## ENGINEERING

EXHIBITS No. El

& No. E2

COASTAL BROADCASTING CORP.

PROPOSED CHANGE OF TRANSMITTING SITE

KPNG, PORT NECHES, TEXAS

1150 kc 0.5 kw DA-D

Engineering Report No. 525-A

January 4, 1972

Prepared by
GUY C. HUTCHESON
CONSULTING RADIO ENGINEER
ARLINGTON, TEXAS

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FCC Form 1 4		. ta # W	NICATIONS CONVINCE	
		Name 14		the state of the s
STANDAND BROA ENGINEERING		CONSTAIN N	ADCASTING CORP.	
1. Indicate by check mai for, each category are			items of this Section that are app	Creable to, and must be answered
Construct a new s Change station locative or town Change power Change transmitte Change frequency Change from DA to Change from Non-IX Change in antenna (including increas by addition of FM	r location  Non-DA  DA to DA  system  e in height	All	Install new Auxiliary Transmitter Install new Alternate Main Transmitter Change transmitter (non type accepted) Change Main Studio Location point outside city limits and at transmitter site Change Hours of Operation Other (specify):	2 thru. 7, and 10
If this application is not	for a new station,	summatize briefly th	e nature of the changes proposed:	
		EDUCE ANTENN	A HEIGHT 20 FT.	
2. Pactiticies requested	CHANGE		Antenna system, noluding (	ground or Courter; ise
Prequency	Hours of operation	Power in kilowatts	Non-Ourections. Automas.	Directional a
1150 kc	DAYTIME	Night Day		Day only (2.55)
LIGO KC	<i>5</i> 11111115	0.5	Day Night :	Night only (A-A)
3. Station location NO	CHANGE	<del></del>		
State	City or town		<del>- </del> '	Same constant, and power day und night (DA-1)
TEXAS	•	NECHES		Different constants or power day and night (DA-2)
4. Transmitter location				ed submit complete engineering data. Show clearly or any or might or both. If day and night patterns
TEXAS	County JEFFE	RSON		on each has form. This information is in addition and is suit. It as Exhibit No.
PORT NECHES	3184V		Two vertical unicross-sec. steel	FOR STUDIOL CONTROL CO
	C CHANGE		Overal; height in feet above ground.	
State	County		(Without obstruction lighting)	overall as ght in feet above mear, sea
TEXAS	JEFFER	RSON	200	level. (Michout obstruction lighting)
PORT NECHES	Street and number, 1		Overail height in feet above ground.	(With 207
	270 011 216		203	
6. Remote control point local State	City of Lown.	E .		Overall height in feet above mean sea level. (with obstruction lighting)
TEX.S	PORT NEC	CHES	If antenna is either top loaded or de tionalized, describe fully as Exhibino.	sc-
3185 MERRIMA			_	
			Excitation	Series X St
7. Transmitter NO CHA			Geographic coordinates to neare	st second.
GATES RADIO CO.	BC-500	Rated Power O.5 kW	For direction antenna give coordin For single vertical radiator give North latitude	
	1		0 1 6	
(If the above transmitat	o been Autopted for lie	consing by the P.C.C., a	29 57 48	93 🗓 😉
tach as Exhibit No.  Showing should include schematic changes are to be made in licens full cetails of change.	diagram and full detai	f transmitter detail ls of frequency control schossic disgram and g	ive DO	
-			Submit as Exhibit No. E ]	a plat of the transmitter site showing boundary
8. Modulation monitor N	O CHANGE		lines, and roads, rullread the system or counterpoise, show to are	r obstructions; and also layout of the ground and dimensions of ground radials of it a counter-
Arris 1011	O CILITOL	Type No.	poise is used, show height and dimens	s.ons.
GATES RADIO	co.	M0-2639	11. Attach as Exhibit No. F ] taken in clear weather at approp	a sufficient number of aerial unctographs priste altitudes and angles to permit identifica-
Nr.	O CHANGE		show company directions, exact t	cinity. The Photographs must be marked so as to boundary lines of the proposed atte, and loca-
Mare		Type No.	graphs taken in eight different	contour for both day and might operation. Photo- uirections from an elevated position on the
GATES RADIO	co.	M-4990	to can be clearly moved.	u of the aerial photographs if the daix referred

