

TECHNICAL EXHIBIT
MINOR CHANGE APPLICATION
STATION KOAS(FM) (FACILITY ID 25692)
DOLAN SPRINGS, ARIZONA

OCTOBER 23, 2002

CH 289C 100 KW 544 M

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Technical Narrative

This Technical Exhibit supports a minor change application for FM station KOAS at Dolan Springs, Arizona. Station KOAS is currently licensed for operation on channel 289 a non-directional effective radiated power (ERP) of 98 kW and an antenna height above average terrain (HAAT) of 605 meters (BLH-20010726AAF). It is proposed to change transmitter site, increase ERP and reduce antenna HAAT.

Proposed Facilities

This proposed transmitter site is located 20.5 kilometers north of the current site. The proposed NAD27 site coordinates are: 35-50-11 N, 114-19-08 W (see Figure 1). A non-directional ERP of 100 kW and antenna HAAT of 544 meters is proposed.

The Federal Aviation Administration (FAA) is not being notified of the proposed construction as it is less than 200 feet and meets the FCC TOWAIR slope program. A sketch of antenna and supporting structure is shown in Figure 2.

The proposed transmitter site is approximately 349 kilometers from the closest point of the Mexican border. This is beyond the US/Mexican coordinate area and therefore, not an allocation concern.

FCC Predicted Coverage Contours

The predicted coverage contours for the proposed operation were calculated in accordance with the provisions of Section 73.313. Pursuant with current FCC practice, the distances to the contours were calculated without consideration given to terrain roughness correction factors.

Figure 3 is a map showing the predicted coverage contours. The map indicates that the FCC predicted 70 dBu coverage contour entirely encompasses all of the Dolan Springs city limits (2000 U.S. Census).

Inspection of the intervening terrain between the proposed transmitter site and the principal community of Dolan Springs indicates the obstructions can be classified as minor since studies based on the Longley-Rice propagation method show 70 dBu or greater signals over all of the populated areas of Dolan Springs.

Allocation Study

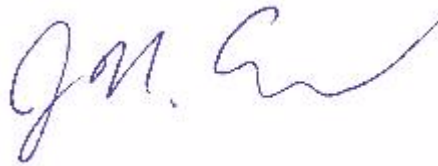
Figure 4 contains a tabulation of actual and required separation distances with respect to other pertinent stations as specified in Section 73.207(b) of the Commission's Rules. The FCC's FM database was used as the basis for the separation study. The study does not indicate any "short-spacings" and, therefore, it is believed the proposal is in compliance with the FCC's FM allocation rules.

Radiofrequency Electromagnetic Field Exposure

The proposed FM facility was evaluated in terms of potential radio frequency (RF) energy exposure at ground level to workers and the general public. The radiation center for the proposed Shively 6600 10-Bay (1- λ spaced) antenna is located 48.8 meters above ground level. The proposed ERP is 100 kW (horizontal polarization only). Using the FCC's

FM Model program, the worst-case relative field is approximately 0.051 mW/cm². This is 26% of the FCC's recommended limit of 0.2 mW/cm² for FM frequencies for an "uncontrolled" environment. There are no other known broadcast stations at the proposed site. Therefore, it is believed that station KOAS(FM) will be the only RFR contributor in the area. Since the total RFR power density calculation is less 100%, the proposal appears to comply with the FCC's RFR limits.

Access to the transmitting site will be restricted and appropriately marked with warning signs. In the event that workers or other authorized personnel enter restricted areas or climb the tower, appropriate measures will be taken to assure worker safety with respect to radio frequency radiation exposure. Such measures include reducing the average exposure by spreading out the work over a longer period of time, wearing "accepted" RFR protective clothing and/or RFR exposure monitors or scheduling work when the stations are at reduced power or shut down. The proposed FM operation appears to be otherwise categorically excluded from environmental processing.

