

ORIGINAL

MM 99-25

LOW POWER FM RADIO STATIONS
A STUDY ON POTENTIAL IMPACT
ON VICTORIA, TEXAS , RADIO
MARKET

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Study in accordance with part 47 of the
Code of Federal Regulations, section 73 and
in application of the procedures as outlined
in Mass Media Docket 99-25

Due November 5, 1999

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CONSIDERATIONS OF PLAN ONE AND PLAN TWO

Page i.

The considerations of plans one and plan two are to show the availability or non-availability of frequency modulation radio channels on the frequencies of 88.1-107.9 megahertz in the radio markets in general, with the Victoria, Texas, radio market, which is the location of commentor John J.(Joe) Tibiletti owned KTXN-FM, which operates on 98.7 megahertz, with 100 thousand watts as a class C1 station.

All guidelines for the development of this tabular presentation were taken from the Code of Federal Regulations, Part 47, sub part 73, related to Telecommunications. The allocation process to be explained in later pages is contained in this section. A new rulemaking docket mass media 99-25 is proposing the addition of thousands of new low power radio stations with powers from one to one thousand watts on the frequencies already used in the industry.

The purpose of this presentation is to show the impact these stations would make on the overall radio spectrum of 88.1- 107.9 megahertz in this radio market. The entire responsibility for information contained in this is solely that of a self trained allocation engineer-radio station operator John J (Joe) Tibiletti. While other implications can be made relative to this docket, this tabular presentation is solely to show the possible new allocations that can be made in the abovedescribed radio market.

Commentor Tibiletti wishes to call the attention of readers of this material to the fact that the Federal Communications Commission, while it purported to have a disk to use to find the available channels, was unable to supply one to him in spite of over four months of requests for same. Thus this was done with the only tools available: an internet site which gave a data base extract for the area with a list of stations, which was supplemented by a check of the proposed rulemakings in the area on the channels involved; an accounting 13 columnar tablet; a pencil and a ruler, and a hand held low level calculator. ...

Comments on elements used in this model

Page ii.

We now take the steps of walking reader through the elements used in this presentation

PLAN ONE -- TABOOS OF 1ST, 2ND, AND 3RD ADJACENT CHANNELS:

NO LOCAL NEW STATIONS WITHIN ANY OF THESE CHANNELS IN BOXES

Frequency (in megahertz) is the carrier frequency of stations involved.

Area local call is the call letter of station which is located in the market.

3rd. Adj. Channel is the third plus or minus from the local station's carrier

it operates on a frequency of 600 kilohertz from this carrier.

2nd. Adj Channel is the second plus or minus from the local station's carrier

it operates on a frequency of 400 kilohertz from this carrier.

1st Adj Channel is the first (or immediate closest) channel to the local station

carrier frequency and operates on 200 kilohertz from this carrier.

Co-channel is the same channel or frequency that the local station uses.

Note in the box under co channel is located the call letters of station involved.

Note column is used for the number showing the location of the channel versus

The local station's carrier frequency: ,2 , or 3.

Unavailable column is used for 1st adjacent channel or co channel info.

A zero indicates it is the co channel of local station...

Open column indicates that there is no station in the area in question

In this case 100 miles. Commentor agrees that Commission is now utilizing

Kilometers -- 160 kilometers = 100 miles, however for sake of often occurring

Mind set, the mile is used herein... No comment editorially is implied.

PLAN TWO -- WITH TABOOS RELAXED NEW STATIONS TO BE CONSIDERED FOR ALL BUT CO AND FIRST ADJACENT CHANNEL TO EXISTING STATION(S).

Further elaboration of terms and items used in this presentation:

Classes of station pertain to the existing station and its class as determined by the

Federal Communications Commission.:

A	6 kilowatts	100 meters	coverage area of 17.4 miles (protected)
C3	25 kilowatts	100 meters	24.2
C2	50 kilowatts	150 meters	32.3
C1	100 kilowatts	300 meters	44.7
C	100 kilowatts	600 meters	57.2

Distance miles is the site in question that of commentor's KTXN-FM from

The existing station , or in three instances, or a site for a rulemaking for

A new station. Distance cleared is the distance in miles from site that the Protected contour falls.

