

Exhibit 12
Comprehensive Engineering Statement
prepared for
Somar Communications, Inc.
NEW(FX) Lexington Park, Maryland
Facility ID 202822
Channel 264D 0.25 kW 93 meters AGL

Somar Communications, Inc. (“*Somar*”), seeks to propose a new cross-service FM translator for standard broadcast station WPTX(AM), FCC File Number BL-19980717AA. The instant application is part of the Auction 100 filing window¹. In particular, *Somar* proposes to use their registered tower, ASRN 1048296 with coordinates of 38° 16’ 55.5”N, 76° 33’ 36.2”W (NAD 27). The proposed antenna will be omni-directional, circularly polarized and mounted at 93 meters AGL. An ERP of 250 Watts is being specified.

Allocation Considerations

The location of the 60 dBμ coverage contour of the proposed translator lies within both the 2 mV/m and the 40 km (25-mile) radius of the licensed coordinates of WPTX(AM), as shown in the map provided as **Figure 1**, thus complying with §74.1201(g).

The results of a study of nearby FM facilities on co-channel, adjacent-channel, and intermediate frequencies was conducted to identify which stations require further study to demonstrate compliance under §74.1204, and no contour overlap is predicted to nearby stations. As demonstrated in **Figure 2**, the nearest co-channel, first adjacent and second adjacent stations will not have prohibited contour overlap. The nearest third adjacent facility is WNCL(FM), Channel 267A, Milford, DE at a distance of 113 km. No overlap to WNCL(FM) is predicted. The nearest IF relationship (53 or 54 channels removed) to the proposal is WXTR(FM), Channel 210A, Tappahannock, VA, at 47.6 km distant, which is beyond the distance considerations listed in §73.207(b)(1) for IF facilities.

The proposed transmitter site is an existing detuned tower located 95 meters from WPTX, the proposed parent station’s non-directional antenna. Per FCC requirements stated in §1.30002(a), *Somar* will coordinate modifications to the proposed tower in such a way as to assure that the

¹ Public Notice Media Bureau Announces Auction 100 FM Translator Filing Window for Long-Form Applications, Released March 15, 2018, DA 18-256.

Comprehensive Engineering Statement

(page 2 of 4)

WPTX radiation pattern will not be distorted by more than 2 dB. Any detuning already on the proposed structure will be checked for proper operation, and will be adjusted as needed.

The proposed site is located 542.87 km from the Canadian border and 2,374.17 km from the Mexican border, which is well beyond the 320 km coordination distance required for translators specified in §74.1235(d). The nearest FCC monitoring station is 100.6 km distant at Laurel, MD and the facility is 191.47 km from the Green Bank Quiet Zone. These distances exceed the threshold minimum distance specified in §73.1030 that would suggest consideration.

It is therefore believed that the proposed facility satisfies all of the pertinent Commission Rules and Policies now in effect regarding allocation matters.

Environmental Considerations

The proposed facility will operate with a circularly-polarized ERP of 250 Watts with an omni-directional antenna, at 93 meters AGL on the registered tower with ASRN 1048296. 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. Because no change in structure height is proposed, 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 Radiation

The proposed operation was evaluated for human exposure to radiofrequency energy using the procedures outlined in the Commission's OET Bulletin No. 65 ("OET 65"). OET 65 describes a means of determining whether a proposed facility meets 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.

Comprehensive Engineering Statement

(page 3 of 4)

The general population/uncontrolled maximum permitted exposure (“MPE”) limit specified in §1.1310 for the entire FM broadcast band is $200 \mu\text{W}/\text{cm}^2$. For the purpose of this study, “public access” will be considered at the base of the tower at a location two-meters above ground.

Using the FCC’s FM Model program and a worst-case EPA Type 1 antenna it was determined that the proposed facility would contribute a worst-case RF power density of $1.21 \mu\text{W}/\text{cm}^2$ at two meters above ground level near the antenna support structure, or 0.6 percent of the general population/uncontrolled limit.

§1.1307(b)(3) states that facilities at locations with multiple emitters are categorically excluded from responsibility for taking any corrective action in the areas where their contribution is less than five percent of the pertinent MPE limit. 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 ground level as defined under §1.1307(b).

Safety of Tower Workers and the General Public

As demonstrated herein, excessive levels of RF energy will not be caused by the proposal 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 continue to be restricted and controlled through the use of a locked gate. According to information provided by the applicant, appropriate RF exposure warning signs are posted. In the event that maintenance or other workers gain access to the tower, power output of the translator will be decreased or shut off to protect workers.

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 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

Comprehensive Engineering Statement

(page 4 of 4)

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. 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.

Conclusion

It is therefore believed that the proposed facility satisfies all of the pertinent Commission Rules and Policies now in effect.

**EXHIBIT 12 - FIGURE 1
COVERAGE CONTOUR COMPARISON**

prepared April 2018 for

**Somar Communications, Inc.
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Facility ID 202822
Ch. 246D 0.25 kW 93 m AGL**

**Cavell, Mertz & Associates, Inc.
Manassas, Virginia**

**WPTX(AM) Daytime License
40 km Radius**

2 mV Contour

TX Site

**NEW(FX) Proposed
60 dBμ F(50, 50)**

Lexington Park, MD

Scale 1:1,000,000
0 10 20 30 km



**EXHIBIT 12 - FIGURE 2
CONTOUR PROTECTION**

prepared April 2018 for

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**Cavell, Mertz & Associates, Inc.
Manassas, Virginia**

WZBA(FM) License
Co-Channel
54 dBμ F(50, 50)

WBIG-FM License
Ch 262B 2nd Adjacent
54 dBμ F(50, 50)

NEW(FX) Proposed
34 dBμ F(50, 10)

NEW(FX) Proposed
60 dBμ F(50, 50)
54 dBμ F(50, 10)

WAAI(FM) License
Ch 265A 1st Adjacent
60 dBμ F(50, 50)

Lexington Park, MD

