

Section V-B - FM BROADCAST ENGINEERING DATA	FOR COMMISSION USE ONLY File No. _____ ASB Referral Date _____ Referred by _____
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Name of Applicant

Family Stations, Inc.

Call letters *(if issued)*

Is this application being filed in response to a window? Yes No

If Yes, specify closing date: N/A

Purpose of Application: *(check appropriate boxes)*

- | | |
|--|---|
| <input checked="" type="checkbox"/> Construct a new (main) facility | <input type="checkbox"/> Construct a new auxiliary facility |
| <input type="checkbox"/> Modify existing construction permit for main facility | <input type="checkbox"/> Modify existing construction permit for auxiliary facility |
| <input type="checkbox"/> Modify licensed main facility | <input type="checkbox"/> Modify licensed auxiliary facility |

If purpose is to modify, indicate below the nature of change(s) and specify the file number(s) of the authorizations affected.

- | | |
|---|---|
| <input type="checkbox"/> Antenna supporting-structure height | <input type="checkbox"/> Effective radiated power |
| <input type="checkbox"/> Antenna height above average terrain | <input type="checkbox"/> Frequency |
| <input type="checkbox"/> Antenna location | <input type="checkbox"/> Class |
| <input type="checkbox"/> Main Studio location | <input type="checkbox"/> Other <i>(Summarize briefly)</i> |

File Number(s) BPED-890815MC

1. Allocation:

Channel No. 215	Principal community to be served:			Class <i>(check only one box below)</i>			
	City Bakersfield	County Kern	State CA	<input type="checkbox"/> A	<input type="checkbox"/> B1	<input checked="" type="checkbox"/> B	<input type="checkbox"/> C3
				<input type="checkbox"/> C2	<input type="checkbox"/> C1	<input type="checkbox"/> C	<input type="checkbox"/> D

2. Exact location of antenna.

(a) Specify address, city, county and state. If no address, specify distance and bearing relative to the nearest town or landmark.

10 miles east of Shafter, 6 miles north of Oildale & .92 miles each of Hwy 65, Kern County, CA

(b) Geographical coordinates (to nearest second). If mounted on element of an AM array, specify coordinates of center of array. Otherwise, specify tower location. Specify South Latitude or East Longitude where applicable; otherwise, North Latitude or West Longitude will be presumed.

Latitude ° ' "	Longitude ° ' "
35 30 53	119 03 41

3. Is the supporting structure the same as that of another station(s) or proposed in another pending application(s)? Yes No

If Yes, give call letter(s) or file number(s) or both.

KKXX (FM)

If proposal involves a change in height of an existing structure, specify existing height above ground level including antenna, all other appurtenances, and lighting, if any.

N/A

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4. Does the application propose to correct previous site coordinates?
If Yes, list old coordinates.

Yes No

Latitude <u> 0 </u> N/A	Longitude <u> 0 </u>
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5. Has the FAA been notified of the proposed construction?
If Yes, give date and office where notice was filed and attach as an Exhibit a copy of FAA determination, if available.

Yes No

Exhibit No. N/A

Date September 1990 Office where filed Western-Pacific Regional Ofc

6. List all landing areas within 8 km of antenna site. Specify distance and bearing from structure to nearest point of the nearest runway.

Landing Area	Distance (km)	Bearing (degrees True)
(a) <u>Oildale</u>	<u>8.0</u>	<u>176°</u>
(b) _____	_____	_____

7. (a) Elevation: *(to the nearest meter)*

- (1) of site above mean sea level; 256.0 meters
- (2) of the top of supporting structure above ground (including antenna, all other appurtenances, and lighting, if any); and 138.0 meters
- (3) of the top of supporting structure above mean sea level [(aX1) + (aX2)] 394.0 meters

(b) Height of radiation center: *(to the nearest meter)* H = Horizontal; V = Vertical

- (1) above ground 91.0 meters (H)
- 91.0 meters (V)
- (2) above mean sea level [(aX1) + (bX1)] 347.0 meters (H)
- 347.0 meters (V)
- (3) above average terrain 140.0 meters (H)
- 140.0 meters (V)

8. Attach as an Exhibit sketch(es) of the supporting structure, labelling all elevations required in Question 7 above, except item 7(bX3). If mounted on an AM directional-array element, specify heights and orientations of all array towers, as well as location of FM radiator.

Exhibit No. E1

9. Effective Radiated Power:

(a) ERP in the horizontal plane 9.0 kw (HM) 9.0 kw (VM)

(b) Is beam tilt proposed? Yes No

If Yes, specify maximum ERP in the plane of the tilted beam, and attach as an Exhibit a vertical elevational plot of radiated field.

Exhibit No. N/A

N/A kw (HM) N/A kw (VM)

*Polarization

SECTION V-B - FM BROADCAST ENGINEERING DATA (Page 3)

10. Is a directional antenna proposed?

Yes No

Exhibit No.
N/A

If Yes, attach as an Exhibit a statement with all data specified in 47 C.F.R. Section 73.316, including plot(s) and tabulations of horizontally and vertically polarized radiated components in terms of relative field.