#### 12. Allocation Studies:

- A. Attach as Exhibit No. El 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. (NOTE: The 2 mv/m night contour need not be supplied if service is not rendered thereto.)
- B. (1) For daytime operation, attach as Exhibit No. El 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. El an <u>additional</u> allocation study, utilizing World or Sectional Aeronautical charts to clearly show interference or absence thereof.
  - (3) For daytime operation, attach as Exhibit No.El a tabulation of the following:
    - (a) Azimuths along which the groundwave contours were calculated for all stations or proposals shown on allocation study exhibits required by Paragraph 12B above.
    - (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. , 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 a copy of each pertinent radiation pattern in the vertical plane and basis therefor.
- 13. Attach as Exhibit No. El 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. All towns and cities having populations in excess of those given in Section 3.182(g) are not to be included in the tabulation of populations within the service contours. The latest Census Minor Civil Division maps are to be used in making population counts, subtracting any towns or cities not receiving adequate service, and where contours cut a minor division assuming a uniform distribution of population within the division, to determine the population included in the contours unless a more accuract count is made.)

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#### STANDARD BRCADCAST ENGINEERING DATA

Section V-A, Fage 3

- 14. Attach as Exhibit No. El map or maps having reasonable scales clearly showing the following:
  - (a) Proposed antenna location
  - (b) General character of the city or metropolitan district, particularly the retail business, wholesale business, manufacturing, residential, and unpopulated areas (by symbols, cross-hatching, colored crayons, or other means)
  - (c) Heights of buildings or other structures and terrain elevations in the vicinity of the antenna, indicating the location thereof.
  - (d) 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.
  - (e) Terrain

#### DOES NOT APPLY

15. If this application is for modification of construction permit state briefly as Exhibit Nostatus of construction and indicate when it is expected that construction will be completed. the present

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 \_\_\_\_\_Jan. 4, 1972

Signature (check appropriate box below)

Technical Director

Chief Operator

X Registered Professional Engineer

X Consulting Engineer

GUY C. HUTCHESON

CONSULTING RADIO ENGINEER

P. O. BOX 808

ARLINGTON, TEXAS 76010

FCC Form 301	FEDERAL COMMUNI	CATIONS (	COMMISSION		Section	V-G (Antonna)
ANTENNA AND SITE INFORMATION (see instruction B. Section 1)	Name of applic COAST		DCASTING	CORP.		
Legal Counsel		Arrose o	of application	(Check eppropriate	bcx)	
MALLYCK & BERNTON Address		a. Now a	entoma constru	ction		
1900 L St., N. W., Washing	gton, D.C. 200	- C. C.	,0 21 20010201		<u> </u>	
Consulting Engineer GUY C. HUTCHESON		Triest, emy	res of surround	ions or existing m	on-mode structur	res (hills,
Address	76010	cant, wo	ild tend to shi	ers, etc.) which, eld the antenna fr	on aircraft and	thereby mini-
P. O. BOX 808, Arlington, Class of station Facilities requ		1		enzard of the enten 2300 FT. NO	_	
	D.5 kw DA-D					!
1. Location of anterma State County City	or Town	-				
State County City TEXAS JEFFERSON PO		-				
Submit as Exhibit No.E2 a chart on which is plotted the expect and also the relative location of the antenna site, and als				structures  t (or the nal Aeronauti- ntenna site to autical Chart		
Coographic coordinates (to be determined to For directional antenna give coordinates of For single vertical radiator give tower loca	center of array.)	should b from a l obtainab Coast an	e used only wanting area of lel/ Thes d Geodetic Su	hon the antenna of when an Instru e charts may be preceded, Washington	site is more t ment Approach purchased from , D. C. 20852	han 10 miles Chart is un- the U.S.
North latitude West longit		boundary	of a landing	the proposed antegarea for which i	o Instrument.	Approach Chart
29 57 48 93  3. Designation, distance, and bearing to ce		site, nr	ente, summit regy(s) and exi	a self-made, larg sting mon-mode ato	actures listed	aboye.
nearest established airway within 5 mile	s: V20N	ε V20−2	22-306S	Intersectio	n	
(a) JEFFERSON CU.  (b) (c) Description of antenna system (If direct	tional, give spacing				<u>Pirectic</u> WEST	
PACING: 404 FT ORIENTATION: N8	5°E 					
Type TWO VERTICAL UNIFORM Description of tower(s)	M CROSS-SEC. S	TEEL TO	WERS			
Self-supporting	Ouyed YES			Tubular (Pole)		
Tower (height figures should include obstruction lighting)	#1	#2.	#3	#4	#5	#6
Height of radiating elements	200	200				
Overall height above ground Overall height above mean sea level	203	203 210				
If a combination of Standard, FM, or TV opermit as Frhibit No. a horizontal plan for their orientation, and specing in feet. Cl	ration is proposed or r the proposed antenr early indicate if any	the same in a system, a towers are	giving height: e existing.	s of the elements DOES NOT A	PPLY	and showing
Submit as Exhibit No. E2 a vertical plan reights above ground in feet for all signif	icant features. Clea	rly indica	te existing p	ortions, noting p	einting and l	ighting.
Is the proposed antenna system designed so installed and maintained at the uppermost p	oint(s)?				Yes 🔽	700
6. Is the proposed site the same or immediate by the Commission or specified in anothe	r application pending	before the C	Commission?		□ 7	es 🔀 No
If the answer is "Yes", give: CALL LET  I certify that I represent the applicant in				xamined the force	oing statement	of technical.
information and that it is true to the best of m	ny knowledge and beli	ef.	Lora	CONSU	C. HUTCH LTING RADIO P. O. BOX 30 IGTON TAXAS	ENGINEER
(date)		check appr	apriate box b	·low)		
Technical	DirectorCriter Opt	nator [ &n	egiatered i ro	rescionar engine	DISTRIC OPPURE	1020 to Tale Us

