Eskom Generation

Draught Plant Technical Information

Arnot Power Station

Unit No:	1	2	3	4	5	6	Comments
Boilers: OEM/Model No	Babcock	Babcock	Babcock	Babcock	Babcock	Babcock	
Boilers: Type (El Paso, Tower)	El Paso	El Paso	El Paso	El Paso	El Paso	El Paso	
Boilers: Wind box pressure Kpa	1.3	1.3	1.3	1.3	1.3	1.3	
Boilers: Boiler setpoint (press (negative Kpa)	0.13	0.13	0.13	0.13	0.13	0.13	
Gas Cleaning: Type (Precip/FFP)	FFP	FFP	FFP	FFP	FFP	FFP	Units 1-3 have bigger FFP's - ie 14000 bags/cell vs 11000 bags/cell on units 4-6
Mills: OEM/Model No	Stein Indutries	Loesch	Loesch	Loesch	Loesch	Loesch	
Mills: Type (Tube, vertical spindle)	Tube	Vertical spindle/tyre	Vertical spindle/tyre	Vertical spindle/tyre	Vertical spindle/tyre	Vertical spindle/tyre	
Mills: No Mills/boiler	3	6	6	6	6	6	
Mills: Seal air fans? (Y/N)	Y	Y	Y	Y	Y	Y	
PA Fans: OEM/Model No	Howden L1 2136.10.99SBN6T	Howden L1 2382.04.96 SBL6T	Howden L1 2382.04.96 SBL6T	Howden L1 2382.04.96 SBL6T	Howden L1 2382.04.96 SBL6T	Howden L1 2382.04.96 SBL6T	From Fan Curves
PA Fans: Type (Axial, Centrifugal)	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	U1 has bigger PA fans than for Units 2-6. Li11750 siifugalngle box inlet Cent
PA Fans: Static pressure rise (kPa)	10	12.5	12.5	12.5	12.5	12.5	From fan curve
PA Fans: Volume flow rate (cu.ft/s)							From fan curve
PA Fans: Volume flow rate (m3/s)	31	31	31	31	31	31	From fan curve
PA Fans: RPM	1485	1485	1485	1485	1485	1485	From fan curve
PA Fans: Fan Shaft Power (kW)	380	460	460	460	460	460	From fan curve
PA Fans: No of fans/Mill	2	1	1	1	1	1	
PA Fans: No of fans/Boiler	6	6	6	6	6	6	
PA Fans: Impeller Diameter (mm)	2136	2382	2382	2382	2382	2382	From fan model number
PA Fans: Aerofoil blades? (Y/N)	N	N	N	N	N	N	
PA Fans: Location (before/after air heater)	After	After	After	After	After	After	
PA Fans: Hot/Cold operation?	Hot	Hot	Hot	Hot	Hot	Hot	
PA Fans: Cooling disc on shaft? (Y/N)	N	N	N	N	N	N	From Philip
PA Fans: Double/single inlet/stage	Single Inlet	Single Inlet	Single Inlet	Single Inlet	Single Inlet	Single Inlet	
PA Fans: Casing - centreline or Bottom supported?	Centreline	Centreline	Centreline	Centreline	Centreline	Centreline	From Philip
PA Fans: Shaft seal type - single/labyrinth, carbon/klingerite,	Klingerite	Klingerite	Klingerite	Klingerite	Klingerite	Klingerite	
PA Fans: Type control (ILD, RVC, Fluid coupling) Single/double electric/hydraulic/pneumatic actuator	Fluid drive	ILD	ILD	ILD	ILD	ILD	
PA Fans: RVC description, internal/external, annular/no annular plates	N/A	N/A	N/A	N/A	N/A	N/A	
PA Fans: Dorsal fins Y/N	No	No	No	No	No	No	
PA Fans: Bearing type (Roller Bearing/White Metal)	White metal	White metal	White metal	White metal	White metal	White metal	
PA Fans: Jacking oil pump Y/N	N	N	N	N	N	N	
PA Fans: Bearing Lubrication (oil bath, grease, forced Lubrication)	Forced Lube	Forced Lube	Forced Lube	Forced Lube	Forced Lube	Forced Lube	
PA Fans: Pump configuration, 2xelectric, 1electric+1 shaft driven, AC/DC motor, oil Rundown tanks?	1 Electric, 1 shaft	1 Electric, 1 shaft	1 Electric, 1 shaft	1 Electric, 1 shaft	1 Electric, 1 shaft	1 Electric, 1 shaft	
PA Fans: Bearing cooling type (oil/water/air)	oil	oil	oil	oil	oil	oil	
PA Fans: Coupling type (Fixed, fluid, holset, bibby, mutidisc, jolly)	Fluid drive	Jolly + Multidisc	Jolly + Multidisc	Jolly + Multidisc	Jolly + Multidisc	Jolly + Multidisc	
PA Fans: Vibration Monitoring? (Y/N)	N	N	N	N	N	N	
PA Fans: Wear liners on casing (Y/N)	Y	Y	Y	Y	Y	Y	U4 has new Howden design - will replace Rotek impellers in other units
PA Fans: Wear liners on blades? (Y/N)	Y	Y	Y	Y	Y	Y	
PA Fans: Blade liner description/configuration, location,etc	?	Nose liner, Blade liners, walking stick + Deflector ring	Nose liner, Blade liners, walking stick + Deflector ring	Nose liner, Blade liners, walking stick + Deflector ring	Nose liner, Blade liners, walking stick + Deflector ring	Nose liner, Blade liners, walking stick + Deflector ring	
PA Fans motors: OEM/Model No	Toshiba?	AEI 565 hp 1485 RPM?	AEI 565 hp 1485 RPM?	Laurence Scott 565 hp 1480 RPM?	Laurence Scott 565 hp 1480 RPM?	Laurence Scott 565 hp 1480 RPM?	From Ashwin Philip to check
PA Fans motors: Power (kW)	425?	520.0	520.0	520.0	520.0	520.0	From Philip O&M manual
PA Fans motors: Power (HP)							

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PA Fans motors: Bearing type (Roller Bearing/White Metal)	Roller	Roller	Roller	Roller	Roller	Roller	
PA Fans motors: Bearing Lubrication (oil bath, grease, forced Lubrication)							Philip to check
PA Fans motors: Bearing cooling type (oil/water/air)	Air	Air	Air	Air	Air	Air	
PA Fans motors: Vibration Monitoring?	N	N	N	N	N	N	
FD Fans: OEM/Model No	Howden Z9 DBV6T	Howden Z9 DBV6T	Howden Z9 DBV6T	Howden Z9 DBV6T	Howden Z9 DBV6T	Howden Z9 DBV6T	From fan curve Philip to check
FD Fans: Type (Axial, Centrifugal)	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	
FD Fans: Static pressure rise (kPa)	3.75	3.75	3.75	3.75	3.75	3.75	From fan curve
FD Fans: Volume flow rate (cu.ft/s)							
FD Fans: Volume flow rate (m3/s)	250	250	250	250	250	250	From fan curve
FD Fans: RPM	735	735	735	735	735	735	o& M manual
FD Fans: Fan Shaft Power (kW)	1200	1200	1200	1200	1200	1200	From fan curve
FD Fans: No of fans/Boiler	2	2	2	2	2	2	
FD Fans: Impeller Diameter (mm)	2630	2630	2630	2630	2630	2630	From fan curve
FD Fans: Aerofoil blades? (Y/N)	Y	Y	Y	Y	Y	Y	
FD Fans: Double/single inlet/stage	Double	Double	Double	Double	Double	Double	from philip
FD Fans: Casing - centreline or Bottom supported?	Bottom	Bottom	Bottom	Bottom	Bottom	Bottom	from philip
FD Fans: Shaft seal type - single/labyrinth, carbon/klingerite,	Klingerite	Klingerite	Klingerite	Klingerite	Klingerite	Klingerite	from philip
FD Fans: Type control (ILD, RVC, Fluid coupling) Single/double electric/hydraulic/pneumatic actuator	RVC	RVC	RVC	RVC	RVC	RVC	from philip
FD Fans: RVC description, internal/external, annular/no annular plates	Internal Annular	Internal Annular	Internal Annular	Internal Annular	Internal Annular	Internal Annular	from philip
FD Fans: Dorsal fins Y/N	Yes	Yes	Yes	Yes	Yes	Yes	from philip
FD Fans: Bearing type (Roller Bearing/White Metal)	White Metal	White Metal	White Metal	White Metal	White Metal	White Metal	from philip
FD Fans: Jacking oil pump Y/N	N	N	N	N	N	N	from philip
FD Fans: Bearing Lubrication (oil bath, grease, forced Lubrication)	Forced	Forced	Forced	Forced	Forced	Forced	from philip
FD Fans: Pump configuration, 2xelectric, 1electric+1 shaft driven, AC/DC motor, oil Rundown tanks?	1 Electric, 1 shaft	1 Electric, 1 shaft	1 Electric, 1 shaft	1 Electric, 1 shaft	1 Electric, 1 shaft	1 Electric, 1 shaft	from philip
FD Fans: Bearing cooling type (oil/water/air)	Oil	Oil	Oil	Oil	Oil	Oil	from philip
FD Fans: Coupling type (Fixed, fluid, holset, bibby, mutidisc, jolly)	Bibby	Bibby	Bibby	Bibby	Bibby	Bibby	from philip
FD Fans: Vibration Monitoring? (Y/N)	N	N	N	N	N	N	from philip
FD Fans: Wear liners on casing (Y/N)	N	N	N	N	N	N	from philip
FD Fans: Wear liners on blades? (Y/N)	N	N	N	N	N	N	from philip
FD Fans: Blade liner description/configuration, location,etc	N/A	N/A	N/A	N/A	N/A	N/A	from philip
FD Fans motors: OEM/Model No	AEI Induction?	AEI Induction?	AEI Induction?	Laurence & Scott?	Laurence & Scott?	Laurence & Scott?	From Bryan Philip to check
FD Fans motors: Power (kW)	1625?	1625?	1625?	1625?	1625?	1625?	From Bryan (Ashwin says 637kW@990rpm) Philip to check
FD Fans motors: Power (HP)							
FD Fans motors: Bearing type (Roller Bearing/White Metal)	White Metal	White Metal	White Metal	White Metal	White Metal	White Metal	
FD Fans motors: Bearing Lubrication (oil bath, grease, forced Lubrication)	Oil Bath	Oil Bath	Oil Bath	Oil Bath	Oil Bath	Oil Bath	
FD Fans motors: Bearing cooling type (oil/water/air)	Air	Air	Air	Air	Air	Air	
FD Fans motors: Vibration Monitoring?	N	N	N	N	N	N	
ID Fans: OEM/Model No	Howden Z9 3221.02.00 DBV6T	Howden Z9 3221.02.00 DBV6T	Howden Z9 3221.02.00 DBV6T	Howden Z9 3221.02.00 DBV6T	Howden Z9 3221.02.00 DBV6T	Howden Z9 3221.02.00 DBV6T	From Fan curve
ID Fans: Type (Axial, Centrifugal)	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	

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ID Fans: Static pressure rise (kPa)	5.27	5.27	5.27	5.27	5.27	5.27	From O&M manual
ID Fans: Volume flow rate (cu.ft/s)							
ID Fans: Volume flow rate (m3/s)	403	403	403	403	403	403	From O&M manual
ID Fans: RPM	747	747	747	747	747	747	From O&M manual
ID Fans: Fan Shaft Power (kW)	2450	2450	2450	2450	2450	2450	From Fan curve
ID Fans: No of fans/Boiler	2	2	2	2	2	2	
ID Fans: Impeller Diameter (mm)	3285	3285	3285	3285	3285	3285	From Fan curve
ID Fans: Aerofoil blades? (Y/N)	Y	Y	Y	Y	Y	Y	
ID Fans: Double/single inlet/stage	Double	Double	Double	Double	Double	Double	
ID Fans: Casing - centreline or Bottom supported?	Bottom supported?	Bottom supported?	Bottom supported?	Bottom supported?	Bottom supported?	Bottom supported?	Philip to check
ID Fans: Shaft seal type - single/labyrinth, carbon/klingerite,	Klingerite	Klingerite	Klingerite	Klingerite	Klingerite	Klingerite	
ID Fans: Type control (ILD, RVC, Fluid coupling) Single/double electric/hydraulic/pneumatic actuator	RVC	RVC	RVC	RVC	RVC	RVC	
ID Fans: RVC description, internal/external, annular/no annular plates	Internal no Annular (not boxed)	Internal no Annular (not boxed)	Internal no Annular (not boxed)	Internal no Annular (not boxed)	Internal no Annular (not boxed)	Internal no Annular (not boxed)	
ID Fans: Dorsal fins Y/N	Y	Y	Y	Y	Y	Y	
ID Fans: Bearing type (Roller Bearing/White Metal)	White Metal	White Metal	White Metal	White Metal	White Metal	White Metal	
ID Fans: Jacking oil pump Y/N	N	N	N	N	N	N	
ID Fans: Bearing Lubrication (oil bath, grease, forced Lubrication)	Forced lube	Forced lube	Forced lube	Forced lube	Forced lube	Forced lube	
ID Fans: Pump configuration, 2xelectric, 1electric+1 shaft driven, AC/DC motor, oil Rundown tanks?	1 Electric, 1 shaft	1 Electric, 1 shaft	1 Electric, 1 shaft	1 Electric, 1 shaft	1 Electric, 1 shaft	1 Electric, 1 shaft	
ID Fans: Bearing cooling type (oil/water/air)	Oil	Oil	Oil	Oil	Oil	Oil	
ID Fans: Coupling type (Fixed, fluid, holset, bibby, mutidisc, jolly)	Multidisc	Multidisc	Multidisc	Multidisc	Multidisc	Multidisc	
ID Fans: Vibration Monitoring? (Y/N)	N	N	N	N	N	N	
ID Fans: Wear liners on casing (Y/N)	Y	Y	Y	Y	Y	Y	
ID Fans: Wear liners on blades? (Y/N)	Y	Y	Y	Y	Y	Y	
ID Fans: Blade liner description/configuration, location,etc	Nose + nose cap hard face weding, deflector rings	Nose + nose cap hard face weding, deflector rings	Nose + nose cap hard face weding, deflector rings	Nose + nose cap hard face weding, deflector rings	Nose + nose cap hard face weding, deflector rings	Nose + nose cap hard face weding, deflector rings	
ID Fans motors: OEM/Model No	AEI	AEI	AEI	GEC	GEC	GEC	From Ashwin
ID Fans motors: Power (kW)	2750.0	2750.0	2750.0	2750.0	2750.0	2750.0	From Ashwin Philip to check
ID Fans motors: Power (HP)							From Ashwin should be kW?
ID Fans motors: Bearing type (Roller Bearing/White Metal)	White metal	White metal	White metal	White metal	White metal	White metal	
ID Fans motors: Bearing Lubrication (oil bath, grease, forced Lubrication)	oil bath	oil bath	oil bath	oil bath	oil bath	oil bath	
ID Fans motors: Bearing cooling type (oil/water/air)	Air	Air	Air	Air	Air	Air	
ID Fans motors: Vibration Monitoring?	N	N	N	N	N	N	
Airheaters (Primary): OEM/Model No	N/A	N/A	N/A	N/A	N/A	N/A	
Airheaters (Primary): Type (Rotary/Tubular)	N/A	N/A	N/A	N/A	N/A	N/A	
Airheaters (Primary): Gas Inlet temp	N/A	N/A	N/A	N/A	N/A	N/A	
Airheaters (Primary): Gas Outlet Temp	N/A	N/A	N/A	N/A	N/A	N/A	
Airheaters (Primary): Air Inlet Temp	N/A	N/A	N/A	N/A	N/A	N/A	
Airheaters (Primary): Air outlet Temp	N/A	N/A	N/A	N/A	N/A	N/A	
Airheaters (Secondary): OEM/Model No	Rothemuhle	Howden HZW29	Howden HZW29	Howden HZW29	Howden HZW29	Howden HZW29	From Bryan
Airheaters (Secondary): (Rothemuhle/Ljungstrom)	Rothemuhle	Ljungstrom	Ljungstrom	Ljungstrom/VN mod	Ljungstrom	Ljungstrom	From Bryan
Airheaters (Secondary): Type (rotating hood/matrix)	Rotating hood	Rotating Matrix	Rotating Matrix	Rotating Matrix	Rotating Matrix	Rotating Matrix	From Bryan

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Airheaters (Secondary): Include Primary Air? (Y/N)	Y	Y	Y	Y	Y	Y	Hot PA fans
Airheaters (Secondary): Configuration single/twin/quad flow	Single	Single	Single	Single	Single	Single	
Airheaters (Secondary): Hot End seal Thermal compensators (Y/N)	Y	N	N	N	N	N	
Airheaters (Secondary): Cold end seal adjustment (Y/N)	Y	N	N	N	N	N	
Airheaters (Secondary): Hot End sector plate adjustment (Y/N) (electric/pneumatic/hydraulic)	N	Y	Y	N	Y	Y	
Airheaters (Secondary): Cold End sector adjustment (Y/N)	N	Y	Y	N	Y	Y	
Airheaters (Secondary): Shaft Orientation (Vertical/Horizontal)	Horizontal	Horizontal	Horizontal	Horizontal	Horizontal	Horizontal	
Airheaters (Secondary): Matrix Inner Radius :	1.25	1.3	1.3	1.3	1.3	1.3	From Mike AH research data
Airheaters (Secondary): Matrix Outer Radius :	5.3	5.925?	5.925?	5.925?	5.925?	5.925?	From Mike AH research data Philip to check
Airheaters (Secondary): Intermediate radius if twinflow :	N/A						
Airheaters (Secondary): Number of sectors	40	24	24	48	24	24	
Airheaters (Secondary): Number of element layers	2	2	2	2	2	2	
Airheaters (Secondary): Number of rings	5	5	5	5	5	5	
Airheaters (Secondary): Max Element total height:	1070	1452	1452	1452	1452	1452	
Airheaters (Secondary): No of Seal Frame articulation joints?	2	N/A	N/A	N/A	N/A	N/A	
Airheaters (Secondary): Rotor/hoods RPM:	1.3?	1.28	1.28	1.28	1.28	1.28	From Philip
Airheaters (Secondary): Drive System details – eg pinrack (single/dual pinion)/ shaft drive	Pinrack single	shaft drive	shaft drive	shaft drive	shaft drive	shaft drive	
Airheaters (Secondary): Gearbox type – eg size, manuf.	Planetary g/box	David Brown 24 " double reduction worm gear	David Brown 24 " double reduction worm gear	David Brown 24 " double reduction worm gear	David Brown 24 " double reduction worm gear	David Brown 24 " double reduction worm gear	
Airheaters (Secondary): Lubrication system type – eg grease/oil	Oil	Oil	Oil	Oil	Oil	Oil	
Airheaters (Secondary): Gas Inlet temp	330	330	330	330	330	330	
Airheaters (Secondary): Gas Outlet Temp	145	145	145	145	145	145	
Airheaters (Secondary): Air Inlet Temp	35	35	35	35	35	35	
Airheaters (Secondary): Air outlet Temp	280	280	280	280	280	280	
Airheaters (Secondary): Sootblower type (Fixed/Retractable, Reciprocating, spider)	Fixed Rotary Spider	Fixed	Fixed	Fixed	Fixed	Fixed	
Airheaters (Secondary): Sootblower valve type (Rotary Valve, single poppet, stop valve, etc)	Electric actuated stop valve	Electric actuated stop valve	Electric actuated stop valve	Electric actuated stop valve	Electric actuated stop valve	Electric actuated stop valve	
Airheaters (Secondary): Sootblow Frequency	1ce/12 hrs	1ce/12 hrs	1ce/12 hrs	1ce/12 hrs	1ce/12 hrs	1ce/12 hrs	
Airheaters (Secondary): Gas bypass installed?	N	N	N	N	N	N	From Philip
Airheaters (Secondary): Air bypass installed?	Y	Y	Y	Y	Y	Y	From Philip
Airheaters (Secondary): Hot air recirc installed?	Y - but welded closed - not used.	Y - but welded closed - not used.	Y - but welded closed - not used.	Y - but welded closed - not used.	Y - but welded closed - not used.	Y - but welded closed - not used.	
Airheaters (Secondary): Fire detection installed?	N	N	N	N	N	N	
Airheaters (Secondary): Fire extinguishing installed?	N	N	N	N	N	N	
Airheaters (Secondary): Fire fighting equipment - single column or nozzle matrix	External fire hose	External fire hose	External fire hose	External fire hose	External fire hose	External fire hose	

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O2 Measurement: matrix upstream of A/H? (Y/N)	4 x O2 instruments - each has a single sample point in duct	4 x O2 instruments - each has a single sample point in duct	4 x O2 instruments - each has a single sample point in duct	4 x O2 instruments - each has a single sample point in duct	4 x O2 instruments - each has a single sample point in duct	4 x O2 instruments - each has a single sample point in duct	ie 4 readings per unit - each from a separate single sample point (4 sample points)
O2 Measurement: matrix downstream of A/H? (Y/N)	N	N	N	N	N	N	

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Draught Plant Technical Information

Grootvlei Power Station

Unit No:	1	2	3	4	5	6	Comments
Boilers: OEM/Model No	Babcock	Babcock	Babcock	Babcock	Steinmuller	Babcock	
Boilers: Type (El Paso, Tower)	Tower	El paso	El paso	El paso	Steinmuller Boiler	Tower	
Boilers: Wind box pressure Kpa	0.6	0.6	0.6	0.6	0.6	0.6	
Boilers: Boiler setpoint (press (negative Kpa)	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
Gas Cleaning: Type (Precip/FFP)	FFP	FFP	FFP	FFP	FFP	FFP	
Mills: OEM/Model No	Babcock Mill	Babcock Mill	Babcock Mill	Babcock Mill	Loesch Mill	Babcock Mill	Babcock Mill
Mills: Type (Tube, vertical spindle)	Vertical Spindle	Vertical Spindle	Vertical Spindle	Vertical Spindle	vertical spindle (tyre and Table)	Vertical Spindle	Vertical Spindle
Mills: No Mills/boiler	6	6	6	6	6	6	
Mills: Seal air fans? (Y/N)	Y	Y	Y	Y	Y	Y	
PA Fans: OEM/Model No	Howden	Howden	Howden	Howden	Howden	Howden	
PA Fans: Type (Axial, Centrifugal)	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	
PA Fans: Static pressure rise (kPa)	10.35	10.35	10.35	10.35	10.35	10.35	
PA Fans: Volume flow rate (cu.ft/s)							
PA Fans: Volume flow rate (m3/s)	21.07	21.07	21.07	21.07	21.07	21.07	
PA Fans: RPM	1482	1482	1482	1482	1482	1482	
PA Fans: Fan Shaft Power (kW)							
PA Fans: No of fans/Mill	1	1	1	1	1	1	
PA Fans: No of fans/Boiler	6	6	6	6	6	6	
PA Fans: Impeller Diameter (mm)	2250	2250	2250	2250	2250	2250	
PA Fans: Aerofoil blades? (Y/N)	Y	Y	Y	Y	Y	Y	
PA Fans: Location (before/after air heater)	After	After	After	After	After	After	
PA Fans: Hot/Cold operation?	Hot	Hot	Hot	Hot	Hot	Hot	
PA Fans: Cooling disc on shaft? (Y/N)	Y	Y	Y	Y	Y	Y	
PA Fans: Double/single inlet/stage	Single	Single	Single	Single	Single	Single	
PA Fans: Casing - centreline or Bottom supported?	Bottom supported	Bottom supported	Bottom supported	Bottom supported	Bottom supported	Bottom supported	
PA Fans: Shaft seal type - single/labyrinth, carbon/klingerite,	klingerite	klingerite	klingerite	klingerite	klingerite	klingerite	
PA Fans: Type control (ILD, RVC, Fluid coupling) Single/double electric/hydraulic/pneumatic actuator	Louvre Damper	Louvre Damper	Louvre Damper	Louvre Damper	Louvre Damper	Louvre Damper	
PA Fans: RVC description, internal/external, annular/no annular plates	external, no annular plates	external, no annular plates	external, no annular plates	external, no annular plates	external, no annular plates	external, no annular plates	
PA Fans: Dorsal fins Y/N	N	N	N	N	N	N	
PA Fans: Bearing type (Roller Bearing/White Metal)	Roller Bearing	Roller Bearing	Roller Bearing	Roller Bearing	Roller Bearing	Roller Bearing	
PA Fans: Jacking oil pump Y/N	N	N	N	N	N	N	
PA Fans: Bearing Lubrication (oil bath, grease, forced Lubrication)	Oil bath	Oil bath	Oil bath	Oil bath	Oil bath	Oil bath	
PA Fans: Pump configuration, 2xelectric, 1electric+1 shaft driven, AC/DC motor, oil Rundown tanks?	N/A	N/A	N/A	N/A	N/A	N/A	
PA Fans: Bearing cooling type (oil/water/air)	air	air	air	air	air	air	
PA Fans: Coupling type (Fixed, fluid, holset, bibby, mutidisc, jolly)	Bibby	Bibby	Bibby	Bibby	Bibby	Bibby	
PA Fans: Vibration Monitoring? (Y/N)	N	N	N	N	N	N	
PA Fans: Wear liners on casing (Y/N)	Y	Y	Y	Y	Y	Y	
PA Fans: Wear liners on blades? (Y/N)	Y	Y	Y	Y	Y	Y	
PA Fans: Blade liner description/configuration, location,etc	NOSE LINER BOLTED	NOSE LINER BOLTED	NOSE LINER BOLTED	NOSE LINER BOLTED	NOSE LINER BOLTED	NOSE LINER BOLTED	
PA Fans motors: OEM/Model No	ABB	ABB	ABB	ABB	ABB	GEC	
PA Fans motors: Power (kW)	286kW	286kW	286kW	286kW	286kW	268kW	
PA Fans motors: Power (HP)	384HP	384HP	384HP	384HP	384HP	360HP	
PA Fans motors: Bearing type (Roller Bearing/White Metal)	Roller Bearing	Roller Bearing	Roller Bearing	Roller Bearing	Roller Bearing	Roller Bearing	

