

Wind Power GeoPlanner™

AM and FM Radio Report

Cassadaga



Prepared on Behalf of
Cassadaga Wind LLC

February 27, 2015



COMSEARCH
A CommScope Company

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1. Introduction

Comsearch analyzed AM and FM radio broadcast stations whose service could potentially be affected by the proposed Cassadaga wind energy project in Chautauqua County, New York.

2. Summary of Results

AM Radio Analysis

Comsearch found eight database records¹ for AM stations within approximately 30 kilometers of the project, as shown in Table 1 and Figure 1. These records represent station WDOE, to northwest of the project, and stations WJTN and WKSN, to the south. Each of these stations is licensed separately for daytime and nighttime operations.

| ID | Call Sign | Status ² | Frequency (kHz) | Transmit ERP ³ (kW) | Operation Time | Latitude (NAD 27) | Longitude (NAD 27) | Required Separation Distance ⁴ (km) | Distance to Nearest Turbine (km) |
|----|-----------|---------------------|-----------------|--------------------------------|----------------|-------------------|--------------------|--|----------------------------------|
| 1 | WDOE | LIC | 1410 | 1.0 | Daytime | 42.463611 | -79.355833 | 2.13 | 15.51 |
| 2 | WDOE | LIC | 1410 | 0.5 | Nighttime | 42.463611 | -79.355833 | 2.13 | 15.51 |
| 3 | WDOE | CP | 1410 | 1.0 | Daytime | 42.463611 | -79.355833 | 0.21 | 15.51 |
| 4 | WDOE | CP | 1410 | 0.031 | Nighttime | 42.463611 | -79.355833 | 0.21 | 15.51 |
| 5 | WJTN | LIC | 1240 | 0.5 | Daytime | 42.104722 | -79.257500 | 0.24 | 18.37 |
| 6 | WJTN | LIC | 1240 | 1.0 | Nighttime | 42.104722 | -79.257500 | 0.24 | 18.37 |
| 7 | WKSN | LIC | 1340 | 0.26 | Daytime | 42.104722 | -79.257500 | 0.22 | 18.37 |
| 8 | WKSN | LIC | 1340 | 0.52 | Nighttime | 42.104722 | -79.257500 | 0.22 | 18.37 |

Table 1: AM Radio Stations within 30 km

¹ Comsearch makes no warranty as to the accuracy of the data included in this report beyond the date of the report. The data presented in this report is derived from the AM/FM station's FCC license and governed by Comsearch's data license notification and agreement located at http://www.comsearch.com/files/data_license.pdf.

² LIC = Licensed and operational station; APP = Application for construction permit; CP=Construction permit granted; CP MOD = Modification of construction permit.

³ ERP = Transmit Effective Radiated Power.

⁴ The required separation distance is based on the lesser of 10 wavelengths or 3 kilometers for directional antennas and 1 wavelength for non-directional antennas.

