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Cummins Launches Simulator To Demonstrate Complete Power Systems

Cummins Power Generation has officially launched a new simulator at the Cummins Training Centre in Kelvin, Johannesburg to demonstrate its entire product line-up as an integrated solutions approach, from genset controls to annunciators, remote monitoring, Digital Master Control (DMC), and transfer switches.

The simulator covers the broader African market, joining a similar set-up in Dubai for the Middle East and North Africa, with another simulator mooted for Nigeria in order to cater for Central and West Africa, Cummins Africa Director **Alok Joshi** explains. "Our plan is to have these simulators located in key markets for consultants and contractors."

In particular, the PowerCommand® Control Panel (PCC 3300) will be showcased, which is an autonomous microprocessor-based control for paralleling, load sharing, and protection. DMCs come into play in complex systems such as data centres, healthcare facilities, and wastewater treatment plants.

"These are all critical applications in terms of standby power. We are now able to simulate real-time scenarios, and how our products respond to those conditions," Joshi highlights. The simulator is aimed specifically at customers in the power generation sector that specialise in back-up or prime power supply.

The simulator essentially provides information related to electricity failure under varying circumstances. "If you have a single grid and it fails, and you need to share the load between different generators, for example, how do you simulate that?" Joshi questions.

Cummins Power Generation is now able to demonstrate how its range of master controls can be used to configure a particular generator, and how that generator can be synchronised with other units on the grid. "It is a fantastic tool," Joshi stresses. "Of course, the generator or grid is not live, but you are able to simulate particular conditions in order to see what might happen."

The technology behind the simulator has been developed by Cummins globally. "The architecture is something we discussed centrally, in terms of what we needed to demonstrate, and what do we need to showcase for customers. This is testament to both our flexibility and innovation in responding to our customers' specific needs and applications," Joshi elaborates.

The simulator will be operated by internal Cummins Power Generation staff, which means additional training will not be required as they are already familiar with the extensive product range and its capabilities. In terms of application in the field, technicians have to be qualified to handle advanced products such as the PCC 3300 and our DMCs. Depending on the complexity of the system required, different types of master controls are also offered.

"If you are talking about multiple generators on a single grid, we can offer one solution, and a slightly different solution if you have multiple generators on two grids, for example, in addition to load management. We can effectively customise any type of solution that a customer may need, depending on the criticality of the application," Joshi points out.

The benefits of the simulator for customers are twofold, namely to showcase the total-solutions capability of Cummins Power Generation, and to familiarise customers with its products so they "feel comfortable working with us." Joshi adds that a major competitive advantage of Cummins is its 'Power of One' philosophy, which means that Cummins designs and manufactures all system components itself, from the controls to the engines, alternators, and subsystems such as turbocharger fuel systems.

"The bulk of the critical components are made by Cummins. Thus, we have the benefit of the knowledge and experience of everything that goes into a generator system. The simulator gives us a system overview from a controls perspective, and how we can synchronise a range of grids with different generators," Joshi adds.

"On the product side, the simulator can be tailored for the application in hand, from a fast transient response for a data centre, to prime power situations where fuel efficiency and low emissions are paramount. This is what Cummins Power Generation is able to do best."

Joshi concludes: "What we wish to achieve in the context of Africa with the new simulator is to educate our customers about our capabilities, and to ensure that they know who we are and what we can achieve for them. Cummins is a very strong brand globally. We want to bring that strength to bear in Africa as well."

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About Cummins

Cummins Inc., a global power leader, is a corporation of complementary business units that design, manufacture, distribute and service diesel and natural gas engines and related technologies, including fuel systems, controls, air handling, filtration, emission solutions and electrical power generation systems.

Headquartered in Columbus, Indiana, (USA) Cummins currently employs approximately 54 600 people worldwide and serves customers in approximately 190 countries and territories through a network of approximately 600 company-owned and independent distributor locations and approximately 7 200 dealer locations. Cummins earned \$1.65 billion on sales of \$19.2 billion in 2014.

Cummins Africa Middle East Pty Ltd. has oversight of Cummins' operations in Africa and Middle East with a footprint in 68 countries, and has regional offices in Casablanca, Dubai, and Johannesburg.

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