The new proposed low power FM stations are in four categories. 1 to 10 Watts which have a coverage radius of 1.96 miles, and are required to Have a 6.34 miles from this contour for a co channel station of like power To be located, while the first adjacent channel can be located at 2.75 miles Away. The respective 100 watt, and next page 500 and 1000 watts are Described in the same way. Under the co-channel box of 6.34 --for exam Ple of 10 watts is a "Y", which indicates that this channel can be used on The tower of KTXN, while a N indicate there is none possible on this frequency On the tower. The large boxes with call letters and designation of local and the Call letters indicate the guard band for the local stations where no duplications Can exist. The frequency in the last column is a frequency that can be used on The tower in question...for example 88.1 and up to 100 watts can be used on The KTXN tower.

PLAN ONE -- TABOOS AND THEIR AFFECTS ON POTENTIAL NEW ALLOCATIONS.

PAGE III.

This is the more restrictive of the plans considered, for it requires that a guard band around local stations of three channels to the minus and three to the positive be left vacant from the use of stations--either existing, existing wishing to change frequencies or facilities, or new considerations of rulemakings--as this one is. This means to the average potential station owner or low power devotee that the following rules apply for finding a frequency for the proposed station. KTXN FM operates on 98.7 megahertz with a tower of 77 meters and 100 kilowatts. Thus no new station proposal -- according to this plan -- can be located in the area that is bounded by various signal levels of KTXN; precisely

It means that you will have to be outside the 60 dbu contour of this station to consider the co channel of 98.7, then outside the same contour with your proposed 54 dbu contour which is based upon the commission's standards for a first adjacent channel station -- here on 98.5 or 98.9, then here is the contention of the Mass Media Docket 99-25. The petitioner, who wishes to do away with the second and third adjacent channel taboos, says that there is no interference caused to the existing station from stations on these channels. Presently the Federal Communications Commission says you are still not clear for that new low power station, for you have to clear the 60 dbu contour of KTXN for your 80 dbu contour -- which goes out to about two miles, for the second adjacent channel and then clear again the existing KTXN 60 DBU CONTOUR WITH THE PROPOSED 100 Dbu contour, which can go out sometimes to 1.5 miles. If it can be shown that there is no interference on the radio one uses for a receiver, then there just might be a new group of low power stations on the second and third adjacent channels... Well maybe! For there is one theory in electronics that states that a given existing station --KTXN AT 98.7 -- will mix with other frequencies to cause interference to another third station... Tibiletti finds this to be real. In Corpus Christi, KRYS operates on 99.1, while KSAV operates on 99.9. When one multiplies two times 99.1 and then takes away the frequency of the second station, namely 99.9, the resultant frequency of 98.3 is blanked out around the transmitter of KSAV. COMMENTOR WISHES TO CALL ATTENTION OF COMMISSION TO THIS PHENOMENON IN LOW POWER DELIBERATIONS..

**PLAN TWO -- TABOOS AND THEIR AFFECTS ON POTENTIAL NEW
ALLOCATIONS. RELAXATION OF SECOND AND THIRD
ADJACENT CHANNEL TABOOS**

PAGE IV.

This is the lessor restrictive of the plans considered, for it requires that a guard band around local stations of three channels to the minus and three to the positive be open for the use of stations--either existing, existing wishing to change frequencies or facilities, or new considerations of rulemakings--as this one is--be relaxed to only consideration of the co-channel and the first adjacent channel on the minus and the positive sides. This means to the average potential station owner or low power devotee that the following rules apply for finding a frequency for the proposed station. KTXN FM operates on 98.7 megahertz with a tower of 77 meters and 100 kilowatts. Thus no new station proposal -- according to this plan -- can be located in the area that is bounded by various signal levels of KTXN; precisely