11. Will the main studio be located within the 70 dBu or 3.16 mV/m contour?

Yes No

Exhibit No.
N/A

If No, attach as an Exhibit justification pursuant to 47 C.F.R. Section 73.1125.

12. Are there: (a) within 60 meters of the proposed antenna, any proposed or authorized FM or TV transmitters, or any nonbroadcast (except citizens band or amateur) radio stations; or (b) within the blanketing contour, any established commercial or government receiving stations, cable head-end facilities, or populated areas; or (c) within ten (10) kilometers of the proposed antenna, any proposed or authorized FM or TV transmitters which may produce receiver-induced intermodulation interference?

Yes No

Exhibit No.
E2

If Yes, attach as an Exhibit a description of any expected, undesired effects of operations and remedial steps to be pursued if necessary, and a statement accepting full responsibility for the elimination of any objectionable interference (including that caused by receiver-induced or other types of modulation) to facilities in existence or authorized or to radio receivers in use prior to grant of this application. (See 47 C.F.R. Sections 73.315(b), 73.316(d) and 73.318.)

13. Attach as an Exhibit a 7.5 minute series U.S. Geological Survey topographic quadrangle map that shows clearly, legibly, and accurately, the location of the proposed transmitting antenna. This map must comply with the requirements set forth in Instruction D for Section V. Further, the map must clearly and legibly display the original printed contour lines and data as well as latitude and longitude markings, and must bear a scale of distance in kilometers.

Exhibit No.
E3

14. Attach as an Exhibit (name the source) a map which shows clearly, legibly, and accurately, and with the original printed latitude and longitude markings and a scale of distance in kilometers:

Exhibit No.
E4

- (a) the proposed transmitter location, and the radials along with profile graphs have been prepared;
- (b) the 1 mV/m predicted contour and, for noncommercial educational applicants applying on a commercial channel, the 3.16 mV/m contour; and
- (c) the legal boundaries of the principal community to be served.

15. Specify area in square kilometers (1 sq. mi. = 2.59 sq. km.) and population (latest census) within the predicted 1 mV/m contour.

Area 3929 sq. km. Population 297,226

16. Attach as an Exhibit a map (Sectional Aeronautical charts where obtainable) showing the present and proposed 1 mV/m (60 dbu) contours.

Exhibit No.
E4

Enter the following from Exhibit above: Gain Area 0 sq. mi.
Loss Area 3184 sq. mi.

Percent change (gain area plus loss area as percentage of present area) 44.8 %.
If 50% or more this constitutes a major change. Indicate in question 2(c), Section I, accordingly.

17. For an application involving an auxiliary facility only, attach as an Exhibit a map (Sectional Aeronautical Chart or equivalent) that shows clearly, legibly, and accurately, and with latitude and longitude markings and a scale of distance in kilometers:

Exhibit No.
N/A

(a) the proposed auxiliary 1 mV/m contour; and

(b) the 1 mV/m contour of the licensed main facility for which the applied-for facility will be auxiliary. Also specify the file number of the license. See 47 C.F.R. Section 73.1675. (File No.: N/A)

18. Terrain and coverage data (to be calculated in accordance with 47 C.F.R. Section 73.313).

Source of terrain data: (check only one box below)

Linearly interpolated 30-second database 7.5 minute topographic map

(Source: EDX Engineering, Inc.)

Other (briefly summarize)

Radial bearing (degrees True)	Height of radiation center above average elevation of radial from 3 to 16 km (meters)	Predicted Distances to the 1 mV/m contour (kilometers)
0	102.7	31.4
45	38.7	19.5
90	75.1	27.1
135	111.1	32.6
180	191.8	41.1
225	221.3	43.5
270	205.2	42.2
315	176.4	39.7

Allocation Studies
(See Subpart C of 47 C.F.R. Part 73)

19. Is the proposed antenna location within 320 kilometers (199 miles) of the common border between the United States and Mexico?

Yes No

If Yes, attach as an Exhibit a showing of compliance with all provisions of the Agreement between the United States of America and the United Mexican States concerning Frequency Modulation Broadcasting in the 88 to 108 MHz band.

Exhibit No.
N/A

SECTION V-B - FM BROADCAST ENGINEERING DATA (Page 5)

20. Is the proposed antenna location within 320 kilometers of the common border between the United States and Canada?

Yes No

If Yes, attach as an Exhibit a showing of compliance with all provisions of the Working Agreement for Allocation of FM Broadcasting Stations on Channels 201-300 under The Canada-United States FM Agreement of 1947.

Exhibit No.
N/A

21. If the proposed operation is for a channel in the range from channel 201 through 220 (88.1 through 91.9 MHz), or if this proposed operation is for a class D station in the range from Channel 221 through 300 (92.1 through 107.9 MHz), attach as an Exhibit a complete allocation study to establish the lack of prohibited overlap of contours with other U.S. stations. The allocation study should include the following:

Exhibit No.
E5

- (a) The normally protected interference-free and the interfering contours for the proposed operation along all azimuths.
- (b) Complete normally protected 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) Plot of the transmitter location of each station or proposal requiring investigation, with identifying call letters, file numbers and operating or proposed facilities.
- (f) When necessary to show more detail, an additional allocation study will be attached utilizing a map with a larger scale to clearly show interference or absence thereof.
- (g) A scale of kilometers and properly labeled longitude and latitude lines, shown across the entire Exhibit(s). Sufficient lines should be shown so that the location of the sites may be verified.
- (h) The name of the map(s) used in the Exhibit(s).