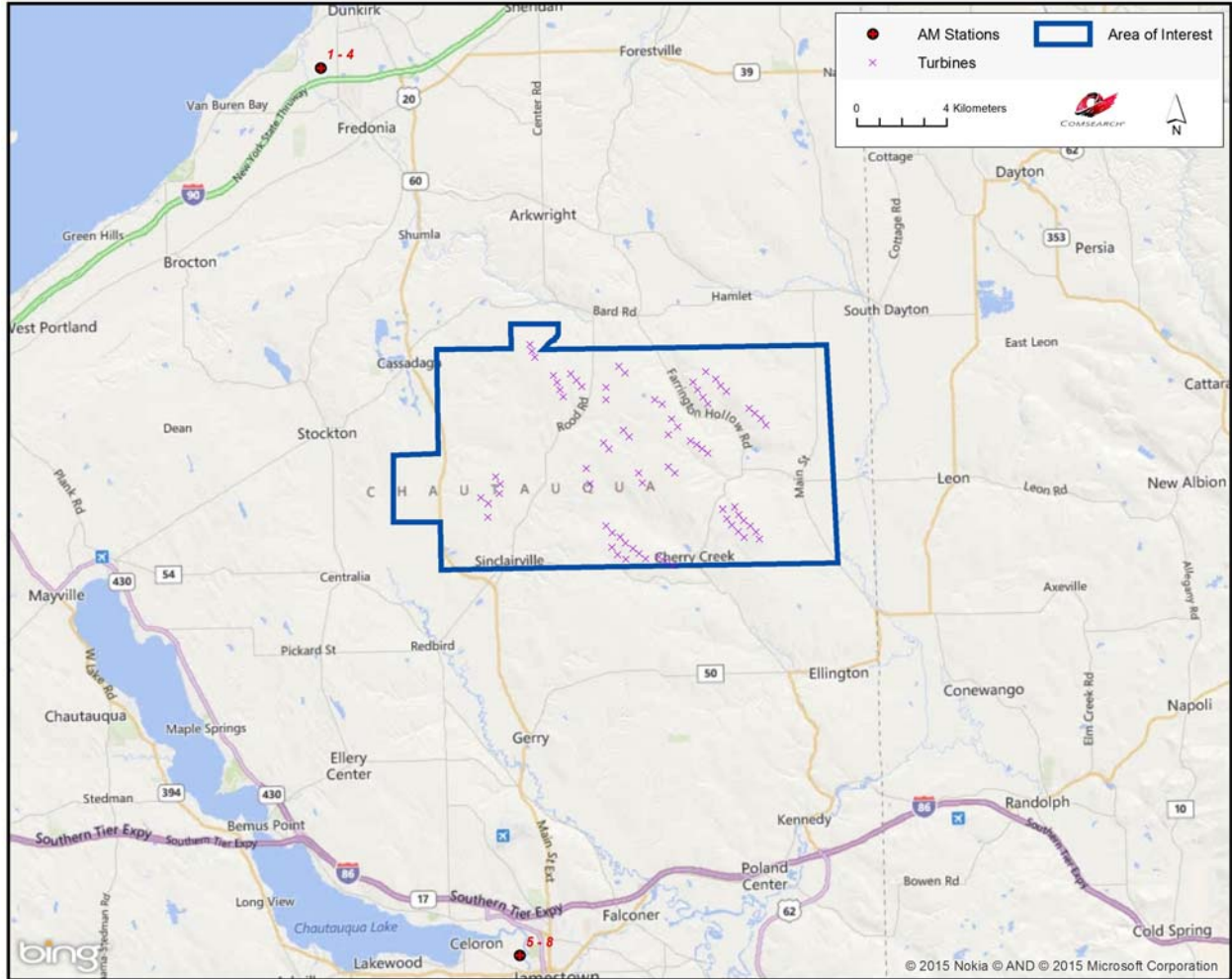


Figure 1: AM Radio Stations within 30 km

FM Radio Analysis

Comsearch determined that there were twenty-five database records for FM stations within a 30-kilometer radius of the Cassadaga wind energy project, as shown in Table 2 and Figure 2. Only twenty of these stations are currently licensed and operating, ten of which are low-power or translator stations with limited range.

