NEW SOLUTIONS IN EDP DISTRIBUIÇÃO MEDIUM VOLTAGE OVERHEAD LINES

In the last times, Distribution System Operators (DSO) have felt an increasing pressure to give a better and better answer to health and environmental concerns and to improve the electricity supply quality and network reliability. This pressure has stimulated DSO to find new solutions, namely to networks with overhead lines, networks exposed to a large amount of quality and reliability inhibitors. EDP D., following the innovation way, has been looking for better answer to these challenges, studying and analyzing several different technologies. In this context, EDP D. decided to implement a pilot, building a new and small 15 kV network with spacer cable system, a compact network system of covered conductors from Hendrix Wire & Cable.

In the spacer cable system, a high-strength grounded messenger supports a 3-phase distribution system using covered conductors in a close triangular configuration, from 5 kV to 46 kV.

During the engineering phase of the project, as well as the construction phase, it was necessary to fit the spacer cable system to the Portuguese networks materials, namely, pole hardware.

Taking into consideration that this is a new technology for the construction of medium voltage (MV) lines, where a large number of materials and equipment for the assembly were supplied by Hendrix and being this pilot the first experience in Portugal with spacer cable, it was necessary to study, analyze and adapt the materials to the Portuguese networks materials and techniques, namely to the concrete poles.

During 2007 another pilot was realized with tree wire system from Hendrix in a wildlife protection zone with small trees.

Another experience with covered conductors was made last year. In this 15 kV case, 50 mm2 ACSR conductors with one layer of covering, using also standard EDP D. techniques and hardware, were installed in a zone with small differences in level.