It means that you will have to be outside the 60 dbu contour of this station to consider the co channel of 98.7, then outside the same contour with your proposed 54 dbu contour which is based upon the commission's standards for a first adjacent channel station -- here on 98.5 or 98.9. Should the Mass Media Docket MM-99-25 be allowed to stand as new rulemaking the second and third adjacent channel taboos would be simply ignored, Supposedly there will be no interference caused to the existing station from stations on these channels. Then the Federal Communications Commission standards as they will amend will says you are now clear for that new low power station, for you have cleared the 60 dbu contour of KTXN for your co channel 40 dbu 10 per cent contour , and for the 54 dbu 10 per cent contour for your proposed second adjacent channel. Here is where the question still is to be answered. For your new proposed 80 dbu contour, which can go out sometimes to 1.5 miles and the 100 dbu contour still may interfere on radios and then what will be required remains a mystery. Will one be able to filter out the signal? . If it can be shown that there is no interference on the radio one uses for a receiver, then there just might be a new group of low power stations on the second and third adjacent channels...Well maybe! For there is one theory in electronics that states that a given existing station --KTXN AT 98.7 -- will mix with other frequencies to cause interference to another third station... Tibiletti finds this to be real. In Corpus Christi, KRYS operates on 99.1, while KSAV operates on 99.9. When one multiplies two times 99.1 and then takes away the frequency of the second station, namely 99.9, the resultant frequency of 98.3 is blanked out around the transmitter of KSAV. COMMENTOR WISHES TO CALL ATTENTION OF COMMISSION TO THIS PHENOMENON IN LOW POWER DELIBERATIONS..

In looking at the enclosed tabular presentation, one finds that there are checks and "y" under the co channel for everything from 10 watts to 1000 watts. The explanation is this. The channel is fitted from the lowest power first to the highest power, thus if a channel can be used for a 1000 watt station, there are checks in the 10 watt, 100 watt, 500 watt and the 1000 watt boxes, several channels are not available for this high power-- for example 96.3 can be used for powers up to 10 watts only..

