

RADIO ADMINISTRATION
FCC REGULATORY INFORMATION
ESTABLISHING A RURAL RADIO STATION
PREPARATION OF FCC FORM 401

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1. GENERAL

Purpose

1.01 This Practice gives instructions for preparing FCC Form 401, which is an application requesting FCC authority for the construction and modification of rural radio stations. It is a companion to Practice 400-522-100 which covers general information relative to establishing a rural radio station and Practice 400-522-103 which gives instructions for preparing applications for operation of a rural radio station (FCC Form 403). Local instructions (usually in the 400-5 Division) may have been issued and, if so, should be consulted for specific procedures for preparing applications in a particular company or area.

1.02 This Practice is reissued to make minor corrections and to update information changed as a result of revised FCC application requirements. Revision arrows are used to emphasize the more significant changes.

Applicable FCC Rules

1.03 The Rural Radio Service is one of the five types of radio services included in the Domestic Public Radio Services and is governed

by Part 21 of the FCC Rules and Regulations. It is governed specifically by Subpart H and generally by Subparts A, B, C, D, and E (of Part 21). All Domestic Public Radio Services are further governed by general Parts 0, 1, 2, 13, and 17 and by applicable portions of Part 25.

Note: In this Practice, "FCC" is used to denote the FCC Rules and Regulations. For example, FCC 21.15 refers to paragraph 15 of Part 21 of the FCC Rules and Regulations. In correspondence with the FCC, however, where reference is made to a specific section of the Rules, the proper phrasing is, e.g., "pursuant to § 21.15 of the Commission's Rules."

Description

1.04 There are three common types of rural radio stations: Central Office Station, Interoffice Station, and Rural Subscriber Station. In addition, Relay and Private Line Stations may be authorized under certain circumstances. (See FCC 21.2, 21.600, and 21.601.)

Arrangement of Text

1.05 Each of the following parts in this Practice gives instructions for the preparation of a particular type of application required for the construction or modification of a rural radio station. For applications requiring the use of an FCC form (termed "formal applications"), step-by-step instructions are given for responding to the numbered "Items" on the form and for otherwise completing the application. Where appropriate, reference is made to the portion of the FCC Rules and Regulations or other instruction which is

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Bell System except under written agreement

pertinent to the particular part of an application being discussed.

1.06 To illustrate the preparation of the types of applications covered in these instructions, examples of each type have been reproduced and included as figures. Portions of both actual and hypothetical applications have been used for these examples. The responses given in the examples have a gray background to avoid confusion with the printing on the actual application. Encircled numerical notations have been placed on the examples to indicate the paragraph(s) of this Practice which discusses the item so marked. In addition, to make the referenced paragraph stand out, gray shading has been used as a background for the paragraph headings.

1.07 In formal applications, the response given for one item on the associated form must frequently agree with the responses given for several other items. To show this correlation, a complete application is used as the main example accompanying the instructions for each type of formal application. However, while the answers on these examples are appropriate for the specific set of circumstances for which they were prepared, different answers would be required for some items under different conditions or because of the operating practices of a particular company. Where practical, therefore, examples showing alternative answers have been included. For situations which are beyond the scope of these instructions and for which assistance is required, refer to local instructions or appropriate lines of organization.

1.08 Formal applications may be submitted on reproduced copies of the FCC form specified, provided that they are *exact* copies of the original. They must be printed on 8 by 10-1/2 inch paper, must be printed on the same number of sides as the original, and must be reproduced by some high quality process, such as photo-offset. It is also possible to preprint such copies with universally applicable information, such as the address of the applicant and corporate and tariff information. See Practice 400-522-100 and local instructions for information about the number of copies required and to whom they should be sent.

1.09 The notation "DNA" (does not apply) is used in examples in this Practice where a specific reply is not required to an item. The notation "NA" (not applicable) may also be used. When

"DNA" or "NA" is used, a footnote should be included on the margin of the application stating "*DNA—Does not apply" or "*NA—Not applicable." This has the advantage of providing an entry for each item, reduces the likelihood of omitting a required entry through oversight, and will standardize notations for computerization.

2. CONSTRUCTION PERMIT FOR NEW STATION

General Information

2.01 An application for a construction permit (CP) for a new rural radio station must be a formal application and must be submitted on the most recent issue of FCC Form 401.

2.02 The main example used to illustrate appropriate entries on the form was prepared for a new rural subscriber—fixed station constructed at Richmond, California. In addition, portions of applications for a new central office station near Santa Rosa, California, and a new interoffice station near Alleghany, California, are included.

Note: The examples shown in the following paragraphs are intended to illustrate the methods of preparing the particular FCC forms and accompanying exhibits and are *not* to be used as a recommendation for engineering design, equipment types, or arrangements.

2.03 A completed application for a given station consists of an FCC Form 401 with responses made to all items, associated exhibits, and a completed FCC Form 714. (See Practice 400-550-102 for instructions for preparing Form 714.)

2.04 Special attention should be given to the information required by FCC 21.13(a)(6), 21.15(c), and 21.15(h) where applicable.

Preparation of FCC Form 401

2.05 At the top center of each page (six pages), enter "NEW STATION" and the proposed location, including the state in which the station will be located. "NEW STATION" indicates that a call sign has not yet been assigned to the station and is consistent with the manner in which the FCC will list the station until a call sign has been assigned. If the proposed location is within a city or town, show the name of the city or town. If the station will be located on a mountain, lake, or

other landmark shown on a standard U.S. Geological Survey map or aeronautical chart, the name of this landmark may be shown. If not located within a city or town or on a recognized landmark, show "Near" followed by the name of the nearest town or city. The location shown should be consistent with the location shown in response to Item 5 of FCC Form 401. (See Fig. 1 and 2.)

2.06 At the top center of each exhibit, enter the official company name, "RURAL RADIO SERVICE," and the station location (used in paragraph 2.05). An exhibit title, such as "Proposed Antenna Structure," and the station's street address may be added as appropriate (Fig. 3 and 4).

2.07 Near the top right corner of each exhibit, enter "FCC FORM 401" and the exhibit number as shown in Fig. 3 and 4.

2.08 Exhibits should be numbered consecutively in the order in which the need for exhibits arises during the step-by-step preparation of FCC

Form 401. The first exhibit should always be the environmental statement as required by FCC 21.13(e). See E.L. 3654 for instructions on providing an environmental statement. Polar diagrams, antenna sketches, and maps (prepared in response to Items 18, 20, and 24, respectively) must be submitted as separate exhibits with each bearing its own exhibit number. With regard to answers to other items, the FCC has accepted answers for two or more items on the same exhibit where space permits. The item to which each response pertains should be clearly identified.

2.09 Item 1. Enter the official corporate name of the company (spelled out in full) and the address to which the FCC should mail the approved authorization. In companies where applications are filed by the company headquarters, the address of the company headquarters should be shown. In companies whose areas have been authorized to file applications, the address of the area headquarters may be used (Fig. 5, 6, and 7). (Refer to the company's local instructions for the correct procedure.)

NEW STATION NEAR ALLEGHANY, CALIFORNIA **2.05**

FCC Form 401 January 1967	Form Approved Budget Bureau No. 52-R043.17	DO NOT WRITE IN THIS BLOCK
FEDERAL COMMUNICATIONS COMMISSION Washington, D. C. 20554		File No. Call Sign
APPLICATION FOR NEW OR MODIFIED COMMON CARRIER RADIO STATION CONSTRUCTION PERMIT UNDER PARTS 21 AND 25		of radio service in which applied for: Rural
1. Name and Post Office address of Applicant (Give street, city, state and Zip Code) (See Instruction No. 1)		

Fig. 1—Page 1—Construction Permit—New Station

NEW STATION, RICHMOND, CALIFORNIA		2.05
FCC FORM 401		Page 2
10. Location of Control Point(s) 1/2/ DNA		16. Do Proposed radio facilities contemplate multiplex type of transmission? 1/
Number and Street		
City or Town	State	
Placed in an inoperative condition from		
		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If authorization for the channelizing equipment has previously been granted by the Commission, or is being requested under separate application, specific reference thereto should be made herein Channelizing equipment

Fig. 2—Page 2—Construction Permit—New Station

FCC FORM 401		2.07
EXHIBIT NO. 2		
THE PACIFIC TELEPHONE AND TELEGRAPH COMPANY RURAL RADIO SERVICE NEW STATION, RICHMOND, CALIFORNIA		2.06

Fig. 3—Exhibit—Company Name—Rural Radio Service—New Station

FCC FORM 401		2.07
EXHIBIT NO. 6		
THE PACIFIC TELEPHONE AND TELEGRAPH COMPANY RURAL RADIO SERVICE NEW STATION, RICHMOND, CALIFORNIA PROPOSED ANTENNA STRUCTURE		2.06

Fig. 4—Exhibit—Company Name—Rural Radio Service—Proposed Antenna Structure

2.10 **Item 2:** Enter "Rural" on the first line of Item 2. On the second line, enter the class of station such as "Central Office—Fixed," "Interoffice—Fixed," or "Rural Subscriber—Fixed" as appropriate (FCC 21.2, 21.600, and 21.601) (Fig. 5, 6, and 7).

2.11 **Item 3:** Since the application requests authority to construct a new radio station for which the FCC has not as yet issued any authorization, check "New facility" (Fig. 5, 6, and 7).

2.12 **Item 4:** Enter "DNA" (Fig. 5, 6, and 7).

2.13 **Item 5:** Enter the exact location of the proposed antenna structure (Fig. 8, 9, and 10).

(a) If located in a city or town, enter the name of the city or town in the space provided. If not located within a city or town, leave that space blank.

FCC Form 401 January 1967 FEDERAL COMMUNICATIONS COMMISSION Washington, D. C. 20554 APPLICATION FOR NEW OR MODIFIED COMMON CARRIER RADIO STATION CONSTRUCTION PERMIT UNDER PARTS 21 AND 25		Form Approved Budget Bureau No. 52-R043.17 DO NOT WRITE IN THIS BLOCK	
1. Name and Post Office address of Applicant (Give street, city, state and Zip Code) (See Instruction No. 6)		File No. _____ Call Sign _____	
The Pacific Telephone and Telegraph Company 140 New Montgomery Street San Francisco, California 94105		2. Name of radio service in which authorization is applied for: Rural	
2.09		2.10 Class of station: Central Office - Fixed	
4. Nature of Proposed Changes/Modifications: <u>DNA</u>		3. Application for:	
<input type="checkbox"/> Change antenna system <input type="checkbox"/> Change antenna location <input type="checkbox"/> Change frequency <input type="checkbox"/> Add frequency <input type="checkbox"/> Other changes (specify)		<input checked="" type="checkbox"/> New facility and/or <input type="checkbox"/> Change in existing authorization:	
<input type="checkbox"/> Add points of communication <input type="checkbox"/> Change points of communication <input type="checkbox"/> Replace transmitter <input type="checkbox"/> Add transmitter		2.11 File No. _____ Call _____	
<input type="checkbox"/> Change power <input type="checkbox"/> Add control point <input type="checkbox"/> Change control point location <input type="checkbox"/> Change alarm center location		2.12	
ENGINEERING DATA (See Instruction 9.)			
5. Location of transmitting antenna		6. If application is for individual mobile user unit, or for mobile units other than those associated with a single permanently installed base station, or for any other	
County	State		

Fig. 5—Construction Permit—Central Office—Fixed

FCC Form 401 January 1967 FEDERAL COMMUNICATIONS COMMISSION Washington, D. C. 20554 APPLICATION FOR NEW OR MODIFIED COMMON CARRIER RADIO STATION CONSTRUCTION PERMIT UNDER PARTS 21 AND 25		Form Approved Budget Bureau No. 52-R043.17 DO NOT WRITE IN THIS BLOCK	
1. Name and Post Office address of Applicant (Give street, city, state and Zip Code) (See Instruction No. 6)		File No. _____ Call Sign _____	
The Pacific Telephone and Telegraph Company 140 New Montgomery Street San Francisco, California 94105		2. Name of radio service in which authorization is applied for: Rural	
2.09		2.10 Class of station: Interoffice - Fixed	
4. Nature of Proposed Changes/Modifications: <u>DNA</u>		3. Application for:	
<input type="checkbox"/> Change antenna system <input type="checkbox"/> Change antenna location <input type="checkbox"/> Change frequency <input type="checkbox"/> Add frequency <input type="checkbox"/> Other changes (specify)		<input checked="" type="checkbox"/> New facility and/or <input type="checkbox"/> Change in existing authorization:	
<input type="checkbox"/> Add points of communication <input type="checkbox"/> Change points of communication <input type="checkbox"/> Replace transmitter <input type="checkbox"/> Add transmitter		2.11 File No. _____ Call _____	
<input type="checkbox"/> Change power <input type="checkbox"/> Add control point <input type="checkbox"/> Change control point location <input type="checkbox"/> Change alarm center location		2.12	
ENGINEERING DATA (See Instruction 9.)			
5. Location of transmitting antenna		6. If application is for individual mobile user unit, or for mobile units other than those associated with a single permanently installed base station, or for any other	
County	State		

Fig. 6—Construction Permit—Interoffice—Fixed

FCC Form 401 January 1967		Form Approved Budget Bureau No. 52-R043.17		DO NOT WRITE IN THIS BLOCK	
FEDERAL COMMUNICATIONS COMMISSION Washington, D. C. 20554 APPLICATION FOR NEW OR MODIFIED COMMON CARRIER RADIO STATION CONSTRUCTION PERMIT UNDER PARTS 21 AND 25				File No.	Call Sign
1. Name and Post Office address of Applicant (Give street, city, state and Zip Code) (See Instruction No. 6)			2.09	2. Name of radio service in which authorization is applied for: <u>Rural</u>	
The Pacific Telephone and Telegraph Company 140 New Montgomery Street San Francisco, California 94105				Class of station: <u>Rural Subscriber - Fixed</u>	
4. Nature of Proposed Changes/Modifications: <u>DNA</u>			2.12	3. Application for: <input checked="" type="checkbox"/> New facility	
<input type="checkbox"/> Change antenna system <input type="checkbox"/> Change antenna location <input type="checkbox"/> Change frequency <input type="checkbox"/> Add frequency <input type="checkbox"/> Other changes (specify)				<input type="checkbox"/> Change in existing authorization: File No. Call	
<input type="checkbox"/> Add points of communication <input type="checkbox"/> Change points of communication <input type="checkbox"/> Replace transmitter <input type="checkbox"/> Add transmitter				<input type="checkbox"/> Change power <input type="checkbox"/> Add control point <input type="checkbox"/> Change control point location <input type="checkbox"/> Change alarm center location	
ENGINEERING DATA (See Instruction 9.)					
Location of transmitting antenna State			6. If application is for individual mobile user unit, or for mobile units other than those associated with a single permanently installed base station, or for any other class of station at temporary locations, show area of operation. (See instruction 9-A(b)).		

Fig. 7—Construction Permit—Rural Subscriber—Fixed

ENGINEERING DATA (See Instruction 9.)										
5. Location of transmitting antenna						6. If application is for individual mobile user unit, or for mobile units other than those associated with a single permanently installed base station, or for any other class of station at temporary locations, show area of operation. (See instruction 9-A(b)).				
City or Town		County		State		DRA 2.14				
		<u>Sonoma</u>		<u>California</u>						
Exact antenna location (street address) (If in area not designated by street, give distance and direction from, and name of nearest town)										
<u>7 Miles NE of Santa Rosa</u>										
Geographic coordinates (to be determined in nearest second)						2.13				
North Latitude			West Longitude							
<u>38 29 42</u>			<u>122 36 23</u>							
7. Particulars of operation of the proposed station (See Instruction 9(a) & (d))										
(a) Frequency (MHz)	(b) Emission Designator	(c) Transmitter Power (Watts)		(d) Modulating Frequency (cycles/sec.)	(e) (For Telegraph Type Emissions) Emission Transmission Speed (words)	(f) (Check One) Polarization Plane of Radiated Signal		(g) Azimuth of Radio Path (True Bearing)	(h) Length of Radio Path	(i) Points of Communication
		Input	Output			Vertical	Horizontal			
<u>454.65</u>	<u>16E3</u>		<u>36</u>	<u>3000</u>				<u>291.00</u>	<u>54.7</u>	<input type="checkbox"/> <u>SECONDA</u> <input type="checkbox"/> <u>TRUCH, NEAR</u> <input type="checkbox"/> <u>WAGES</u> <input type="checkbox"/> <u>SPRING</u> <input type="checkbox"/> <u>CALIFORNIA</u> <input type="checkbox"/> <u>(New Sta.)</u>
										2.15

Fig. 8—Engineering Data—Santa Rosa

ENGINEERING DATA (See Instruction 9.)