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PA Fans motors: Bearing Lubrication (oil bath, grease, forced Lubrication)	N/A	N/A	N/A	N/A	N/A	N/A	bearing inside the motor
PA Fans motors: Bearing cooling type (oil/water/air)	N/A	N/A	N/A	N/A	N/A	N/A	
PA Fans motors: Vibration Monitoring?	N	N	N	N	N	N	
FD Fans: OEM/Model No	Howden	Howden	Howden	Howden	Howden	Howden	
FD Fans: Type (Axial, Centrifugal)	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	
FD Fans: Static pressure rise (kPa)	5.2	5.2	5.2	5.2	5.2	5.2	
FD Fans: Volume flow rate (cu.ft/s)							
FD Fans: Volume flow rate (m3/s)	142.53	142.53	142.53	142.53	142.53	142.53	
FD Fans: RPM	741	741	741	741	741	741	
FD Fans: Fan Shaft Power (kW)							
FD Fans: No of fans/Boiler	2	2	2	2	2	2	
FD Fans: Impeller Diameter (mm)	2.254	2.254	2.254	2.254	2.254	2.254	
FD Fans: Aerofoil blades? (Y/N)	Y	Y	Y	Y	Y	Y	
FD Fans: Double/single inlet/stage	Double inlet	Double inlet	Double inlet	Double inlet	Double inlet	Double inlet	
FD Fans: Casing - centreline or Bottom supported?	Bottom supported	Bottom supported	Bottom supported	Bottom supported	Bottom supported	Bottom supported	
FD Fans: Shaft seal type - single/labyrinth, carbon/klingerite,	klingerite	klingerite	klingerite	klingerite	klingerite	klingerite	
FD Fans: Type control (ILD, RVC, Fluid coupling) Single/double electric/hydraulic/pneumatic actuator	RVC	RVC	RVC	RVC	RVC	RVC	
FD Fans: RVC description, internal/external, annular/no annular plates	external, no annular plates	external, no annular plates	external, no annular plates	external, no annular plates	external, no annular plates	external, no annular plates	
FD Fans: Dorsal fins Y/N	N	N	N	N	N	N	
FD Fans: Bearing type (Roller Bearing/White Metal)	white metal	white metal	white metal	white metal	white metal	white metal	
FD Fans: Bearing type/size	7.5 inch P. F Sirocco	7.5 inch P. F Sirocco	7.5 inch P. F Sirocco	7.5 inch P. F Sirocco	7.5 inch P. F Sirocco	7.5 inch P. F Sirocco	
FD Fans: Jacking oil pump Y/N	N	N	N	N	N	N	
FD Fans: Bearing Lubrication (oil bath, grease, forced Lubrication)	oil bath	oil bath	oil bath	oil bath	Forced Lube oil	oil bath	
FD Fans: Pump configuration, 2xelectric, 1electric+1 shaft driven, AC/DC motor, oil Rundown tanks?	N/A	N/A	N/A	N/A	2xElectric, AC motor	N/A	
FD Fans: Bearing cooling type (oil/water/air)	water	water	water	water	Oil	water	
FD Fans: Coupling type (Fixed, fluid, holset, bibby, mutidisc, jolly)	Bibby	Bibby	Bibby	Bibby	Bibby	Bibby	
FD Fans: Vibration Monitoring? (Y/N)	N	N	N	N	N	N	
FD Fans: Wear liners on casing (Y/N)	N	N	N	N	N	N	
FD Fans: Wear liners on blades? (Y/N)	N	N	N	N	N	N	
FD Fans: Blade liner description/configuration, location,etc	N/A	N/A	N/A	N/A	N/A	N/A	
FD Fans motors: OEM/Model No	Laurence Scott	ABB	Hawker Siddeley	Hawker Siddeley	Hawker Siddeley	Actom	
FD Fans motors: Power (kW)	570kW	570kW	570kW	570kW	1560kW	615kW	
FD Fans motors: Power (HP)	764HP	764HP	764HP	764HP	2090HP	825HP	
FD Fans motors: Bearing type (Roller Bearing/White Metal)	White Metal	White Metal	White Metal	White Metal	White Metal	White Metal	
FD Fans motors: Bearing Lubrication (oil bath, grease, forced Lubrication)	oil bath	oil bath	oil bath	oil bath	oil bath	oil bath	
FD Fans motors: Bearing cooling type (oil/water/air)	oil	oil	oil	oil	oil	oil	
FD Fans motors: Vibration Monitoring?	N	N	N	N	N	N	
ID Fans: OEM/Model No	Howden	Howden	Howden	Howden	Howden	Howden	
ID Fans: Type (Axial, Centrifugal)	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	
ID Fans: Static pressure rise (kPa)	5.2	5.2	5.2	5.2	5.2	5.2	
ID Fans: Volume flow rate (cu.ft/s)							

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ID Fans: Volume flow rate (m3/s)	256	256	256	256	256	256	
ID Fans: RPM	743	743	743	743	743	743	
ID Fans: Fan Shaft Power (kW)							
ID Fans: No of fans/Boiler	2	2	2	2	2	2	
ID Fans: Impeller Diameter (mm)	3075	3106	3106	3106	3075	3075	
ID Fans: Aerofoil blades? (Y/N)	Y (welded Hub)	Y (welded Hub)	Y (welded Hub)	Y (welded Hub)	Y (welded Hub)	Y (welded Hub)	
ID Fans: Double/single inlet/stage	Double inlet	Double inlet	Double inlet	Double inlet	Double inlet	Double inlet	
ID Fans: Casing - centreline or Bottom supported?	Bottom supported	Bottom supported	Bottom supported	Bottom supported	Bottom supported	Bottom supported	
ID Fans: Shaft seal type - single/labyrinth, carbon/klingerite,	klingerite	klingerite	klingerite	klingerite	klingerite	klingerite	
ID Fans: Type control (ILD, RVC, Fluid coupling) Single/double electric/hydraulic/pneumatic actuator	RVC	RVC	RVC	RVC	RVC	RVC	
ID Fans: RVC description, internal/external, annular/no annular plates	internal, annular plates	internal, annular plates	internal, annular plates	internal, annular plates	internal, annular plates	internal, annular plates	
ID Fans: Dorsal fins Y/N	Y	Y	Y	Y	Y	Y	
ID Fans: Bearing type (Roller Bearing/White Metal)	white metal	white metal	white metal	white metal	white metal	white metal	
ID Fans: Bearing type/size	Sirocco/9.5 inch	Sirocco/9.5 inch	Sirocco/9.5 inch	Sirocco/9.5 inch	Sirocco/9.5 inch	Sirocco/9.5 inch	
ID Fans: Jacking oil pump Y/N	N	N	N	N	N	N	
ID Fans: Bearing Lubrication (oil bath, grease, forced Lubrication)	Forced Lubrication	Forced Lubrication	Forced Lubrication	Forced Lubrication	Forced Lubrication	Forced Lubrication	
ID Fans: Pump configuration, 2xelectric, 1electric+1 shaft driven, AC/DC motor, oil Rundown tanks?	1electric+1 shaft driven, AC motor	1electric+1 shaft driven, AC/DC motor	1electric+1 shaft driven, AC/DC motor	1electric+1 shaft driven, AC/DC motor	1electric+1 shaft driven, AC/DC motor	1electric+1 shaft driven, AC/DC motor	
ID Fans: Bearing cooling type (oil/water/air)	Oil	Oil	Oil	Oil	Oil	Oil	
ID Fans: Coupling type (Fixed, fluid, holset, bibby, mutidisc, jolly)	Fixed - multi-disk	Fluid drive	Fluid drive	Fluid drive	Fixed - multi-disk	Fixed - multi-disk	To be upgraded to RVC at FFP upgrade
ID Fans: Vibration Monitoring? (Y/N)	N	N	N	N	N	N	
ID Fans: Wear liners on casing (Y/N)	N	N	N	N	N	N	
ID Fans: Wear liners on blades? (Y/N)	Y	Y	Y	Y	Y	Y	
ID Fans: Blade liner description/configuration, location,etc	welded on the blade nose and walking stick on the drive plate	welded on the blade nose and walking stick on the drive plate	welded on the blade nose and walking stick on the drive plate	welded on the blade nose and walking stick on the drive plate	welded on the blade nose and walking stick on the drive plate	welded on the blade nose and walking stick on the drive plate	
ID Fans motors: OEM/Model No	Alstom	Actom	Actom	Actom	Alstom	Alstom	
ID Fans motors: Power (kW)	1800	1950	1950	1950	1800	1800	
ID Fans motors: Power (HP)	2413	2615	2615	2615	2615	2413	
ID Fans motors: Bearing type (Roller Bearing/White Metal)	White Metal	White Metal	White Metal	White Metal	White Metal	White Metal	
ID Fans motors: Bearing Lubrication (oil bath, grease, forced Lubrication)	oil bath	oil bath	oil bath	oil bath	oil bath	oil bath	
ID Fans motors: Bearing cooling type (oil/water/air)	Oil	Oil	Oil	Oil	Oil	Oil	
ID Fans motors: Vibration Monitoring?	N	N	N	N	N	N	
Airheaters (Primary): OEM/Model No	n/a						
Airheaters (Primary): Type (Rotary/Tubular)	Rotary	Rotary	Rotary	Rotary	Rotary	Rotary	
Airheaters (Primary): Gas Inlet temp	N/A	N/A	N/A	N/A	N/A	N/A	
Airheaters (Primary): Gas Outlet Temp	N/A	N/A	N/A	N/A	N/A	N/A	
Airheaters (Primary): Air Inlet Temp	N/A	N/A	N/A	N/A	N/A	N/A	
Airheaters (Primary): Air outlet Temp	N/A	N/A	N/A	N/A	N/A	N/A	
Airheaters (Secondary): OEM/Model No	N/A	N/A	N/A	N/A	N/A	N/A	
Airheaters (Secondary): (Rothemuhle/Ljungstrom)	Rothemuhle	Rothemuhle	Rothemuhle	Rothemuhle	Rothemuhle	Rothemuhle	
Airheaters (Secondary): Type (rotating hood/matrix)	rotating hood	rotating hood	rotating hood	rotating hood	rotating hood	rotating hood	

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Airheaters (Secondary): Include Primary Air? (Y/N)	N	N	N	N	N	N	
Airheaters (Secondary): Configuration single/twin/quad flow	twin flow	twin flow	twin flow	twin flow	twin flow	twin flow	
Airheaters (Secondary): Hot End seal Thermal compensators (Y/N)	N	N	N	N	N	N	
Airheaters (Secondary): Cold end seal adjustment (Y/N)	N	N	N	N	N	N	
Airheaters (Secondary): Hot End sector plate adjustment (Y/N) (electric/pneumatic/hydraulic)	N/A	N/A	N/A	N/A	N/A	N/A	
Airheaters (Secondary): Cold End sector adjustment (Y/N)	N/A	N/A	N/A	N/A	N/A	N/A	
Airheaters (Secondary): Shaft Orientation (Vertical/Horizontal)	Vertical	Vertical Honecomb stator No U channels fitted	Vertical Honecomb stator No U channels fitted	Vertical Honecomb stator No U channels fitted	Vertical	Vertical	5 airheaters .5m bigger
Airheaters (Secondary): Support Bearings Type	Split Cooper Roller	Split Cooper Roller	Split Cooper Roller	Split Cooper Roller	Split Cooper Roller	Split Cooper Roller	
Airheaters (Secondary): Matrix Inner Radius :							
Airheaters (Secondary): Matrix Outer Radius :							
Airheaters (Secondary): Intermediate radius if twinflow :							
Airheaters (Secondary): Number of sectors							
Airheaters (Secondary): Number of element layers	2	2	2	2	2	2	
Airheaters (Secondary): Number of rings	4	4	4	4	5	4	
Airheaters (Secondary): Max Element total height:							
Airheaters (Secondary): No of Seal Frame articulation joints?	Seals hanging supported	Seals hanging supported	Seals hanging supported	Seals hanging supported	Seals hanging supported	Seals hanging supported	
Airheaters (Secondary): Rotor/hoods RPM:	970	970	970	970	970	960	
Airheaters (Secondary): Drive System details – eg pinrack (single/dual pinion)/ shaft drive	pinrack (single pinion)/ shaft drive	pinrack (single pinion)/ shaft drive	pinrack (single pinion)/ shaft drive	pinrack (single pinion)/ shaft drive	pinrack (single pinion)/ shaft drive	pinrack (single pinion)/ shaft drive	
Airheaters (Secondary): Gearbox type – eg size, manuf.	Triple reduction helical	Triple reduction helical	Triple reduction helical	Triple reduction helical	Triple reduction helical	Triple reduction helical	
Airheaters (Secondary): Lubrication system type – eg grease/oil	Lube oil	Lube oil	Lube oil	Lube oil	Lube oil	Lube oil	
Airheaters (Secondary): Gas Inlet temp	317°C	272°C	272°C	272°C	360°C	317°C	
Airheaters (Secondary): Gas Outlet Temp	138°C	120°C	120°C	120°C	138°C	138°C	
Airheaters (Secondary): Air Inlet Temp	38°C	32°C	32°C	32°C	38°C	38°C	
Airheaters (Secondary): Air outlet Temp	253°C	221°C	221°C	221°C	260°C	253°C	
Airheaters (Secondary): Sootblower type (Fixed/Retractable, Reciprocating, spider)	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed	
Airheaters (Secondary): Sootblower valve type (Rotary Valve, single poppet, stop valve, etc)	Rotary	Rotary	Rotary	Rotary	Rotary	Rotary	
Airheaters (Secondary): Sootblow Frequency	Once Every 12 hours	Once Every 12 hours	Once Every 12 hours	Once Every 12 hours	Once Every 12 hours	Once Every 12 hours	
Airheaters (Secondary): Gas bypass installed?	N/A	N/A	N/A	N/A	N/A	N/A	
Airheaters (Secondary): Air bypass installed?	Y	Y	Y	Y	Y	Y	
Airheaters (Secondary): Hot air recirc installed?	Y	Y	Y	Y	Y	Y	
Airheaters (Secondary): Fire detection installed?	N	N	N	N	N	N	
Airheaters (Secondary): Fire extinguishing installed?	N	N	N	N	N	N	
Airheaters (Secondary): Fire fighting equipment - single column or nozzle matrix	N/A	N/A	N/A	N/A	N/A	N/A	

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O2 Measurement: matrix upstream of A/H? (Y/N)	Y	Y	Y	Y	Y	Y	
O2 Measurement: matrix downstream of A/H? (Y/N)	SINGLE POINT	SINGLE POINT	SINGLE POINT	SINGLE POINT	SINGLE POINT	SINGLE POINT	

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Draught Plant Technical Information

Camden Power Station

Unit No:	1	2	3	4	5	6	7	8	Comments
Boilers: OEM/Model No	Ical	Ical	Ical	Ical	Ical	Ical	Ical	Ical	
Boilers: Type (El Paso, Tower)	Drum (Natural circulation)	Drum (Natural circulation)	Drum (Natural circulation)	Drum (Natural circulation)	Drum (Natural circulation)	Drum (Natural circulation)	Drum (Natural circulation)	Drum (Natural circulation)	
Boilers: Wind box pressure Kpa	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	
Boilers: Boiler setpoint (press (negative Kpa)	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	
Gas Cleaning: Type (Precip/FFP)	FFP	FFP	FFP	FFP	FFP	FFP	FFP	FFP	
Mills: OEM/Model No	Lupulco	Lupulco	Lupulco	Lupulco	Lupulco	Lupulco	Lupulco	Lupulco	
Mills: Type (Tube, vertical spindle)	vertical spidle	vertical spidle	vertical spidle	vertical spidle	vertical spidle	vertical spidle	vertical spidle	vertical spidle	
Mills: No Mills/boiler	5	5	5	5	5	5	5	5	
Mills: Seal air fans? (Y/N)	y	y	y	y	y	y	y	y	
PA Fans: OEM/Model No	Howden	Howden	Howden	Howden	Howden	Howden	Howden	Howden	
PA Fans: Type (Axial, Centrifugal)	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Type: L1
PA Fans: Static pressure rise (kPa)	8	8	8	8	8	8	8	8	
PA Fans: Volume flow rate (cu.ft/s)									
PA Fans: Volume flow rate (m3/s)	28.65	28.65	28.65	28.65	28.65	28.65	28.65	28.65	
PA Fans: RPM	1480	1480	1480	1480	1480	1480	1480	1480	
PA Fans: Fan Shaft Power (kW)									
PA Fans: No of fans/Mill	1	1	1	1	1	1	1	1	
PA Fans: No of fans/Boiler	5	5	5	5	5	5	5	5	
PA Fans: Impeller Diameter (mm)									
PA Fans: Aerofoil blades? (Y/N)	N	N	N	N	N	N	N	N	
PA Fans: Location (before/after air heater)	After	After	After	After	After	After	After	After	
PA Fans: Hot/Cold operation?	Hot	Hot	Hot	Hot	Hot	Hot	Hot	Hot	251.7 degree C
PA Fans: Cooling disc on shaft? (Y/N)	y	y	y	y	y	y	y	y	
PA Fans: Double/single inlet/stage	Single	Single	Single	Single	Single	Single	Single	Single	
PA Fans: Casing - centreline or Bottom supported?	Bottom	Bottom	Bottom	Bottom	Bottom	Bottom	Bottom	Bottom	
PA Fans: Shaft seal type - single/labyrinth, carbon/klingerite,	Klingerite	Klingerite	Klingerite	Klingerite	Klingerite	Klingerite	Klingerite	Klingerite	Aluminium
PA Fans: Type control (ILD, RVC, Fluid coupling) Single/double electric/hydraulic/pneumatic actuator	ILD / electric actuator	ILD / electric actuator	ILD / electric actuator	ILD / electric actuator	ILD / electric actuator	RVC / Hydraulic	RVC / electric actuator	ILD / electric actuator	Unit 6 uses lockhyd hydroulic system
PA Fans: RVC description, internal/external, annular/no annular plates	Internal / Annular	Internal / Annular	Internal / Annular	Internal / Annular	Internal / Annular	Annular	Annular	Internal / Annular	
PA Fans: Dorsal fins Y/N	N	N	N	N	N	N	N	N	
PA Fans: Bearing type (Roller Bearing/White Metal)	Roller bearing	Roller bearing	Roller bearing	Roller bearing	Roller bearing	Roller bearing	Roller bearing	Roller bearing	
PA Fans: Jacking oil pump Y/N	Y	Y	Y	Y	Y	Y	Y	Y	
PA Fans: Bearing Lubrication (oil bath, grease, forced Lubrication)	Oil bath	Oil bath	Oil bath	Oil bath	Oil bath	Oil bath	Oil bath	Oil bath	
PA Fans: Pump configuration, 2xelectric, 1electric+1 shaft driven, AC/DC motor, oil Rundown tanks?	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No Lub system
PA Fans: Bearing cooling type (oil/water/air)	Oil and Air	Oil and Air	Oil and Air	Oil and Air	Oil and Air	Oil and Air	Oil and Air	Oil and Air	
PA Fans: Coupling type (Fixed, fluid, holset, bibby, mutidisc, jolly)	Spring	Spring	Spring	Spring	Spring	Spring	Spring	Spring	
PA Fans: Vibration Monitoring? (Y/N)	Y	Y	Y	Y	Y	Y	Y	Y	
PA Fans: Wear liners on casing (Y/N)	Thickness Test	Thickness Test	Thickness Test	Thickness Test	Thickness Test	Thickness Test	Thickness Test	Thickness Test	
PA Fans: Wear liners on blades? (Y/N)	MPI and DPI	MPI and DPI	MPI and DPI	MPI and DPI	MPI and DPI	MPI and DPI	MPI and DPI	MPI and DPI	
PA Fans: Blade liner description/configuration, location,etc									
PA Fans motors: OEM/Model No	ALSTOM	AEI (ARMCOIL)	AEI (ARMCOIL)	AEI (ARMCOIL)	AEI (ARMCOIL)	AEI (ARMCOIL)	AEI (ARMCOIL)	AEI (ARMCOIL)	
PA Fans motors: Power (kW)	332	332.0	332.0	332.0	332.0	332.0	332	332	
PA Fans motors: Power (HP)	445.0	445	445	445	445	445	445	445.0	
PA Fans motors: Bearing type (Roller Bearing/White Metal)	Roller	Roller	Roller	Roller	Roller	Roller	Roller	Roller	
PA Fans motors: Bearing Lubrication (oil bath, grease, forced Lubrication)	grease	grease	grease	grease	grease	grease	grease	grease	
PA Fans motors: Bearing cooling type (oil/water/air)	air	air	air	air	air	air	air	air	
PA Fans motors: Vibration Monitoring?	Y	Y	Y	Y	Y	Y	Y	Y	Monthly vibration tests
FD Fans: OEM/Model No	Howden	Howden	Howden	Howden	Howden	Howden	Howden	Howden	
FD Fans: Type (Axial, Centrifugal)	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Type: Z6 Size 15.5
FD Fans: Static pressure rise (kPa)	3.62	3.62	3.62	3.62	3.62	3.62	3.62	3.62	
FD Fans: Volume flow rate (cu.ft/s)									

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FD Fans: Volume flow rate (m3/s)	166.4	166.4	166.4	166.4	166.4	166.4	166.4	166.4	
FD Fans: RPM	990	990	990	990	990	990	990	990	
FD Fans: Fan Shaft Power (kW)									
FD Fans: No of fans/Boiler	2	2	2	2	2	2	2	2	
FD Fans: Impeller Diameter (mm)									
FD Fans: Aerofoil blades? (Y/N)	Y	Y	Y	Y	Y	Y	Y	Y	
FD Fans: Double/single inlet/stage	Double	Double	Double	Double	Double	Double	Double	Double	
FD Fans: Casing - centreline or Bottom supported?	Bottom	Bottom	Bottom	Bottom	Bottom	Bottom	Bottom	Bottom	
FD Fans: Shaft seal type - single/labyrinth, carbon/klingerite,	klingerite	klingerite	klingerite	klingerite	klingerite	klingerite	klingerite	klingerite	
FD Fans: Type control (ILD, RVC, Fluid coupling) Single/double electric/hydraulic/pneumatic actuator	RVC	RVC	RVC	RVC	RVC	RVC	RVC	RVC	
FD Fans: RVC description, internal/external, annular/no annular plates	Internal / Annular	Internal / Annular	Internal / Annular	Internal / Annular	Internal / Annular	Internal / Annular	Internal / Annular	Internal / Annular	
FD Fans: Dorsal fins Y/N	N	N	N	N	N	N	N	N	
FD Fans: Bearing type (Roller Bearing/White Metal)	White metal	White metal	White metal	White metal	White metal	White metal	White metal	White metal	
FD Fans: Jacking oil pump Y/N									
FD Fans: Bearing Lubrication (oil bath, grease, forced Lubrication)	Oil	Oil	Oil	Oil	Oil	Oil	Oil	Oil	
FD Fans: Pump configuration, 2xelectric, 1electric+1 shaft driven, AC/DC motor, oil Rundown tanks?	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No lub oil system
FD Fans: Bearing cooling type (oil/water/air)	Water	Water	Water	Water	Water	Water	Water	Water	
FD Fans: Coupling type (Fixed, fluid, holset, bibby, mutidisc, jolly)	Spring	Spring	Spring	Spring	Spring	Spring	Spring	Spring	
FD Fans: Vibration Monitoring? (Y/N)	Y	Y	Y	Y	Y	Y	Y	Y	
FD Fans: Wear liners on casing (Y/N)	Y	Y	Y	Y	Y	Y	Y	Y	
FD Fans: Wear liners on blades? (Y/N)	Y	Y	Y	Y	Y	Y	Y	Y	
FD Fans: Blade liner description/configuration, location,etc									
FD Fans motors: OEM/Model No	AEI (ARMCOIL)	AEI (ARMCOIL)	AEI (ARMCOIL)	AEI (ARMCOIL)	AEI (ARMCOIL)	AEI (ARMCOIL)	AEI (ARMCOIL)	AEI (ARMCOIL)	
FD Fans motors: Power (kW)	858	858	858	858	858	858	858	858	
FD Fans motors: Power (HP)	1150.0	1150	1150	1150	1150	1150	1150	1150.0	
FD Fans motors: Bearing type (Roller Bearing/White Metal)	White metal	White metal	White metal	White metal	White metal	White metal	White metal	White metal	
FD Fans motors: Bearing Lubrication (oil bath, grease, forced Lubrication)	Oil bath	Oil bath	Oil bath	Oil bath	Oil bath	Oil bath	Oil bath	Oil bath	
FD Fans motors: Bearing cooling type (oil/water/air)	Air	Air	Air	Air	Air	Air	Air	Air	
FD Fans motors: Vibration Monitoring?	Y	Y	Y	Y	Y	Y	Y	Y	Monthly vibration tests
ID Fans: OEM/Model No	Howden	Howden	Howden	Howden	Howden	Howden	Howden	Howden	
ID Fans: Type (Axial, Centrifugal)	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	
ID Fans: Static pressure rise (kPa)	3.68	3.68	3.68	3.68	3.68	3.68	3.68	3.68	
ID Fans: Volume flow rate (cu.ft/s)									
ID Fans: Volume flow rate (m3/s)	234.8	234.8	234.8	234.8	234.8	234.8	234.8	234.8	
ID Fans: RPM	715	715	715	715	715	715	715	715	
ID Fans: Fan Shaft Power (kW)									
ID Fans: No of fans/Boiler	2	2	2	2	2	2	2	2	
ID Fans: Impeller Diameter (mm)									
ID Fans: Aerofoil blades? (Y/N)	Y	Y	Y	Y	Y	Y	Y	Y	
ID Fans: Double/single inlet/stage	Double	Double	Double	Double	Double	Double	Double	Double	
ID Fans: Casing - centreline or Bottom supported?	Bottom	Bottom	Bottom	Bottom	Bottom	Bottom	Bottom	Bottom	
ID Fans: Shaft seal type - single/labyrinth, carbon/klingerite,	klingerite	klingerite	klingerite	klingerite	klingerite	klingerite	klingerite	klingerite	
ID Fans: Type control (ILD, RVC, Fluid coupling) Single/double electric/hydraulic/pneumatic actuator	RVC	RVC	RVC	RVC	RVC	RVC	RVC	RVC	
ID Fans: RVC description, internal/external, annular/no annular plates									
ID Fans: Dorsal fins Y/N	y	y	y	y	y	y	y	y	
ID Fans: Bearing type (Roller Bearing/White Metal)	White metal	White metal	White metal	White metal	White metal	White metal	White metal	White metal	
ID Fans: Jacking oil pump Y/N									

