

Ontario Federation of Agriculture

PAC Update June 2017 Uncontrolled Electricity

Electricity Distribution System Code

IF - Animal Contact Voltage across a 500 Ω resistor (Vcc) 1 Volt
THEN - Distributor contribution maximum of 0.5 Volt

HONI Farm Rapid Response Team (FRRT) announced March 2016 to identify, assess and mitigate on-farm issues for 13,000 livestock customers.

Mitigation includes

- Variable Threshold Neutral Isolators (VTNI)
- Move / Add primary side grounding to influence ground current path
- Change ground mount transformers to pole mount

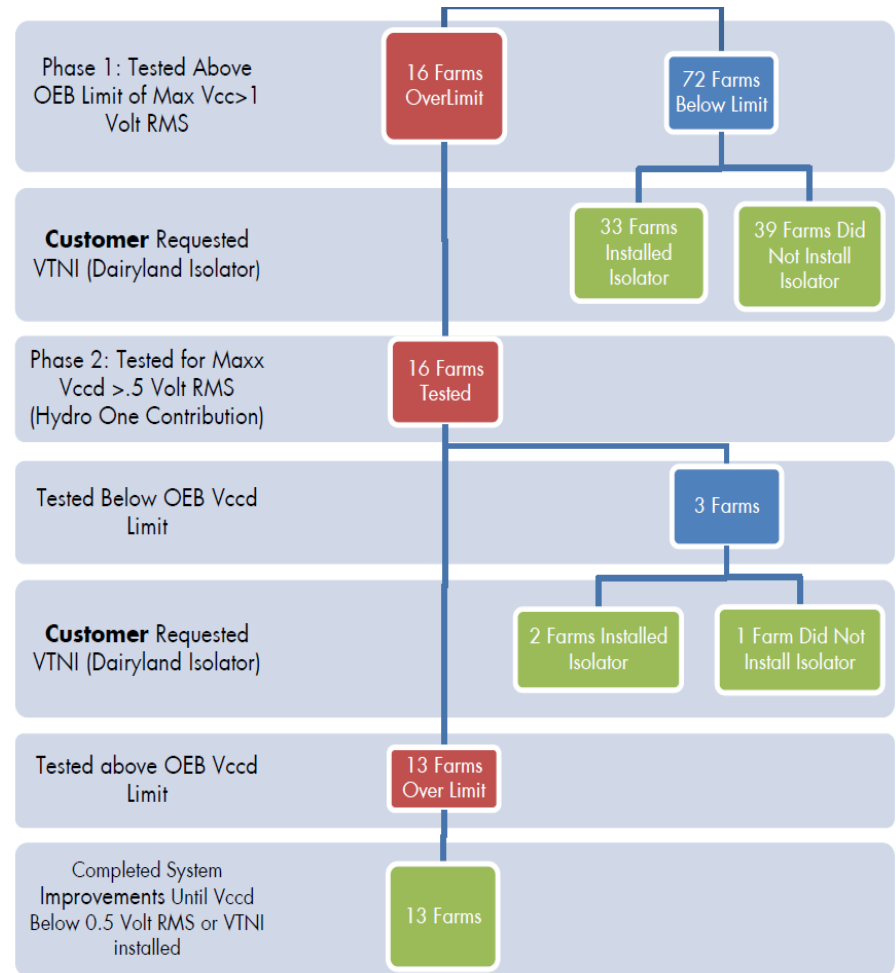
FRRT 2016 Investigations

HONI finished test investigations of 88 farms

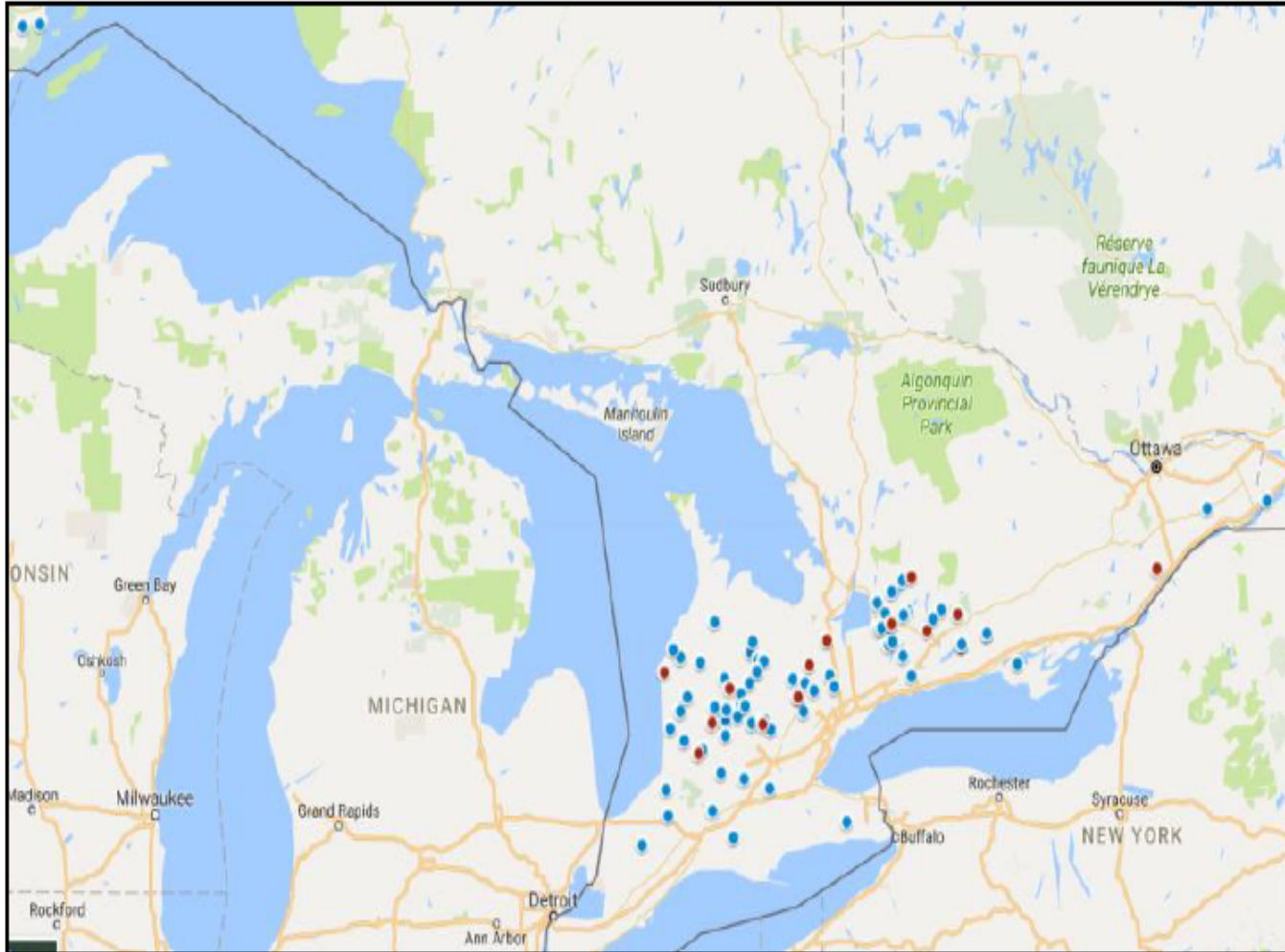
72 farms that tested ≤ 1 Vcc, 33 requested Dairyland VTNI device

Of 16 farms had Vcc **above** 1 Volt, 13 had a max Vccd above 0.5 Volt

HONI performed complete system improvements on 13 farms until Vccd level was under 0.5 Volt



FRRT Investigations Map



Blue dots represent cases where tests resulted in readings below 1 Volt RMS

Red dots represent cases where tests resulted in readings above 1 Volt RMS