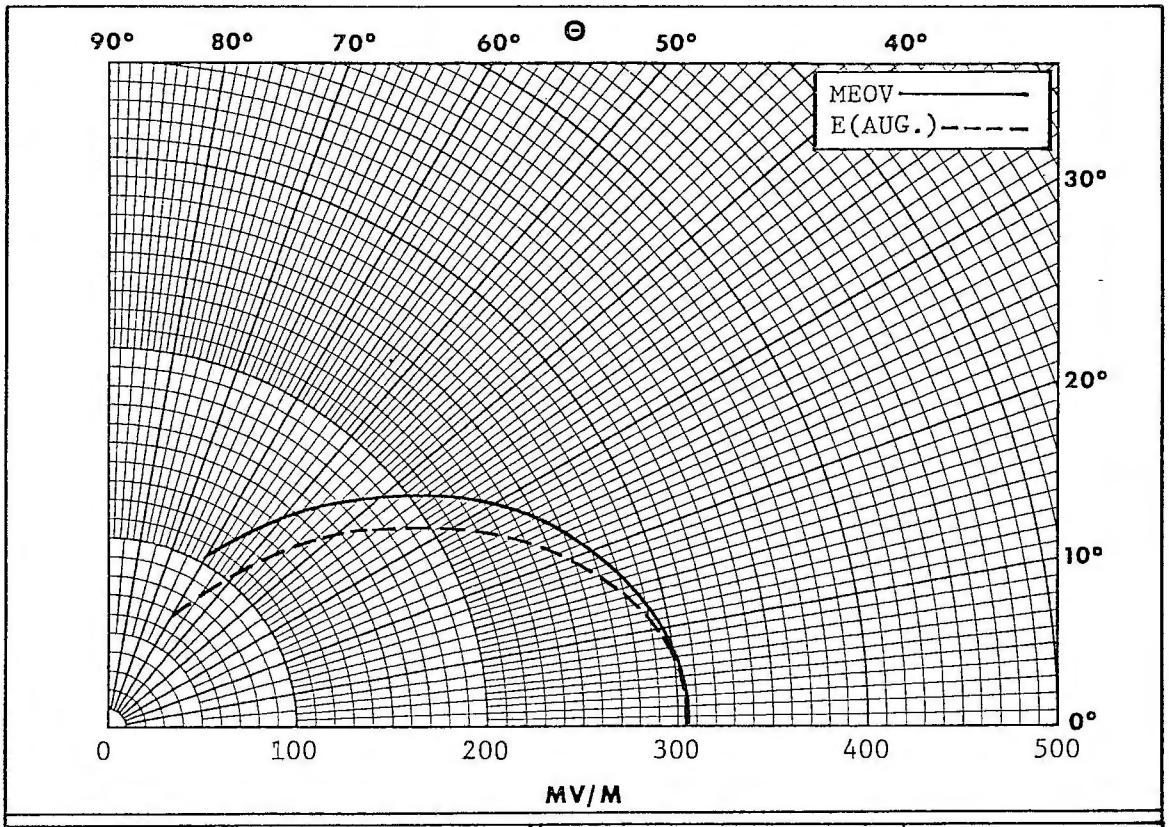
1. Miles	
2. Mid-Point Latitude	
3. Azimuth	350°
4. Horizontal Radiation	
5. Min.- Max. /v (dΘ)	
6. Max. Rad. within dΘ	
7. Skywave Field	
8. LIMIT	

COMPARISON OF PRESENT AND PROPOSED
VERTICAL SLICES
KZLA - Los Angeles, California
1540 kHz - 10 kW/50 kW-LS - DA-2

June, 1981

CARL T. JONES ASSOCIATES—CONSULTING ENGINEERS

FIGURE 105



Tabulation of Radiated Fields

Θ	MEOV	E(AUG.)
0°	305.6	305.6
5	303.3	302.4
10	296.5	292.9
15	285.5	277.8
20	270.8	258.0
25	253.2	234.7
30	233.2	209.0
35	211.6	182.2
40	189.2	155.6
45	166.7	130.2
50	144.6	106.6
55	123.3	85.4
60	103.0	66.9

1. Miles	
2. Mid-Point Latitude	
3. Azimuth	355°
4. Horizontal Radiation	
5. Min.-Max. /v (dΘ)	
6. Max. Rad. within dΘ	
7. Skywave Field	
8. LIMIT	

COMPARISON OF PRESENT AND PROPOSED
VERTICAL SLICES
KZLA - Los Angeles, California
1540 kHz - .10 kW/50 kW-LS - DA-2

June, 1981

CARL T. JONES ASSOCIATES—CONSULTING ENGINEERS

STATIONS CONSIDERED IN
DAYTIME ALLOCATION STUDY

KZLA - Los Angeles, California
1540 kHz - 10 kW/50 kW-LS - DA-2

The proposed daytime contours were calculated every 5 degrees using the standard pattern tabulated in Figure 6. The present daytime contours were calculated each 5 degrees using either measured fields contained in the proof-of-performance dated December, 1961, the calculated fields, or the MEOV, whichever was greater. Ground conductivities were taken from the last proof-of-performance (June, 1981) on the following bearings: 20°, 25°, 41.4°, 65°, 75°, 108.6°, 125°, 170°, 205°, 255°, 285°, 325°, and 355°. In addition, ground conductivities were taken from measurements contained in this application, Figure 119 through Figure 122 on bearings of 273° and 285° True. Ground conductivities were spread ±10° either side of the measured radial. Where no measurements were available and beyond the extent of the measurements, conductivities were taken from Figure M-3 of the Commission's Rules and distance to contour was calculated using the equivalent distance method.

KMFO - Aptos-Capitola, California
1540 kHz - 10 kW - DA-D

The 0.5 mV/m and 0.025 mV/m contours were calculated each 10 degrees over the arcs from 100° to 160° and 100° to 150° respectively, using the KMFO standard radiation pattern. Ground conductivities along the bearings 124°, 146°, and 165°, were taken from the last full proof-of-performance (September, 1980) contained in the Commission's files. The ground conductivities were spread 10° to either side of the measured radials. Where measured data was not available, ground conductivities were taken from Figure M-3 of the Commission's Rules and the equivalent distance method used where multiple conductivities were encountered on a given radial.

Application (BP-790815AG) - Solvang, California
1550 kHz - 500 W - DA-D

The 0.5 mV/m contour was calculated every 10 degrees over the arc from 40° to 150° using the standard pattern contained in the application on file at the Commission (File No. BP-790815AG). Ground conductivities were taken from Figure M-3 of the Commission's Rules and the equivalent distance method was used where a change in conductivity was encountered.

Application (BP-790829DZ) - Solvang, California
1550 kHz - 500 W - D

The 0.5 mV/m contour was calculated every 10 degrees over the

arc from 40° to 130° using the inverse distance field of 186 mV/m/kW. Conductivities were taken from Figure M-3 of the Commission's Rules, and the equivalent distance method was used where a change in conductivity was encountered.

XEBG - Tijuana, Mexico
1550 kHz - 1 kW - ND-U

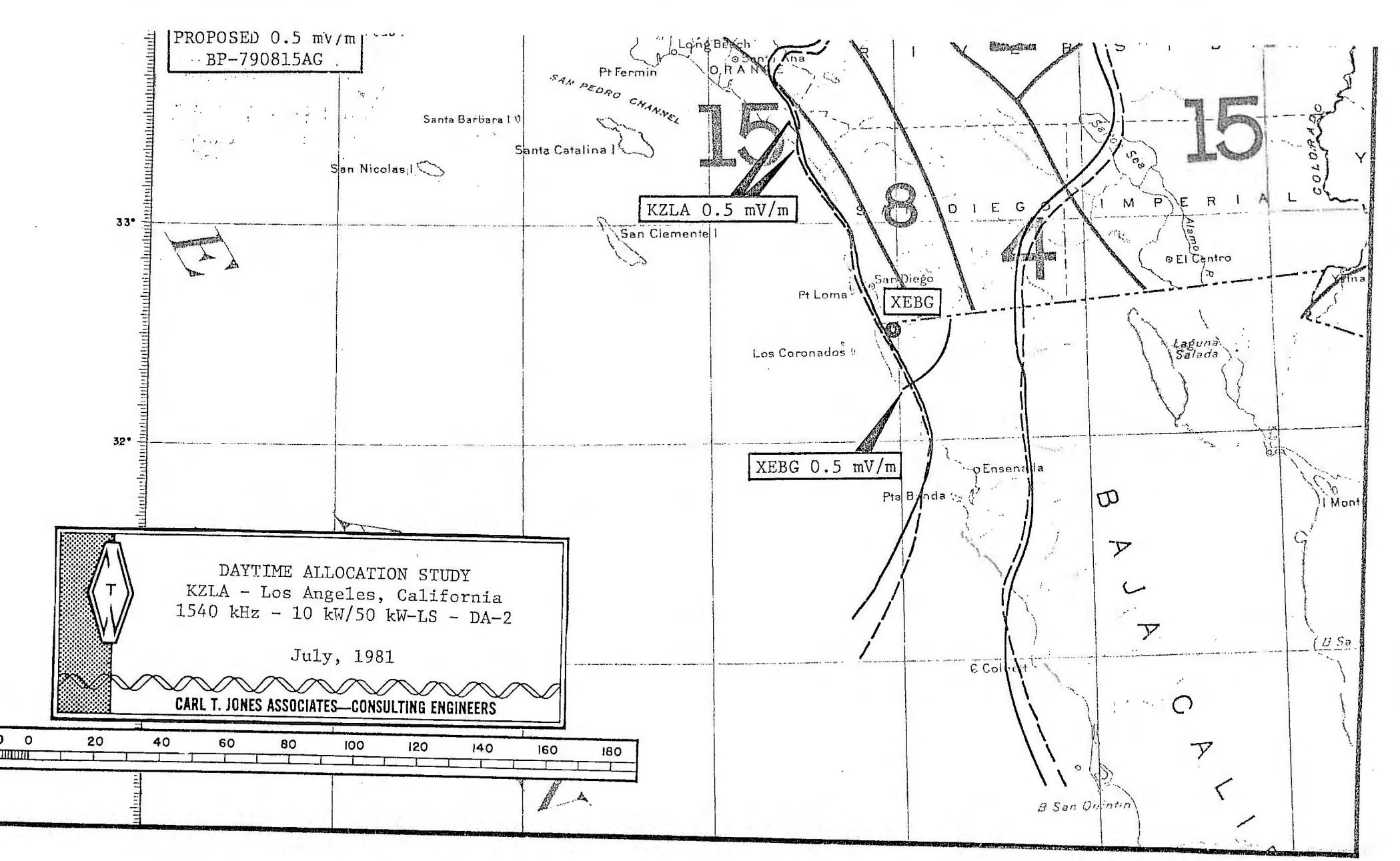
The 0.5 mV/m contour was calculated based on a non-directional field of 202 mV/m as notified in NARBA. The ground conductivity was taken from the U.S.-Mexican Agreement for ground conductivities in Mexico.