| ID | Call Sign | Status ⁵ | Service ⁶ | Frequency (MHz) | Transmit ERP ⁷ (kW) | Latitude (NAD 27) | Longitude (NAD 27) | Distance to Nearest Turbine / Tower (km) |
|----|-----------|---------------------|----------------------|-----------------|--------------------------------|-------------------|--------------------|--|
| 1 | W263CN | CP MOD | FX | 100.5 | 0.18 | 42.432028 | -79.277750 | 9.43 |
| 2 | W235BP | LIC | FX | 94.9 | 0.2 | 42.367222 | -79.386667 | 11.81 |
| 3 | WBKX | LIC | FM | 96.5 | 1.4 | 42.367222 | -79.386667 | 11.81 |
| 4 | W203AW | LIC | FX | 88.5 | 0.019 | 42.451667 | -79.301667 | 12.15 |
| 5 | WYRR | LIC | FM | 88.9 | 0.42 | 42.175833 | -79.317222 | 12.37 |
| 6 | WWKP-LP | CP | FL | 101.3 | 0.1 | 42.157222 | -79.100000 | 12.74 |
| 7 | WUBJ | LIC | FM | 88.1 | 2.7 | 42.179722 | -79.341389 | 12.76 |
| 8 | WCVF-FM | LIC | FM | 88.9 | 0.13 | 42.452222 | -79.337222 | 13.60 |
| 9 | W203BV | LIC | FX | 88.5 | 0.009 | 42.131389 | -79.220278 | 14.82 |
| 10 | W254AQ | LIC | FX | 98.7 | 0.01 | 42.131389 | -79.220278 | 14.82 |
| 11 | WHUG | LIC | FM | 101.9 | 6.0 | 42.131389 | -79.220278 | 14.82 |
| 12 | W252CG | LIC | FX | 98.3 | 0.007 | 42.305833 | -79.452222 | 14.86 |
| 13 | WRFA-LP | LIC | FL | 107.9 | 0.1 | 42.096667 | -79.239444 | 18.88 |
| 14 | WLKW-FM | LIC | FM | 95.3 | 2.5 | 42.096111 | -79.243056 | 19.00 |
| 15 | WLKW-FM | LIC | FS | 95.3 | 0.43 | 42.096111 | -79.243056 | 19.00 |
| 16 | WIHR-LP | LIC | FL | 94.1 | 0.1 | 42.095000 | -79.243889 | 19.14 |
| 17 | W262BX | LIC | FX | 100.3 | 0.25 | 42.096667 | -79.271667 | 19.57 |
| 18 | WOGM-LP | LIC | FL | 104.7 | 0.048 | 42.086667 | -79.214722 | 19.67 |
| 19 | W211AE | LIC | FX | 90.1 | 0.003 | 42.253611 | -79.508333 | 19.79 |
| 20 | WWSE | LIC | FM | 93.3 | 26.5 | 42.085000 | -79.289444 | 21.29 |
| 21 | WHUG | CP | FM | 101.9 | 2.2 | 42.085000 | -79.289444 | 21.29 |
| 22 | WNJA | LIC | FM | 89.7 | 6.0 | 42.046667 | -79.090556 | 24.67 |
| 23 | W252CG | CP | FX | 98.3 | 0.07 | 42.334694 | -79.583250 | 26.04 |
| 24 | WGWE | LIC | FM | 105.9 | 7.0 | 42.232778 | -78.796389 | 27.28 |
| 25 | NEW | APP | FM | 100.9 | 4.8 | 42.314167 | -79.617778 | 28.53 |

Table 2: FM Radio Stations within 30 km

⁵ LIC = Licensed and operational station; APP = Application for construction permit; CP=Construction permit granted; CP MOD = Modification of construction permit.

⁶ FM = FM broadcast station; FX = FM translator station; FL = Low-power FM station; FS = FM auxiliary (backup) station.

⁷ ERP = Transmit Effective Radiated Power.

