ENGINEERING EXHIBIT

Application for Modification of a Construction Permit for a New Replacement Digital Low Power Television Station

prepared for

Pacific and Southern Company, Inc.
WTSP(TV) St. Petersburg, Florida
Replacement Digital LPTV Station
Hernando, Florida
Ch. 4 (Digital) 0.3 kW (MAX-DA)

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FCC Form 346, Section III – Engineering Data (Digital)

Exhibit 11

Statement A	Nature of the Proposal - Allocation Considerations
Figure 1	Antenna Horizontal (Azimuth) Plane Pattern
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Exhibit 12

Statement B	Environmental Considerations

This material supplies a "hard copy" of the engineering portions of this application as entered December 27, 2010 for filing electronically. Since the FCC's electronic filing system may be accessed by anyone with the applicant's name and password, and electronic data may otherwise be altered in an unauthorized fashion, we cannot be responsible for changes made subsequent to our entry of this data and related attachments.

SECTION III - ENGINEERING DATA (Digital)

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

1. Channel Number:
   4

2. Translator Input Channel No. : 10

3. Primary station proposed to be rebroadcast:

Facility Identifier	Call Sign	City	State	Channel
11290	WTSP	ST. PETERSBURG	FL	10

4. Antenna Location Coordinates: (NAD 27)
   Latitude:
   Degrees 28 Minutes 53 Seconds 31.2 (•) North ( ) South

   Longitude:
   Degrees 82 Minutes 22 Seconds 22.8 (•) West ( ) East

5. Antenna Structure Registration Number: 1011013
   [ ] Not Applicable [Exhibit 10] [ ] Notification filed with FAA

6. Antenna Location Site Elevation Above Mean Sea Level: 21 meters

7. Overall Tower Height Above Ground Level: 81.4 meters

8. Height of Radiation Center Above Ground Level: 54.9 meters

9. Maximum Effective Radiated Power (ERP): 0.3 kW

10. Transmitter Output Power: 0.12 kW

11. a.Transmitting Antenna:
    Before selecting Directional "Off-the-Shelf", refer to "Search for Antenna Information" under CDBS Public Access (http://licensing.fcc.gov/prod/cdbs/pubacc/prod/cdbs_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.
    ( ) Nondirectional ( ) Directional "Off-the-shelf" (•) Directional composite

    Manufacturer SCA Model 2CL-46/HRM/50N/HV

    b. Electrical Beam Tilt: degrees [x] Not Applicable

    c. Directional Antenna Relative Field Values: [ ] N/A (Nondirectional or Directional "Off-the-shelf")
    Rotation (Degrees): 0 [x] No Rotation

Degrees	Value	Degrees	Value	Degrees	Value	Degrees	Value	Degrees	Value	Degrees	Value
0	0.319	10	0.475	20	0.658	30	0.837	40	0.941	50	1.000
60	0.941	70	0.849	80	0.689	90	0.499	100	0.338	110	0.150
120	0.078	130	0.065	140	0.037	150	0.020	160	0.020	170	0.020
180	0.020	190	0.025	200	0.054	210	0.070	220	0.099	230	0.245
240	0.416	250	0.597	260	0.772	270	0.901	280	0.980	290	0.980
300	0.896	310	0.748	320	0.569	330	0.396	340	0.233	350	0.158
Additional Azimuths		285	1.000								

Relative Field Polar Plot

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.

12. **Out-of-channel Emission Mask:** (•) Simple ( ) Stringent

CERTIFICATION

13. **Interference** : The proposed facility complies with all of the following applicable rule sections. 47.C.F.R Sections 74.709, 74.793(e), 74.793(f), 74.793(g), 74.793(h), 74.794(b) and 73.1030. (•) Yes ( ) No

    See Explanation in [Exhibit 11]

14. **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 RF compliance, an **Exhibit is required.** (•) Yes ( ) No

    See Explanation in [Exhibit 12]

    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.

15. **Channels 52-59.** If the proposed channel is within channels 52-59, the applicant certifies compliance with the following requirements, as applicable:

    [ ] The applicant is applying for a digital companion channel for which no suitable channel from channel 2-51 is available.

    [ ] Pursuant to Section 74.786(d), the applicant has notified, within 30 days of filing this application, all commercial wireless licenses of the spectrum comprising the proposed TV channel and the first adjacent channels thereto, for which the proposed digital LPTV or TV translator antenna site lies inside the licensed geographic boundaries of the wireless licensees or within 75 miles and 50 miles, respectively, of the geographic boundaries of co-channel and adjacent-channel wireless licensees.

16. **Channels 60-69.** If the proposed channel is within channels 60-69, the applicant certifies compliance with the following requirements, as applicable:

    [ ] Pursuant to Section 74.786(e), the applicant has notified, within 30 days of filing this application , all commercial wireless licenses of the spectrum comprising the proposed TV channel and the first adjacent channels thereto, for which the proposed digital LPTV or TV translator antenna site lies inside the licensed geographic boundaries of the wireless licensees or within 75 miles and 50 miles, respectively, of the geographic boundaries of co-channel and adjacent-channel wireless licensees.