22. With regard to any stations separated by 53 or 54 channels (10.6 or 10.8 MHz) attach as an Exhibit information required in 1/ (*separation requirements involving intermediate frequency (i.f.) interference*).

Exhibit No.
E5

23.(a) Is the proposed operation on Channel 218, 219, or 220?

Yes No

(b) If the answer to (a) is yes, does the proposed operation satisfy the requirements of 47 C.F.R. Section 73.207?

Yes No

N/A

(c) If the answer to (b) is yes, attach as an Exhibit information required in 1/ regarding separation requirements with respect to stations on Channels 221, 222 and 223.

Exhibit No.
N/A

(d) If the answer to (b) is no, attach as an Exhibit a statement describing the short spacing(s) and how it or they arose.

Exhibit No.
N/A

1/ A showing that the proposed operation meets the minimum distance separation requirements. Include existing stations, proposed stations, and cities which appear in the Table of Allotments; the location and geographic coordinates of each antenna, proposed antenna or reference point, as appropriate; and distance to each from proposed antenna location.

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(e) If authorization pursuant to 47 C.F.R. Section 73.215 is requested, attach as an Exhibit a complete engineering study to establish the lack of prohibited overlap of contours involving affected stations. The engineering study must include the following:

Exhibit No.
N/A

- (1) Protected and interfering contours, in all directions (360°), for the proposed operation.
- (2) Protected and interfering contours, over pertinent arcs, of all short-spaced assignments, applications and allotments, including a plot showing each transmitter location, with identifying call letters or file numbers, and indication of whether facility is operating or proposed. For vacant allotments, use the reference coordinates as transmitter location.
- (3) When necessary to show more detail, an additional allocation study utilizing a map with a larger scale to clearly show prohibited overlap will not occur.
- (4) A scale of kilometers and properly labeled longitude and latitude lines, shown across the entire exhibit(s). Sufficient lines should be shown so that the location of the sites may be verified.
- (5) The official title(s) of the map(s) used in the exhibits(s).

24. Is the proposed station for a channel in the range from Channel 201 to 220 (88.1 through 91.9 MHz) and the proposed antenna location within the distance to an affected TV Channel 6 station(s) as defined in 47 C.F.R. Section 73.525?

Yes No

If Yes, attach as an Exhibit either a TV Channel 6 agreement letter dated and signed by both parties or a map and an engineering statement with calculations demonstrating compliance with 47 C.F.R. Section 73.525 for each affected TV Channel 6 station.

Exhibit No.
E6

25. Is the proposed station for a channel in the range from Channel 221 to 300 (92.1-107.9 MHz)?

Yes No

If Yes, attach as an Exhibit information required in 1/. (Except for Class B (secondary) proposals.)

Exhibit No.
N/A

26. Environmental Statement (See 47 C.F.R. Section 1.1301 et seq.)

Would a Commission grant of this application come within Section 1.1307 of the FCC Rules, such that it may have a significant environmental impact?

Yes No

If you answer Yes, submit as an Exhibit an Environmental Assessment required by Section 1.1311.

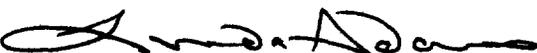
Antenna to be mounted on existing

communications tower. See Exhibit E7 for rf radiation exposure limit compliance.