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Camden Power Station

ID Fans: Bearing Lubrication (oil bath, grease, forced Lubrication)	Forced lubrication	Forced lubrication	Forced lubrication	Forced lubrication	Forced lubrication	Forced lubrication	Forced lubrication	Forced lubrication	corrected: ID fans with lub system
ID Fans: Pump configuration, 2xelectric, 1electric+1 shaft driven, AC/DC motor, oil Rundown tanks?									
ID Fans: Bearing cooling type (oil/water/air)	oil	oil	oil	oil	oil	oil	oil	oil	
ID Fans: Coupling type (Fixed, fluid, holset, bibby, mutidisc, jolly)	Mult	Mult	Mult	Mult	Mult	Mult	Mult	Mult	
ID Fans: Vibration Monitoring? (Y/N)	Y	Y	Y	Y	Y	Y	Y	Y	
ID Fans: Wear liners on casing (Y/N)	N	N	N	N	N	N	N	N	
ID Fans: Wear liners on blades? (Y/N)	Y	Y	Y	Y	Y	Y	Y	Y	
ID Fans: Blade liner description/configuration, location,etc									
ID Fans motors: OEM/Model No	ALSTOM	ALSTOM	ALSTOM	ALSTOM	ALSTOM	ALSTOM	ALSTOM	ALSTOM	
ID Fans motors: Power (kW)	1715.0	1715.0	1715.0	1715.0	1715.0	1715.0	1715	1715.0	
ID Fans motors: Power (HP)	2298.0	2298.0	2298.0	2298	2298	2298	2298	2298.0	
ID Fans motors: Bearing type (Roller Bearing/White Metal)	white metal	white metal	white metal	white metal	white metal	white metal	white metal	white metal	
ID Fans motors: Bearing Lubrication (oil bath, grease, forced Lubrication)	oil bath	oil bath	oil bath	oil bath	oil bath	oil bath	oil bath	oil bath	
ID Fans motors: Bearing cooling type (oil/water/air)	air	air	air	air	air	air	air	air	
ID Fans motors: Vibration Monitoring?	Y	Y	Y	Y	Y	Y	Y	Y	
Airheaters (Primary): OEM/Model No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Airheaters (Primary): Type (Rotary/Tubular)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Airheaters (Primary): Gas Inlet temp	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Airheaters (Primary): Gas Outlet Temp	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Airheaters (Primary): Air Inlet Temp	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Airheaters (Primary): Air outlet Temp	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Airheaters (Secondary): OEM/Model No	Howden	Howden	Howden	Howden	Howden	Howden	Howden	Howden	
Airheaters (Secondary): (Rothemuhle/Ljungstrom)	Ljungstrom	Ljungstrom	Ljungstrom	Ljungstrom	Ljungstrom	Ljungstrom	Ljungstrom	Ljungstrom	
Airheaters (Secondary): Type (rotating hood/matrix)	Matrix	Matrix	Matrix	Matrix	Matrix	Matrix	Matrix	Matrix	
Airheaters (Secondary): Include Primary Air? (Y/N)	N	N	N	N	N	N	N	N	
Airheaters (Secondary): Configuration single/twin/quad flow									
Airheaters (Secondary): Hot End seal Thermal compensators (Y/N)	Y	Y	Y	Y	Y	Y	Y	Y	Baffle seals - Currently not operational
Airheaters (Secondary): Cold end seal adjustment (Y/N)	Y	Y	Y	Y	Y	Y	Y	Y	manual adjustment during outages
Airheaters (Secondary): Hot End sector plate adjustment (Y/N) (electric/pneumatic/hydraulic)	N	N	N	N	N	N	N	N	Fixed sector plate - can be adjusted manually
Airheaters (Secondary): Cold End sector adjustment (Y/N)	N	N	N	N	N	N	N	N	Fixed sector plate - can be adjusted manually
Airheaters (Secondary): Shaft Orientation (Vertical/Horizontal)	Horizontal	Horizontal	Horizontal	Horizontal	Horizontal	Horizontal	Horizontal	Horizontal	
Airheaters (Secondary): Matrix Inner Radius :									
Airheaters (Secondary): Matrix Outer Radius :									
Airheaters (Secondary): Intermediate radius if twinflow :									
Airheaters (Secondary): Number of sectors									
Airheaters (Secondary): Number of element layers									
Airheaters (Secondary): Number of rings	6	6	6	6	6	6	6	6	
Airheaters (Secondary): Max Element total height:									
Airheaters (Secondary): No of Seal Frame articulation joints?	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Airheaters (Secondary): Rotor/hoods RPM:	Rotor / 1.3 rpm	Rotor / 1.3 rpm	Rotor / 1.3 rpm	Rotor / 1.3 rpm	Rotor / 1.3 rpm	Rotor / 1.3 rpm	Rotor / 1.3 rpm	Rotor / 1.3 rpm	
Airheaters (Secondary): Drive System details – eg pinrack (single/dual pinion)/ shaft drive	Shaft drive	Shaft drive	Shaft drive	Shaft drive	Shaft drive	Shaft drive	Shaft drive	Shaft drive	
Airheaters (Secondary): Gearbox type – eg size, manuf.	20 RHOD Radicon double reduction worm reducer	20 RHOD Radicon double reduction worm reducer	20 RHOD Radicon double reduction worm reducer	20 RHOD Radicon double reduction worm reducer	20 RHOD Radicon double reduction worm reducer	20 RHOD Radicon double reduction worm reducer	20 RHOD Radicon double reduction worm reducer	20 RHOD Radicon double reduction worm reducer	

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Draught Plant Technical Information

Camden Power Station

Airheaters (Secondary): Lubrication system type – eg grease/oil	Oil	Oil	Oil	Oil	Oil	Oil	Oil	Oil	
Airheaters (Secondary): Gas Inlet temp			319 degree C	319 degree C	319 degree C	319 degree C	319 degree C	319 degree C	Obtained from boiler C-schedule / original design infor
Airheaters (Secondary): Gas Outlet Temp	129 degree C	129 degree C	129 degree C	129 degree C	129 degree C	129 degree C	129 degree C	129 degree C	Obtained from boiler C-schedule / original design infor
Airheaters (Secondary): Air Inlet Temp	32.2 degree C	32.2 degree C	32.2 degree C	32.2 degree C	32.2 degree C	32.2 degree C	32.2 degree C	32.2 degree C	Obtained from boiler C-schedule / original design infor
Airheaters (Secondary): Air outlet Temp	246 degree C	246 degree C	246 degree C	246 degree C	246 degree C	246 degree C	246 degree C	246 degree C	Obtained from boiler C-schedule / original design infor
Airheaters (Secondary): Sootblower type (Fixed/Retractable, Reciprocating, spider)	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed	
Airheaters (Secondary): Sootblower valve type (Rotary Valve, single poppet, stop valve, etc)	Manifold isolating valve	Manifold isolating valve	Manifold isolating valve	Manifold isolating valve	Manifold isolating valve	Manifold isolating valve	Manifold isolating valve	Manifold isolating valve	
Airheaters (Secondary): Sootblow Frequency	once per shift	once per shift	once per shift	once per shift	once per shift	once per shift	once per shift	once per shift	
Airheaters (Secondary): Gas bypass installed?	Y	Y	Y	Y	Y	Y	Y	Y	
Airheaters (Secondary): Air bypass installed?	Y	Y	Y	Y	Y	Y	Y	Y	
Airheaters (Secondary): Hot air recirc installed?	Y	Y	Y	Y	Y	Y	Y	Y	
Airheaters (Secondary): Fire detection installed?	N	N	N	N	N	N	N	N	
Airheaters (Secondary): Fire extinguishing installed?	Y	Y	Y	Y	Y	Y	Y	Y	
Airheaters (Secondary): Fire fighting equipment - single column or nozzle matrix	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Project to install fire fighting equipment is under way
O2 Measurement: matrix upstream of A/H? (Y/N)	Y	Y	Y	Y	Y	Y	Y	Y	
O2 Measurement: matrix downstream of A/H? (Y/N)	N	N	N	N	N	N	N	N	

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Draught Plant Technical Information

Duvha Power Station

Unit No:	1	2	3	4	5	6	Comments
Boilers: OEM/Model No	Steinmuller	Steinmuller	Steinmuller	Steinmuller	Steinmuller	Steinmuller	
Boilers: Type (El Paso, Tower)	Tower	Tower	Tower	Tower	Tower	Tower	
Boilers: Wind box pressure Kpa	Sec -2.4, Primary - 12.5	Sec -2.4, Primary - 12.5	Sec -2.4, Primary - 12.5	Sec -2.4, Primary - 12.5	Sec -2.4, Primary - 12.5	Sec -2.4, Primary - 12.5	
Boilers: Boiler setpoint (press (negative Kpa)	0.2 - 0.3	0.2 - 0.3	0.2 - 0.3	0.2 - 0.3	0.2 - 0.3	0.2 - 0.3	
Gas Cleaning: Type (Precip/FFP)	FFP	FFP	FFP	Precip with SO3	Precip with SO3	Precip with SO3	
Mills: OEM/Model No	Babcork	Babcork	Babcork	Babcork	Lusche	Lusche	
Mills: Type (Tube, vertical spindle)	Baabcor vertical	Baabcor vertical	Baabcor vertical	Baabcor vertical	Roller mill	Roller mill	
Mills: No Mills/boiler	6	6	6	6	6	6	
Mills: Seal air fans? (Y/N)	N	N	N	N	y	y	
PA Fans: OEM/Model No	Airtec davison	Airtec davison	Airtec davison	Airtec davison	Airtec davison	Airtec davison	
PA Fans: Type (Axial, Centrifugal)	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	
PA Fans: Static pressure rise (kPa)	14.8	14.8	14.8	14.8	14.8	14.8	O&M Manual
PA Fans: Volume flow rate (cu.ft/s)							
PA Fans: Volume flow rate (m3/s)	94.3	94.3	94.3	94.3	94.3	94.3	O&M Manual
PA Fans: RPM	1480	1480	1480	1480	1480	1480	O&M Manual
PA Fans: Fan Shaft Power (kW)	1680	1680	1680	1680	1680	1680	O&M Manual
PA Fans: No of fans/Mill							
PA Fans: No of fans/Boiler	2	2	2	2	2	2	
PA Fans: Impeller Diameter (mm)	2320	2320	2320	2320	2320	2320	O&M Manual
PA Fans: Aerofoil blades? (Y/N)	Y	Y	Y	Y	Y	Y	
PA Fans: Location (before/after air heater)	Before	Before	Before	Before	Before	Before	
PA Fans: Hot/Cold operation?	Cold	Cold	Cold	Cold	Cold	Cold	
PA Fans: Cooling disc on shaft? (Y/N)							
PA Fans: Double/single inlet/stage	Single	Single	Single	Single	Single	Single	
PA Fans: Casing - centreline or Bottom supported?	bottom	bottom	bottom	bottom	bottom	bottom	
PA Fans: Shaft seal type - single/labyrinth, carbon/klingerite,	Klingerite	Klingerite	Klingerite	Klingerite	Klingerite	Klingerite	
PA Fans: Type control (ILD, RVC, Fluid coupling) Single/double electric/hydraulic/pneumatic actuator	RVC	RVC	RVC	RVC	RVC	RVC	
PA Fans: RVC description, internal/external, annular/no annular plates	External / Open	External / Open	External / Open	External / Open	External / Open	External / Open	
PA Fans: Dorsal fins Y/N	N	N	N	N	N	N	
PA Fans: Bearing type (Roller Bearing/White Metal)	White metal	White metal	White metal	White metal	White metal	White metal	
PA Fans: Jacking oil pump Y/N	N	N	N	N	N	N	
PA Fans: Bearing Lubrication (oil bath, grease, forced Lubrication)	Forced lubrication	Forced lubrication	Forced lubrication	Forced lubrication	Forced lubrication	Forced lubrication	
PA Fans: Pump configuration, 2xelectric, 1electric+1 shaft driven, AC/DC motor, oil Rundown tanks?	2xelectric with rudown tanks	2xelectric with rudown tanks	2xelectric with rudown tanks	2xelectric with rudown tanks	2xelectric with rudown tanks	2xelectric with rudown tanks	
PA Fans: Bearing cooling type (oil/water/air)	Oil cooled bearings/ Water cooler on lube tank	Oil cooled bearings/ Water cooler on lube tank	Oil cooled bearings/ Water cooler on lube tank	Oil cooled bearings/ Water cooler on lube tank	Oil cooled bearings/ Water cooler on lube tank	Oil cooled bearings/ Water cooler on lube tank	
PA Fans: Coupling type (Fixed, fluid, holset, bibby, mutidisc, jolly)	Bibby	Bibby	Bibby	Bibby	Bibby	Bibby	
PA Fans: Vibration Monitoring? (Y/N)	Y	Y	Y	Y	Y	Y	
PA Fans: Wear liners on casing (Y/N)	Y	Y	Y	Y	Y	Y	
PA Fans: Wear liners on blades? (Y/N)	Y. No deflector ring	Y. No deflector ring	Y. No deflector ring	Y. No deflector ring	Y. No deflector ring	Y. No deflector ring	
PA Fans: Blade liner description/configuration, location,etc	Nose liners (Prim + Secondary) only	Nose liners (Prim + Secondary) only	Nose liners (Prim + Secondary) only	Nose liners (Prim + Secondary) only	Nose liners (Prim + Secondary) only	Nose liners (Prim + Secondary) only	
PA Fans motors: OEM/Model No	GEC	GEC	GEC	Mitsubishi	Mitsubishi	Mitsubishi	
PA Fans motors: Power (kW)	2000	2000.0	2000.0	2000.0	2000.0	2000.0	
PA Fans motors: Power (HP)							

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Draught Plant Technical Information

Duvha Power Station

PA Fans motors: Bearing type (Roller Bearing/White Metal)	white metal	white metal	white metal	white metal	white metal	white metal	
PA Fans motors: Bearing Lubrication (oil bath, grease, forced Lubrication)	oil bath	oil bath	oil bath	oil bath	oil bath	oil bath	
PA Fans motors: Bearing cooling type (oil/water/air)	air	air	air	air	air	air	
PA Fans motors: Vibration Monitoring?	N	N	N	N	N	N	
FD Fans: OEM/Model No	Airtec davison	Airtec davison	Airtec davison	Airtec davison	Airtec davison	Airtec davison	
FD Fans: Type (Axial, Centrifugal)	Centrifigual	Centrifigual	Centrifigual	Centrifigual	Centrifigual	Centrifigual	
FD Fans: Static pressure rise (kPa)	6.8	6.8	6.8	6.8	6.8	6.8	O&M Manual
FD Fans: Volume flow rate (cu.ft/s)							
FD Fans: Volume flow rate (m3/s)	420	420	420	420	420	420	O&M Manual
FD Fans: RPM	740	740	740	740	740	740	O&M Manual
FD Fans: Fan Shaft Power (kW)	3310	3310	3310	3310	3310	3310	O&M Manual
FD Fans: No of fans/Boiler	2	2	2	2	2	2	
FD Fans: Impeller Diameter (mm)	3440	3440	3440	3440	3440	3440	O&M Manual
FD Fans: Aerofoil blades? (Y/N)	Y	y	y	y	y	y	
FD Fans: Double/single inlet/stage	Double	Double	Double	Double	Double	Double	
FD Fans: Casing - centreline or Bottom supported?	bottom	bottom	bottom	bottom	bottom	bottom	
FD Fans: Shaft seal type - single/labyrinth, carbon/klingerite,	Carbon	Carbon	Carbon	Carbon	Carbon	Carbon	
FD Fans: Type control (ILD, RVC, Fluid coupling) Single/double electric/hydraulic/pneumatic actuator	RVC	RVC	RVC	RVC	RVC	RVC	
FD Fans: RVC description, internal/external, annular/no annular plates	External / Open	External / Open	External / Open	External / Open	External / Open	External / Open	
FD Fans: Dorsal fins Y/N	Y	Y	Y	Y	Y	Y	
FD Fans: Bearing type (Roller Bearing/White Metal)	White metal	White metal	White metal	White metal	White metal	White metal	
FD Fans: Jacking oil pump Y/N	Y	Y	Y	Y	Y	Y	
FD Fans: Bearing Lubrication (oil bath, grease, forced Lubrication)	forced lubrication	forced lubrication	forced lubrication	forced lubrication	forced lubrication	forced lubrication	
FD Fans: Pump configuration, 2xelectric, 1electric+1 shaft driven, AC/DC motor, oil Rundown tanks?	2xelectric with rudown tanks	2xelectric with rudown tanks	2xelectric with rudown tanks	2xelectric with rudown tanks	2xelectric with rudown tanks	2xelectric with rudown tanks	
FD Fans: Bearing cooling type (oil/water/air)	Oil cooled bearings/ Water cooler on lube tank	Oil cooled bearings/ Water cooler on lube tank	Oil cooled bearings/ Water cooler on lube tank	Oil cooled bearings/ Water cooler on lube tank	Oil cooled bearings/ Water cooler on lube tank	Oil cooled bearings/ Water cooler on lube tank	
FD Fans: Coupling type (Fixed, fluid, holset, bibby, mutidisc, jolly)	Bibby	Bibby	Bibby	Bibby	Bibby	Bibby	
FD Fans: Vibration Monitoring? (Y/N)	Y	Y	Y	Y	Y	Y	
FD Fans: Wear liners on casing (Y/N)	N	N	N	N	N	N	
FD Fans: Wear liners on blades? (Y/N)	N	N	N	N	N	N	
FD Fans: Blade liner description/configuration, location,etc	N/A	N/A	N/A	N/A	N/A	N/A	
FD Fans motors: OEM/Model No	GEC/MITSUBISHI	GEC/MITSUBISHI	GEC/MITSUBISHI	GEC/MITSUBISHI	GEC/MITSUBISHI	GEC/MITSUBISHI	
FD Fans motors: Power (kW)	3600	3600	3600	3600	3600	3600	O&M Manual
FD Fans motors: Power (HP)							
FD Fans motors: Bearing type (Roller Bearing/White Metal)	White metal	White metal	White metal	White metal	White metal	White metal	
FD Fans motors: Bearing Lubrication (oil bath, grease, forced Lubrication)	Oil bath	Oil bath	Oil bath	Oil bath	Oil bath	Oil bath	
FD Fans motors: Bearing cooling type (oil/water/air)	air	air	air	air	air	air	
FD Fans motors: Vibration Monitoring?	N	N	N	N	N	N	
ID Fans: OEM/Model No	ABB	ABB	ABB	Airtec davison	Airtec davison	Airtec davison	

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Draught Plant Technical Information

Duvha Power Station

ID Fans: Type (Axial, Centrifugal)	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	
ID Fans: Static pressure rise (kPa)	5,7	5,7	5,7	4,56	4,56	4,56	Differnce due to FFP/Precip
ID Fans: Volume flow rate (cu.ft/s)							
ID Fans: Volume flow rate (m3/s)	649	649	649	595	595	595	O&M Manual
ID Fans: RPM	746,5	746,5	746,5	740	740	740	O&M Manual
ID Fans: Fan Shaft Power (kW)	4815	4815	4815	3280	3280	3280	O&M Manual
ID Fans: No of fans/Boiler	2	2	2	2	2	2	
ID Fans: Impeller Diameter (mm)	3760	3760	3760	3350	3350	3350	O&M Manual
ID Fans: Aerofoil blades? (Y/N)	Y	Y	Y	Y	Y	Y	
ID Fans: Double/single inlet/stage	Double	Double	Double	Double	Double	Double	
ID Fans: Casing - centreline or Bottom supported?	bottom	bottom	bottom	bottom	bottom	bottom	
ID Fans: Shaft seal type - single/labyrinth, carbon/klingerite,	Carbon	Carbon	Carbon	Carbon	Carbon	Carbon	
ID Fans: Type control (ILD, RVC, Fluid coupling) Single/double electric/hydraulic/pneumatic actuator	RVC	RVC	RVC	RVC	RVC	RVC	
ID Fans: RVC description, internal/external, annular/no annular plates	External / Open	External / Open	External / Open	External / Open	External / Open	External / Open	
ID Fans: Dorsal fins Y/N	Y	Y	Y	Y	Y	Y	
ID Fans: Bearing type (Roller Bearing/White Metal)	White metal	White metal	White metal	White metal	White metal	White metal	
ID Fans: Jacking oil pump Y/N	N	N	N	Y	Y	Y	
ID Fans: Bearing Lubrication (oil bath, grease, forced Lubrication)	Forced lubrication	Forced lubrication	Forced lubrication	Forced lubrication	Forced lubrication	Forced lubrication	
ID Fans: Pump configuration, 2xelectric, 1electric+1 shaft driven, AC/DC motor, oil Rundown tanks?	2xelectric	2xelectric	2xelectric	2xelectric with rudown tanks	2xelectric with rudown tanks	2xelectric with rudown tanks	
ID Fans: Bearing cooling type (oil/water/air)	Oil cooled bearings/ Water cooler on lube tank	Oil cooled bearings/ Water cooler on lube tank	Oil cooled bearings/ Water cooler on lube tank	Oil cooled bearings/ Water cooler on lube tank	Oil cooled bearings/ Water cooler on lube tank	Oil cooled bearings/ Water cooler on lube tank	
ID Fans: Coupling type (Fixed, fluid, holset, bibby, mutidisc, jolly)	Bibby	Bibby	Bibby	Bibby	Bibby	Bibby	
ID Fans: Vibration Monitoring? (Y/N)	Y	Y	Y	Y	Y	Y	
ID Fans: Wear liners on casing (Y/N)	Y	Y	Y	Y	Y	Y	
ID Fans: Wear liners on blades? (Y/N)	Y	Y	Y	Y	Y	Y	
ID Fans: Blade liner description/configuration, location,etc	Prim + Secondary Nose liners. Prim + Secondary walking stick liner, No Deflector Ring	Prim + Secondary Nose liners. Prim + Secondary walking stick liner, No Deflector Ring	Prim + Secondary Nose liners. Prim + Secondary walking stick liner, No Deflector Ring	Prim + Secondary Nose liners. Butt strap, Prim + Secondary walking stick liner, Deflector Ring	Prim + Secondary Nose liners. Butt strap, Prim + Secondary walking stick liner, Deflector Ring	Prim + Secondary Nose liners. Butt strap, Prim + Secondary walking stick liner, Deflector Ring	
ID Fans motors: OEM/Model No	abb	abb	abb	GEC/MITSUBISHI	GEC/MITSUBISHI	GEC/MITSUBISHI	
ID Fans motors: Power (kW)	5130.0	5130.0	5130.0	3600.0	3600.0	3600.0	O&M Manual
ID Fans motors: Power (HP)							
ID Fans motors: Bearing type (Roller Bearing/White Metal)	WHITE METAL	WHITE METAL	WHITE METAL	WHITE METAL	WHITE METAL	WHITE METAL	
ID Fans motors: Bearing Lubrication (oil bath, grease, forced Lubrication)	Oil bath for NDE Bearing/ Forced lubrication for DE	Oil bath for NDE Bearing/ Forced lubrication for DE	Oil bath for NDE Bearing/ Forced lubrication for DE	OIL BATH	oil bath	oil bath	
ID Fans motors: Bearing cooling type (oil/water/air)	NDE: Air cooled. DE: Oil cooled bearings/ Water cooler on lube tank	NDE: Air cooled. DE: Oil cooled bearings/ Water cooler on lube tank	NDE: Air cooled. DE: Oil cooled bearings/ Water cooler on lube tank	Air cooled	Air cooled	Air cooled	
ID Fans motors: Vibration Monitoring?	N	N	N	N	N	N	
Airheaters (Primary): OEM/Model No	See Secondary Air heater	See Secondary Air heater	See Secondary Air heater	See Secondary Air heater	See Secondary Air heater	See Secondary Air heater	

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Draught Plant Technical Information

Duvha Power Station

Airheaters (Primary): Type (Rotary/Tubular)	Rotary	Rotary	Rotary	Rotary	Rotary	Rotary	
Airheaters (Primary): Gas Inlet temp	343	343	343	343	343	343	O&M Manual
Airheaters (Primary): Gas Outlet Temp	125	125	125	125	125	125	O&M Manual
Airheaters (Primary): Air Inlet Temp	48	48	48	48	48	48	O&M Manual
Airheaters (Primary): Air outlet Temp	297	297	297	297	297	297	O&M Manual
Airheaters (Secondary): OEM/Model No	Airtec davison/Rothemule 13.2/6.23 [0.3(0.64+0.64+0.3)]	Airtec davison/Rothemule 13.2/6.23 [0.3(0.64+0.64+0.3)]	Airtec davison/Rothemule 13.2/6.23 [0.3(0.64+0.64+0.3)]	Airtec davison/Rothemule 13.2/6.23 [0.3(0.64+0.64+0.3)]	Airtec davison/Rothemule 13.2/6.23 [0.3(0.64+0.64+0.3)]	Airtec davison/Rothemule 13.2/6.23 [0.3(0.64+0.64+0.3)]	
Airheaters (Secondary): (Rothemuhle/Ljungstrom)	Rothemuhle	Rothemuhle	Rothemuhle	Rothemuhle	Rothemuhle	Rothemuhle	
Airheaters (Secondary): Type (rotating hood/matrix)	Rotating Hood	Rotating Hood	Rotating Hood	Rotating Hood	Rotating Hood	Rotating Hood	
Airheaters (Secondary): Include Primary Air? (Y/N)	Y	Y	Y	Y	Y	Y	
Airheaters (Secondary): Configuration single/twin/quad flow	Twinflow	Twinflow	Twinflow	Twinflow	Twinflow	Twinflow	
Airheaters (Secondary): Hot End seal Thermal compensators (Y/N)	Y	Y	Y	Y	Y	Y	
Airheaters (Secondary): Cold end seal adjustment (Y/N)	Y	Y	Y	Y	Y	Y	
Airheaters (Secondary): Hot End sector plate adjustment (Y/N) (electric/pneumatic/hydraulic)	N/A	N/A	N/A	N/A	N/A	N/A	
Airheaters (Secondary): Cold End sector adjustment (Y/N)	N/A	N/A	N/A	N/A	N/A	N/A	
Airheaters (Secondary): Shaft Orientation (Vertical/Horizontal)	Vertical	Vertical	Vertical	Vertical	Vertical	Vertical	
Airheaters (Secondary): Matrix Inner Radius :	1012	1012	1012	1012	1012	1012	Msekeli drawing of seal frame Z3401
Airheaters (Secondary): Matrix Outer Radius :	6.6	6.6	6.6	6.6	6.6	6.6	Msekeli drawing of seal frame Z3402
Airheaters (Secondary): Intermediate radius if twinflow : ring2/3	3033/3745	3033/3745	3033/3745	3033/3745	3033/3745	3033/3745	From drawing "Duvha assemply of new design hood"
Airheaters (Secondary): Number of sectors	64	64	64	64	64	64	
Airheaters (Secondary): Number of element layers	3	3	3	3	3	3	
Airheaters (Secondary): Number of rings	7	7	7	7	7	7	
Airheaters (Secondary): Max Element total height:	2300mm	2300mm	2300mm	2300mm	2300mm	2300mm	Msekeli general arrangement drawing
Airheaters (Secondary): No of Seal Frame articulation joints?	16 per A/H	16 per A/H	16 per A/H	16 per A/H	16 per A/H	16 per A/H	
Airheaters (Secondary): Rotor/hoods RPM:	0.78	0.78	0.78	0.78	0.78	0.78	O&M Manual
Airheaters (Secondary): Drive System details – eg pinrack (single/dual pinion)/ shaft drive	pinrack with single pinion	pinrack with single pinion	pinrack with single pinion	pinrack with single pinion	pinrack with single pinion	pinrack with single pinion	
Airheaters (Secondary): Gearbox type – eg size, manuf.	motor: 25hp gearbox input/output: 1460/12.17rpm. Triple reduction Helical.	motor: 25hp gearbox input/output: 1460/12.17rpm. Triple reduction Helical.	motor: 25hp gearbox input/output: 1460/12.17rpm. Triple reduction Helical.	motor: 25hp gearbox input/output: 1460/12.17rpm. Triple reduction Helical.	motor: 25hp gearbox input/output: 1460/12.17rpm. Triple reduction Helical.	motor: 25hp gearbox input/output: 1460/12.17rpm. Triple reduction Helical.	O&M Manual
Airheaters (Secondary): Lubrication system type – eg grease/oil	oil, One lube system for 2 air heaters	oil, One lube system for 2 air heaters	oil, One lube system for 2 air heaters	oil, One lube system for 2 air heaters	oil, One lube system for 2 air heaters	oil, One lube system for 2 air heaters	
Airheaters (Secondary): Gas Inlet temp	343	343	343	343	343	343	O&M Manual
Airheaters (Secondary): Gas Outlet Temp	125	125	125	125	125	125	O&M Manual
Airheaters (Secondary): Air Inlet Temp	43	43	43	43	43	43	O&M Manual
Airheaters (Secondary): Air outlet Temp	283	283	283	283	283	283	O&M Manual
Airheaters (Secondary): Sootblower type (Fixed/Retractable, Reciprocating, spider)	CE & HE: Reciprocating header	CE Rotary valve, fixed headers. HE Reciprocating header	CE & HE: Reciprocating header	CE & HE: Reciprocating header	CE & HE: Reciprocating header	CE & HE: Reciprocating header	