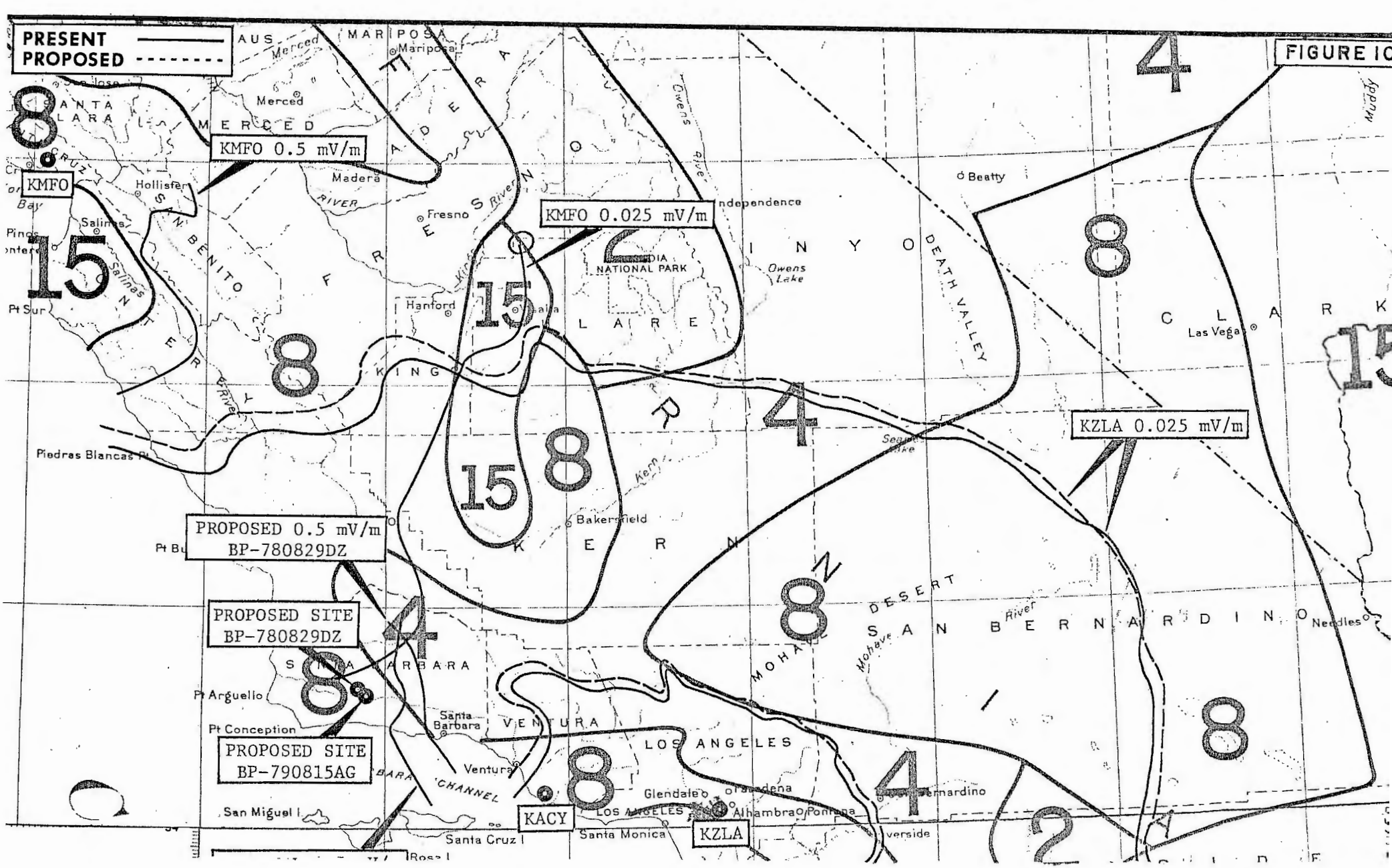
KACY - Port Hueneme, California
1520 kHz - 50/1 kW - DA-2

The KACY 25 mV/m and 2 mV/m contours were calculated each 10 degrees from 0° to 80° True and each 5 degrees from 80° to 135°. Because of the salt water path, detailed calculations were made each 1 degree between 120° and 125° to accurately predict the location of the 2 mV/m contour over this arc. Radiation at each azimuth was obtained from the modified standard pattern No. 1520-02 released in Standard Pattern Conversion Report No. 26-RP dated August 17, 1981. Ground conductivities along the bearings of 20°, 70°, 87°, and 130° were taken from the last full proof-of-performance (File No. BL-12623). In addition, ground conductivities were taken from a previous proof-of-performance (File No. BL-9717) along the bearings of 5°, 40°, 100°, 110°, and 125°. Conductivities were spread ±10° either side of the measured radials. Where measured data was not available, ground conductivities were taken from Figure M-3 of the Commission's Rules and the equivalent distance method was used in calculating distance to contour where multiple conductivities were encountered on a given radial.

Several other stations were considered in the allocation study, however, these stations were not shown on the daytime allocation maps due to the wide clearance between the pertinent contours. These stations are:

KASA - Phoenix, AZ - 1540 kHz - 10 kW - DA-D
KXEX - Bakersfield, CA - 1550 kHz - 5 kW - DA-D(CP)
KPMC - Bakersfield, CA - 1560 kHz - 10 kW - DA-1
KMAY - Riverside, CA - 1570 kHz - 5 kW - DA-D
KFBK - Sacramento, CA - 1530 kHz - 50 kW - DA-1
KNSE - Ontario, CA - 1510 kHz - 10 kW - DA-2


PROPOSED 0.5 mV/m
BP-790815AG
KZLA 0.5 mV/m
XEBG
XEBG 0.5 mV/m
Long Beach
Pt Fermin
SAN PEDRO CHANNEL
Santa Barbara I
Santa Catalina I
San Nicolas I
San Clemente I
Pt Loma
San Diego
Los Coronados
Ensenada
Pta Banda
El Centro
Yuma
Laguna Salada
COLORADO
IMPERIAL
DIEGO
BAJA CALI
33°
32°
15
15
8
4
T
DAYTIME ALLOCATION STUDY
KZLA - Los Angeles, California
1540 kHz - 10 kW/50 kW-LS - DA-2
July, 1981
CARL T. JONES ASSOCIATES—CONSULTING ENGINEERS
0 20 40 60 80 100 120 140 160 180


PRESENT
PROPOSED
FIGURE IC
KMFO 0.5 mV/m
KMFO
KMFO 0.025 mV/m
KZLA 0.025 mV/m
PROPOSED 0.5 mV/m
BP-780829DZ
PROPOSED SITE
BP-780829DZ
PROPOSED SITE
BP-790815AG
KACY
KZLA
MERCED
MARIPOSA
FRESNO
KINGS
TULARE
KERN
INYO
SAN BENITO
SANTA BARBARA
VENTURA
LOS ANGELES
SAN BERNARDINO
CLARK
Merced
Mariposa
Madera
Fresno
Hanford
Bakersfield
Independence
Beatty
Las Vegas
Needles
Santa Barbara
Ventura
Glendale
Pasadena
Alhambra
Pomona
Santa Monica
Hollister
Salinas
Pt Arguello
Pt Conception
San Miguel I
Santa Cruz I
CHANNEL
DESERT
MOHAVE
Owens Lake
Death Valley
Kern River
Mojave River
Muddy

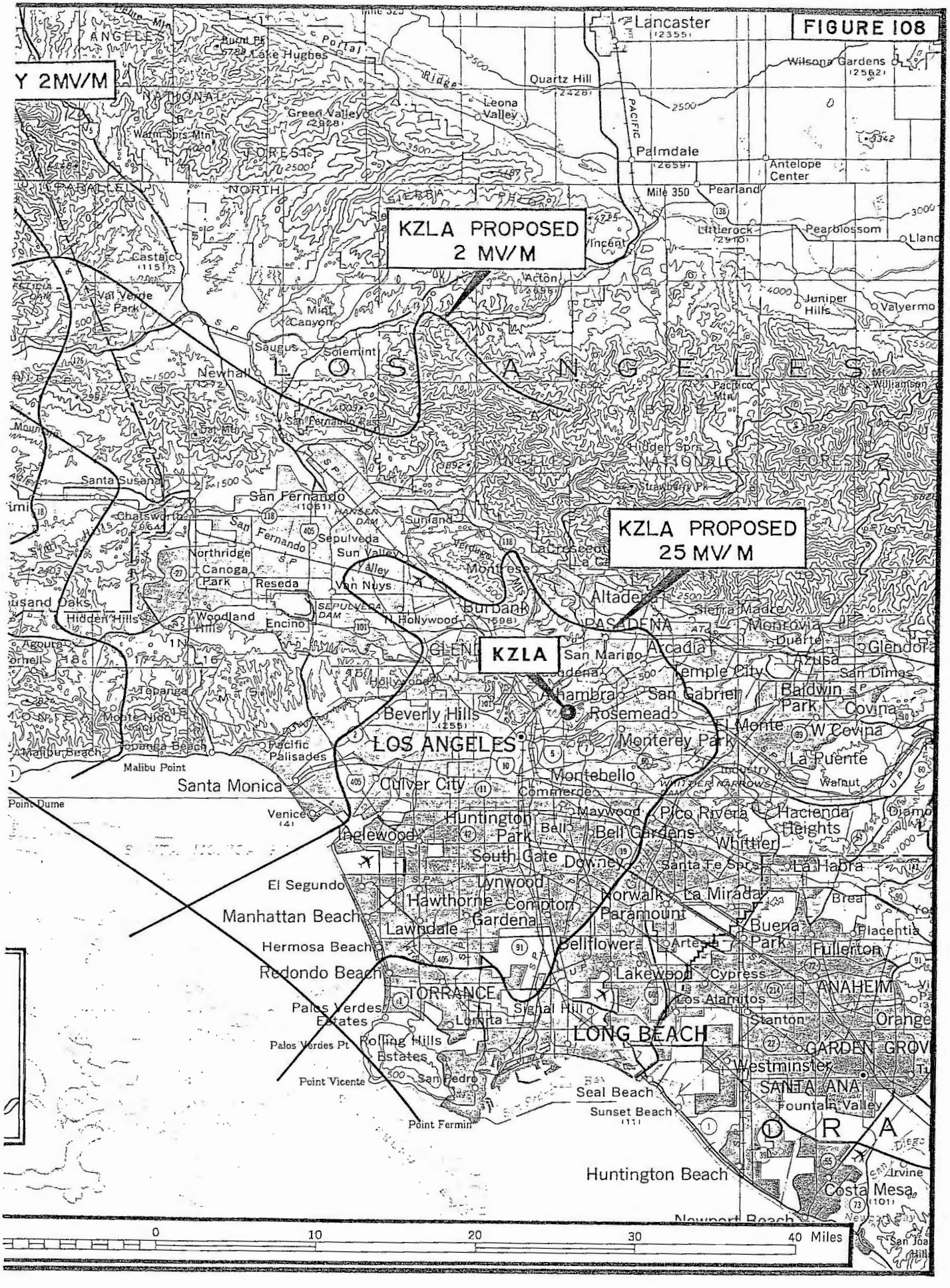


FIGURE 108
Y 2MV/M
KZLA PROPOSED
2 MV/M
KZLA PROPOSED
25 MV/M
KZLA
LOS ANGELES
Lancaster
Palmdale
Quartz Hill
Leona Valley
Green Valley
Lake Hughes
Wilsona Gardens
Antelope Center
Pearland
Littlerock
Pearblossom
Juniper Hills
Valyermo
Acton
Mint Canyon
Saugus
Solemint
Newhall
Castaic
Val Verde Park
Santa Susana
San Fernando
Chatsworth
Sunland
Sepulveda
Sun Valley
Northridge
Canoga Park
Reseda
Van Nuys
Burbank
Hollywood
Encino
Woodland Hills
Hidden Hills
Agoura
Topanga
Malibu Beach
Malibu Point
Pacific Palisades
Beverly Hills
Santa Monica
Culver City
Venice
Point Dume
Altadena
Pasadena
Sierra Madre
Monrovia
Arcadia
San Marino
Temple City
Duarte
Azusa
Glendora
San Dimas
Alhambra
San Gabriel
Rosemead
Baldwin Park
Covina
W Covina
El Monte
Monterey Park
La Puente
Montebello
Commerce
Whittier Narrows
Walnut
Industry
Maywood
Bell
Bell Gardens
Pico Rivera
Hacienda Heights
Whittier
Huntington Park
Inglewood
South Gate
Downey
Santa Fe Sprs
La Habra
Brea
El Segundo
Lynwood
Hawthorne
Compton
Gardena
Norwalk
La Mirada
Paramount
Buena Park
Placentia
Fullerton
Manhattan Beach
Lawndale
Hermosa Beach
Redondo Beach
Bellflower
Artesia
Lakewood
Cypress
TORRANCE
Los Alamitos
ANAHEIM
Palos Verdes Estates
Signal Hill
Lomita
Stanton
Orange
LONG BEACH
Rolling Hills Estates
Palos Verdes Pt
Point Vicente
San Pedro
Westminster
GARDEN GROVE
SANTA ANA
Seal Beach
Sunset Beach
Fountain Valley
Point Fermin
Huntington Beach
Irvine
Costa Mesa
Newport Beach
0
10
20
30
40 Miles