5. Location of transmitting antenna			6. If application is for individual mobile user unit, or for mobile units other than those associated with a single permanently installed base station, or for any other class of station at temporary locations, show area of operation. (See instruction 9-A(b)).							
City or Town	County	State								
	Sierra	California								
Exact antenna location (street address) (If in area not designated by street, give distance and direction from, and name of nearest town)										
0.6 Miles SW of Alleghany 2.13			DNA 2.14							
Geographic coordinates (to be determined in nearest second)										
North Latitude		West Longitude								
39° 27' 48"		120° 50' 52"								
7. Particulars of operation of the proposed station (See Instruction 9(a) & (d))										
(a) Frequency (MHz)	(b) Emission Designator	(c) Transmitter Power (Watts)		(d) Maximum Modulating Frequency (cycles/sec.)	(e) (For Telegraph Type Emissions) Maximum Transmission Speed (words)	(f) (Check One) Polarization Plane of Radiated Signal		(g) Azimuth of Radio Path (True Bearing)	(h) Length of Radio Path	(i) Points of Communication
154.55	5089	Input	Output	11,000	-	Vertical	Horizontal	213° 00'	10.22 mi	SANTA CRUZ, CALIFORNIA
								0		California
								0		New York

Fig. 9—Engineering Data—Alleghany

ENGINEERING DATA (See Instruction 9.)

5. Location of transmitting antenna			6. If application is for individual mobile user unit, or for mobile units other than those associated with a single permanently installed base station, or for any other class of station at temporary locations, show area of operation. (See instruction 9-A(b)).							
City or Town	County	State								
Richmond	Contra Costa	California								
Exact antenna location (street address) (If in area not designated by street, give distance and direction from, and name of nearest town)										
Brooks Island, Richmond Inner Harbor 2.13			DNA 2.14							
Geographic coordinates (to be determined in nearest second)										
North Latitude		West Longitude								
37° 53' 58"		122° 21' 16"								
7. Particulars of operation of the proposed station (See Instruction 9(a) & (d))										
(a) Frequency (MHz)	(b) Emission Designator	(c) Transmitter Power (Watts)		(d) Maximum Modulating Frequency (cycles/sec.)	(e) (For Telegraph Type Emissions) Maximum Transmission Speed (words)	(f) (Check One) Polarization Plane of Radiated Signal		(g) Azimuth of Radio Path (True Bearing)	(h) Length of Radio Path	(i) Points of Communication
157.50	10P3	Input	Output	1000	-	Vertical	Horizontal	275° 00'	5.8 mi	SANTA CRUZ, CALIFORNIA
								0		California
								0		
9. By what means will the transmitter be located?										
Transmitter will be located in a locked equipment cabinet.										
* Land Receiver associated with Domestic Public Land Mobile Base Station RMA745 San Francisco, California. See Exhibit 2.										

Fig. 10—Engineering Data—Brooks Island

SECTION 400-522-101

(b) Enter the county and state in the spaces provided.

(c) In the space entitled "Exact antenna location," enter the street address. If the location has no recognized street address, enter the distance and direction from the nearest town or city. If located on or near a mountain, lake, or similar landmark shown on a standard U.S. Geological Survey map or aeronautical chart, the name of this landmark may be included if helpful.

(d) Enter the geographical coordinates, accurate to the nearest second, of latitude and longitude (Fig. 8, 9, and 10). ***If the proposed station will be located at the site of an existing station, the coordinates must agree with those shown on the current authorization for the existing station [FCC 21.15 (k)].*** This includes *any* station whether owned by the applicant company or not.

2.14 **Item 6:** Enter "DNA" (Fig. 8, 9, and 10).

2.15 **Item 7:** Enter the particulars of operation of the proposed station. The maximum authorized bandwidth of emission and the maximum authorized frequency deviation should be in accordance with FCC 21.604 (Fig. 8, 9, and 10).

(a) **Item 7(a):** List each proposed transmitting frequency. Frequency selection should be in accordance with FCC 21.601 and transmission requirements (Fig. 8, 9, and 10). If a relay station is involved, refer to local instructions for assistance.

(b) **Item 7(b):** Enter the appropriate emission designator for each frequency. The emission designator is dependent upon the maximum modulating frequency and the deviation.

(c) **Item 7(c):** Enter the output power (in watts) for each transmitting frequency (show a dash under input power). The power shown shall normally agree with that listed in the FCC Radio Equipment List, Equipment Acceptable for Licensing (commonly referred to as the Type Acceptance List) and shall be in accordance with FCC 21.107 and 21.602 (Fig. 8, 9, and 10).

(d) **Item 7(d):** Enter the maximum modulating frequency (3000 Hz for single channel

radiotelephone or tone signaling) or the appropriate frequency for multichannel operation in accordance with FCC 21.604(b) and 21.605 (Fig. 8, 9, and 10).

(e) **Item 7(e):** Enter a dash for each frequency (Fig. 8, 9, and 10).

(f) **Item 7(f):** Check horizontal polarization in all applications except rural subscriber stations communicating with base stations which may employ vertical polarization (FCC 21.110) (Fig. 8, 9, and 10).

(g) **Item 7(g):** Enter the azimuth of the radio path (accurate to the nearest minute) for each transmitted frequency (Fig. 8, 9, and 10).

(h) **Item 7(h):** Enter the path length (accurate to the nearest tenth of a kilometer) for each transmitted frequency (Fig. 8, 9, and 10).

(i) **Item 7(i):** Enter the receiver location associated with each transmitter (Fig. 8, 9, and 10).

Note: In Fig. 10, observe that the proposed antenna is oriented toward the KMA745 base station transmitting location instead of toward the receiving station location. This arrangement was required since the same antenna was used for transmitting and receiving and it was necessary to optimize the received signal at the rural subscriber station. A waiver of FCC 21.108(a) must be requested in such instances.

2.16 **Item 8:** Enter information about the proposed transmitters as follows:

(a) **Item 8(a):** Enter the number of transmitters proposed (Fig. 11, 12, and 13).

(b) **Item 8(b):** Enter the name of the manufacturer of each proposed transmitter (Fig. 11, 12, and 13).

(c) **Item 8(c):** Enter the type or model number of each proposed transmitter (Fig. 11, 12, and 13).

(d) **Item 8(d):** Enter the frequency stability of each proposed transmitter (Fig. 11, 12, and 13) (FCC 21.101).

(e) **Item 8(e):** For each proposed transmitter, enter the emission designator (Fig. 11, 12, and 13).

Note: The answers to Items 8(a) through (e) must be shown as listed in the Type Acceptance List. If the transmitters are not listed, refer to local instructions (FCC 21.120).

(f) **Item 8(f):** Enter "Fixed" for each proposed transmitter (Fig. 11, 12, and 13).

2.17 Item 9: Enter a brief statement to show what means will be provided to prevent operation of the proposed transmitters by unauthorized persons (Fig. 11, 12, and 13) [FCC 21.118(a)].

Note: The responses to Items 10 through 12 must show that the applicant will have effective operational control of the rural radio station involved. Control may be accomplished

in various ways depending on local circumstances. (Refer to FCC 21.118, 21.205, and 21.208.)

2.18 Item 10: Enter information about the station's control point as follows:

(a) For relay stations and for rural subscriber stations under switchhook control, enter "Same as transmitter" (Fig. 14) unless the equipment is remotely located, in which case the exact location must be stipulated.

(b) For central office or interoffice stations provided with the required control point, enter the location information. Normally, answer the next subitems under Item 10 "Yes" and "Continuous" (Fig. 15). If "No" and/or "Limited hours" are indicated, explain and request a waiver, if necessary.

8. Transmitters					
(a) No. of Transmitters	(b) Make of Transmitter	(c) Transmitter Type or Model No.	(d) Frequency Stability	(e) Emission Designator	(f) Class of Station
1	Parsons Electric	NP-20-250-1	0001	N	Fixed
		2.16		N	
				N	
				N	
9. By what means will the transmitter(s) be rendered inaccessible to unauthorized persons?					2.17
Transmitter will be located in a locked building					

Fig. 11—Transmitter Description—Fixed Transmitter in Locked Building

8. Transmitters					
(a) No. of Transmitters	(b) Make of Transmitter	(c) Transmitter Type or Model No.	(d) Frequency Stability	(e) Emission Designator	(f) Class of Station
2	Parinon Electric Co.	PT-50-24B7-20W-1	.0001	S	50F9
		2.16		S	
				S	
				S	
				S	

9. By what means will the transmitter(s) be rendered inaccessible to unauthorized persons?
 Transmitters will be located in a locked building. 2.17

* One transmitter used as standby.

Fig. 12—Transmitter Description—Two Fixed Transmitters—One in Standby

8. Transmitters					
(a) No. of Transmitters	(b) Make of Transmitter	(c) Transmitter Type or Model No.	(d) Frequency Stability	(e) Emission Designator	(f) Class of Station
1	General Electric	EL-20-A-5	.00025	S	6E2
	STANDBY	2.16		S	
				S	
				S	
				S	

9. By what means will the transmitter(s) be rendered inaccessible to unauthorized persons?
 Transmitter will be located in a locked equipment cabinet. 2.17

*Land receiver associated with Domestic Public Land Mobile base station KMA745, San Francisco, California. See Exhibit 2.

Fig. 13—Transmitter Description—Fixed Transmitter in Locked Equipment Cabinet

(c) Where it is not practical to provide a control point for a rural subscriber station not under switchhook control, a central office station, or an interoffice station, enter "See Exhibit ____" (Fig. 16). The exhibit must contain statements requesting a waiver, explaining why it is impracticable to provide the control point functions, and showing how the quality of transmission is subject to the supervision of responsible operating personnel. Following is a typical example of a waiver request for a central office station operating with a carrier-multiplexed radio channel:

"Applicant respectfully requests a waiver of Section 21.118(e)(1) of the Commission's Rules. The operation of this station is such that the transmitter will radiate continuously.

An alarm system will be provided to indicate any malfunction of the radio system."

(d) Private line stations for which it may be impracticable to provide either a control point or an alarm center may occasionally be encountered. Such stations usually must be handled on a case-by-case basis. (Refer to local instructions for assistance.)

2.19 **Item 11:** Enter information about the station's control point as follows:

(a) When a control point other than switchhook control will be provided, answer as shown in Fig. 15.

FCC FORM 401	
10. Location of Control Point(s) <u>1/2/</u> <u>Same as transmitter</u>	
Number and Street 2.18 (a)	
City or Town	State
Can transmitter(s) be placed in an inoperative condition from this control point? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Specify hours control point will be staffed by operating personnel <input type="checkbox"/> Continuous <input type="checkbox"/> Limited hours (specify)	
11. Describe the means by which personnel at the control point can determine when there is a deviation from the terms of the station authorization or when operation is not in accordance with the Commission's rules governing the class of station involved. <u>1/2/</u>	
<p>This station will be under same operational control as the mobile units operating with and through base station KMA745. 2.19 (c)</p>	
12. Location of Alarm Center <u>1/2/3/</u> <u>DNA</u>	
Number and Street 2.20 (a)	
City or Town	State
Can transmitter(s) be placed in an inoperative condition from this alarm center? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Specify hours alarm center will be staffed by operating personnel <input type="checkbox"/> Continuous <input type="checkbox"/> Limited hours (specify)	
13. Describe the means by which personnel at the alarm center can determine when there is a deviation from the terms of the station authorization or when operation is not in accordance with the Commission's rules governing the class of station involved. A brief description of each automatic alarm proposed to be used should be included <u>1/2/3/</u>	
<p><u>DNA</u> 2.21</p>	

Fig. 14—Control Point Location—Same as Transmitter

(b) When no control point will be provided, enter "DNA" (Fig. 16).

(c) For a rural subscriber station communicating with a domestic public land mobile (DPLM) radio station, enter an appropriate statement similar to that shown in Fig. 14.

2.20 Item 12: Enter information about the station's alarm center as follows:

(a) For rural subscriber stations communicating with DPLM stations, rural subscriber stations under switchhook control, relay stations associated

FCC FORM 401	
10. Location of Control Point(s) <u>1/2/</u>	
Number and Street 2.18 (b)	
City or Town	State
Can transmitter(s) be placed in an inoperative condition from this control point? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Specify hours control point will be staffed by operating personnel <input checked="" type="checkbox"/> Continuous <input type="checkbox"/> Limited hours (specify)	
11. Describe the means by which personnel at the control point can determine when there is a deviation from the terms of the station authorization or when operation is not in accordance with the Commission's rules governing the class of station involved. <u>1/2/</u>	
<p>Equipment in accordance with Section 21.118(a) of the FCC Rules. 2.19 (a)</p>	
12. Location of Alarm Center <u>1/2/3/</u> <u>DNA</u>	
Number and Street 2.20 (a)	
City or Town	State
Can transmitter(s) be placed in an inoperative condition from this alarm center? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Specify hours alarm center will be staffed by operating personnel <input type="checkbox"/> Continuous <input type="checkbox"/> Limited hours (specify)	
13. Describe the means by which personnel at the alarm center can determine when there is a deviation from the terms of the station authorization or when operation is not in accordance with the Commission's rules governing the class of station involved. A brief description of each automatic alarm proposed to be used should be included <u>1/2/3/</u>	
<p><u>DNA</u> 2.21</p>	

Fig. 15—Control Point Location—Santa Rosa

with such rural subscriber stations, and central office or interoffice stations provided with a control point, enter "DNA" (Fig. 14 and 15).

(b) For all other rural radio stations (except possibly private line stations), the location of the alarm center must normally be shown (Fig. 16).

Note: Alarm centers associated with rural subscriber stations will usually be at the same location as the alarm center or control point for the associated central office station.

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10. Location of Control Point(s) 1/2/ See Exhibit 3

Number and Street **2.18 (c)**

City or Town State

Can transmitter(s) be placed in an inoperative condition from this control point?
 Yes No

Specify hours control point will be staffed by operating personnel
 Continuous Limited hours (specify)

11. Describe the means by which personnel at the control point can determine when there is a deviation from the terms of the station authorization or when operation is not in accordance with the Commission's rules governing the class of station involved. 1/2/

2.19 (b)

DNA

2.20 (b & c)

12. Location of Alarm Center 1/2/3/

Number and Street
Wolf Creek, 5 miles SE of Grass Valley

City or Town State
Grass Valley California

Can transmitter(s) be placed in an inoperative condition from this alarm center?
 Yes No

Specify hours alarm center will be staffed by operating personnel
 Continuous Limited hours (specify)

13. Describe the means by which personnel at the alarm center can determine when there is a deviation from the terms of the station authorization or when operation is not in accordance with the Commission's rules governing the class of station involved. A brief description of each automatic alarm proposed to be used should be included 1/2/3/

The Alarm System will indicate:

(1) Transmitter Failure **2.21**
 (2) Receiver Failure
 (3) Power Failure

Fig. 16—Control Point Location—See Exhibit 3

(c) Answer the subitems under Item 12 as appropriate (Fig. 16).

2.21 **Item 13:** Enter "DNA" if no alarm system is furnished (Fig. 14 and 15). If an alarm system is furnished, provide a brief description of the proposed system (Fig. 16).

2.22 **Item 14:** Answer by entering "X" in the appropriate box. If answered "Yes," identify the radio facilities (Fig. 17 and 18).

14. Will radio facilities be used to connect either control point(s) or alarm center(s) to transmitter(s)? 1/2/

Yes No

If "Yes", identify radio facilities:

Control facilities will be superimposed on the radio channel proposed by this application. **2.22**

15. Applicants for individual user units should attach as Exhibit _____ the showing required by Section 21.15(i) of Part 21 (See Instruction 9(i)). 2/ 3/ DNA **2.23**

1/ If application is for individual user mobile unit, or for mobile units other than this item need NOT be answered.
2/ If application is for temporary-fixed station facilities pursuant to Section 21.15(i) of Part 21 this question need NOT be answered.

Fig. 17—Radio Used for Alarm Facilities

2.23 **Item 15:** Enter "DNA" (Fig. 17 and 18).

2.24 **Item 16:** In the appropriate space, place an "X" to indicate whether or not multiplex transmission will be used. If "Yes" is checked, include a note to indicate that (1) the circuits will be intrastate only, (2) a separate application (P-C No. _____ dated _____) was filed with the Commission for Section 214 authority for interstate circuits to be routed over this system, or (3) a separate application will be filed with the Commission for Section 214 authority for interstate circuits to be routed over this system. If it is desirable to include the note with other information in the transmittal letter, type "See transmittal letter" in the space for the note [FCC 21.604(b)] (Fig. 19).

