

TECHNICAL SPECIFICATIONS

Ensure that the specifications below are accurate. Contradicting data found elsewhere in this application will be disregarded. All items must be completed. The response "on file" is not acceptable.

TECH BOX

7.1.	Channel: 32
7.2.	Frequency Offset: <input type="radio"/> No offset <input type="radio"/> Zero offset <input checked="" type="radio"/> Plus offset <input type="radio"/> Minus offset
7.3.	Antenna Location Coordinates: (NAD 27) Latitude: Degrees 30 Minutes 19 Seconds 10 <input checked="" type="radio"/> North <input type="radio"/> South Longitude: Degrees 97 Minutes 48 Seconds 6 <input checked="" type="radio"/> West <input type="radio"/> East
7.4.	Antenna Structure Registration Number: 1059965 <input type="checkbox"/> Not Applicable <input type="checkbox"/> Notification filed with FAA
7.5.	Antenna Location Site Elevation Above Mean Sea Level: 224.8 meters
7.6.	Overall Tower Height Above Ground Level: 398.8 meters
7.7.	Height of Radiation Center Above Ground Level: 198.1 meters
7.8.	Maximum Effective Radiated Power (ERP) Towards Radio Horizon: 88.5 kW
7.9.	Maximum ERP in any Horizontal and Vertical Angle: 88.5 kW
7.10.	Transmitting Antenna: Before selecting Directional "Off-the-Shelf", refer to "Search for Antenna Information" under CDBS Public Access (http://svartifoss2.fcc.gov/prod/cdbforms/pubacc/prod/cdb_pa.htm). Make sure that the Standard Pattern is marked Yes and that the relative field values shown match your values. Enter the Manufacturer (Make) and Model exactly as displayed in the Antenna Search. <input type="radio"/> Nondirectional <input type="radio"/> Directional "Off-the-shelf" <input checked="" type="radio"/> Directional composite Manufacturer MOY Model M-82-8H/LT (MODIFIED)
	Directional Antenna Relative Field Values: <input type="checkbox"/> N/A (Nondirectional or Directional "Off-the-shelf") Rotation (Degrees): <input checked="" type="checkbox"/> No Rotation

Degrees	Value	Degrees	Value	Degrees	Value	Degrees	Value	Degrees	Value	Degrees	Value
0	.332	10	.45	20	.584	30	.694	40	.776	50	.844
60	.91	70	.976	80	1	90	.997	100	.996	110	.997
120	1	130	.976	140	.91	150	.844	160	.776	170	.694
180	.584	190	.45	200	.332	210	.269	220	.227	230	.184
240	.12	250	.076	260	.081	270	.126	280	.141	290	.126
300	.081	310	.076	320	.12	330	.184	340	.227	350	.269
Additional Azimuths											

8.	Please explain in detail the "extraordinary circumstances" which warrant temporary operations at variance from the Commission's Rules. In addition, please specify 1) the specific rules and/or policies from which the applicant seeks temporary relief; 2) how the public interest will be furthered by grant; and 3) the expected duration of the STA and the licensee's plan for restoration of licensed operation. If requesting variance with other than authorized technical facilities, please specify the exact facilities sought.	[Exhibit 20]
9.	Anti-Drug Abuse Act Certification. Applicant certifies that neither applicant nor any party to the application is subject to denial of federal benefits pursuant to Section 5301 of the Anti-Drug Abuse Act of 1988, 21 U.S.C. Section 862.	<input type="radio"/> Yes <input type="radio"/> No

I certify that I have prepared 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 JOSEPH M. DAVIS, P.E.		Relationship to Applicant (e.g., Consulting Engineer) CONSULTING ENGINEER	
Signature		Date (mm/dd/yyyy) 3/31/2006	
Mailing Address CAVELL, MERTZ & DAVIS, INC. 7839 ASHTON AVENUE			
City MANASSAS		State or Country (if foreign address) VA	Zip Code 20109 -
Telephone Number (No dashes or parentheses, include area code) 7033929090		E-Mail Address (if available) JOSEPH.DAVIS@CMDCONSULTING.COM	

I hereby 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.

Typed or Printed Name of Person Signing	Typed or Printed Title of Person Signing
Signature	Date (mm/dd/yyyy)

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).