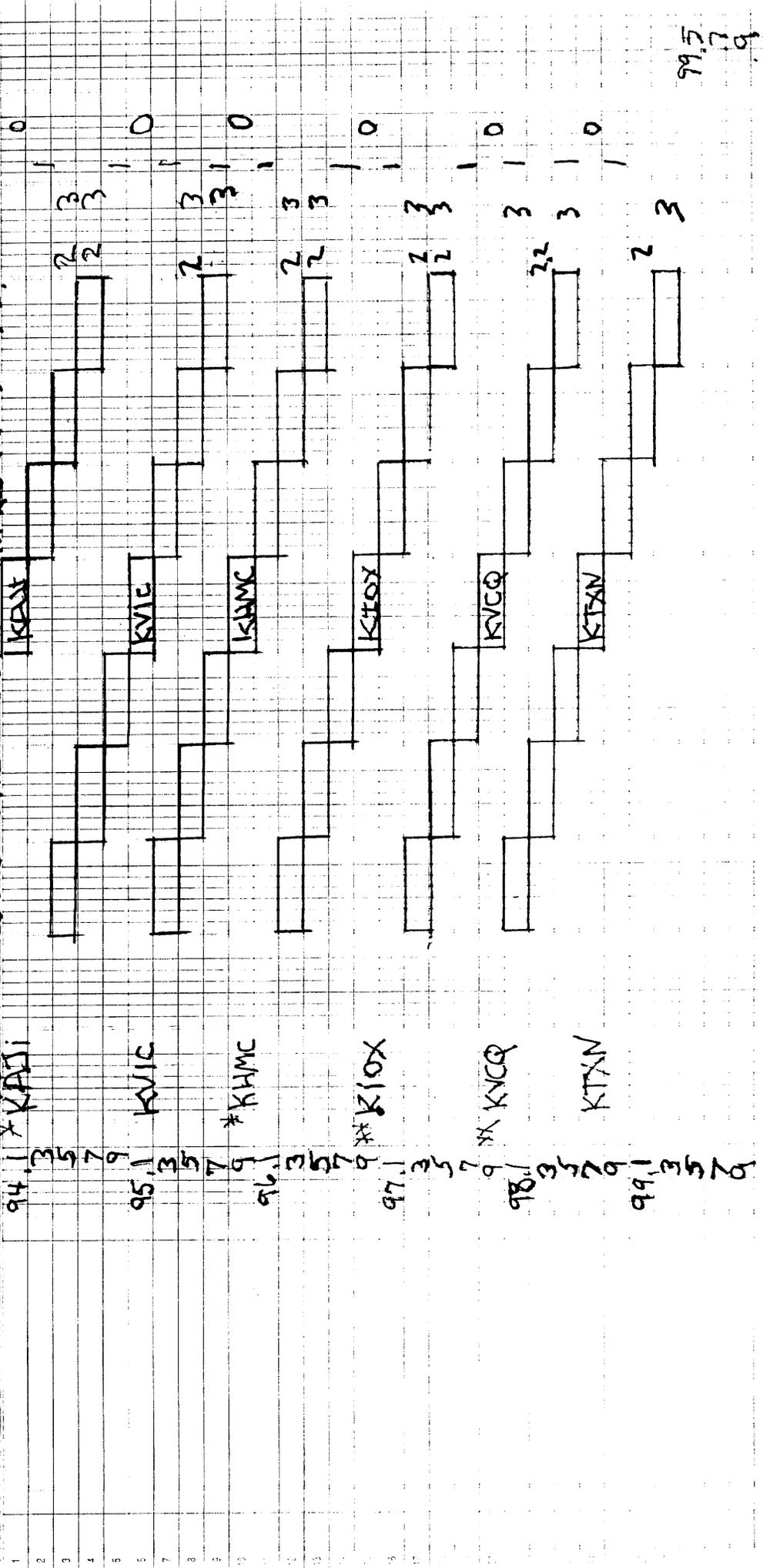
The low power stations of 10 watts and under have been around for quite a while, however the Federal Communications Commission, in order to better utilize the broadcast spectrum ordered the 10 watt educational stations to increase their operating power to 100 watts. There are number of 10 watt stations in the armed forces overseas bases. There are a number of them in Canada, where it is licensed as very low power FM radio and are now being used to supplant the all but extinct 40 watt AM translators located at the Canadian National Railway stations..

60 DBU
60 DBU

NOTE USE OPEN

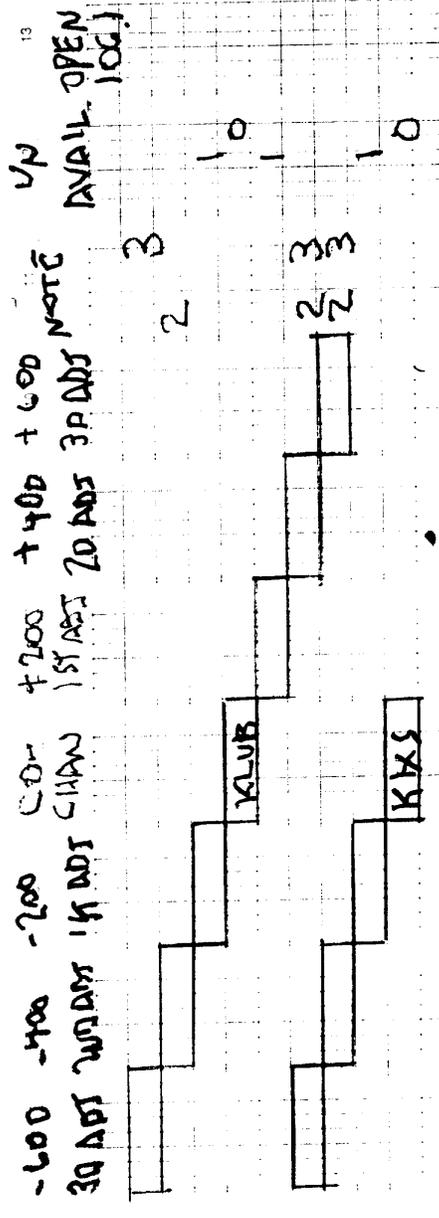
600 -400 -200 CO- 7200 H100 1600
30 APR 29 APR 15R D05 CHAN 15R AD5 2ND D05 30 ADT,