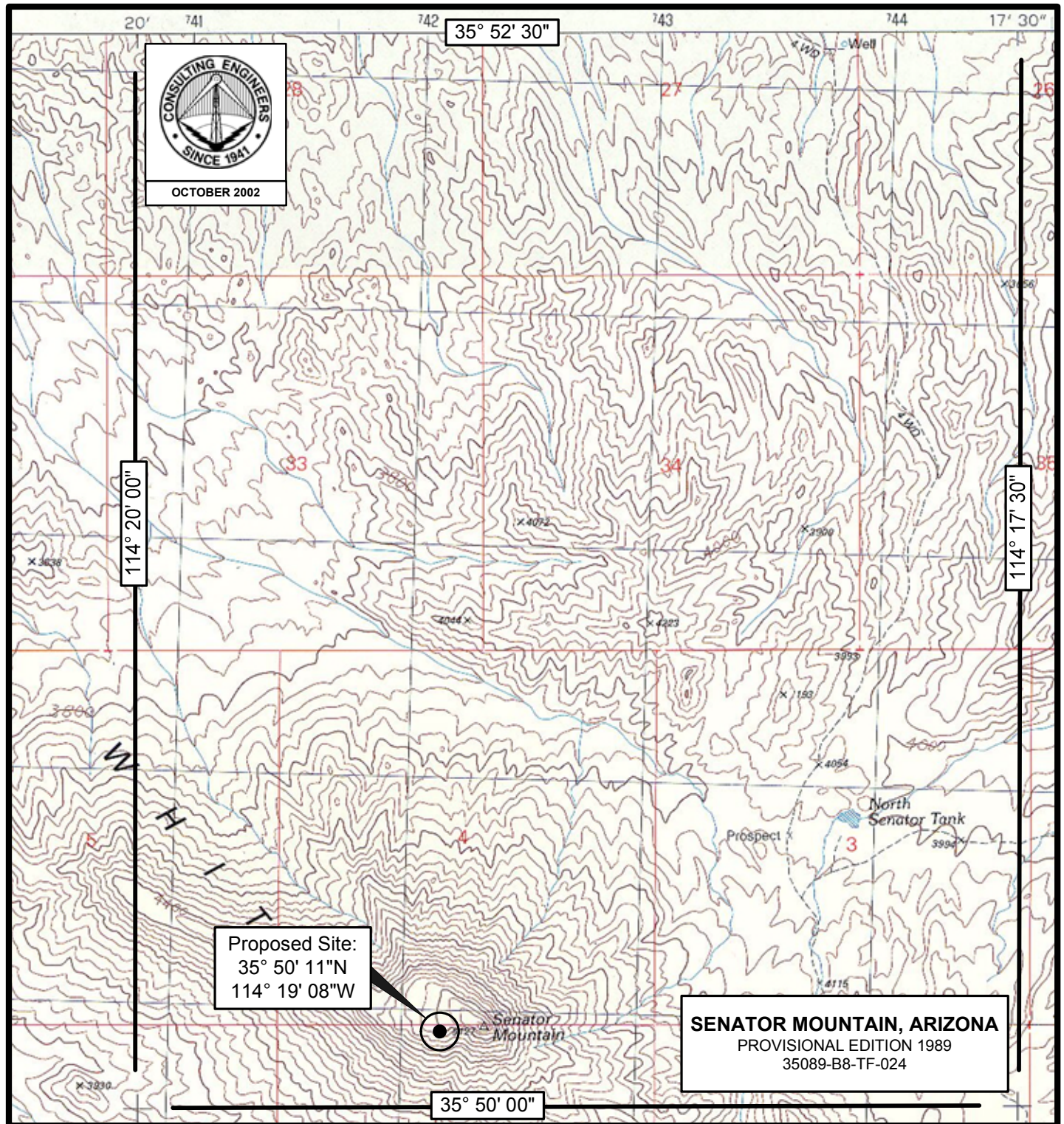


Jonathan N. Edwards

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October 23, 2002

Figure 1