Exhibits

Exhibit 20

Description: EXHIBIT 20 - ENGINEERING STATEMENT, TABLE 1

EXHIBIT 20 - ENGINEERING STATEMENT, TABLE 1 - ATTACHED AS A PDF DOCUMENT

Attachment 20

Description
<u>EXHIBIT 20</u>

Exhibit 20 – Engineering Statement
REQUEST FOR SPECIAL TEMPORARY AUTHORIZATION

prepared for
Caballero Acquisition Inc.
KGBS-CA Austin, Texas
Facility ID 38562
Ch. 32 88.5 kW (DA-MAX)

Caballero Acquisition Inc. (“CAI”) is the licensee of Class A television station KGBS-CA, Channel 32, Austin, TX, Facility ID 38562 (BLTTA-20040217ACL). This statement supports CAI’s request for Special Temporary Authorization (“STA”) to increase effective radiated power (“ERP”) in order to overcome incoming digital television station interference. No change in site location, directional antenna pattern antenna height, or channel is specified, however corrected transmitter site geographic coordinates are provided to correspond to the associated antenna structure registration.

The proposed power increase would result in an extension of the KGBS-CA protected service contour, which is currently prohibited by the Commission’s August 3, 2004 “freeze” concerning expansion in service area.¹ Good cause exists for the power increase, due to the extent of incoming interference experienced by the KGBS-CA facility as described herein. An *Application for Construction Permit* on FCC Form 301-CA to operate with the facilities proposed herein is being filed contemporaneously.

KGBS-CA is presently licensed to operate with a maximum effective radiated power (“ERP”) of 14 kW. A first-adjacent digital television station, KVUE-DT (BLCDT-20050624AAI, Ch. 33, Austin, TX) is located 0.4 km distant from KGBS-CA and is licensed to operate with 1000 kW ERP. The KVUE-DT 1000 kW ERP is 18.5 dB in excess of the 14 kW KGBS-CA ERP, which exceeds the 17 dB desired-to-undesired ratio in §73.623(c) that would be required to avoid interference from an upper-DTV into first-adjacent analog TV facility. The likelihood of interference is further predicted by a detailed interference study pursuant to FCC OET Bulletin 69, as shown in the following.²

¹*Public Notice* “Freeze on the Filing of Certain TV and DTV Requests for Allotment or Service Area Changes,” DA 04-2446, released August 3, 2004.

²Office of Engineering and Technology Bulletin number 69, *Longley-Rice Methodology for Evaluating TV Coverage and Interference*, February 6, 2004.

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KGBS-CA as currently licensed:

Results for: 32N TX AUSTIN	BLTTA	20040217ACL	LIC
	POPULATION	AREA (sq km)	
within Noise Limited Contour	514291	940.8	
not affected by terrain losses	514291	940.8	
lost to NTSC IX	304486	503.4	
lost to additional IX by ATV	189321	391.3	
lost to all IX	493807	894.8	

Potential Interfering Stations Included in above Scenario 2

31N TX AUSTIN	BLTTT	20010403AAM	LIC
32N TX ABILENE	BLCT	19990329KF	LIC
47N TX WEST LAKE HILLS	BLTTT	20050124ADH	LIC
32A TX HOUSTON	DTVPLN	DTVP0883	PLN
32A TX KERRVILLE	BPCDT	19991029ACH	CP
33A TX AUSTIN	BLCDT	20050624AAI	LIC

The OET Bulletin 69 analysis shows that out of 514,291 persons within the KGBS-CA service contour, 493,807 persons (96.02 percent) are subject to interference, leaving only 20,484 persons with interference-free service. It should be noted that KGBS-CA is presently silent pursuant to Special Temporary Authorization (BLSTA-20060203ADO).

As proposed herein, the KGBS-CA ERP will be raised to 88.5 kW. This ERP is 10.5 dB below the KVUE-DT 1000 kW ERP, and provides 6.5 dB margin before interference would occur (based on the same 17 dB U/D ratio). Analysis per OET Bulletin 69 shows that the resulting facility would be much less affected by incoming interference as shown below.

KGBS-CA as proposed:

Results for: 32N TX AUSTIN	USERRECORD01	APP
	POPULATION	AREA (sq km)
within Noise Limited Contour	630108	2101.9
not affected by terrain losses	629230	2084.9
lost to NTSC IX	120067	672.6
lost to additional IX by ATV	2301	31.0
lost to all IX	122368	703.6

Potential Interfering Stations Included in above Scenario 2

31N TX AUSTIN	BLTTT	20010403AAM	LIC
36N TX AUSTIN	BLCT	19971202KF	LIC
47N TX WEST LAKE HILLS	BLTTT	20050124ADH	LIC
32A TX HOUSTON	DTVPLN	DTVP0883	PLN
32A TX KERRVILLE	BPCDT	19991029ACH	CP
33A TX AUSTIN	BLCDT	20050624AAI	LIC

Here, OET Bulletin 69 analysis indicates that the final interference-free population would be 507,740, which is 98.7 percent of the licensed KGBS-CA service contour population. Thus, it is shown that in order for KGBS-CA to achieve interference-free coverage within 98.7 percent of its

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presently licensed contour population, the power must be raised to 88.5 kW as proposed herein. For this reason, the applicant is requesting the power increase despite the freeze on such applications.

