



Guyed and Self-Supporting Towers, Monopoles,  
HF Antenna Systems and Turnkey Installations

July 22, 2005

Mr. Patrick Heelan  
**Portland Construction Service**  
128 Burnham Road  
Scarborough, ME 04074

Re: Proposed 172 ft Self-supporting Tower, Carrol County, NH  
(Sabre Proposal 05-2734-MJB-Option 2-R1)

Dear Mr. Heelan,

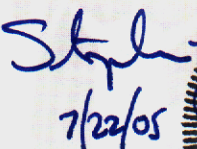
The proposed tower will be designed for a maximum Basic Wind Speed of 80 mph with ½" radial ice, in accordance with the Electronics Industry Association Standard EIA/TIA-222-F, "Structural Standards for Steel Antenna Towers and Antenna Supporting Structures".

When designed according to this Standard, the wind pressures and steel strength capacities include several safety factors, resulting in an overall minimum safety factor of 25%. Therefore, it is highly unlikely that the tower will fail structurally in a wind event where the design wind speed is exceeded within the range of the built-in safety factors. Should the wind speed increase beyond the capacity of the built-in safety factors, to the point of failure of one or more structural elements, the most likely location of the failure would be within one or more of the tower legs. This would result in a buckling failure mode, where the steel legs would bend beyond their elastic limit (beyond the point where the legs would return to their original shape upon removal of the wind load).

Therefore, it is likely that the overall effect of such an extreme wind event would be localized buckling of a tower section. Assuming that the wind pressure profile is similar to that used to design the tower, the tower is most likely to buckle at the location of the highest combined stress ratio location in the upper half of the tower. This would result in the portion of the tower above the failure location "folding over" onto the portion of the tower below the failure location. This in turn would result in collapse to the ground within a radius of one-third of the tower height from the base of the tower.

Please let me know if you have any questions or require additional information.

Sincerely,  
**SABRE COMMUNICATIONS CORP™**

  
7/22/05  
Stephen Yeo, P.E.  
Director of Engineering