2.25 **Item 17:** Enter the manufacturer's name and the type number of the proposed transmitting antenna. Enter the maximum antenna power gain (in decibels) over the reference half-wave dipole antenna. Make sure that the antenna characteristics conform to the requirements of FCC 21.108(b) and (c) (Fig. 20 and 21).

personnel center will be staffed by operating
 Continuous Limited hours (specify)

13. Describe the means by which personnel at the alarm center can determine when there is a deviation from the terms of the station authorization or when operation is not in accordance with the Commission's rules governing the class of station involved. A brief description of each automatic alarm proposed to be used should be included 1/ 2/ 3/

The Alarm System will indicate:
 (1) Transmitter failure
 (2) Receiver failure
 (3) Power failure

14. Will radio facilities be used to connect either control point(s) or alarm center(s) to transmitter(s)? 1/ 2/
 Yes No
 If "Yes", identify radio facilities: **2.22**

15. Applicants for individual user units should attach as Exhibit _____ the showing required by Section 21.15(i) of Part 21 (See Instruction 9(i)). 2/ 3/ **2.23**

1/ If application is for individual user mobile unit, or for mobile units other than this item need NOT be answered.
2/ If application is for temporary-fixed station facilities pursuant to Section 21.15(i) of Part 21 this question need NOT be answered.

Fig. 18—Separate Alarm Facilities

Page 2

16. Do Proposed radio facilities contemplate multiplex type of transmission? 1/
 Yes No **2.24**

If authorization for the channelizing equipment has previously been granted by the Commission, or is being requested under separate application, specific reference thereto should be made herein

Channelizing equipment proposed for intermediate requirements only.

17. Transmitting antenna 1/

Make	Type No.
Maximum antenna power gain over reference half-wave dipole antenna	
decibels	

18. Radiation characteristics of installed antenna system 1/
 Non directional in horizontal plane
 Directional in horizontal plane with center of main lobe of radiation directed _____ degrees _____ minutes clockwise from true North

Fig. 19—Use of Multiplex Transmission

17. Transmitting antenna 1/

Make	Type No.
Scala Radio Corp.	20A5-450
Maximum antenna power gain over reference half-wave dipole antenna	
2.25	
12.5 decibels	

18. Radiation characteristics of installed antenna system 1/
 Non directional in horizontal plane
 Directional in horizontal plane with center of main lobe of radiation directed _____ degrees _____ minutes clockwise from true North

* Same as Item 7(c) to the extent permitted by antenna characteristics and alignment procedures.
 Directional antenna pattern (polar diagram) showing power distribution (expressed in **2.26** power gain over a reference half-wave dipole antenna) of signal radiated in the horizontal plane is attached hereto as Exhibit No. _____

19. Antenna transmission line data 1/ 2/

Make	Type No.	Length (feet)	Total Loss (decibels)
------	----------	---------------	-----------------------

Fig. 20—Transmitting Antenna Description

17. Transmitting antenna 1/

Make	Type No.
Scala Radio Corp.	20A5-450
Maximum antenna power gain over reference half-wave dipole antenna	
2.25	
9 decibels	

18. Radiation characteristics of installed antenna system 1/
 Non directional in horizontal plane **2.26**
 Directional in horizontal plane with center of main lobe of radiation directed _____ degrees _____ minutes clockwise from true North **3.27**

* To the extent permitted by antenna characteristics and alignment procedures. See Exhibit _____
 Directional antenna pattern (polar diagram) showing power distribution (expressed in decibels of power gain over a reference half-wave dipole antenna) of signal radiated in the horizontal plane is attached hereto as Exhibit No. _____

19. Antenna transmission line data 1/ 2/

Make	Type No.	Length (feet)	Total Loss (decibels)
------	----------	---------------	-----------------------

Fig. 21—Transmitting Antenna Description—See Exhibits

2.26 **Item 18:** Provide information about the proposed antenna(s) as follows:

- (a) Normally enter "X" in the box which indicates that a directional antenna will be used. Exceptions must be handled on a case-by-case basis [FCC 21.108(a)]. The antenna normally will be oriented with the center of the major

lobe of radiation in the horizontal plane directed toward the receiving station with which it communicates. This will be approximately the azimuth shown in Item 7(g), and Item 18 would be answered as shown in Fig. 20. If not oriented on the azimuth shown in Item 7(g), a waiver of FCC 21.108(a) must be requested in an exhibit or in the transmittal letter as shown in Fig. 21 and 22.

(b) An antenna radiation pattern shall be submitted as an exhibit on letter-size (preferably 8 by 10-1/2 inch) polar coordinate paper showing the antenna power gain distribution in the horizontal plane expressed in decibels over a reference half-wave dipole antenna (Fig. 21 and 23).

2.27 ~~Item 19~~ Enter information about the transmitting antenna transmission line and associated line equipment.

(a) For comparatively simple arrangements using no line equipment, list each type of line employed showing the full name of the manufacturer, manufacturer's type number, length in feet, and loss in dB (Fig. 24 and 25). Losses should be computed to the nearest 0.1 dB. Use the latest loss figures obtainable from the manufacturer.

Note: Do not itemize or include a miscellaneous loss for connectors, etc.

(b) When diplexers, duplexers, or complicated line arrangements are involved:

(1) Enter "See Exhibit ____" in the answer space provided for Item 19, and submit a block diagram of the transmission line makeup on an exhibit similar to Fig. 22.

(2) Enter information about each type of line involved as in paragraph 2.27(a) (Fig. 24 and 25).

Note: If necessary, the manufacturer's full name may be shown on the exhibit (Fig. 22) and an abbreviated name placed in Item 19.

(3) List each item of transmission line equipment showing the full name of the manufacturer [see note following paragraph 2.27(b)(2)], manufacturer's type number, and attenuation of the transmitted signal in dB

(Fig. 24 and 25). The loss must agree with the latest information published by the manufacturer. However, if a diplexer or a duplexer is covered by the manufacturer's type acceptance number for the proposed transmitter, the loss of this equipment should not be itemized.

2.28 ~~Item 20~~ Provide information about the proposed antenna structure(s) as follows:

(a) Enter the overall height to the top of the proposed structure in feet above ground and feet above mean sea level. The heights should include any surmounted objects such as lights or lightning rods (Fig. 24 and 25).

(b) Prepare a sketch of the proposed antenna structure as an exhibit including all information specified (Fig. 26 and 27). Enter the exhibit number in the space provided (Fig. 24 and 25). While it is unnecessary to draw the sketch to exact scale, it should be neat and legible and so proportioned that all pertinent features are readily apparent. All pertinent features should be identified, including any existing portions. If antennas associated with another radio station are mounted on the same structure, these should be identified showing the station's call sign, licensee, and service [FCC 21.15(c)]. Show the overall height above mean sea level (AMSL) to the top of the structure as shown in Fig. 26 and 27. A plan view may be included showing true north and the azimuth of the proposed transmitting path and receiving point to which it is directed (Fig. 27). [Refer to FCC 21.15(a), (c), and (d).] (Also see Practice 400-550-102 for instructions pertaining to Form 714.)

(c) In cases where a receiving-only antenna structure is associated with the adjacent radio station, a copy of FCC Form 714 together with an antenna structure sketch of the proposed antenna should be included as an exhibit [FCC 21.15(d)]. The FCC will associate the lighting and marking requirements, if any, of the receive-only antenna structure with the nearest adjacent station (Fig. 25).

2.29 ~~Item 21~~ Enter "X" in the appropriate box. If Item 21 is checked "Yes," enter a reference to the antenna sketch prepared in response to Item 20. This antenna sketch will show pertinent information. (See Fig. 24 and 25.)

FCC FORM 401
EXHIBIT NO. 4

THE PACIFIC TELEPHONE AND TELEGRAPH COMPANY
RURAL RADIO SERVICE
NEW STATION, RICHMOND, CALIFORNIA

2.26

Supplementary Answer to Item 18:

3.27

The topography of the surrounding terrain is such that the common transmitter-receiver antenna of this station must be oriented towards the base transmitter of Station KMA745 for maximum received signal, as noted on Exhibit No. 6.

Therefore, it is respectfully requested that the provisions of Section 21.108(a) be waived to permit the rural subscriber station antenna to be oriented in a direction other than towards the receiving station with which it communicates.

2.27

3.28

Supplementary Answer to Item 19:

Normal mobile "push-to-talk" operation will be used at the rural subscriber station. However, in lieu of an antenna transfer relay, an external antenna duplexer unit will be used as shown below:

BLOCK DIAGRAM OF TRANSMISSION LINE ARRANGEMENT

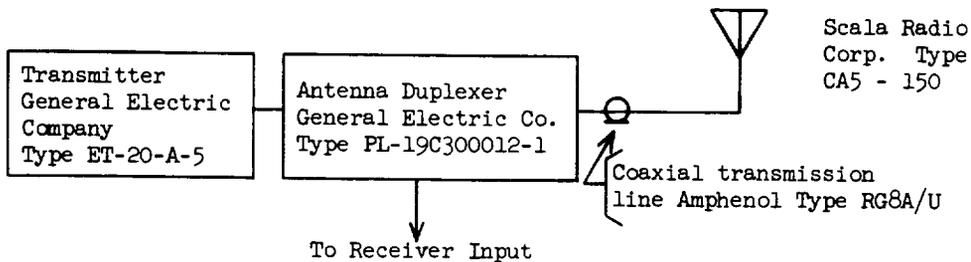


Fig. 22—Exhibit 4—Supplementary Answer to Items 18 and 19

2.30 **Item 22:** Enter the distance from the proposed antenna to the nearest runway of the closest aircraft landing area. Refer to the current Airman's Information Manual for the location of FAA-controlled airports and to the most recent

sectional aeronautical charts for military and private airports. Determine the distance by referring to the aeronautical chart on which the proposed antenna site and closest aircraft landing area are shown (Fig. 24 and 25).

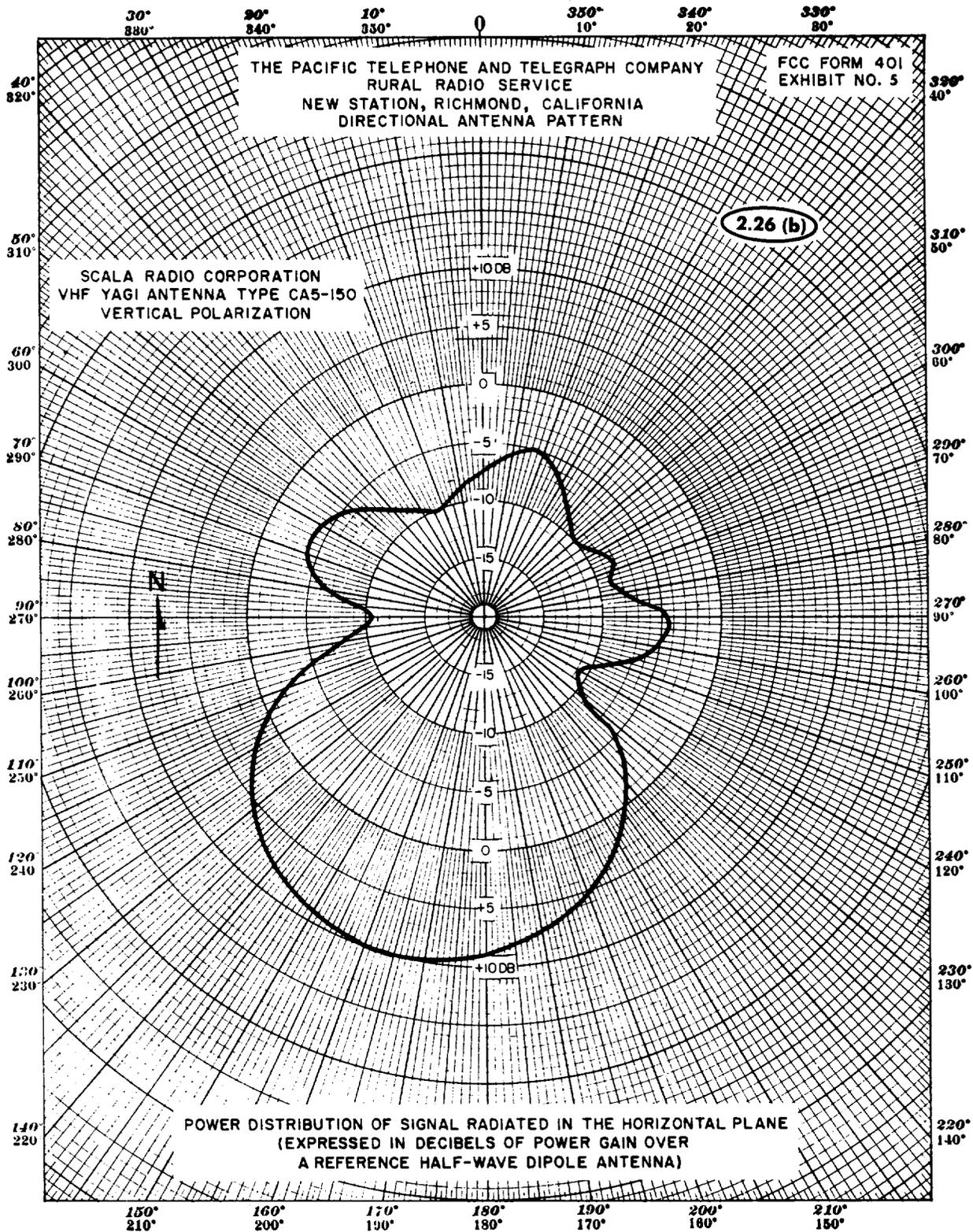


Fig. 23—Exhibit 5—Antenna Pattern

19. Antenna transmission line data <u>1/2/</u>			
Make Amphenol	Type No. NG8A/U	Length (feet) 30	Total Loss (decibels) 0.75
General Electric Antenna Duplexer Type: PL-19-300012-1 (See Exhibit 4)		2.27	0.6
20. Description of transmitting antenna structure (Heights given should include obstruction light, if required, and any other summounting appurtenance) <u>1/2/</u>			
Overall height in feet above ground		Overall height in feet above mean sea level	
14		39	
2.28			
Submit, as Exhibit No. <u>4</u> , a vertical profile sketch of total structure (including supporting building, if any) giving heights in feet above ground for all significant features. Clearly indicate existing portion, noting particulars of aviation obstruction lighting already prescribed.			
21. Will proposed transmitting antenna be supported by the antenna structure of any other radio station? <u>1/2/</u>			
2.29		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
22. Distance from transmitting antenna structure to nearest runway of nearest aircraft landing area = <u>82,500</u> feet. <u>1/2/</u>			
2.30			
23. List any natural formation or existing man made structure (hills, trees, water tanks, tower, etc.) which applicant believes would tend to shield the antenna structure from aircraft and thereby minimize the aeronautical hazard of the antenna structure <u>1/2/</u>			
2.31		None	

Fig. 24—Transmitting Antenna Supporting Structure

2.31 Item 23: Enter a brief description of natural or man-made objects which would tend to shield the proposed antenna structure from aircraft (Fig. 25). If there are no shielding objects, enter "None" (Fig. 24).

2.32 Item 24: Prepare an exhibit by plotting the proposed station location as accurately as possible on a full-size topographical map. If available, use a U.S. Geological Survey 7.5-minute series quadrangle (of the area involved) for this purpose. If the 7.5-minute series is not available, use a 15-minute series quadrangle. If the 15-minute series is not available, use some other topographical map having the best detail obtainable. If a topographic map for the area is not obtainable, use a sectional aeronautical chart. When it is necessary to use any map having less detail than the 7.5- or 15-minute series quadrangle, the reason why such a map had to be used must be included in the transmittal letter. On a 7.5-minute series quadrangle, it should be possible to indicate the proposed

the horizontal plane is attached to this application on file with FCC

19. Antenna transmission line data <u>1/2/</u>			
Make Bellini	Type No. NG8A/U	Length (feet) 50	Total Loss (decibels) 2.4
		2.27	
20. Description of transmitting antenna structure (Heights given should include obstruction light, if required, and any other summounting appurtenance) <u>1/2/</u>			
Overall height in feet above ground		Overall height in feet above mean sea level	
79		2005	
2.28			
See Exhibit No. 7 for receive-only antenna structure sketch.			
Submit, as Exhibit No. <u>7</u> , a vertical profile sketch of total structure (including supporting building, if any) giving heights in feet above ground for all significant features. Clearly indicate existing portion, noting particulars of aviation obstruction lighting already prescribed.			
21. Will proposed transmitting antenna be supported by the antenna structure of any other radio station? <u>1/2/</u>			
2.29		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
22. Distance from transmitting antenna structure to nearest runway of nearest aircraft landing area = <u>82,500</u> feet. <u>1/2/</u>			
2.30			
23. List any natural formation or existing man made structure (hills, trees, water tanks, tower, etc.) which applicant believes would tend to shield the antenna structure from aircraft and thereby minimize the aeronautical hazard of the antenna structure <u>1/2/</u>			
2.31		Trees 80 ft. or higher within 300 feet.	

Fig. 25—Transmitting Antenna Supported by Structure of Another Radio Station

station's position to an accuracy of 1 second of longitude and latitude. Enter the exhibit number in Item 24 (Fig. 28) [FCC 21.15(h)].

