BORALEX – NIAGARA





INSTALLATION OF THREE PERMANENT MET MASTS IN NIAGARA

C O N T E X T

Boralex needed to install three permanent weather masts for their Regional Wind Farm (NRWF) in Niagara, Canada.

The existing wind turbines in this region have an average height of 124 meters, so the met masts must be as tall and robust as possible to withstand the extreme weather conditions in this region.

Boralex wanted something unique and specific since installing a 124m mast would be considered the highest in North America.

CHALLENGES

Three aspects were taken into account in the development of this project:

- The "Safety First" approach meant that the installation had to be carried out with the highest safety standards, regardless of the chosen mast.
- The measurement mast must comply with the design requirements of the international standard IEC 61400-2-1:2005.
- Meeting the installation schedule was very critical, given the project's specifics.

THE SOLUTION

SBB wind measurement towers are modular guyed structures made of aluminium alloy and designed to the highest standards (CSA, IEC, CE, etc.). They require no maintenance, are corrosion free and have a lifespan of over 50 years. Moreover, they were explicitly designed to allow quick and safe installation by a small team, even in the most challenging terrain.

Given the requirement of the project, SBB towers were a perfect fit. They were made of light sections (under 135 kg) that could be assembled by a team of six people within a minimal time frame. Furthermore, reliable equipment, such as a CE-certified Fall Arrest Device, maintains the highest level of safety.

The Fall Arrest Device lets climbers/riggers safely climb the tower while being secured without interruptions from bottom to top, in comparison to other lifeline devices.

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THE RESULTS

- An experienced crew of six workers was able to install three different 124 m masts in eleven days:
 - Three days to prepare the terrain (foundations and anchors).
 - Seven days to prepare the material, install the masts and tension the guy wires.
 - One day to install the instruments.
- This impressive result was made possible thanks to the support of the SBB engineering team and the advanced design of the SBB met mast, which allowed the following advantages:
 - Movement around the site was made easy by the light components.
 - The components are all standard and simple to assemble.
 - No heavy equipment needed to be operated. All the lifting was done by the SBB integrated ginpole.
 - The climbers/riggers could work fast without sacrificing safety, thanks to the advanced Fall Arrest Device.

WE WERE NOT ONLY THE LOWEST BIDDER, WE DELIVERED ON TIME!



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