Exhibit No.
N/A

CERTIFICATION

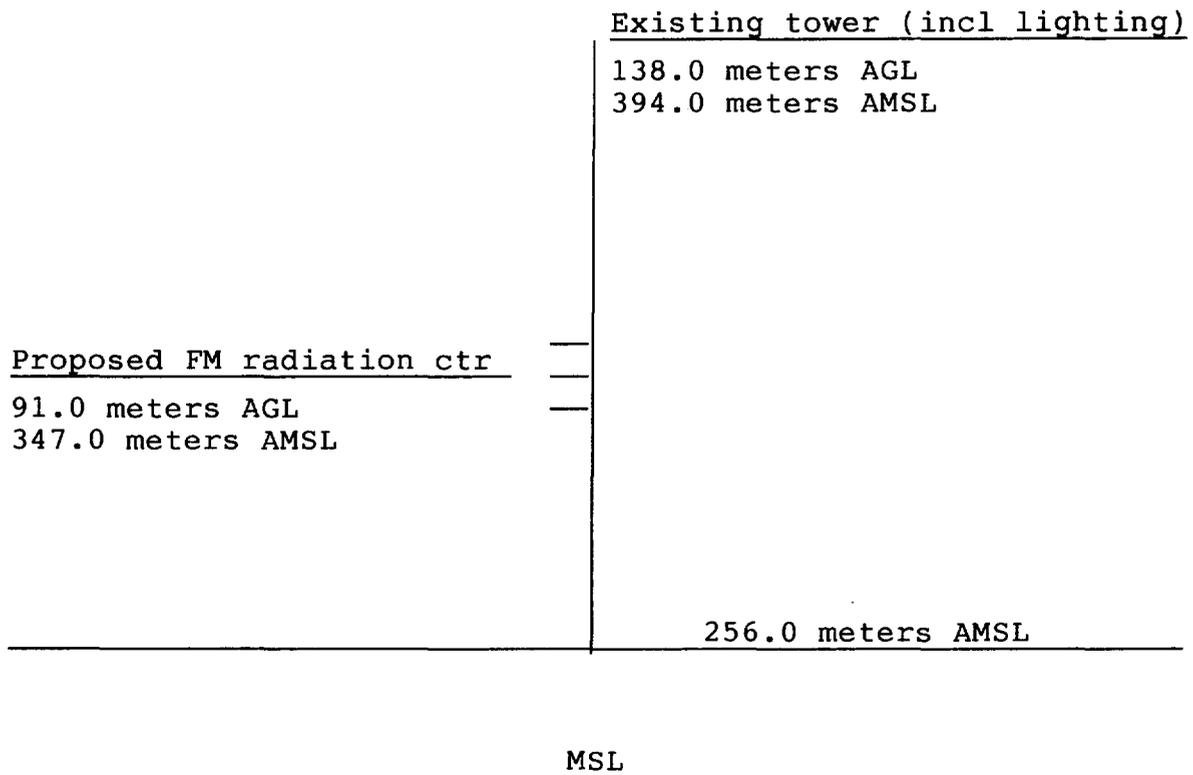
I certify that I have prepared this Section of this application on behalf of the applicant, and that after such preparation, I have examined the foregoing and found it to be accurate and true to the best of my knowledge and belief.

Name (Typed or Printed) Linda Adams	Relationship to Applicant (e.g., Consulting Engineer) Technical Consultant
Signature 	Address (Include ZIP Code) 3108 Fulton Ave. Sacramento, CA 95821
Date September 27, 1990	Telephone No. (Include Area Code) (916) 481-8191

