

# ELECTRICAL INTERFERENCE SOLUTIONS, INC.

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## RFI REPORT OF FINDINGS

Date: April 29, 2011  
Contact: Michael Swiatkowski, AA9VI  
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Complaint: Continuous noise across all bands up to 50MHz for three years. S9 to S9+20.

### Keys:

- Log of interference, weather
- External from Home – Breaker test
- Station beam antenna heading: 35 to 50 degrees
- Upper frequency limit: 56 MHz
  - 400 MHz – walk
  - 40m/7MHz – can be miles
  - 75m/3.5MHz -
- Pattern syncs to 60 Hz

### Notes:

This is a follow-up to the February 13<sup>th</sup> report.

The dominant interference pattern is from AA9VI on February 13, 2011. The identified source (1) was isolated to one of two adjacent post insulators by the signature, and identified using the ultrasonic dish.

A second source (2), previously identified by ComEd, was louder. But, the signatures did not match.

In each case the sources are at the clamps at the bus bar at the top of the insulators.

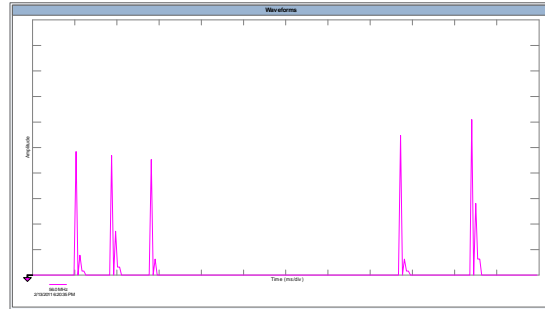
A third strong source (3) was located on the 138kV bus, also at the top of an insulator, also with a different signature.

Source Description:  
TSS159 post insulator hardware.

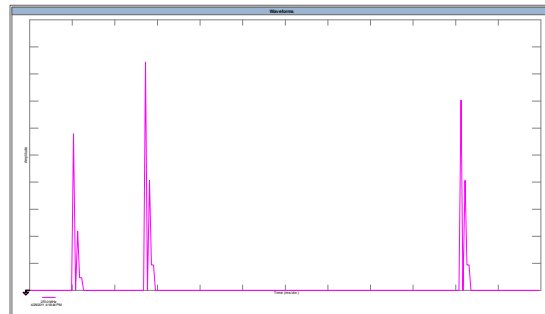
Location:  
1440 Skokie Blvd., Northbrook, IL 60062.

Coordinates: N42° 7.617' W87° 47.149'  
Distance: 0.2 miles

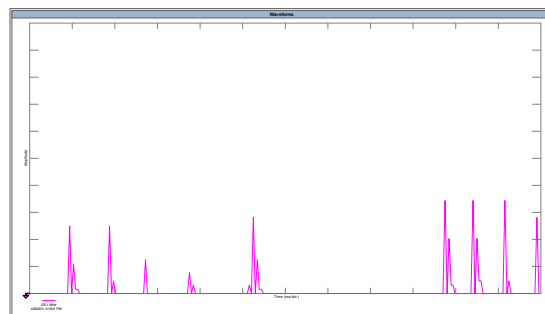
Dominant Interference Pattern at Complainant:



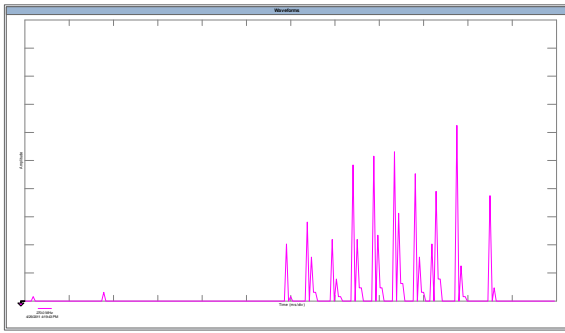
Identified Source (1) Interference Pattern:



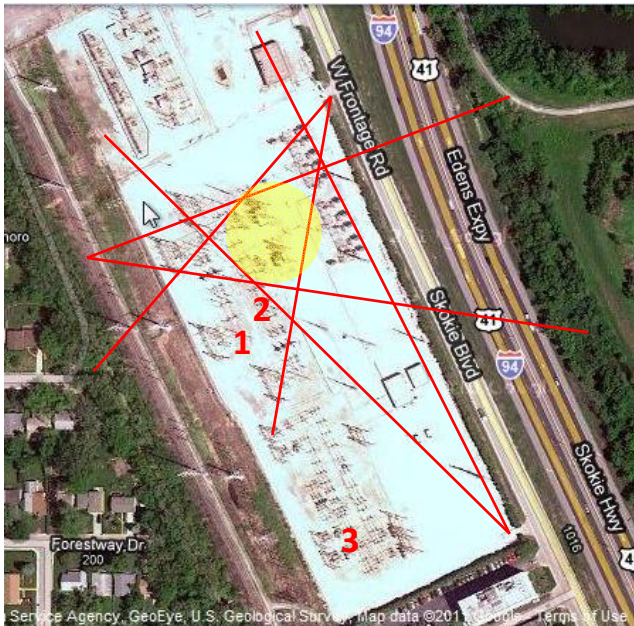
Second Source (2):



### Third Source (3):



### Identified Sources:



### More Notes:

Source "1" matches the signature of the problem noise at AA9VI. So, it would be prudent to address source "1" first.

If problems persist, then signature analysis should be used to determine if source "2", source "3", or some other source should be addressed.

The outage request that ComEd had been working on is for the bus associated with source "2". Source "1" is on a different bus associated with a different transmission line from a different substation. This means that operations planning at ComEd will need to start over in their plans to take the bus out of service for repair. ComEd was hoping to get the bus outage sometime during the next eight weeks. This change to a different bus might affect scheduling.