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Draught Plant Technical Information

Duvha Power Station

Airheaters (Secondary): Sootblower valve type (Rotary Valve, single poppet, stop valve, etc)	stop valve	CE Rotary valve, fixed headers. HE Stop Valve	stop valve	stop valve	stop valve	stop valve	
Airheaters (Secondary): Sootblow Frequency	Twice in 24hrs	Twice in 24hrs	Twice in 24hrs	Twice in 24hrs	Twice in 24hrs	Twice in 24hrs	
Airheaters (Secondary): Gas bypass installed?	N	N	N	N	N	N	
Airheaters (Secondary): Air bypass installed?	Y	Y	Y	Y	Y	Y	
Airheaters (Secondary): Hot air recirc installed?	Y	Y	Y	Y	Y	Y	
Airheaters (Secondary): Fire detection installed?	Y	Y	Y	Y	Y	Y	
Airheaters (Secondary): Fire extinguishing installed?	Y	Y	Y	Y	Y	Y	
Airheaters (Secondary): Fire fighting equipment - single column or nozzle matrix	Nozzle matrix in primary and secondary air & Gas streams	Nozzle matrix in primary and secondary air & Gas streams	Nozzle matrix in primary and secondary air & Gas streams	Nozzle matrix in primary and secondary air & Gas streams	Nozzle matrix in primary and secondary air & Gas streams		
O2 Measurement: matrix upstream of A/H? (Y/N)	Y, 2 single measuring points per air heater	Y, 2 single measuring points per air heater	Y, 2 single measuring points per air heater	Y, 2 single measuring points per air heater	Y, 2 single measuring points per air heater	Y, 2 single measuring points per air heater	
O2 Measurement: matrix downstream of A/H? (Y/N)	N	N	N	N	N	N	

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Hendrina Power Station

Unit No:	1	2	3	4	5	6	7	8	9	10	
Boilers: OEM/Model No	Babcock	Babcock	Babcock	Babcock	Babcock	Steinmuller	Steinmuller	Steinmuller	Steinmuller	Steinmuller	
Boilers: Type (El Paso, Tower)	Tower	El paso	El paso	El paso	El paso	Tower	Tower	Tower	Tower	Tower	
Boilers: Wind box pressure Kpa						N/A	N/A	N/A	N/A	N/A	
Boilers: Boiler setpoint (press (negative Kpa)	1	1	1	1	1	1	1	1	1	1	
Gas Cleaning: Type (Precip/FFP)	FFP	FFP	FFP	FFP	FFP	FFP	FFP	FFP	FFP	FFP	
Mills: OEM/Model No	Babcock & Wilcox E-type	Babcock & Wilcox E-type	Babcock & Wilcox E-type	Babcock & Wilcox E-type	Babcock & Wilcox E-type	Babcock & Wilcox E-type	Babcock & Wilcox E-type	Steinmuller	Steinmuller	Steinmuller	
Mills: Type (Tube, vertical spindle)	Ball mill	Ball mill	Ball mill	Ball mill	Ball mill	Ball mill	Ball mill	Vertical spindle	Vertical spindle	Vertical spindle	
Mills: No Mills/boiler	6	6	6	6	6	6	6	6	6	6	
Mills: Seal air fans? (Y/N)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
PA Fans: OEM/Model No	Howden/L1 11250	Howden/L1 11250	Howden/L1 11250	Howden/L1 11250	Howden/L1 11250	Howden/L1 2072	Howden/L1 2072	Howden/L1 2007.00.06	Howden/L1 2007.00.06	Howden/L1 2007.00.06	
PA Fans: Type (Axial, Centrifugal)	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	
PA Fans: Static pressure rise (kPa)	10	10	10	10	10	10.6	10.6	7.3	7.3	7.3	
PA Fans: Volume flow rate (cu.ft/s)	706.2933243	706.2933243	706.2933243	706.2933243	706.2933243	755.733857	755.733857	767.7408435	767.7408435	767.7408435	
PA Fans: Volume flow rate (m3/s)	20	20	20	20	20	21.4	21.4	21.74	21.74	21.74	
PA Fans: RPM	1380	1380	1380	1380	1380	1444.8	1444.8	1470	1470	1470	
PA Fans: Fan Shaft Power (kW)	195	195	195	195	195	270	270	200	200	200	
PA Fans: No of fans/Mill	1	1	1	1	1	1	1	1	1	1	
PA Fans: No of fans/Boiler	6	6	6	6	6	6	6	6	6	6	
PA Fans: Impeller Diameter (mm)	2305	2305	2305	2305	2305						
PA Fans: Aerofoil blades? (Y/N)	N	N	N	N	N	N	N	N	N	N	
PA Fans: Location (before/after air heater)	After AH	After AH	After AH	After AH	After AH	After AH	After AH	After AH	After AH	After AH	
PA Fans: Hot/Cold operation?	Hot	Hot	Hot	Hot	Hot	Hot	Hot	Hot	Hot	Hot	
PA Fans: Cooling disc on shaft? (Y/N)											
PA Fans: Double/single inlet/stage	Single inlet	Single inlet	Single inlet	Single inlet	Single inlet	Single inlet	Single inlet	Single inlet	Single inlet	Single inlet	
PA Fans: Casing - centreline or Bottom supported?	Bottom supported	Bottom supported	Bottom supported	Bottom supported	Bottom supported	Bottom supported	Bottom supported	Bottom supported	Bottom supported	Bottom supported	
PA Fans: Shaft seal type - single/labyrinth, carbon/klingerite,	Labyrinth & Square Packing	Labyrinth & Square Packing	Labyrinth & Square Packing	Labyrinth & Square Packing	Labyrinth & Square Packing	Dust cover	Dust cover	Labyrinth & Square Packing	Labyrinth & Square Packing	Labyrinth & Square Packing	
PA Fans: Type control (ILD, RVC, Fluid coupling) Single/double electric/hydraulic/pneumatic actuator	ILD	ILD	ILD	ILD	ILD	ILD	ILD	ILD	ILD	ILD	
PA Fans: RVC description, internal/external, annular/no annular plates	No RVC only ILD	No RVC only ILD	No RVC only ILD	No RVC only ILD	No RVC only ILD	No RVC only ILD	No RVC only ILD	No RVC only ILD	No RVC only ILD	No RVC only ILD	
PA Fans: Dorsal fins Y/N	N	N	N	N	N	N	N	N	N	N	
PA Fans: Bearing type (Roller Bearing/White Metal)	White Metal	White Metal	White Metal	White Metal	White Metal	Roller Brg	Roller Brg	White Metal	White Metal	White Metal	
PA Fans: Jacking oil pump Y/N	N	N	N	N	N	N/A	N/A	N	N	N	
PA Fans: Bearing Lubrication (oil bath, grease, forced Lubrication)	Forced Lube	Forced Lube	Forced Lube	Forced Lube	Forced Lube	N/A	N/A	Forced Lube	Forced Lube	Forced Lube	
PA Fans: Pump configuration, 2xelectric, 1electric+1 shaft driven, AC/DC motor, oil Rundown tanks?	1 Electric & 1 Shaft driven	1 Electric & 1 Shaft driven	1 Electric & 1 Shaft driven	1 Electric & 1 Shaft driven	1 Electric & 1 Shaft driven	N/A	N/A	1 Electric & 1 Shaft driven	1 Electric & 1 Shaft driven	1 Electric & 1 Shaft driven	
PA Fans: Bearing cooling type (oil/water/air)	oil	oil	oil	oil	oil	Air	Air	oil	oil	oil	
PA Fans: Coupling type (Fixed, fluid, holset, bibby, mutidisc, jolly)	Fluid (Jolly) & Multi-disc	Fluid (Jolly) & Multi-disc	Fluid (Jolly) & Multi-disc	Fluid (Jolly) & Multi-disc	Fluid (Jolly) & Multi-disc	Fluid (Jolly) & Multi-disc	Fluid (Jolly) & Multi-disc	Fixed (Multi-disc)	Fixed (Multi-disc)	Fixed (Multi-disc)	
PA Fans: Vibration Monitoring? (Y/N)	N	N	N	N	N	N	N	N	N	N	
PA Fans: Wear liners on casing (Y/N)	N	N	N	N	N	N	N	N	N	N	
PA Fans: Wear liners on blades? (Y/N)	N	N	N	N	N	N	N	N	N	N	
PA Fans: Blade liner description/configuration, location,etc	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
PA Fans motors: OEM/Model No	First electric Corp.	First electric Corp.	First electric Corp.	First electric Corp.	First electric Corp.	Siemens IRQ 5/432/4/33A	Siemens IRQ 5/432/4/33A	Alstom (1LA1 352 4P)	Alstom (1LA1 352 4P)	Alstom (1LA1 352 4P)	
PA Fans motors: Power (kW)	271	271.0	271.0	271.0	271.0	350.0	350.0	225.0	225.0	225.0	
PA Fans motors: Power (HP)	363.4	363.41642	363.41642	363.41642	363.41642	469.357	469.357	301.7295	301.7295	301.7295	
PA Fans motors: Bearing type (Roller Bearing/White Metal)	White Metal	White Metal	White Metal	White Metal	White Metal	White Metal	White Metal	White Metal	White Metal	White Metal	
PA Fans motors: Bearing Lubrication (oil bath, grease, forced Lubrication)	Oil bath	Oil bath	Oil bath	Oil bath	Oil bath	Oil bath	Oil bath	Oil bath	Oil bath	Oil bath	
PA Fans motors: Bearing cooling type (oil/water/air)	Air	Air	Air	Air	Air	Air	Air	Air	Air	Air	
PA Fans motors: Vibration Monitoring?	N	N	N	N	N	N	N	N	N	N	
FD Fans: OEM/Model No	Howden/Z6 14751	Howden/Z6 14751	Howden/Z6 14751	Howden/Z6 14751	Howden/Z6 14751	Howden/ Z6/N2 16250	Howden/ Z6/N2 16250	Howden/ Z6/N2 16250	Howden/ Z6/N2 16250	Howden/ Z6/N2 16250	
FD Fans: Type (Axial, Centrifugal)	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	
FD Fans: Static pressure rise (kPa)	3.05	3.05	3.05	3.05	3.05	5.04	5.04	5.04	5.04	5.04	
FD Fans: Volume flow rate (cu.ft/s)	5226.570599	5226.570599	5226.570599	5226.570599	5226.570599	5509.087929	5509.087929	5509.087929	5509.087929	5509.087929	
FD Fans: Volume flow rate (m3/s)	148	148	148	148	148	156	156	156	156	156	
FD Fans: RPM	990	990	990	990	990	972	972	972	972	972	
FD Fans: Fan Shaft Power (kW)						950	950	950	950	950	
FD Fans: No of fans/Boiler	2	2	2	2	2	2	2	2	2	2	
FD Fans: Impeller Diameter (mm)											
FD Fans: Aerofoil blades? (Y/N)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
FD Fans: Double/single inlet/stage	Double inlet	Double inlet	Double inlet	Double inlet	Double inlet	Double inlet	Double inlet	Double inlet	Double inlet	Double inlet	
FD Fans: Casing - centreline or Bottom supported?	Bottom supported	Bottom supported	Bottom supported	Bottom supported	Bottom supported	Bottom supported	Bottom supported	Bottom supported	Bottom supported	Bottom supported	

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Hendrina Power Station

FD Fans: Shaft seal type - single/labyrinth, carbon/klingerite,	Labyrinth & Square Packing	Labyrinth & Square Packing	Labyrinth & Square Packing	Labyrinth & Square Packing	Labyrinth & Square Packing	Labyrinth & Square Packing	Labyrinth & Square Packing	Labyrinth & Square Packing	Labyrinth & Square Packing	Labyrinth & Square Packing	
FD Fans: Type control (ILD, RVC, Fluid coupling) Single/double electric/hydraulic/pneumatic actuator	RVC	RVC	RVC	RVC	RVC	RVC	RVC	RVC	RVC	RVC	
FD Fans: RVC description, internal/external, annular/no annular plates	Internal	Internal	Internal	Internal	Internal	Internal	Internal	Internal	Internal	Internal	
FD Fans: Dorsal fins Y/N	N	N	N	N	N	N	N	N	N	N	
FD Fans: Bearing type (Roller Bearing/White Metal)	White Metal	White Metal	White Metal	White Metal	White Metal	White Metal	White Metal	White Metal	White Metal	White Metal	
FD Fans: Jacking oil pump Y/N	N	N	N	N	N	N	N	N	N	N	
FD Fans: Bearing Lubrication (oil bath, grease, forced Lubrication)	Oil Bath	Oil Bath	Oil Bath	Oil Bath	Oil Bath	Oil Bath	Oil Bath	Oil Bath	Oil Bath	Oil Bath	
FD Fans: Pump configuration, 2xelectric, 1electric+1 shaft driven, AC/DC motor, oil Rundown tanks?	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
FD Fans: Bearing cooling type (oil/water/air)	Water circ	Water circ	Water circ	Water circ	Water circ	Water circ	Water circ	Water circ	Water circ	Water circ	
FD Fans: Coupling type (Fixed, fluid, holset, bibby, mutidisc, jolly)	Fixed (Bibby Grid)	Fixed (Bibby Grid)	Fixed (Bibby Grid)	Fixed (Bibby Grid)	Fixed (Bibby Grid)	Fixed (Bibby Grid)	Fixed (Bibby Grid)	Fixed (Bibby Grid)	Fixed (Bibby Grid)	Fixed (Bibby Grid)	
FD Fans: Vibration Monitoring? (Y/N)	N	N	N	N	N	N	N	N	N	N	
FD Fans: Wear liners on casing (Y/N)	N	N	N	N	N	N	N	N	N	N	
FD Fans: Wear liners on blades? (Y/N)	N	N	N	N	N	N	N	N	N	N	
FD Fans: Blade liner description/configuration, location,etc	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
FD Fans motors: OEM/Model No	C.A Parsons & Co. Ltd	First electric Corp.	First electric Corp.	First electric Corp.	First electric Corp.	Hawker Siddeley Brush Ltd	Hawker Siddeley Brush Ltd	Hawker Siddeley Brush Ltd	Hawker Siddeley Brush Ltd	Hawker Siddeley Brush Ltd	
FD Fans motors: Power (kW)	634	636	636	636	636	1063	1063	1063	1063	1063	
FD Fans motors: Power (HP)	850.2	852.88872	852.88872	852.88872	852.88872	1425.50426	1425.50426	1425.50426	1425.50426	1425.50426	
FD Fans motors: Bearing type (Roller Bearing/White Metal)	White Metal	White Metal	White Metal	White Metal	White Metal	White Metal	White Metal	White Metal	White Metal	White Metal	
FD Fans motors: Bearing Lubrication (oil bath, grease, forced Lubrication)	Oil Bath	Oil Bath	Oil Bath	Oil Bath	Oil Bath	Oil Bath	Oil Bath	Oil Bath	Oil Bath	Oil Bath	
FD Fans motors: Bearing cooling type (oil/water/air)	Air	Air	Air	Air	Air	Air	Air	Air	Air	Air	
FD Fans motors: Vibration Monitoring?	N	N	N	N	N	N	N	N	N	N	
ID Fans: OEM/Model No	Howden/Z6 17752	Howden/M3 18752	Howden/M3 18752	Howden/M3 18752	Howden/M3 18752	Howden/RT90 2911.02.00	Howden/RT90 2911.02.00	Howden/RT90 2911.02.00	Howden/RT90 2911.02.00	Howden/RT90 2911.02.00	
ID Fans: Type (Axial, Centrifugal)	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	
ID Fans: Static pressure rise (kPa)	3	3.9	3.9	3.9	3.9	4.335	4.335	4.335	4.335	4.335	
ID Fans: Volume flow rate (cu.ft/s)	7910.485232	7839.855899	7839.855899	7839.855899	7839.855899	3948.179683	3948.179683	3948.179683	3948.179683	3948.179683	
ID Fans: Volume flow rate (m3/s)	224	222	222	222	222	111.8	111.8	111.8	111.8	111.8	
ID Fans: RPM	702	720	720	720	720	592.2	592.2	592.2	592.2	592.2	
ID Fans: Fan Shaft Power (kW)	760	1090	1090	1090	1090	620	620	620	620	620	
ID Fans: No of fans/Boiler	2	2	2	2	2	2	2	2	2	2	
ID Fans: Impeller Diameter (mm)											
ID Fans: Aerofoil blades? (Y/N)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
ID Fans: Double/single inlet/stage	Double inlet	Double inlet	Double inlet	Double inlet	Double inlet	Double inlet	Double inlet	Double inlet	Double inlet	Double inlet	
ID Fans: Casing - centreline or Bottom supported?	Bottom supported	Bottom supported	Bottom supported	Bottom supported	Bottom supported	Bottom supported	Bottom supported	Bottom supported	Bottom supported	Bottom supported	
ID Fans: Shaft seal type - single/labyrinth, carbon/klingerite,	Labyrinth & Square Packing	Labyrinth & Square Packing	Labyrinth & Square Packing	Labyrinth & Square Packing	Labyrinth & Square Packing	Labyrinth & Square Packing	Labyrinth & Square Packing	Labyrinth & Square Packing	Labyrinth & Square Packing	Labyrinth & Square Packing	
ID Fans: Type control (ILD, RVC, Fluid coupling) Single/double electric/hydraulic/pneumatic actuator	RVC	RVC	RVC	RVC	RVC	RVC	RVC	RVC	RVC	RVC	
ID Fans: RVC description, internal/external, annular/no annular plates	Internal	Internal	Internal	Internal	Internal	Internal	Internal	Internal	Internal	Internal	
ID Fans: Dorsal fins Y/N	N	N	N	N	N	N	N	N	N	N	
ID Fans: Bearing type (Roller Bearing/White Metal)	White Metal	White Metal	White Metal	White Metal	White Metal	White Metal	White Metal	White Metal	White Metal	White Metal	
ID Fans: Jacking oil pump Y/N	N	N	N	N	N	N	N	N	N	N	
ID Fans: Bearing Lubrication (oil bath, grease, forced Lubrication)	Forced Lube	Forced Lube	Forced Lube	Forced Lube	Forced Lube	Forced Lube	Forced Lube	Forced Lube	Forced Lube	Forced Lube	
ID Fans: Pump configuration, 2xelectric, 1electric+1 shaft driven, AC/DC motor, oil Rundown tanks?	1 Electric & 1 Shaft driven	1 Electric & 1 Shaft driven	1 Electric & 1 Shaft driven	1 Electric & 1 Shaft driven	1 Electric & 1 Shaft driven	1 Electric & 1 Shaft driven	1 Electric & 1 Shaft driven	1 Electric & 1 Shaft driven	1 Electric & 1 Shaft driven	1 Electric & 1 Shaft driven	
ID Fans: Bearing cooling type (oil/water/air)	oil	oil	oil	oil	oil	oil	oil	oil	oil	oil	
ID Fans: Coupling type (Fixed, fluid, holset, bibby, mutidisc, jolly)	Fixed (Multi-disc)	Fixed (Multi-disc)	Fixed (Multi-disc)	Fixed (Multi-disc)	Fixed (Multi-disc)	Fixed (Multi-disc)	Fixed (Multi-disc)	Fixed (Multi-disc)	Fixed (Multi-disc)	Fixed (Multi-disc)	
ID Fans: Vibration Monitoring? (Y/N)	N	N	N	N	N	N	N	N	N	N	
ID Fans: Wear liners on casing (Y/N)	N	N	N	N	N	N	N	N	N	N	
ID Fans: Wear liners on blades? (Y/N)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
ID Fans: Blade liner description/configuration, location,etc	1 Nose liner & 1 Butt-strap	1 Nose liner & 1 Butt-strap	1 Nose liner & 1 Butt-strap	1 Nose liner & 1 Butt-strap	1 Nose liner & 1 Butt-strap	1 Nose liner & 1 Butt-strap	1 Nose liner & 1 Butt-strap	1 Nose liner & 1 Butt-strap	1 Nose liner & 1 Butt-strap	1 Nose liner & 1 Butt-strap	
ID Fans motors: OEM/Model No	C.A Parsons & Co. Ltd	First electric Corp.	First electric Corp.	First electric Corp.	First electric Corp.	Siemens (CSX 8349/01)	Siemens (CSX 8349/01)	Siemens (CSX 8349/01)	Siemens (CSX 8349/01)	Siemens (CSX 8349/01)	
ID Fans motors: Power (kW)	858.0	1129.0	1129.0	1129.0	1129.0	750.0	750.0	750.0	750.0	750.0	
ID Fans motors: Power (HP)	1150.6	1514.0	1514.0	1514.0	1514.0	1005.8	1005.8	1005.8	1005.8	1005.8	

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ID Fans motors: Bearing type (Roller Bearing/White Metal)	White Metal	White Metal	White Metal	White Metal	White Metal	White Metal	White Metal	White Metal	White Metal	White Metal	
ID Fans motors: Bearing Lubrication (oil bath, grease, forced Lubrication)	Oil Bath/Oil Ring	Oil Bath/Oil Ring	Oil Bath/Oil Ring	Oil Bath/Oil Ring	Oil Bath/Oil Ring	Oil Bath/Oil Ring	Oil Bath/Oil Ring	Oil Bath/Oil Ring	Oil Bath/Oil Ring	Oil Bath/Oil Ring	
ID Fans motors: Bearing cooling type (oil/water/air)	Water circ	Air	Air	Air	Air	Air	Air	Air	Air	Air	
ID Fans motors: Vibration Monitoring?	N	N	N	N	N	N	N	N	N	N	
Airheaters (Primary): OEM/Model No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Airheaters (Primary): Type (Rotary/Tubular)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Airheaters (Primary): Gas Inlet temp	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Airheaters (Primary): Gas Outlet Temp	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Airheaters (Primary): Air Inlet Temp	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Airheaters (Primary): Air outlet Temp	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Airheaters (Secondary): OEM/Model No	Howden/XZW26 (Modified VN)	Howden/XZW26 (Modified VN)	Howden/XZW26 (Modified VN)	Howden/XZW26 (Modified VN)	Howden/XZW26 (Modified VN)	Howden/VU	Howden/VU	Howden/VU	Howden/VU	Howden/VU	
Airheaters (Secondary): (Rothemuhle/Ljungstrom)	Ljungstrom	Ljungstrom	Ljungstrom	Ljungstrom	Ljungstrom	Rothemuhle	Rothemuhle	Rothemuhle	Rothemuhle	Rothemuhle	
Airheaters (Secondary): Type (rotating hood/matrix)	Rotating packs/Matrix	Rotating packs/Matrix	Rotating packs/Matrix	Rotating packs/Matrix	Rotating packs/Matrix	Rotating hood	Rotating hood	Rotating hood	Rotating hood	Rotating hood	
Airheaters (Secondary): Include Primary Air? (Y/N)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
Airheaters (Secondary): Configuration single/twin/quad flow	Single flow	Single flow	Single flow	Single flow	Single flow	Single flow	Single flow	Single flow	Single flow	Single flow	
Airheaters (Secondary): Hot End seal Thermal compensators (Y/N)	N/A	N/A	N/A	N/A	N/A	N	N	N	N	N	
Airheaters (Secondary): Cold end seal adjustment (Y/N)	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	
Airheaters (Secondary): Hot End sector plate adjustment (Y/N) (electric/pneumatic/hydraulic)	N	N	N	N	N	N/A	N/A	N/A	N/A	N/A	
Airheaters (Secondary): Cold End sector adjustment (Y/N)	N	N	N	N	N	N/A	N/A	N/A	N/A	N/A	
Airheaters (Secondary): Shaft Orientation (Vertical/Horizontal)	Vertical	Vertical	Vertical	Vertical	Vertical	Vertical	Vertical	Vertical	Vertical	Vertical	
Airheaters (Secondary): Matrix Inner Radius :											
Airheaters (Secondary): Matrix Outer Radius :											
Airheaters (Secondary): Intermediate radius if twinflow :	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Airheaters (Secondary): Number of sectors											
Airheaters (Secondary): Number of element layers	2	2	2	2	2	2	2	2	2	2	
Airheaters (Secondary): Number of rings											
Airheaters (Secondary): Max Element total height:	1406 mm	1406 mm	1406 mm	1406 mm	1406 mm	1225 mm	1225 mm	1225 mm	1225 mm	1225 mm	
Airheaters (Secondary): No of Seal Frame articulation joints?	N/A	N/A	N/A	N/A	N/A	8	8	8	8	8	
Airheaters (Secondary): Rotor/hoods RPM:	1.75	1.75	1.75	1.75	1.75	0.81	0.81	0.81	0.81	0.81	
Airheaters (Secondary): Drive System details – eg pinrack (single/dual pinion)/ shaft drive	Shaft drive	Shaft drive	Shaft drive	Shaft drive	Shaft drive	Pinrack (single pinion)	Pinrack (single pinion)	Pinrack (single pinion)	Pinrack (single pinion)	Pinrack (single pinion)	
Airheaters (Secondary): Gearbox type – eg size, manuf.	David Brown Radicon Double reduction worm Gearbox Model: DDV14	David Brown Radicon Double reduction worm Gearbox Model: DDV14	David Brown Radicon Double reduction worm Gearbox Model: DDV14	David Brown Radicon Double reduction worm Gearbox Model: DDV14	David Brown Radicon Double reduction worm Gearbox Model: DDV14	AEI Triple reduction Ratio 980:7.528	AEI Triple reduction Ratio 980:7.528	AEI Triple reduction Ratio 980:7.528	AEI Triple reduction Ratio 980:7.528	AEI Triple reduction Ratio 980:7.528	
Airheaters (Secondary): Lubrication system type – eg grease/oil	Top bearing: Lube oil Bottom bearing: Grease with CW water cooling	Top bearing: Lube oil Bottom bearing: Grease with CW water cooling	Top bearing: Lube oil Bottom bearing: Grease with CW water cooling	Top bearing: Lube oil Bottom bearing: Grease with CW water cooling	Top bearing: Lube oil Bottom bearing: Grease with CW water cooling	Lube oil	Ratio 980:7.528	Ratio 980:7.528	Ratio 980:7.528	Ratio 980:7.528	
Airheaters (Secondary): Gas Inlet temp	310	310	310	310	310	313	313	313	313	313	
Airheaters (Secondary): Gas Outlet Temp	129.1	129.1	129.1	129.1	129.1	129	129	129	129	129	
Airheaters (Secondary): Air Inlet Temp	28	28	28	28	28	38	38	38	38	38	
Airheaters (Secondary): Air outlet Temp	257	257	257	257	257	264.4	264.4	264.4	264.4	264.4	
Airheaters (Secondary): Sootblower type (Fixed/Retractable, Reciprocating, spider)	Fixed	Fixed	Fixed	Fixed	Fixed	Spur weel	Spur weel	Spur weel	Spur weel	Spur weel	
Airheaters (Secondary): Sootblower valve type (Rotary Valve, single poppet, stop valve, etc)	Electic actuating valve	Electic actuating valve	Electic actuating valve	Electic actuating valve	Electic actuating valve	Electic actuating valve	Electic actuating valve	Electic actuating valve	Electic actuating valve	Electic actuating valve	
Airheaters (Secondary): Sootblow Frequency	Once a shift (12 Hours)	Once a shift (12 Hours)	Once a shift (12 Hours)	Once a shift (12 Hours)	Once a shift (12 Hours)	Once a shift (12 Hours)	Once a shift (12 Hours)	Once a shift (12 Hours)	Once a shift (12 Hours)	Once a shift (12 Hours)	
Airheaters (Secondary): Gas bypass installed?	N	N	N	N	N	N	N	N	N	N	
Airheaters (Secondary): Air bypass installed?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
Airheaters (Secondary): Hot air recirc installed?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
Airheaters (Secondary): Fire detection installed?	N	N	N	N	N	N	N	N	N	N	
Airheaters (Secondary): Fire extinguishing installed?	N	N	N	N	N	N	N	N	N	N	

