

***COMPREHENSIVE TECHNICAL EXHIBIT  
APPLICATION FOR LICENSE***

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**FM Translator Station W271CR  
0.099 kW ERP ND / 102.1 MHz  
Providence, Rhode Island**

**Video Mundo Broadcasting Company, LLC**

**August 2017**

## **APPLICATION FOR LICENSE**

The following engineering statement and attached exhibits have been prepared for **Video Mundo Broadcasting Company, LLC** ("Video Mundo"), licensee of FM translator station W271CR (formerly W244AS) at Providence, Rhode Island, and is in support of their application for license.<sup>1</sup> This application is being filed to cover the most recent construction permit for the facility, which is under FCC File No. BMPFT-20160808AAV. This construction permit authorized a relocation of the translator under *AM Revitalization* from Oakhurst, New Jersey to Providence, Rhode Island. This construction permit authorized a change in the channel from 244 to 271.

W271CR is authorized under the referenced construction permit to operate on FM channel 271 with a maximum effective radiated power of 99 Watts at a center of radiation of 133 meters above mean sea level, 122 meters above ground level utilizing a non-directional antenna. The antenna specified and utilized by the facility is a Propagation Systems, Inc. ("PSI") model FML-4(0.75). The facility was constructed in accordance with the terms of the construction permit.

The construction permit as issued by the Commission lists six (6) special conditions or restrictions. Video Mundo is in compliance with each of these special conditions. Compliance with each condition will be specifically discussed in this engineering statement.

The first of the special conditions pertains to the authorization for the facility being part of the Commission's *AM Revitalization* proceedings. This condition advises Video Mundo that the primary facility associated with the translator may not be changed until four years of operation are

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<sup>1</sup> The Facility ID for W271CR at Providence, Rhode Island is 71534.

achieved. Video Mundo is cognizant of these, and other requirements of this condition, and will abide by the same.

The second condition assigned to the construction permit pertains to the location of the antenna, which is on one of the constituent elements in the WPMZ directional antenna system.<sup>2</sup> Under this condition, Video Mundo, which is the licensee of the AM facility, must address the co-location, and ensure that the W271CR antenna does not adversely affect the directional antenna pattern of the facility.

WPMZ is operational at this time under a Special Temporary Authority. The STA, which has been extended, was requested due to substantial issues with the transmitter building.<sup>3</sup> As a result of these issues, Video Mundo is unable to operate WPMZ at its licensed power level. Although restorative actions have been undertaken at the facility, the reconstruction has not yet been completed.

Video Mundo therefore performed a required partial proof of performance at the antenna input power specified under the Special Temporary Authority, and its related extensions. The results of this partial proof are appended to this technical exhibit, and demonstrate that the effect of the addition of the W271CR antenna and transmission line is within typical measurement error. Upon completion of the reconstruction of W271CR, Video Mundo will perform another partial proof of performance. This subsequent proof will ratio the after repair measurements to the latest full

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<sup>2</sup> The Facility ID for WPMZ at East Providence, Rhode Island is 4377.

<sup>3</sup> See FCC File No. BSTA-20150408ACV as most recently extended by BESTA-20170504ABB.

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proof of performance from 1982, with the results being submitted via an Application for Direct Measurement of Power.

The partial proof of performance submitted here includes measurements performed on five radials. These include the monitored radials, and adjacent radials. The following table provides a summary of the measured ratios between the measurements taken after construction to those taken before construction. The monitor points are within their authorized limits, and remain as such at reduced power per the terms of the Special Temporary Authority.

<b>Azimuth</b>	<b>Ratio After/Before</b>	<b>Log Ratio After/Before</b>
6° T	1.0356	1.0336
55° T	1.0174	1.0130
235° T	1.0434	1.0415
284° T	1.0006	0.9970
325° T	0.9932	0.9793

The third special condition pertains to the proximity of the translator to the WPRV AM antenna, also at Providence, Rhode Island.<sup>4</sup> Under this condition, Video Mundo must demonstrate no adverse impact to its directional antenna system, which operates during nighttime hours. WPRV was authorized by a traditional proof of performance. Measurements of the WPRV monitor points was performed before and after construction of the W271CR translator antenna. The following table summarizes these measurements, and demonstrates no adverse impact to the field strength at the WPRV monitor points.<sup>5</sup>

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<sup>4</sup> The Facility ID for WPRV at Providence, Rhode Island is 64840.