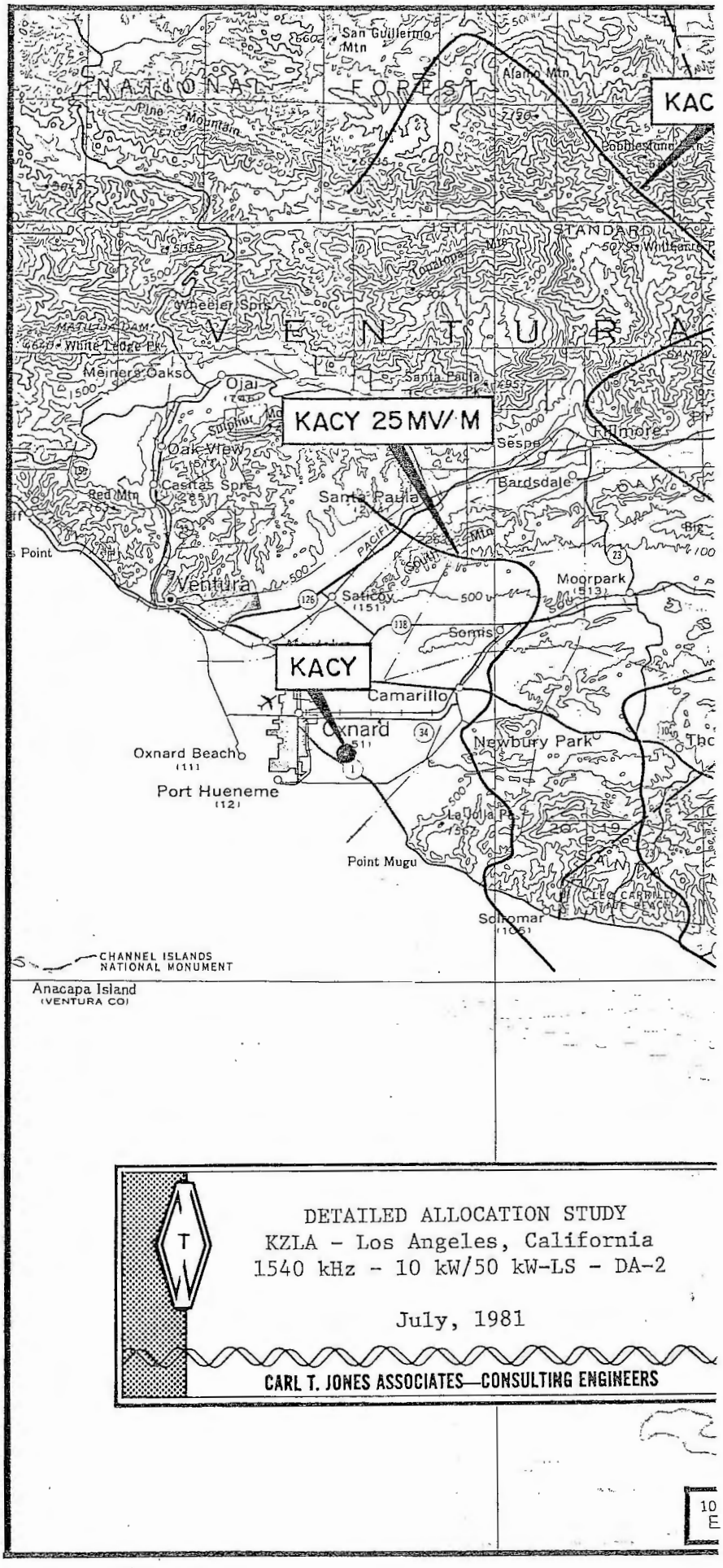
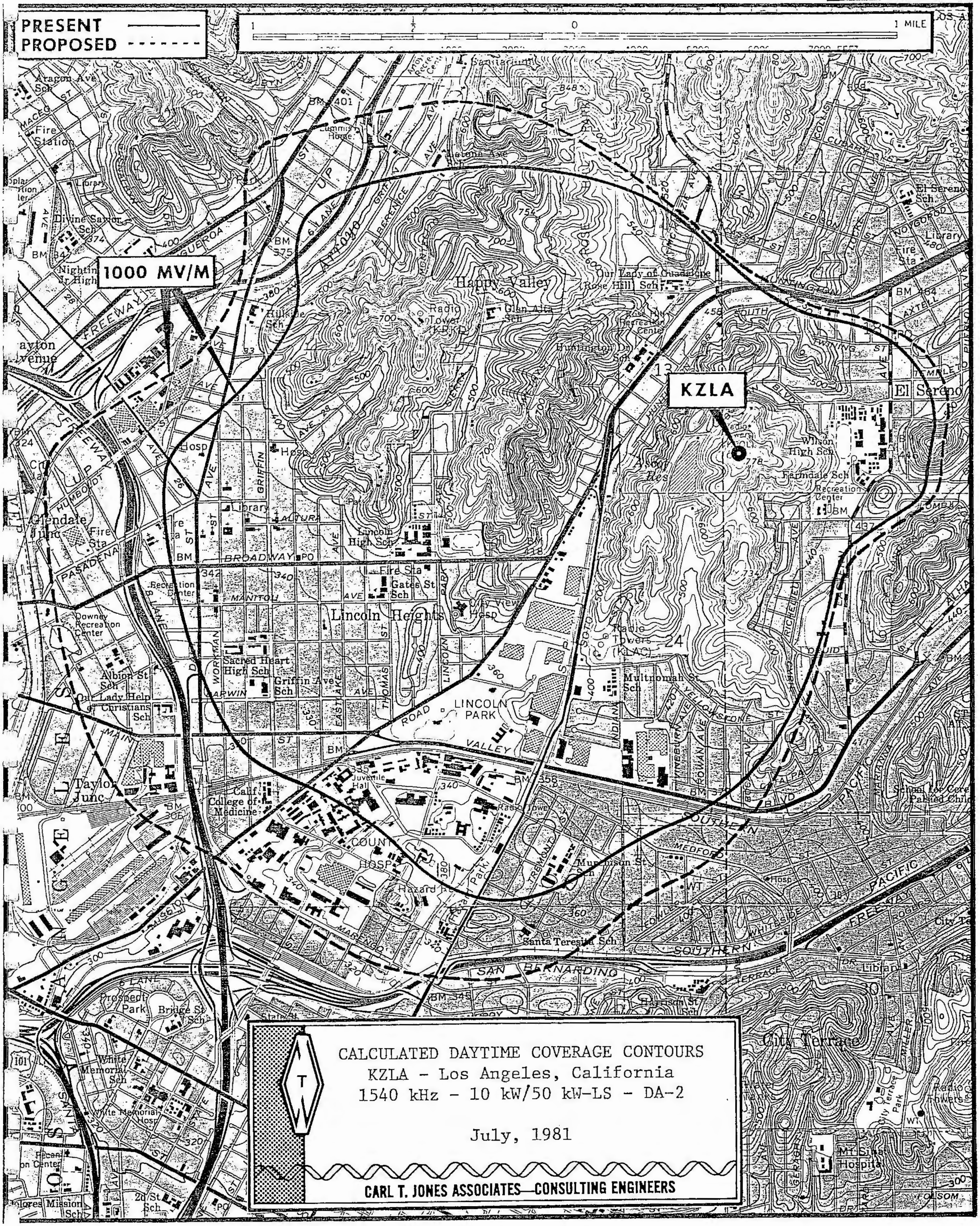

KACY 25 MV/M
KACY
KAC
San Guillermo Mtn
Alamo Mtn
Pine Mountain
Cobblestone Mtn
Wheeler Spr.
White Ledge Pk.
Meiners Oaks
Ojai
Santa Paula Pk.
Sulphur Mtn.
Oak View
Sespe
Fillmore
Bardsdale
Red Mtn.
Casitas Spr.
Santa Paula
Point
Ventura
Saticoy
Moorpark
Somis
Camarillo
Oxnard
Newbury Park
Oxnard Beach
Port Hueneme
La Jolla Pk.
Point Mugu
Solromar
CHANNEL ISLANDS NATIONAL MONUMENT
Anacapa Island
(VENTURA CO)
DETAILED ALLOCATION STUDY
KZLA - Los Angeles, California
1540 kHz - 10 kW/50 kW-LS - DA-2
July, 1981
CARL T. JONES ASSOCIATES—CONSULTING ENGINEERS

FIGURE 109



CALCULATED DAYTIME COVERAGE CONTOURS
KZLA - Los Angeles, California
1540 kHz - 10 kW/50 kW-LS - DA-2

July, 1981

CARL T. JONES ASSOCIATES—CONSULTING ENGINEERS

FIGURE 110

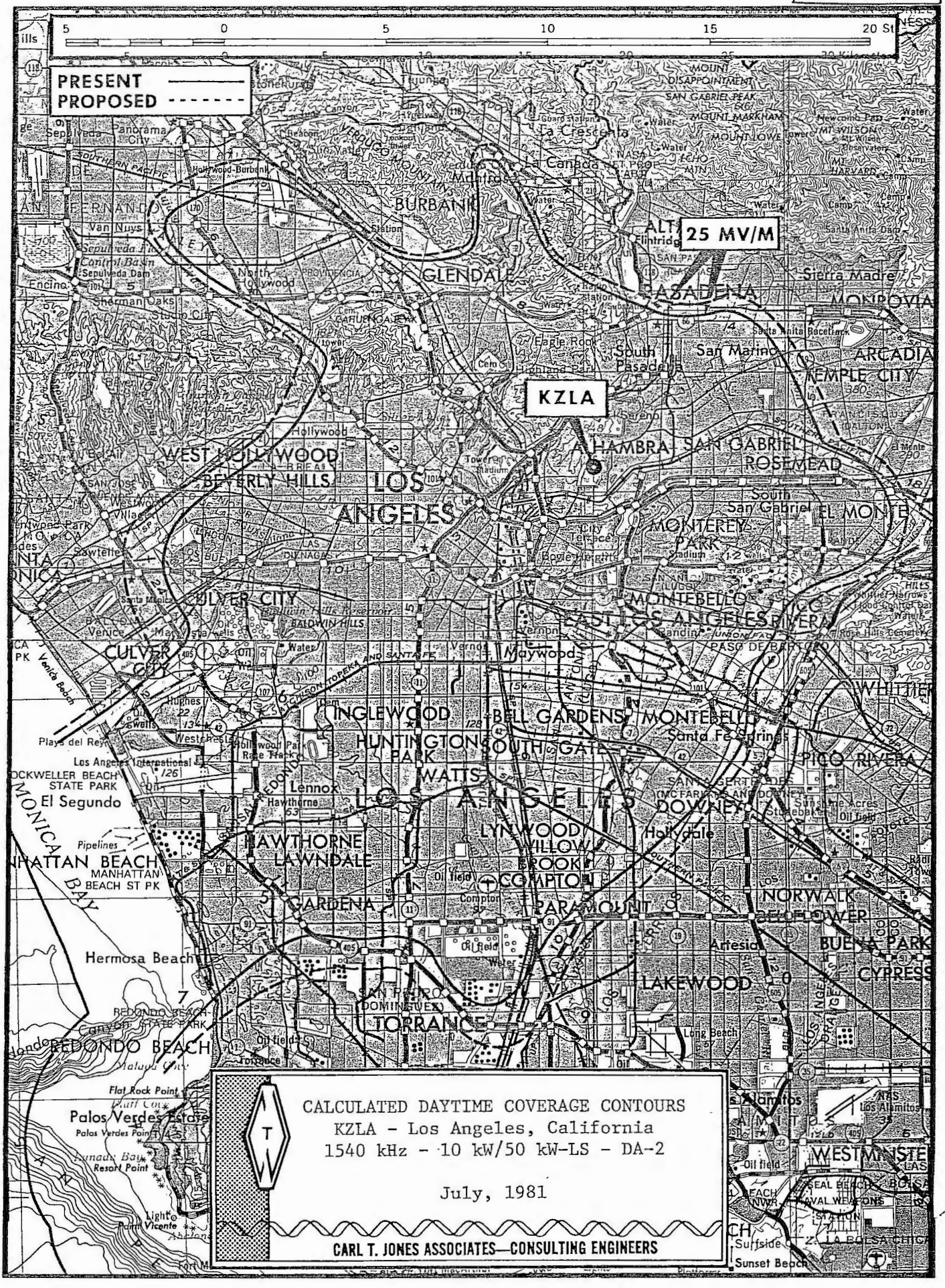

PRESENT
PROPOSED
25 MV/M
KZLA
CALCULATED DAYTIME COVERAGE CONTOURS
KZLA - Los Angeles, California
1540 kHz - 10 kW/50 kW-LS - DA-2
July, 1981
CARL T. JONES ASSOCIATES—CONSULTING ENGINEERS

