ENGINEERING EXHIBIT DISPLACEMENT RELIEF APPLICATION CHANNEL 51 OF SAN DIEGO, INC. STATION K47FL, TEMECULA, CALIFORNIA CHANNEL 12 1 KW

Channel 51 of San Diego, Inc. (hereafter, Channel 51) is the licensee of television translator station K47FL, Fallbrook, California. The station is licensed for operation on Channel 47 with maximum effective radiated power of 17.7 kW. A directional antenna is employed.

Channel 47 is allotted for digital television use at Ontario, California^{/1}. The allotment is reserved for KFTR-DT (formerly, KHSC-DT) with reference coordinates that reflect a site that is only 122.4 kilometers from the site employed by station K47FL. Under the provision of Section 73.3572(a)(4)(iv)(A)(1) of the Rules, a displacement relief application is permitted if the distance to a DTV UHF co-channel allotment is under 264 kilometers.

Channel 51, by means of the instant displacement relief application, seeks to operate station K47FL at Temecula, California, on VHF Channel 12 with an effective radiated power of 1 kW and an omni-directional antenna. A "minus" frequency offset will be employed. A transmitter with the requisite oscillator stability to satisfactorily perform under frequency offset conditions will be used. The site to be employed is approximately 21.7 kilometers (13.5 miles) from the current site.

^{/1} In this connection, it should be noted that the FCC recently allotted Channel 29 in substitution for Channel 47 at Ontario, California. The effective date is September 12, 2002.A rule-making proceeding has been instituted to re-allot Channel 47 to Avalon, California, for use for station KAZA-DT. The reference site is atop Mt. Wilson for both the current Ontario and proposed Avalon Channel 47 allotments.

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The operation proposed at the new site does not require notification to Mexico. Under the terms of subparagraph 3(h) of Article M bis, entitled, "Special Arrangements for Low Power Television Stations", which was added in 1988 to the 1962 Agreement governing the assignment of VHF television stations along the United States-Mexican border, notification is not required for a VHF low power television station if the effective radiated power does not exceed 1 kW; the antenna radiation center above average terrain (3-16 km) does not exceed 200 meters and the station is located in excess of 90 kilometers from the border.

The proposed power for K47FL does not exceed 1 kW; the antenna height above average terrain (3-16 kilometers) for the standard twelve radials is 93 meters. (Figure 4 is a tabulation which sets forth the antenna radiation center height above the terrain average in each of the standard twelve radial directions.) The site is more than 110 kilometers from the Mexican Border. Thus, all the tests for non-notification are satisfied.

The proposed operation does not satisfy the FCC's domestic interference protection requirements with respect to two full-service adjacent channel NTSC stations and two co-channel LPTV, NTSC, stations. The FCC permits demonstrations of terrain shielding and protection by use of Longley-Rice (L-R) calculation procedures to support waivers of the requirements that otherwise dictate use of the FCC's prediction methodology for demonstrating that the proposal will not cause interference.. Pertinent studies in support of requests for waivers of the Rules with respect to the protections to be afforded to these stations are included as part of this Exhibit.

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The full service adjacent channel stations of particular allocation interest are: KTTV, Los Angeles, Channel 11, and KCOP-TV, Los Angeles, Channel 13. An FCC matched L-R analysis has been conducted for each of these stations. An Alpha processor was employed and two runs were made with respect to each station.

The first run was without the proposed K47FL operation. The second run included the proposed operation. By this means, any difference in results between the two runs would be attributable to the proposed operation. The results of the first run, which relied on the same database as was used to prepare the Digital Table of Allotments of Section 73.622 of the Rules, showed excellent agreement with the FCC's results as set forth in Appendix B of the Second Memorandum Opinion and Order on Reconsideration of the Fifth and Sixth Report and Orders in MM Docket No. 87-268.

The L-R analysis with respect to KTTV showed that 31,600 persons within the station's Grade B contour could potentially be impacted by the proposed K47FL operation. This figure represents 0.2 % of the 14,341,639 persons within the KTTV Grade B contour. Under FCC rounding procedures, the prospective interference reduces to 0.0%, and so is in compliance with the Rule governing the degree of protection to be afforded a full service television station.

Similarly, the L-R analysis with respect to KCOP-TV showed that 49,343 persons within the station's Grade B contour could be potentially impacted by the proposed K47FL operation. This figure represents 0.3 % of the 14,327,384 persons within the KCOP-TV Grade B contour. The rounding procedure reduces the value to 0.0%, and, so,

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the proposed K47FL operation is in compliance with the Rule governing the degree of protection to be afforded a full service television station.

