



Pat Naidoo Consulting Engineers

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Listing of Current Electrical Power Systems Projects

A. Power Transmission Development

In association with Xicon Infrastructure, we are bidding for the planning, design and establishment of new power transmission networks for two countries located in Southern and Western Africa. We expect to employ HVAC technology at 400 kV.

B. Smart Grids

In association with ShunPower of China and Xicon Infrastructure, we are bidding for State Grid of China Smart Grid Project. This project involves the application of new smart grid technologies as a means of improving energy efficiency and grid utilization.

C. Feasibility Study for New Power Generation and Integrated Power Transmission

In association with Project Financiers, we have tendered to do large scale power generation and power transmission development for a large country in SADC. Project is at concept phase and needs to go to detailed feasibility study.

D. Distribution Upgrade of a Large Urban City

In association with Xicon infrastructure, we have bid to undertake large scale distribution upgrade of a large African city. Our plans include the establishment of a smart grid for the urban network complete with smart metering and smart control systems.

E. High Voltage Laboratory Development

In association with Xicon Infrastructure and a leading African University, we are engaged in the

development and design of a laboratory to operate at high altitude and at ultra high voltages for both AC and DC technologies. The project concept phase is complete. The project enters pre feasibility study.

F. Converting Existing HVAC Power Transmission to HVDC Application

Continued research and investigations has shown that HVAC power transmission corridors are most inefficient; the degree of inefficiency increases with increasing voltages. Technical and economic studies call for HVDC technology for high voltage power transmission. HVAC technology is ideal for door to door power delivery using medium to low voltages. Existing HVAC circuits can be adapted for HVDC application. The findings are being shared with utilities in the developed markets of North America, Europe and Asia.

G. Asset Management

Discussions are in progress with major municipalities for the outsourcing of power system network maintenance as part of the process for sustainable asset management and operating performance enhancement. A new era emerges for the operating and management of power delivery networks.

H. Performance Enhancement

Poor reliability of power circuits and de-graded quality of supply continues to trouble customers. Ad hoc projects in high voltage insulation, voltage dips and voltage unbalance is under investigation. High level research and investigations into fire caused high voltage air insulation failure and high resistance faults protection on low voltage distribution networks continues.