STATE OF TEXAS ) ss: COUNTY OF TARRANT

GUY C. HUTCHESON, being first duly sworn upon his oath, deposes and says:

THAT he is a consulting radio engineer with office at Arlington, Texas; that he graduated from Texas A. & M. College in 1933 with a B. S. degree in Electrical Engineering; that he was a radio engineeroperator with the Second Byrd Antarctic Expedition to Little America from 1933 to 1935; that he was a member of the General Engineering Department of the Columbia Broadcasting System in New York, N. Y. from 1935 to 1945, and during his employment at CBS, he specialized in radio-frequency measurements, field intensity surveys and measurements, the design of directional antennas, r-f equipment, etc., and at various periods with CBS he held the positions of Engineer, Radio-Frequency Division, Chief Latin American Engineer, Engineer-in-Charge International Broadcasting, and Acting Engineer-in-Charge, Radio Frequency Division; that he has been in business for himself and has been active as a consulting radio engineer and maintained an office as such from 1945 to date; that he is registered as a professional engineer by the State of Texas, Serial No. 6218, and is entitled to practice as such; and that he has qualified as an expert engineer at hearings before the Federal Communications Commission and has presented testimony at such hearings on several occasions.

THAT this engineering exhibit was prepared by him personally or under his direct supervision and is true of his own knowledge except as to such statements as are herein stated on information and belief, and as to such statements he believes them to be true.

Affiant

Subscribed and sworn to before me this ATA day of Jan, 1972

NOTARY PUBLIC My commission expires June 1, 197

#### COASTAL BROADCASTING CORP.

## PROPOSED CHANGE OF TRANSMITTING SITE KPNG, PORT NECHES, TEXAS

## INTRODUCTION:

The applicant, COASTAL BROADCASTING CORP., licensee of radio station KPNG, Port Neches, Texas, 1150 kc, 0.5 kw DA-D, requests permission to move its transmitting site to a location in Port Neches. Permission is also requested to decrease slightly the antenna height of each tower.

No change is proposed for the power, frequency, studio location nor ground system.

#### PROPOSED SITE:

The proposed site is located at approximately 3184 Merriman St., across the street from the studio location in Port Neches. The geographic coordinates of the center of the array as scaled from a 7 1/2' topographic quadrangle of Port Neches North, Tex. are north latitude 29° 57' 48", and west longitude 93° 58' 09".

Fig. 1 is a drawing of the plot plan of the proposed site and ground system.

Fig. 2 is an aerial photograph of the site and surrounding area.



#### ANTENNA AND GROUND SYSTEM:

No change is proposed for the antenna system except to decrease the overall height 20 feet or to a height of 200 ft. above ground (203 ft. with beacon). The Federal Aviation Agency would not approve a higher value as an attempt was made to keep the old height of 220 ft. above insulators but without success.