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Airheaters (Secondary): Fire fighting equipment - single column or nozzle matrix	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
O2 Measurement: matrix upstream of A/H? (Y/N)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
O2 Measurement: matrix downstream of A/H? (Y/N)	N	N	N	N	N	N	N	N	N	N	

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Eskom Generation

Draught Plant Technical Information

Kendal Power Station

Unit No:	1	2	3	4	5	6	Comments
Boilers: OEM/Model No							
Boilers: Type (El Paso, Tower)							
Boilers: Wind box pressure Kpa							
Boilers: Boiler setpoint (press (negative Kpa)							
Gas Cleaning: Type (Precip/FFP)							
Mills: OEM/Model No							
Mills: Type (Tube, vertical spindle)							
Mills: No Mills/boiler							
Mills: Seal air fans? (Y/N)							
PA Fans: OEM/Model No							
PA Fans: Type (Axial, Centrifugal)							
PA Fans: Static pressure rise (kPa)							
PA Fans: Volume flow rate (cu.ft/s)							
PA Fans: Volume flow rate (m3/s)							
PA Fans: RPM							
PA Fans: Fan Shaft Power (kW)							
PA Fans: No of fans/Mill							
PA Fans: No of fans/Boiler							
PA Fans: Impeller Diameter (mm)							
PA Fans: Aerofoil blades? (Y/N)							
PA Fans: Location (before/after air heater)							
PA Fans: Hot/Cold operation?							
PA Fans: Cooling disc on shaft? (Y/N)							
PA Fans: Double/single inlet/stage							
PA Fans: Casing - centreline or Bottom supported?							
PA Fans: Shaft seal type - single/labyrinth, carbon/klingerite,							
PA Fans: Type control (ILD, RVC, Fluid coupling) Single/double electric/hydraulic/pneumatic actuator							
PA Fans: RVC description, internal/external, annular/no annular plates							
PA Fans: Dorsal fins Y/N							
PA Fans: Bearing type (Roller Bearing/White Metal)							
PA Fans: Jacking oil pump Y/N							
PA Fans: Bearing Lubrication (oil bath, grease, forced Lubrication)							
PA Fans: Pump configuration, 2xelectric, 1electric+1 shaft driven, AC/DC motor, oil Rundown tanks?							
PA Fans: Bearing cooling type (oil/water/air)							
PA Fans: Coupling type (Fixed, fluid, holset, bibby, mutidisc, jolly)							
PA Fans: Vibration Monitoring? (Y/N)							
PA Fans: Wear liners on casing (Y/N)							
PA Fans: Wear liners on blades? (Y/N)							
PA Fans: Blade liner description/configuration, location,etc							
PA Fans motors: OEM/Model No							
PA Fans motors: Power (kW)							
PA Fans motors: Power (HP)							
PA Fans motors: Bearing type (Roller Bearing/White Metal)							

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PA Fans motors: Bearing Lubrication (oil bath, grease, forced Lubrication)							
PA Fans motors: Bearing cooling type (oil/water/air)							
PA Fans motors: Vibration Monitoring?							
FD Fans: OEM/Model No							
FD Fans: Type (Axial, Centrifugal)							
FD Fans: Static pressure rise (kPa)							
FD Fans: Volume flow rate (cu.ft/s)							
FD Fans: Volume flow rate (m3/s)							
FD Fans: RPM							
FD Fans: Fan Shaft Power (kW)							
FD Fans: No of fans/Boiler							
FD Fans: Impeller Diameter (mm)							
FD Fans: Aerofoil blades? (Y/N)							
FD Fans: Double/single inlet/stage							
FD Fans: Casing - centreline or Bottom supported?							
FD Fans: Shaft seal type - single/labyrinth, carbon/klingerite,							
FD Fans: Type control (ILD, RVC, Fluid coupling) Single/double electric/hydraulic/pneumatic actuator							
FD Fans: RVC description, internal/external, annular/no annular plates							
FD Fans: Dorsal fins Y/N							
FD Fans: Bearing type (Roller Bearing/White Metal)							
FD Fans: Jacking oil pump Y/N							
FD Fans: Bearing Lubrication (oil bath, grease, forced Lubrication)							
FD Fans: Pump configuration, 2xelectric, 1electric+1 shaft driven, AC/DC motor, oil Rundown tanks?							
FD Fans: Bearing cooling type (oil/water/air)							
FD Fans: Coupling type (Fixed, fluid, holset, bibby, mutidisc, jolly)							
FD Fans: Vibration Monitoring? (Y/N)							
FD Fans: Wear liners on casing (Y/N)							
FD Fans: Wear liners on blades? (Y/N)							
FD Fans: Blade liner description/configuration, location,etc							
FD Fans motors: OEM/Model No							
FD Fans motors: Power (kW)							
FD Fans motors: Power (HP)							
FD Fans motors: Bearing type (Roller Bearing/White Metal)							
FD Fans motors: Bearing Lubrication (oil bath, grease, forced Lubrication)							
FD Fans motors: Bearing cooling type (oil/water/air)							
FD Fans motors: Vibration Monitoring?							
ID Fans: OEM/Model No							
ID Fans: Type (Axial, Centrifugal)							
ID Fans: Static pressure rise (kPa)							
ID Fans: Volume flow rate (cu.ft/s)							
ID Fans: Volume flow rate (m3/s)							

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ID Fans: RPM							
ID Fans: Fan Shaft Power (kW)							
ID Fans: No of fans/Boiler							
ID Fans: Impeller Diameter (mm)							
ID Fans: Aerofoil blades? (Y/N)							
ID Fans: Double/single inlet/stage							
ID Fans: Casing - centreline or Bottom supported?							
ID Fans: Shaft seal type - single/labyrinth, carbon/klingerite,							
ID Fans: Type control (ILD, RVC, Fluid coupling) Single/double electric/hydraulic/pneumatic actuator							
ID Fans: RVC description, internal/external, annular/no annular plates							
ID Fans: Dorsal fins Y/N							
ID Fans: Bearing type (Roller Bearing/White Metal)							
ID Fans: Jacking oil pump Y/N							
ID Fans: Bearing Lubrication (oil bath, grease, forced Lubrication)							
ID Fans: Pump configuration, 2xelectric, 1electric+1 shaft driven, AC/DC motor, oil Rundown tanks?							
ID Fans: Bearing cooling type (oil/water/air)							
ID Fans: Coupling type (Fixed, fluid, holset, bibby, mutidisc, jolly)							
ID Fans: Vibration Monitoring? (Y/N)							
ID Fans: Wear liners on casing (Y/N)							
ID Fans: Wear liners on blades? (Y/N)							
ID Fans: Blade liner description/configuration, location,etc							
ID Fans motors: OEM/Model No							
ID Fans motors: Power (kW)							
ID Fans motors: Power (HP)							
ID Fans motors: Bearing type (Roller Bearing/White Metal)							
ID Fans motors: Bearing Lubrication (oil bath, grease, forced Lubrication)							
ID Fans motors: Bearing cooling type (oil/water/air)							
ID Fans motors: Vibration Monitoring?							
Airheaters (Primary): OEM/Model No							
Airheaters (Primary): Type (Rotary/Tubular)							
Airheaters (Primary): Gas Inlet temp							
Airheaters (Primary): Gas Outlet Temp							
Airheaters (Primary): Air Inlet Temp							
Airheaters (Primary): Air outlet Temp							
Airheaters (Secondary): OEM/Model No							
Airheaters (Secondary): (Rothemuhle/Ljungstrom)							
Airheaters (Secondary): Type (rotating hood/matrix)							
Airheaters (Secondary): Include Primary Air? (Y/N)							
Airheaters (Secondary): Configuration single/twin/quad flow							

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Airheaters (Secondary): Hot End seal Thermal compensators (Y/N)							
Airheaters (Secondary): Cold end seal adjustment (Y/N)							
Airheaters (Secondary): Hot End sector plate adjustment (Y/N) (electric/pneumatic/hydraulic)							
Airheaters (Secondary): Cold End sector adjustment (Y/N)							
Airheaters (Secondary): Shaft Orientation (Vertical/Horizontal)							
Airheaters (Secondary): Matrix Inner Radius :							
Airheaters (Secondary): Matrix Outer Radius :							
Airheaters (Secondary): Intermediate radius if twinflow :							
Airheaters (Secondary): Number of sectors							
Airheaters (Secondary): Number of element layers							
Airheaters (Secondary): Number of rings							
Airheaters (Secondary): Max Element total height:							
Airheaters (Secondary): No of Seal Frame articulation joints?							
Airheaters (Secondary): Rotor/hoods RPM:							
Airheaters (Secondary): Drive System details – eg pinrack (single/dual pinion)/ shaft drive							
Airheaters (Secondary): Gearbox type – eg size, manuf.							
Airheaters (Secondary): Lubrication system type – eg grease/oil							
Airheaters (Secondary): Gas Inlet temp							
Airheaters (Secondary): Gas Outlet Temp							
Airheaters (Secondary): Air Inlet Temp							
Airheaters (Secondary): Air outlet Temp							
Airheaters (Secondary): Sootblower type (Fixed/Retractable, Reciprocating, spider)							
Airheaters (Secondary): Sootblower valve type (Rotary Valve, single poppet, stop valve, etc)							
Airheaters (Secondary): Sootblow Frequency							
Airheaters (Secondary): Gas bypass installed?							
Airheaters (Secondary): Air bypass installed?							
Airheaters (Secondary): Hot air recirc installed?							
Airheaters (Secondary): Fire detection installed?							
Airheaters (Secondary): Fire extinguishing installed?							
Airheaters (Secondary): Fire fighting equipment - single column or nozzle matrix							
O2 Measurement: matrix upstream of A/H? (Y/N)							
O2 Measurement: matrix downstream of A/H? (Y/N)							

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Eskom Generation

Draught Plant Technical Information

Komati Power Station

Unit No:	1	2	3	4	5	6	7	8	9	Comments
Boilers: OEM/Model No	Babcock 100MW	Babcock 100MW	Babcock 100MW	Mitchell 100MW	Mitchell 100MW	Mitchell 125MW	Mitchell 125MW	Mitchell 125MW	Mitchell 125MW	
Boilers: Type (El Paso, Tower)	El Paso	El Paso	El Paso	El Paso	El Paso	El Paso	El Paso	El Paso	El Paso	
Boilers: Wind box pressure Kpa	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	
Boilers: Boiler setpoint (press (negative Kpa)	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	DCS
Gas Cleaning: Type (Precip/FFP)	Precip with SO3	Precip with SO3	Precip with SO3	Precip with SO3	Precip with SO3	Precip with SO3	Precip with SO3	Precip with SO3	Precip with SO3	
Mills: OEM/Model No	Babcock 8,5E	Babcock 8,5E	Babcock 8,5E	Mitchell	Mitchell	Mitchell	Mitchell	Babcock 8,5E	Babcock 8,5E	
Mills: Type (Tube, vertical spindle)	Vertical spindle	Vertical spindle	Vertical spindle	Tube	Tube	Tube	Tube	Vertical spindle	Vertical spindle	
Mills: No Mills/boiler	3	3	3	3	3	3	3	3	3	
Mills: Seal air fans? (Y/N)	Y	Y	Y	Y	Y	Y	Y	Y	Y	roller brg - greased
PA Fans: OEM/Model No	Howden (L1S 2140.06.88	Howden (L1S 2140.06.88	Howden (L1S 2140.06.88	Howden (L1 1796.00.14)	Howden (L1 1796.00.14)	Howden (L1 2074.96.16)	Howden (L1 2074.96.16)	Howden (L1S 2140.06.90	Howden (L1S 2140.06.90	ops & maint manuals
PA Fans: Type (Axial, Centrifugal)	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	
PA Fans: Static pressure rise (kPa)	9.061	9.061	9.061	4.18	4.18	6.3821	6.3821	9.061	9.061	ops & maint manuals
PA Fans: Volume flow rate (cu.ft/s)	-	-	-	-	-	-	-	-	-	
PA Fans: Volume flow rate (m3/s)	21.7	21.7	21.7	21.6	21.6	25	25	21.7	21.7	ops & maint manuals
PA Fans: RPM	1470	1470	1470	1489	1489	1480	1480	1470	1470	Fan curve
PA Fans: Fan Shaft Power (kW)	260	260	260	150	150	210	210	260	260	Fan curve
PA Fans: No of fans/Mill	1	1	1	1	1	1	1	1	1	
PA Fans: No of fans/Boiler	3	3	3	3	3	3	3	3	3	
PA Fans: Impeller Diameter (mm)	2292.5	2292.5	2292.5	1836	1836	2000	2000	2292.5	2292.5	Drawing
PA Fans: Aerofoil blades? (Y/N)	N	N	N	N	N	N	N	N	N	
PA Fans: Location (before/after air heater)	After	After	After	After	After	After	After	After	After	
PA Fans: Hot/Cold operation?	Hot	Hot	Hot	Hot	Hot	Hot	Hot	Hot	Hot	
PA Fans: Cooling disc on shaft? (Y/N)	Y	Y	Y	Y	Y	Y	Y	Y	Y	
PA Fans: Double/single inlet/stage	Single	Single	Single	Single	Single	Single	Single	Single	Single	
PA Fans: Casing - centreline or Bottom supported?	Bottom	Bottom	Bottom	Bottom	Bottom	Bottom	Bottom	Bottom	Bottom	
PA Fans: Shaft seal type - single/labyrinth, carbon/klingerite,	Labyrinth Klingerite	Labyrinth Klingerite	Labyrinth Klingerite	Labyrinth Klingerite	Labyrinth Klingerite	Labyrinth Klingerite	Labyrinth Klingerite	Labyrinth Klingerite	Labyrinth Klingerite	
PA Fans: Type control (ILD, RVC, Fluid coupling) Single/double electric/hydraulic/pneumatic actuator	Single electrically actuated discharge damper	Single electrically actuated discharge damper	Single electrically actuated discharge damper	Single electrically actuated discharge damper	Single electrically actuated discharge damper	Single electrically actuated discharge damper	Single electrically actuated discharge damper	Single electrically actuated discharge damper	Single electrically actuated discharge damper	
PA Fans: RVC description, internal/external, annular/no annular plates	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
PA Fans: Dorsal fins Y/N	N	N	N	N	N	N	N	N	N	
PA Fans: Bearing type (Roller Bearing/White Metal)	Roller	Roller	Roller	Roller	Roller	Roller	Roller	Roller	Roller	
PA Fans: Jacking oil pump Y/N	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
PA Fans: Bearing Lubrication (oil bath, grease, forced Lubrication)	oil bath	oil bath	oil bath	Grease	Grease	Grease	Grease	oil bath	oil bath	
PA Fans: Pump configuration, 2xelectric, 1electric+1 shaft driven, AC/DC motor, oil Rundown tanks?	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
PA Fans: Bearing cooling type (oil/water/air)	air	air	air	air	air	air	air	air	air	
PA Fans: Coupling type (Fixed, fluid, holset, bibby, mutidisc, jolly)	Wellman Bibby 2100H	Wellman Bibby 2100H	Wellman Bibby 2100H	Wellman Bibby 2100H	Wellman Bibby 2100H	Wellman Bibby 2100H	Wellman Bibby 2100H	Wellman Bibby 2100H	Wellman Bibby 2100H	
PA Fans: Vibration Monitoring? (Y/N)	N	N	N	N	N	N	N	N	N	
PA Fans: Wear liners on casing (Y/N)	Y	Y	Y	Y	Y	Y	Y	Y	Y	
PA Fans: Wear liners on blades? (Y/N)	Y	Y	Y	Y	Y	Y	Y	Y	Y	
PA Fans: Blade liner description/configuration, location,etc	Nose liners only	Nose liners only	Nose liners only	Nose liners only	Nose liners only	Nose liners only	Nose liners only	Nose liners only	Nose liners only	
PA Fans motors: OEM/Model No	AEI	AEI	AEI	AEI	AEI	AEI	AEI	AEI	AEI	
PA Fans motors: Power (kW)	313	313.0	313.0	207.0	207.0	231.0	231.0	354.0	354.0	
PA Fans motors: Power (HP)	-	-	-	-	-	-	-	-	-	
PA Fans motors: Bearing type (Roller Bearing/White Metal)	Roller	Roller	Roller	Roller	Roller	Roller	Roller	Roller	Roller	
PA Fans motors: Bearing Lubrication (oil bath, grease, forced Lubrication)	Grease	Grease	Grease	Grease	Grease	Grease	Grease	Grease	Grease	
PA Fans motors: Bearing cooling type (oil/water/air)	Air	Air	Air	Air	Air	Air	Air	Air	Air	
PA Fans motors: Vibration Monitoring?	N	N	N	N	N	N	N	N	N	
FD Fans: OEM/Model No	Howden Z2 165	Howden Z2 165	Howden Z2 165	Howden Z2 165	Howden Z2 165	Howden Z5 172	Howden Z5 172	Howden Z5 172	Howden Z5 172	ops & maint manuals
FD Fans: Type (Axial, Centrifugal)	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	
FD Fans: Static pressure rise (kPa)	2.865	2.865	2.865	2.865	2.865	2.94	2.94	2.94	2.94	ops & maint manuals
FD Fans: Volume flow rate (cu.ft/s)	-	-	-	-	-	-	-	-	-	
FD Fans: Volume flow rate (m3/s)	82.11	82.11	82.11	82.11	82.11	96.16	96.16	96.16	96.16	
FD Fans: RPM	730	730	730	730	730	740	740	740	740	
FD Fans: Fan Shaft Power (kW)	328	328	328	328	328	328	328	328	328	
FD Fans: No of fans/Boiler	2	2	2	2	2	2	2	2	2	
FD Fans: Impeller Diameter (mm)	2260	2260	2260	2260	2260	2260	2260	2260	2260	
FD Fans: Aerofoil blades? (Y/N)	Y	Y	Y	Y	Y	Y	Y	Y	Y	
FD Fans: Double/single inlet/stage	Single	Single	Single	Single	Single	Single	Single	Single	Single	

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Eskom Generation

Draught Plant Technical Information

Komati Power Station

FD Fans: Casing - centreline or Bottom supported?	Bottom	Bottom	Bottom	Bottom	Bottom	Bottom	Bottom	Bottom	Bottom	
FD Fans: Shaft seal type - single/labyrinth, carbon/klingerite,	Labyringh Klingerite	Labyringh Klingerite	Labyringh Klingerite	Labyringh Klingerite	Labyringh Klingerite	Labyringh Klingerite	Labyringh Klingerite	Labyringh Klingerite	Labyringh Klingerite	
FD Fans: Type control (ILD, RVC, Fluid coupling) Single/double electric/hydraulic/pneumatic actuator	RVC	RVC	RVC	RVC	RVC	RVC	RVC	RVC	RVC	
FD Fans: RVC description, internal/external, annular/no annular plates	internal annular plates	internal annular plates	internal annular plates	internal annular plates	internal annular plates	internal annular plates	internal annular plates	internal annular plates	internal annular plates	
FD Fans: Dorsal fins Y/N	N	N	N	N	N	N	N	N	N	
FD Fans: Bearing type (Roller Bearing/White Metal)	White metal	White metal	White metal	White metal	White metal	White metal	White metal	White metal	White metal	
FD Fans: Jacking oil pump Y/N	N	N	N	N	N	N	N	N	N	
FD Fans: Bearing Lubrication (oil bath, grease, forced Lubrication)	Oil bath	Oil bath	Oil bath	Oil bath	Oil bath	Oil bath	Oil bath	Oil bath	Oil bath	ring - external cooling, cooling water to bearing shell
FD Fans: Pump configuration, 2xelectric, 1electric+1 shaft driven, AC/DC motor, oil Rundown tanks?	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
FD Fans: Bearing cooling type (oil/water/air)	water	water	water	water	water	water	water	water	water	
FD Fans: Coupling type (Fixed, fluid, holset, bibby, mutidisc, jolly)	Wellman Bibby STH 2130	Wellman Bibby STH 2131	Wellman Bibby STH 2132	Wellman Bibby STH 2133	Wellman Bibby STH 2134	Wellman Bibby STH 2135	Wellman Bibby STH 2136	Wellman Bibby STH 2137	Wellman Bibby STH 2138	
FD Fans: Vibration Monitoring? (Y/N)	N	N	N	N	N	N	N	N	N	
FD Fans: Wear liners on casing (Y/N)	N	N	N	N	N	N	N	N	N	
FD Fans: Wear liners on blades? (Y/N)	N	N	N	N	N	N	N	N	N	
FD Fans: Blade liner description/configuration, location,etc	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
FD Fans motors: OEM/Model No	AEI	AEI	AEI	AEI	AEI	AEI	AEI	AEI	AEI	
FD Fans motors: Power (kW)	319	319	319	319	319	380	380	380	380	
FD Fans motors: Power (HP)	-	-	-	-	-	-	-	-	-	
FD Fans motors: Bearing type (Roller Bearing/White Metal)	White metal	White metal	White metal	White metal	White metal	White metal	White metal	White metal	White metal	
FD Fans motors: Bearing Lubrication (oil bath, grease, forced Lubrication)	Oil bath	Oil bath	Oil bath	Oil bath	Oil bath	Oil bath	Oil bath	Oil bath	Oil bath	ring lube. No cooling
FD Fans motors: Bearing cooling type (oil/water/air)	Air	Air	Air	Air	Air	Air	Air	Air	Air	
FD Fans motors: Vibration Monitoring?	N	N	N	N	N	N	N	N	N	
ID Fans: OEM/Model No	Howden L3N 2456.10.20	Howden L3N 2456.10.20	Howden L3N 2456.10.20	Howden MP1 2010.08.99	Howden MP1 2010.08.99	RT80 2595.00.00	RT80 2595.00.00	RT80 2595.00.00	RT80 2595.00.00	ops & maint manuals
ID Fans: Type (Axial, Centrifugal)	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	
ID Fans: Static pressure rise (kPa)	4.312	4.312	4.312	4.312	4.312	3.89	3.89	3.89	3.89	ops & maint manuals
ID Fans: Volume flow rate (cu.ft/s)	-	-	-	-	-	-	-	-	-	
ID Fans: Volume flow rate (m3/s)	123.6	123.6	123.6	123.6	123.6	161	161	161	161	ops & maint manuals
ID Fans: RPM	720	720	720	955	955	718	718	718	718	ops & maint manuals
ID Fans: Fan Shaft Power (kW)	620	620	620	650	650	570	570	570	570	Fan curve
ID Fans: No of fans/Boiler	2	2	2	2	2	2	2	2	2	
ID Fans: Impeller Diameter (mm)	2626	2626	2626	2742	2742	2626	2626	2626	2626	Drawing
ID Fans: Aerofoil blades? (Y/N)	Y	Y	Y	Y	Y	Y	Y	Y	Y	
ID Fans: Double/single inlet/stage	Double inlet	Double inlet	Double inlet	Double inlet	Double inlet	Double inlet	Double inlet	Double inlet	Double inlet	ops & maint manuals
ID Fans: Casing - centreline or Bottom supported?	Bottom	Bottom	Bottom	Bottom	Bottom	Bottom	Bottom	Bottom	Bottom	
ID Fans: Shaft seal type - single/labyrinth, carbon/klingerite,	Labyringh Klingerite	Labyringh Klingerite	Labyringh Klingerite	Labyringh Klingerite	Labyringh Klingerite	Labyringh Klingerite	Labyringh Klingerite	Labyringh Klingerite	Labyringh Klingerite	ops & maint manuals
ID Fans: Type control (ILD, RVC, Fluid coupling) Single/double electric/hydraulic/pneumatic actuator	Fluid Coupling electrically actuated	Fluid Coupling electrically actuated	Fluid Coupling electrically actuated	Fluid Coupling electrically actuated	Fluid Coupling electrically actuated	Fluid Coupling electrically actuated	Fluid Coupling electrically actuated	Fluid Coupling electrically actuated	Fluid Coupling electrically actuated	
ID Fans: RVC description, internal/external, annular/no annular plates	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
ID Fans: Dorsal fins Y/N	N	N	N	N	N	N	N	N	N	
ID Fans: Bearing type (Roller Bearing/White Metal)	White metal	White metal	White metal	White metal	White metal	White metal	White metal	White metal	White metal	
ID Fans: Jacking oil pump Y/N	N	N	N	N	N	N	N	N	N	
ID Fans: Bearing Lubrication (oil bath, grease, forced Lubrication)	oil bath	oil bath	oil bath	oil bath	oil bath	oil bath	oil bath	oil bath	oil bath	cooling water jacket
ID Fans: Pump configuration, 2xelectric, 1electric+1 shaft driven, AC/DC motor, oil Rundown tanks?	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
ID Fans: Bearing cooling type (oil/water/air)	water	water	water	water	water	water	water	water	water	
ID Fans: Coupling type (Fixed, fluid, holset, bibby, mutidisc, jolly)	Fluid Coupling	Fluid Coupling	Fluid Coupling	Fluid Coupling	Fluid Coupling	Fluid Coupling	Fluid Coupling	Fluid Coupling	Fluid Coupling	
ID Fans: Vibration Monitoring? (Y/N)	N	N	N	N	N	N	N	N	N	
ID Fans: Wear liners on casing (Y/N)	N	N	N	N	N	N	N	N	N	
ID Fans: Wear liners on blades? (Y/N)	Y	Y	Y	Y	Y	Y	Y	Y	Y	