Family Stations, Inc.
New FM, Bakersfield, CA

EXHIBIT E1

SEP 1990



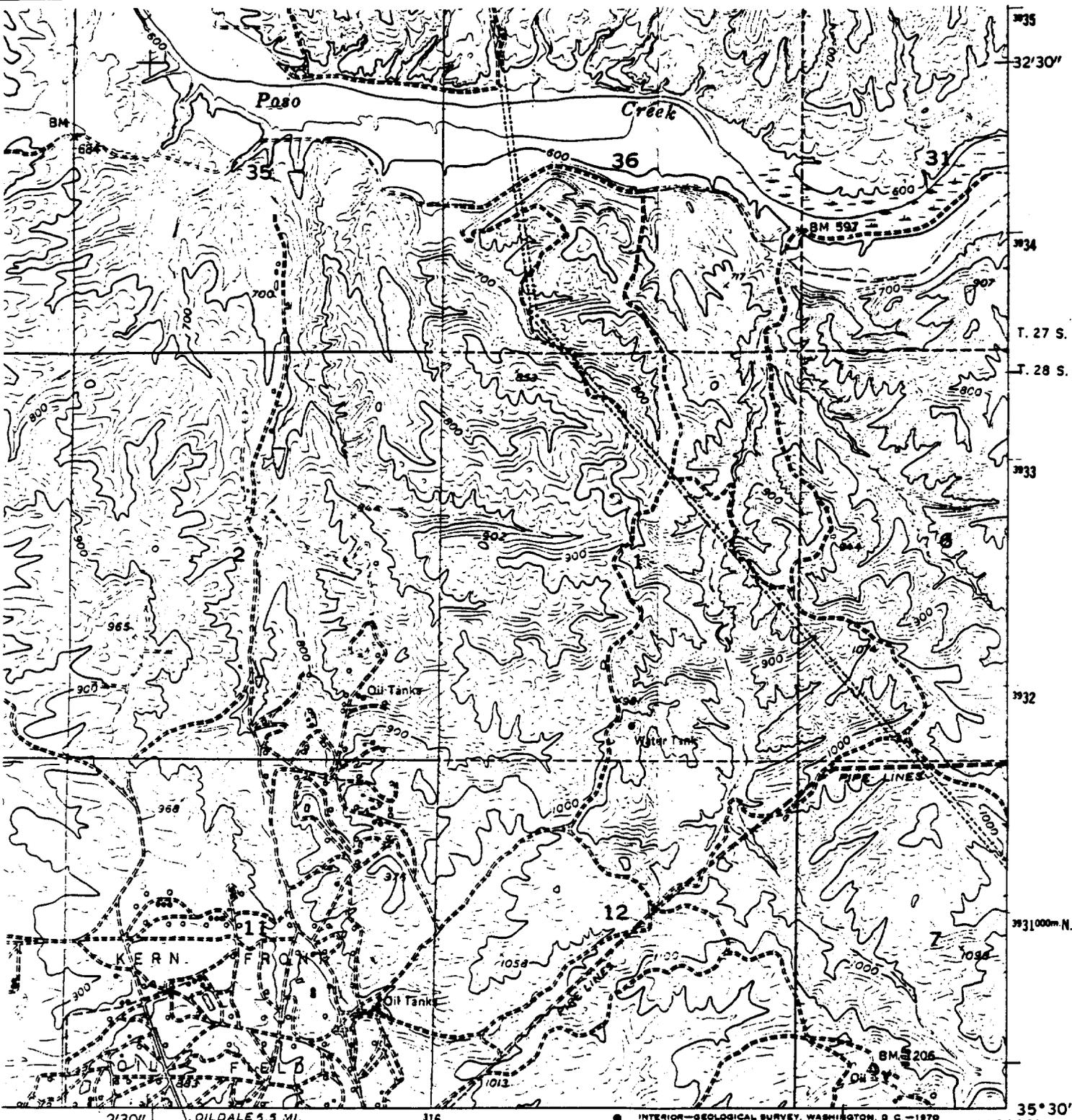
NOT TO SCALE

Family Stations, Inc.
New FM, Bakersfield, CA

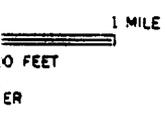
EXHIBIT E2

SEP 1990

The proposed FM will be located at an existing communications site utilized by one other broadcast station, KKXX (FM). No interference as referenced in Item 12, Section V-B is anticipated, however, the Applicant will assume full responsibility for the elimination of such interference, if it occurs.



INTERIOR—GEOLOGICAL SURVEY, WASHINGTON, D. C.—1970
 317 R. 27 E. R. 28 E. 119°00' E



ROAD CLASSIFICATION

- Heavy-duty
- Medium-duty
- Light-duty
- Unimproved dirt
- State Route



NORTH OF OILDALE, CALIF.
 SE/4 SLATER 15' QUADRANGLE
 N 3530 — W 11900/7.5

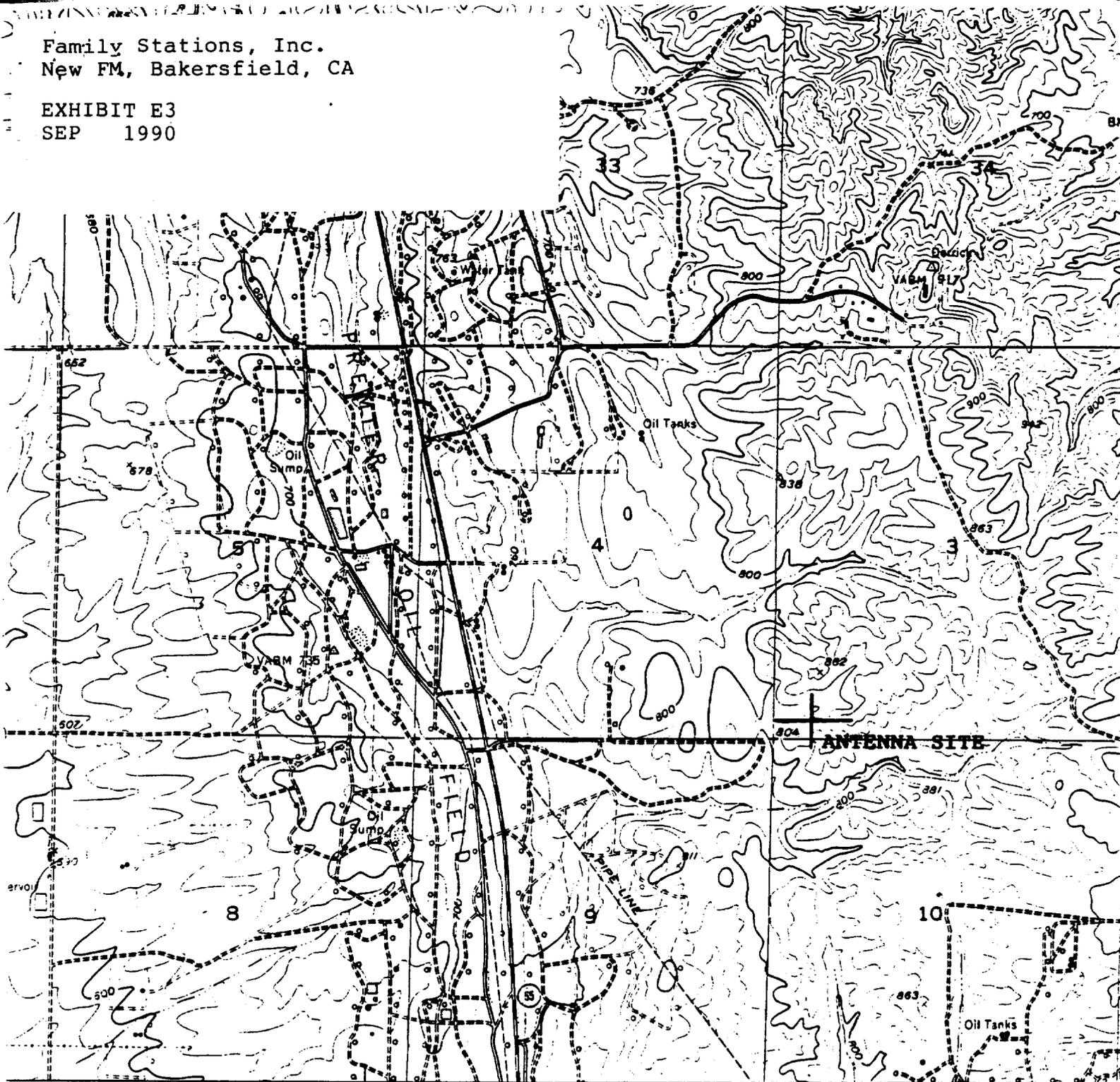
1954
 PHOTOREVISED 1968
 AMS 2135 II SE—SERIES V895