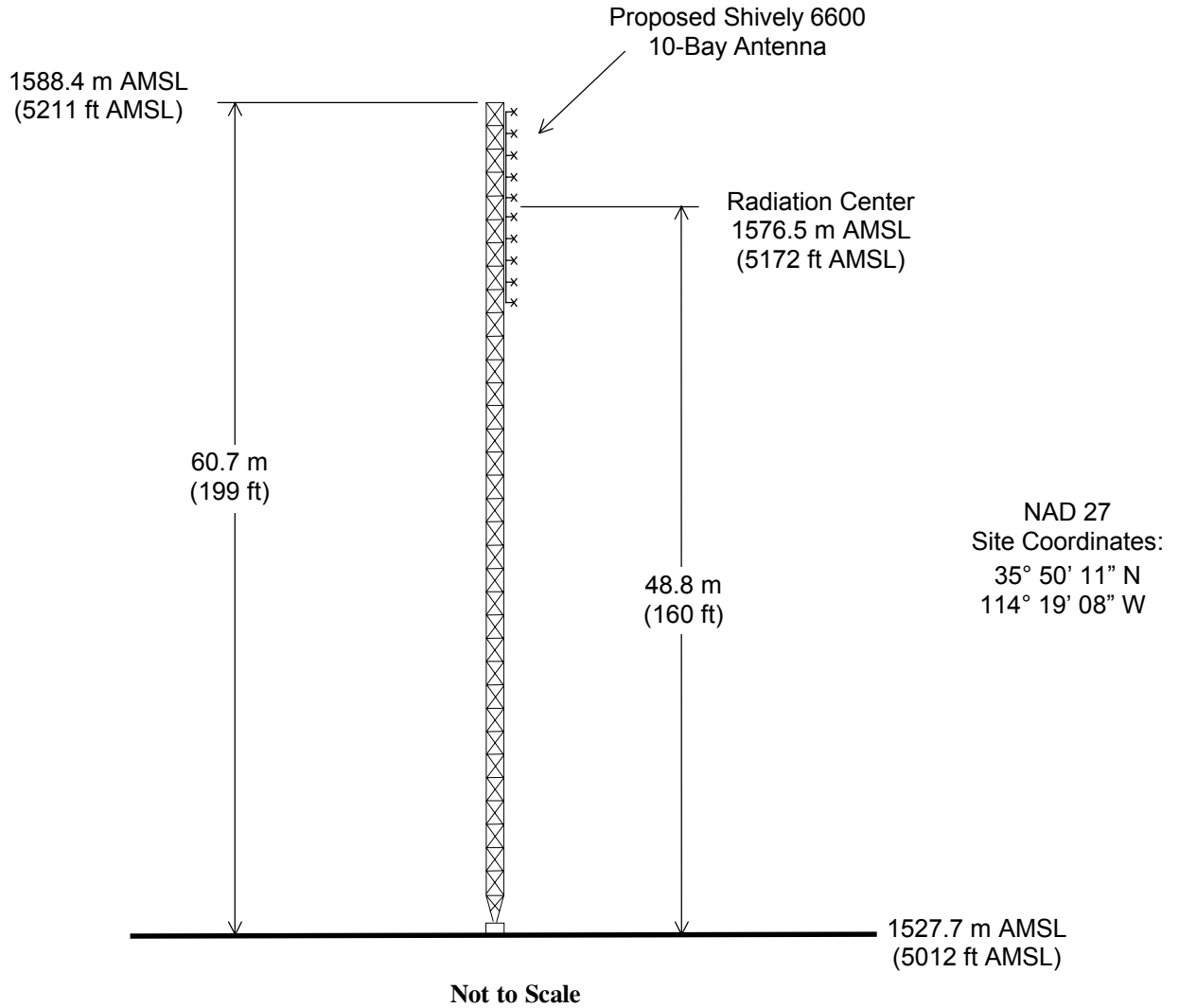


PROPOSED TRANSMITTER SITE

STATION KOAS(FM)
DOLAN SPRINGS, ARIZONA
CH 289C 100 KW 544 M