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Komati Power Station

ID Fans: Blade liner description/configuration, location,etc	Nose liners and blade liners	Nose liners and blade liners	Nose liners and blade liners	Nose liners and blade liners	Nose liners and blade liners	Nose liners and blade liners	Nose liners and blade liners	Nose liners and blade liners	Nose liners and blade liners	
ID Fans motors: OEM/Model No	AEI	AEI	AEI	AEI	AEI	AEI	AEI	Actom	AEI	
ID Fans motors: Power (kW)	880.0	880.0	880.0	783.0	783.0	961.0	961.0	961.0	961.0	ops & maint manuals
ID Fans motors: Power (HP)	-	-	-	-	-	-	-	-	-	
ID Fans motors: Bearing type (Roller Bearing/White Metal)	White metal	White metal	White metal	Roller	Roller	White metal	White metal	White metal	White metal	
ID Fans motors: Bearing Lubrication (oil bath, grease, forced Lubrication)	oil bath	oil bath	oil bath	Grease	Grease	oil bath	oil bath	oil bath	oil bath	
ID Fans motors: Bearing cooling type (oil/water/air)	Air	Air	Air	Air	Air	Air	Air	Air	Air	
ID Fans motors: Vibration Monitoring?	N	N	N	N	N	N	N	N	N	
Airheaters (Primary): OEM/Model No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Airheaters (Primary): Type (Rotary/Tubular)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Airheaters (Primary): Gas Inlet temp	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Airheaters (Primary): Gas Outlet Temp	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Airheaters (Primary): Air Inlet Temp	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Airheaters (Primary): Air outlet Temp	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Airheaters (Secondary): OEM/Model No	Howden XZW 24.5	Howden XZW 24.5	Howden XZW 24.5	Howden XZW 24.5	Howden XZW 24.5	Howden XZW 24.5	Howden XZW 24.5	Howden XZW 24.5	Howden XZW 24.5	
Airheaters (Secondary): (Rothemuhle/Ljungstrom)	Ljungstrom	Ljungstrom	Ljungstrom	Ljungstrom	Ljungstrom	Ljungstrom	Ljungstrom	Ljungstrom	Ljungstrom	
Airheaters (Secondary): Type (rotating hood/matrix)	Regenerative	Regenerative	Regenerative	Regenerative	Regenerative	Regenerative	Regenerative	Regenerative	Regenerative	
Airheaters (Secondary): Include Primary Air? (Y/N)	Y	Y	Y	Y	Y	Y	Y	Y	Y	
Airheaters (Secondary): Configuration single/twin/quad flow	Single	Single	Single	Single	Single	Single	Single	Single	Single	
Airheaters (Secondary): Hot End seal Thermal compensators (Y/N)	N	N	N	N	N	N	N	N	N	
Airheaters (Secondary): Cold end seal adjustment (Y/N)	N	N	N	N	N	N	N	N	N	
Airheaters (Secondary): Hot End sector plate adjustment (Y/N) (electric/pneumatic/hydraulic)	N	N	N	N	N	N	N	N	N	
Airheaters (Secondary): Cold End sector adjustment (Y/N)	N	N	N	N	N	N	N	N	N	
Airheaters (Secondary): Shaft Orientation (Vertical/Horizontal)	Vertical	Vertical	Vertical	Vertical	Vertical	Vertical	Vertical	Vertical	Vertical	
Airheaters (Secondary): Matrix Inner Radius :										
Airheaters (Secondary): Matrix Outer Radius :	6045 mm	6045 mm	6045 mm	6045 mm	6045 mm	6045 mm	6045 mm	6045 mm	6045 mm	
Airheaters (Secondary): Intermediate radius if twinflow :	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Airheaters (Secondary): Number of sectors	14	14	14	14	14	14	14	14	14	
Airheaters (Secondary): Number of element layers	2	2	2	2	2	3	3	3	3	
Airheaters (Secondary): Number of rings	4	4	4	4	4	4	4	4	4	
Airheaters (Secondary): Max Element total height:	1067 mm	1067 mm	1067 mm	1067 mm	1067 mm	1067 mm	1067 mm	1067 mm	1067 mm	
Airheaters (Secondary): No of Seal Frame articulation joints?	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	top brg, circulating oil, no cooling
Airheaters (Secondary): Rotor/hoods RPM:	2	2	2	2	2	2	2	2	2	
Airheaters (Secondary): Drive System details – eg pinrack (single/dual pinion)/ shaft drive	shaft drive	shaft drive	shaft drive	shaft drive	shaft drive	shaft drive	shaft drive	shaft drive	shaft drive	
Airheaters (Secondary): Gearbox type – eg size, manuf.	90V, ratio 950-6	90V, ratio 950-7	90V, ratio 950-8	90V, ratio 950-9	90V, ratio 950-10	90V, ratio 950-11	90V, ratio 950-12	90V, ratio 950-13	90V, ratio 950-14	
Airheaters (Secondary): Lubrication system type – eg grease/oil	Oil	Oil	Oil	Oil	Oil	Oil	Oil	Oil	Oil	
Airheaters (Secondary): Gas Inlet temp (deg C)	304	304	304	279	279	306	306	299	299	C-Schedule
Airheaters (Secondary): Gas Outlet Temp (deg C)	132.2	132.2	132.2	132.2	132.2	132.2	132.2	132.2	132.2	ops & maint manuals
Airheaters (Secondary): Air Inlet Temp (deg C)	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	ops & maint manuals
Airheaters (Secondary): Air outlet Temp (deg C)	244	244	244	213	213	242	242	237	237	C-Schedule
Airheaters (Secondary): Sootblower type (Fixed/Retractable, Reciprocating, spider)	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed	
Airheaters (Secondary): Sootblower valve type (Rotary Valve, single poppet, stop valve, etc)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Airheaters (Secondary): Sootblow Frequency	1ce/12 hrs	1ce/12 hrs	1ce/12 hrs	1ce/12 hrs	1ce/12 hrs	1ce/12 hrs	1ce/12 hrs	1ce/12 hrs	1ce/12 hrs	
Airheaters (Secondary): Gas bypass installed?	N	N	N	N	N	N	N	N	N	bottom = guide brg, greased, with ext water cooling into jacket.
Airheaters (Secondary): Air bypass installed?	Y	Y	Y	Y	Y	Y	Y	Y	Y	

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Airheaters (Secondary): Hot air recirc installed?	Y	Y	Y	Y	Y	Y	Y	Y	Y	
Airheaters (Secondary): Fire detection installed?	Y	Y	Y	Y	Y	Y	Y	Y	Y	
Airheaters (Secondary): Fire extinguishing installed?	Y	Y	Y	Y	Y	Y	Y	Y	Y	
Airheaters (Secondary): Fire fighting equipment - single column or nozzle matrix	Nozzle matrix	Nozzle matrix	Nozzle matrix	Nozzle matrix	Nozzle matrix	Nozzle matrix	Nozzle matrix	Nozzle matrix	Nozzle matrix	
O2 Measurement: matrix upstream of A/H? (Y/N)	Y	Y	Y	Y	Y	Y	Y	Y	Y	U6-9 - 4x3 U4-5 - 4X5 U1-3 -5X5
O2 Measurement: matrix downstream of A/H? (Y/N)	Y	Y	Y	Y	Y	Y	Y	Y	Y	

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Unit No:	1	2	3	4	5	6	Comments
Boilers: OEM/Model No	SteinMuller	SteinMuller	SteinMuller	SteinMuller	SteinMuller	SteinMuller	
Boilers: Type (El Paso, Tower)	Once through	Once through	Once through	Once through	Once through	Once through	
Boilers: Wind box pressure Kpa	3.2 kPa	3.2 kPa	3.2 kPa	3.2 kPa	3.2 kPa	3.2 kPa	
Boilers: Boiler setpoint (press (negative Kpa))	-0.05	-0.05	-0.05	-0.05	-0.05	-0.05	
Gas Cleaning: Type (Precip/FFP)	ESP	ESP	ESP	ESP	ESP	ESP	
Mills: OEM/Model No	Babcock 10.8E	Babcock 10.8E	Babcock 10.8E	Babcock 12E	Babcock 12E	Babcock 12E	
Mills: Type (Tube, vertical spindle)	Vertical spindle	Vertical spindle	Vertical spindle	Vertical spindle	Vertical spindle	Vertical spindle	
Mills: No Mills/boiler	6	6	6	6	6	6	
Mills: Seal air fans? (Y/N)	Y	Y	Y	Y	Y	Y	
PA Fans: OEM/Model No	James Howden L2	James Howden L2	James Howden L2	Howden L3N	Howden L3N	Howden L3N	
PA Fans: Type (Axial, Centrifugal)	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	
PA Fans: Static pressure rise (kPa)	7.943	7.943	7.943	8.85	8.85	8.85	
PA Fans: Volume flow rate (cu.ft/s)	1483	1483	1483	2030.5	2030.5	2030.5	
PA Fans: Volume flow rate (m3/s)	42	42	42	57.5	57.5	57.5	
PA Fans: RPM	1485	1485	1485	1485	1485	1485	
PA Fans: Fan Shaft Power (kW) (Motor full load)	96	96	96	133	133	133	
PA Fans: No of fans/Mill	1	1	1	1	1	1	
PA Fans: No of fans/Boiler	6	6	6	6	6	6	
PA Fans: Impeller Diameter (mm)							
PA Fans: Aerofoil blades? (Y/N)	N	N	N	N	N	N	
PA Fans: Location (before/after air heater)	After	After	After	After	After	After	
PA Fans: Hot/Cold operation?	Hot	Hot	Hot	Hot	Hot	Hot	
PA Fans: Cooling disc on shaft? (Y/N)	Y	Y	Y	Y	Y	Y	
PA Fans: Double/single inlet/stage	Single inlet	Single inlet	Single inlet	Single inlet	Single inlet	Single inlet	
PA Fans: Casing - centreline or Bottom supported?	Bottom Supported	Bottom Supported	Bottom Supported	Bottom Supported	Bottom Supported	Bottom Supported	
PA Fans: Shaft seal type - single/labyrinth, carbon/klingerite,	Carbon seal	Carbon seal	Carbon seal	Carbon seal	Carbon seal	Carbon seal	
PA Fans: Type control (ILD, RVC, Fluid coupling) Single/double electric/hydraulic/pneumatic actuator	Axial Vane Control (AVC) Single electric actuator	Axial Vane Control (AVC) Single electric actuator	Axial Vane Control (AVC) Single electric actuator	Inlet Louvre Damper (ILD) Single electric actuator	Inlet Louvre Damper (ILD) Single electric actuator	Inlet Louvre Damper (ILD) Single electric actuator	
PA Fans: RVC description, internal/external, annular/no annular plates	Internal AVC, no annular plates	Internal AVC, no annular plates	Internal AVC, no annular plates	Internal ILD, no annular plates	Internal ILD, no annular plates	Internal ILD, no annular plates	
PA Fans: Dorsal fins Y/N	Y	Y	Y	Y	Y	Y	
PA Fans: Bearing type (Roller Bearing/White Metal)	White metal 4"	White metal 4"	White metal 4"	White metal 5"	White metal 5"	White metal 5"	
PA Fans: Jacking oil pump Y/N	N	N	N	N	N	N	
PA Fans: Bearing Lubrication (oil bath, grease, forced Lubrication)	Forced lubrication	Forced lubrication	Forced lubrication	Forced lubrication	Forced lubrication	Forced lubrication	
PA Fans: Pump configuration, 2xelectric, 1electric+1 shaft driven, AC/DC motor, oil Rundown tanks?	1 Electric driven 1 shaft driven pump	1 Electric driven 1 shaft driven pump	1 Electric driven 1 shaft driven pump	1 Electric driven 1 shaft driven pump	1 Electric driven 1 shaft driven pump	1 Electric driven 1 shaft driven pump	
PA Fans: Bearing cooling type (oil/water/air)	Cooling water	Cooling water	Cooling water	Cooling water	Cooling water	Cooling water	
PA Fans: Coupling type (Fixed, fluid, holset, bibby, mutidisc, jolly)	Bibby coupling	Bibby coupling	Bibby coupling	Bibby coupling	Bibby coupling	Bibby coupling	
PA Fans: Vibration Monitoring? (Y/N)	Weekly	Weekly	Weekly	Weekly	Weekly	Weekly	
PA Fans: Wear liners on casing (Y/N)	Y	Y	Y	Y	Y	Y	
PA Fans: Wear liners on blades? (Y/N)	Y	Y	Y	Y	Y	Y	

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PA Fans: Blade liner description/configuration, location,etc	Nose and and center plate	Nose and and center plate	Nose and and center plate	Blade, nose and and center plate	Blade, nose and and center plate	Blade, nose and and center plate
PA Fans motors: OEM/Model No	GEC	GEC	GEC	GEC	GEC	GEC
PA Fans motors: Power (kW)	96	96	96	133	133	133
PA Fans motors: Power (HP)	128.7	128.7	128.7	178.4	178.4	178.4
PA Fans motors: Bearing type (Roller Bearing/White Metal)	White metal	White metal	White metal	White metal	White metal	White metal
PA Fans motors: Bearing Lubrication (oil bath, grease, forced Lubrication)	Oil bath	Oil bath	Oil bath	Oil bath	Oil bath	Oil bath
PA Fans motors: Bearing cooling type (oil/water/air)	Air	Air	Air	Air	Air	Air
PA Fans motors: Vibration Monitoring?	Weekly	Weekly	Weekly	Weekly	Weekly	Weekly
FD Fans: OEM/Model No	Davidson & Co. BAB92	Davidson & Co. BAB93	Davidson & Co. BAB94	Davidson & Co. BAB95	Davidson & Co. BAB96	Davidson & Co. BAB97
FD Fans: Type (Axial, Centrifugal)	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal
FD Fans: Static pressure rise (kPa)	6.37	6.37	6.37	6.37	6.37	6.37
FD Fans: Volume flow rate (cu.ft/s)	12536	12536	12536	12536	12536	12536
FD Fans: Volume flow rate (m3/s)	355	355	355	355	355	355
FD Fans: RPM	740	740	740	740	740	740
FD Fans: Fan Shaft Power (kW)	2600	2600	2600	2600	2600	2600
FD Fans: No of fans/Boiler	2	2	2	2	2	2
FD Fans: Impeller Diameter (mm)	3302	3302	3302	3302	3302	3302
FD Fans: Aerofoil blades? (Y/N)	Y	Y	Y	Y	Y	Y
FD Fans: Double/single inlet/stage	Double inlet	Double inlet	Double inlet	Double inlet	Double inlet	Double inlet
FD Fans: Casing - centreline or Bottom supported?	Bottom Supported	Bottom Supported	Bottom Supported	Bottom Supported	Bottom Supported	Bottom Supported
FD Fans: Shaft seal type - single/labyrinth, carbon/klingerite,	Brass plate	Brass plate	Brass plate	Brass plate	Brass plate	Brass plate
FD Fans: Type control (ILD, RVC, Fluid coupling) Single/double electric/hydraulic/pneumatic actuator	Radial Vane Control (RVC) Single actuator	Radial Vane Control (RVC) Single actuator	Radial Vane Control (RVC) Single actuator	Radial Vane Control (RVC) Single actuator	Radial Vane Control (RVC) Single actuator	Radial Vane Control (RVC) Single actuator
FD Fans: RVC description, internal/external, annular/no annular plates	Internal RVC, no annular plates	Internal RVC, no annular plates	Internal RVC, no annular plates	Internal RVC, no annular plates	Internal RVC, no annular plates	Internal RVC, no annular plates
FD Fans: Dorsal fins Y/N	Y	Y	Y	Y	Y	Y
FD Fans: Bearing type (Roller Bearing/White Metal)	White metal 10.5"	White metal 10.5"	White metal 10.5"	White metal 10.5"	White metal 10.5"	White metal 10.5"
FD Fans: Jacking oil pump Y/N	Y	Y	Y	Y	Y	Y
FD Fans: Bearing Lubrication (oil bath, grease, forced Lubrication)	Forced lubrication	Forced lubrication	Forced lubrication	Forced lubrication	Forced lubrication	Forced lubrication
FD Fans: Pump configuration, 2xelectric, 1electric+1 shaft driven, AC/DC motor, oil Rundown tanks?	2 Electric driven pumps	2 Electric driven pumps	2 Electric driven pumps	2 Electric driven pumps	2 Electric driven pumps	2 Electric driven pumps
FD Fans: Bearing cooling type (oil/water/air)	Water cooler	Water cooler	Water cooler	Water cooler	Water cooler	Water cooler
FD Fans: Coupling type (Fixed, fluid, holset, bibby, mutidisc, jolly)	Bibby coupling	Bibby coupling	Bibby coupling	Bibby coupling	Bibby coupling	Bibby coupling
FD Fans: Vibration Monitoring? (Y/N)	Online and weekly	Online and weekly	Online and weekly	Online and weekly	Online and weekly	Online and weekly
FD Fans: Wear liners on casing (Y/N)	Y	Y	Y	Y	Y	Y
FD Fans: Wear liners on blades? (Y/N)	Y	Y	Y	Y	Y	Y
FD Fans: Blade liner description/configuration, location,etc	Blade, nose and center plate liners	Blade, nose and center plate liners	Blade, nose and center plate liners	Blade, nose and center plate liners	Blade, nose and center plate liners	Blade, nose and center plate liners

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FD Fans motors: OEM/Model No	ABB CQLGH710/8-212	ABB CQLGH710/8-213	ABB CQLGH710/8-214	ABB CQLGH710/8-215	ABB CQLGH710/8-216	ABB CQLGH710/8-217
FD Fans motors: Power (kW)	3050	3050	3050	3050	3050	3050
FD Fans motors: Power (HP)	4090	4090	4090	4090	4090	4090
FD Fans motors: Bearing type (Roller Bearing/White Metal)	White metal	White metal	White metal	White metal	White metal	White metal
FD Fans motors: Bearing Lubrication (oil bath, grease, forced Lubrication)	Oil bath	Oil bath	Oil bath	Oil bath	Oil bath	Oil bath
FD Fans motors: Bearing cooling type (oil/water/air)	Air	Air	Air	Air	Air	Air
FD Fans motors: Vibration Monitoring?	Online and weekly	Online and weekly	Online and weekly	Online and weekly	Online and weekly	Online and weekly
ID Fans: OEM/Model No	Davidson & Co. BAB 141	Davidson & Co. BAB 142	Davidson & Co. BAB 143	Davidson & Co. BAB 144	Davidson & Co. BAB 145	Davidson & Co. BAB 146
ID Fans: Type (Axial, Centrifugal)	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal
ID Fans: Static pressure rise (kPa)	3.38	3.38	3.38	3.38	3.38	3.38
ID Fans: Volume flow rate (cu.ft/s)	18187	18187	18187	18187	18187	18187
ID Fans: Volume flow rate (m3/s)	515	515	515	515	515	515
ID Fans: RPM	590	590	590	590	590	590
ID Fans: Fan Shaft Power (kW)	2400	2400	2400	2400	2400	2400
ID Fans: No of fans/Boiler	2	2	2	2	2	2
ID Fans: Impeller Diameter (mm)	3625	3625	3625	3625	3625	3625
ID Fans: Aerofoil blades? (Y/N)	Y	Y	Y	Y	Y	Y
ID Fans: Double/single inlet/stage	Double inlet	Double inlet	Double inlet	Double inlet	Double inlet	Double inlet
ID Fans: Casing - centreline or Bottom supported?	Bottom Supported	Bottom Supported	Bottom Supported	Bottom Supported	Bottom Supported	Bottom Supported
ID Fans: Shaft seal type - single/labyrinth, carbon/klingerite,	Brass plate	Brass plate	Brass plate	Brass plate	Brass plate	Brass plate
ID Fans: Type control (ILD, RVC, Fluid coupling) Single/double electric/hydraulic/pneumatic actuator	Radial Vane Control (RVC) Single actuator	Radial Vane Control (RVC) Single actuator	Radial Vane Control (RVC) Single actuator	Radial Vane Control (RVC) Single actuator	Radial Vane Control (RVC) Single actuator	Radial Vane Control (RVC) Single actuator
ID Fans: RVC description, internal/external, annular/no annular plates	Internal RVC, no annular plates	Internal RVC, no annular plates	Internal RVC, no annular plates	Internal RVC, no annular plates	Internal RVC, no annular plates	Internal RVC, no annular plates
ID Fans: Dorsal fins Y/N	Y	Y	Y	Y	Y	Y
ID Fans: Bearing type (Roller Bearing/White Metal)	White metal 13"	White metal 13"	White metal 13"	White metal 13"	White metal 13"	White metal 13"
ID Fans: Jacking oil pump Y/N	Y	Y	Y	Y	Y	Y
ID Fans: Bearing Lubrication (oil bath, grease, forced Lubrication)	Forced lubrication	Forced lubrication	Forced lubrication	Forced lubrication	Forced lubrication	Forced lubrication
ID Fans: Pump configuration, 2xelectric, 1electric+1 shaft driven, AC/DC motor, oil Rundown tanks?	2 Electric driven pumps	2 Electric driven pumps	2 Electric driven pumps	2 Electric driven pumps	2 Electric driven pumps	2 Electric driven pumps
ID Fans: Bearing cooling type (oil/water/air)	Water cooler	Water cooler	Water cooler	Water cooler	Water cooler	Water cooler
ID Fans: Coupling type (Fixed, fluid, holset, bibby, mutidisc, jolly)	Bibby coupling	Bibby coupling	Bibby coupling	Bibby coupling	Bibby coupling	Bibby coupling
ID Fans: Vibration Monitoring? (Y/N)	Online and weekly	Online and weekly	Online and weekly	Online and weekly	Online and weekly	Online and weekly
ID Fans: Wear liners on casing (Y/N)	Y	Y	Y	Y	Y	Y
ID Fans: Wear liners on blades? (Y/N)	Y	Y	Y	Y	Y	Y
ID Fans: Blade liner description/configuration, location,etc	Blade, nose and center plate liners	Blade, nose and center plate liners	Blade, nose and center plate liners	Blade, nose and center plate liners	Blade, nose and center plate liners	Blade, nose and center plate liners
ID Fans motors: OEM/Model No	ABB CQLGH710/10-252	ABB CQLGH710/10-252	ABB CQLGH710/10-252	ABB CQLGH710/10-252	ABB CQLGH710/10-252	ABB CQLGH710/10-252
ID Fans motors: Power (kW)	2800	2800	2800	2800	2800	2800

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ID Fans motors: Power (HP)	3755	3755	3755	3755	3755	3755
ID Fans motors: Bearing type (Roller Bearing/White Metal)	White metal	White metal	White metal	White metal	White metal	White metal
ID Fans motors: Bearing Lubrication (oil bath, grease, forced Lubrication)	Oil bath	Oil bath	Oil bath	Oil bath	Oil bath	Oil bath
ID Fans motors: Bearing cooling type (oil/water/air)	Water cooler	Water cooler	Water cooler	Water cooler	Water cooler	Water cooler
ID Fans motors: Vibration Monitoring?	Online and weekly	Online and weekly	Online and weekly	Online and weekly	Online and weekly	Online and weekly
Airheaters (Primary): OEM/Model No	N/A	N/A	N/A	N/A	N/A	N/A
Airheaters (Primary): Type (Rotary/Tubular)	N/A	N/A	N/A	N/A	N/A	N/A
Airheaters (Primary): Gas Inlet temp	N/A	N/A	N/A	N/A	N/A	N/A
Airheaters (Primary): Gas Outlet Temp	N/A	N/A	N/A	N/A	N/A	N/A
Airheaters (Primary): Air Inlet Temp	N/A	N/A	N/A	N/A	N/A	N/A
Airheaters (Primary): Air outlet Temp	N/A	N/A	N/A	N/A	N/A	N/A
Airheaters (Secondary): OEM/Model No	Airtech Davidson	Airtech Davidson	Airtech Davidson	Airtech Davidson	Airtech Davidson	Airtech Davidson
Airheaters (Secondary): (Rothemuhle/Ljungstrom)	Rothemuhle	Rothemuhle	Rothemuhle	Rothemuhle	Rothemuhle	Rothemuhle
Airheaters (Secondary): Type (rotating hood/matrix)	Rotating hood	Rotating hood	Rotating hood	Rotating hood	Rotating hood	Rotating hood
Airheaters (Secondary): Include Primary Air? (Y/N)	Y	Y	Y	Y	Y	Y
Airheaters (Secondary): Configuration single/twin/quad flow	Single flow	Single flow	Single flow	Single flow	Single flow	Single flow
Airheaters (Secondary): Hot End seal Thermal compensators (Y/N)	Y	Y	Y	Y	Y	Y
Airheaters (Secondary): Cold end seal adjustment (Y/N)	Y	Y	Y	Y	Y	Y
Airheaters (Secondary): Hot End sector plate adjustment (Y/N) (electric/pneumatic/hydraulic)	N	N	N	N	N	N
Airheaters (Secondary): Cold End sector adjustment (Y/N)	N	N	N	N	N	N
Airheaters (Secondary): Shaft Orientation (Vertical/Horizontal)	Vertical	Vertical	Vertical	Vertical	Vertical	Vertical
Airheaters (Secondary): Matrix Inner Radius :	1.495 m	1.495 m	1.495 m	1.495 m	1.495 m	1.495 m
Airheaters (Secondary): Matrix Outer Radius :	6.6 m	6.6 m	6.6 m	6.6 m	6.6 m	6.6 m
Airheaters (Secondary): Intermediate radius if twinflow :	N/A	N/A	N/A	N/A	N/A	N/A
Airheaters (Secondary): Number of sectors	64	64	64	64	64	64
Airheaters (Secondary): Number of element layers	3	3	3	3	3	3
Airheaters (Secondary): Number of rings	7	7	7	7	7	7
Airheaters (Secondary): Max Element total height:	1.75 m	1.75 m	1.75 m	1.75 m	1.75 m	1.75 m
Airheaters (Secondary): No of Seal Frame articulation joints?	48	48	48	48	48	48
Airheaters (Secondary): Rotor/hoods RPM:	0.74	0.74	0.74	0.74	0.74	0.74
Airheaters (Secondary): Drive System details – eg pinrack (single/dual pinion)/ shaft drive	Pin rack - Single pinion	Pin rack - Single pinion	Pin rack - Single pinion	Pin rack - Single pinion	Pin rack - Single pinion	Pin rack - Single pinion

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Draught Plant Technical Information

Kriel Power Station

Airheaters (Secondary): Gearbox type – eg size, manuf.	David Brown - Triple reduction, single helical	David Brown - Triple reduction, single helical	David Brown - Triple reduction, single helical	David Brown - Triple reduction, single helical	David Brown - Triple reduction, single helical	David Brown - Triple reduction, single helical
Airheaters (Secondary): Lubrication system type – eg grease/oil	Oil	Oil	Oil	Oil	Oil	Oil
Airheaters (Secondary): Gas Inlet temp	340	340	340	340	340	340
Airheaters (Secondary): Gas Outlet Temp	130	130	130	130	130	130
Airheaters (Secondary): Air Inlet Temp	43	43	43	43	43	43
Airheaters (Secondary): Air outlet Temp	285	285	285	285	285	285
Airheaters (Secondary): Sootblower type (Fixed/Retractable, Reciprocating, spider)	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
Airheaters (Secondary): Sootblower valve type (Rotary Valve, single poppet, stop valve, etc)	Stop valve	Stop valve	Stop valve	Stop valve	Stop valve	Stop valve
Airheaters (Secondary): Sootblow Frequency	Daily	Daily	Daily	Daily	Daily	Daily
Airheaters (Secondary): Gas bypass installed?	N	N	N	N	N	N
Airheaters (Secondary): Air bypass installed?	Y	Y	Y	Y	Y	Y
Airheaters (Secondary): Hot air recirc installed?	Y	Y	Y	Y	Y	Y
Airheaters (Secondary): Fire detection installed?	Y	Y	Y	Y	Y	Y
Airheaters (Secondary): Fire extinguishing installed?	Y	Y	Y	Y	Y	Y
Airheaters (Secondary): Fire fighting equipment - single column or nozzle matrix	Nozzle matrix	Nozzle matrix	Nozzle matrix	Nozzle matrix	Nozzle matrix	Nozzle matrix
O2 Measurement: matrix upstream of A/H? (Y/N)	Y	Y	Y	Y	Y	Y
O2 Measurement: matrix downstream of A/H? (Y/N)	N	N	N	N	N	N

