

## Winnipeg, Manitoba, Canada October 2008



photo: destination Winnipeg

## CIGRÉ NC Canada Conference by *Décio Bento*

Albatroz Engineering presented the paper "Challenges and Benefits of Integrated Overhead Line Inspections" at the CIGRE Canada conference in Winnipeg. In addition to the sessions on a variety of topics important to the North American energy sector, there was also a small exhibition of companies providing products and services for the energy generation, transmission and distribution markets.

The session topics at the conference included smart grids, wind power, substation automation, human resources, electrical vehicles and renewable energy, HVDC and FACTS, sensor and de-icing technologies. There were topics consistently discussed in all sessions such as:

- ▶ the impact of the electric cars, wind energy and small scale generation and their affects on the energy grid;
- ▶ human resources, more specifically, the lack of young power engineers;
- ▶ system monitoring and management of power facilities and assets especially with increasing energy demands.

The range of exhibitors in the vendor showcase was vast from transformer, conductor and isolator manufacturers to maintenance equipment and services companies to smart grid implementation to international consultancy groups.

Maintenance companies providing equipment and services were a minority. Nonetheless, most visitors and presenters were sensitive to the importance of maintenance activities and the associated costs and operational constraints.

The Albatroz Engenharia paper [1] was presented in session 7B on the 21st of October. It dealt with the issues related to the integration of the different forms of inspection, starting with the different choices of vehicle and sensors. These decisions have a major impact on economic of inspection and are a major driver for integration. While many inspectors share little more information than reports with the grid operators, a tighter integration on the information systems provides mutual benefits: utilities incorporate inspection data into their long-term asset management tools and inspectors learn about the grid they are inspecting.

Field procedures are also covered. For instance, Figures 1 and 2 highlights the differences between the preferred path and attitude for infra-red (red) and clearance (green) inspections. The knowledge of these constraints reveals the limits and trade-offs of integration.

The paper concludes with references to geographic information and asset management tools to assist current grid condition and estimates on remaining life.

On a personal note, it was my first time back in Canada after leaving about 4 years ago. It was nice to spend time with family and old friends. I feel obliged to congratulate the city of Winnipeg for adopting hybrid cars (>100) for its fleet of hybrid taxi vehicles in their effort to reduce green house emissions. Being a Toronto native and a Lisbon resident, it would be nice to see more initiatives such as this one in other cities around the globe.

[1] J. Gomes-Mota, Décio Bento, "Challenges and benefits of integrated over-head line inspections", Albatroz Engenharia SA.

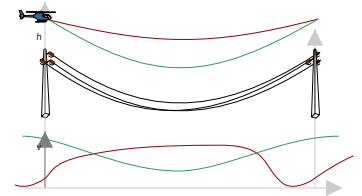


Figure 1 - altituded and speed profiles optimised for thermography (red) and track clearance (green).

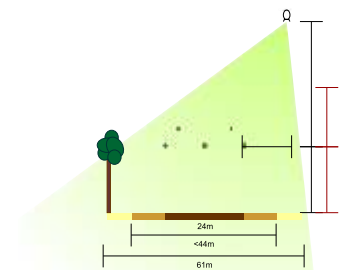
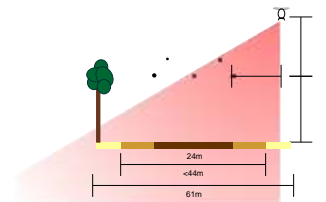


Figure 2 - optimal aircraft position relative to the powerline for thermography (red) and track clearance (green).

## The technology behind the modeling of the Roman Galleries of Lisbon



The Museum of Lisbon Archeological Meeting dedicated to the Roman Galleries of Lisbon took place on September 26th, organised by the City Council of Lisbon.

During the meeting, the established archeological analysis and interpretation of the site were introduced, later complemented by the most recent contributions. The Roman Galleries were also analysed from the point of view of art history and as a political and social landmark in the early Roman Empire.

A detailed research on the geology around the Galleries in downtown Lisbon, which included reports on continuous monitoring and recorded variations over the years, raised a vivid interest in the audience due to the seismic hazards in the city. This is a theme that cyclically returns to the public agenda.

Finally João Gomes Mota from Albatroz Engineering explained the process used to create the three dimensional model of the gallery, with anecdotes on how to tackle the constraints of doing it in eight hours, while firefighters and electricians were working on the site. Although the model is not yet perfect or complete, it shows a monument which is hard to visit by the public and can be used as a show-case for other archeological sites. .

The public also benefited from an exhibition of artifacts and old documents related to the early surveys of the Roman Galleries.

## Next Generation Utilities Europe Évian, France



The Next Generation Utilities Europe meeting ([www.ngueurope.com](http://www.ngueurope.com)) took place at Évian-les-Bains, in french Haute-Savoie, by the Lake Geneva, from Setember 30<sup>th</sup> to October 2<sup>nd</sup>. The main subject were smart grids with emphasis on end client applications.

In this meeting, Albatroz Engineering took opportunity to listen to senior managers from european utilities which, in addition to issues specific to each markets hare many common concerns:

- the construction of new powerlines is an ever more demanding, time-consuming and expensive task.
- helicopter based powerline inspections faces increasing constraints due to social and environmental causes.
- in many countries there is strong pressure to send transmission and distribution powerlines underground; notwithstanding, the extension of overhead grid keeps increasing across Europe.
- countries from Central, Eastern and Mediterranean Europe are committed to an intense effort to improve quality of service.
- ageing assets are subject to studies and refurbishments to extend their operational life.
- the variables with most impact in the client relationship is quality of power and ancillary services to distribution.