

Big Power Plants



Application Sheet

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ComAp, spol. s r.o.

誥鑫企業有限公司
ARITH COMPANY LTD.
地 址：台北市復興北路427巷30號
電 話：(02)2717-5038
傳 真：(02)2717-5039
e-mail: taipei@arith.com.tw
網 址： <http://www.arith.com.tw>



Standby/Mains support power plant for Gold mine in Western Africa

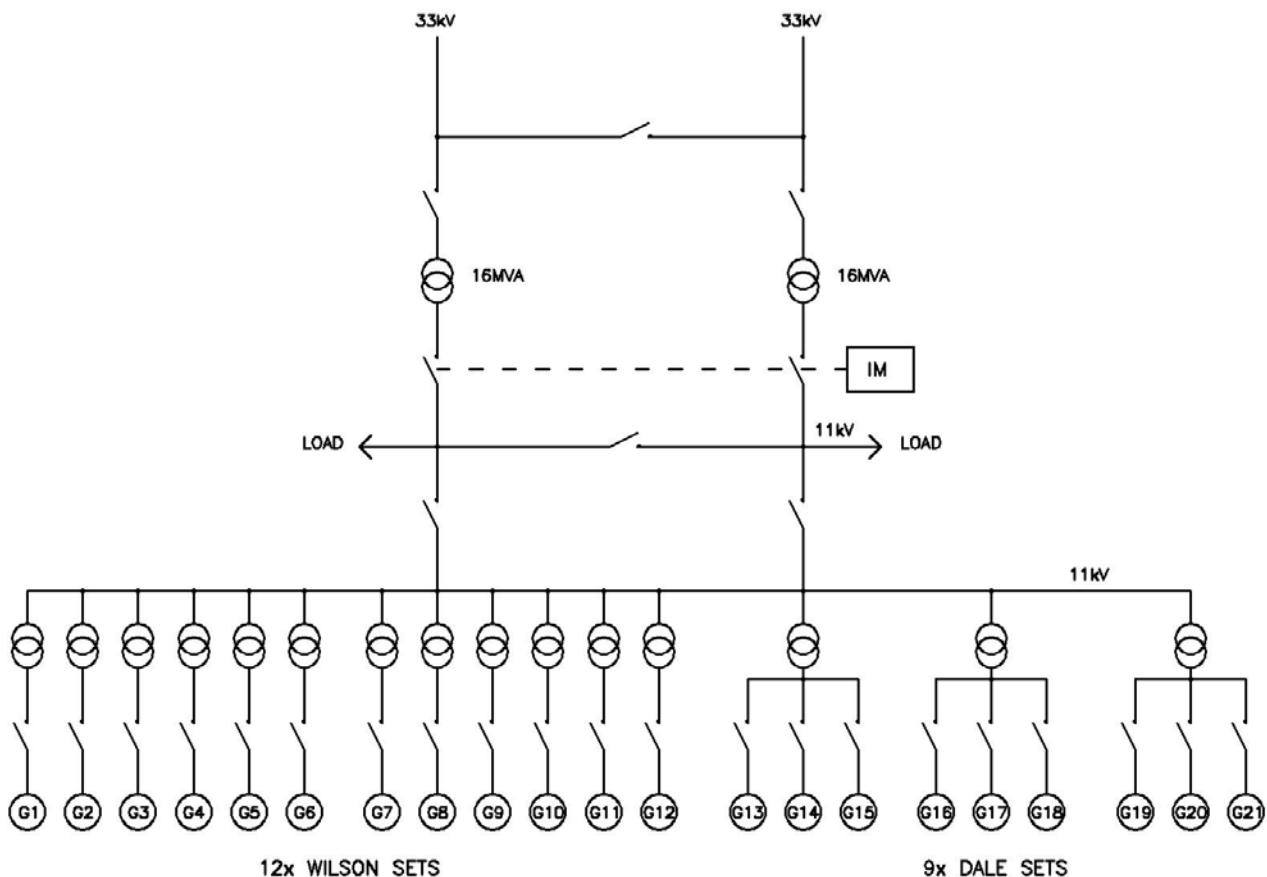
Power plant description: 12x FG Wilson sets rated 800kW, 9x Dale sets rated 877kW.

Sets are used for standby operation when the mains fails, but also they are running in parallel to the mains as the voltage drops down. As the country has not reliable National power supply, the voltage in 33kV line varies typically between 25 and 35kV, with short time extremes. If generators cover 20-50% of the total mine consumption, the mains voltage is within the acceptable tolerance.

The sets were equipped with the original control system from OEMs. ComAp supplied IntelliGen controllers for replacement of the original control equipment in 2001.

The main reason for reconstruction was that ComAp system allowed non-break return to the mains operation after the mains failure. This caused the second blackout in the mine, every blackout costs several thousand USD. The original control system had low reliability and caused serious troubles in VAR sharing among the sets.

Power plant schematics:



Scope of delivery:

21x IntelliGen in MINT configuration

1x IntelliMains for MCB control

2x IG-MU for local and remote monitoring

Now the mine has fully automatic power station with following key features:

- Automatic Standby power plant for mains failures
- Back synchronizing when the mains returns
- Parallel with the mains for voltage support
- Control from the local control room or by the modem from remote area
- Reliable control system and perfect load and VAR sharing

The ComAp products were supplied by Energy West (energyw@ca.com.au) and distributed by Greenbird Technology (www.greenbird.com.au).

Photographs from the site:



Generator sets



Ore mining and transportation – 24hrs a day



Control panel for 9 Dale sets



Reconstruction in progress



HV substation with 2x33kV line incomers



Circuit breakers for 11kV in HV substation

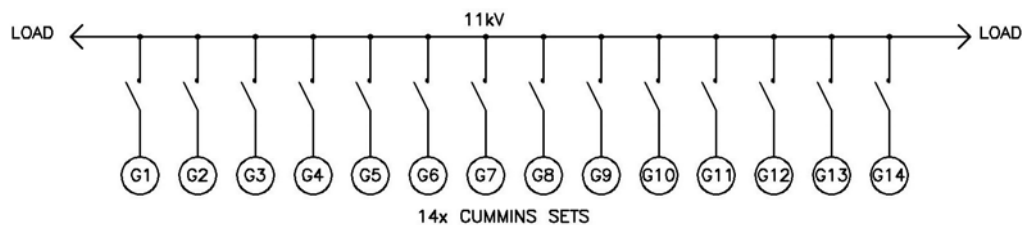
Primary power station for Gold mine in Western Australia

Power plant description: 14 Cummins sets, 1MW, 11kV

The sets are used as primary power supply as there is no external power source. Power station was built brand new with 14xInteliSys controllers in 2002.

Sets are operated semi-automatically from the mine's control room and monitored by modem from remote distance (even from overseas) using PC Anywhere program.

Power plant schematics:



Photographs from the site:



Power station



Control room

Gold mine



Engine control panels

Scope of delivery:

14x IntelliSys in MINT configuration

1x IG-PSC (power station controller) for control of common features (auxiliaries, power derating)

1x IG-MU for local and remote monitoring

The ComAp products were supplied by KPS - Kalgoorlie Power Systems and distributed by Greenbird Technology (www.greenbird.com.au).