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Draught Plant Technical Information

Kusile Power Station

Unit No:	1	2	3	4	5	6	Comments
Boilers: OEM/Model No	Hitachi						
Boilers: Type (El Paso, Tower)	Once-through Tower						
Boilers: Wind box pressure Kpa	3.0						
Boilers: Boiler setpoint (press (negative Kpa)	- 0.2						
Gas Cleaning: Type (Precip/FFP)	FFP						
Mills: OEM/Model No	Hitachi						
Mills: Type (Tube, vertical spindle)	Vertical spindle						
Mills: No Mills/boiler	5						
Mills: Seal air fans? (Y/N)	Y						
PA Fans: OEM/Model No	L3N 3457.96.97	L3N 3457.96.97	L3N 3457.96.97	L3N 3457.96.97	L3N 3457.96.97	L3N 3457.96.97	
PA Fans: Type (Axial, Centrifugal)	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	
PA Fans: Static pressure rise (kPa)	18.6	18.6	18.6	18.6	18.6	18.6	
PA Fans: Volume flow rate (cu.ft/s)	139.3	139.3	139.3	139.3	139.3	139.3	
PA Fans: Volume flow rate (m3/s)	139.3	139.3	139.3	139.3	139.3	139.3	
PA Fans: RPM	990	990	990	990	990	990	
PA Fans: Fan Shaft Power (kW)	2929	2929	2929	2929	2929	2929	
PA Fans: No of fans/Mill	N/A						
PA Fans: No of fans/Boiler	2	2	2	2	2	2	
PA Fans: Impeller Diameter (mm)	3319	3319	3319	3319	3319	3319	
PA Fans: Aerofoil blades? (Y/N)	N	N	N	N	N	N	
PA Fans: Location (before/after air heater)	Before	Before	Before	Before	Before	Before	
PA Fans: Hot/Cold operation?	Cold	Cold	Cold	Cold	Cold	Cold	
PA Fans: Cooling disc on shaft? (Y/N)	N	N	N	N	N	N	
PA Fans: Double/single inlet/stage	Single	Single	Single	Single	Single	Single	
PA Fans: Casing - centreline or Bottom supported?	Bottom						
PA Fans: Shaft seal type - single/labyrinth, carbon/klingerite,	Double Carbon	Double Carbon	Double Carbon	Double Carbon	Double Carbon	Double Carbon	
PA Fans: Type control (ILD, RVC, Fluid coupling) Single/double electric/hydraulic/pneumatic actuator	RVC	RVC	RVC	RVC	RVC	RVC	
PA Fans: RVC description, internal/external, annular/no annular plates	Internal, no annular plate						
PA Fans: Dorsal fins Y/N	N	N	N	N	N	N	
PA Fans: Bearing type (Roller Bearing/White Metal)	White Metal	White Metal	White Metal	White Metal	White Metal	White Metal	
PA Fans: Jacking oil pump Y/N	N	N	N	N	N	N	
PA Fans: Bearing Lubrication (oil bath, grease, forced Lubrication)	forced lubrication	forced lubrication	forced lubrication	forced lubrication	forced lubrication	forced lubrication	
PA Fans: Pump configuration, 2xelectric, 1electric+1 shaft driven, AC/DC motor, oil Rundown tanks?	2x Electric + Shaft driven, DC pump rundown						
PA Fans: Bearing cooling type (oil/water/air)	Oil cooled	water	water	water	water	water	
PA Fans: Coupling type (Fixed, fluid, holset, bibby, mutidisc, jolly)	bibby	bibby	bibby	bibby	bibby	bibby	
PA Fans: Vibration Monitoring? (Y/N)	Y	Y	Y	Y	Y	Y	
PA Fans: Wear liners on casing (Y/N)	N	N	N	N	N	N	
PA Fans: Wear liners on blades? (Y/N)	N	N	N	N	N	N	
PA Fans: Blade liner description/configuration, location,etc	N/A						
PA Fans motors: OEM/Model No	ACTOM/800?						
PA Fans motors: Power (kW)							
PA Fans motors: Power (HP)	N/A						
PA Fans motors: Bearing type (Roller Bearing/White Metal)	White Metal	White Metal	White Metal	White Metal	White Metal	White Metal	

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Draught Plant Technical Information

Kusile Power Station

PA Fans motors: Bearing Lubrication (oil bath, grease, forced Lubrication)	forced lubrication	forced lubrication	forced lubrication	forced lubrication	forced lubrication	forced lubrication	
PA Fans motors: Bearing cooling type (oil/water/air)	Oil	water	water	water	water	water	
PA Fans motors: Vibration Monitoring?	Y	Y	Y	Y	Y	Y	
FD Fans: OEM/Model No	VARIAX ANN-3200/1600B						
FD Fans: Type (Axial, Centrifugal)	Axial	Axial	Axial	Axial	Axial	Axial	
FD Fans: Static pressure rise (kPa)	5.05	5.05	5.05	5.05	5.05	5.05	
FD Fans: Volume flow rate (cu.ft/s)	N/A						
FD Fans: Volume flow rate (m3/s)	496.4	496.4	496.4	496.4	496.4	496.4	
FD Fans: RPM	990	990	990	990	990	990	
FD Fans: Fan Shaft Power (kW)	3183	3183	3183	3183	3183	3183	
FD Fans: No of fans/Boiler	2	2	2	2	2	2	
FD Fans: Impeller Diameter (mm) (with blades)	3200						
FD Fans: Aerofoil blades? (Y/N)	Y						
FD Fans: Double/single inlet/stage	Single	Single	Single	Single	Single	Single	
FD Fans: Casing - centreline or Bottom supported?	Bottom						
FD Fans: Shaft seal type - single/labyrinth, carbon/klingerite,	single klingerite						
FD Fans: Type control (ILD, RVC, Fluid coupling) Single/double electric/hydraulic/pneumatic actuator	Hydraulic with electric actuator	Hydraulic	Hydraulic	Hydraulic	Hydraulic	Hydraulic	
FD Fans: RVC description, internal/external, annular/no annular plates	N/A						
FD Fans: Dorsal fins Y/N	N/A						
FD Fans: Bearing type (Roller Bearing/White Metal)	White Metal	White Metal	White Metal	White Metal	White Metal	White Metal	
FD Fans: Jacking oil pump Y/N	N	N	N	N	N	N	
FD Fans: Bearing Lubrication (oil bath, grease, forced Lubrication)	forced lubrication	forced lubrication	forced lubrication	forced lubrication	forced lubrication	forced lubrication	
FD Fans: Pump configuration, 2xelectric, 1electric+1 shaft driven, AC/DC motor, oil Rundown tanks?	2x Electric, DC pump rundown						
FD Fans: Bearing cooling type (oil/water/air)	Oil cooled						
FD Fans: Coupling type (Fixed, fluid, holset, bibby, mutidisc, jolly)	Multidisc	bibby	bibby	bibby	bibby	bibby	
FD Fans: Vibration Monitoring? (Y/N)	Y	Y	Y	Y	Y	Y	
FD Fans: Wear liners on casing (Y/N)	N	N	N	N	N	N	
FD Fans: Wear liners on blades? (Y/N)	N	N	N	N	N	N	
FD Fans: Blade liner description/configuration, location,etc	N/A						
FD Fans motors: OEM/Model No	ACTOM/900?						
FD Fans motors: Power (kW)							
FD Fans motors: Power (HP)	N/A						
FD Fans motors: Bearing type (Roller Bearing/White Metal)	White Metal	White Metal	White Metal	White Metal	White Metal	White Metal	
FD Fans motors: Bearing Lubrication (oil bath, grease, forced Lubrication)	forced lubrication						
FD Fans motors: Bearing cooling type (oil/water/air)	Oil						
FD Fans motors: Vibration Monitoring?	Y	Y	Y	Y	Y	Y	
ID Fans: OEM/Model No	SAF 40/23, 2-2						
ID Fans: Type (Axial, Centrifugal)	Axial	Axial	Axial	Axial	Axial	Axial	
ID Fans: Static pressure rise (kPa)	10.18	101.8	101.8	101.8	101.8	101.8	

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Draught Plant Technical Information

Kusile Power Station

ID Fans: Volume flow rate (cu.ft/s)	N/A						
ID Fans: Volume flow rate (m3/s)	738.61	738.61	738.61	738.61	738.61	738.61	
ID Fans: RPM	745	745	745	745	745	745	
ID Fans: Fan Shaft Power (kW)	8913	8913	8913	8913	8913	8913	
ID Fans: No of fans/Boiler	2	2	2	2	2	2	
ID Fans: Impeller Diameter (mm)	3982	3982	3982	3982	3982	3982	
ID Fans: Aerofoil blades? (Y/N)	Y						
ID Fans: Double/single inlet/stage	Double	Double	Double	Double	Double	Double	
ID Fans: Casing - centreline or Bottom supported?	Bottom						
ID Fans: Shaft seal type - single/labyrinth, carbon/klingerite,	Casing: single klingerite Bearing: single brass						
ID Fans: Type control (ILD, RVC, Fluid coupling) Single/double electric/hydraulic/pneumatic actuator	Hydraulic with electric actuator	Hydraulic	Hydraulic	Hydraulic	Hydraulic	Hydraulic	
ID Fans: RVC description, internal/external, annular/no annular plates	N/A						
ID Fans: Dorsal fins Y/N	N/A						
ID Fans: Bearing type (Roller Bearing/White Metal)	White Metal						
ID Fans: Jacking oil pump Y/N	N	N	N	N	N	N	
ID Fans: Bearing Lubrication (oil bath, grease, forced Lubrication)	forced lubrication	forced lubrication	forced lubrication	forced lubrication	forced lubrication	forced lubrication	
ID Fans: Pump configuration, 2xelectric, 1electric+1 shaft driven, AC/DC motor, oil Rundown tanks?	2x Electric, DC pump rundown						
ID Fans: Bearing cooling type (oil/water/air)	Oil cooled						
ID Fans: Coupling type (Fixed, fluid, holset, bibby, mutidisc, jolly)	Multidisc x2						
ID Fans: Vibration Monitoring? (Y/N)	Y	Y	Y	Y	Y	Y	
ID Fans: Wear liners on casing (Y/N)	N	N	N	N	N	N	
ID Fans: Wear liners on blades? (Y/N)	N	N	N	N	N	N	
ID Fans: Blade liner description/configuration, location,etc	N/A						
ID Fans motors: OEM/Model No	ACTOM/1000?						
ID Fans motors: Power (kW)							
ID Fans motors: Power (HP)	N/A						
ID Fans motors: Bearing type (Roller Bearing/White Metal)	White Metal						
ID Fans motors: Bearing Lubrication (oil bath, grease, forced Lubrication)	forced lubrication	forced lubrication	forced lubrication	forced lubrication	forced lubrication	forced lubrication	
ID Fans motors: Bearing cooling type (oil/water/air)	Oil	air	air	air	air	air	
ID Fans motors: Vibration Monitoring?	Y	Y	Y	Y	Y	Y	
Airheaters (Primary): OEM/Model No							
Airheaters (Primary): Type (Rotary/Tubular)	Rotary	Rotary	Rotary	Rotary	Rotary	Rotary	
Airheaters (Primary): Gas Inlet temp							
Airheaters (Primary): Gas Outlet Temp							
Airheaters (Primary): Air Inlet Temp							
Airheaters (Primary): Air outlet Temp							
Airheaters (Secondary): OEM/Model No							
Airheaters (Secondary): (Rothemuhle/Ljungstrom)	Rothemuhle	Rothemuhle	Rothemuhle	Rothemuhle	Rothemuhle	Rothemuhle	
Airheaters (Secondary): Type (rotating hood/matrix)							

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Airheaters (Secondary): Include Primary Air? (Y/N)	Y	Y	Y	Y	Y	Y	
Airheaters (Secondary): Configuration single/twin/quad flow							
Airheaters (Secondary): Hot End seal Thermal compensators (Y/N)							
Airheaters (Secondary): Cold end seal adjustment (Y/N)							
Airheaters (Secondary): Hot End sector plate adjustment (Y/N) (electric/pneumatic/hydraulic)							
Airheaters (Secondary): Cold End sector adjustment (Y/N)							
Airheaters (Secondary): Shaft Orientation (Vertical/Horizontal)							
Airheaters (Secondary): Matrix Inner Radius :							
Airheaters (Secondary): Matrix Outer Radius :							
Airheaters (Secondary): Intermediate radius if twinflow :							
Airheaters (Secondary): Number of sectors							
Airheaters (Secondary): Number of element layers							
Airheaters (Secondary): Number of rings							
Airheaters (Secondary): Max Element total height:							
Airheaters (Secondary): No of Seal Frame articulation joints?							
Airheaters (Secondary): Rotor/hoods RPM:							
Airheaters (Secondary): Drive System details – eg pinrack (single/dual pinion)/ shaft drive							
Airheaters (Secondary): Gearbox type – eg size, manuf.							
Airheaters (Secondary): Lubrication system type – eg grease/oil							
Airheaters (Secondary): Gas Inlet temp							
Airheaters (Secondary): Gas Outlet Temp							
Airheaters (Secondary): Air Inlet Temp							
Airheaters (Secondary): Air outlet Temp							
Airheaters (Secondary): Sootblower type (Fixed/Retractable, Reciprocating, spider)	Retractable	Retractable	Retractable	Retractable	Retractable	Retractable	
Airheaters (Secondary): Sootblower valve type (Rotary Valve, single poppet, stop valve, etc)	single poppet	single poppet	single poppet	single poppet	single poppet	single poppet	
Airheaters (Secondary): Sootblow Frequency	8 hours	8 hours	8 hours	8 hours	8 hours	8 hours	
Airheaters (Secondary): Gas bypass installed?	No	No	No	No	No	No	
Airheaters (Secondary): Air bypass installed?							
Airheaters (Secondary): Hot air recirc installed?							
Airheaters (Secondary): Fire detection installed?	Yes	Yes	Yes	Yes	Yes	Yes	
Airheaters (Secondary): Fire extinguishing installed?	Yes	Yes	Yes	Yes	Yes	Yes	
Airheaters (Secondary): Fire fighting equipment - single column or nozzle matrix	yes	yes	yes	yes	yes	yes	
O2 Measurement: matrix upstream of A/H? (Y/N)	Yes	Yes	Yes	Yes	Yes	Yes	

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Draught Plant Technical Information

Kusile Power Station

O2 Measurement: matrix downstream of A/H? (Y/N)	Yes	Yes	Yes	Yes	Yes	Yes	

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Draught Plant Technical Information

Lethabo Power Station

Unit No:	1	2	3	4	5	6	Comments
Boilers: OEM/Model No	Babcock	Babcock	Babcock	Babcock	Babcock	Babcock	
Boilers: Type (El Paso, Tower)	Babcock, two-pass type with natural circulation	Babcock, two-pass type with natural circulation	Babcock, two-pass type with natural circulation	Babcock, two-pass type with natural circulation	Babcock, two-pass type with natural circulation	Babcock, two-pass type with natural circulation	
Boilers: Wind box pressure Kpa							
Boilers: Boiler setpoint (press (negative Kpa)	"-50Pa to -100Pa"	"-50Pa to -100Pa"	"-50Pa to -100Pa"	"-50Pa to -100Pa"	"-50Pa to -100Pa"	"-50Pa to -100Pa"	
Gas Cleaning: Type (Precip/FFP)	Precip	Precip	Precip	Precip	Precip	Precip	
Mills: OEM/Model No	Bateman Equipment Ltd	Bateman Equipment Ltd	Bateman Equipment Ltd	Bateman Equipment Ltd	Bateman Equipment Ltd	Bateman Equipment Ltd	
Mills: Type (Tube, vertical spindle)	Allis Chalmer Horozontal Ball Tube	Allis Chalmer Horozontal Ball Tube	Allis Chalmer Horozontal Ball Tube	Allis Chalmer Horozontal Ball Tube	Allis Chalmer Horozontal Ball Tube	Allis Chalmer Horozontal Ball Tube	
Mills: No Mills/boiler	6	6	6	6	6	6	
Mills: Seal air fans? (Y/N)	Y	Y	Y	Y	Y	Y	
PA Fans: OEM/Model No	HOWDEN / M Design 3 / 224002 87.5% Width	HOWDEN / M Design 3 / 224002 87.5% Width	HOWDEN / M Design 3 / 224002 87.5% Width	HOWDEN / M Design 3 / 224002 87.5% Width	HOWDEN / M Design 3 / 224002 87.5% Width	HOWDEN / M Design 3 / 224002 87.5% Width	
PA Fans: Type (Axial, Centrifugal)	CENTRIFUGAL	CENTRIFUGAL	CENTRIFUGAL	CENTRIFUGAL	CENTRIFUGAL	CENTRIFUGAL	
PA Fans: Static pressure rise (kPa)	14.1	14.1	14.1	14.1	14.1	14.1	
PA Fans: Volume flow rate (cu.ft/s)	3345.005542	3345.005542	3345.005542	3345.005542	3345.005542	3345.005542	
PA Fans: Volume flow rate (m3/s)	94.72 per fan	94.72 per fan	94.72 per fan	94.72 per fan	94.72 per fan	94.72 per fan	
PA Fans: RPM	1479.6	1479.6	1479.6	1479.6	1479.6	1479.6	
PA Fans: Fan Shaft Power (kW)	1680	1680	1680	1680	1680	1680	
PA Fans: No of fans/Mill	N/A	N/A	N/A	N/A	N/A	N/A	
PA Fans: No of fans/Boiler	2	2	2	2	2	2	
PA Fans: Impeller Diameter (mm)	2305	2305	2305	2305	2305	2305	
PA Fans: Aerofoil blades? (Y/N)	Y	Y	Y	Y	Y	Y	
PA Fans: Location (before/after air heater)	Before	Before	Before	Before	Before	Before	
PA Fans: Hot/Cold operation?	Cold	Cold	Cold	Cold	Cold	Cold	
PA Fans: Cooling disc on shaft? (Y/N)	N	N	N	N	N	N	
PA Fans: Double/single inlet/stage	Single Inlet	Single Inlet	Single Inlet	Single Inlet	Single Inlet	Single Inlet	
PA Fans: Casing - centreline or Bottom supported?	BOTTOM	BOTTOM	BOTTOM	BOTTOM	BOTTOM	BOTTOM	
PA Fans: Shaft seal type - single/labyrinth, carbon/klingerite,	CARBON	CARBON	CARBON	CARBON	CARBON	CARBON	
PA Fans: Type control (ILD, RVC, Fluid coupling) Single/double electric/hydraulic/pneumatic actuator	RVC	RVC	RVC	RVC	RVC	RVC	
PA Fans: RVC description, internal/external, annular/no annular plates	EXTERNAL, NO ANNULAR PLATES	EXTERNAL, NO ANNULAR PLATES	EXTERNAL, NO ANNULAR PLATES	EXTERNAL, NO ANNULAR PLATES	EXTERNAL, NO ANNULAR PLATES	EXTERNAL, NO ANNULAR PLATES	
PA Fans: Dorsal fins Y/N	Y	Y	Y	Y	Y	Y	
PA Fans: Bearing type (Roller Bearing/White Metal)	WHITE METAL	WHITE METAL	WHITE METAL	WHITE METAL	WHITE METAL	WHITE METAL	
PA Fans: Jacking oil pump Y/N	N	N	N	N	N	N	
PA Fans: Bearing Lubrication (oil bath, grease, forced Lubrication)	FORCED LUBRICATION	FORCED LUBRICATION	FORCED LUBRICATION	FORCED LUBRICATION	FORCED LUBRICATION	FORCED LUBRICATION	
PA Fans: Pump configuration, 2xelectric, 1electric+1 shaft driven, AC/DC motor, oil Rundown tanks?	1electric (STEIMEL GEAR PUMP BML2/36/R) + 1 shaft driven (VARLEY 10S)	1electric (STEIMEL GEAR PUMP BML2/36/R) + 1 shaft driven (VARLEY 10S)	1electric (STEIMEL GEAR PUMP BML2/36/R) + 1 shaft driven (VARLEY 10S)	1electric (STEIMEL GEAR PUMP BML2/36/R) + 1 shaft driven (VARLEY 10S)	1electric (STEIMEL GEAR PUMP BML2/36/R) + 1 shaft driven (VARLEY 10S)	1electric (STEIMEL GEAR PUMP BML2/36/R) + 1 shaft driven (VARLEY 10S)	
PA Fans: Bearing cooling type (oil/water/air)	WATER	WATER	WATER	WATER	WATER	WATER	
PA Fans: Coupling type (Fixed, fluid, holset, bibby, mutidisc, jolly)	BIBBY	BIBBY	BIBBY	BIBBY	BIBBY	BIBBY	
PA Fans: Vibration Monitoring? (Y/N)	N	N	N	N	N	N	
PA Fans: Wear liners on casing (Y/N)	N	N	N	N	N	N	
PA Fans: Wear liners on blades? (Y/N)	N	N	N	N	N	N	

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PA Fans: Blade liner description/configuration, location,etc	N/A	N/A	N/A	N/A	N/A	N/A	
PA Fans motors: OEM/Model No	GEC, SIZE:UC450l, ENCLOSURE: CACW IPW55, RATING: 3.3KV, 3PH, 50HZ	GEC, SIZE:UC450l, ENCLOSURE: CACW IPW55, RATING: 3.3KV, 3PH, 50HZ	GEC, SIZE:UC450l, ENCLOSURE: CACW IPW55, RATING: 3.3KV, 3PH, 50HZ	GEC, SIZE:UC450l, ENCLOSURE: CACW IPW55, RATING: 3.3KV, 3PH, 50HZ	GEC, SIZE:UC450l, ENCLOSURE: CACW IPW55, RATING: 3.3KV, 3PH, 50HZ	GEC, SIZE:UC450l, ENCLOSURE: CACW IPW55, RATING: 3.3KV, 3PH, 50HZ	
PA Fans motors: Power (kW)	1850	1850.0	1850.0	1850.0	1850.0	1850.0	
PA Fans motors: Power (HP)	2480.9	2480.89	2480.89	2480.89	2480.89	2480.89	
PA Fans motors: Bearing type (Roller Bearing/White Metal)	WHITE METAL	WHITE METAL	WHITE METAL	WHITE METAL	WHITE METAL	WHITE METAL	
PA Fans motors: Bearing Lubrication (oil bath, grease, forced Lubrication)	FORCED LUBRICATION	FORCED LUBRICATION	FORCED LUBRICATION	FORCED LUBRICATION	FORCED LUBRICATION	FORCED LUBRICATION	
PA Fans motors: Bearing cooling type (oil/water/air)	OIL	OIL	OIL	OIL	OIL	OIL	
PA Fans motors: Vibration Monitoring?	NO	NO	NO	NO	NO	NO	
FD Fans: OEM/Model No	HOWDEN/ Z Design 6 (Z6 282600)	HOWDEN/ Z Design 6 (Z6 282600)	HOWDEN/ Z Design 6 (Z6 282600)	HOWDEN/ Z Design 6 (Z6 282600)	HOWDEN/ Z Design 6 (Z6 282600)	HOWDEN/ Z Design 6 (Z6 282600)	
FD Fans: Type (Axial, Centrifugal)	CENTRIFUGAL	CENTRIFUGAL	CENTRIFUGAL	CENTRIFUGAL	CENTRIFUGAL	CENTRIFUGAL	
FD Fans: Static pressure rise (kPa)	2.95	2.95	2.95	2.95	2.95	2.95	
FD Fans: Volume flow rate (cu.ft/s)	9994.05161	9994.05161	9994.05161	9994.05161	9994.05161	9994.05161	
FD Fans: Volume flow rate (m3/s)	283	283	283	283	283	283	
FD Fans: RPM	740	740	740	740	740	740	
FD Fans: Fan Shaft Power (kW)	1851	1851	1851	1851	1851	1851	
FD Fans: No of fans/Boiler	2	2	2	2	2	2	
FD Fans: Impeller Diameter (mm)	2826	2826	2826	2826	2826	2826	
FD Fans: Aerofoil blades? (Y/N)	Y	Y	Y	Y	Y	Y	
FD Fans: Double/single inlet/stage	DOUBLE	DOUBLE	DOUBLE	DOUBLE	DOUBLE	DOUBLE	
FD Fans: Casing - centreline or Bottom supported?	BOTTOM	BOTTOM	BOTTOM	BOTTOM	BOTTOM	BOTTOM	
FD Fans: Shaft seal type - single/labyrinth, carbon/klingerite,	CARBON	CARBON	CARBON	CARBON	CARBON	CARBON	
FD Fans: Type control (ILD, RVC, Fluid coupling) Single/double electric/hydraulic/pneumatic actuator	RVC	RVC	RVC	RVC	RVC	RVC	
FD Fans: RVC description, internal/external, annular/no annular plates	INTERNAL, ANNULAR PLATES	INTERNAL, ANNULAR PLATES	INTERNAL, ANNULAR PLATES	INTERNAL, ANNULAR PLATES	INTERNAL, ANNULAR PLATES	INTERNAL, ANNULAR PLATES	
FD Fans: Dorsal fins Y/N	Y	Y	Y	Y	Y	Y	
FD Fans: Bearing type (Roller Bearing/White Metal)	WHITE METAL	WHITE METAL	WHITE METAL	WHITE METAL	WHITE METAL	WHITE METAL	
FD Fans: Jacking oil pump Y/N	Y	Y	Y	Y	Y	Y	
FD Fans: Bearing Lubrication (oil bath, grease, forced Lubrication)	FORCED LUBRICATION	FORCED LUBRICATION	FORCED LUBRICATION	FORCED LUBRICATION	FORCED LUBRICATION	FORCED LUBRICATION	
FD Fans: Pump configuration, 2xelectric, 1electric+1 shaft driven, AC/DC motor, oil Rundown tanks?	1X JACKING (HAWE RADIAL PISTON TWIN OUTLET), 1X ELECTRIC (STEIMEL GEAR PUMP BML 2/36/R), 1X SHAFT DRIVEN (VARLEY 20S)	1X JACKING (HAWE RADIAL PISTON TWIN OUTLET), 1X ELECTRIC (STEIMEL GEAR PUMP BML 2/36/R), 1X SHAFT DRIVEN (VARLEY 20S)	1X JACKING (HAWE RADIAL PISTON TWIN OUTLET), 1X ELECTRIC (STEIMEL GEAR PUMP BML 2/36/R), 1X SHAFT DRIVEN (VARLEY 20S)	1X JACKING (HAWE RADIAL PISTON TWIN OUTLET), 1X ELECTRIC (STEIMEL GEAR PUMP BML 2/36/R), 1X SHAFT DRIVEN (VARLEY 20S)	1X JACKING (HAWE RADIAL PISTON TWIN OUTLET), 1X ELECTRIC (STEIMEL GEAR PUMP BML 2/36/R), 1X SHAFT DRIVEN (VARLEY 20S)	1X JACKING (HAWE RADIAL PISTON TWIN OUTLET), 1X ELECTRIC (STEIMEL GEAR PUMP BML 2/36/R), 1X SHAFT DRIVEN (VARLEY 20S)	
FD Fans: Bearing cooling type (oil/water/air)	OIL	OIL	OIL	OIL	OIL	OIL	
FD Fans: Coupling type (Fixed, fluid, holset, bibby, mutidisc, jolly)	BIBBY	BIBBY	BIBBY	BIBBY	BIBBY	BIBBY	
FD Fans: Vibration Monitoring? (Y/N)	N	N	N	N	N	N	
FD Fans: Wear liners on casing (Y/N)	N	N	N	N	N	N	
FD Fans: Wear liners on blades? (Y/N)	N	N	N	N	N	N	
FD Fans: Blade liner description/configuration, location,etc	N/A	N/A	N/A	N/A	N/A	N/A	