<sup>5</sup> Measurements performed by Ms. Rachel Simon, local engineer for Video Mundo using A Potomac Instruments FIM-41 field intensity meter with serial number 1143.

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MP	Azimuth	Date Before	Field Before	Date After	Field After	Monitor Point Limit
1	252.2	7/14/17	78 mV/m	7/21/17	78 mV/m	160 mV/m
2	306	7/14/17	42 mV/m	7/21/17	45 mV/m	85.6 mV/m
3	219	7/14/17	10.5 mV/m	7/21/17	11.3 mV/m	15.0 mV/m

The fourth special condition pertains to the location of the W271CR antenna relative to the directional FM antenna for WWBB(FM).<sup>6</sup> The translator antenna is located above the WWBB antenna. Attached to this technical exhibit is correspondence from Mr. Tom Scharf of Electronics Research, Inc. ("ERI"), the manufacturer of this antenna, who states that the translator transmission line will not impact the directional antenna pattern for that facility.

The fifth special condition pertains to this application for license. Under this condition, this application for license must be on file prior to the commencement of program test operations. Video Mundo respectfully submits that upon the filing of this license application, it will commence operation of the translator under the provisions of automatic program test authority.

The sixth and final special condition pertains to RF safety at the site. Under this condition, Video Mundo is required to coordinate with other users of the site to ensure that workers and other persons are not exposed to levels of radiofrequency radiation in excess of the applicable safety standards. Coordination activities under this condition will include, but are not necessarily limited to a reduction in transmitter power or cessation of operation.

The specified transmitter power achieves the authorized effective radiated power. The authorized effective radiated power for the facility is 99 Watts. The specified power gain of the

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<sup>6</sup> The Facility ID for WWBB(FM) at Providence, Rhode Island is 54568.

antenna is 2.67 dB, or 1.849 numerically. The input power to the antenna to achieve the authorized effective radiated power is 53.5 Watts.

Preceding the antenna is the main run of transmission line, which consists of 550 feet of Commscope AVA5-50. Including the connectors, the insertion loss of this run of transmission line is 1.969 dB, or 63.55 percent. The input power to the main run of transmission line to achieve the authorized effective radiated power is 85.8 Watts.

Between the main run of line and the filter assembly, is a three foot jumper of LDF1-50 coaxial cable. The efficiency of this jumper is 98.42 percent. The input power to the jumper to achieve the authorized effective radiated power is 87.2 Watts.

The filter assembly is an EMR Corp. WFM73515A circulator/isolator. This assembly, added to the system to mitigate the potential of spurious emission products from interactions with other nearby facilities, has a manufacturer specified insertion loss of 0.55 dB, which corresponds to an efficiency of 88.10 percent. The input power to the filter assembly to achieve the effective radiated power is 99 Watts.

Between the filter and the transmitter is a second jumper assembly with identical characteristics as the previously discussed assembly. The input power to this jumper to achieve the authorized effective radiated power is 100.6 Watts. This value rounds to 101 Watts, and since the input to the jumper is the output of the transmitter, the specified transmitter power output achieves the authorized effective radiated power.

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The facility utilizes a non-directional antenna, as was previously stated. This antenna has been installed in accordance with the instructions of the manufacturer.

The preceding statement has been prepared by me, and is true and accurate to the best of my belief and knowledge.