ION, D. C 20242
 UEST

OIL CENTER
 225 N NW

Family Stations, Inc.
New FM, Bakersfield, CA

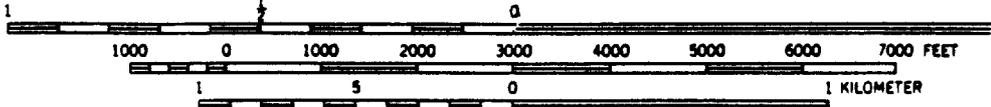
EXHIBIT E3
SEP 1990



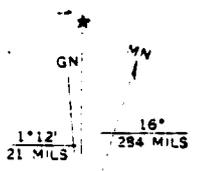
14.8 MI. TO CALIF. 99
BAKERSFIELD 10 MI.

(OILDALE)
2154 1 NE

SCALE 1:24 000



Methods



UTM GRID AND 1968 MAGNETIC NORTH
DECLINATION AT CENTER OF SHEET

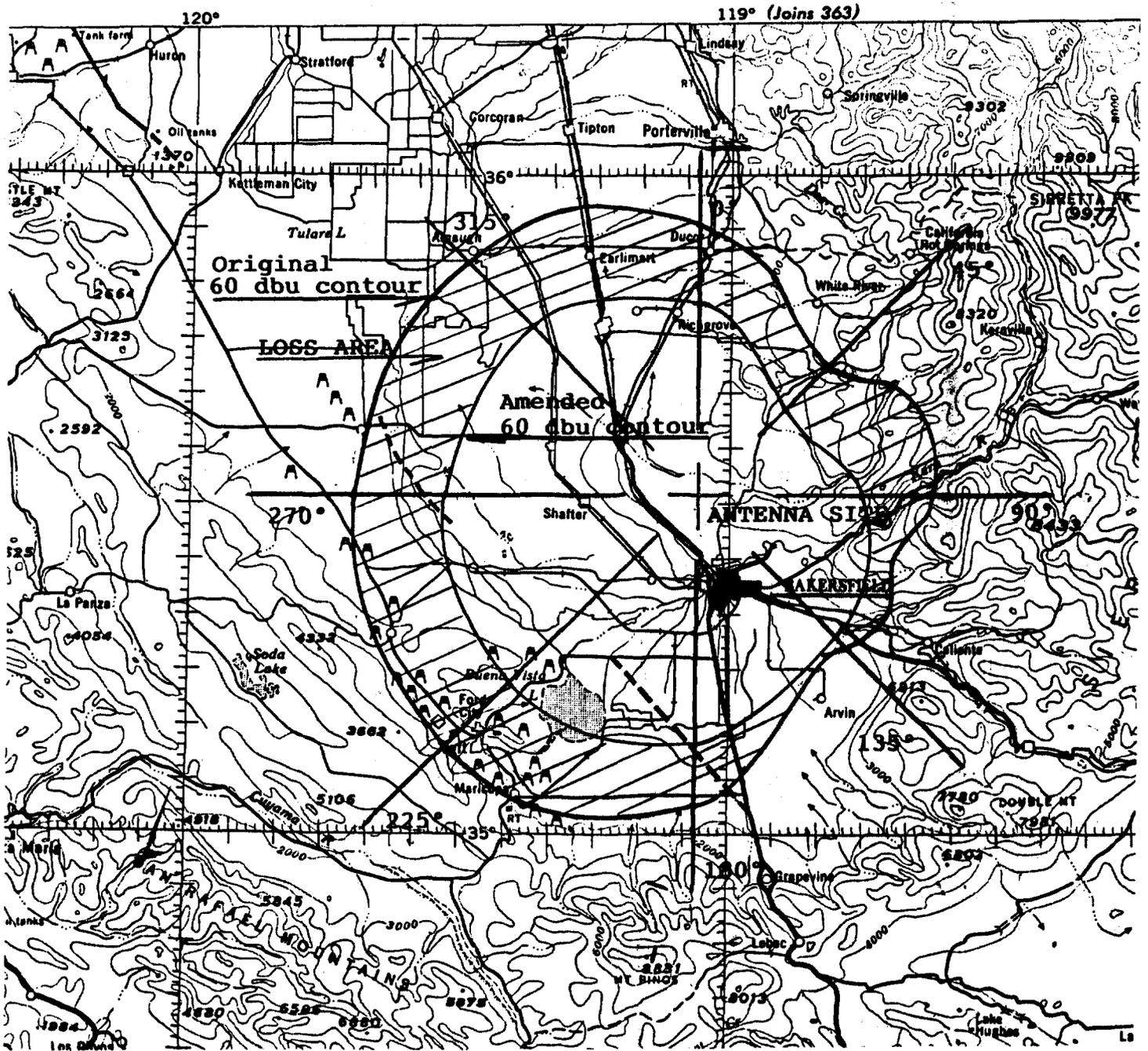
CONTOUR INTERVAL 20 FEET
DATUM IS MEAN SEA LEVEL

THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS
FOR SALE BY U. S. GEOLOGICAL SURVEY, DENVER, COLORADO 80225, OR WASHINGTON, D. C.
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST

Family Stations, Inc.
 New Educational FM
 Bakersfield, CA

EXHIBIT E4

SEP 1990



Kilometers	0	10	20	30	40	50	60	70	80	90	100
Nautical Miles	0	10	20	30	40	50	60	70	80	90	100
Statute Miles	0	10	20	30	40	50	60	70	80	90	100

Family Stations, Inc.
New FM, Bakersfield, CA

EXHIBIT E5
SEP 1990

The proposed FM meets the minimum distance separation requirements with regard to co-channel, first, second, and third adjacent stations (channels 2 - 218). The only station that has less than 20 km clearance beyond the separation requirement is KPFK, licensed to Los Angeles, CA, File N BLKDS90425AF. Pertinent technical information is listed below, including the distances to KPFK's contours along with the corresponding contours of the proposed FM, as shown on the attached map, Exhibit E5(a). As is indicated on the map, the point at which either KPFK's or the proposed FM's interference contours come the closest still have at least 1 km of clearance. However, the Commission's staff finds that minor overlap still exists between the proposed FM's 60 dbu contour and KPFK's 54 dbu contour due to different methods of calculating the HAAT's and distances to contours, the Applicant here requests a waiver of the Commission's rules regarding received interference, the area would be extremely minimal, much less than the allowed 10% of the proposed FM's 60 dbu contour, and would contain little if any population because of the agricultural nature of the area.

Geographical coordinates: 34-13-45 / 118-04-03

ERP: 110.0 KW

HAAT (avg): 863.0 meters

Actual separation distance from proposed FM: 122.8 km

KPFK

Proposed FM

<u>Bearing</u>	<u>HAAT</u>	<u>60 dbu</u>	<u>54 dbu</u>	<u>Bearing</u>	<u>HAAT</u>	<u>60 dbu</u>	<u>54 dbu</u>
315	541.7	90.3	134.7	130	102.4	31.3	48.6
316	532.3	89.8	134.1	140	121.3	33.8	51.9
317	516.4	88.8	132.8	141	123.3	34.0	52.2
318	496.1	87.6	130.9	142	125.7	34.3	52.5
319	476.4	86.3	128.8	143	127.7	34.5	52.8
320	461.7	85.3	126.9	144	129.6	34.7	53.0
321	452.6	84.7	125.8	145	131.1	34.9	53.2
322	448.2	84.3	125.3	146	132.6	35.0	53.4
323	447.3	84.3	125.2	147	134.1	35.2	53.7
324	448.8	84.4	125.4	148	135.6	35.4	53.9
325	454.2	84.8	126.0	149	137.0	35.5	54.0
326	467.7	85.7	127.7	150	139.0	35.7	54.3
327	486.0	86.9	129.8	160	159.7	38.0	57.1
328	503.8	88.1	131.7	170	175.8	39.6	59.3
329	514.7	88.7	132.7	180	191.8	41.1	61.3
330	519.8	89.0	133.1	190	198.9	41.5	61.9
340	560.1	91.2	135.8				

(1)

Exhibit E5 (cont)

The proposed FM also meets the minimum distance separation requirements with regard to stations separated by 53 or 54 channels (CH 268 & 269). The only station with less than 15 km clearance beyond the separation requirements is KGFM, Channel 268 B, licensed to Bakersfield, CA, File No. BLH449. Pertinent technical information is as follows:

