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October 3, 2016

Eco-Site
240 Leigh Farm Rd. Suite 415
Durham, NC 27707

Re: RFQ 62086 - Proposed 150' Nello Monopole Tower

To Whom It May Concern:

This is regarding your inquiry about the expected performance of your proposed 150' Monopole tower located in Spotsylvania County, VA that will be quoted by Nello Corporation.

Our towers are designed to meet or exceed industry standards defined by TIA-222-G, "Structural Standards for Steel Antenna Towers and Antenna Supporting Structures" (TIA Standard). It is our opinion that the possibility of a tower collapse is very unlikely. The tower is designed using extreme wind and ice conditions. In fact, wind speeds specified by the TIA Standard are 50-year wind speeds. That is, they have only a 2% statistical chance of occurring in any given year. Furthermore, the tower is designed with extra factors of safety so that it would not be near a failure point even if the wind conditions were at their maximum design level.

This tower will be designed using the following wind conditions as a minimum: a 90 mph 3-second-gust wind speed without ice and a 30 mph 3-second gust wind speed with 3/4" ice. The TIA Standard specifies 90 mph as the extreme wind speed required for Spotsylvania County, Virginia. The "3-second-gust wind speed" refers to a wind measured at 33 feet above the ground. Equations in the TIA Standard take into account that the wind speed escalates with the increasing height of the tower.

Although we cannot guarantee exactly how a tower would fail if it were to fail, the most likely mode of failure will be a buckling failure of one of the tower sections due to excessive compression loading. We will design the structure to stay within a fall radius of 50 feet at critical failure in accordance with the TIA-222-G Standard and the currently adopted IBC.

We hope this has given you a greater degree of comfort regarding the design of your structure. If you have any other questions or concerns regarding our designs, please contact me by phone at 574-288-3632.

Sincerely,

Jason M. Lambert
Vice President of Engineering
Nello Corporation



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