AREA
LOCAL
CALL



99.5
99.7
99.9

AREA LOCALS
 LOCALS
 LOCALS
 FRED
 MAZ
 106.1 35.2
 107.1 35.2



5

TTD

class of station---		distance		distance		1-10 watt		100 watt	
A6	C3	C2	C1	60 dbu	40 dbu	54 dbu	60 dbu	40 dbu	54 dbu
distance to protected in miles		60 dbu, miles		protected co-channel, miles		protected co-channel, miles		protected co-channel, miles	
17.4	24.2	32.3	44.7	57.2	1.96	4.34	3.5	11.35	4.96

Approved by
Approved by

12

13

MHz	Class	Station	Distance to Protected (miles)	60 dbu Protected (miles)	40 dbu Protected (miles)	54 dbu Protected (miles)	100 watt Protected (miles)	Notes
88.1	A	WAZ	54	23.8	4.34	3.5	11.35	LOCAL KAYK
89.1	A	KXBI	3	40.6	4.34	3.5	11.35	LOCAL KXBI
90.1	X	KURT	32	40.8	4.34	3.5	11.35	LOCAL KURT
91.1	X	NEW 91.5	50	40.8	4.34	3.5	11.35	LOCAL NEW 91.5
92.1	A	KVLT	30	20.6	4.34	3.5	11.35	LOCAL KVLT
93.1	A	KPLY	17	34.3	4.34	3.5	11.35	LOCAL KPLY
94.1	A	KDAS	79	34.3	4.34	3.5	11.35	LOCAL KDAS

88.1 WAZ
 89.1 KXBI
 90.1 KURT
 91.1 NEW 91.5
 92.1 KVLT
 93.1 KPLY
 94.1 KDAS

381
 88.9
 89.7
 90.3
 91.1
 91.9
 92.7
 92.9
 93.7
 94.3

GRAND RE-CAPITULATION

NOTES

87113C BUFB 67113C GREEN

PLAN ONE

TABOOS OPEN CHANNELS
 CO-SH-1ST 2ND BRD 100T
 UNPAVED 1-10 100W STROW 1000W
 LOC 2 4 3 OPEN

PLAN TWO

TABOOS
 COCH 1ST

1-10W 100W 500W 1000W

EITHER 1-10 100, 1000 WATTS
 500 OR 1000 WATTS

SAME

EITHER 89.7 AND/OR 90.1
 UP TO 100 W
 EITHER 89.9 AND/OR 90.3
 UP TO 100 W
 89.8 TO 500 W

91.1 UP TO 1000 WATTS

91.9 UP TO 100 WATTS

92.7 92.9 UP TO 1000 WATTS

88 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

**MASTER FINDINGS OF PLAN ONE--CURRENT RULES-- VERSUS
PLAN TWO--RELAXATION OF GUARD BAND TO ONLY ONE
ADJACENT (OR FIRST ADJACENT CHANNEL) CHANNEL OF
PROTECTION FOR EXISTING STATIONS VERSUS NEW LOW
POWER STATIONS.**

PAGE 16.

At the cost of being non repetitive, for there is no need to be so, we go on to the findings of the two methods of allocations:

Plan one --- present fcc standards with taboos on first, second, and third adjacent channels of existing fm radio stations.

Plan two --- relaxation of the taboos on second and third adjacent channels.

PLAN ONE

Reader is best sent to the page 16 of tabular text to find the results of the two methods of allocations... One rule was used throughout...If a frequency could be used for a low power, it was then attempted to fit it with the next higher level of power. Several did not go all the way from 10 watts to 1000 watts. There are 11 usable open frequencies for 1 to 1000 watts , none being in the educational band of the spectrum-- that is 88.1 to 107.9 megahertz. Now one must determine if other limitations are there. The answer is positive. A number of these frequencies are located adjacent to each other, and can not be used simultaneously, thus the eleven is reduced to three separate simultaneous frequencies -- again none in the educational portion of the band.