The ground system would be basically the same, that is, 120 radials
240 ft. long interspaced with 120 radials 50 ft. long, except for a few
long radials to the property line as with the old site would not be installed.

The reduction in height of the antennas is not expected to affect the overall performance of the directional array any appreciable amount. The original expected RMS of the array taking into account array loss was 127 mv/m and the shorter antennas would reduce this value to 124.9 mv/m based upon Fig. 8 of FCC Standards, Section 73.190.

#### TRANSMITTING EQUIPMENT:

No change is proposed for the transmitter which is a Gates Radio Co.

Type BC-500T of 0.5 kw rating, now in operation at the temporary site.

In addition, the present monitors and associated equipment would be used at the new site.



## FIELD INTENSITY CONTOURS:

- Fig. 2 also shows the proposed 1 v/m contour drawn on the aerial photograph.
- Fig. 3 is a map showing: (1) the proposed site; (2) the proposed 1 v/m contour; (3) the KPNG studio location; (4) the location of other stations in the area; & (5) the character of the area.
- Fig. 4 is a map showing the present & proposed 25 mv/m contour, and also the location of other stations in the area not shown on Fig. 3.
- Fig. 5 is an aero chart showing the present & proposed site locations.
  - Fig. 6 is a sketch of the vertical plan of the antennas.
- Fig. 7 is a copy of an acknowledgment from the FAA approving the tower height at the new site.
- The 5, 2 & 0.5 mv/m contours would not be substantially changed and are, therefore, not shown herein as maps showing these contours are on file with the FCC.
- All field intensity contours shown herein were determined by the use of the FCC Ground-Wave Field Intensity versus Distance Curves in accordance with the equivalent distance method described in the Standards.

The soil conductivity values were taken from Fig. M-3 of the FCC Standards which shows 30 mmhos/m at the two sites and are indicated on Figs. 3 & 4, herein.

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## POPULATIONS AND AREAS:

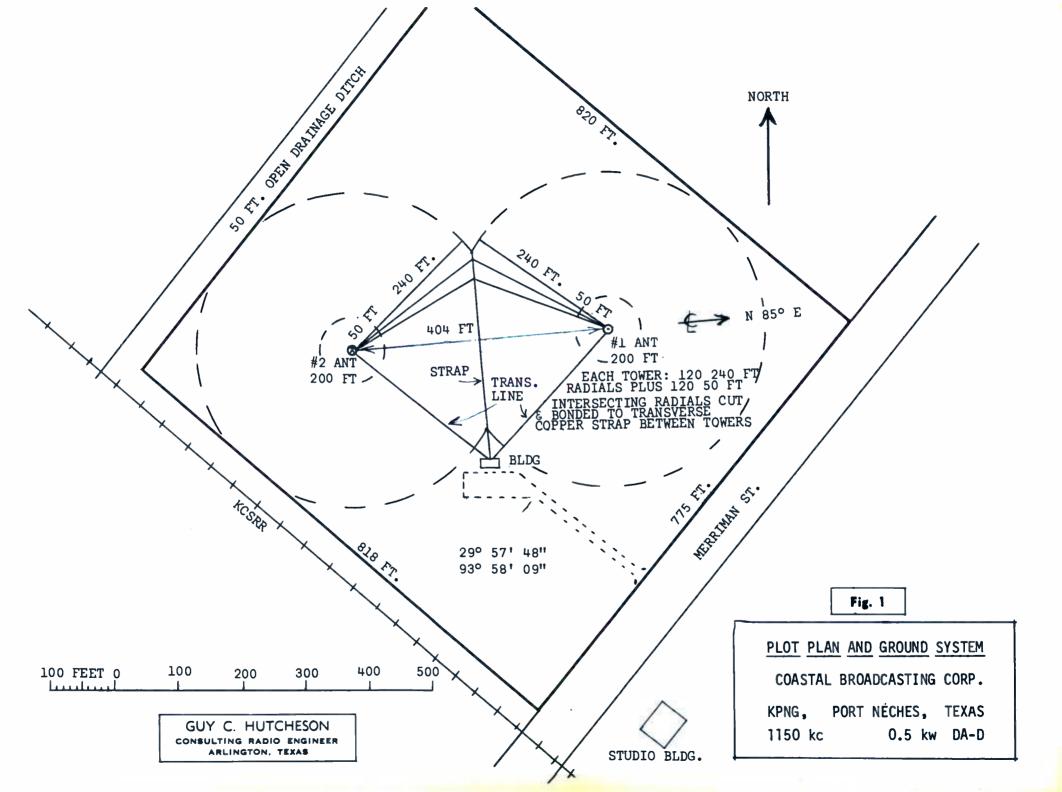
CONTOUR mv/m	POPULATION Number of Persons	AREA Sq. Miles of Land
	PRESENT SITE OF KPNG	
1000	3	0.05
25	18,954	52.7
	PROPOSED SITE OF KPNG	
1000	10	0.05
25	52,742	66