du Treil, Lundin & Rackley, Inc. Sarasota, Florida

Figure 2



ANTENNA AND SUPPORTING STRUCTURE

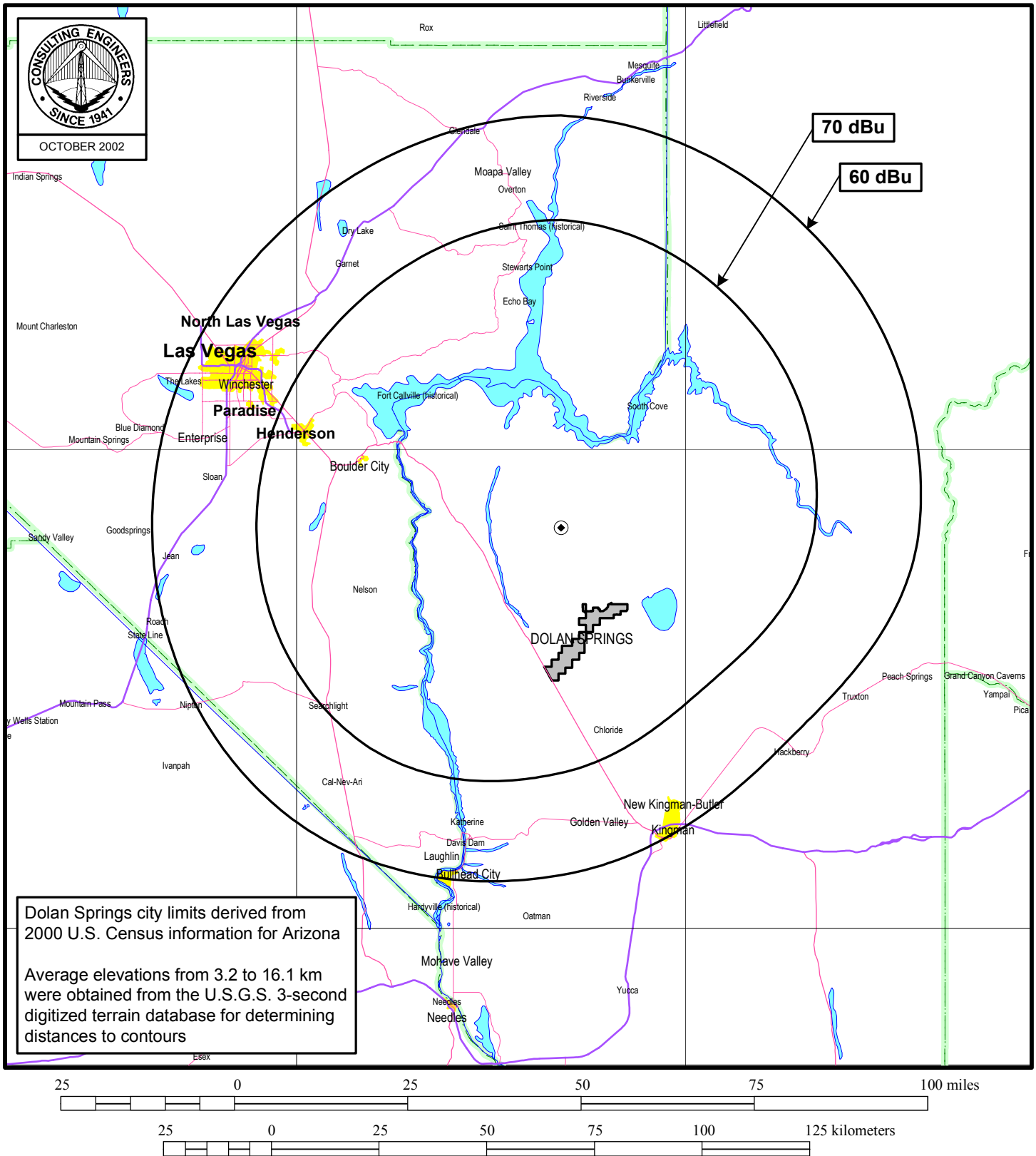
STATION KOAS(FM)