FIGURE III

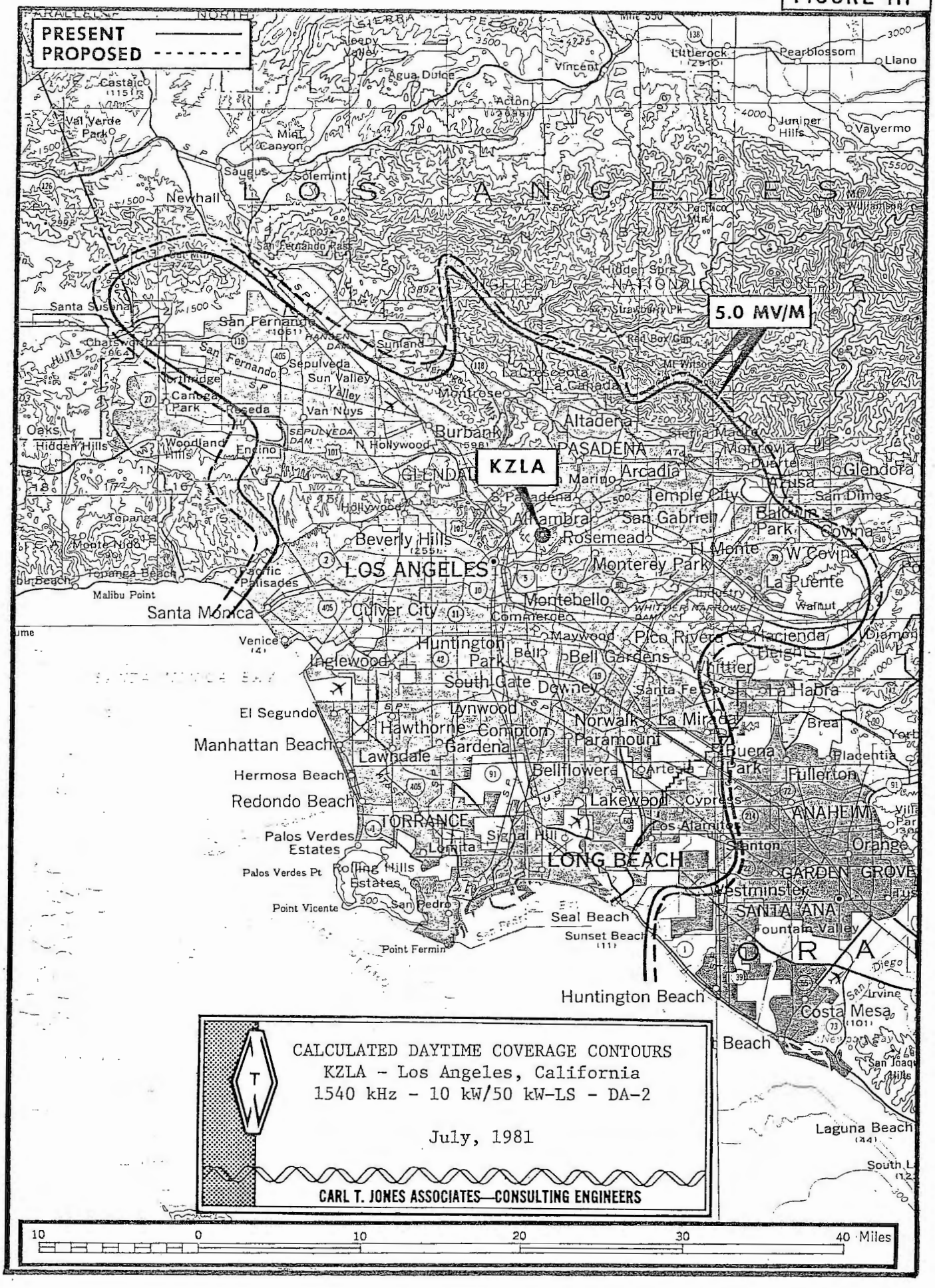
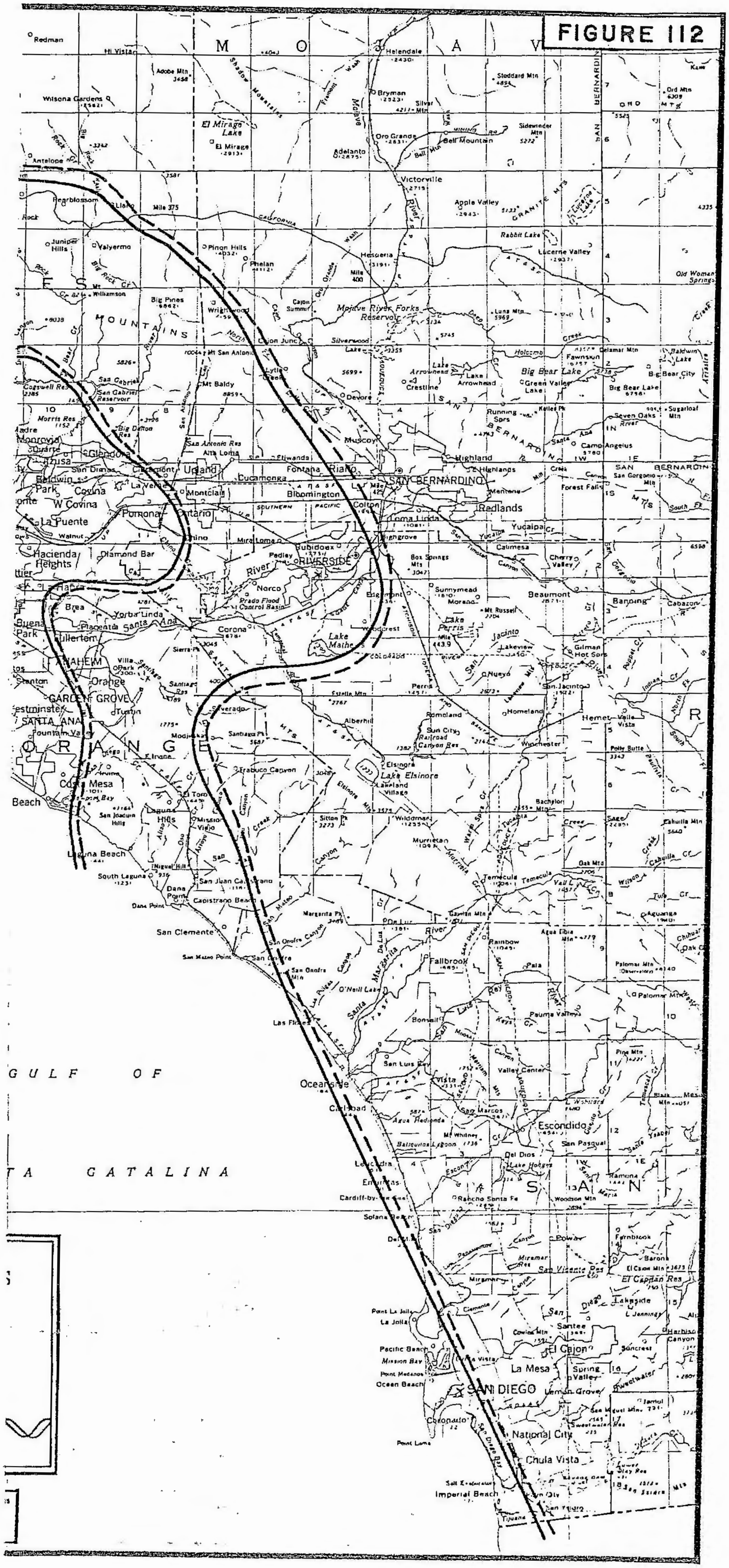

PRESENT
PROPOSED
5.0 MV/M
KZLA
LOS ANGELES
Santa Monica
Beverly Hills
Burbank
PASADENA
GLENDALE
Long Beach
Huntington Beach
Anaheim
Santa Ana
Torrance
Pomona
Ontario
Riverside
CALCULATED DAYTIME COVERAGE CONTOURS
KZLA - Los Angeles, California
1540 kHz - 10 kW/50 kW-LS - DA-2
July, 1981
CARL T. JONES ASSOCIATES—CONSULTING ENGINEERS
10 0 10 20 30 40 Miles

FIGURE 112



M O A V
Redman
Hi Vista
Adobe Mtn
Wilsona Gardens
Shadow Mountains
Helendale
Bryman
Stoddard Mtn
Silver Mtn
Oro Grande
Sidewinder Mtn
Bell Mountain
El Mirage Lake
El Mirage
Adelanto
Mojave
Antelope
Pearblossom
Llano
Mile 375
Victorville
Apple Valley
GRANITE MTS
Lucerne Lake
Juniper Hills
Valyermo
Pinon Hills
Phelan
Hesperia
Rabbit Lake
Lucerne Valley
Old Woman Springs
Mile 400
Big Pines
Wrightwood
Cajon Summit
Mojave River Forks Reservoir
Luna Mtn
MOUNTAINS
Cajon Junc
Silverwood Lake
Holcomb
Delamar Mtn
Fawnskin
Baldwin Lake
Big Bear City
Mt San Antonio
Lytle Creek
Lake Arrowhead
Crestline
Big Bear Lake
Green Valley Lake
Big Bear Lake
San Gabriel Reservoir
Mt Baldy
Devore
Cogswell Res
Morris Res
Big Dalton Res
San Antonio Res
Alta Loma
Running Sprs
Keller Pk
Seven Oaks
Sugarloaf Mtn
Monrovia
Duarte
Azusa
Glendora
Etiwanda
Muscoy
Highland
Camp Angelus
Baldwin Park
San Dimas
Claremont
Upland
Cucamonga
Fontana
Rialto
Highlands
SAN BERNARDINO
Covina
La Verne
Montclair
Bloomington
SOUTHERN PACIFIC
Colton
Mentone
Forest Falls
San Gorgonio Mtn
W Covina
Pomona
Ontario
Redlands
La Puente
Loma Linda
Yucaipa
Walnut
Chino
Mira Loma
Rubidoux
Grand Terrace
Calimesa
Hacienda Heights
Diamond Bar
Pedley
RIVERSIDE
Box Springs Mts
Cherry Valley
La Habra
River
Norco
Sunnymead
Moreno
Beaumont
Banning
Cabazon
Brea
Prado Flood Control Basin
Edgemont
Mt Russell
Yorba Linda
Placentia
Santa Ana
Corona
Woodcrest
Lake Perris
San Jacinto
Buena Park
Fullerton
Lake Mathews
Lakeview
Gilman Hot Sprs
ANAHEIM
Villa Park
Orange
Santiago Pk
Nuevo
Perris
San Jacinto
Stanton
GARDEN GROVE
Tustin
Estelle Mtn
Alberhill
Romoland
Homeland
Hemet
Valle Vista
Westminster
SANTA ANA
Fountain Valley
Modjeska
Santiago Pk
Sun City
Railroad Canyon Res
Winchester
ORANGE
El Toro
Trabuco Canyon
Elsinore
Lake Elsinore
Lakeland Village
Polly Butte
Costa Mesa
Irvine
Beach
San Joaquin Hills
Laguna Hills
Mission Viejo
Sitton Pk
Wildomar
Bachelor Mtn
Sage
Cahuilla Mtn
Laguna Beach
Murrietta
Murrieta
South Laguna
Niguel Hill
San Juan Capistrano
Dana Point
Capistrano Beach
Temecula
Oak Mtn
Vail L
Cahuilla
Aguanga
San Clemente
Margarita Pk
Gavilan Mtn
San Mateo Point
San Onofre
San Onofre Mtn
Rainbow
Agua Tibia Mtn
Fallbrook
Pala
Palomar Mtn (Observatory)
O'Neill Lake
Palomar Mtn
Las Flores
Bonsall
Pauma Valley
GULF OF
San Luis Rey
Vista
Valley Center
Pine Mtn
Oceanside
Carlsbad
San Marcos
Agua Hedionda
Escondido
Batiquitos Lagoon
San Pasqual
Leucadia
Del Dios
Lake Hodges
Encinitas
Ramona
Cardiff-by-the-Sea
Rancho Santa Fe
Woodson Mtn
S A N
TA CATALINA
Solana Beach
Del Mar
Poway
Fernbrook
Barona
El Cajon Mtn
El Capitan Res
San Vicente Res
Miramar
Point La Jolla
La Jolla
Lakeside
L Jennings
Santee
Cowles Mtn
Harbison Canyon
Pacific Beach
Mission Bay
Point Medanos
Ocean Beach
El Cajon
Crest
La Mesa
Spring Valley
Sweetwater
SAN DIEGO
Lemon Grove
Jamul
Coronado
Point Loma
National City
San Miguel Mtn
Sweetwater Res
Chula Vista
Imperial Beach
Tijuana
San Ysidro
San Ysidro Mts

