JOHN J. MULLANEY
JOHN H. MULLANEY, P.E. (1994)
ALAN E. GEARING, P.E.

301 921-0115 Voice
301 590-9757 Fax
mullengr@aol.com E-mail

MULLANEY ENGINEERING, INC.
9049 SHADY GROVE COURT
GAITHERSBURG, MD 20877

ENGINEERING EXHIBIT EE:

RADIO CAMPESINA BAKERSFIELD, INC.
AM BROADCAST STATION KMYX
1310 KHZ, TAFT, CALIFORNIA

LICENSED: 0.045 KW-N/1.0 KW-D ND U
PROPOSED: 0.020 KW-N/1.0 KW-D ND U

22 MAY 2002

FCC FACILITY ID NUMBER 54512

ENGINEERING EXHIBIT
IN SUPPORT OF
AN APPLICATION FOR CONSTRUCTION PERMIT
TO CORRECT SITE COORDINATES AND EFFECTIVE RADIATOR HEIGHT
OF EXISTING CLASS D AM STATION

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DECLARATION

I, Alan E. Gearing, declare and state that I am a graduate electrical engineer with a Bachelor of Science degree in Electrical Engineering from SUNY University at Buffalo, that I am a registered professional engineer in the District of Columbia (since 1979), and that I have provided engineering services in the areas of broadcasting and radio communications since 1973. My qualifications as an expert in radio engineering are a matter of record with the Federal Communications Commission. I am a senior engineer with the firm of Mullaney Engineering, Inc., consulting broadcast and radio communications engineers with offices in Gaithersburg, Maryland.

The firm of Mullaney Engineering, Inc., has been retained by RADIO CAMPESINA BAKERSFIELD, INC. to prepare the instant engineering exhibit and Section III-A of FCC Form 301 in support of ***an application for construction permit to correct site coordinates and effective radiator height*** for existing Class D AM broadcast station KMYX, licensed to Taft, California [FCC Facility ID Number 54512]

All facts contained herein are true of my own knowledge except those stated to be on information and belief, and as to those facts, I believe them to be true. I declare under penalty of perjury that the foregoing is true and correct.

Alan E. Gearing, P.E.
District of Columbia Number 7406

Executed on the 22nd day of May 2002

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NARRATIVE STATEMENT:

I. GENERAL:

This engineering statement has been prepared on behalf of RADIO CAMPESINA BAKERSFIELD, INC. (hereinafter "Campesina"), licensee of AM Broadcast Station KMYX, TAFT, CALIFORNIA [FCC FACILITY ID NUMBER 54512]. KMYX is a Class D station currently licensed to operate on the frequency of 1310 kHz with daytime power of 1,000 watts, employing a non-directional antenna. KMYX also is authorized for secondary nighttime operation with non-directional power of 45 watts.

The purpose of the instant application is to **correct the site coordinates and the notified effective radiator height and hence radiation efficiency** for the authorized KMYX operation. No actual change in site location or tower height is involved, only correction of the data on file with the FCC for the station. The corrected site location is approximately 257 meters west-northwest of the on-file location. The correct effective radiator height is slightly shorter (1.4 meters) than the on-file value.

The only other modification proposed is a **decrease in secondary nighttime operating power.** This became necessary when a nighttime allocation study was undertaken employing the new site coordinates and it was discovered that the authorized KMYX secondary nighttime power of 45 watts did not comply with current-day nighttime interference protection criteria.

The changes proposed herein fall within the definition of a minor change as given in §73.3571 of the FCC Rules. [See *First Report & Order* in MM Docket No. 98-93; adopted March 23, 1999; released March 30, 1999.] The KMYX facilities comply with the *FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields* and the instant proposal is categorically excluded from environmental processing pursuant to the provisions of Section 1.1306 of the Commission's Rules. A more detailed discussion of environmental factors is included under the heading Environmental Considerations below.

A waiver (if considered necessary) is requested of certain provisions of §§73.37 & 73.182 of the FCC Rules with regard to existing normally prohibited contour overlap and normally prohibited contour overlap with a Mexican station which occurs beyond the US/Mexican border and is the result of a long salt water path. In all other respects the KMYX technical operation as described herein is believed to be in complete compliance with the FCC Rules

Answers to questions on Section III-A of FCC Form 301 [March 2001 version] are incorporated in the following paragraphs, figures, and tables.