☐ Pursuant to Section 74.786(e), the applicant proposing operation on channel 63, 64, 68 and 69 ("public safety channels") has secured a coordinated spectrum use agreements(s) with 700 MHz public safety regional planning committee(s) and state administrator(s) of the region(s) and state(s) within which the antenna site of the digital LPTV or TV translator station is proposed to locate, and those adjoining regions and states with boundaries within 75 miles of the proposed station location.

☐ Pursuant to Section 74.786(e), the applicant for a channel adjacent to channel 63, 64, 68 or 69 has notified, within 30 days of filing this application, the 700 MHz public safety regional planning committee(s) and state administrator(s) of the region and state containing the proposed digital LPTV or TV translator antenna site and regions and states whose geographic boundaries lie within 50 miles of the proposed LPTV or TV translator antenna site.

PREPARERS CERTIFICATION ON PAGE 3 MUST BE COMPLETED AND SIGNED.

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)
RICHARD H. MERTZ	CONSULTANT
Signature	Date
	12/27/2010

Mailing Address
CAVELL, MERTZ & ASSOCIATES, INC. 7732 DONEGAN DRIVE

City	State or Country (if foreign address)	Zip Code
MANASSAS	VA	20109 -

Telephone Number (include area code)	E-Mail Address (if available)
7033929090	RMERTZ@CAVELLMERTZ.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).

Exhibits

Exhibit 11
Description: REPLACEMENT LPTV TRANSLATOR STATION EXHIBIT 11

EXHIBIT 11 CONTAINS STATEMENT A, NATURE OF THE PROPOSAL, ALLOCATIONS CONSIDERATIONS; FIGURES 1 AND 2; AND TABLE I.

Attachment 11

Description
Modification of Construction Permit - Replacement LPTV translator station Exhibit 11

Exhibit 12
Description: REPLACEMENT LPTV TRANSLATOR STATION EXHIBIT 12

EXHIBIT 12 CONTAINS STATEMENT B, ENVIRONMENTAL CONSIDERATIONS, TABLE OF CONTENTS, AND A COPY OF THE ENGINEERING PORTIONS OF THE FCC FORM.

Attachment 12

Description
Modification of Construction Permit - Replacement LPTV translator station Exhibit 12

Exhibit 12 - Statement B

ENVIRONMENTAL CONSIDERATIONS

prepared for

Pacific and Southern Company, Inc.

New Replacement Digital LPTV Station

Holder, Florida

Ch. 4 (Digital) 0.3 kW (MAX-DA)

Introduction

The instant proposal is not believed to have a significant environmental impact as defined under §1.1306 of the Commission's Rules. Consequently, preparation of an Environmental Assessment is not required.

Pacific and Southern Company, Inc., herein proposes to modify the construction permit (see BDRTCDT-20100929ADR) for a new replacement digital LPTV station to specify a different location at an existing tower site have the Antenna Structure Registration No. 1011013.

The use of existing transmitting locations has been characterized as being environmentally preferable by the Commission, according to Note 1 of §1.1306 of the FCC Rules. No change in structure height is proposed, thus no change in current structure marking and lighting requirements is anticipated. Therefore, it is believed that this application may be categorically excluded from environmental processing pursuant to §1.1306 of the Commission's rules.

Human Exposure to Radiofrequency Electromagnetic Field

The proposed operation was evaluated for human exposure to radiofrequency electromagnetic field using the procedures outlined in the Commission's OET Bulletin 65 ("OET 65"). OET 65 describes a means of determining whether a proposed facility exceeds the radiofrequency exposure guidelines adopted in §1.1310. Under present Commission policy, a facility may be presumed to comply with the limits specified in §1.1310 if it satisfies the exposure criteria set forth in OET 65. Based upon that methodology, and as demonstrated in the following, the proposed transmitting system will comply with the cited adopted guidelines.

The proposed Channel 4 antenna center of radiation will be 54.9 meters above ground level. An maximum effective radiated power of 0.3 kilowatts, horizontally polarized, will be employed

utilizing a Scala Model 2CL-46/HRM/50N/HV directional antenna. A "worst-case" relative field value of 1.000 is assumed for purposes of the calculation. The "uncontrolled/general population" limit specified in §1.1310 for Channel 4 (center frequency 69 MHz) is 200 $\mu W/cm^2$.

OET 65's formula for television transmitting antennas is based on the NTSC transmission standards, where the average power is normally much less than the peak power. For the DTV facility in the instant proposal, the peak-to-average ratio is different than the NTSC ratio. The DTV ERP figure herein refers to the average power level. The formula used for calculating DTV signal density in this analysis is essentially the same as equation (10) in OET-65.

$$\mathbf{S = (33.4098)\ (F^2)\ (ERP)\ /\ D^2}$$

Where:

S	=	power density in microwatts/cm^2
ERP	=	total (average) ERP in Watts
F	=	relative field factor
D	=	distance in meters

Using this formula and the above assumptions, the proposed facility would contribute a power density of 3.6 $\mu W/cm^2$ at two meters above ground level near antenna support structure, or 1.8 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.

§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. 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).

Safety of Tower Workers and the General Public

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 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 expected, power reduction, or the complete shutdown of facilities when work or inspections must be performed in areas where the exposure guidelines would otherwise 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.

Conclusion

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