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Pre-selection of cable type and cable manufacturers for the metrogrid project in Sydney Australia

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TransGrid is currently implementing a major infrastructure project known, as "MetroGrid" to meet the forecast demands growth and internationally accepted reliability standards appropriate for the city of Sydney.

In part this project requires the manufacture, delivery and installation of a 330 kV underground cable and associated condition monitoring systems. The cable is being installed between the existing 330/132 kV Substation, located at Picnic Point in Sydney's South and a new 330/132 kV indoor substation in the Sydney central business district.

The 28 km cable route includes a wide range of installation conditions such as bridges, tunnels, directional drilling, duct embankments, troughs, micro tunnels and direct buried at variable depth in public roads and parks.

TransGrid decided to pre-qualify an unspecified number of cable manufacturers to supply cable and cable accessories that will meet the specified performance requirements.

The pre-qualification process was opened to all cable technologies such as SCFF-Paper, SCFF-PPL, XLPE and GIL resulting in 29 offers of cable systems from 13 manufacturers.

A detailed set of evaluation criteria was included in the pre-qualification document. These criteria were specific to the needs of the proposed project. Substantial project information was offered including a proposed route, profile and known issues that would need to be addressed by the project.

The evaluation considered a range of factors including: commercial, technical, operational, environmental, safety, maintenance, quality and experience.

The technical aspects of the offered cable systems were evaluated based on CIGRE experience, industry practice, experience of other utilities, international and national standards, and information provided by the cable manufacturers. The technical analysis included a detailed and in depth assessment of quality of materials and products, manufacturing processes, testing and condition monitoring systems.

All offers were of high standard and it was quite a challenge to select the best cable system for this important project. The specific project requirements became a significant factor in the selection of cable system and cable type. The evaluation resulted in the pre-qualification of a limited number of offers to participate in a restricted tender process. Following receipt of detailed tenders and tender evaluation, the contract was awarded to Sumitomo – Japan. The contracted cable system has subsequently been extensively tested (type and special tests) and met all specified requirements as per pre-qualification and tendering documentation.

The installation program is in progress and there is confidence that this cable will meet the requirements of the project.