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du Treil, Lundin & Rackley, Inc. Sarasota, Florida

Figure 3



PREDICTED F(50,50) COVERAGE CONTOURS

STATION KOAS(FM)

DOLAN SPRINGS, ARIZONA

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du Treil, Lundin & Rackley, Inc Sarasota, Florida

du Treil, Lundin and Rackley, Inc.
Sarasota, FL

CDBS FM SEPARATION STUDY

Channel: 289 C
10/22/02

Separation Buffer: 50 km
Coordinates: 35-50-11 N 114-19-08 W

Call Id	City St	File Status	File Num	Channel Freq	ERP HAAT	DA Id	Latitude Longitude	73 215	Bear	Dist. (km)	Req. (km) 73.215 73.207
KRRN 51731	LAS VEGAS NV	BLH LIC C	19930914KA	286 105.1	C2 50.000 11	N	36-20-00 115-21-41	N	300.8	108.89 3.89	96.0 105.0 Close
KVRD-FM 35865	COTTONWOOD AZ	BLH LIC C	19971110KI	289 105.7	C3 0.300 779	N	34-41-11 112-06-58	N	122.0	237.61 0.61	226.0 237.0 Close
KWBR-LP 123781	ST. GEORGE UT	BNPL CP C	20000602ABP	289 105.7	L1 0.005 125.0	N	37-03-48 113-34-23	N	25.8	151.68 21.68	226.0 130.0 Clear
KOAS 25692	DOLAN SPRIN AZ	BLH LIC C	20010726AAF	289 105.7	C 98.000 605	N	35-39-07 114-18-42	N	178.2	20.47	

I certify that the statements in this application are true, complete, and correct to the best of my knowledge and belief, and are made in good faith. I acknowledge that all certifications and attached Exhibits are considered material representations. I hereby waive any claim to the use of any particular frequency as against the regulatory power of the United States because of the previous use of the same, whether by license or otherwise, and request an authorization in accordance with this application. (See Section 304 of the Communications Act of 1934, as amended.)

Typed or Printed Name of Person Signing	Typed or Printed Title of Person Signing
Signature	Date

WILLFUL FALSE STATEMENTS ON THIS FORM ARE PUNISHABLE BY FINE AND/OR 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)), AND/OR FORFEITURE (U.S. CODE, TITLE 47, SECTION 503).

SECTION III PREPARER'S CERTIFICATION

I certify that I have prepared Section III (Engineering Data) on behalf of the applicant, and that after such preparation, I have examined and found it to be accurate and true to the best of my knowledge and belief.

Name	Relationship to Applicant (e.g., Consulting Engineer)	
Jonathan N. Edwards	Technical Consultant	
Signature	Date	
	October 23, 2002	
Mailing Address		
du Treil, Lundin & Rackley, Inc., 201 Fletcher Avenue		
City	State or Country (if foreign address)	ZIP Code
Sarasota	Florida	34237
Telephone Number (include area code)	E-Mail Address (if available)	
941.329.6000	JON@DLR.COM	

WILLFUL FALSE STATEMENTS ON THIS FORM ARE PUNISHABLE BY FINE AND/OR 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)), AND/OR FORFEITURE (U.S. CODE, TITLE 47, SECTION 503).