The two LPTV co-channel stations that require protection consideration are K12KM, Fifteen Mile Valley, CA, and KYAV-LP Palm Springs, CA. Neither station employs frequency offset, so, a desired to undesired (D/U) signal strength ratio of 45 dB must be used to determine the protection afforded to each station, but the FCC's L-R (FLR) program is not configured to permit analyses other than for a station's Grade B contour based on a 28 dB D/U signal strength ratio. Accordingly, terrain profiles have been drawn from the proposed K47FL site toward each station's protected 68 dBu, F(50,50), contour, and the Longley-Rice path loss for F(50,10) statistics using a 0 dB confidence factor has been calculated. The undesired signal strength at the desired station's protected contour was determined in dBu using a free space calculation. Then, the L-R, F(50,10), path loss in dB was subtracted to determine the undesired K47FL F(50,10) signal strength at the protected 68 dBu, F(50,50) contour of the desired station. In each instance, the D/U ratio exceeded 45 dB, thereby demonstrating that adequate protection would be afforded.

Figure 1 is a map showing the locations of the terrain profile radials drawn toward each desired station's protected contour. Figure 2, consisting of eleven sheets, shows the terrain profiles for the radials identified in Figure 1. Figure 3 is a table which shows the calculated loss for each radial path; the K47FL, F(50,10), signal strength at the desired station's protected 68 dBu, F(50,50), contour; and the D/U ratio. It is clear from the results that the minimum 45 dB, D/U, ratio needed for protection is exceeded in each instance.

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Based on the results of the L-R and terrain profile studies presented herein, it is believed that adequate support for waivers in accordance with the provisions of Sections 74.705(e) and 74.707(e) have been presented.

Channel 51 agrees to accept interference from existing or currently pending applications for new or changed facilities should such interference result.

I declare under penalty of perjury that the foregoing is true and correct. Executed on September 6, 2002.

Bernard R. Syd, P.E. Bernard R. Segal, P.E.

FIGURE 1















FIGURE 2 SHEET 2 OF 11















60° TRUE TERRAIN PROFILE GRAPH

CHANNEL 51 OF SAN DIEGO, INC. STATION K47FL TEMECULA, CALIFORNIA CHANNEL 12 1.0 KW

Bernard R. Segal, P. E. Consulting Engineer

















STATION K47FL TEMECULA, CALIFORNIA CHANNEL 12 1.0 KW

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CHANNEL 51 OF SAN DIEGO, INC. STATION K47FL TEMECULA, CALIFORNIA CHANNEL 12 1.0 KW

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FIGURE 3

K47FL, TEMECULA, CALIFORNIA CHANNEL 12 1 KW

DETERMINATIONS OF D/U RATIOS AT K12KM, FIFTEEN MILE VALLEY AND KYAV-LP, PALM SPRINGS PROTECTED 68 DBU, F(50,50) CONTOURS

A: TOWARD K12KM

Bearing	Distance to	L-R		K47FL Field	
From	K12KM	F(50,10)	Free	Strength At	
Proposed	Protected	Path	Space	K12KM	
K47FL	Contour	Loss	Loss	Protected Contour	D/U
(degrees T)	(km)	(dB)	(dB)	(dBu)	(dB)
4	93.6	72.5	118.3	-5.0	73.0
7.5	88.2	89.2	117.8	-21.2	89.2
11	93.8	71.8	118.4	-4.3	72.3

B: TOWARD KYAV-LP

Bearing From Proposed K47FL	Distance to KYAV-LP Protected Contour	L-R F(50,10) Path Loss	Free Space Loss	K47FL Field Strength At KYAV-LP Protected Contour	D/U
(degrees T)	(km)	(dB)	(dB)	(dBu)	(dB)
51.5	61.5	64.0	114.6	7.1	60.9
55	57.1	67.1	114.0	4.7	63.3
60	57.5	78.5	114.1	-6.8	74.8
65	59.4	83.5	114.3	-12.1	80.1
70	53.0	72.7	113.4	-0.3	68.3
75	57.5	64.2	114.1	7.5	60.5
80	64.6	68.6	115.1	2.1	65.9
85	70.3	77.6	115.8	-7.6	75.6

Note: Free space loss, $A(dB) = 92.4 + 20 \log_{10} F(Ghz) + 20 \log_{10} D(km)$

FIGURE 4

K47FL, TEMECULA, CALIFORNIA CHANNEL 12 1 KW

Tabulation of Average Elevations

Site Coordinates: 33° 35' 36" North Latitude 117° 08' 53" West Longitude

Antenna Radiation Center: 556 m AMSL

	Radiation Center
Azimuth	Above 3.2-16.1 km Terrain Avg
Deg. T.)	(meters)
0	80
30	89
60	1
90	56
120	110
150	177
180	172
210	165
240	99
270	87
300	9
330	68

Standard twelve radial average: 93

Note: Terrain elevation data obtained from U.S.G.S. 3 arc-second terrain database.