2.33 Items 25 and 26: Enter "DNA" (Fig. 28).

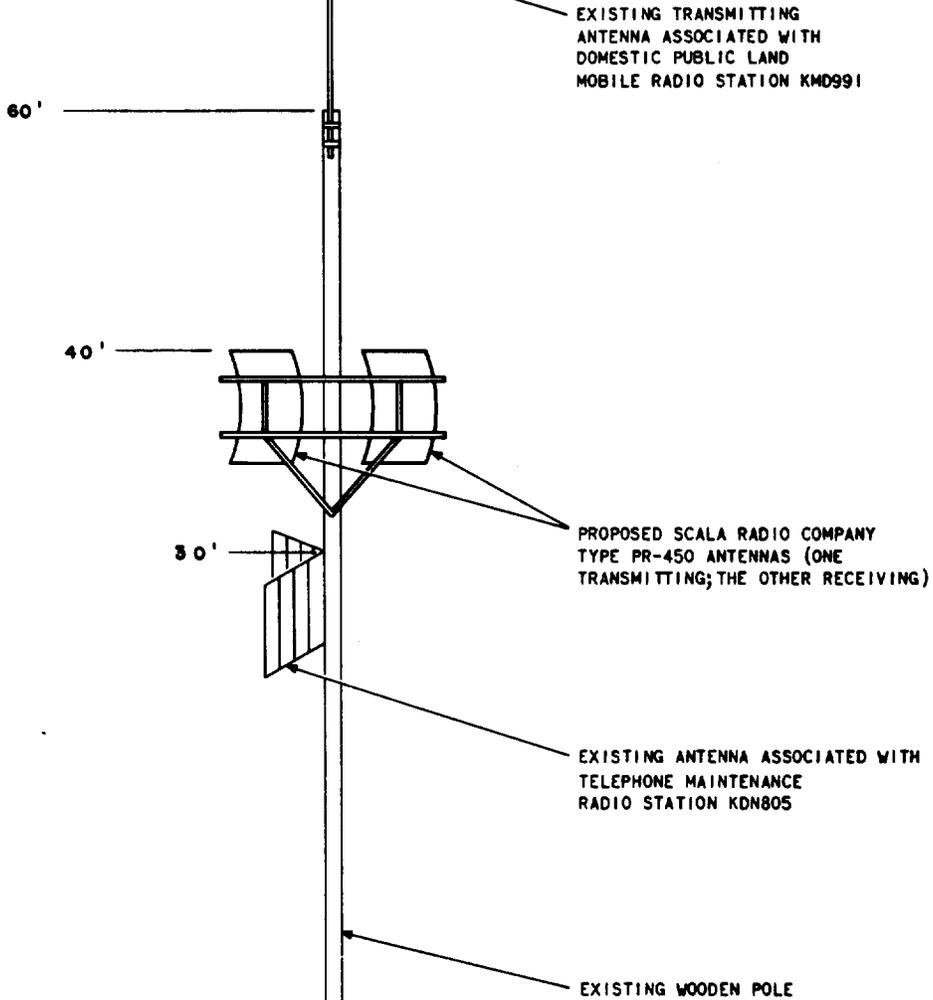
2.34 Item 27(a): Enter information about the related receiving location as follows:

- (a) Enter the location of the fixed antenna that will receive signals from the proposed station. If not located within a city or town, enter the distance and direction from the nearest town or city. If located on or near a mountain, lake, or similar landmark shown on a U.S. Geological Survey map or aeronautical chart, the name of this landmark may be included. The location should be consistent with the information shown in Item 7(i) and in Item 5 of the associated application, if applicable (Fig. 29 and 30).

THE PACIFIC TELEPHONE AND TELEGRAPH COMPANY
RURAL RADIO SERVICE
NEW STATION NEAR SANTA ROSA, CALIFORNIA
PROPOSED ANTENNA STRUCTURE

2005' AMSL
79'

2.28(b)



HEIGHTS ARE IN REFERENCE
TO GROUND LEVEL UNLESS
SPECIFIED OTHERWISE.

GROUND ELEVATION 1,926 FEET ABOVE MEAN SEA LEVEL

Fig. 26—Exhibit 6, Example 1—Proposed Antenna Structure With Existing Antennas

THE PACIFIC TELEPHONE AND TELEGRAPH COMPANY
RURAL RADIO SERVICE
NEW STATION, RICHMOND, CALIFORNIA
PROPOSED ANTENNA STRUCTURE

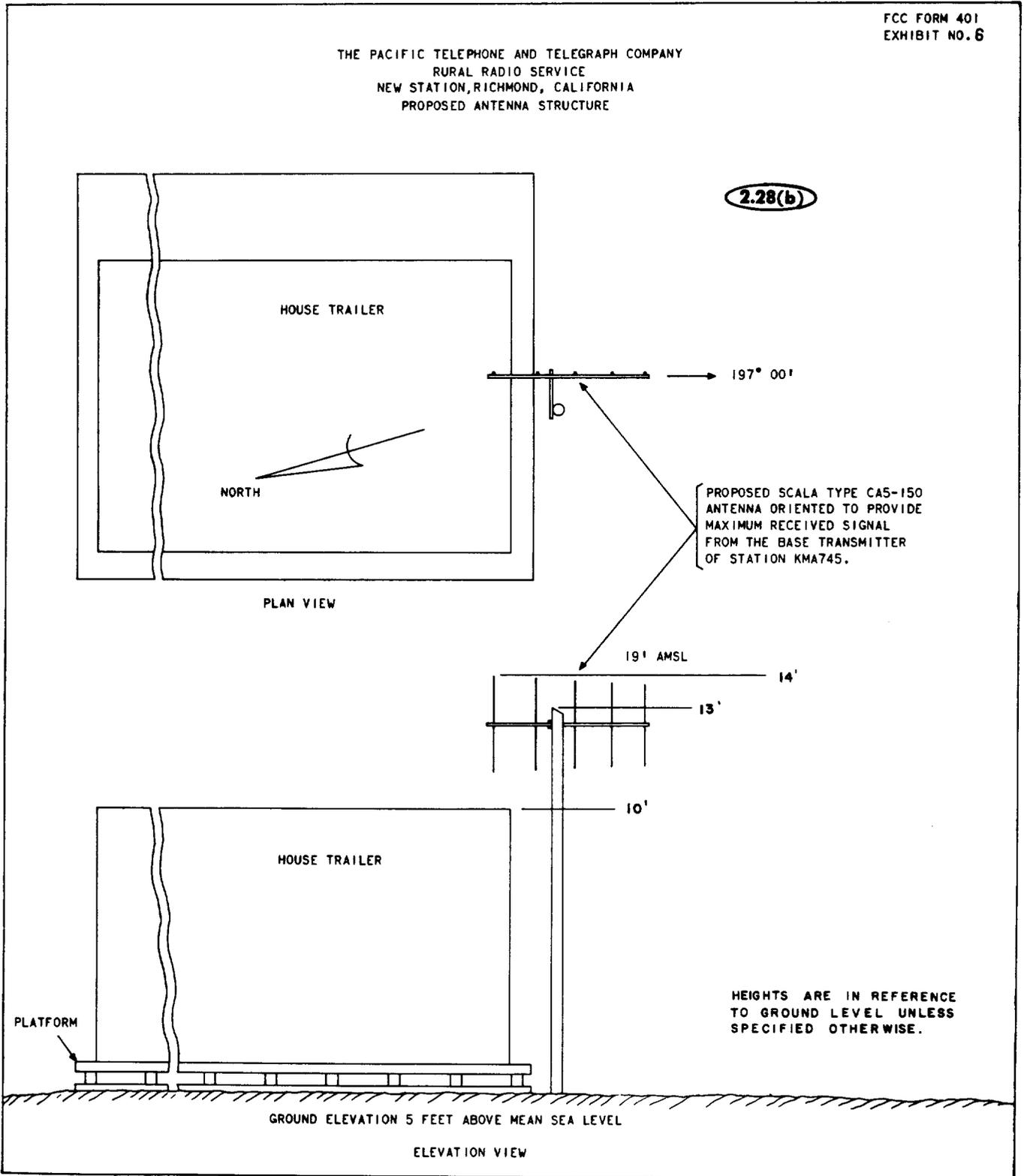


Fig. 27—Exhibit 6, Example 2—Proposed Antenna Structure

FCC Form 401

24. Topographic data for fixed stations 1/1/

Attach, in duplicate as Exhibit No. 2.32, a topographic map (a U.S. Geological Survey quadrangle or map of comparable detail and accuracy) with the exact location of the proposed station drawn and identified thereon. In cases where FCC Form 401 is required to be filed, such map must be furnished and should be attached to such Form.

25. Topographic data for base and aeronautical ground stations 1/1/

(a) Attach, in duplicate as Exhibit No. 2.33, topographic Map(s) (U.S. Geological Survey quadrangles or maps of comparable detail and accuracy) for the area within 10 miles of the proposed transmitter location and draw thereon the following:

(1) Proposed transmitting antenna location plotted accurately to the nearest second of Latitude and Longitude.

(2) Eight uniformly spaced radials each extending to a distance of ten or more miles from the proposed transmitting antenna location in addition to radials in direct line with each co-channel station within 75 miles.

(b) Attach, as Exhibit No. 2.33, profile graphs with reasonably large scales for the radials in (a) (2) above. Each graph shall show the ground elevation along the radial and the elevation of the antenna radiation center. Identify each graph by its azimuth bearing from the proposed antenna location. Direction of True North shall be zero azimuth; azimuths of other radials shall be measured clockwise from True North. Show source of topographical data on each graph.

26. (a) From the profile graphs in 25(b) for the eight mile distance between two and ten miles from the proposed transmitting antenna location, and in accordance with the procedure prescribed in the Commission's rules, supply the following tabulation of data: 1/1/

Radial Bearing (Degrees True)	Average Elevation of Radial (3-10 mi.) in Feet Above Mean Sea Level	Height of Antenna Radiation Center in Feet Above Average Elevation of Radial (3-10 miles)	Elevation of Antenna Radiation Center in Feet Above Average Elevation of Radial (3-10 miles)

Fig. 28—Topographic Data

Page 3

27. Location of Fixed Antennas Receiving Signals of This Station 1/1/

(a) City or Town El Cerrito County Contra Costa State California

Geographic coordinates (to be determined to nearest second)

North Latitude 37° 55' 46" West Longitude 122° 18' 01"

(b) City or Town _____ County _____ State _____

North Latitude _____ West Longitude _____

(c) List frequencies, call letters, and location of stations to be regularly received by station described in Item 5

152.54 Mc/s, KMG745 Inc. Fr. Sta. Francisco, California

28. Frequency measurements

Fig. 29—Location of Fixed Antennas—El Cerrito

Page 3

27. Location of Fixed Antennas Receiving Signals of This Station 1/1/

(a) City or Town Wolf Creek County Nevada State California

Geographic coordinates (to be determined to nearest second)

North Latitude 39° 08' 17" West Longitude 121° 06' 01"

(b) City or Town _____ County _____ State _____

North Latitude _____ West Longitude _____

(c) List frequencies, call letters, and location of stations to be regularly received by station described in Item 5

152.54 Mc/s Proposed New Station Wolf Creek 6 miles SE of Grass Valley, (Nevada) California

28. Frequency measurements

(a) What provision will be made for measurement and periodic checking of the station frequency?

(b) If a frequency measuring device is not to be provided, give name and address of frequency checking agency to be employed by applicant

Fig. 30—Location of Fixed Antennas—Grass Valley

(b) Enter the county and state in which the receiving antenna is located.

(c) Enter the geographic coordinates (accurate to the nearest second of latitude and longitude) for each receiving antenna.

2.35 Item 27(b) If more than one fixed antenna receiving location is used (e.g., if this application is for a relay station), enter the additional antenna location information in accordance with Item 27(a).

2.36 Item 27(c) Enter the transmitting frequency, call sign (if assigned), and location of the communicating station. This information should agree with the data entered in Items 5 and 7 of FCC Form 401 for the communicating station if an application for a CP for that station is included in the same filing. If the communicating station is presently licensed, the information should agree with that shown on the current license for that station (Fig. 29 and 30).

2.37 **Item 28(a):** Enter "A suitable frequency meter will be provided" (Fig. 31).

San Francisco, California

28. Frequency measurements

(a) What provision will be made for measurement and periodic checking of the station frequency?
 A suitable frequency meter will be provided. **2.37**

(b) If a frequency measuring device is not to be provided, give name and address of frequency checking agency to be employed by applicant
 DNA **2.38**

(If frequency checking agency is shown above, the paragraphs of this question are not to be answered. **2.39**)

(c) What type of frequency measurement or calibration apparatus will be used? Cushman Electronics MCM-5 frequency meter or other suitable frequency meter. **2.39**

(d) Within how many cycles or within what percentage will this apparatus measure the frequency?
 0.00025% or better. **2.40**

(e) What methods will be used to check calibration of this precision instrument?
 By comparison with other standards. **2.41**

(f) How often will calibration of this instrument be checked?
 As required. **2.42**

APPLICABLE FOR PREPARING Application

Fig. 31—Frequency Measurements

2.38 **Item 28(b):** Enter "DNA" (Fig. 31).

2.39 **Item 28(c):** Enter the name of the instrument that will probably be provided in a statement similar to the following: "A Cushman Electronics MCM-5 frequency meter or other suitable frequency meter" (Fig. 31).

2.40 **Item 28(d):** Enter the frequency meter tolerance required by FCC 21.102 for the proposed transmitting frequencies, and add "or better" as shown in Fig. 31.

2.41 **Item 28(e):** Enter "By comparison with other standards" (Fig. 31).

2.42 **Item 28(f):** Enter "As required" (Fig. 31).

2.43 **Engineering Certification:** The engineering certification (bottom of Page 3 of FCC Form 401) must be signed by the person having overall responsibility for the engineering data entered in Items 1 through 28. Normally, this will be the chief engineer of the company or of the area of the company which prepared the application. The mailing address of the person who signs this certification and the date of signing must be entered in the space provided (Fig. 32).

2.44 **Items 29 Through 38:** These items should be cross-referenced to the current FCC Form 430 on file with the Commission as shown in Fig. 33.4

2.45 **Items 39 and 40:** Normally answer as shown in Fig. 33 and 34.

2.46 **Item 41:** Since some states do not have a regulatory body which is empowered to

used: _____ degrees.

2.43 CERTIFICATION OF PERSON RESPONSIBLE FOR PREPARING Engineering Information Submitted in this Application

I hereby certify that I am the technically qualified person responsible for preparation of the engineering information contained in this application; that I am familiar with Parts 21 or 25 of the Commission's Rules; that I have either prepared or reviewed the engineering information submitted in this application; and, that it is complete and accurate to the best of my knowledge.

By R. B. Evans (Signature) R. B. Evans Chief Engineer Dated this 26th day of Sept. 19 77

Address: 2700 Watt Avenue Number Sacramento, California City 95821 State

WILLFUL FALSE STATEMENTS MADE ON THIS FORM ARE PUNISHABLE BY FINE AND IMPRISONMENT. U.S. CODE, TITLE 18, SECTION 1001.

1/If application is for individual user mobile unit, or for mobile units other than those associated with a single permanently installed base station, this item need NOT be answered.
 2/If application is for temporary-fixed station facilities pursuant to Sections 21.610 and 21.611 or 21.707 and 21.708, this item need NOT be answered.
 3/If application is filed under Part 25 this question need NOT be answered.
 4/If communication with one or more foreign countries is proposed, identify the country(ies) and complete applicable parts of Item 27.