PLAN TWO

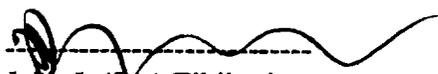
With the relaxation of second and third adjacent channel taboos in place the numbers opened up and there were some 55 usable 10 watt dial positions, 8 of which were in the educational portion of the band, of this 55 reduced to 47 , the field was reduced from 47 to 42 as the cut was made from 100 watts to 500 watts, the educational fared no better as there were 8 for 100 watts and 3 for 500 watts who survived to 1000 watts., however this was not all usable channels at the same time and thus the number of simultaneous usable Channels was reduced to 24 for 10 watts, 24 for 100 watts, and 21 for 500 watts and 1000 watts, the educational found openings for 6 10 watters, 6 for 100 watters, 3 for 500 watters, and 3 for 1000 watters. Now reading this more carefully, if 21 were used at Maximum power of 1000 watts, there was space for only 3 who could operate at power up to 100 watts, while the educational band had 3 who could operate with 1000 watts, and 3 who could operate with up to 500 watts.

The assumption has been made that section 73.215 -- directional negotiated facilities -- would not be utilized, nor any variation in polarization from horizontal only, to vertical only to circular. There are possible sites where terrain might shield, but not here in Victoria, Texas where the terrain is to most visitors flat as a pancake.

Due to the fact that the market is close to the Gulf of Mexico, and its attendant higher wave refraction and dispersion --see VHF television channel locations and allocations along the coast which are spaced co-channel at 220 miles versus the 190 for inland stations! -- wave usable distance increased over other areas --it is quite possible interference would be a much greater part in what stations facilities could be allocated and finally find their way to the air.... Also there will have to be a number of stations with smaller coverage areas, for example a 10 watt and 30 meters goes 1.96 miles to its protected 60 dbu, while a 100 watt on the same tower would go 3.51 miles, a 500 watt with the 60 meter height would go 7.46 miles and the 1000 watt would max out with 8.8 miles of coverage. KTXN has a permit for a 1000 foot tower and is in the process of promoting a community antenna farm, a number of these stations might have to find lesser valued transmission sites as their coverage would dictate central location in the city.

Submitted

November 5, 1999



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for self and as President and
chief stockholder of
Radio Station KTXN-FM
Victoria, Texas

SOUND ENGINEERING

AFTERTHOUGHTS

In Standard Broadcasting or AM Radio

AFTER reviewing the whole tabular project, its whole fifteen plus pages and all, it comes as no surprise that the demon interference would show up in the final presentation. It does only as an afterthought. For years in the early days of standard broadcasting allocations and new stations, one could receive a grant that would receive and cause interference to up to ten per cent of the population and/or area within a .5 mv/m or protected contour. As a result whole counties of low population lost service to metropolitan stations ...several good examples were on the local channels of 1230, 1240, 1340, 1400, 1450, and 1490 where overlaps and duos of signal were commonplace. In the case of WOAI, 1200 San Antonio, a new station then called KLIF in Dallas on 1190 caused interference to whole massive county populations in north Texas because of the high populations of San Antonio and Dallas. This practice today in standard broadcast applications is no longer tolerated. In one recent case in Texas, an existing station on the standard broadcast band waited one year to object to a new proposal on an adjacent channel that would on paper at least cause interference to its protected daytime contour--with all territory in question a part of a dam, while another application along the Texas coast was dismissed because of interference -- overlaps of the protected contours of proposed and existing station -- occurred on an island in the Gulf of Mexico.

In Frequency Modulation Radio or FM

While the Commission has specifically stated that interference to ten per cent of the population within the 60 dbu protected contour would be allowed for some of the low Power stations, I strongly oppose any such for it tends to bring down the sound and thus the apparent service of FM stations, which were started as a superior sound to the then standard broadcast band. I feel confusion would also occur as listeners would not know what the reason their station was not receivable without any degradation. However, there are exceptions : a number of stations in Canada interfere overlap U.S. stations over the surface of the Great Lakes.

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