No changes are proposed to the KGBS-CA antenna system, which is side-mounted on an existing antenna support structure. The tower structure is registered with the Commission (ASR #1059965), and no change in overall structure height will result. Since no change to the structure's overall height is proposed, FAA notification is not necessary.

Allocation Considerations

The instant proposal complies with the Commission's standard contour overlap protection requirements toward all NTSC, DTV, television translator, LPTV, and Class A stations except those summarized in **Exhibit 6 – Table 1**. A detailed interference study was conducted in accordance with the terrain dependent Longley-Rice point-to-point propagation model, per the Commission's Office of Engineering and Technology Bulletin number 69, *Longley-Rice Methodology for Evaluating TV Coverage and Interference*, February 6, 2004 ("OET-69")³. The interference study examined the change in interference as experienced by the stations subject to overlap that would result from the proposed facility. The results, summarized in **Exhibit 6 - Table 1**, show that any new interference does not exceed the Commission's 0.5 percent rounding tolerance.

Accordingly, the instant proposal complies with §§73.6011 – 73.6014 regarding interference protection to analog and digital television, low power television, television translator, and Class A television facilities.

Other Allocation Considerations

The nearest FCC monitoring station is at Kingsville, TX, at a distance of 319.4 km from the proposed site. This exceeds by a great margin the threshold minimum distance specified in §73.1030(c)(3) that would suggest consideration of the monitoring station. The proposed site is also

³The implementation of OET-69 for this study followed the guidelines of OET-69 as specified therein. **A cell size of 1 km was employed.** Comparisons of various results of this computer program (run on a Sun processor) to the Commission's implementation of OET-69 show excellent correlation.

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located outside the areas specified in §73.1030(a)(1) and §73.1030(b). Thus, notification of the instant proposal to the National Radio Astronomy Observatory at Green Bank, West Virginia, or the Table Mountain Radio Receiving Zone in Boulder County, Colorado is not required. There are no AM broadcast stations located within 3.2 km (2 miles) of the proposed site, according to information extracted from the Commission’s engineering database.

The site is located 308 km from the U.S. - Mexican border, which is just within the 320 km international coordination zone. According to FCC CDBS database and international agreement allotment listings, there are no co-channel Mexican stations within 400 km of KGBS-CA. Similarly, due to the distance to the border, all first-adjacent and “taboo” channel Mexican stations are well removed from the area where KGBS-CA might have an impact. Therefore, no impact to any Mexican station is expected.

Thus, this proposal is believed to be in compliance with the current Commission’s Rules and policy with respect to allocation matters.

Environmental Considerations – Exposure to Radiofrequency Electromagnetic Field

The proposed operation was evaluated for human exposure to radiofrequency (“RF”) energy using the procedures outlined in the Commission’s OET Bulletin No. 65 (“OET 65”). The proposed KGBS-CA Channel 32 antenna center of radiation is 198.1 meters above ground level. An effective radiated power of 88.5 kilowatts, horizontally polarized, will be employed. According to elevation pattern data provided by the antenna manufacturer, the proposed KGBS-CA Channel 32 antenna has a relative field of much less than 50 percent from 20 to 90 degrees below the horizontal plane (i.e., below the antenna). Thus, a conservative value of 50 percent relative field is used for this calculation. The “uncontrolled/general population” limit specified in §1.1310 for Channel 32 (center frequency 581 MHz) is $387.3 \mu\text{W}/\text{cm}^2$. The formula used for calculating NTSC signal density in this analysis is the same as formula (2) in Supplement A of OET-65.

$$S = [(33.4098) (F)^2 (0.4\text{ERP}_{\text{Visual}} + \text{ERP}_{\text{Aural}})] / D^2$$

Where:

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S	=	power density in microwatts/cm ²
ERP	=	ERP in Watts (peak visual and average aural)
F	=	relative field factor
D	=	distance in meters

Using this formula, assuming a 10 percent aural carrier level, the proposed facility would contribute a power density of 9.6 $\mu\text{W}/\text{cm}^2$ at two meters above ground level near antenna support structure, or 2.5 percent of the general population/uncontrolled limit. At ground level locations away from the base of the tower, the calculated RF power density is even lower, due to the increasing distance from the transmitting antenna. At depression angles where the actual antenna relative field is less than 50%, the RF power density will also be less than predicted here.