The areas listed above for the present site were taken from the original application of KPNG on file with the FCC. The areas for the proposed site were determined by the use of a compensating polar planimeter on the original maps of this report.

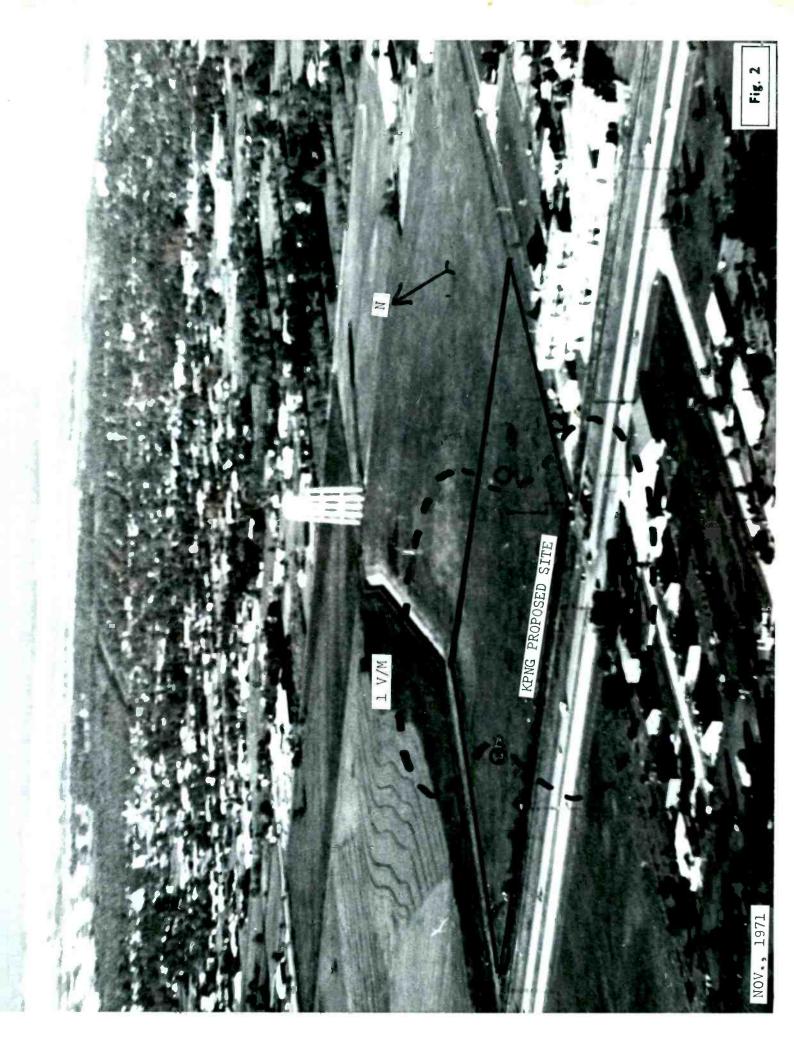
The population figure for the 1000 mv/m contour at the present site was taken from the original application, and for the 1000 mv/m contour at the proposed site, the figure was determined by counting the number of dwelling units and using a factor of 3.3 which is the median number of persons per dwelling unit for Jefferson County according to the 1960 U. S. Census.

The population figures for the 25 mv/m contours were determined by counts of minor civil divisions based upon the U. S. Census of Population for 1960 (1970 population figures are available but we have been unable to obtain new minor civil division maps), and made in accordance with the procedure set forth in the FCC Standards. Where a contour cut a minor civil division, the population was counted in proportion to the estimated area of the division within that contour, assuming a uniform distribution of population within the division except for cities and towns.

