


Efficient project management of High Voltage underground cable systems against self-evident facts

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 *ENGINEER. The first early job in the career of a young man. Knows anything about science. (Gustave FLAUBERT, Le dictionnaire des idées reçues / The dictionary of accepted ideas).*

The selection of underground techniques for a high voltage power link must not lead inexorably to bury one's own common sense. When exercising his art, the engineer must not give in to the temptation of the apparent easy solutions of preconceived ideas.

The increasing use of underground cable systems is often based on the argument of the easy acceptance by the people living in the neighbourhood, compared with the overhead line scenario.

Hence a project manager may be inclined to believe it is more straightforward to succeed in an efficient project with underground techniques, whether in terms of technical optimisation, deadlines, costs or environmental impact.

This is not the case at all: to make such a project efficient, it is necessary to be aware of and to integrate the constraints, opportunities and limits of the underground cable solution.

From the early decision-making studies to the comprehensive detailed reviews, every option of the project must be enlightened by the analysis of its possible resulting impact, less obvious on the global performance.

The parameters which have a significant influence on the scope, cost and impact of an underground power link project are actually numerous. Some of them seem trifling:

- The selection of one cable route or another (larger or smaller, more or less congested with other buried networks),
- The mutual presence of other electrical underground links in operation,
- The vicinity of other underground infrastructures,
- The crossing within other routes (roads, highways, railways, structures as bridges, etc),
- The methods of civil works and installation, the geometry of conductor laying,
- The nature and quality of soil,
- Topography,
- The location of joint bays,
- The scheduled season of achievement,
- The interference with other works,
- Etc.

In order to prevent from any drift, it is therefore essential to clearly identify and to control these topics and their potential repercussions. The authors discuss this approach in the present paper.