Impact of prolonged heavy rains on coal fired power stations

Eskom

Normal day

Coal is supplied from mines to coal stock yards. Eskom requires granular coal to operate its plants, compared to what is commonly known as 'course – rock-like coal'. Coal has typically < 10% moisture

The coal then travels along conveyors to the units, and is fed through chutes from one conveyor to the next

Wet coal readiness:

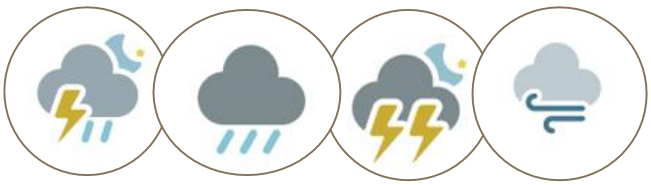
- Eskom has wet coal preparedness plans in place to manage rainy periods
- Coal is compacted to limit the impact of moisture from heavy rains. This is known as a strategic stockpile (7-14 days)
- The stockyard is too large to cover (+- size of 15 soccer fields)

Open coal stockyard

Coal conveyor

Coal stock yard

Continuous rain over extended periods



Status:

- Continuous rains from 5 Dec 2019 impacted coal handling, partially contributing to load losses and capacity shortage
- Many stations received >180 mm of rain over this period.
- By 8 Dec, continuous rains caused severe flooding at a number of mines and power stations, further impacting coal supply

Solutions:

- First 3 to 5 days - Utilise the drier, compacted coal from the strategic stock pile
- Increase number of resources to unblock chutes & clean spillage & repair damage caused to plant

The wet coal causes blockages in the chutes & in bunkers, hindering the free flow of coal. Wet pulverized coal can also result in the clogging of milling plant and associated pipework, resulting in the need to stop or reduce production to clear the blockages.

Water logged stockyard

Coal becomes sticky & eventually slurry

Coal conveyor

Earth moving equipment on coal stockyard