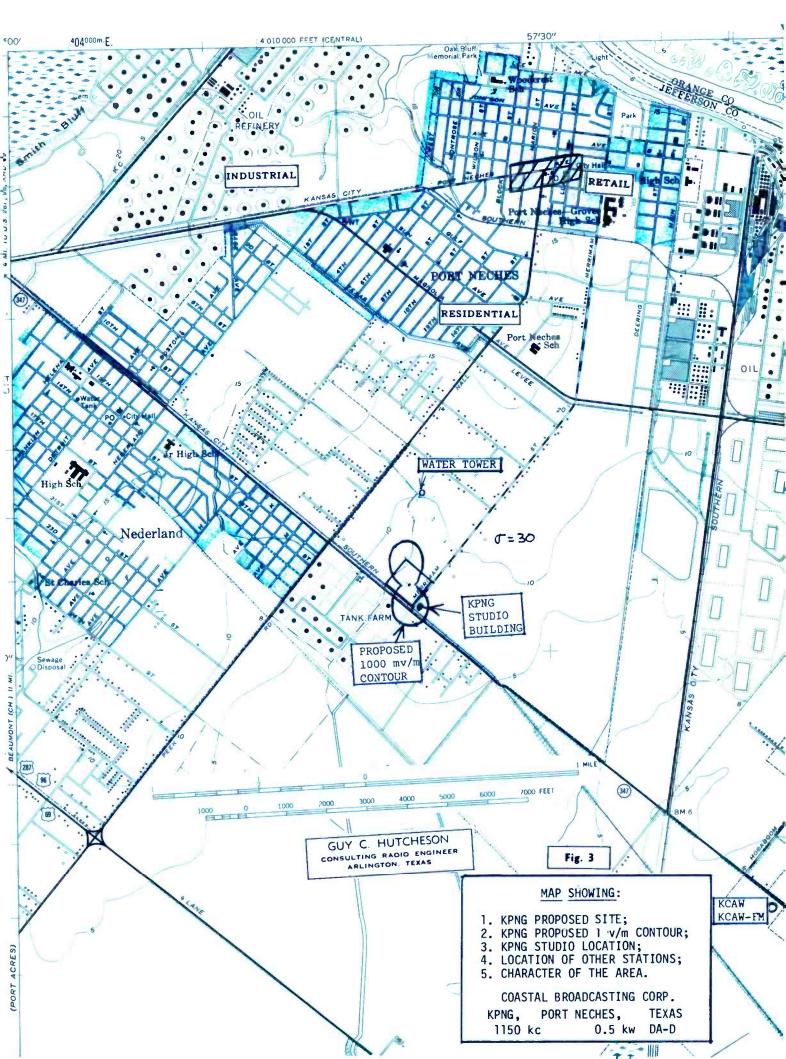
Population and area figures for the 5, 2 & 0.5 mv/m contours would remain substantially unchanged for present and proposed operations of KPNG.