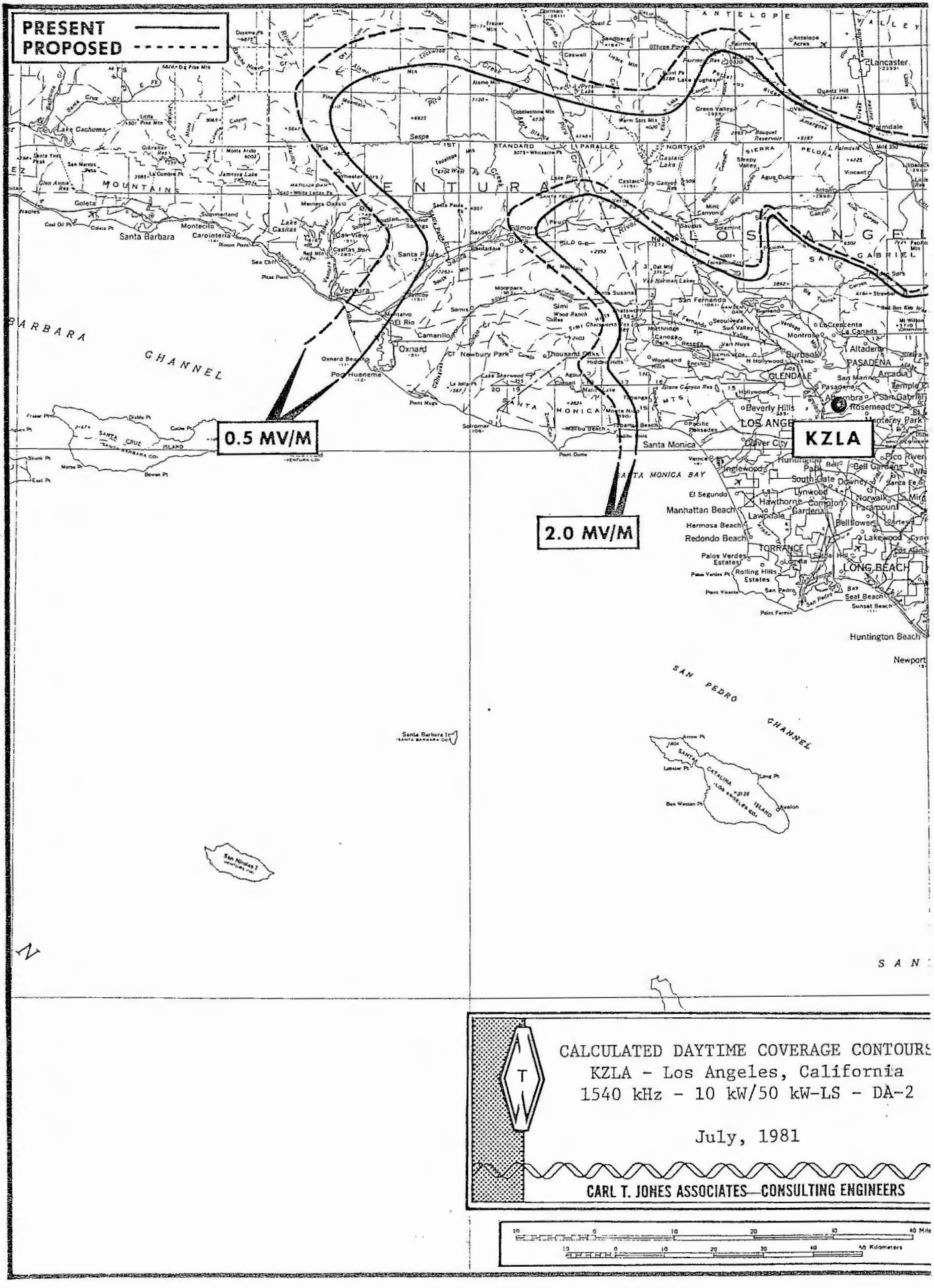

PRESENT
PROPOSED
0.5 MV/M
2.0 MV/M
KZLA
CALCULATED DAYTIME COVERAGE CONTOURS
KZLA - Los Angeles, California
1540 kHz - 10 kW/50 kW-LS - DA-2
July, 1981
CARL T. JONES ASSOCIATES—CONSULTING ENGINEERS
VENTURA
SANTA BARBARA CHANNEL
SANTA MONICA BAY
SAN PEDRO CHANNEL
Santa Barbara
Ventura
Oxnard
Camarillo
Santa Monica
Beverly Hills
Hollywood
Pasadena
Burbank
Glendale
Long Beach
Torrance
Huntington Beach
Newport
Lancaster
Palmdale
Santa Barbara I.
San Nicolas I.
Santa Catalina Island
Avalon

FIGURE 113

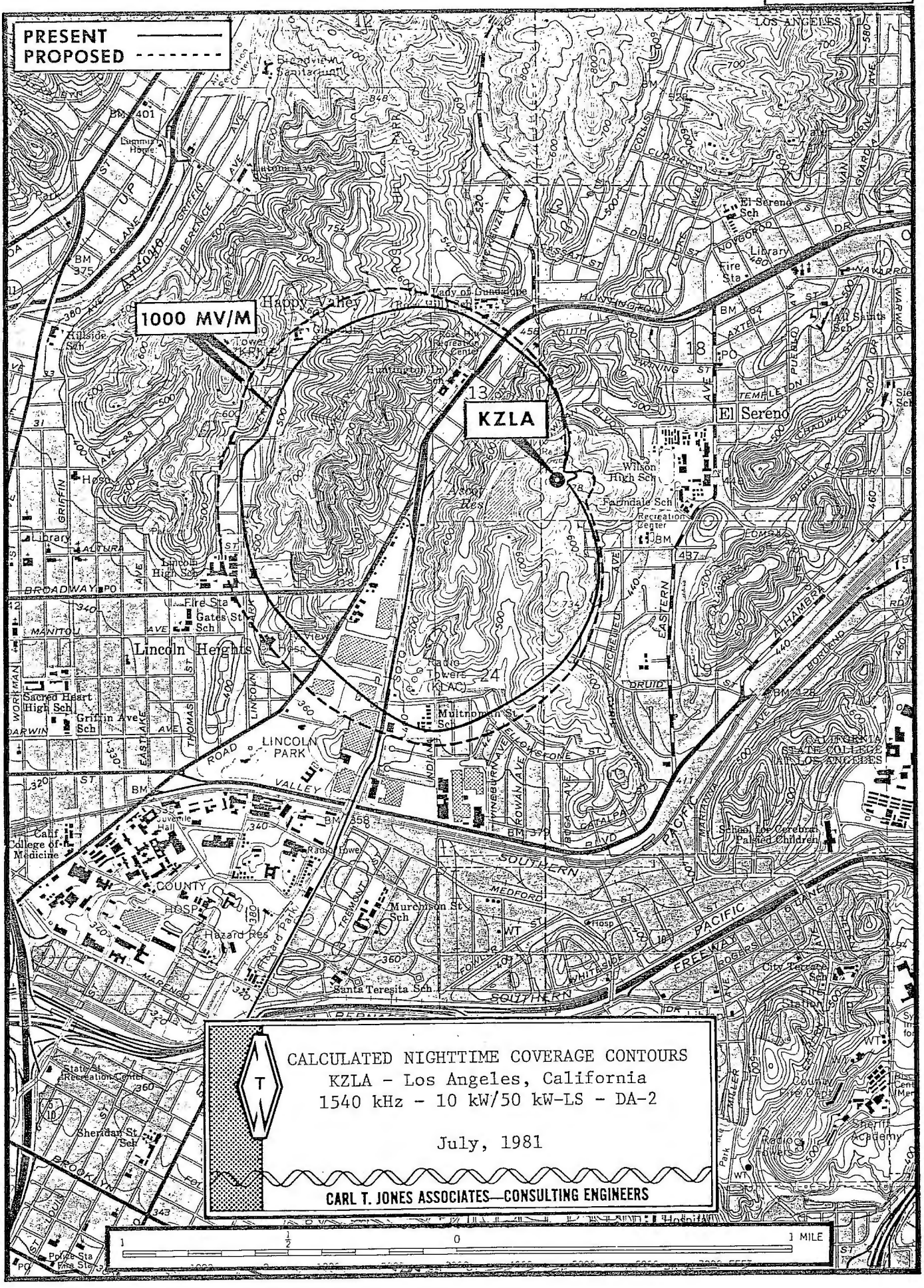

PRESENT
PROPOSED
1000 MV/M
KZLA
CALCULATED NIGHTTIME COVERAGE CONTOURS
KZLA - Los Angeles, California
1540 kHz - 10 kW/50 kW-LS - DA-2
July, 1981
CARL T. JONES ASSOCIATES—CONSULTING ENGINEERS
1 MILE

FIGURE 114

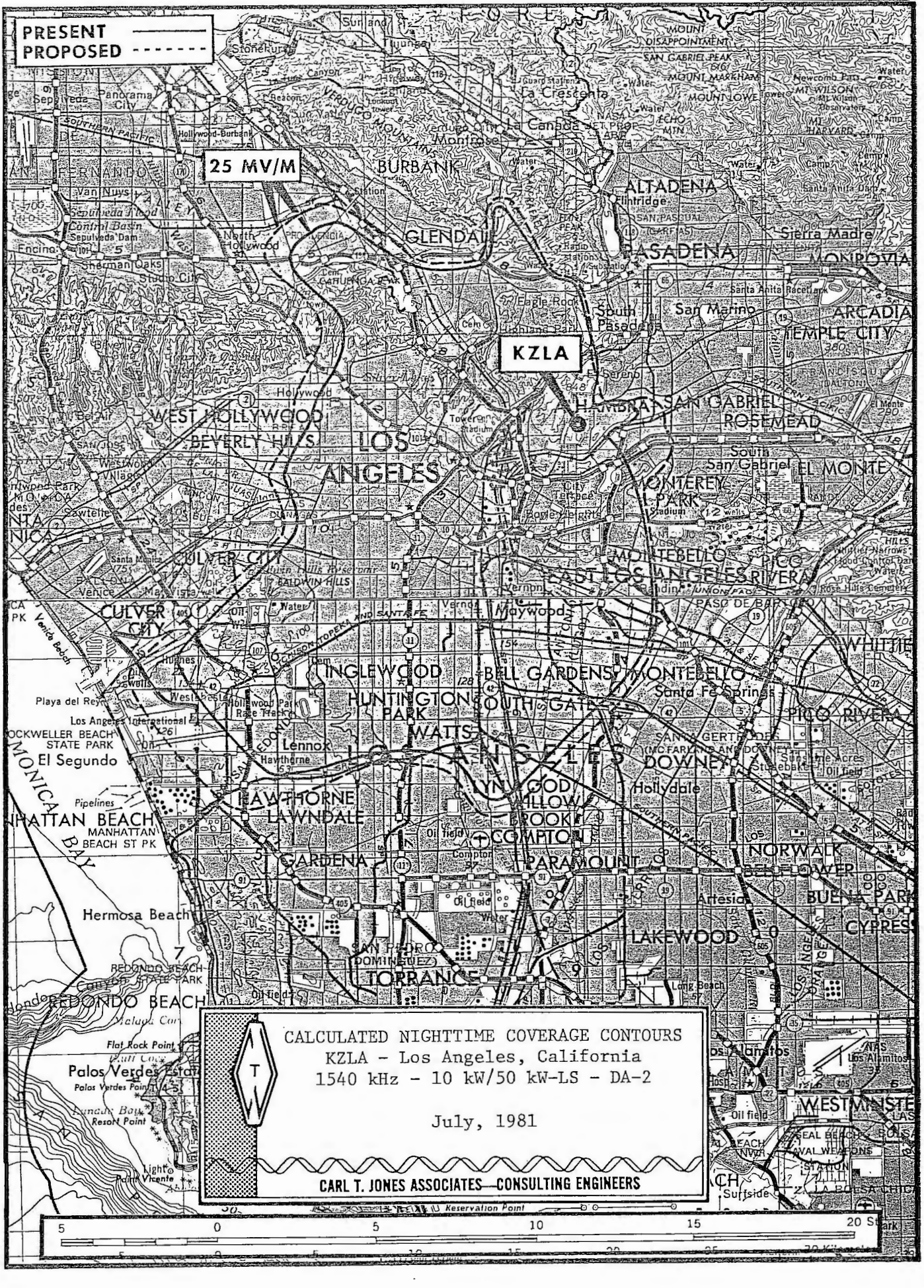

PRESENT
PROPOSED
25 MV/M
KZLA
CALCULATED NIGHTTIME COVERAGE CONTOURS
KZLA - Los Angeles, California
1540 kHz - 10 kW/50 kW-LS - DA-2
July, 1981
CARL T. JONES ASSOCIATES—CONSULTING ENGINEERS
LOS ANGELES
BURBANK
GLENDALE
PASADENA
ALTADENA
MONROVIA
ARCADIA
TEMPLE CITY
SAN GABRIEL
ROSEMEAD
EL MONTE
SOUTH EL MONTE
MONTEREY PARK
WEST HOLLYWOOD
BEVERLY HILLS
CULVER CITY
INGLEWOOD
HUNTINGTON PARK
BELL GARDENS
MONTEBELLO
WHITTIER
PICO RIVERA
SANTA FE SPRINGS
SOUTH GATE
WATTS
DOWNEY
NORWALK
LYNWOOD
COMPTON
PARAMOUNT
LAKEWOOD
LAWNDALE
HAWTHORNE
GARDENA
TORRANCE
REDONDO BEACH
HERMOSA BEACH
MANHATTAN BEACH
EL SEGUNDO
BUENA PARK
CYPRESS
WESTMINSTER
SEAL BEACH
Palos Verdes Estates
Point Vicente
Flat Rock Point
Resort Point
Reservation Point
5 0 5 10 15 20 Statute Miles

