

Application for Modification
Post – Repack Construction Permit
Engineering Exhibit

WPXW-TV – Manassas, VA

Facility ID: 74091

Licensee "ION MEDIA WASHINGTON LICENSE, INC" is currently authorized to operate on Post-Repack DTV channel 35. The Antenna Structure Registration Number is 1051670 with a Latitude of 38° 57' 01.0" N+ and a Longitude of 077° 04' 46.0" W-.

The purpose of this application is to request authority to modify the construction permit (0000034923) to operate from Antenna Structure Registration Number 1035708 with a Latitude of 38° 57' 49.9" N+ and a Longitude of 077° 06' 17.2" W-. The HAAT is 234.1 m (AGL 235.31 m) with an AMSL of 308.5 m. An ERP of 949 kW will be utilized.

Antenna System

An Omni-oid top mounted antenna will be utilized. It will be affixed to an existing self-supporting tower structure and will not increase the overall height of the structure. Any vertical component will not exceed the horizontal pattern in any direction. Elevation and Azimuth patterns are attached.

RF Hazard (Environmental)

Human Exposure measurements were calculated using the OET- 65 equation and the outcome is compliant with FCC 1.1310. Furthermore, the calculation is under 5% of the limit categorically excluding the application from further environmental evaluations.

| Calculated Maximum | Calculated Exposure | Percent of Limit |
|--------------------|---------------------|------------------|
| mW/cm ² | mW/cm ² | |
| 0.399 | 0.001088 | 0.27% |

The station will coordinate with other(s) to comply with access, antenna and/or tower issues related to RF Exposure

Broadcast Facility

§73.616 Interference Caused

A calculation using *TVStudy* version 2.2.5 using an LMS database dated 2019-2-20 indicates that there is no excessive new interference created. This study used cell spacing of 2 km and a profile spacing of 1 km. Baseline records were excluded if the station has a CP.

§73.622 Maximum ERP and Antenna Height

The application does not exceed the maximum ERP for the specified HAAT.

§73.623 DTV Allotments

The application does not change the DTV Table of Allotments.

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§73.625 Coverage of Principal Community

The application's ERP will sufficiently cover Manassas, VA. RF coverage analysis attached.

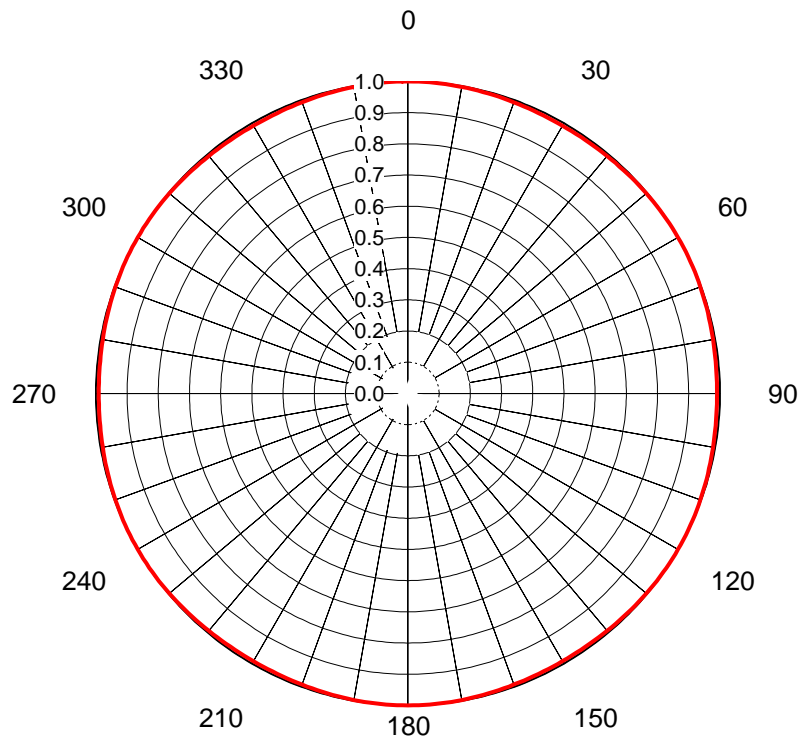
§73.1030 Radio, Research and Receiving Locations

A calculation using *TVStudy* version 2.2.5 using an LMS database dated 2019-2-20 indicates exceedance of field strength limit to FCC Monitoring Station: Laurel, MD. It should be noted the level of exceedance is significantly less than that of the assigned Post-Repack Channel Allotment as well as the current approved construction permit (0000034923).