ENGINEERING DISCUSSION:

A. KMYX Transmitter/Antenna Location:

It has been determined that the KMYX transmitter/antenna site is actually located approximately 257 meters (approx. 845') from the spot corresponding to the geographic coordinates on file for the station. Figure 1 is a 1:24,000 scale topographic map showing both the previously notified and the corrected site locations. The site is on the south side of Union Oil Road, 200 meters west of Westside Highway [SR 33], 1.8 km (1.1 mi.) south-southwest of Ford City, Kern County, California. The corrected geographic coordinates of the authorized KMYX transmitter/antenna site are:

Latitude:	35°	08'	48"
Longitude:	119°	28'	21"

There are no known radio facilities within the general vicinity of the proposed site. Table 1 is a list of places, other broadcast stations, airfields, and towers within ten kilometers of the KMYX site. From the list it is clear that no existing or proposed AM, FM, or TV broadcast stations are located within three kilometers of the KMYX site.

A computerized analysis of the population (2000 Census) contained within the KMYX daytime blanketing area indicates that there are only 79 persons living within the 1000 mV/m contour. The map of Figure 1 herein shows the location of the KMYX daytime blanketing contour. [Note: Since the KMYX nighttime operation is classed as secondary, the provisions of §73.24(g) do not apply.] Analyzed from the corrected site location, the KMYX operation remains fully in compliance with the provisions of §73.24(g) and Campesina

will fully comply with the provisions of §73.88 concerning responding to reports of blanketing interference.

B. KMYX Antenna:

The authorized KMYX antenna structure is a base-insulated, uniform cross-section, guyed, steel tower. The correct overall height of the tower is 63.1 meters (207') above ground level (AGL). The correct effective electrical height of the tower is 61.1 meters (200.5'). Figure 3 is a vertical plan sketch of the KMYX tower.

The Federal Aviation Administration (FAA) has been notified of the correction in the KMYX tower coordinates and overall height. The FAA issued a "Determination of No Hazard to Air Navigation" under ASN 01-AWP-4243-OE. The KMYX antenna structure has been registered under the provisions of Part 17 of the FCC Rules using the corrected data and was issued ASR #1234171.

The authorized KMYX antenna ground system consists of 120 buried copper wire radials evenly spaced about the tower. Each radial has a nominal length of 57.2 meters (188'), which is equivalent to 90 electrical degrees at KMYX's operating frequency of 1310 kHz. A plat of the KMYX site showing the tower location and ground system layout is included herein as Figure 2.

At KMYX's operating frequency of 1310 kHz, a 61.1-meter tower is equivalent to 96.1 electrical degrees. A computer program based on Figure 8 of §73.190 of the FCC Rules, and incorporating standard correction factors for ground systems having radials shorter than a quarter wavelength, was used

to determine the efficiency for the corrected tower height at 1310 kHz. The theoretical efficiency of the antenna system was thus determined to be 309.8 mV/m at one kilometer for one kilowatt, in compliance with the requirements of §73.189 of the FCC rules. (For the proposed 20-watt secondary nighttime operation, the radiated field strength will be 43.8 mV/m @ km)

C. Principal Community Coverage:

Figure 4-A, herein, is a map showing the location of the KMYX daytime 5.0 mV/m and 2.0 mV/m contours based upon the corrected site location. Figure 4-B shows the daytime 0.5 mV/m contour. From Figure 4-A, it is evident that the slight shift in antenna location resulting from the coordinate correction does not affect the 100 percent 5 mV/m coverage provided by KMYX to the principal community to be served - Taft, California.

D. Daytime Allocation Study:

Table 2 is a tabulation of stations pertinent to the operation of Station KMYX on 1310 kHz at Beckley. Figures 5-A and 5-B are a series of conductivity maps showing the locations of applicable allocation contours for KMYX and the more critical stations from Table 2. (Note: It is the undersigned's understanding that full-scale reproduction of the FCC's M3 map is not required for electronic filing. A full-scale version of Figures 5-A and 5-B plotted on the FCC's M3 map will be provided upon request.) Figure 5-A, Sheets 1 through 3, show the co-channel allocation situation, while Figure 5-B, Sheets 1 and 2, show the first adjacent channel allocation situation. There are no second or third adjacent channel stations close enough to warrant mapping.