FIGURE 115

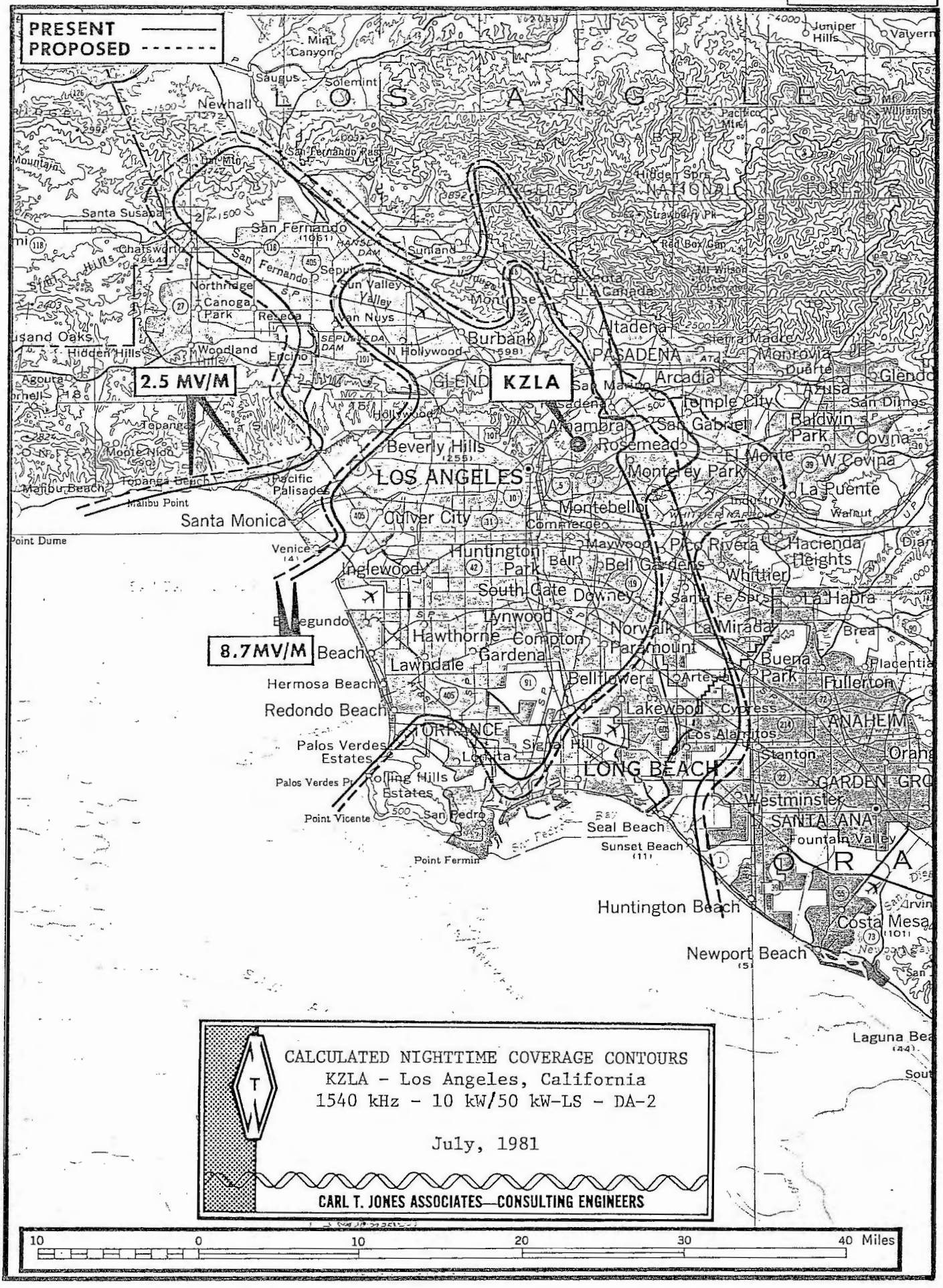

PRESENT
PROPOSED
2.5 MV/M
8.7MV/M
KZLA
LOS ANGELES
CALCULATED NIGHTTIME COVERAGE CONTOURS
KZLA - Los Angeles, California
1540 kHz - 10 kW/50 kW-LS - DA-2
July, 1981
CARL T. JONES ASSOCIATES—CONSULTING ENGINEERS
10 0 10 20 30 40 Miles

FIGURE 116

TABULATION OF POPULATIONS AND AREAS
KZLA - LOS ANGELES, CALIFORNIA
1540 kHz - 10 kW/50 kW - LS - DA-2

DAYTIME

CONTOUR (mV/m)	PRESENT POPULATION	PRESENT AREA (SQ. MI.)	PROPOSED POPULATION	PROPOSED AREA (SQ. MI.)
1000	8,256	3.80	11,340	5.22
25	2,286,592	382.55	2,553,539	430.04
5	5,843,270	1060.63	6,057,891	1158.41
2	7,825,399	1843.34	7,907,715	2050.09
0.5	8,090,049	5156.37	8,112,318	5764.17

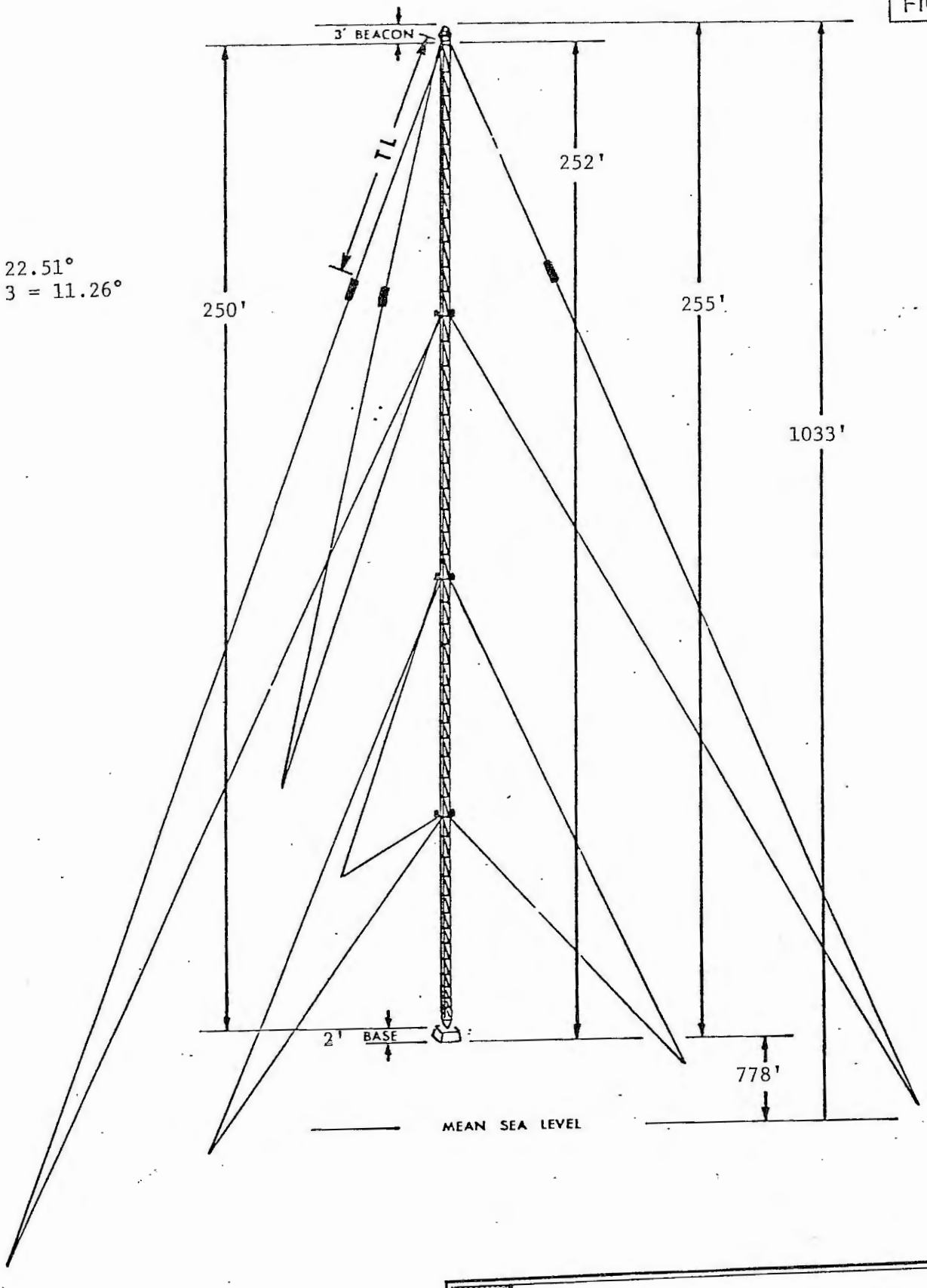
NIGHTTIME

CONTOUR (mV/m)	POPULATION	AREA (SQ. MI.)	POPULATION	AREA (SQ. MI.)
1000	1,837	1.00	2,372	1.19
25	1,189,334	172.67	1,353,589	205.06
8.7	2,483,497	421.64	2,686,405	471.46
2.5	4,906,076	834.55	5,151,982	941.67

Populations are based on the 1970 Census of the United States and were determined by transferring contours to maps depicting minor civil or census county division, then totaling persons enumerated in each division within a particular contour. Where a contour served only a portion of a division, the portion of the area was estimated and a uniform distribution of population was assumed. Communities and defined urbanized areas having a population of 2,500 or more and receiving less than 2.0 mV/m service are not included. Areas were measured with a compensating polar planimeter.

An effort was made to use preliminary 1980 census data, however, the maps depicting minor civil divisions were unavailable at the time of preparation of this application and it was determined that the preliminary data was therefore insufficient to accurately determine populations.