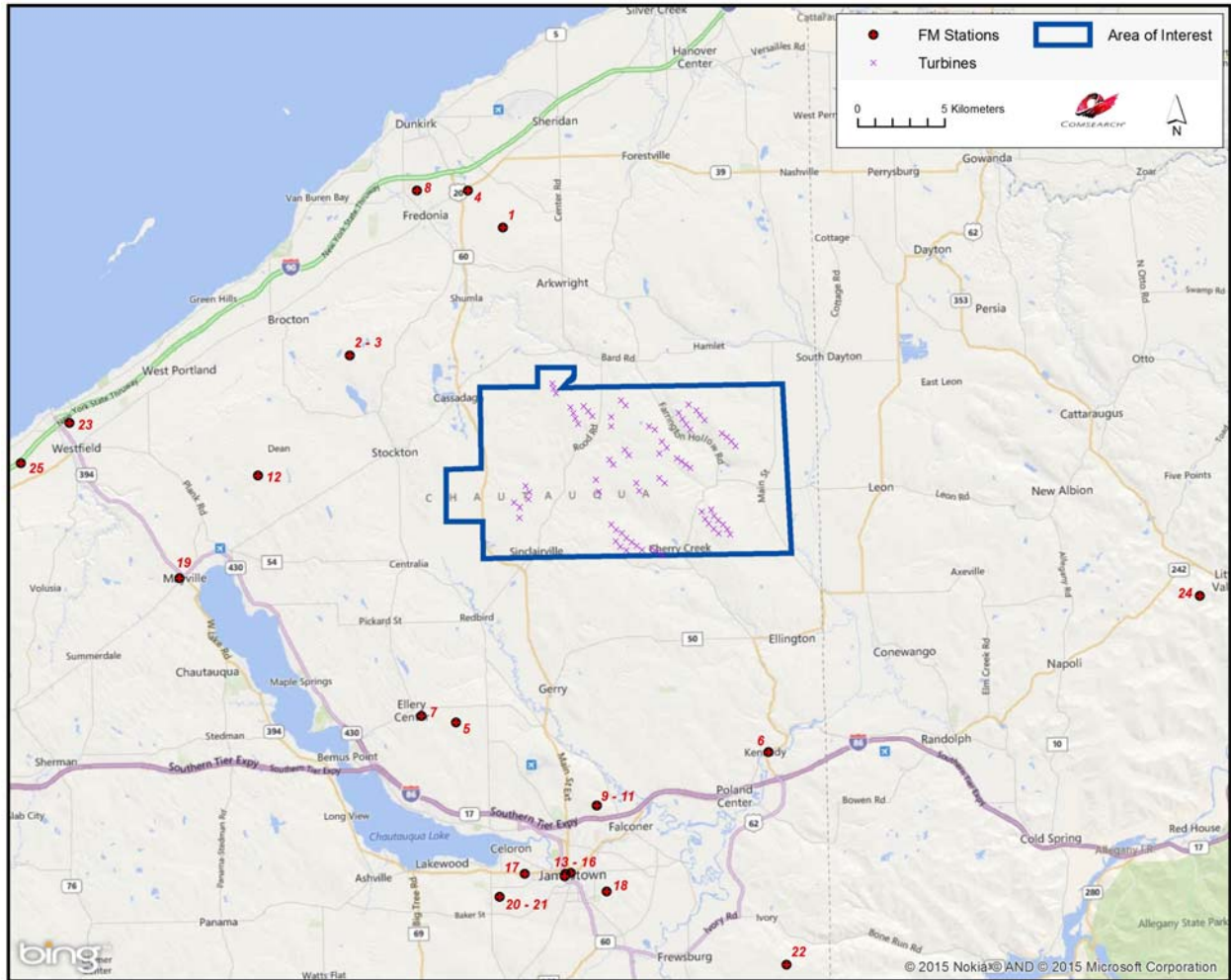


Figure 2: FM Radio Stations within 30 km

3. Impact Assessment

The exclusion distance for AM broadcast stations varies as a function of the antenna type and broadcast frequency. For directional antennas, the exclusion distance is calculated by taking the lesser of 10 wavelengths or 3 kilometers. For non-directional antennas, the exclusion distance is simply equal to 1 wavelength. Potential problems with AM broadcast coverage are only anticipated when AM broadcast stations are located within their respective exclusion distance limit from wind turbines. The closest AM station to the Cassadaga wind energy project, WDOE, is more than 15 kilometers from the nearest turbine. As there were no stations found within 3 kilometers of the project, which is the maximum possible exclusion distance based on a directional AM antenna broadcasting at 1000 KHz or less, the project should not impact the coverage of local AM stations.

The coverage of FM stations, when the stations are at distances greater than 4.0 kilometers from wind turbines, is not subject to degradation. The closest FM station to the Cassadaga wind energy project, W263CN, is located approximately 9.4 kilometers from the nearest turbine, and falls well outside the area potentially impacted by the project.

4. Recommendations

Since no impact on the AM or FM broadcast stations was identified in our analysis, no recommendations or mitigation techniques are required for this project.

5. Contact

For questions or information regarding the AM and FM Radio Report, please contact:

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