

Master integrators play crucial oversight role

Consulting engineers are increasingly playing a role as value-adding master integrators, playing an oversight role to ensure that all professionals and contractors collaborate effectively, says Electrical Engineering (EES) managing director Bradley Hemphill.

“Many clients still view the appointment of consulting engineers as a grudge purchase because, if things progress smoothly, they find it difficult to see ‘physical’ evidence of what has been delivered.

“We have saved some clients millions of rands because we have shouldered the risk of complications arising through inadequate oversight. Our experience on major construction projects, and the knowledge we bring, helped identify potential problems and, by being proactive in addressing them, we averted crises that may have caused costly delays.”

Lack of oversight by a master integrator can lead to additional capital expenditure after completion date because some services slipped off the radar as they were not the main focus of traditional professionals.

In most large infrastructure projects the client usually deals with an ICT engineer, a life-safety engineer - who is often the electrical engineer and a BAS engineer, who is usually the mechanical engineer.

Each gives preference to his main responsibility. Areas of overlap, or tasks outside the strict parameters of their profession, are usually afterthoughts.

“In our experience of working in multi-professional teams there is always heated debate about who takes responsibility for tasks that cut across disciplines. For example, which of the engineers is going to take responsibility for implementing a structured cabling system that is required by many other disciplines?

“Inevitably none of the professionals on the project will want their fees reduced so none is willing to forego any parts within their budget without the reduction in responsibility.”

Hemphill says this often means that only the most basic communications infrastructure—for example, only the network cable—is installed. Often the IT and the telephony are designed as separate networks as they are the responsibility of different engineers.

“This means unnecessary expense. With convergence these can essentially be the same physical network and be logically separate, even with their own equipment if IP telephony is not a present requirement.

“A fully integrated structured cabling system would not only save installation and implementation costs at the construction stage, but would give better return on investment in the future as it would be able to support leading edge technologies as they were needed.”

On major construction projects in the Eastern and Western Cape in which Electrical Engineering Solutions plays an integral part, the electrical consortium took responsibility for all four core systems of ICT, security, life safety and BAS. There is also close collaboration with the mechanical and other service engineers.

“Formalised consultation with all the engineering teams facilitates better synchronisation of activities and pools professional knowledge and insights on progress.”

Hemphill adds that the financial risk of not being able to get practical completion of a structure, as defined in local and international construction law, is a major concern to professional firms. This is prompting the growing trend of appointing an engineering consultant as a master project integrator.

Note to Editors:

Electrical Engineering Solutions is an ISO 9000 certified electrical and electronic engineering, and project management firm working in all sectors of industry throughout southern Africa, eastern Africa as well as in some Arab countries. Based in Cape Town since 2001 the firm has specialist experience in building management and systems integration, communication networks, CCTV systems and 11kV and 400V electrical systems

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Issued on behalf of Electrical Engineering Solutions by WebWords

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