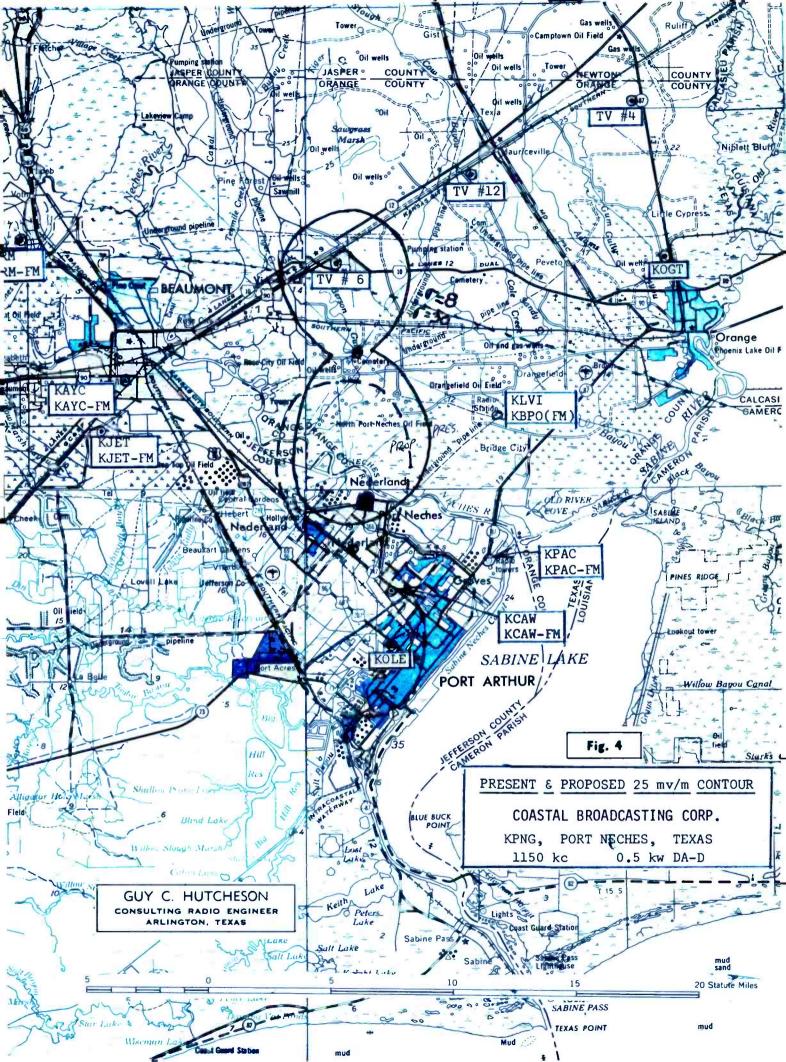
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COASTAL BROADCASTING CORP.

# PROPOSED CHANGE OF TRANSMITTING SITE KPNG, PORT NECHES, TEXAS

DATA PERTAINING TO SECTION V-G OF FCC FORM No. 301

FIG. 5: AERO CHART SHOWING PRESENT & PROPOSED SITES.

FIG. 6: VERTICAL PLAN SKETCH OF ANTENNAS.

FIG. 7: COPY OF FAA ACKNOWLEDGMENT.