FIGURE 117



TL #2 = 22.51°
TL #1 & 3 = 11.26°

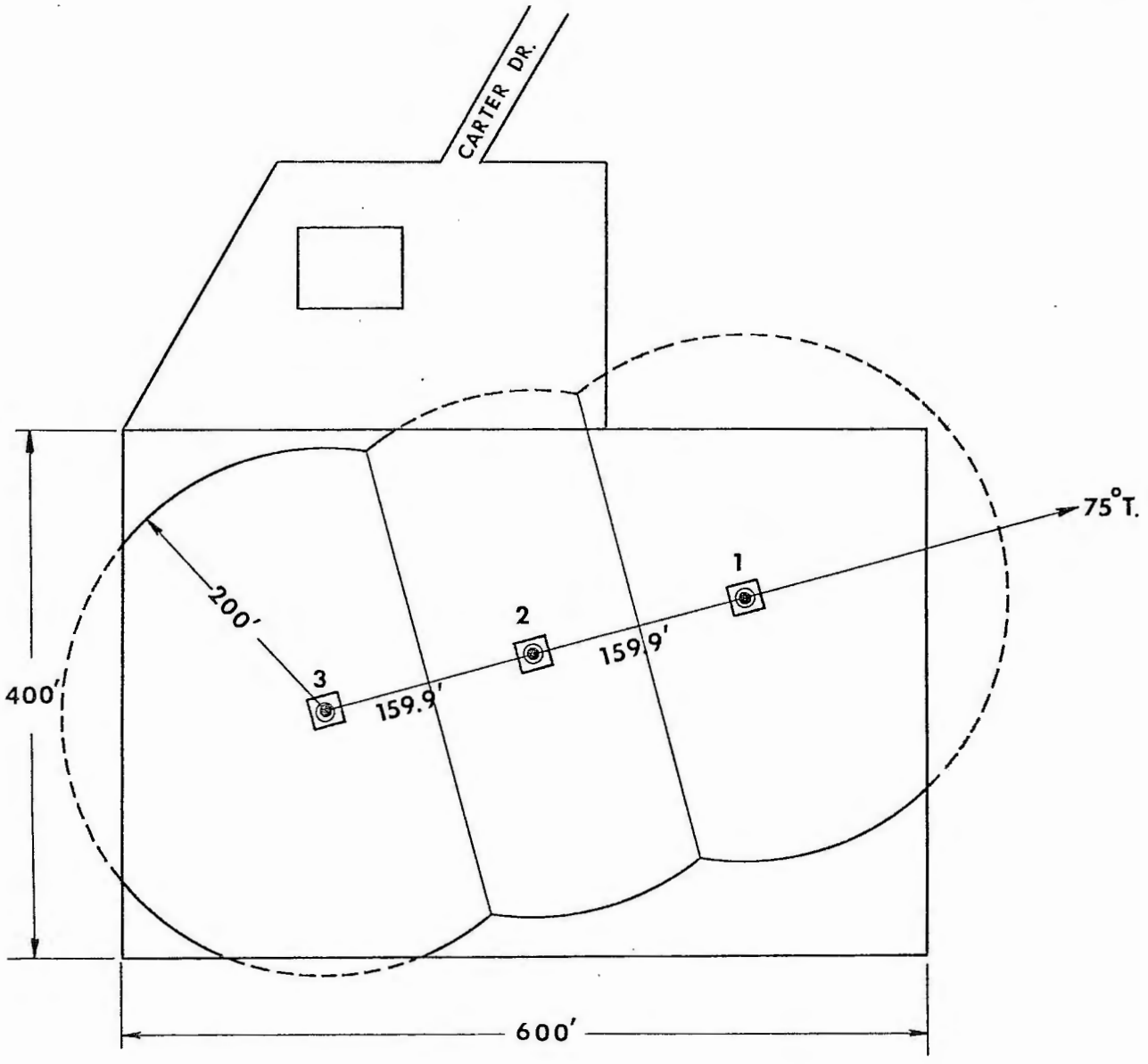
CARL T. JONES ASSOCIATES
CONSULTING ENGINEERS

VERTICAL SKETCH OF ANTENNA
KZLA - Los Angeles, California
1540 kHz - 10 kW/50 kW-LS - DA-2

July, 1981

CARL T. JONES ASSOCIATES—CONSULTING ENGINEERS

FIGURE 118



GROUND SYSTEM SKETCH
KZLA - Los Angeles, California
1540 kHz - 10 kW/50 kW-LS - DA-2

July, 1981

CARL T. JONES ASSOCIATES—CONSULTING ENGINEERS

FIGURE 119

TABULATION OF MEASUREMENT POINTS
KZLA - LOS ANGELES, CALIFORNIA
1540 kHz - 50 kW - DA-D

273° Radial

POINT NO.	DISTANCE (MI)	FIELD (mV/m)	DATE	TIME
1	1.83	557	6/19/81	0750
2	3.56	236		0812
3	5.28	110		0825
4	7.44	101		0839
5	9.27	51.0		0847
6	11.10	27.0		0856
7	12.30	21.0		0905
8	13.66	11.8		0920
9	14.38	7.50		0933
10	16.59	4.80		0949
11	18.25	1.58		1011
12	23.88	1.67		1115
13	26.80	1.29		1154
14	28.05	1.49		1203
15	30.19	1.24		1214
16	32.80	1.24		1231
17	34.85	1.07		1243
18	38.70	1.07		1255
19	40.89	0.88		1308
20	43.52	0.65		1323
21	52.06	.32	6/19/81	1355

FIGURE 120

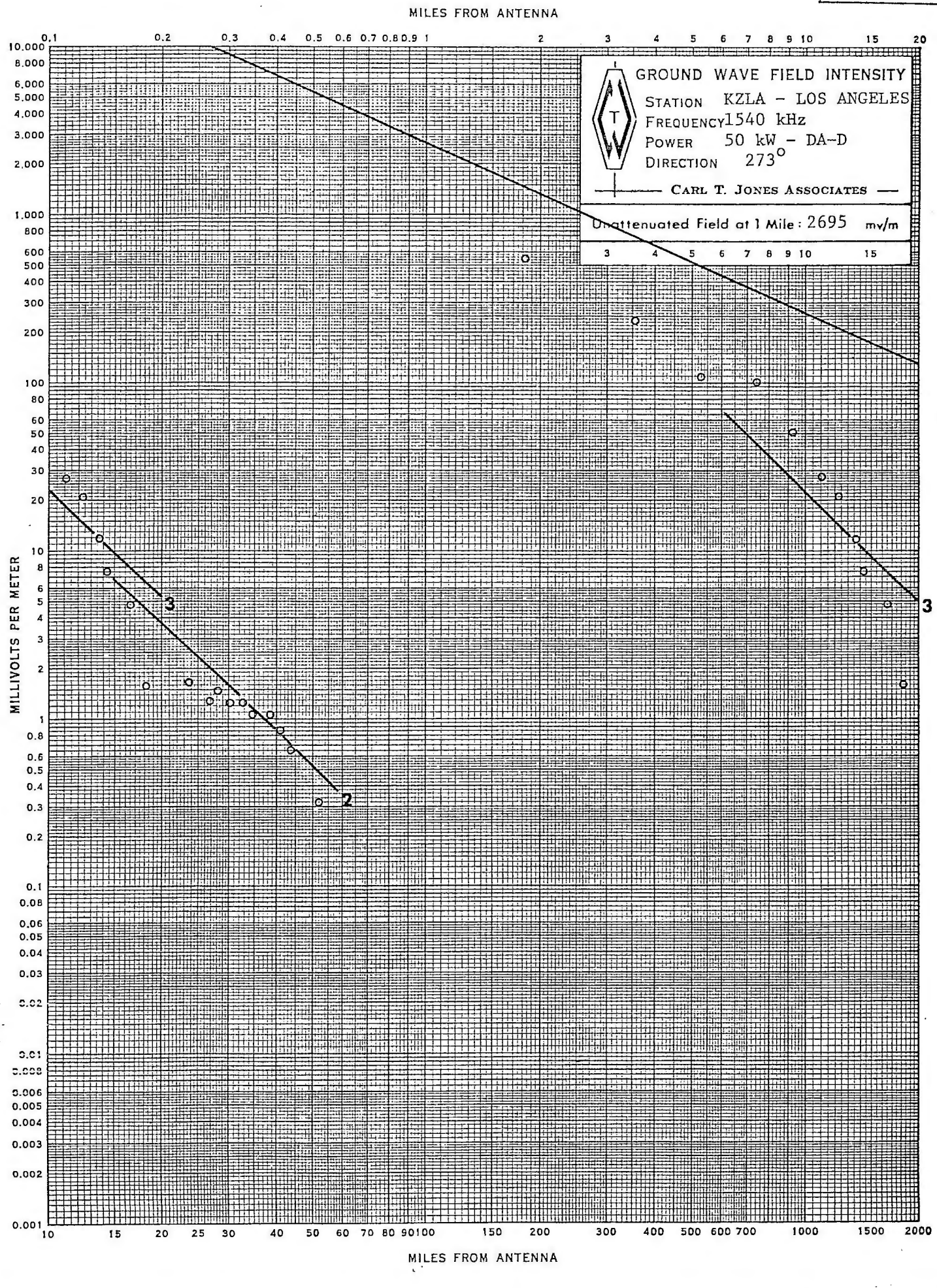

MILES FROM ANTENNA
GROUND WAVE FIELD INTENSITY
STATION KZLA - LOS ANGELES
FREQUENCY 1540 kHz
POWER 50 kW - DA-D
DIRECTION 273°
CARL T. JONES ASSOCIATES
Unattenuated Field at 1 Mile: 2695 mv/m
MILLIVOLTS PER METER
MILES FROM ANTENNA

