To view the video click on the links or copy and paste into your browser

Blow through
http://medupiproject.eskom.co.za/videos/Blow_through.MP4

First Coal to Bunker
http://medupiproject.eskom.co.za/videos/First_coal_to_bunker.mp4

BLOW THROUGH ON BOILER UNIT 6 BEGINS……

During fabrication, erection, inspection and repair work of the boiler and pipework, it is unavoidable that foreign matter remains in the system despite precautionary measures. Oxide layers are generated in the process of heat treatments on the piping system. The steam blowing activity ensures that all particles (construction debris) are removed from the internal surfaces of the boiler piping, vessels and in-line components.

These particles need to be removed to prevent damage to the turbine once steam is fed from the boiler to the turbine. Chemical cleaning eliminates impurities such as ferric oxides, dirt and silicate from the boiler circuit consisting of piping, pressure vessels and heat exchangers. Steam blowing is performed after the chemical cleaning process to remove additional debris.

This exercise began at Medupi this week on Unit 6.
To be read in conjunction with above schematic drawing:
1. Demin water is supplied from the Demin water tank (light blue)
2. Aux steam from the Aux Boiler warms the water at the Feedwater Tank
3. Feedwater pumps feed warmed water to the Boiler
4. Passing through Economiser, Evaporator and Superheater circuit while in the process of cleaning the tubes
5. Steam reaches the first target plate.
6. Steam continues to blow through the Reheater circuit of the boiler, also cleaning the tubes in the Reheater.
7. Reaching the second target plate.

The rest of the steam is released through the Cyclonic Separator
The coal to bunker process started on 15 October 2014 when coal was conveyed from the mine to the 10000 ton silo.

With the stacker in bypass mode coal was then conveyed to the south 1000 ton silo situated on the terrace.

On the 17th of November 2014 the green light was given to convey first coal into the mill bunker.

The spile bars used to restrict flow out of the 1000 ton silo were then opened to drop coal onto the under silo feeder conveyor belt.

The first 252 tons of coal was then conveyed onto the main incline coal conveyor and into the mill bunker.
The introduction of the Expert Chemistry System (ECS) at the Medupi Power Station is a 1st for Eskom and a 1st for Coal Fired Power Stations in the World putting Medupi at the front of Global innovations.

The (ECS) is a monitoring and diagnostic software tool that draws data from the main plant via the site global PDS historian interface, processing data from LIMS, DCS (PIS) and Analyser network. Below, Figure 1 shows the overall topology of the entire system.

The ECS utilises diagnostic system of water chemistry (DIWA), an AREVA NP GmbH software product.

The benefits to personnel arise from the functional capabilities of the diagnostic system, resulting in:

- Immediate access to all plant chemistry data avoiding long walks for the personnel in collecting the data. This allows the plant chemistry personnel to immediately assess the plant conditions, observing deviations from normal operating modes and counteract to this by following the recommendations of the system with permanent back office support of the supplier’s experts.
- Support of the complex commissioning phase of the plant
- Complex calculations, which give additional information and value to the operators of the plant are integrated and can be extended and customized by the users according to their needs and local plant requirements
- New data can be integrated by the plant operator himself according to growing data demands from specific, changing and local situations on the plant providing quick solutions to complex chemical problems.
Progress on Unit 6

Chimney South

Mill 20

Running Conveyor

Stacker at Transfer House 8
Installed MV cabling to LH & RH ID Fan motors.

Boiler Temporary Chemical Clean piping.  
First three spools

**Feed Water Drains Valve Station**—The activity to replace the socket welds with butt weld is underway. This is one of the main risks on the schedule for the HP flushing milestone which will soon be fully addressed.

ACC Fans Cable Pulling—Scaffolding erection in readiness for cable pulling has been completed 5 days ahead of schedule

Air Cooled Condensers’ Fan Deck Wind Walls are in progress and are due for completion by the end of the year.
The last 15 M ACCCT slab is placed at Medupi in unit 2.

Coarse Ash Conveyor link between units 5 and 4 deck first pour has started and is in progress.

Q deck starts on unit 1 (0m level Aux bay).

Welding of the Boiler hoppers to the spiral wall has resumed after action plans to address quality related issues were put in place. (Unit 4)

Soot blowers installation and other various activities in progress.

CPP building top floor columns construction in progress.
When Eskom arrived in Lephalale they were on the hunt for accommodation and after purchasing all the available real estate they then had to build several housing developments in order to accommodate Project personnel.

Eskom now own 1296 houses and flats spread throughout Onverwacht and Ellisras and rent a further 389 homes.

In addition 5858 general workers are accommodated in a purpose built Construction village in Marapong and 336 artisan rooms are provided in town.

At CPP6 the first 2 vessels were successfully pressure tested by PK 06 Aqua. The remaining 6 vessels have now only got to be leak tested.

At the Water Treatment Plant all the mixer motors have now been safety cleared.

Roman Crookes
Project Director: Medupi Power Station Project