Geographical coordinates: 35-26-20 / 118-44-23

Actual distance: 30.4 km

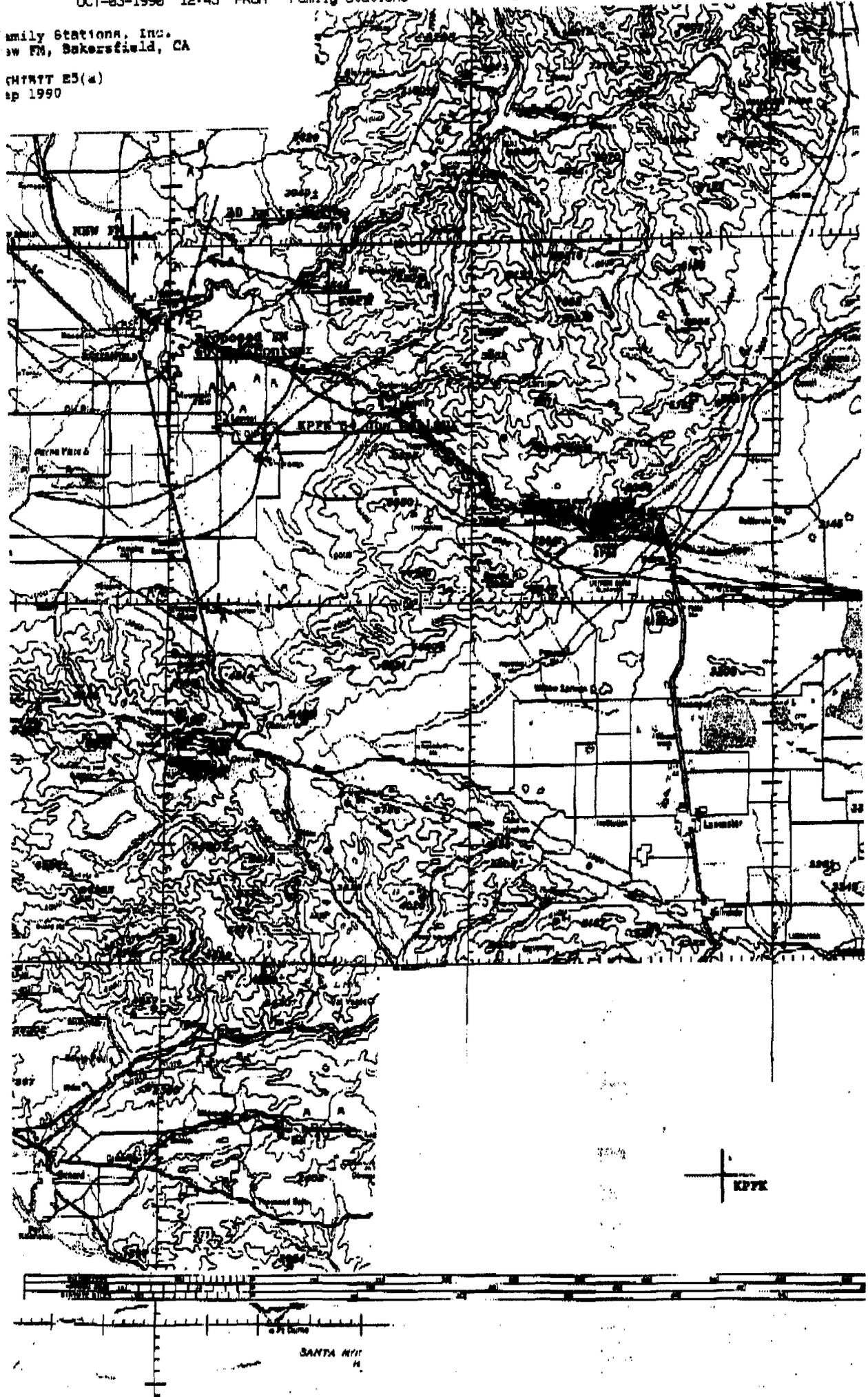
Required distance: 20.0 km

Clear: 10.4 km

(2)

Family Stations, Inc.
New FM, Sakersfield, CA

(MTRTT E5(a)
sp 1990



Family Stations, Inc.
New FM, Bakersfield, CA

EXHIBIT E6
SEP 1990

CH 6 TV within the 180 km required study distance:

KSBY-TV (Lic) San Luis Obispo, CA
Geographical coordinates: 35-21-37 / 120-39-17
ERP: 100 KW
HAAT (avg): 542.5 meters
HAAT (83 deg.): 473.3 meters
47 dbu contour (83 deg.): 118.1 km

U/D ratio for CH 6 - 47 dbu contour: 27.0 db

Proposed FM at 263 deg. - ERP: 9 KW
HAAT: 208.1 meters
80 dbu contour: 14.7 km
(CH 6 - 47 dbu contour & U/D ratio of 27 db,
plus 6 db for TV receiving antenna directivity)

Actual distance: 145.7 km
Required distance: 132.8 km
Clear: 12.9 km

Family Stations, Inc.
New FM, Bakersfield, CA

EXHIBIT E7
SEP 1990

KKXX (FM) operates with a combined H&V ERP of 70.8 KW using a 6-b antenna. The proposed FM will have a combined H&V ERP of 18 KW, with a 3-b antenna. KKXX's radiation center is 128.0 meters above ground, and the proposed FM's radiation center will be 91.0 meters above ground.

Per the FCC OST Bulletin No. 65, Appendix B, Table 1, an antenna with combined H&V ERP of 88.8 KW (KKXX and the proposed FM), for a worst case estimate, would be required to be a minimum of 54.4 meters above ground. The lowest bay of the proposed FM's antenna will be at the 88.0 meters above ground level, 33.6 meters above the minimum height required for both F combined, the rf radiation at ground level will not exceed the AN requirements.

(4)