These maps show that the locations of the KMYX allocation contours based upon the corrected information submitted herein are almost identical to the corresponding contours based upon the previously notified station information. Furthermore, a close inspection of the expanded scale maps reveals that in those instances where normally prohibited contour overlap does occur with another domestic station, the corrected contours are contained within the corresponding authorized contours. Finally, the normally prohibited contour overlap which occurs between KMYX and Mexican station XEC is entirely the result of the long salt water path along the California coast. In fact, the caused overlap to XEC occurs along the coast north of Los Angeles - approximately 280 km north of the US/Mexican border. Hence, there is **no** increase in normally prohibited contour overlap with any station, nor has any new prohibited contour overlap occurred. [NOTE: If considered necessary, Campesina respectfully requests a waiver of the provisions of §§73.37 & 73.182 with regard to the existing normally prohibited contour overlap and the overlap with Mexican station XEC which occurs beyond the US/Mexican border and is the result of a long salt water path.]

E. Conductivities and Unattenuated Field Strengths:

The FCC Conductivity Map, Figure M-3, was used to establish the effective conductivities for all stations in the absence of measurement data. Measurement data was not readily available for any station. Since the corrected KMYX allocation contours are essentially identical to the corresponding authorized contours, use of measurement data would not change the conclusions reached herein regarding compliance with the FCC's daytime allocation requirements.

Where applicable, the equivalent distance method was used to establish the distances to contours.

The FCC's AM station database has been used to obtain parameters of all stations considered in the allocation study except for the corrected KMYX operation which is specified herein.

F. KMYX Nighttime Operation:

The permissible non-directional nighttime power was calculated by determining the most restrictive nighttime protection requirement. For the corrected KMYX operation this most critical protection is toward station KMKY, 1310 kHz, Oakland, CA. The existing KMKY 25% RSS night limit is 5.28 mV/m, with a minimum contribution of 1.34 mV/m from station KXAM, 1310 kHz, Mesa, AZ. KMYX would be permitted to radiate a maximum field strength of 40.7 mV/m toward KMKY over a vertical angle range of 19.3 - 30.5 degrees. At the proposed nighttime power level of 20 watts, KMYX would radiate a maximum signal of 40.1 mV/m toward KMYX over the critical vertical angle bracket. Data employed in the nighttime allocation study are shown in Figure 6 and Table 3.

G. Environmental Considerations:

Campesina believes that operation of AM broadcast station KMYX, as specified herein, will not significantly affect the environment for the following reasons.

The site does not meet any of the criteria specified in Section 1.1307 of the FCC Rules. More specifically, the KMYX facilities are not known to fall

within any of the categories enumerated in Sections 1.1307(a)(1)-(7) and will not involve the use of high intensity white lights. Furthermore, operation of the facility will not involve the exposure of workers or the general public to levels of radio frequency electromagnetic fields exceeding guidelines adopted by the Federal Communications Commission. [The current FCC guidelines are based upon criteria contained in the National Council of Radiation Protection and Measurements (NCRP) Report No.86 (1986) and ANSI/IEEE C95.1-1992.]

With regard to the last item, the KMYX tower will be surrounded by a gated fence, at least seven feet tall. The fence will not be less than two meters from any point on the tower or feed line. This is the "worst case" distance from Section 1 of Supplement A to OET Bulletin No. 65 (Edition 97-01) assuming: a 1 kW, 1310 kHz, AM station with an antenna tower between 0.25 and 0.5 wavelength in height. The fence gate will be kept locked and appropriate warning signs posted on each face of the fence. Procedures will be adopted to protect workers requiring access to the tower inside the fenced area, including reduction of power or cessation of operation, to comply with germane exposure guidelines.

III. SUMMARY:

Campesina proposes to continue operating AM broadcast station KMYX at Taft, California. Operation will remain on a frequency of 1310 kHz and daytime operating power will remain at 1.0 kW. The instant application merely corrects the notified geographic coordinates for the KMYX transmitter/antenna site and also corrects the KMYX antenna tower height. A reduction in nighttime operating power from the authorized 45 watts to 20 watts is being proposed to comply with

current nighttime interference protection requirements. No actual change in site is involved.

Operation of KMYX as described herein would not have any significant impact on the environment. Correction to the KMYX operational parameters does not create or receive prohibited interference. Except for normally prohibited contour overlap which is grand fathered and/or the result of long salt water paths, and for which a waiver has been requested if one is considered necessary, the corrected operation is believed to be fully in compliance with the Commission's rules and applicable international agreements.

Alan E. Gearing, P.E.