Fig. 32—Engineering Certification

FCC Form 401	LEGAL AND OTHER DATA	2.44	Page 4
29. Applicant is: (check one) <input checked="" type="checkbox"/> Individual <input type="checkbox"/> Partnership <input type="checkbox"/> Corporation <input type="checkbox"/> Unincorporated Association			
		(X yes or no)	YES NO
30. Is individual Applicant or each member of a partnership Applicant a citizen of the United States?		<input checked="" type="checkbox"/>	
31. Is Applicant or any party to this application a representative of an alien or of a foreign government?		<input checked="" type="checkbox"/>	
32. If Applicant is a Partnership, attach as EXHIBIT _____, one copy, properly certified, of the partnership agreement, or if oral, complete details thereof.		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
33. If Applicant is a Corporation (Including Joint stock Companies) or Association, answer the following: (See 21.15c of the Rules) <ul style="list-style-type: none"> a. Under laws of what State or Country is it organized? <u>IL</u> (1) Attach as EXHIBIT(s) _____ a certified copy of the Articles of Incorporation (charter) and the By-Laws. (2) Attach as EXHIBIT _____ the names, addresses and percentages held of all stockholders owning and/or voting 10 percent or more of applicant's stock. b. Give address of applicant's principal office: _____ c. Is any director or officer an alien? d. Is more than one-fifth of the capital stock or membership interest voted by aliens or their representatives, or by a foreign government or representative thereof, or by any corporation organized under the laws of a foreign country? e. Is Applicant directly or indirectly controlled by any other corporation? (If "Yes" give names and addresses of all such controlling corporations including organization having final control.) f. Is the Applicant directly or indirectly controlled by any other corporation of which any officer or more than one-fourth of the directors are aliens? (If "Yes", attach as EXHIBIT _____ a statement relating the facts) g. Is more than one-fourth of the capital stock of any controlling corporation owned of record, or may it be voted by aliens or their representatives, or by a foreign government or representative thereof, or by any corporation organized under the laws of a foreign government? (If "Yes", attach as EXHIBIT _____ a statement relating the facts) h. Under laws of what State or country is each such controlling corporation organized? _____ (Attach as EXHIBIT(s) _____ a certified copy of the Articles of Incorporation (Charter) and the By-Laws) 		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
34. Has applicant or any party to this application had any FCC station license or permit revoked or had any application for permit, license or renewal denied by this Commission? (If "Yes", attach as EXHIBIT _____ a statement giving call sign of license or permit revoked and relate circumstances)		<input checked="" type="checkbox"/>	
35. Has any court finally adjudged the applicant, or any person directly or indirectly controlling the applicant, guilty of unlawfully monopolizing or attempting unlawfully to monopolize radio communication, directly or indirectly, through control of manufacture or sale of radio apparatus, exclusive traffic arrangement, or any other means or of unfair methods of competition? (If "Yes", attach as EXHIBIT _____ a statement relating the facts)		<input checked="" type="checkbox"/>	
36. Has the applicant, or any party to this application, or any person directly or indirectly controlling the applicant ever been convicted of a crime for which the penalty imposed was a fine of \$500 or more, or an imprisonment of six months or more? (If "Yes", attach as EXHIBIT _____ a statement relating the facts)		<input checked="" type="checkbox"/>	
37. Is applicant, or any person directly or indirectly controlling the applicant, presently a party in any matter referred to in Items 34, 35 and 36? (If "Yes", attach as EXHIBIT _____ a statement relating the facts)		<input checked="" type="checkbox"/>	
38. Is applicant directly or indirectly, through stock ownership, contract, or otherwise currently interested in the ownership or control of any other radio stations licensed by this Commission? If "Yes", give:		<input checked="" type="checkbox"/>	
Call Sign & Service	Location	Name of Licensee	
39. Has applicant ever been directly or indirectly interested in the ownership or control of any radio stations other than those stated in 38 above? If "Yes", give:		<input checked="" type="checkbox"/>	
Call Sign & Service	Location	Name of Licensee	
licensed radio stations formerly owned or operated by _____ companies of the Bell System		2.45	<input checked="" type="checkbox"/>
*If application is for individual user mobile unit, or for mobile units other than those associated with a single permanently installed base station, this item need NOT be answered.			

*Date on file with the Commission on current FCC Form 430 (as amended to date)

Fig. 33—Form 401—Example of Page 4

FCC Form 401		Page 5	
		YES	NO
40. Will applicant offer communication services to the public 24 hours every day? <i>1/1/</i> If "No", state hours and days during which station will be open for such service:			
Hours 2.45	Days	*	
41. Are the charges for the proposed service contained in a tariff filed with the FCC? <i>1/1/</i> If "Yes", identify FCC tariffs 259, 260, 261, 262, 263, and applicable intrastate tariffs will apply 2.46 , attach as EXHIBIT _____ a schedule of proposed charges. (The statement of rates required herein does not constitute a filing of schedules of charges required by Section 203 of the Communications Act of 1934, as amended, prior to commencing service.)		*	
42. Does local or state law require any franchise or other authorization to maintain or render the services proposed? <i>1/1/</i> 2.47 "Yes", attach as EXHIBIT _____ a single certified copy of franchise or authorization) Application is for modification of a construction permit: <i>1/1/</i>			*

Fig. 34—Legal and Other Data—Items 40, 41, and 42

regulate intrastate communications, the response will vary depending on the regulatory arrangements involved and on the particular circuits to be furnished. ***In all cases, where FCC tariffs are listed, verify that all applicable FCC tariffs are listed and that none of the tariff numbers have been changed.*** If assistance is required, if tariffs are not on file for any proposed service, or if the proposed facilities will provide unusual services, refer to local instructions for obtaining assistance. Normally, however, Item 41 should be answered in one of the following manners:

- (a) If the proposed facilities will provide normal message and/or special service circuits either within or between states which have a regulatory body, answer Item 41 as shown in Fig. 34.
- (b) If the proposed facilities will provide normal message and/or special service circuits either within or to a state which has no state regulatory body, the reference to "applicable intrastate tariffs..." (Fig. 34) must be modified to fit the circumstances.
- 2.47 Item 42:** For the majority of locations, this item will be answered as shown in Fig. 34. However, each company must determine whether or not this answer is appropriate for radio installations in its territory and develop an appropriate response if necessary.
- 2.48 Item 43:** Answer as shown in Fig. 35.

2.49 Item 44: Answer as shown in Fig. 35 and prepare an exhibit similar to Fig. 36 to demonstrate the amount of time spent on noncommon carrier activity. Each company must determine the values for Item 44. Refer to local instructions for completing this item.

2.50 Item 45: Answer as shown in Fig. 35.

2.51 Item 46: Enter an "X" in the "Yes" box (Fig. 35).

2.52 Item 47: Enter the installed costs of equipment in the categories required. Land, building, and equipment costs should be included as a part of the cost of the radio station if required specifically for the radio installation. Costs of channelizing equipment should be shown if only intrastate facilities are involved. If interstate facilities will be authorized by a Section 214 application, the channelizing costs should be omitted in Item 47 (Fig. 35). Costs for a receiving antenna structure (including antennas, receivers, etc.), if applicable, should be included in Item 47. A statement should be made similar to the following: "Costs for the receiving antenna structure have also been included in the amount of \$0,000."

2.53 Item 48: Answer as shown in Fig. 35, and prepare an exhibit similar to Fig. 37 to demonstrate financial qualifications. (If these requirements have not been met by your company, more specific information must be submitted as required by FCC 21.17.)

(If "Yes", attach as EXHIBIT _____ a single certified copy.)

43. If application is for modification of a construction permit: **2.48**
 (a) The time required to complete construction after authority is granted is _____ months. **DNA**
 (b) Attach as EXHIBIT _____ a statement giving: (1) the extent of construction as of the date of this application, and (2) the justification for not having completed construction in accordance with outstanding construction permit.

44. In what businesses, employment or activities, other than communications common carrier, are applicant and its principals engaged? **2.49**
 (Attach as EXHIBIT _____ a statement giving the following for each such activity:
 (a) nature of activity
 (b) location of activity
 (c) hours devoted to each activity

45. What is applicant's relation to station? **2.50** Owner Lessee Other
 (Attach as EXHIBIT _____ copies of all agreements affecting applicant's ownership, operation, use and/or control of the station facilities.)

46. Is applicant directly or indirectly interested in or affiliated with any entity or person engaged in the business of providing a public land line message telephone service? **2.51** Yes No
 (If "Yes", and applicant is not a landline telephone carrier, attach as EXHIBIT _____ a statement relating the facts)

47. Estimated cost to establish proposed facilities: **2.52**
 a. Transmitter(s) and receiver(s) \$ 3000
 b. Antenna(s) and waveguide or antenna transmission line(s) \$ 700
 c. Power plant, control, and common equipment \$ _____
 d. Land, buildings, towers, etc. \$ _____
 e. Channelizing equipment \$ _____
 f. Miscellaneous \$ 200
 Total cost \$ 3900

48. Attach as EXHIBIT _____ **2.53** a statement showing applicant's financial ability to construct and operate this station. Include the most recent balance sheet of the applicant (must be as of a date at least within 90 days of the filing of this application.) If loans or other credit arrangements are contemplated, duplicate copies of written instruments, other than demand notes, must be submitted. (Copies of standard manufacturer's lease or sales agreements on file with the Commission need not be submitted but should be identified by manufacturer's name and form number, and the material terms and conditions should be outlined.) Names and addresses of all parties to financial agreements must be stated. Oral agreements must be summarized and details submitted with regard to all material terms thereon.

49. Attach as EXHIBIT _____ **2.54** a statement of the number and description of all technical personnel to be employed directly by licensee for maintaining and repairing the proposed facilities, and describing the specific arrangements for prompt maintenance or repair of the proposed facilities.

50. Attach as EXHIBIT _____ a detailed statement covering the manner in which the proposed service will be operated, including number of persons to be so employed, division of work, and hours of physical supervision by applicant. If facilities are to be operated and/or maintained in conjunction with any other business, give name and address of owner of such business and submit copies of working agreements.

If application is for individual user mobile unit, or for mobile units other than those associated with a single permanently installed base station, this item need NOT be answered.
 If application is filed under Part 25 this question need NOT be answered.

Fig. 35—Legal and Other Data—Items 43 Through 50

2.54 **Items 49 and 50.** Prepare an exhibit similar to Fig. 38 giving the required information. Enter the exhibit number in the spaces provided in Items 49 and 50 (Fig. 35) (FCC 21.205). This exhibit should include:

- (a) The number of technical personnel available for maintenance and operation of this station
- (b) Class of licenses held by these technical people

- (c) Employer of these technical personnel
- (d) Normal location of these technical personnel
- (e) Number on call 24 hours per day
- (f) Estimated time for the technical personnel to reach this station for maintenance and repairs.

2.55 **Item 51.** Enter "DNA" (Fig. 39).

FCC FORM 401
EXHIBIT 9

2.49

THE PACIFIC TELEPHONE AND TELEGRAPH COMPANY
RURAL RADIO SERVICE
NEW STATION, RICHMOND, CALIFORNIA

Answer to Item 44:

In addition to common carrier activity, the Pacific Telephone and Telegraph Company is also engaged in directory advertising, miscellaneous physical properties, and other investments within the state of California. The annual hours devoted to these activities by company employees are estimated to be 2,850,000. This represents 1.5 percent of the total work hours of employees of this company.

Fig. 36—Exhibit 9—Answer to Item 44

FCC FORM 401
EXHIBIT 10

2.53

THE PACIFIC TELEPHONE AND TELEGRAPH COMPANY
RURAL RADIO SERVICE
NEW STATION, RICHMOND, CALIFORNIA

Answer to Item 48:

Balance sheets (MR No. 2) of this company are filed monthly with the Commission. Annual operating revenues of one million dollars or more are demonstrated in the Annual Report Form M also filed with the Commission. The Pacific Telephone and Telegraph Company maintains a credit rating equivalent to, or better than, a Standard & Poor's rating of "BBB" or a Moody's bond rating of "Baa."

Fig. 37—Exhibit 10—Answer to Item 48

THE PACIFIC TELEPHONE AND TELEGRAPH COMPANY
RURAL RADIO SERVICE
NEW STATION, RICHMOND, CALIFORNIA

2.54

Answer to Items 49 and 50:

All maintenance and operations of this station will be performed by technically qualified personnel of this company and will be under its direct supervision. Four employees holding valid second-class radio-telephone operator licenses will normally be associated with maintenance and repair of this station. These personnel are normally on duty at the maintenance center located in Pacheco, California, and will be available to be promptly dispatched to assure proper station operation.

In addition, licensed radio operators will be available for call from other maintenance centers in San Francisco and Oakland, California, in the event the regular maintenance personnel are not immediately available.

Therefore, in case of an equipment malfunction requiring correction, maintenance personnel, whose primary responsibility is the proper operation and maintenance of this station, will be promptly dispatched. Under normal conditions, the maintenance personnel will arrive at this station in less than 2 hours.

Fig. 38—Exhibit 11—Answer to Items 49 and 50

2.56 ~~Item 52~~ Information must be furnished justifying the need for the proposed facilities. This information may be furnished on an exhibit or in the transmittal letter. If an exhibit is used, enter the exhibit number in the space provided. If the transmittal letter is used, enter "See transmittal letter" as shown in Fig. 39.

Note: Refer to FCC 21.608 for the information required for an interoffice station and to FCC 21.609 for central office and rural subscriber stations. Figure 40 shows the justification which was used in the transmittal letter of the application for the Santa Rosa station and is typical of the type of information required.

2.57 ~~Item 53~~ Answer "Yes" and enter the numbers of all attached exhibits in numerical order as shown in Fig. 39. Show the item number (of Form 401) or FCC Rule for which each exhibit

was submitted. (Instructions are attached to Form 401.) Information not requested by a particular item on FCC Form 401, but required to be submitted with each application, should be on an exhibit and listed under Item 53. This information includes:

- (a) The environmental statement required by FCC 21.13(e). (This should be exhibit No. 1.)
- (b) An FCC Form 714 to comply with FCC 21.15(d). Refer to Practice 400-550-102 for detailed instructions for the preparation of Form 714.
- (c) Site availability required by FCC 21.15(a).

Note: All applications for new site locations and applications to add facilities to existing sites (e.g., additional antennas, transmitters) must include a statement concerning the

FCC Form #01		Page 6			
<p>2.55</p>	<p>51. Applicants not engaged in providing public wire line communication service shall attach as EXHIBIT _____ a statement showing the extent to which the applicant intends actively to participate in the day-to-day operation of the proposed facilities. In the event the applicant does not intend actively to participate in the day-to-day management and operation, he should state his reasons therefor and fully disclose the details of the proposed operations, including a showing of how control thereof will be retained by the applicant. The statement shall also set forth the names and addresses of any and all persons (except applicant) who have a substantial interest or responsibility in the supervision, operation, maintenance and/or control of proposed facilities, the relationship of each such person to the applicant and the extent of control to be exercised by such persons. <u>U</u> DNA</p>				
<p>2.56</p>	<p>52. Attach as EXHIBIT _____ a complete statement, setting forth facts which show how the instant proposal will be in the public interest and will satisfy specified needs for service, detailing the number and activities of prospective customers and disclosing all relationships, affiliations or connections between the applicant and prospective customers. If surveys or solicitations have been made, the nature and detailed results thereof should be submitted. The statement should contain the names of any common stockholders, officers, directors, employees or individuals closely related to the management or control of the facilities of the applicant or any subscriber. Applications for authorizations in the Point-to-Point Microwave Radio service proposing the rendition of service to community antenna television systems should include a statement indicating whether or not the proposed customers have obtained whatever necessary local authorizations are required for the operation of the CATV systems. <u>U</u> See 2.508-2.510-2.511-2.512</p>				
<p>2.57</p>	<p>53. Is applicant personally familiar with the provisions of Part 21 or 25, as applicable, of the Commission's Rules? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>				
<p>EXHIBITS AND APPLICABLE SEC. and or ITEM NO. OF RULE OR FORM (See Instruction 7)</p>					
Exhibit Number	Sec. and or Item No. of Rule or Form	Exhibit Number	Sec. and or Item No. of Rule or Form	Exhibit Number	Sec. and or Item No. of Rule or Form
1	Rule Section 21.13 (e), Environmental Statement				
2	Item 7				
3	Item 10				
4	Items 18 and 19				
5	Item 18				
6 & 7	Item 20				
8	Item 24				
9	Item 44				
10	Item 48				
11	Items 49 and 50				
12	Rule Section 21.19 (a), Site Availability Transmittal Letter - Item 52, Rule Section 21.609 FCC Form 714 - Rule Section 21.15(d)				

Fig. 39—Legal and Other Data—Items 51, 52, and 53

availability of the site for the new or additional facilities.

(1) If the site is owned by the applicant, a statement to that effect will be sufficient. Do not assume in cases where an antenna sketch shows the addition of the proposed antenna to the roof of a telephone company building that it is not necessary to make a site availability statement. Prepare a separate exhibit stating that the site is owned, and show the exhibit number and appropriate Rule section under Item 53.

(2) If the site is not owned by the applicant, a letter signed by the lessor showing any

agreement for the use of the site or free access to the station facilities must be included with the application. In lieu of a letter, a copy of the lease may be submitted with the application. In cases where new facilities [additional channel(s)] are to be added to an existing location and the site is presently under lease, it must be demonstrated to the FCC that the lessor will permit the installation of the additional equipment.♦

2.58 Certification: Enter the official corporate name of the company (spelled out in full) in the space provided. The name entered must be identical to the company name shown in Item 1. The certification must be signed by an officer of

the Skirball Ranch located 9 miles west of Skaggs Springs, California.

At present no telephone facilities exist to this isolated ranching area which is situated in the Coast Range Mountains northeast of Santa Rosa, California. The nearest land line facilities are 17 miles by road at Geyserville, California. We estimate that an extension of the existing facilities would cost a minimum of \$55,000. The winter maintenance of such a land line would be expensive and hazardous. Accordingly, we propose to establish a radio link between Skirball Ranch and our existing radio site near Santa Rosa, California. The required circuit will be extended over existing cable facilities to our toll office at Santa Rosa, California.

