First Medupi unit synchronized to South Africa’s Grid

On Monday 02 March, the first unit of the Medupi power plant – the first supercritical power plant in Africa – was successfully synchronized to South Africa’s National Electricity Grid.

Synchronization follows Alstom’s announcement in October 2014 that the Control and Instrumentation System was ready for synchronization, and on 13 February 2015, that the “First steam to Set” milestone was achieved.

To connect the generator to a network, certain conditions must be fulfilled, the frequency of the network and the generator must be the same; this is achieved by spinning the rotor in synchrony with the network. The synchronization of the generator with the network occurs when the main circuit breaker connects to the high voltage transmission line. The generator load is raised by increasing the flow of steam on the turbine. This is called synchronization.

“This milestone is the result of years of dedicated team work and many commissioning activities. We are all extremely proud of this major achievement”, said Lee Dawes, Managing Director, Alstom South & East Africa (Pty) Ltd.

“Bringing Unit 6 to synchronization is the result of years of hard work in close collaboration with our customer Eskom. Once the unit achieves full load, it will add a much needed 794MW to South Africa’s national Grid.”

The 794 MW Medupi unit was the first of six on the Limpopo project site to achieve synchronization.

Alstom’s scope at Medupi consists of the supply, installation and commissioning of the turbine island and the ALSPA Series 6 plant control system.

Top right: Alstom staff in the Medupi Control Centre

Middle right: 3D artist’s view of the completed plant