§73.1650 International Agreements

The application's transmit location is 456.2 km from Canada. As such, no coordination or notification is required.

The application's transmit location is 2344.3 km from Mexico. As such, no coordination or notification is required.



AZIMUTH PATTERN Horizontal Polarization

Proposal No. **C-70357-4**
 Date **26-Oct-18**
 Call Letters **WPXW**
 Channel **35**
 Frequency **599 MHz**
 Antenna Type **TFU-31ETT/VP-R O6**
 Gain **1.01 (0.04dB)**
 Calculated
 Circularity **+/- 1.0 dB**

| Deg | Value | Deg | Value | Deg | Value | Deg | Value | Deg | Value | Deg | Value | Deg | Value | Deg | Value | Deg | Value |
|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|
| 0 | 1.000 | 36 | 0.992 | 72 | 0.997 | 108 | 0.997 | 144 | 0.992 | 180 | 1.000 | 216 | 0.992 | 252 | 0.997 | 288 | 0.997 |
| 1 | 1.000 | 37 | 0.992 | 73 | 0.996 | 109 | 0.997 | 145 | 0.991 | 181 | 1.000 | 217 | 0.992 | 253 | 0.996 | 289 | 0.997 |
| 2 | 1.000 | 38 | 0.992 | 74 | 0.996 | 110 | 0.998 | 146 | 0.991 | 182 | 1.000 | 218 | 0.992 | 254 | 0.996 | 290 | 0.998 |
| 3 | 1.000 | 39 | 0.993 | 75 | 0.995 | 111 | 0.998 | 147 | 0.991 | 183 | 1.000 | 219 | 0.993 | 255 | 0.995 | 291 | 0.998 |
| 4 | 1.000 | 40 | 0.993 | 76 | 0.995 | 112 | 0.998 | 148 | 0.991 | 184 | 1.000 | 220 | 0.993 | 256 | 0.995 | 292 | 0.998 |
| 5 | 0.999 | 41 | 0.994 | 77 | 0.994 | 113 | 0.999 | 149 | 0.991 | 185 | 0.999 | 221 | 0.994 | 257 | 0.994 | 293 | 0.999 |
| 6 | 0.999 | 42 | 0.994 | 78 | 0.994 | 114 | 0.999 | 150 | 0.991 | 186 | 0.999 | 222 | 0.994 | 258 | 0.994 | 294 | 0.999 |
| 7 | 0.999 | 43 | 0.994 | 79 | 0.994 | 115 | 0.999 | 151 | 0.991 | 187 | 0.999 | 223 | 0.994 | 259 | 0.994 | 295 | 0.999 |
| 8 | 0.998 | 44 | 0.995 | 80 | 0.993 | 116 | 1.000 | 152 | 0.991 | 188 | 0.998 | 224 | 0.995 | 260 | 0.993 | 296 | 1.000 |
| 9 | 0.998 | 45 | 0.995 | 81 | 0.993 | 117 | 1.000 | 153 | 0.991 | 189 | 0.998 | 225 | 0.995 | 261 | 0.993 | 297 | 1.000 |
| 10 | 0.998 | 46 | 0.996 | 82 | 0.992 | 118 | 1.000 | 154 | 0.991 | 190 | 0.998 | 226 | 0.996 | 262 | 0.992 | 298 | 1.000 |
| 11 | 0.997 | 47 | 0.996 | 83 | 0.992 | 119 | 1.000 | 155 | 0.991 | 191 | 0.997 | 227 | 0.996 | 263 | 0.992 | 299 | 1.000 |
| 12 | 0.997 | 48 | 0.997 | 84 | 0.992 | 120 | 1.000 | 156 | 0.992 | 192 | 0.997 | 228 | 0.997 | 264 | 0.992 | 300 | 1.000 |
| 13 | 0.996 | 49 | 0.997 | 85 | 0.991 | 121 | 1.000 | 157 | 0.992 | 193 | 0.996 | 229 | 0.997 | 265 | 0.991 | 301 | 1.000 |
| 14 | 0.996 | 50 | 0.998 | 86 | 0.991 | 122 | 1.000 | 158 | 0.992 | 194 | 0.996 | 230 | 0.998 | 266 | 0.991 | 302 | 1.000 |
