

# **ENGINEERING REPORT**

## **FM Translator “Long Form” Filing for Original Construction Permit Application**

**NEW223D – Sebring, FL**  
File No. BNPFT-20030317KVH  
Facility ID No. 142174

Long-Form “Singleton Filing pursuant  
to Auction 83 (AUC-03-83-D)

August, 2013

COPYRIGHT 2013

**MUNN-REESE, INC.**  
Broadcast Engineering Consultants  
Coldwater, MI 49036

# **Table of Contents**

---

Discussion of Report

**FM Booster/Fill-in Translator Requirements** (See Discussion)

**Interference Requirements**

Exhibit 13.1 – Topographical Map Showing Proposed Site

Exhibit 13.2 - Vertical Plan of Existing Tower Structure

Exhibit 13.3 - Licensed vs Proposed Service Contour Study

Exhibit 13.4 - Proposed vs Primary Station Service Contour Study

**Contour Overlap Requirements**

Exhibit 13.5 - Tabulation of Proposed Allocation

Exhibit 13.6 – Protection to AP221D – Avon Park, FL

**TV Channel 6 Protection Requirements** (See Discussion)

**Unattended Operation Requirements** (See Discussion)

**Multiple Translator Requirements** (See Discussion)

**RF Radiation Study Requirement**

Exhibit 17.1 - RF Compliance Study

(Exhibit numbering is in response to FCC Online Form 349, Section III-A)

## **Discussion**

---

This firm has been retained to prepare the required engineering report in support of a Construction Permit “Long Form” Filing for FM Translator Application BNPFT-20030317KVH (Facility ID No. 142174). The pending “Short-Form” Application specified operation on CH223D (92.5 MHz) with 0.120 kW ERP of non-directional power at an antenna COR of 74 meters AMSL. The Proposed Operating Parameters will be modified slightly in this “Long-Form” Filing. Continued operation on Channel CH223D (92.5 MHz), but with a power of 0.080 kW ERP is requested from the same site location. A circularly polarized non-directional antenna will be utilized at an antenna COR height of 73 meters AMSL. The translator will rebroadcast primary station WAPQ-LP – Avon Park, FL, CH240L1, 95.9 MHz, (Facility ID No. 135640).

The facility will be located at the existing tower which has no Antenna Structure Registration Number. A aerial photograph map of the proposed site has been included in **Exhibit 13.1**. The vertical antenna system has been plotted in **Exhibit 13.2**. As this proposal will not increase the overall tower height, it is believed the FAA need not be notified.

The proposed operating parameters have changed slightly from the original “Short-Form” values, therefore, the proposed service contour is wholly within the short form service area as seen in **Exhibit 13.3**.

The proposed 60 dBμ contour of the Translator is not totally encompassed by the WAPQ-LP licensed (BLL-20050914ACZ) primary 60 dBμ contour. A map of the proposed service contour in relation to the primary station service contour has been included in **Exhibit 13.4**. The Translator will rebroadcast WAPQ-LP directly off-air as a non-fill-in FM Translator. The applicant further certifies that the Translator and primary LPFM station are not co-owned and that written permission for retransmission has been sought and obtained from the WAPQ-LP licensee.

It has been determined the translator may be used in the area without interference to any existing FM broadcast station or proposed. General allocation details are found in **Exhibit 13.5**. A detailed protection study towards co-channel station AP221D – Avon Park, FL CH221D is included in **Exhibit 13.6**. Regarding the remaining allocation concerns, it is believed sufficient clearance exists precluding the need for additional contour protection showings.

The applicant would like to note the use of the NGDC 30 second terrain database for all allocation protection studies as well as all contour and HAAT calculations employed in this Form 349 filing.

**RADIATION PROTECTION:** The Commission requires an engineering study regarding compliance with the guidelines for human protection from radiofrequency radiation. This report section is in response to that provision of the Rules. The current Federal Communications Commission guidelines for RF radiation protection are set forth in OET Bulletin No. 65 (Edition 97-01), and the accompanying Supplement A, (Edition 97-01).

## Discussion (continued)

The FM Broadcast facility proposed in this application will not produce human exposure to radiofrequency radiation in excess of the applicable safety standards specified in §1.1307(b)(3) of the Commission's rules concerning RF contributors of less than 5%. **Exhibit 17.1** provides the details of the study that was made to demonstrate compliance. The facility is properly marked with signs, and entry is restricted by means of fencing with locked doors and/or gates. Any other means as may be required to protect employees and the general public will be employed.

***In the event work would be required in proximity to the antenna such that the person or persons working in the area would be potentially exposed to fields in excess of the guidelines set forth in OET Bulletin No. 65 (Edition 97-01), the transmitter power will be reduced or the station will cease operation during the critical period.***

**DISTANCES TO CONTOURS:** The following tabulation of the distances to the proposed service contour results from calculations performed in accordance with §73.313(d) and §73.333 Figure 1 utilizing the NGDC 30 second terrain database.

N. Lat. = 273229.0    W. Lng. = 813041.0 HAAT and Distance to Contour, 3-16 km, 51 pts Method - NGDC 30 SEC						
Azi.	AV EL	HAAT	ERP kW	dBk	Field	60-F5
000	35.6	37.4	0.0800	-10.97	1.000	5.90
030	31.4	41.6	0.0800	-10.97	1.000	6.23
060	26.3	46.7	0.0800	-10.97	1.000	6.61
090	22.7	50.3	0.0800	-10.97	1.000	6.87
120	31.2	41.8	0.0800	-10.97	1.000	6.24
150	29.4	43.6	0.0800	-10.97	1.000	6.38
180	42.9	30.1	0.0800	-10.97	1.000	5.34
210	28.2	44.8	0.0800	-10.97	1.000	6.46
240	22.4	50.6	0.0800	-10.97	1.000	6.90
270	21.1	51.9	0.0800	-10.97	1.000	6.98
300	24.8	48.2	0.0800	-10.97	1.000	6.72
330	33.6	39.4	0.0800	-10.97	1.000	6.06
Ave El= 29.13 M    HAAT= 43.87 M    AMSL= 73.0						