The proposed facilities will be used to provide a public toll station for all-year general public use at the Skirball Ranch. These facilities are necessary for public welfare and safety in this area. To applicant's knowledge, the proposed frequencies are not being used in the Santa Rosa area.

2.56

Yours truly

Fig. 40—Example of Justification of Need in Transmittal Letter

the company or by a duly authorized employee. The date of signing and the printed name of the person signing and his title must be entered as shown in Fig. 41.

3. CONSTRUCTION PERMIT FOR ADDITIONS OR CHANGES TO EXISTING STATIONS

General Information

- 3.01** A formal application submitted on an FCC Form 401 must usually be filed when proposing changes or additions to an existing rural radio station.
- 3.02** Preparing a construction permit (CP) application requesting authority for changes or additions to an existing station is very similar to preparing a CP application for a new station.
- 3.03** A completed application will consist of an FCC Form 401 with responses made to all items, associated exhibits, and, if necessary, a completed Form 714. ♦A cross reference to previously filed information is permitted only for previously filed exhibits of more than one page in length [FCC 21.13(b) and 21.20(b)(10)].♦

3.04 Much of the information required for an application for changes or additions to an existing station will have been previously filed with the FCC on earlier applications. Of this, such items as station location, geographical coordinates, etc., are shown on the station's current license (or other authorization). The information shown in any subsequent applications must either agree with the previously filed information and the current license, or the erroneous part of such information must be corrected in the new application. When such corrections are required, refer to the company's local operating instructions to obtain assistance.

3.05 The accompanying (hypothetical) example illustrates the method for preparing a construction permit application for an existing central office station. The application requests authority to replace the existing transmitter and to add a new transmitter with a new point of communication. Applications for interoffice and rural subscriber stations would be prepared in a similar manner. Differences will be pointed out as required.

Preparation of FCC Form 401

3.06 At the top center of each page (six pages), enter "STATION" followed by the station's

CERTIFICATION

The APPLICANT waives any claim to the use of any particular frequency or of the ether as against the regulatory power of the United States because of the previous use of the same, whether by license or otherwise, and requests a construction permit in accordance with this application. All statements made in the attached exhibits are a material part hereof and are incorporated herein as if set out in full in this application. The undersigned, individually and for the applicant, hereby certifies that the statements made in this application are true, complete and correct to the best of his (her) knowledge and belief, and are made in good faith.

Dated this 3rd day of Oct., 1977.

Applicant The Pacific Telephone and Telegraph Company
(must correspond with that shown on page 1)

By C. B. Morgan 
(printed)

Title Vice President
(position held by person signing for applicant)

WILLFUL FALSE STATEMENTS MADE ON THIS APPLICATION ARE PUNISHABLE BY FINE AND IMPRISONMENT / U.S. Code, Title 18, Section 1001 / AND/OR REVOCATION OF ANY STATION LICENSE OR CONSTRUCTION PERMIT / U.S. Code, Title 47, Section 312(a)(1) /

2.58

If application is for individual user mobile unit, or for mobile units other than those associated with a single permanently installed base station, this item need NOT be answered.
 If application is filed under Part 25 this question need NOT be answered.

F. C. C. - WASHINGTON, D. C.

Fig. 41—Certification

call sign and the station's location. The location should be the same as (or similar to) that shown on the current license. For example, if the license shows the location of the station as "7 miles NE of Santa Rosa (Sonoma), California," show the location as "Near Santa Rosa, California" (Fig. 42).

3.07 At the top center of each exhibit, enter the official company name and "RURAL RADIO SERVICE" followed by the station's call sign and the station's location (see paragraph 3.06). An exhibit title, such as "EXISTING AND PROPOSED

ANTENNA STRUCTURE," and the station's street address may be added as appropriate (Fig. 43).

3.08 Near the top right corner of each exhibit, enter "FCC FORM 401" and the exhibit number as shown in Fig. 43.

3.09 In general, exhibits must be numbered consecutively in the order in which the need for exhibits arises during the step-by-step preparation of FCC Form 401. Polar diagrams, antenna sketches, and maps (prepared in response to Items 18, 20, and 24, respectively, when required) must be

STATION KM560 NEAR SANTA ROSA, CALIFORNIA

FCC Form 401 January 1967	Form Approved Budget Bureau No. 52-R043.17	DO NOT WRITE IN THIS BLOCK
FEDERAL COMMUNICATIONS COMMISSION Washington, D. C. 20554		File No. _____ Call Sign _____
APPLICATION FOR NEW OR MODIFIED COMMON CARRIER SERVICE		

3.06

Fig. 42—Station Call Sign

FCC FORM 401 EXHIBIT NO. 6
THE PACIFIC TELEPHONE AND TELEGRAPH COMPANY RURAL RADIO SERVICE STATION KMW66 NEAR SANTA ROSA, CALIFORNIA EXISTING AND PROPOSED ANTENNA STRUCTURE

3.07

3.08

Fig. 43—Exhibit—Station Call Sign

submitted as separate exhibits with each bearing its own number. Answers to other items, however, may be placed on the same exhibit where space permits. The item to which each response pertains should be clearly identified.

3.10 Item 1: Enter the official corporate name of the company (spelled out in full) and the address to which the FCC should mail the approved authorization. In companies where applications are filed by the company headquarters, the company headquarters' address should be shown. In companies whose areas have been authorized to file applications, the area headquarters' address may be used. Refer to the company's local instructions (Fig. 44).

3.11 Item 2: Enter "Rural" on the first line of Item 2. On the second line enter the class of station, such as "Central Office—Fixed," "Interoffice—Fixed," or "Rural Subscriber—Fixed," as shown on the station's license (Fig. 44).

3.12 Item 3: Since the application requests authority for additions or changes to an existing licensed station, check "Change in existing authorization" and enter the file number shown on the current license, renewal certificate, modification of license, etc. (whichever is latest), and the station's call sign (Fig. 44).

3.13 Item 4: Check the appropriate boxes in accordance with the nature of the proposed changes, modifications, or additions. When changes or additions other than those listed are proposed, check "Other changes (specify)" and show the nature of the change or addition as shown in Fig. 44.

3.14 Item 5: Enter the exact location of the antenna structure. The location will normally be that shown on the current license or construction permit. If an error is found in previously filed

location information, refer to local instructions to obtain assistance (Fig. 44).

3.15 Item 6: Enter "DNA" (Fig. 44).

3.16 Item 7: Enter the particulars for any proposed new facilities and/or the new particulars for existing facilities involved in any change. Proposed changes in the existing facilities must be specifically pointed out and described (Fig. 45). The reason for the changes must be given in the response to Item 52.

Note: In the example used herein (for replacing the currently authorized transmitter), it would be expeditious to specifically request special authority in the transmittal letter (with the construction permit application) to render service to the rural subscriber at Skirball Ranch immediately upon replacing the "old" transmitter and prior to filing an application for a modified license. This would be considered as a request for a waiver of FCC 21.212(b) and should be handled as such. The FCC may, in granting the construction permit authorization, request a written notice of the date on which simultaneous equipment and service tests were scheduled to start in such an instance. This procedure would require the minimum service outage to the rural subscriber (FCC 21.212).

3.17 Item 8: Enter the number and type of transmitters to be added and/or the number and type involved in any change shown in Item 7. Use separate lines for different types.

(a) **Item 8(a):** Enter the number of transmitters proposed (Fig. 45).

(b) **Item 8(b)** Enter the name of the manufacturer of each proposed transmitter (Fig. 45).

(c) **Item 8(c)** Enter the type or model number of each proposed transmitter. The type or model number should be shown as listed in the FCC Radio Equipment List, Equipment Acceptable for Licensing. For transmitters not in the FCC "List," refer to local instructions (Fig. 45 and FCC 21.120).

(d) **Item 8(d)** Enter the frequency stability of each proposed transmitter. The percentage figure must agree with that shown in the FCC Radio Equipment List and must comply with FCC 21.101 (Fig. 45).

(e) **Item 8(e)** For each proposed transmitter, enter the emission designator as shown in the FCC Radio Equipment List (Fig. 45).

(f) **Item 8(f)** Enter "Fixed" for each proposed transmitter (Fig. 45).

3.18 Item 9 Enter a brief statement to show what means will be provided to prevent operation of the proposed transmitters by unauthorized persons [Fig. 45 and FCC 21.118(a)].

Note: Items 10 through 12 should be answered to show that the licensee has effective operation and control of the class of station involved in the application. Control may be accomplished in various ways, depending on local circumstances. In general, the responses should be similar to those made in the application for a CP to cover the initial establishment of the station. (Refer to FCC 21.118, 21.205, and 21.208).

3.19 Item 10 Enter information about the station's control point as follows:

(a) For relay stations and for rural subscriber stations under switchhook control, enter "Same as transmitter" (Fig. 46).

(b) For central office or interoffice stations provided with the required control point, enter the location information. Normally, answer the next subitems under Item 10 "Yes" and "Continuous" (Fig. 47). If "No" and/or "Limited hours" are indicated, explain and request a waiver if necessary.

FCC FORM 401	
10. Location of Control Point(s) <u>1/2 Same as transmitter</u>	
Number and Street	3.19 (a)
City or Town	State
Can transmitter(s) be placed in an inoperative condition from this control point?	
<input type="checkbox"/> Yes <input type="checkbox"/> No	
Specify hours control point will be staffed by operating personnel	
<input type="checkbox"/> Continuous <input type="checkbox"/> Limited hours (specify)	
11. Describe the means by which personnel at the control point can determine when there is a deviation from the terms of the license. <i>is not in accordance</i>	

Fig. 46—Control Point Location—Same as Transmitter

(c) Where it is not practicable to provide a control point for a rural subscriber station not under switchhook control, a central office station, or an interoffice station, enter "See Exhibit ____" (Fig. 48). The exhibit must contain statements requesting a waiver, explaining why it is impracticable to provide the control point functions, and showing how the quality of transmission is subject to the supervision of responsible operating personnel [FCC 21.205(k)]. The following is a typical example for a central office station operating with a carrier-multiplexed radio channel:

"Applicant respectfully requests a waiver of Section 21.118(e)(1) of the Commission's Rules. The operation of this station is such that the transmitter will radiate continuously. An alarm system will be provided to indicate any malfunction of the radio system."

(d) Private line stations for which it may be impracticable to provide either a control point or an alarm center may occasionally be encountered. Such stations must usually be handled on a case-by-case basis. Refer to local instructions for assistance.

3.20 Item 11 Enter information about the station's control point as follows:

(a) When a control point will be provided, answer as shown in Fig. 47.

(b) When no control point will be provided, enter "DNA" (Fig. 48).

FCC FORM 401	
10. Location of Control Point(s) 1/2/	
Number and Street 516 Third Street 3.19 (b)	
City or Town Santa Rosa	State California
Can transmitter(s) be placed in an inoperative condition from this control point? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Specify hours control point will be staffed by operating personnel <input checked="" type="checkbox"/> Continuous <input type="checkbox"/> Limited hours (specify)	
11. Describe the means by which personnel at the control point can determine when there is a deviation from the terms of the station authorization or when operation is not in accordance with the Commission's rules governing the class of station involved. 1/2/	
Equipment in accordance with Section 21.118(e) of the FCC Rules 3.20 (a)	
12. Location of Alarm Center 1/2/3 DNA	
Number and Street 3.21 (a)	
City or Town	State
Can transmitter(s) be placed in an inoperative condition from this alarm center? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Specify hours alarm center will be staffed by operating personnel <input type="checkbox"/> Continuous <input type="checkbox"/> Limited hours (specify)	
13. Describe the means by which personnel at the alarm center can determine when there is a deviation from the terms of the station authorization or when operation is not in accordance with the Commission's rules governing the class of station involved. A brief description of each automatic alarm proposed to be used should be included 1/2/3/	
DNA 3.22	

Fig. 47—Control Point Location—Santa Rosa

FCC FORM 401	
10. Location of Control Point(s) 1/2/3/	
Number and Street 3.19 (c)	
City or Town	State
Can transmitter(s) be placed in an inoperative condition from this control point? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Specify hours control point will be staffed by operating personnel <input type="checkbox"/> Continuous <input type="checkbox"/> Limited hours (specify)	
11. Describe the means by which personnel at the control point can determine when there is a deviation from the terms of the station authorization or when operation is not in accordance with the Commission's rules governing the class of station involved. 1/2/	
DNA 3.20 (b)	
12. Location of Alarm Center 1/2/3	
Number and Street Wolf Creek, 6 miles SW of Grass Valley	
City or Town near Grass Valley	State California
Can transmitter(s) be placed in an inoperative condition from this alarm center? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No 3.21 (b & c)	
Specify hours alarm center will be staffed by operating personnel <input checked="" type="checkbox"/> Continuous <input type="checkbox"/> Limited hours (specify)	
13. Describe the means by which personnel at the alarm center can determine when there is a deviation from the terms of the station authorization or when operation is not in accordance with the Commission's rules governing the class of station involved. A brief description of each automatic alarm proposed to be used should be included 1/2/3/	
The Alarm System will indicate: (1) Transmitter failure (2) Receiver failure (3) Power failure 3.22	
14. Will radio facilities be used to connect either control point(s) or alarm center(s) to transmitter(s)? 1/2/	

Fig. 48—Location of Alarm Center—Grass Valley

(c) For a rural subscriber station communicating with a domestic public land mobile radio station, enter an appropriate statement similar to that shown in Fig. 49.

3.21 **Item 12.** Enter information about the station's alarm center as follows:

(a) For rural subscriber stations communicating with domestic public land mobile radio stations, rural subscriber stations under switchhook control, relay stations associated with such rural subscriber stations, and central office or interoffice stations

provided with a control point, enter "DNA" (Fig. 47 and 49).

(b) For all other rural radio stations (except possibly private line), the location of the alarm center must normally be shown (Fig. 48).

Note: Alarm centers associated with rural subscriber stations will usually be at the same location as the alarm center or control point for the associated central office station.

FCC FORM 401

10. Location of Control Point(s) 1/2/ Same as transmitter

Number and Street _____

City or Town _____ State _____

Can transmitter(s) be placed in an inoperative condition from this control point?
 Yes No

Specify hours control point will be staffed by operating personnel
 Continuous Limited hours (specify) _____

11. Describe the means by which personnel at the control point can determine when there is a deviation from the terms of the station authorization or when operation is not in accordance with the Commission's rules governing the class of station involved. 1/2/

This station will be under the same operational control as the mobile units operating with and through base station KMA745.

3.20 (c)

12. Location of Alarm Center 1/2/3/ DNA

Number and Street _____

City or Town _____ State _____

Can transmitter(s) be placed in an inoperative condition from this alarm center?
 Yes No

Specify hours alarm center will be staffed by operating personnel
 Continuous Limited hours (specify) _____

13. Describe the means by which personnel at the alarm center can determine when there is a deviation from the terms of the station authorization or when operation is not in accordance with the Commission's rules governing the class of station involved. A brief description of each automatic alarm proposed to be used should be included. 1/2/3/

DNA

3.22

14. Will radio facilities be used to connect either control point(s) or alarm center(s) to transmitter(s)? 1/2/

Yes No

If "Yes", identify radio facilities:

14. Will radio facilities be used to connect either control point(s) or alarm center(s) to transmitter(s)? 1/2/

Yes No

If "Yes", identify radio facilities:

Control facilities will be superposed on the currently authorized 450 Mc/s radio channel between this station and station KMG37, Wolf Creek, California.

3.23

15. Applicants for individual user units should attach as Exhibit _____ the showing required by Section 21.15(i) of Part 21 (See Instruction 9(i)). 2/ 3/

DNA

3.24

1/ If application is for individual user mobile unit, or for mobile units other than this item need NOT be answered.

Fig. 50—Radio Used to Provide Control Facilities

14. Will radio facilities be used to connect either control point(s) or alarm center(s) to transmitter(s)? 1/2/

Yes No

If "Yes", identify radio facilities:

3.23

15. Applicants for individual user units should attach as Exhibit _____ the showing required by Section 21.15(i) of Part 21 (See Instruction 9(i)). 2/ 3/

DNA

3.24

1/ If application is for individual user mobile unit, or for mobile units other than this item need NOT be answered.
2/ If application is for temporary-fixed station facilities pursuant to Section 21.15(i) of Part 21, this item need NOT be answered.

Fig. 51—Separate Control Facilities

Fig. 49—Location of Alarm Center—Control Point

(c) Answer the subitems under Item 12 as appropriate (Fig. 48).

3.22 **Item 13:** Enter "DNA" if no alarm system is furnished (Fig. 47 and 49). If an alarm system is furnished, provide a brief description of the proposed system (Fig. 48).