| 15 | 0.995 | 51 | 0.998 | 87 | 0.991 | 123 | 1.000 | 159 | 0.993 | 195 | 0.995 | 231 | 0.998 | 267 | 0.991 | 303 | 1.000 |
| 16 | 0.995 | 52 | 0.998 | 88 | 0.991 | 124 | 1.000 | 160 | 0.993 | 196 | 0.995 | 232 | 0.998 | 268 | 0.991 | 304 | 1.000 |
| 17 | 0.994 | 53 | 0.999 | 89 | 0.991 | 125 | 0.999 | 161 | 0.994 | 197 | 0.994 | 233 | 0.999 | 269 | 0.991 | 305 | 0.999 |
| 18 | 0.994 | 54 | 0.999 | 90 | 0.991 | 126 | 0.999 | 162 | 0.994 | 198 | 0.994 | 234 | 0.999 | 270 | 0.991 | 306 | 0.999 |
| 19 | 0.994 | 55 | 0.999 | 91 | 0.991 | 127 | 0.999 | 163 | 0.994 | 199 | 0.994 | 235 | 0.999 | 271 | 0.991 | 307 | 0.999 |
| 20 | 0.993 | 56 | 1.000 | 92 | 0.991 | 128 | 0.998 | 164 | 0.995 | 200 | 0.993 | 236 | 1.000 | 272 | 0.991 | 308 | 0.998 |
| 21 | 0.993 | 57 | 1.000 | 93 | 0.991 | 129 | 0.998 | 165 | 0.995 | 201 | 0.993 | 237 | 1.000 | 273 | 0.991 | 309 | 0.998 |
| 22 | 0.992 | 58 | 1.000 | 94 | 0.991 | 130 | 0.998 | 166 | 0.996 | 202 | 0.992 | 238 | 1.000 | 274 | 0.991 | 310 | 0.998 |
| 23 | 0.992 | 59 | 1.000 | 95 | 0.991 | 131 | 0.997 | 167 | 0.996 | 203 | 0.992 | 239 | 1.000 | 275 | 0.991 | 311 | 0.997 |
| 24 | 0.992 | 60 | 1.000 | 96 | 0.992 | 132 | 0.997 | 168 | 0.997 | 204 | 0.992 | 240 | 1.000 | 276 | 0.992 | 312 | 0.997 |
| 25 | 0.991 | 61 | 1.000 | 97 | 0.992 | 133 | 0.996 | 169 | 0.997 | 205 | 0.991 | 241 | 1.000 | 277 | 0.992 | 313 | 0.996 |
| 26 | 0.991 | 62 | 1.000 | 98 | 0.992 | 134 | 0.996 | 170 | 0.998 | 206 | 0.991 | 242 | 1.000 | 278 | 0.992 | 314 | 0.996 |
| 27 | 0.991 | 63 | 1.000 | 99 | 0.993 | 135 | 0.995 | 171 | 0.998 | 207 | 0.991 | 243 | 1.000 | 279 | 0.993 | 315 | 0.995 |
| 28 | 0.991 | 64 | 1.000 | 100 | 0.993 | 136 | 0.995 | 172 | 0.998 | 208 | 0.991 | 244 | 1.000 | 280 | 0.993 | 316 | 0.995 |
| 29 | 0.991 | 65 | 0.999 | 101 | 0.994 | 137 | 0.994 | 173 | 0.999 | 209 | 0.991 | 245 | 0.999 | 281 | 0.994 | 317 | 0.994 |
| 30 | 0.991 | 66 | 0.999 | 102 | 0.994 | 138 | 0.994 | 174 | 0.999 | 210 | 0.991 | 246 | 0.999 | 282 | 0.994 | 318 | 0.994 |
| 31 | 0.991 | 67 | 0.999 | 103 | 0.994 | 139 | 0.994 | 175 | 0.999 | 211 | 0.991 | 247 | 0.999 | 283 | 0.994 | 319 | 0.994 |
| 32 | 0.991 | 68 | 0.998 | 104 | 0.995 | 140 | 0.993 | 176 | 1.000 | 212 | 0.991 | 248 | 0.998 | 284 | 0.995 | 320 | 0.993 |
| 33 | 0.991 | 69 | 0.998 | 105 | 0.995 | 141 | 0.993 | 177 | 1.000 | 213 | 0.991 | 249 | 0.998 | 285 | 0.995 | 321 | 0.993 |
| 34 | 0.991 | 70 | 0.998 | 106 | 0.996 | 142 | 0.992 | 178 | 1.000 | 214 | 0.991 | 250 | 0.998 | 286 | 0.996 | 322 | 0.992 |
| 35 | 0.991 | 71 | 0.997 | 107 | 0.996 | 143 | 0.992 | 179 | 1.000 | 215 | 0.991 | 251 | 0.997 | 287 | 0.996 | 323 | 0.992 |