Above signature is digitized copy of actual signature  
License Expires November 30, 2017

Jeremy D. Ruck, PE  
August 10, 2017

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RADIO STATION WPMZ		PARTIAL PROOF OF PERFORMANCE FIELD STRENGTH MEASUREMENTS						6 Degree True Radial DA-D	
		Providence, Rhode Island							
Point Number	km Distance	2017 Before W271CR Construction			2017 After W271CR Construction			2017/2017 After/Before	
		Date 2017	Time CDT	Field mV/m	Date 2017	Time CDT	Field mV/m	Ratio	Log Ratio
16	3.22	8-Jul	1703	39.0	22-Jul	1607	42.0	1.0769	0.0322
18	4.70	8-Jul	1656	22.0	22-Jul	1600	23.0	1.0455	0.0193
19	5.46	8-Jul	1652	8.20	22-Jul	1556	7.40	0.9024	-0.0446
20	6.21	8-Jul	1648	9.90	22-Jul	1552	10.0	1.0101	0.0044
21	6.98	8-Jul	1642	7.60	22-Jul	1548	8.80	1.1579	0.0637
<b>22</b>	7.68	8-Jul	1637	7.80	22-Jul	1544	8.20	1.0513	0.0217
23	8.64	8-Jul	1632	9.60	22-Jul	1538	9.90	1.0313	0.0134
24	9.24	8-Jul	1627	4.40	22-Jul	1534	4.60	1.0455	0.0193
27	15.5	8-Jul	1600	0.990	22-Jul	1507	0.990	1.0000	0.0000
							Averages:	1.0356	1.0336

**Point Number 22 is the Daytime Monitor Point for this Radial**

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PARTIAL PROOF OF PERFORMANCE FIELD STRENGTH MEASUREMENTS									
RADIO STATION WPMZ		Providence, Rhode Island					55 Degree True Radial DA-D		
Point Number	km Distance	2017 Before W271CR Construction			2017 After W271CR Construction			2017/2017 After/Before	
		Date 2017	Time CDT	Field mV/m	Date 2017	Time CDT	Field mV/m	Ratio	Log Ratio
15	3.32	8-Jul	1512	44.0	23-Jul	1423	44.0	1.0000	0.0000
16	3.93	8-Jul	1508	30.5	23-Jul	1420	32.0	1.0492	0.0209
18	5.44	8-Jul	1503	14.0	23-Jul	1415	15.0	1.0714	0.0300
19	6.44	8-Jul	1500	9.00	23-Jul	1358	9.00	1.0000	0.0000
21	7.76	8-Jul	1456	5.40	23-Jul	1354	6.00	1.1111	0.0458
22	8.42	8-Jul	1450	3.60	23-Jul	1349	3.55	0.9861	-0.0061
23	9.61	8-Jul	1446	1.70	23-Jul	1343	1.80	1.0588	0.0248
24	11.7	8-Jul	1424	1.90	23-Jul	1336	1.50	0.7895	-0.1027
25	15.0	8-Jul	1437	1.10	23-Jul	1329	1.20	1.0909	0.0378
							Averages:	1.0174	1.0130

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RADIO STATION WPMZ		PARTIAL PROOF OF PERFORMANCE FIELD STRENGTH MEASUREMENTS						235 Degree True Radial DA-D	
Providence, Rhode Island		2017 Before W271CR Construction			2017 After W271CR Construction			2017/2017 After/Before	
Point Number	km Distance	Date	Time	Field	Date	Time	Field	Ratio	Log Ratio
		2017	CDT	mV/m	2017	CDT	mV/m		
13	4.36	9-Jul	1534	47.0	22-Jul	1101	51.0	1.0851	0.0355
14	5.07	9-Jul	1530	49.0	22-Jul	1057	54.0	1.1020	0.0422
17	7.16	9-Jul	1512	21.5	22-Jul	1040	24.0	1.1163	0.0478
18	7.84	9-Jul	1506	15.5	22-Jul	1034	16.5	1.0645	0.0272
19	8.61	9-Jul	1501	7.80	22-Jul	1030	7.20	0.9231	-0.0348
20	9.45	9-Jul	1457	9.90	22-Jul	1020	10.5	1.0606	0.0256
21	10.2	9-Jul	1453	9.00	22-Jul	1015	8.80	0.9778	-0.0098
22	13.0	9-Jul	1444	2.80	22-Jul	1007	2.85	1.0179	0.0077
							Averages:	1.0434	1.0415

