

DCD Design – For Overhead Installations

Using Line Swivels (00505 Series) and Pulling Grips (00695 Series) for high-voltage conductor cable

Three aluminum conductors were pulled from a prepared field site, under a local power line, over a rail line, up to new overhead towers installed in a marina, and over an access road – a distance of 800m (2600ft). DCD Design line swivels (00505-025) and pulling grips (00695-088) were used for this installation.



The west end of the pull.



Conductor, grip and line swivel spooling off the tensioner.

The 1033.5 MCM “Bluebell” conductor spooled off a drum mounted to the back of a flatbed crane truck, through a truck-mounted tensioner, up to a snatch block sheave mounted on the local termination pole, and then up to the new tower. Synthetic rope was strung through traveller sheaves from tower to tower and onto a truck-mounted winch at the far end.

The conductor had a 00695-088 heavy-duty pulling grip installed and clamped. The grip was connected to a 00505-025 line swivel, then to the synthetic line. The grip was wrapped with orange flagging tape for visibility, and spooled slowly through the tensioner. Each pull used a new line swivel – a total of five line swivels were on hand for this job.

Via two-way radio, the winch began to take up tension as the local tensioner released the brake. Tension from both ends kept the pulling line and the conductor elevated from one end to another, without drooping down to the ground.

Pulling proceeded at a rate of 1 metre per second (3 ft/s) as the swivel, grip and leading end of the conductor passed through the first travellers, then increased to 1.6m/s (5 ft/s) as the conductor passed the first tower. After 800m and thirty minutes, the conductor cable was grounded by a crew at the other end, and both ends were secured for later connection to insulators.

Then the operation was repeated.

DCD Design and Manufacturing Ltd. builds swivels, grips and other tools for overhead and underground utility installations. See the full range of products at www.dccddesign.com or call toll-free: 1-888-SWIVELS (794-8357).

Thanks to Pacific Electrical Installations (www.peipowerlines.com) for the site visit. Based in Abbotsford BC, PEI construct and maintain high-voltage transmission and distribution lines throughout the province.