During this reporting period focus has been directed towards the achievement of our next strategic milestones for Unit 6, i.e. First Coal Fire & Blow through of the Boiler.

After all 30 Oil Burners are hot commissioned the Boiler will be ready for the first coal fire. In order to achieve first coal fire, the following release conditions must exist:

- The boiler protection criteria are fulfilled (enough oil burner to support the boiler combustion);
- The coal bunker level is > min;
- The secondary air temperatures downstream of an Air Heater is >150 Degree Celsius in order to preheat the first Mill; and
- Other release conditions of the coal mill system.

For the start of the coal firing system (the first Mill in service), all oil burners of the specific Mill should be in operation.

The Mill Subgroup Control will insure that the following occur:

- The required Auxiliary systems for the Mill Group are switched on;
- All dampers are on automatic controls;
- The Mill is warmed up to the required temperature;
- The Primary Air fan is switched on; and
- The Coal Feeder is switched on.

When the Mill Group is in service the feeder will supply the coal to the mill. The coal will be pulverised and distributed by means of the Primary Air to 6 Boiler burner mouths via 6 Pulverised Fuel (PF) pipes. It is imperative that the correct coal/ air ratio is maintained in order not to have coal sediment in the PF pipes.

The PF will then be ignited by the oil burner firing and the First Coal Fire achieved.

After first coal fire it is required to carry out a boiler blow through in order to ensure the cleanliness of the steam circuit. Blow throughs are normally associated with very high steam velocities and noise levels. The blow through steam temperatures will be between 450 and 500 Celsius at a pressure of 2.5 Mpa. Steam flow 190kg/s and boiler load approximately 30%.
Steam velocity at exit >200 m/s. To ensure the safety of both plant and personnel, certain precautions are undertaken until the blow through is complete.

- 30 minutes prior to a steam blow the all clear alarm is sounded in the Turbine hall 9m as well as 0m level for people to evacuate the area. (Alarm duration 1X1 min);
- The Turbine 6 area must be evacuated from -5.5m up to 9m level for the first blow thorough as well as the area at the silencer. The boiler will be accessible;
- Only authorised personnel carrying out specific tasks are allowed into the demarcated area during a blow through;
- After the steam blow is complete the alarm will be sounded again and people may return to the areas to continue with work. (Alarm duration 2X1 min);

Although it is not an exact science a typical blow through lasts anything from 20 to 30 minutes.

**MILESTONE:**
The Last Section of Steam Duct was lifted into position at Medupi on Unit 1. This completes all six steam ducts on the Power Station with a total tonnage of 7 326 tons erected.
Installed and signed off cable racking to Induced Draught Fan motor terminal box.

Installed and signed off cable racking on Fabric Filter Blower House.

GE switchgear (400V Fabric Filter Boards 1&2) was installed

Condensate Reserve Tank – the Make-up pump was installed and piping is in progress

Cantilever modification brackets have been delivered and installed. This is good news for cantilever installation and stringing.
Racking around the Turbine Generator (West, South and East up to 6.6m Aux-bay were inspected and safety cleared.

MV Switchgear: Actom has completed 6 motor circuit modifications and 6 more circuits are underway.

C&I Equipment Room: Alstom P17 has started with their first cable pulling on the 21st Oct 2014.
The Low Pressure (LP) Turbines lower half outer casing rework and weld procedures have been approved. Preparation for welding work to the LP liners is in progress.

Paving slabs around the Condensate Reserve Tank (CRT) foundation was poured. Access was given to Alstom to start with CRT construction and piping installation on the pipe rack.

Generator stator hydrogen (H2) coolers have been delivered to the Generator area. Preparation work to install the coolers is in progress.

Auxiliary bay 20.6m level slab is complete. External brick work commenced on gridlines G and E.
The walls of the boiler are made up of boiler tubing that contains water (Water wall). The tubing is arranged in a spiral pattern in the lower parts of the boiler and is referred to as helical tube walls. In so doing the water changes from one phase to another that being steam!

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