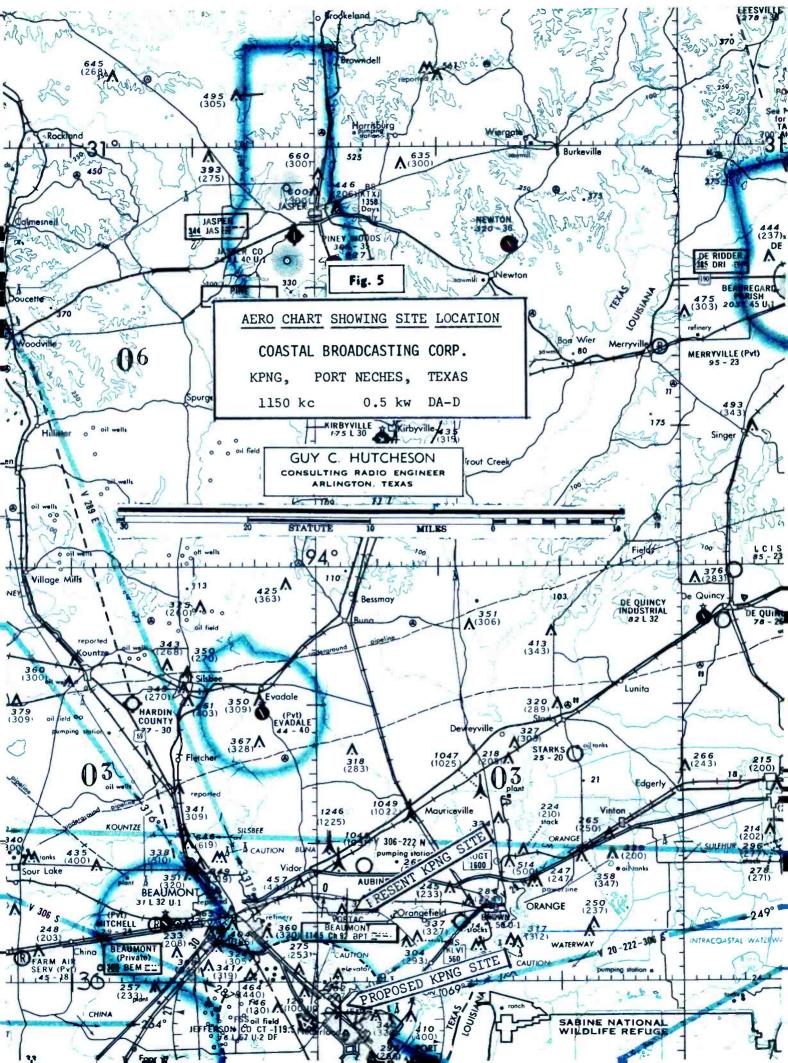
Prepared by

GUY C. HUTCHESON

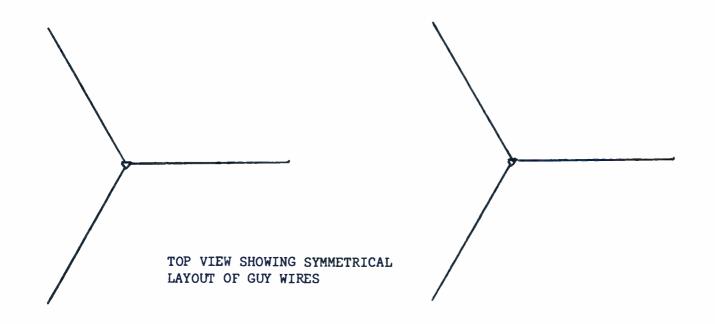
CONSULTING RADIO ENGINEER

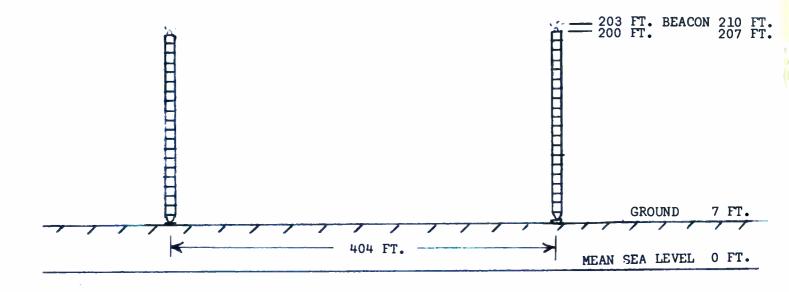
ARLINGTON, TEXAS

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GUY C. HUTCHESON
CONSULTING RADIO ENGINEER
ARLINGTON. TEXAS

VERTICAL PLAN SKETCH OF ANTENNAS

Fig. 6

COASTAL BROADCASTING CORP.

KPNG, PORT NECHES, TEXAS

1150 kc 0.5 kw DA-D

## DEPARTMENT OF TRANSPORTATION FEDERAL AVIATION ADMINISTRATION

DATE: IN REPLY REFER TO:			SOUTHWEST REGION Air Traffic Operations Branch P. O. BOX 17638 8345 TELEPHONE ROAD HOUSTON, TEXAS 77017	
SUBJECT:	Acknow	Pledgement of Notice		13111
	PROPON STRUCT HEIGHT	URE:	LOCATION: Place : Latitude : Longitude:	
	UEIGHI	Above MSL :	non-greate.	
	A stud	y conducted in accordance wi sulted in a determination th	ith Part 77, Federal Aviation Regulanat the preceding proposal:	tions
	( )	would not exceed any standa hazard to air navigation.	ard of Subpart C and would not be a	
	( )	should be marked and lighter FAA's Obstruction Marking a 70/7460-1.	ed in accordance with the standards and Lighting Advisory Circular, AC N	in No.
	( )	requires supplemental notic	ce to this office:	
		( ) within five days after its greatest height;	fore start of construction or alterater the construction or alteration reture has been dismantled;	ation; eaches
	( )	would exceed the standards Further study is necessary be a hazard to air navigati you may request further stu		such

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LEWIS E. ENOCHS

Chief, Air Traffic Operations Branch (HOU), SW-580

air navigation. Please advise if an aeronautical study is required.

TO THE FCC FOR A CONSTRUCTION FERMIT BEFORE THAT DATE OR IS OTHERWISE REVISED, TERMINATED OR EXTENDED, REQUEST FOR EXTENSION OF EFFECTIVE PERIOD SHOULD BE SUBMITTED BY PROPONENT/SPONSOR 15 DAYS PRICE TO EXPIRATION DATE.

UNLESS APPLICATION IS MADE

Issued in Houston, Texas, on

THIS DETERMINATION EXPIRES.

Regulations,

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