FIGURE 121

TABULATION OF MEASUREMENT POINTS
KZLA - LOS ANGELES, CALIFORNIA
1540 kHz - 10 kW - NON-DA

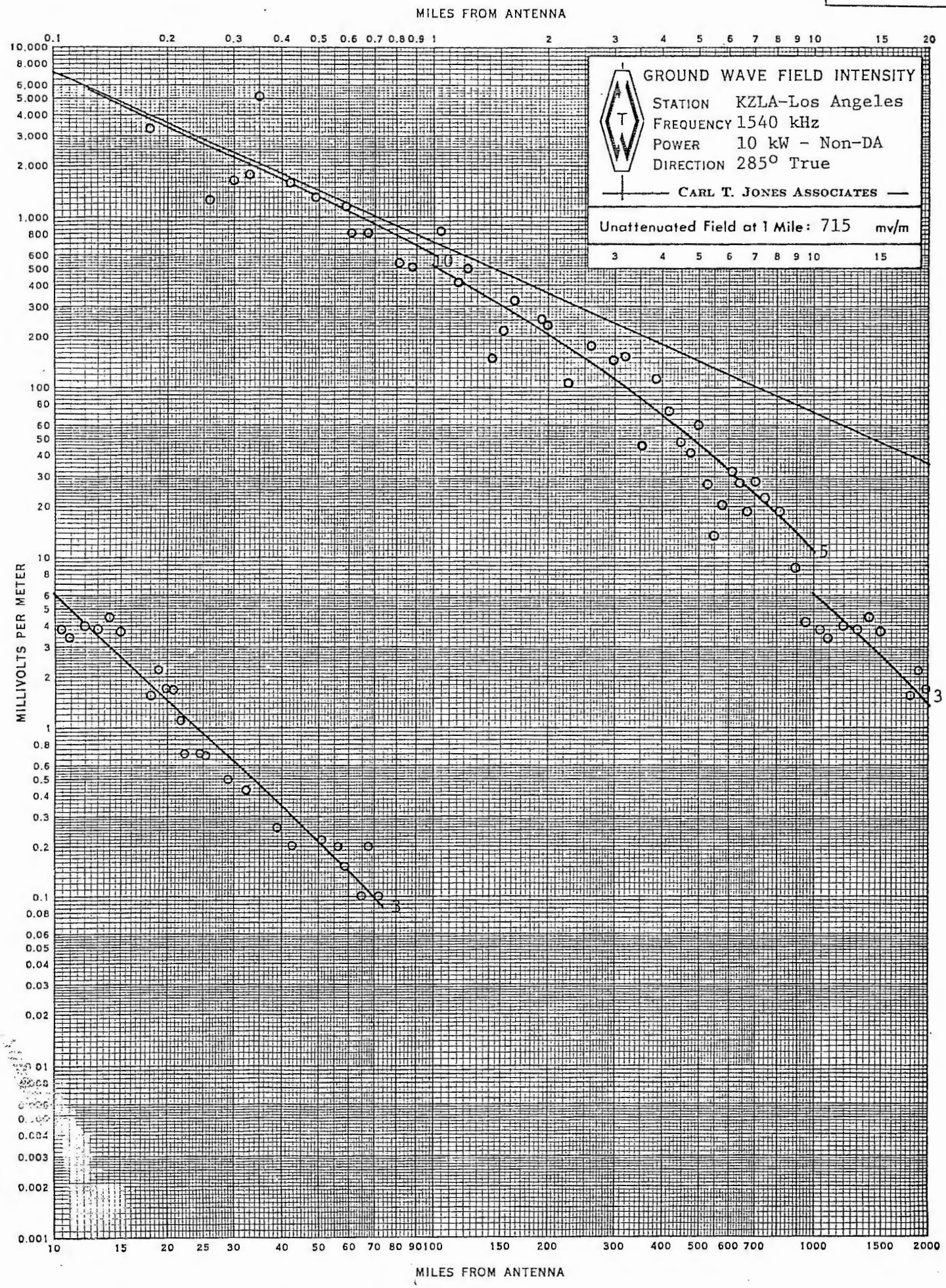
285° RADIAL

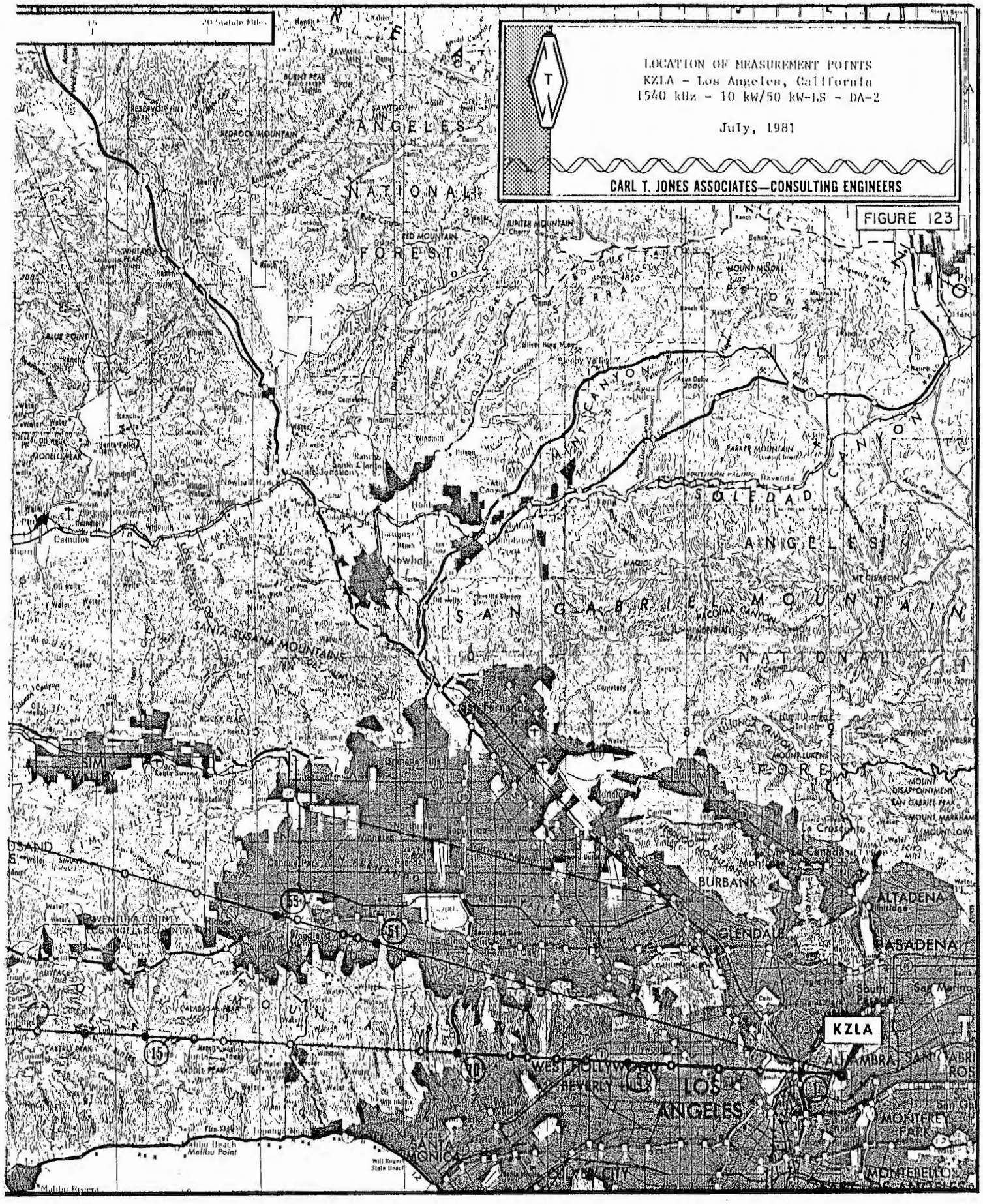
POINT NO.	DISTANCE (MI)	FIELD (mV/M)	DATE	TIME
1	.18	3380	3/4/81	1442
2	.26	1270		1451
3	.30	1620		1458
4	.33	1750		1503
5	.35	5100		1506
6	.42	1550		1509
7	.49	1300		1518
8	.59	1150		1526
9	.61	800		1531
10	.67	800		1536
11	.81	530		1546
12	.88	510		1552
13	1.04	820		1604
14	1.16	410		1613
15	1.22	495		1618
16	1.42	148		1628
17	1.53	218		1632
18	1.62	320		1640
19	1.92	248		1646
20	2.00	232		1652
21	2.26	105	3/8/81	1654
22	2.60	175		1648
23	2.99	145		1642
24	3.20	152		1639
25	3.54	45.0		1628
26	3.83	110		1624
27	4.18	72.0		1619
28	4.49	48.0		1611
29	4.77	41.0		1606
30	5.00	60.0		1600
31	5.27	27.0		1555
32	5.47	13.5	3/8/81	1552
33	5.80	20.5		1549
34	6.11	32.0		1543
35	6.40	27.5		1540
36	6.70	18.5		1536
37	7.03	28.0		1532
38	7.48	22.5		1530
39	8.13	18.5		1524
40	8.95	8.80		1518

TABULATION OF MEASUREMENT POINTS
KZLA - LOS ANGELES, CALIFORNIA
1540 kHz - 10 kW - NON-DA
FIGURE 121 CONTINUED

POINT NO.	DISTANCE (MI)	285° RADIAL (Cont'd) FIELD (mV/m)	DATE	TIME
41	9.50	4.20		1511
42	10.34	3.80		1503
43	10.90	3.40		1457
44	12.00	4.00		1450
45	13.00	3.85		1442
46	14.00	4.50		1431
47	15.00	3.70		1420
48	18.00	1.55		1408
49	18.90	2.20		1403
50	19.80	1.70		1355
51	20.90	1.70	6/19/81	1007
52	21.70	1.10		1021
53	22.30	0.70		1027
54	24.45	0.70		1039
55	25.40	0.68		1054
56	29.00	0.50		1112
57	32.20	0.43		1129
58	39.00	0.26		1154
59	42.70	0.20		1222
60	51.00	0.22		1248
61	56.30	0.20		1305
62	58.70	0.15		1323
63	64.70	0.10		1341
64	67.50	0.20		1411
65	72.00	0.10		1432

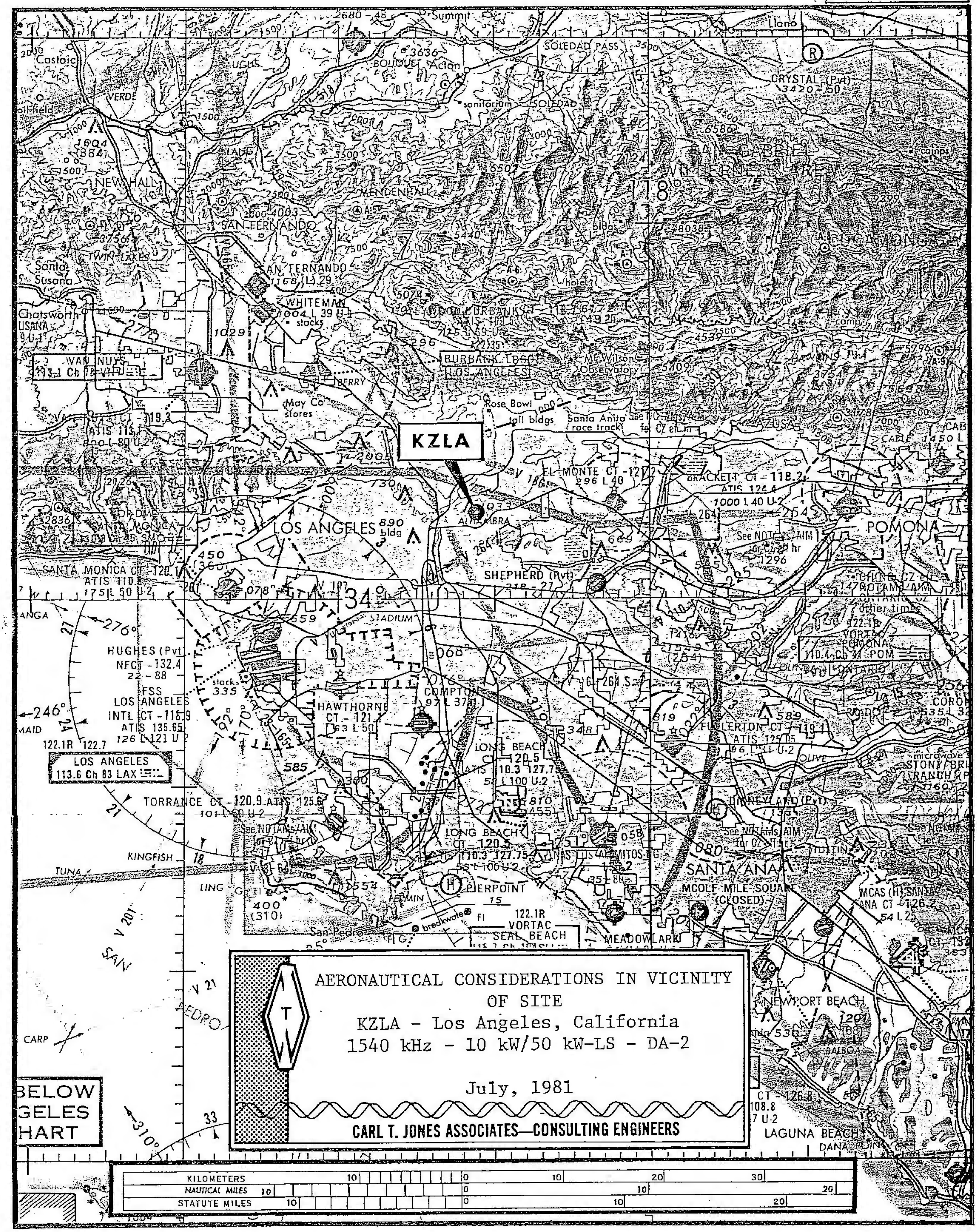
FIGURE 122


MILES FROM ANTENNA
0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1 2 3 4 5 6 7 8 9 10 15 20
10,000 8,000 6,000 5,000 4,000 3,000 2,000 1,000 800 600 500 400 300 200 100 60 50 40 30 20 10 8 6 5 4 3 2 1 0.8 0.6 0.5 0.4 0.3 0.2 0.1 0.08 0.06 0.05 0.04 0.03 0.02 0.01 0.008 0.006 0.005 0.004 0.003 0.002 0.001
MILLIVOLTS PER METER
10 15 20 25 30 40 50 60 70 80 90 100 150 200 300 400 500 600 700 1000 1500 2000
MILES FROM ANTENNA
GROUND WAVE FIELD INTENSITY
STATION KZLA-Los Angeles
FREQUENCY 1540 kHz
POWER 10 kW - Non-DA
DIRECTION 285° True
CARL T. JONES ASSOCIATES
Unattenuated Field at 1 Mile: 715 mv/m
3 4 5 6 7 8 9 10 15
10
5
3


LOCATION OF MEASUREMENT POINTS
KZLA - Los Angeles, California
1540 kHz - 10 kW/50 kW-LS - DA-2
July, 1981
CARL T. JONES ASSOCIATES—CONSULTING ENGINEERS
FIGURE 123
KZLA
LOS ANGELES
BURBANK
GLENDALE
PASADENA
ALTADENA
SANTA MONICA
BEVERLY HILLS
WEST HOLLYWOOD
ALHAMBRA
MONTEREY PARK
SAN FERNANDO
SAN GABRIEL MOUNTAINS NATIONAL FOREST
SANTA SUSANA MOUNTAINS
SOLEDAD CANYON

285°
273°
VENTURA
OXNARD
Port Hueneme
Santa Paula
Fillmore
El Rio
Camarillo
Newbury Park
Moorpark
SESPE CONDOR SANCTUARY
LOS PADRES NATIONAL FOREST
TOPATOPA MOUNTAINS
SANTA PAULA PEAK
SANTA PAULA RIDGE
SOUTH MOUNTAIN
CONEJO MOUNTAIN
ROUND MOUNTAIN
LAS POSAS HILLS
PINE MOUNTAIN
RED MOUNTAIN
LAGUNA RIDGE
RINCON MOUNTAIN
NORDHOFF RIDGE
ALAMO MOUNTAIN
SAN RAFAEL PEAK
REYES PEAK
MCDONALD PEAK
SNOWY PEAK
SIERRA MADRE MTS
CHANNEL ISLANDS NATIONAL MONUMENT
Anacapa Island
Point Mugu
Laguna Point
Mugu Lagoon
Port Hueneme
Hollywood Beach
Oxnard Beach
Point Hueneme
Emma Wood State Beach
Point Dume
Leo Carrillo State Beach
Lechuza Point
Sandstone Camp
Wheeler Springs
Mother Oak
Live Oak Acres
Oak View
Casitas Springs
Meiners Oaks
Ventura County
Santa Barbara County
U.S. NAVAL CONSTRUCTION BATTALION CENTER
R E S N A T I O N A L F O R E S T

FIGURE 124



AERONAUTICAL CONSIDERATIONS IN VICINITY OF SITE

KZLA - Los Angeles, California

1540 kHz - 10 kW/50 kW-LS - DA-2

July, 1981

CARL T. JONES ASSOCIATES—CONSULTING ENGINEERS