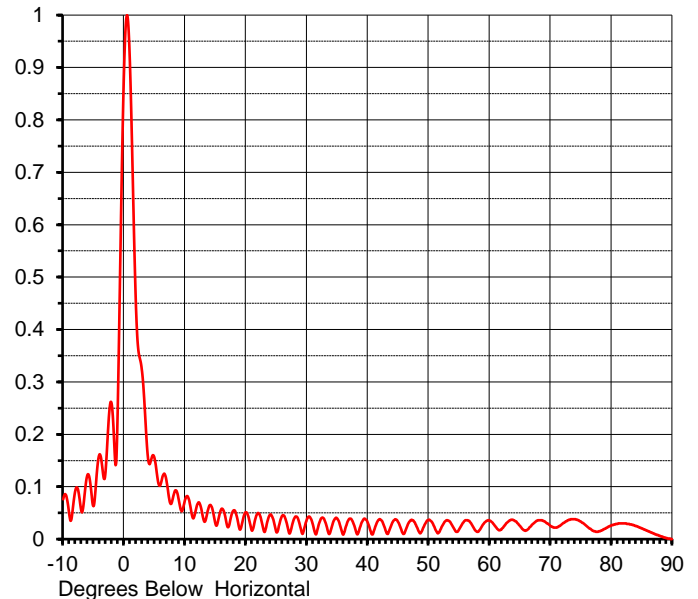
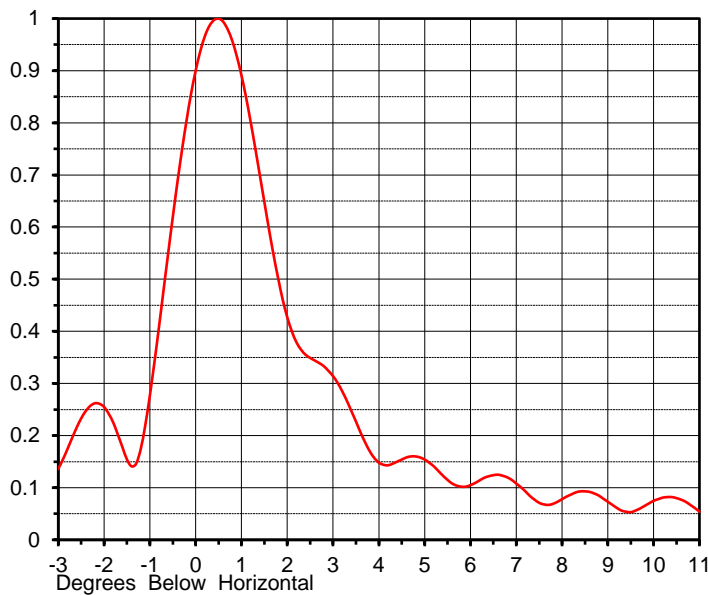
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ELEVATION PATTERN

Proposal No. **C-70357-4**
 Date **26-Oct-18**
 Call Letters **WPXW**
 Channel **35**
 Frequency **599 MHz**
 Antenna Type **TFU-31ETT/VP-R 06**