§1.1307(b)(3) states that facilities contributing less than five percent of the exposure limit at locations with multiple transmitters are categorically excluded from responsibility for taking any corrective action in the areas where their contribution is less than five percent. Since the instant situation meets the five percent exclusion test at all ground level areas, the impact of any other facilities near this site may be considered independently from this proposal. Accordingly, it is believed that the impact of the proposed operation should not be considered to be a factor at or near ground level as defined under §1.1307(b).

As demonstrated herein, excessive levels of RF energy attributable to the proposal will not be caused at publicly accessible areas at ground level near the antenna supporting structure. Consequently, members of the general public will not be exposed to RF levels in excess of the Commission's guidelines. Nevertheless, tower access will be restricted and controlled through the use of a locked fence. Additionally, appropriate RF exposure warning signs will be posted.

With respect to worker safety, it is believed that based on the preceding analysis, excessive exposure would not occur in areas at ground level. A site exposure policy will be employed protecting maintenance workers from excessive exposure when work must be performed on the tower or nearby towers in areas where high RF levels may be present. Such protective measures may include, but will not be limited to, restriction of access to areas where levels in excess of the guidelines may be

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expected, power reduction, or the complete shutdown of facilities when work or inspections must be performed in areas where the exposure guidelines will be exceeded. On-site RF exposure measurements may also be undertaken to establish the bounds of safe working areas. The applicant will coordinate exposure procedures with all pertinent stations.

Based on the preceding, it is believed that the instant proposal may be categorically excluded from environmental processing under Section 1.1306 of the Rules, hence preparation of an Environmental Assessment is not required.

Certification

The undersigned hereby certifies that the foregoing statement was prepared by him or under his direction.

Joseph M. Davis, P.E.
March 31, 2006

Cavell, Mertz & Davis, Inc.
7839 Ashton Avenue
Manassas, VA 20109
(703) 392-9090

List of Attachments

Table 1 Interference Analysis Results Summary

Exhibit 20 - Table 1
INTERFERENCE ANALYSIS RESULTS SUMMARY

prepared for
Caballero Acquisition Inc.
 KGBS-CA Austin, Texas
 Facility ID 38562
 Ch. 32 88.5 kW (DA-MAX)

<u>Ch.</u>	<u>Call</u>	<u>City/State</u>	<u>Dist(km)</u>	<u>Status</u>	<u>Application Ref. No.</u>	---Population (1990 Census)---	
						<u>Baseline</u>	<u>New Interference</u>
17	KVAT-LP	GARFIELD TX	0.5	LIC	BLTTL-20041214AEC	415,283	262 (0.06%)
18	KLRU	AUSTIN TX	0.3	LIC	BLET-19790424KG	---	none
18	KLRU	AUSTIN TX	0.5	APP	BPET-20020429ABA	---	none
31	KAKW-CA	AUSTIN TX	0.5	LIC	BLTTL-20010403AAM	443,976	1812 (0.41%)
32	NEW	CONVERSE TX	97.4	ADD	BPRM-19960725AAR	---	none
32	KDAF-DT	DALLAS TX	264.4	PLN	DTVPLN-DTVP0882	---	none
32	KDAF	DALLAS TX	259.8	LIC	BLCDDT-20010606ABJ	4,050,134	0 (0.00%)
32	KTRK-TV	HOUSTON TX	237.2	LIC	BLCDDT-20000215AAP	3,899,271	125 (0.00%)
32	KTRK-DT	HOUSTON TX	237.2	PLN	DTVPLN-DTVP0883	3,899,271	251 (0.01%)
32	KRRT-DT	KERRVILLE TX	131.4	PLN	DTVPLN-DTVP0884	1,498,925	100 (0.01%)
32	KRRT	KERRVILLE TX	131.3	CP	BPCDDT-19991029ACH	1,498,925	105 (0.01%)
33	KVUE-DT	AUSTIN TX	0.3	PLN	DTVPLN-DTVP0918	---	none
33	KVUE	AUSTIN TX	0.3	LIC	BLCDDT-20050624AAI	---	none
36	KXAN-TV	AUSTIN TX	0.7	LIC	BLCT-19971202KF	1,099,588	0 (0.00)