1. Channel: 289

2. Class: ☐ A ☐ B1 ☐ B ☐ C3 ☐ C2 ☐ C1 ☒ C ☐ D

3. Antenna Location Coordinates: (NAD 27)

35 ° 50 ' 11 " ☒ N ☐ S Latitude

114 ° 19 ' 08 " ☐ E ☒ W Longitude

4. One-Step Proposal Allotment Coordinates: (NAD 27) ☒ Not applicable

_____ ° _____ ' _____ " ☐ N ☐ S Latitude

_____ ° _____ ' _____ " ☐ E ☐ W Longitude

5. Antenna Structure Registration Number: _____

☒ Not applicable ☐ FAA Notification Filed with FAA

6. Overall Tower Height Above Ground Level: 60.7 meters

7. Height of Radiation Center Above Mean Sea Level: 1,577 meters (H) ----- meters (V)

8. Height of Radiation Center Above Ground Level: 49 meters (H) ----- meters (V)

9. Height of Radiation Center Above Average Terrain: 544 meters (H) ----- meters (V)

10. Effective Radiated Power: 100 kW (H) ----- kW (V)

11. Maximum Effective Radiated Power: ☒ Not applicable _____ kW (H) _____ kW (V)

(Beam-Tilt Antenna ONLY)

12. Directional Antenna Relative Field Values: ☒ Not applicable (Nondirectional)

Rotation: _____ ° ☐ No rotation

Degree	Value	Degree	Value	Degree	Value	Degree	Value	Degree	Value	Degree	Value
0		60		120		180		240		300	
10		70		130		190		250		310	
20		80		140		200		260		320	
30		90		150		210		270		330	
40		100		160		220		280		340	
50		110		170		230		290		350	
Additional Azimuths											

NOTE: In addition to the information called for in this section, an explanatory exhibit providing full particulars must be submitted for each question for which a “No” response is provided.

CERTIFICATION

**AUXILIARY ANTENNA APPLICANTS ARE NOT REQUIRED TO RESPOND TO ITEMS 13-16.
PROCEED TO ITEM 17.**

13. **Allotment.** The proposed facility complies with the allotment requirements of 47 C.F.R. Section 73.203.

☒ Yes ☐ No

See Explanation
in Exhibit No.
14. **Community Coverage.** The proposed facility complies with 47 C.F.R. Section 73.315.

☒ Yes ☐ No

See Explanation
in Exhibit No.
15. **Main Studio Location.** The proposed main studio location complies with 47 C.F.R. Section 73.1125.

☒ Yes ☐ No

See Explanation
in Exhibit No.
16. **Interference.** The proposed facility complies with all of the following applicable rule sections.
Check all those that apply.

☒ Yes ☐ No

See Explanation
in Exhibit No.

Separation Requirements.

- a. ☒ 47 C.F.R. Section 73.207.

Grandfathered Short-Spaced.

- b. ☐ 47 C.F.R. Section 73.213(a) with respect to station(s):

Exhibit Required.
- c. ☐ 47 C.F.R. Section 73.213(b) with respect to station(s):

Exhibit Required.
- d. ☐ 47 C.F.R. Section 73.213(c) with respect to station(s):

Exhibit Required.

Contour Protection.

- e. ☐ 47 C.F.R. Section 73.215 with respect to station(s):
- Exhibit Required.

17. **Environmental Protection Act.** The proposed facility is excluded from environmental processing under 47 C.F.R. Section 1.1306 (*i.e.*, the facility will not have a significant environmental impact and complies with the maximum permissible radiofrequency electromagnetic exposure limits for controlled and uncontrolled environments). Unless the applicant can determine compliance through the use of the RF worksheets in Appendix A, an Exhibit is required.

☒ Yes ☐ No

See Explanation
in Exhibit No.
Tech

By checking “Yes” above, the applicant also certifies that it, in coordination with other users of the site, will reduce power or cease operation as necessary to protect persons having access to the site, tower or antenna from radiofrequency electromagnetic exposure in excess of FCC guidelines.

PREPARER’S CERTIFICATION ON PAGE 3 MUST BE COMPLETED AND SIGNED.