RMS Directivity at Main Lobe **29.0 (14.62 dB)**
 RMS Directivity at Horizontal **23.5 (13.71 dB)**
Calculated

Beam Tilt **0.50 deg**
 Pattern Number **31E290050**



| Angle | Field | Angle | Field | Angle | Field | Angle | Field | Angle | Field |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| -10.0 | 0.076 | 10.0 | 0.075 | 30.0 | 0.038 | 50.0 | 0.037 | 70.0 | 0.025 |
| -9.0 | 0.047 | 11.0 | 0.054 | 31.0 | 0.027 | 51.0 | 0.021 | 71.0 | 0.022 |
| -8.0 | 0.093 | 12.0 | 0.066 | 32.0 | 0.030 | 52.0 | 0.020 | 72.0 | 0.030 |
| -7.0 | 0.053 | 13.0 | 0.039 | 33.0 | 0.033 | 53.0 | 0.036 | 73.0 | 0.037 |
| -6.0 | 0.123 | 14.0 | 0.064 | 34.0 | 0.020 | 54.0 | 0.023 | 74.0 | 0.038 |
| -5.0 | 0.063 | 15.0 | 0.029 | 35.0 | 0.039 | 55.0 | 0.019 | 75.0 | 0.033 |
| -4.0 | 0.162 | 16.0 | 0.058 | 36.0 | 0.009 | 56.0 | 0.036 | 76.0 | 0.024 |
| -3.0 | 0.136 | 17.0 | 0.023 | 37.0 | 0.039 | 57.0 | 0.029 | 77.0 | 0.016 |
| -2.0 | 0.255 | 18.0 | 0.055 | 38.0 | 0.017 | 58.0 | 0.014 | 78.0 | 0.015 |
| -1.0 | 0.277 | 19.0 | 0.018 | 39.0 | 0.032 | 59.0 | 0.029 | 79.0 | 0.020 |
| 0.0 | 0.900 | 20.0 | 0.051 | 40.0 | 0.031 | 60.0 | 0.035 | 80.0 | 0.026 |
| 1.0 | 0.891 | 21.0 | 0.016 | 41.0 | 0.016 | 61.0 | 0.023 | 81.0 | 0.029 |
| 2.0 | 0.427 | 22.0 | 0.050 | 42.0 | 0.038 | 62.0 | 0.020 | 82.0 | 0.030 |
| 3.0 | 0.314 | 23.0 | 0.014 | 43.0 | 0.014 | 63.0 | 0.033 | 83.0 | 0.028 |
| 4.0 | 0.148 | 24.0 | 0.047 | 44.0 | 0.031 | 64.0 | 0.036 | 84.0 | 0.025 |
| 5.0 | 0.154 | 25.0 | 0.013 | 45.0 | 0.032 | 65.0 | 0.025 | 85.0 | 0.020 |
| 6.0 | 0.105 | 26.0 | 0.045 | 46.0 | 0.011 | 66.0 | 0.017 | 86.0 | 0.015 |
| 7.0 | 0.108 | 27.0 | 0.015 | 47.0 | 0.036 | 67.0 | 0.028 | 87.0 | 0.010 |
| 8.0 | 0.078 | 28.0 | 0.041 | 48.0 | 0.024 | 68.0 | 0.036 | 88.0 | 0.006 |
| 9.0 | 0.073 | 29.0 | 0.020 | 49.0 | 0.019 | 69.0 | 0.034 | 89.0 | 0.002 |
| | | | | | | | | 90.0 | 0.000 |

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Latitude: 38-57-49.90 N
Longitude: 077-06-17.20 W
ERP: 949.00 kW
Channel: 35
Frequency: 599.0 MHz
AGL: 235.31 m
HAAT: 234.1 m
AMSL: 308.51 m
Horiz. Pattern: Directional
Vert. Pattern: Yes
Elec Tilt: 0.5

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Longitude: 077-06-17.20 W
ERP: 949.00 kW
Channel: 35
Frequency: 599.0 MHz
AGL: 235.31 m
HAAT: 234.1 m
AMSL: 308.51 m
Horiz. Pattern: Directional
Vert. Pattern: Yes
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