3.23 **Item 14:** Answer by entering "X" in the appropriate box. If answered "Yes," identify the radio facilities (Fig. 50 and 51).

3.24 **Item 15:** Enter "DNA" (Fig. 50 and 51).

3.25 **Item 16:** In the appropriate space, place an "X" to indicate whether or not multiplex transmission will be used. If "Yes" is checked, include a note to indicate that (1) the circuits will be intrastate only, (2) a separate application (P-C No. _____ dated _____) was filed with the Commission for Section 214 authority for interstate circuits to be routed over this system, or (3) a separate application will be filed with the Commission for Section 214 authority for interstate circuits to be routed over this system. If it is desirable to include the note with other information in the transmittal letter, type "See transmittal letter" in the space for the note [FCC 21.604(b)] (Fig. 52).

Page 2

16. Do Proposed radio facilities contemplate multiplex type of transmission? Yes No
 If authorization for the channelizing equipment has previously been granted by the Commission, or is being requested under separate application, specific reference thereto should be made herein
 See transmittal letter 3.25

17. Transmitting antenna See Exhibit 3

Make Existing and proposed Double Radio Company	Type No. RGA/U
Maximum antenna power gain over reference half-wave dipole antenna 3.26	
35 decibels	

18. Radiation characteristics of installed antenna system 3.27
 Non horizontal plane
 Directional plane with center of main lobe of radiation directed * degrees * minutes clockwise from true North
 * Same as Item 7(g) to the extent permitted by antenna characteristics and alignment procedures.
 Directional antenna pattern (polar diagram) showing power distribution (expressed in decibels of power gain over a reference half-wave dipole antenna) of signal radiated in the horizontal plane is attached hereto as Exhibit No. 4

19. Antenna transmission line data 3.28

Make	Type No.	Length (feet)	Total Loss (decibels)
Proposed Antenna System Belden	RGA/U	60	2.9
Existing Antenna System Amphenol	RGA/U	30	0.75

Fig. 52—Proposed Antenna Changes

3.26 Item 17: Enter the manufacturer's name and the type number of the proposed and/or existing transmitting antenna. Enter the maximum antenna power gain (in decibels) over a reference half-wave dipole antenna. Make sure that the antenna characteristics conform to the requirements of FCC 21.108(b) and (c). (See Fig. 52.)

Note: The responses shown in Fig. 52 are appropriate for the example application since both existing and new antennas will be used. "See Exhibit 3" (entered at the top of Item 17) refers to the antenna sketch prepared in response to Item 20.

3.27 Item 18: Enter the specified information about the antenna system.

- (a) Enter "X" in the appropriate box indicating that a directional antenna will be used.

Exceptions must be handled on a case-by-case basis [FCC 21.108(a)]. The antenna normally will be oriented with the center of the major lobe of radiation in the horizontal plane directed toward the station with which it communicates. This will be approximately the azimuth shown in Item 7(g) and would be answered as shown in Fig. 52. If not oriented on the same azimuth shown in Item 7(g), a waiver of FCC 21.108(a) must be requested in an exhibit or in the transmittal letter, and the azimuth should be entered in the space provided. In addition, a note should be added at the bottom of Item 18 indicating where the request for a waiver is shown (Fig. 21 and 22).

- (b) An antenna radiation pattern should be submitted as an exhibit on letter-size (preferably 8 by 10-1/2 inch) polar coordinate paper showing the antenna power gain distribution in the horizontal plane expressed in decibels over a reference half-wave dipole antenna (Fig. 23).

3.28 Item 19: Enter the required antenna transmission line data (Fig. 52). Also enter the manufacturer's name, type number, and loss (in decibels) for antenna duplexers or diplexers if used. When complicated antenna systems are proposed, such as those which employ duplexers or diplexers, a block diagram of the system should be shown on an exhibit (Fig. 22). (See paragraph 2.27.)

3.29 Item 20: Provide information about the proposed and existing antenna structures (for each frequency shown under Item 7) as follows:

- (a) Enter the overall height to the top of the structure in feet above ground and feet above mean sea level. The heights should include any surmounted objects such as lights or lightning rods (Fig. 53).

- (b) Prepare a sketch of the antenna structure as an exhibit including all information specified (Fig. 54). Enter the exhibit number in the space provided (Fig. 53). While it is unnecessary to draw the sketch to exact scale, it should be neat and legible and so proportioned that all pertinent features are readily apparent. All pertinent features should be identified, including any existing portions. If antennas associated with another radio station are mounted on the

same structure, these should be identified showing the station's call sign, licensee, and service [FCC 21.15(c)]. Show the overall height above mean sea level (AMSL) to the top of the structure as shown in Fig. 54. A plan view may be included showing true north and the azimuth of the proposed transmitting path and receiving point to which it is directed. [Refer to FCC 21.15(a), (c), and (d).] (Also see Practice 400-550-102 for instructions pertaining to Form 714.)

20. Description of transmitting antenna structure (Heights given should include obstruction light, if required, and any other summounting appurtenance) <i>V 2</i>	
Overall height in feet above ground	Overall height in feet above mean sea level
79	2005 3.29
Submit, as Exhibit No. <u>3</u> , a vertical profile sketch of total structure (including supporting building, if any) giving heights <u>2005</u> for all significant features. <u>Clouds indicated</u>	

Fig. 53—Transmitting Antenna Structure

(c) In cases where a receiving-only antenna structure is associated with the adjacent radio station, a copy of FCC Form 714 together with an antenna structure sketch of the proposed antenna should be included as an exhibit [FCC 21.15(d)]. The FCC will associate the lighting and marking requirements, if any, of the receive-only antenna structure with the nearest adjacent station (Fig. 25).

3.30 Item 21: Enter "X" in the appropriate box. If "Yes" is checked, enter "See Exhibit _____" and add the sketch's exhibit number as shown in Fig. 55.

3.31 Item 22: Enter the distance to the nearest runway of the nearest aircraft landing area. The distance must agree with previously filed information unless there has been some rearrangement of nearby airports. (Refer to the current Airman's Information Manual for the location of FAA-controlled airports and to the most recent sectional aeronautical charts for military and private airports.) If the distance has changed, determine and enter the correct distance and provide a brief explanation of the reason for showing the change (Fig. 55 and 56).

3.32 Item 23: Enter a brief description of items which would tend to shield the antenna structure, or enter "None" if no shielding objects exist. This information must normally agree with previously filed information (Fig. 55 and 56).

3.33 Item 24: For an existing station, the required map would normally have been filed and Item 24 may be cross-referenced as shown in Fig. 57 and 60. If the map has not been previously filed, prepare and file a map in accordance with instructions in paragraph 2.32 of this Practice.

3.34 Items 25 and 26: Enter "DNA" (Fig. 57).

3.35 Item 27: Enter information about related stations and the receiving location as follows:

(a) **Items 27(a) and (b):** Enter the exact location of each fixed antenna (both existing and proposed) which will receive the signals of the proposed radio facilities. The locations shown should be consistent with the information shown in Item 7(i) and in Item 5 on any associated application (Fig. 58).

(b) **Item 27(c):** Enter the transmitting frequency(s), call sign(s) [if an authorized station(s)], and location of communicating stations. This information should agree with the data entered in Items 5 and 7 of the associated FCC Form 401 (if applicable) or with information on the communicating station license (Fig. 58).

3.36 Item 28: Enter information pertinent to frequency measurements for the station as follows:

(a) **Item 28(a):** Enter "A suitable frequency meter will be provided" (Fig. 59).

(b) **Item 28(b):** Enter "DNA" (Fig. 59).

(c) **Item 28(c):** Enter the name of the instrument that will probably be provided in a statement similar to the following: "A Cushman Electronics MCM-5 frequency meter or other suitable frequency meter" (Fig. 59).

(d) **Item 28(d):** Enter the frequency meter tolerance required by FCC 21.102 for the proposed transmitting frequencies, and add "or better" as shown in Fig. 59.

FCC FORM 401
EXHIBIT NO.3

THE PACIFIC TELEPHONE AND TELEGRAPH COMPANY
RURAL RADIO SERVICE
STATION KMW66 NEAR SANTA ROSA, CALIFORNIA
EXISTING AND PROPOSED ANTENNA STRUCTURE

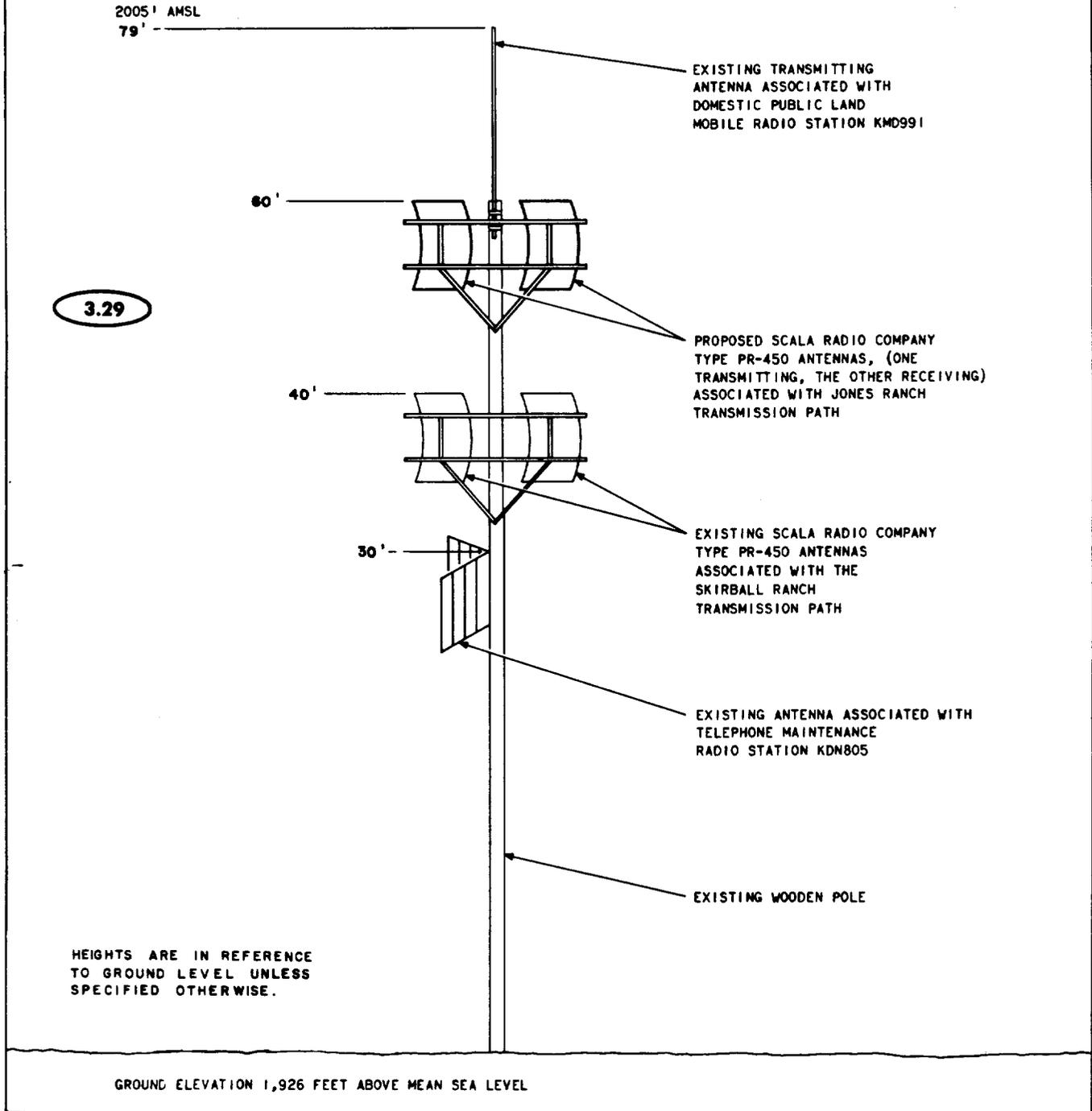


Fig. 54—Exhibit 3—Existing and Proposed Antenna Structure

...significant features. Clearly in portion, noting particulars of aviation obstruction already prescribed.

3.30 Proposed transmitting antenna be supported by the antenna structure of any other radio station? Yes No

3.31 Distance from transmitting antenna structure to nearest runway aircraft landing area: 2200 feet. 2/

3.32 List any natural formation or existing man made structure (hills, trees, water tanks, tower, etc.) which applicant believes would tend to shield the antenna structure from aircraft and thereby minimize the aeronautical hazard of the antenna structure. None

...than those associated with a single permanently installed base station, as 21.610 and 21.611 or 21.707 and 21.708, this item need NOT be answered.

Fig. 55—Antenna Supporting Structure Data

(e) **Item 20(a)** Enter "By comparison with other standards" (Fig. 59).

(f) **Item 20(b)** Enter "As required" (Fig. 59).

3.37 Engineering Certification The engineering certification (bottom of Page 3 of FCC Form 401) must be signed by the person having overall responsibility for the engineering data entered in Items 1 through 28. Normally, this will be the chief engineer of the company or of the area of the company which prepared the application. The mailing address of the person who signs this certification and the date of signing must be entered in the space provided (Fig. 60).

...between this station and Station (DPT), Wolf Creek California.

3.31 Distance from transmitting antenna structure to nearest aircraft landing area: None 2/

3.32 List any natural formation or existing man made structure (hills, trees, water tanks, tower, etc.) which applicant believes would tend to shield the antenna structure from aircraft and thereby minimize the aeronautical hazard of this antenna structure. None

3.31 If application is for individual user mobile unit, or for mobile units other than those associated with a single permanently installed base station, this item need NOT be answered.

If application is for temporary-fixed station facilities pursuant to Sections 21.610 and 21.611 or 21.707 and 21.708, this item need NOT be answered.

If application is filed under Part 25 this question need NOT be answered.

3.31 **Shown as 52,500 feet on construction permit application, file no. 2140-C1-P-69, dated Oct. 3, 1967. Most recent U.S. aeronautical chart shows distance as 71,500 feet.

Fig. 56—Antenna Supporting Structure Data With Correction

3.38 Items 29 Through 53 Since the responses to Items 29 through 53 are almost identical for both an existing and a new station, refer to paragraphs 2.44 through 2.57 of this Practice for instructions for completing these items. Where appropriate, the responses given must be consistent with previously filed information. Figures 61 through 67 show appropriate responses to these items for the Santa Rosa application.

3.39 Certification Enter the official corporate name of the company (spelled out in full) in

the space provided (bottom of Page 6 of FCC Form 401). The name entered must be identical to the company name shown in Item 1. The certification must be signed by an officer of the company or by someone to whom the required authority has been delegated. The date of signing and the printed name of the person signing and his title must be entered as shown in Fig. 68.

FCC Form 401

24. Topographic data for fixed stations *1/2/*

3.33 duplicate as Exhibit No. _____, a topographic map (a Geological Survey quadrangle or map of comparable detail and accuracy) with the exact location of the proposed station drawn and identified thereon. In cases where FCC Form 401-A is required to be filed, such map must be furnished in triplicate and should be attached to such Form.

25. Topographic data for base and aeronautical ground stations:

3.34 duplicate as Exhibit No. _____, topographic map(s) (U.S. Geological Survey quadrangles or maps of comparable detail and accuracy) for the area within 10 miles of the proposed transmitter location and draw thereon the following:

(1) Proposed transmitting antenna location plotted accurately to the nearest second of Latitude and Longitude.

(2) Eight uniformly spaced radials each extending to a distance of ten or more miles from the proposed transmitting antenna location in addition to radials in direct line with each co-channel station within 75 miles.

(b) Attach, as Exhibit No. _____, profile graphs with reasonably large scales for the radials in (a) (2) above. Each graph shall show the ground elevation along the radial and the elevation of the antenna radiation center. Identify each graph by its azimuth bearing from the proposed antenna location. Direction of True North shall be zero azimuth; azimuths of other radials shall be measured clockwise from True North. Show source of topographical data on each graph.