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**PARTIAL PROOF OF PERFORMANCE FIELD STRENGTH MEASUREMENTS**

RADIO STATION WPMZ Providence, Rhode Island 284 Degree True Radial DA-D

Point Number	km Distance	2017 Before W271CR Construction			2017 After W271CR Construction			2017/2017 After/Before	
		Date	Time	Field	Date	Time	Field	Ratio	Log Ratio
		2017	CDT	mV/m	2017	CDT	mV/m		
16	3.22	9-Jul	1720	18.5	22-Jul	1243	19.0	1.0270	0.0116
<b>17</b>	3.96	9-Jul	1710	16.0	22-Jul	1234	14.5	0.9063	-0.0428
19	5.46	9-Jul	1702	9.80	22-Jul	1227	8.40	0.8571	-0.0669
21	6.98	9-Jul	1655	6.50	22-Jul	1221	6.90	1.0615	0.0259
22	7.68	9-Jul	1650	4.00	22-Jul	1216	3.80	0.9500	-0.0223
23	8.64	9-Jul	1643	2.70	22-Jul	1211	2.80	1.0370	0.0158
24	9.24	9-Jul	1639	2.80	22-Jul	1207	3.00	1.0714	0.0300
25	10.4	9-Jul	1628	0.510	22-Jul	1157	0.580	1.1373	0.0559
26	15.5	9-Jul	1615	0.470	22-Jul	1145	0.450	0.9574	-0.0189
							Averages:	1.0006	0.9970

**Point Number 17 is the Daytime Monitor Point for this Radial**

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PARTIAL PROOF OF PERFORMANCE FIELD STRENGTH MEASUREMENTS									
RADIO STATION WPMZ		Providence, Rhode Island					325 Degree True Radial DA-D		
Point Number	km Distance	2017 Before W271CR Construction			2017 After W271CR Construction			2017/2017 After/Before	
		Date	Time	Field	Date	Time	Field	Ratio	Log Ratio
		2017	CDT	mV/m	2017	CDT	mV/m		
12	3.25	10-Jul	1442	11.5	22-Jul	1438	9.20	0.8000	-0.0969
13	4.02	10-Jul	1436	12.0	22-Jul	1433	12.5	1.0417	0.0177
14	4.86	10-Jul	1430	9.90	22-Jul	1427	10.5	1.0606	0.0256
15	5.71	10-Jul	1413	9.90	22-Jul	0418	7.60	0.7677	-0.1148
16	6.42	10-Jul	1404	3.70	22-Jul	1414	5.15	1.3919	0.1436
17	7.10	10-Jul	1358	5.60	22-Jul	1409	5.40	0.9643	-0.0158
18	8.16	10-Jul	1354	2.70	22-Jul	1405	2.90	1.0741	0.0310
19	9.01	10-Jul	1326	2.00	22-Jul	1341	2.10	1.0500	0.0212
20	9.43	10-Jul	1314	1.95	22-Jul	1351	2.10	1.0769	0.0322
21	10.46	10-Jul	1300	0.78	22-Jul	1323	0.620	0.7949	-0.0997
22	13.21	10-Jul	1252	0.620	22-Jul	1317	0.560	0.9032	-0.0442
							Averages:	0.9932	0.9793

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# ***ERI***<sup>®</sup> ***Electronics Research, Inc.***

Electronics Research, Inc. 7777 Gardner Rd. Chandler, In 47610 Phone (812) 925-6000 Fax (812) 925-4030 <http://www.eriinc.com/>

December 12, 2016

Mike Guidotti  
Senior VP Engineering  
iHeartMedia

Dear Mike:

In responding the two translator antennas W244AS at 102.1 MHz and W300AC at 94.9 MHz that will be located above the WWBB directional antenna. The addition of two 7/8" o.d. transmission line that is to feed the two antennas and will be attached to N 40° E tower leg which is directly behind the WWBB directional antenna. These transmission lines that will pass through the aperture of the WWBB directional antenna will have no effect on the WWBB directional antenna pattern.

If you need anything else, do not hesitate to contact us.

Tom Scharf

ERI Test Range