26.(a) From the profile graphs in 25(b) for the eight mile distance between two and ten miles from the proposed transmitting location, and in accordance with the procedure prescribed in the Commission's rules, supply the following tabulation of data: *1/2/*

Radial Bearing (Degrees True)	Average Elevation of Radial (2-10 mi.) in Feet Above Mean Sea Level	Height of Antenna Radiation Center in Feet Above Average Elevation of Radial (2-10 miles)	Effective Radiated Power in Radial Direction (watts)
0°			
45°			
90°			
135°			

Fig. 57—Topographic Data

28. Frequency measurements

(a) What provision will be made for measurement and periodic checking of the station frequency?
A suitable frequency meter will be provided. **3.36 (a)**

(b) If a frequency measuring device is not to be provided, give name and address of frequency checking agency to be employed by applicant.
DMA **3.36 (b)**

(If frequency checking agency is shown above, the subparagraphs of this question are not to be answered. **3.36 (c)**)

(c) What type of frequency measurement or calibration will be used?
Frequency meter or other suitable frequency meter

(d) Within how many cycles or within what percentage will this apparatus measure the frequency?
0.000125 % or better **3.36 (d)**

(e) What methods will be used to check calibration of this precision instrument?
By comparison with other standards. **3.36 (e)**

(f) How often will calibration of this instrument be checked?
As required. **3.36 (f)**

Fig. 59—Frequency Measurements

Page 3

27. Location of Fixed Antennas Receiving Signals of This Station *1/2/*

(a) City or town *Jones* County *Sonoma* State *California*

Geographic coordinates (to be determined to nearest second)

North Latitude **3.35** *38° 40' 12"* West Longitude *122° 50' 19"*

(b) City or town *Skirball Ranch* County *Sonoma* State *California*

North Latitude *38° 59' 58"* West Longitude *123° 11' 15"*

(c) List frequencies, call letters, and location of stations to be regularly received by station described in Item 5 *459.05 MHz 10000 Skirball Ranch 9 miles West of Stags Springs and 459.15 MHz proposed New Station 6 miles West of Healdsburg (Sonoma) California*

28. Frequency measurements

(a) What provision will be made for measurement and periodic checking of the station frequency?

Fig. 58—Location of Receiving Antennas

BY Empar

3.37 **CERTIFICATION OF PERSON RESPONSIBLE FOR PREPARING**
Engineering Information Submitted in this Application

I hereby certify that I am the technically qualified person responsible for preparation of the engineering information contained in this application; that I am familiar with Parts 21 or 25 of the Commission's Rules; that I have either prepared or reviewed the engineering information submitted in this application; and, that it is complete and accurate to the best of my knowledge.

By [Signature] Dated this 26 day of Sept, 19 77

Address: 2700 Matt Avenue [City] [State]

WILLFUL FALSE STATEMENTS MADE ON THIS FORM ARE PUNISHABLE BY FINE AND IMPRISONMENT. U.S. CODE, TITLE 18, SECTION 1001.

1/ If application is for individual user mobile unit, or for mobile units other than those associated with a single permanently installed base station, this item need NOT be answered.
 2/ If application is for temporary fixed station facilities pursuant to Sections 21.610 and 21.611 or 21.707 and 21.708, this item need NOT be answered.
 3/ If application is filed under Part 25 this question need NOT be answered.
 4/ If communication with one or more foreign countries is proposed, identify the country(ies) and complete applicable parts of Form 27.

3.33

See construction permit application, file no. 2140-CT-P-68

Fig. 60—Engineering Certification

who signs
 signing mem
 (§ 60)

3.31

[Signature]

Structure
 adjacent to
 from aircraft
 antenna

3.32

use station

3.31

dated

FCC Form 401	3.38	LEGAL AND OTHER DATA	Page 4
29. Applicant is: (check one) <input checked="" type="checkbox"/> Individual <input type="checkbox"/> Partnership <input type="checkbox"/> Corporation <input type="checkbox"/> Unincorporated Association			
(X yes or no)			YES NO
30. Is individual Applicant or each member of a partnership Applicant a citizen of the United States? <input checked="" type="checkbox"/>			
31. Is Applicant or any party to this application a representative of an alien or of a foreign government? <input checked="" type="checkbox"/>			
32. If Applicant is a Partnership, attach as EXHIBIT _____, one copy, properly certified, of the partnership agreement, or if oral, complete details thereof. <input checked="" type="checkbox"/>			
33. If Applicant is a Corporation (including joint stock Companies) or Association, answer the following: <input checked="" type="checkbox"/> (See 21.15c of the Rules)			
a. Under laws of what State or Country is it organized? <u>U</u>			
(1) Attach as EXHIBIT(s) _____ a certified copy of the Articles of Incorporation (charter) and the By-Laws. (2) Attach as EXHIBIT _____ the names, addresses and percentages held of all stockholders owning and/or voting 10 percent or more of applicant's stock.			
b. Give address of applicant's principal office:			

c. Is any director or officer an alien?			
d. Is more than one-fifth of the capital stock or membership interest voted by aliens or their representatives, or by a foreign government or representative thereof, or by any corporation organized under the laws of a foreign country?			
e. Is Applicant directly or indirectly controlled by any other corporation? (If "Yes" give names and addresses of all such controlling corporations including organization having final control.)			
f. Is the Applicant directly or indirectly controlled by any other corporation of which any officer or more than one-fourth of the directors are aliens? (If "Yes", attach as EXHIBIT _____ a statement relating the facts)			
g. Is more than one-fourth of the capital stock of any controlling corporation owned of record, or may it be voted by aliens or their representatives, or by a foreign government or representative thereof, or by any corporation organized under the laws of a foreign government? (If "Yes", attach as EXHIBIT _____ a statement relating the facts)			
h. Under laws of what State or country is each such controlling corporation organized? _____			
(Attach as EXHIBIT(s) _____ a certified copy of the Articles of Incorporation (Charter) and the By-Laws)			
34. Has applicant or any party to this application had any FCC station license or permit revoked or had any application for permit, license or renewal denied by this Commission? <input checked="" type="checkbox"/> (If "Yes", attach as EXHIBIT _____ a statement giving call sign of license or permit revoked and relate circumstances)			
35. Has any court finally adjudged the applicant, or any person directly or indirectly controlling the applicant, guilty of unlawfully monopolizing or attempting unlawfully to monopolize radio communication, directly or indirectly, through control of manufacture or sale of radio apparatus, exclusive traffic arrangement, or any other means or of unfair methods of competition? <input checked="" type="checkbox"/> (If "Yes", attach as EXHIBIT _____ a statement relating the facts)			
36. Has the applicant, or any party to this application, or any person directly or indirectly controlling the applicant ever been convicted of a crime for which the penalty imposed was a fine of \$500 or more, or an imprisonment of six months or more? <input checked="" type="checkbox"/> (If "Yes", attach as EXHIBIT _____ a statement relating the facts)			
37. Is applicant, or any person directly or indirectly controlling the applicant, presently a party in any matter referred to in Items 34, 35 and 36? <input checked="" type="checkbox"/> (If "Yes", attach as EXHIBIT _____ a statement relating the facts)			
38. Is applicant directly or indirectly, through stock ownership, contract, or otherwise currently interested in the ownership or control of any other radio stations licensed by this Commission? If "Yes", give: <input checked="" type="checkbox"/>			
Call Sign & Service	Location	Name of Licensee	
39. Has applicant ever been directly or indirectly interested in the ownership or control of any radio stations other than those stated in 38 above? If "Yes", give: <input checked="" type="checkbox"/>			
Call Sign & Service	Location	Name of Licensee	
Licensed radio stations formerly owned or operated by companies of the Bell System			
If application is for individual user mobile unit, or for mobile units other than those associated with a single permanently installed base station, this item need NOT be answered.			

Data on file with the Commission on current FCC Form 401 has been deleted to protect privacy.

Fig. 61—Form 401—Example of Page 4

FCC Form 401	3.38	Page 5	
		YES	NO
40. Will applicant offer communication services to the public 24 hours every day? <u>1/2/</u> If "No", state hours and days during which station will be open for such service:			
Hours	Days	*	
41. Are the charges for the proposed service contained in a tariff filed with the FCC? <u>1/1/</u> If "Yes", identify: <u>FCC tariffs 229, 204, 281, 282, 283 and applicable interstate tariffs will apply</u> If "No", attach as EXHIBIT _____ a schedule of proposed charges. (The statement of rates required herein does not constitute a filing of schedules of charges required by Section 203 of the Communications Act of 1934, as amended, prior to commencing service.)		*	
42. Does local or state law require any franchise or other authorization to maintain or render the services proposed herein? <u>1/</u> (If "Yes", attach as EXHIBIT _____ a single certified copy of franchise or authorization)			*
43. If application is for modification of a construction permit: <u>1/</u> (a) The time required to complete construction after authority is granted is _____ months. <u>12</u> (b) Attach as EXHIBIT _____ a statement giving: (1) the extent of construction as of the date of this application, and (2) the justification for not having completed construction in accordance with outstanding construction permit.			
44. In what businesses, employment or activities, other than communications common carrier, are applicant and its principals engaged? <u>1/</u> (Attach as EXHIBIT _____ a statement giving the following for each such activity: (a) nature of activity (b) location of activity (c) hours devoted to each activity			
45. What is applicant's relation to station? <u>1/</u> <input checked="" type="checkbox"/> Owner <input type="checkbox"/> Lessee <input type="checkbox"/> Other (Attach as EXHIBIT _____ copies of all agreements affecting applicant's ownership, operation, use and/or control of the station facilities.)			
46. Is applicant directly or indirectly interested in or affiliated with any entity or person engaged in the business of providing a public land line message telephone service. <u>1/</u> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (If "Yes", and applicant is not a landline telephone carrier, attach as EXHIBIT _____ a statement relating the facts)			
47. Estimated cost to establish proposed facilities:			
a. Transmitter(s) and receiver(s)		\$ <u>2000</u>	
b. Antenna(s) and waveguide or antenna transmission line(s)		\$ <u>500</u>	
c. Power plant, control, and common equipment		\$ _____	
d. Land, buildings, towers, etc.		\$ _____	
e. Channelizing equipment		\$ _____	
f. Miscellaneous		\$ <u>100</u>	
<i>Total cost</i>		\$ <u>2600</u>	
48. Attach as EXHIBIT _____ a statement showing applicant's financial ability to construct and operate this station. Include the most recent balance sheet of the applicant (must be as of a date at least within 90 days of the filing of this application.) If loans or other credit arrangements are contemplated, duplicate copies of written instruments, other than demand notes, must be submitted. (Copies of standard manufacturer's lease or sales agreements on file with the Commission need not be submitted but should be identified by manufacturer's name and form number, and the material terms and conditions should be outlined.) Names and addresses of all parties to financial agreements must be stated. Oral agreements must be summarized and details submitted with regard to all material terms thereto. <u>1/</u>			
49. Attach as EXHIBIT _____ a statement of the number and description of all technical personnel to be employed directly by licensee for maintaining and repairing the proposed facilities, and describing the specific arrangements for prompt maintenance or repair of the proposed facilities. <u>2/</u>			
50. Attach as EXHIBIT _____ a detailed statement covering the manner in which the proposed service will be operated, including number of persons to be so employed, division of work, and hours of physical supervision by applicant. If facilities are to be operated and/or maintained in conjunction with any other business, give name and address of owner of such business and submit copies of working agreements. <u>1/</u>			
1/If application is for individual user mobile unit, or for mobile units other than those associated with a single permanently installed base station, this item need NOT be answered. 2/If application is filed under Part 25 this question need NOT be answered.			

Fig. 62—Form 401—Example of Page 5

FCC FORM 401
EXHIBIT 5

3.38

THE PACIFIC TELEPHONE AND TELEGRAPH COMPANY
RURAL RADIO SERVICE
STATION KMW66 NEAR SANTA ROSA, CALIFORNIA

Answer to Item 44:

In addition to common carrier activity, the Pacific Telephone and Telegraph Company is also engaged in directory advertising, miscellaneous physical properties, and other investments within the state of California. The annual hours devoted to these activities by company employees are estimated to be 2,850,000. This represents 1.5 percent of the total work hours of employees of this company.

Fig. 63—Exhibit 5—Answer to Item 44

FCC FORM 401
EXHIBIT 6

3.38

THE PACIFIC TELEPHONE AND TELEGRAPH COMPANY
RURAL RADIO SERVICE
STATION KMW66 NEAR SANTA ROSA, CALIFORNIA

Answer to Item 48:

Balance sheets (MR No. 2) of this company are filed monthly with the Commission. Annual operating revenues of one million dollars or more are demonstrated in the Annual Report Form M also filed with the Commission. The Pacific Telephone and Telegraph Company maintains a credit rating equivalent to, or better than, a Standard & Poor's rating of "BBB" or a Moody's bond rating of "Baa."

Fig. 64—Exhibit 6—Answer to Item 48

THE PACIFIC TELEPHONE AND TELEGRAPH COMPANY
RURAL RADIO SERVICE
STATION KMW66 NEAR SANTA ROSA, CALIFORNIA

3.38

Answer to Items 49 and 50:

All maintenance and operations of this station are performed by technically qualified personnel of this company and are under its direct supervision. There are four employees holding valid second-class radio-telephone operator licenses normally associated with maintenance and repair of this station. A sufficient number of these personnel are on duty (on a 24-hour basis) at the maintenance center (control point) located at Santa Rosa, California, and are available to be promptly dispatched to assure proper station operation.

Therefore, in case of an equipment malfunction requiring correction, maintenance personnel will be promptly dispatched to correct any trouble condition. Under normal conditions, the maintenance personnel will arrive at this station in less than 2 hours.

Fig. 65—Exhibit 7—Answer to Items 49 and 50

3.38

THE PACIFIC TELEPHONE AND TELEGRAPH COMPANY
RURAL RADIO SERVICE
STATION KMW66 NEAR SANTA ROSA, CALIFORNIA

Applicant proposes to construct additional facilities at station KMW66, 7 miles NE of Santa Rosa, California. This is an existing antenna site and is owned by the Pacific Telephone and Telegraph Company.

Fig. 66—Exhibit 8—Site Availability

3.38

FCC Form 001

Page 6

51. Applicants not engaged in providing public wire line communication service shall attach as EXHIBIT _____ a statement showing the extent to which the applicant intends actively to participate in the day-to-day operation of the proposed facilities. In the event the applicant does not intend actively to participate in the day-to-day management and operation, he should state his reasons therefor and fully disclose the details of the proposed operations, including a showing of how control thereof will be retained by the applicant. The statement shall also set forth the names and addresses of any and all persons (except applicant) who have a substantial interest or responsibility in the supervision, operation, maintenance and/or control of proposed facilities, the relationship of each such person to the applicant and the extent of control to be exercised by such persons. ~~Not~~
52. Attach as EXHIBIT _____ a complete statement, setting forth facts which show how the instant proposal will be in the public interest and will satisfy specified needs for service, detailing the number and activities of prospective customers and disclosing all relationships, affiliations or connections between the applicant and prospective customers. If surveys or solicitations have been made, the nature and detailed results thereof should be submitted. The statement should contain the names of any common stockholders, officers, directors, employees or individuals closely related to the management or control of the facilities of the applicant or any subscriber. Applications for authorizations in the Point-to-Point Microwave Radio service proposing the rendition of service to community antenna television systems should include a statement indicating whether or not the proposed customers ~~have~~ have obtained whatever necessary local authorizations are required for the operation of the CATV systems. ~~Not~~ ~~submitted~~
53. Is applicant personally familiar with the provisions of Part 21 or 25, as applicable, of the Commission's Rules? Yes No

EXHIBITS AND APPLICABLE SEC. and or ITEM NO. OF RULE OR FORM (See Instruction 7)					
Exhibit Number	Sec. and/or Item No. of Rule or Form	Exhibit Number	Sec. and/or Item No. of Rule or Form	Exhibit Number	Sec. and/or Item No. of Rule or Form
1	Rule Section 21.13(e), Environmental Statement				
2	Item 10				
3	Items 17, 20, & 21				
4	Item 18				
5	Item 44				
6	Item 48				
7	Items 49 and 50				
8	Rule Section 21.16(a), Site Availability				
	Transmittal letter - Item 52, Rule Section 21.609				
	FCC Form 714 - Rule Section 21.15(d)				

Fig. 67—Legal and Other Data—List of Exhibits

CERTIFICATION

The APPLICANT waives any claim to the use of any particular frequency or of the ether as against the regulatory power of the United States because of the previous use of the same, whether by license or otherwise, and requests a construction permit in accordance with this application. All statements made in the attached exhibits are a material part hereof and are incorporated herein as if set out in full in this application. The undersigned, individually and for the applicant, hereby certifies that the statements made in this application are true, complete and correct to the best of his (her) knowledge and belief, and are made in good faith.

Dated this 22nd day of Oct, 1971.

Applicant The Pacific Telephone and Telegraph Company
(must correspond with that shown on page 1)

By C. B. Morgan 
(printed)

Title General Manager
(position held by person signing for applicant)

WILLFUL FALSE STATEMENTS MADE ON THIS APPLICATION ARE PUNISHABLE BY FINE AND IMPRISONMENT (U.S. Code, Title 18, Section 1017) AND/OR REVOCATION OF ANY STATION LICENSE OR CONSTRUCTION PERMIT (U.S. Code, Title 47, Section 312(a)(1)).

3.39

1/If application is for individual user mobile unit, or for mobile units other than those associated with a single permanently installed base station, this item need NOT be answered.
2/If application is filed under Part 25 this question need NOT be answered.

Fig. 68—Certification