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FD Fans motors: OEM/Model No	BROWN BOVERI, TYPE: QWG 710 1A8, POWER SUPPLY: 3.3 KV, 3 PH, 50 HZ)	BROWN BOVERI, TYPE: QWG 710 1A8, POWER SUPPLY: 3.3 KV, 3 PH, 50 HZ)	BROWN BOVERI, TYPE: QWG 710 1A8, POWER SUPPLY: 3.3 KV, 3 PH, 50 HZ)	BROWN BOVERI, TYPE: QWG 710 1A8, POWER SUPPLY: 3.3 KV, 3 PH, 50 HZ)	BROWN BOVERI, TYPE: QWG 710 1A8, POWER SUPPLY: 3.3 KV, 3 PH, 50 HZ)	BROWN BOVERI, TYPE: QWG 710 1A8, POWER SUPPLY: 3.3 KV, 3 PH, 50 HZ)	
FD Fans motors: Power (kW)	2100	2100	2100	2100	2100	2100	
FD Fans motors: Power (HP)	2816.2	2816.15	2816.15	2816.15	2816.15	2816.15	
FD Fans motors: Bearing type (Roller Bearing/White Metal)	WHITE METAL	WHITE METAL	WHITE METAL	WHITE METAL	WHITE METAL	WHITE METAL	
FD Fans motors: Bearing Lubrication (oil bath, grease, forced Lubrication)	FORCED LUBRICATION	FORCED LUBRICATION	FORCED LUBRICATION	FORCED LUBRICATION	FORCED LUBRICATION	FORCED LUBRICATION	
FD Fans motors: Bearing cooling type (oil/water/air)	OIL	OIL	OIL	OIL	OIL	OIL	
FD Fans motors: Vibration Monitoring?	N	N	N	N	N	N	
ID Fans: OEM/Model No	HOWDEN/ Z Design 6 (Z6 372100)	HOWDEN/ Z Design 6 (Z6 372100)	HOWDEN/ Z Design 6 (Z6 372100)	HOWDEN/ Z Design 6 (Z6 372100)	HOWDEN/ Z Design 6 (Z6 372100)	HOWDEN/ Z Design 6 (Z6 372100)	
ID Fans: Type (Axial, Centrifugal)	CENTRIFUGAL	CENTRIFUGAL	CENTRIFUGAL	CENTRIFUGAL	CENTRIFUGAL	CENTRIFUGAL	
ID Fans: Static pressure rise (kPa)	2.71	2.71	2.71	2.71	2.71	2.71	
ID Fans: Volume flow rate (cu.ft/s)	17480.76165	17480.76165	17480.76165	17480.76165	17480.76165	17480.76165	
ID Fans: Volume flow rate (m3/s)	495	495	495	495	495	495	
ID Fans: RPM	590	590	590	590	590	590	
ID Fans: Fan Shaft Power (kW)	2760	2760	2760	2760	2760	2760	
ID Fans: No of fans/Boiler	2	2	2	2	2	2	
ID Fans: Impeller Diameter (mm)	3772	3772	3772	3772	3772	3772	
ID Fans: Aerofoil blades? (Y/N)	Y	Y	Y	Y	Y	Y	
ID Fans: Double/single inlet/stage	Y	Y	Y	Y	Y	Y	
ID Fans: Casing - centreline or Bottom supported?	BOTTOM	BOTTOM	BOTTOM	BOTTOM	BOTTOM	BOTTOM	
ID Fans: Shaft seal type - single/labyrinth, carbon/klingerite,	CARBON	CARBON	CARBON	CARBON	CARBON	CARBON	
ID Fans: Type control (ILD, RVC, Fluid coupling) Single/double electric/hydraulic/pneumatic actuator	RVC	RVC	RVC	RVC	RVC	RVC	
ID Fans: RVC description, internal/external, annular/no annular plates	INTERNAL, Z-COVERS	INTERNAL, Z-COVERS	INTERNAL, Z-COVERS	INTERNAL, Z-COVERS	INTERNAL, Z-COVERS	INTERNAL, Z-COVERS	
ID Fans: Dorsal fins Y/N	Y	Y	Y	Y	Y	Y	
ID Fans: Bearing type (Roller Bearing/White Metal)	WHITE METAL	WHITE METAL	WHITE METAL	WHITE METAL	WHITE METAL	WHITE METAL	
ID Fans: Jacking oil pump Y/N	Y	Y	Y	Y	Y	Y	
ID Fans: Bearing Lubrication (oil bath, grease, forced Lubrication)	FORCED LUBRICATION	FORCED LUBRICATION	FORCED LUBRICATION	FORCED LUBRICATION	FORCED LUBRICATION	FORCED LUBRICATION	
ID Fans: Pump configuration, 2xelectric, 1electric+1 shaft driven, AC/DC motor, oil Rundown tanks?	1X JACKING (HAWE RADIAL PISTON TWIN OUTLET), 1X ELECTRIC (STEIMEL GEAR PUMP BML 2/36/R), 1X SHAFT DRIVEN (VARLEY 20S)	1X JACKING (HAWE RADIAL PISTON TWIN OUTLET), 1X ELECTRIC (STEIMEL GEAR PUMP BML 2/36/R), 1X SHAFT DRIVEN (VARLEY 20S)	1X JACKING (HAWE RADIAL PISTON TWIN OUTLET), 1X ELECTRIC (STEIMEL GEAR PUMP BML 2/36/R), 1X SHAFT DRIVEN (VARLEY 20S)	1X JACKING (HAWE RADIAL PISTON TWIN OUTLET), 1X ELECTRIC (STEIMEL GEAR PUMP BML 2/36/R), 1X SHAFT DRIVEN (VARLEY 20S)	1X JACKING (HAWE RADIAL PISTON TWIN OUTLET), 1X ELECTRIC (STEIMEL GEAR PUMP BML 2/36/R), 1X SHAFT DRIVEN (VARLEY 20S)	1X JACKING (HAWE RADIAL PISTON TWIN OUTLET), 1X ELECTRIC (STEIMEL GEAR PUMP BML 2/36/R), 1X SHAFT DRIVEN (VARLEY 20S)	
ID Fans: Bearing cooling type (oil/water/air)	OIL	OIL	OIL	OIL	OIL	OIL	
ID Fans: Coupling type (Fixed, fluid, holset, bibby, mutidisc, jolly)	BIBBY	BIBBY	BIBBY	BIBBY	BIBBY	BIBBY	
ID Fans: Vibration Monitoring? (Y/N)	N	N	N	N	N	N	
ID Fans: Wear liners on casing (Y/N)	Y	Y	Y	Y	Y	Y	
ID Fans: Wear liners on blades? (Y/N)	Y	Y	Y	Y	Y	Y	
ID Fans: Blade liner description/configuration, location,etc	NOSE, PRIMARY AND SECONDARY ON THE BLADES.	NOSE, PRIMARY AND SECONDARY ON THE BLADES.	NOSE, PRIMARY AND SECONDARY ON THE BLADES.	NOSE, PRIMARY AND SECONDARY ON THE BLADES.	NOSE, PRIMARY AND SECONDARY ON THE BLADES.	NOSE, PRIMARY AND SECONDARY ON THE BLADES.	

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ID Fans motors: OEM/Model No	HAWKER SIDDELEY (SA), TYPE: NL 710 44 10P, POWER SUPPLY: 3.3KV, 3PH, 50HZ	HAWKER SIDDELEY (SA), TYPE: NL 710 44 10P, POWER SUPPLY: 3.3KV, 3PH, 50HZ	HAWKER SIDDELEY (SA), TYPE: NL 710 44 10P, POWER SUPPLY: 3.3KV, 3PH, 50HZ	HAWKER SIDDELEY (SA), TYPE: NL 710 44 10P, POWER SUPPLY: 3.3KV, 3PH, 50HZ	HAWKER SIDDELEY (SA), TYPE: NL 710 44 10P, POWER SUPPLY: 3.3KV, 3PH, 50HZ	HAWKER SIDDELEY (SA), TYPE: NL 710 44 10P, POWER SUPPLY: 3.3KV, 3PH, 50HZ	
ID Fans motors: Power (kW)	3100.0	3100.0	3100.0	3100.0	3100.0	3100.0	
ID Fans motors: Power (HP)	4157.2	4157.2	4157.2	4157.17	4157.17	4157.17	
ID Fans motors: Bearing type (Roller Bearing/White Metal)	WHITE METAL	WHITE METAL	WHITE METAL	WHITE METAL	WHITE METAL	WHITE METAL	
ID Fans motors: Bearing Lubrication (oil bath, grease, forced Lubrication)	FORCED LUBRICATION	FORCED LUBRICATION	FORCED LUBRICATION	FORCED LUBRICATION	FORCED LUBRICATION	FORCED LUBRICATION	
ID Fans motors: Bearing cooling type (oil/water/air)	OIL	OIL	OIL	OIL	OIL	OIL	
ID Fans motors: Vibration Monitoring?	N	N	N	N	N	N	
Airheaters (Primary): OEM/Model No	BABCOCK	BABCOCK	BABCOCK	BABCOCK	BABCOCK	BABCOCK	
Airheaters (Primary): Type (Rotary/Tubular)	TUBULAR	TUBULAR	TUBULAR	TUBULAR	TUBULAR	TUBULAR	
Airheaters (Primary): Gas Inlet temp	335	335	335	335	335	335	
Airheaters (Primary): Gas Outlet Temp	127	127	127	127	127	127	
Airheaters (Primary): Air Inlet Temp	44	44	44	44	44	44	
Airheaters (Primary): Air outlet Temp	310	310	310	310	310	310	
Airheaters (Secondary): OEM/Model No	Howden	Howden	Howden	Howden	Howden	Howden	
Airheaters (Secondary): (Rothemuhle/Ljungstrom)	LJUNGSTROM (VN MOD)	LJUNGSTROM (VN MOD)	LJUNGSTROM (VN MOD)	LJUNGSTROM (VN MOD)	LJUNGSTROM (VN MOD)	LJUNGSTROM (VN MOD)	
Airheaters (Secondary): Type (rotating hood/matrix)	MATRIX	MATRIX	MATRIX	MATRIX	MATRIX	MATRIX	
Airheaters (Secondary): Include Primary Air? (Y/N)	N	N	N	N	N	N	
Airheaters (Secondary): Configuration single/twin/quad flow	Single	Single	Single	Single	Single	Single	
Airheaters (Secondary): Hot End seal Thermal compensators (Y/N)	N	N	N	N	N	N	
Airheaters (Secondary): Cold end seal adjustment (Y/N)	N	N	N	N	N	N	
Airheaters (Secondary): Hot End sector plate adjustment (Y/N) (electric/pneumatic/hydraulic)	N	N	N	N	N	N	
Airheaters (Secondary): Cold End sector adjustment (Y/N)	N	N	N	N	N	N	
Airheaters (Secondary): Shaft Orientation (Vertical/Horizontal)	VERTICAL	VERTICAL	VERTICAL	VERTICAL	VERTICAL	VERTICAL	
Airheaters (Secondary): Matrix Inner Radius :							
Airheaters (Secondary): Matrix Outer Radius :							
Airheaters (Secondary): Intermediate radius if twinflow :							
Airheaters (Secondary): Number of sectors	24	24	24	24	24	24	
Airheaters (Secondary): Number of element layers	3	3	3	3	3	3	
Airheaters (Secondary): Number of rings	5	5	5	5	5	5	
Airheaters (Secondary): Max Element total height:	1750mm (Cold:550mm, Hot: 600mm, Intermediate: 600mm)	1750mm (Cold:550mm, Hot: 600mm, Intermediate: 600mm)	1750mm (Cold:550mm, Hot: 600mm, Intermediate: 600mm)	1750mm (Cold:550mm, Hot: 600mm, Intermediate: 600mm)	1750mm (Cold:550mm, Hot: 600mm, Intermediate: 600mm)	1750mm (Cold:550mm, Hot: 600mm, Intermediate: 600mm)	
Airheaters (Secondary): No of Seal Frame articulation joints?							
Airheaters (Secondary): Rotor/hoods RPM:	0.887	0.887	0.887	0.887	0.887	0.887	

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Draught Plant Technical Information

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Airheaters (Secondary): Drive System details – eg pinrack (single/dual pinion)/ shaft drive	7.5KW ELECTRIC MOTOR THROUGH A DOUBLE REDUCTION GEARBOX VIA A FLEXIBLE COUPLING. THE FINAL ROTOR SPEED REDUCTION IS PROVIDED BY SPUR GEARING CONSISTING OF A PINION ATTACHED TO THE OUTPUT SHAFT OF THE DOUBLE REDUCTION GEARBOX.	7.5KW ELECTRIC MOTOR THROUGH A DOUBLE REDUCTION GEARBOX VIA A FLEXIBLE COUPLING. THE FINAL ROTOR SPEED REDUCTION IS PROVIDED BY SPUR GEARING CONSISTING OF A PINION ATTACHED TO THE OUTPUT SHAFT OF THE DOUBLE REDUCTION GEARBOX.	7.5KW ELECTRIC MOTOR THROUGH A DOUBLE REDUCTION GEARBOX VIA A FLEXIBLE COUPLING. THE FINAL ROTOR SPEED REDUCTION IS PROVIDED BY SPUR GEARING CONSISTING OF A PINION ATTACHED TO THE OUTPUT SHAFT OF THE DOUBLE REDUCTION GEARBOX.	7.5KW ELECTRIC MOTOR THROUGH A DOUBLE REDUCTION GEARBOX VIA A FLEXIBLE COUPLING. THE FINAL ROTOR SPEED REDUCTION IS PROVIDED BY SPUR GEARING CONSISTING OF A PINION ATTACHED TO THE OUTPUT SHAFT OF THE DOUBLE REDUCTION GEARBOX.	7.5KW ELECTRIC MOTOR THROUGH A DOUBLE REDUCTION GEARBOX VIA A FLEXIBLE COUPLING. THE FINAL ROTOR SPEED REDUCTION IS PROVIDED BY SPUR GEARING CONSISTING OF A PINION ATTACHED TO THE OUTPUT SHAFT OF THE DOUBLE REDUCTION GEARBOX.	7.5KW ELECTRIC MOTOR THROUGH A DOUBLE REDUCTION GEARBOX VIA A FLEXIBLE COUPLING. THE FINAL ROTOR SPEED REDUCTION IS PROVIDED BY SPUR GEARING CONSISTING OF A PINION ATTACHED TO THE OUTPUT SHAFT OF THE DOUBLE REDUCTION GEARBOX.	
Airheaters (Secondary): Gearbox type – eg size, manuf.	DAVID BROWN, DOUBLE REDUCTION GEARBOX, BVD17 RADICON WORM REDUCER	DAVID BROWN, DOUBLE REDUCTION GEARBOX, BVD17 RADICON WORM REDUCER	DAVID BROWN, DOUBLE REDUCTION GEARBOX, BVD17 RADICON WORM REDUCER	DAVID BROWN, DOUBLE REDUCTION GEARBOX, BVD17 RADICON WORM REDUCER	DAVID BROWN, DOUBLE REDUCTION GEARBOX, BVD17 RADICON WORM REDUCER	DAVID BROWN, DOUBLE REDUCTION GEARBOX, BVD17 RADICON WORM REDUCER	
Airheaters (Secondary): Lubrication system type – eg grease/oil	OIL	OIL	OIL	OIL	OIL	OIL	
Airheaters (Secondary): Gas Inlet temp	335	335	335	335	335	335	
Airheaters (Secondary): Gas Outlet Temp	127	127	127	127	127	127	
Airheaters (Secondary): Air Inlet Temp	44	44	44	44	44	44	
Airheaters (Secondary): Air outlet Temp	288	288	288	288	288	288	
Airheaters (Secondary): Sootblower type (Fixed/Retractable, Reciprocating, spider)	RETRACTABLE	RETRACTABLE	RETRACTABLE	RETRACTABLE	RETRACTABLE	RETRACTABLE	
Airheaters (Secondary): Sootblower valve type (Rotary Valve, single poppet, stop valve, etc)	I think this is a poppet valve	I think this is a poppet valve	I think this is a poppet valve	I think this is a poppet valve	I think this is a poppet valve	I think this is a poppet valve	I will confirm with the relevant engineer when he is back from leave
Airheaters (Secondary): Sootblow Frequency	ONCE PER SHIFT	ONCE PER SHIFT	ONCE PER SHIFT	ONCE PER SHIFT	ONCE PER SHIFT	ONCE PER SHIFT	
Airheaters (Secondary): Gas bypass installed?	N	N	N	N	N	N	
Airheaters (Secondary): Air bypass installed?	Y	Y	Y	Y	Y	Y	
Airheaters (Secondary): Hot air recirc installed?	N	N	N	N	N	N	
Airheaters (Secondary): Fire detection installed?	N	N	N	N	N	N	
Airheaters (Secondary): Fire extinguishing installed?	Y	Y	Y	Y	Y	Y	
Airheaters (Secondary): Fire fighting equipment - single column or nozzle matrix	NOZZLE MATRIX	NOZZLE MATRIX	NOZZLE MATRIX	NOZZLE MATRIX	NOZZLE MATRIX	NOZZLE MATRIX	
O2 Measurement: matrix upstream of A/H? (Y/N)	Y	Y	Y	Y	Y	Y	
O2 Measurement: matrix downstream of A/H? (Y/N)	N	N	N	N	N	N	

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Draught Plant Technical Information

Majuba Power Station

Unit No:	1	2	3	4	5	6	Comments
Boilers: OEM/Model No	Steinmueller	Steinmueller	Steinmueller	Steinmueller	Steinmueller	Steinmueller	Majuba Manuals
Boilers: Type (El Paso, Tower)	Benson boiler/Tower	Benson boiler/Tower	Benson boiler/Tower	Benson boiler/Tower	Benson boiler/Tower	Benson boiler/Tower	Majuba Manuals
Boilers: Wind box pressure Kpa	2.7	2.7	2.7	2.7	2.7	2.7	Majuba Manuals
Boilers: Boiler setpoint (press (negative Kpa)	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	Majuba Manuals
Gas Cleaning: Type (Precip/FFP)	FFP	FFP	FFP	FFP	FFP	FFP	Majuba Manuals
Mills: OEM/Model No	STEIN INDUSTRIE /BBD 4760	STEIN INDUSTRIE /BBD 4760	STEIN INDUSTRIE /BBD 4760	STEIN INDUSTRIE /BBD 4760	STEIN INDUSTRIE /BBD 4760	STEIN INDUSTRIE /BBD 4760	Majuba Manuals
Mills: Type (Tube, vertical spindle)	Tube	Tube	Tube	Tube	Tube	Tube	Majuba Manuals
Mills: No Mills/boiler	5	5	5	5	5	5	Majuba Manuals
Mills: Seal air fans? (Y/N)	Y	Y	Y	Y	Y	Y	Majuba Manuals
PA Fans: OEM/Model No	Howden/Centrifugal – M Design 3, size 276 202	Howden/Centrifugal – M Design 3, size 276 202	Howden/Centrifugal – M Design 3, size 276 202	Howden/Centrifugal – M Design 3, size 276 202	Howden/Centrifugal – M Design 3, size 276 202	Howden/Centrifugal – M Design 3, size 276 202	Majuba Manuals
PA Fans: Type (Axial, Centrifugal)	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Majuba Manuals
PA Fans: Static pressure rise (kPa)	10.54	10.54	10.54	10.54	10.54	10.54	Majuba Manuals
PA Fans: Volume flow rate (cu.ft/s)	N/A	N/A	N/A	N/A	N/A	N/A	Majuba Manuals
PA Fans: Volume flow rate (m3/s)	111.5	111.5	111.5	111.5	111.5	111.5	Majuba Manuals
PA Fans: RPM	978	978	978	978	978	978	Majuba Manuals
PA Fans: Fan Shaft Power (kW)	1312	1312	1312	1312	1312	1312	Majuba Manuals
PA Fans: No of fans/Mill	N/A	N/A	N/A	N/A	N/A	N/A	Majuba Manuals
PA Fans: No of fans/Boiler	2	2	2	2	2	2	Majuba Manuals
PA Fans: Impeller Diameter (mm)	2817	2817	2817	2817	2817	2817	Majuba Manuals
PA Fans: Aerofoil blades? (Y/N)	N	N	N	N	N	N	Majuba Manuals
PA Fans: Location (before/after air heater)	Before	Before	Before	Before	Before	Before	Majuba Manuals
PA Fans: Hot/Cold operation?	Cold	Cold	Cold	Cold	Cold	Cold	Majuba Manuals
PA Fans: Cooling disc on shaft? (Y/N)	N	N	N	N	N	N	Majuba Manuals
PA Fans: Double/single inlet/stage	Single	Single	Single	Single	Single	Single	Majuba Manuals
PA Fans: Casing - centreline or Bottom supported?	Bottom	Bottom	Bottom	Bottom	Bottom	Bottom	Majuba Manuals
PA Fans: Shaft seal type - single/labyrinth, carbon/klingerite,	Labrinth, Carbon	Labrinth, Carbon	Labrinth, Carbon	Labrinth, Carbon	Labrinth, Carbon	Labrinth, Carbon	Majuba Manuals
PA Fans: Type control (ILD, RVC, Fluid coupling) Single/double electric/hydraulic/pneumatic actuator	RVC, Electric	RVC, Electric	RVC, Electric	RVC, Electric	RVC, Electric	RVC, Electric	Majuba Manuals
PA Fans: RVC description, internal/external, annular/no annular plates	Internal with annular plates	Internal with annular plates	Internal with annular plates	Internal with annular plates	Internal with annular plates	Internal with annular plates	Majuba Manuals
PA Fans: Dorsal fins Y/N	Y	Y	Y	Y	Y	Y	Majuba Manuals
PA Fans: Bearing type (Roller Bearing/White Metal)	White Metal	White Metal	White Metal	White Metal	White Metal	White Metal	Majuba Manuals
PA Fans: Jacking oil pump Y/N	N	N	N	N	N	N	Majuba Manuals
PA Fans: Bearing Lubrication (oil bath, grease, forced Lubrication)	forced lubrication	forced lubrication	forced lubrication	forced lubrication	forced lubrication	forced lubrication	Majuba Manuals
PA Fans: Pump configuration, 2xelectric, 1electric+1 shaft driven, AC/DC motor, oil Rundown tanks?	2xelectric, Flinger disc rundown	2xelectric, Flinger disc rundown	2xelectric, Flinger disc rundown	2xelectric, Flinger disc rundown	2xelectric, Flinger disc rundown	2xelectric, Flinger disc rundown	Majuba Manuals
PA Fans: Bearing cooling type (oil/water/air)	oil	oil	oil	oil	oil	oil	Majuba Manuals
PA Fans: Coupling type (Fixed, fluid, holset, bibby, mutidisc, jolly)	Bibby	Bibby	Bibby	Bibby	Bibby	Bibby	Majuba Manuals
PA Fans: Vibration Monitoring? (Y/N)	Y	Y	Y	Y	Y	Y	Majuba Manuals
PA Fans: Wear liners on casing (Y/N)	N	N	N	N	N	N	Majuba Manuals
PA Fans: Wear liners on blades? (Y/N)	N	N	N	N	N	N	Majuba Manuals
PA Fans: Blade liner description/configuration, location,etc	N/A	N/A	N/A	N/A	N/A	N/A	Majuba Manuals
PA Fans motors: OEM/Model No	ABB/ZSM 1012-1022 1013-1023	ABB/ZSM 1012-1022 1013-1023	ABB/ZSM 1012-1022 1013-1023	ABB/ZSM 1012-1022 1013-1023	ABB/ZSM 1012-1022 1013-1023	ABB/ZSM 1012-1022 1013-1023	Majuba Manuals
PA Fans motors: Power (kW)	1312	1312.0	1312.0	1312.0	1312.0	1312.0	Majuba Manuals
PA Fans motors: Power (HP)	N/A	N/A	N/A	N/A	N/A	N/A	Majuba Manuals
PA Fans motors: Bearing type (Roller Bearing/White Metal)	White Metal	White Metal	White Metal	White Metal	White Metal	White Metal	Majuba Manuals

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PA Fans motors: Bearing Lubrication (oil bath, grease, forced Lubrication)	Oil bath	Oil bath	Oil bath	Oil bath	Oil bath	Oil bath	Majuba Manuals
PA Fans motors: Bearing cooling type (oil/water/air)	Water	Water	Water	Water	Water	Water	Majuba Manuals
PA Fans motors: Vibration Monitoring?	No vibration monitoring	No vibration monitoring	No vibration monitoring	No vibration monitoring	No vibration monitoring	No vibration monitoring	Majuba Manuals
FD Fans: OEM/Model No	Howden/Axial Flow Fan AFN 2200/3539	Howden/Axial Flow Fan AFN 2200/3539	Howden/Axial Flow Fan AFN 2200/3539	Howden/Axial Flow Fan AFN 2200/3539	Howden/Axial Flow Fan AFN 2200/3539	Howden/Axial Flow Fan AFN 2200/3539	Majuba Manuals
FD Fans: Type (Axial, Centrifugal)	Axial	Axial	Axial	Axial	Axial	Axial	Majuba Manuals
FD Fans: Static pressure rise (kPa)	6,62	6,62	6,62	6,62	6,62	6,62	Majuba Manuals
FD Fans: Volume flow rate (cu.ft/s)	N/A	N/A	N/A	N/A	N/A	N/A	Majuba Manuals
FD Fans: Volume flow rate (m3/s)	503	503	503	503	503	503	Majuba Manuals
FD Fans: RPM	985	985	985	985	985	985	Majuba Manuals
FD Fans: Fan Shaft Power (kW)	3970	3970	3970	3970	3970	3970	Majuba Manuals
FD Fans: No of fans/Boiler	2	2	2	2	2	2	Majuba Manuals
FD Fans: Impeller Diameter (mm)	3539	3539	3539	3539	3539	3539	Majuba Manuals
FD Fans: Aerofoil blades? (Y/N)	Y	Y	Y	Y	Y	Y	Majuba Manuals
FD Fans: Double/single inlet/stage	Single stage	Single stage	Single stage	Single stage	Single stage	Single stage	Majuba Manuals
FD Fans: Casing - centreline or Bottom supported?	Centreline	Centreline	Centreline	Centreline	Centreline	Centreline	Majuba Manuals
FD Fans: Shaft seal type - single/labyrinth, carbon/klingerite,	Double Labyrinth /Klingerite	Double Labyrinth /Klingerite	Double Labyrinth /Klingerite	Double Labyrinth /Klingerite	Double Labyrinth /Klingerite	Double Labyrinth /Klingerite	Majuba Manuals
FD Fans: Type control (ILD, RVC, Fluid coupling) Single/double electric/hydraulic/pneumatic actuator	Blade pitch Hydraulic/electric	Blade pitch Hydraulic/electric	Blade pitch Hydraulic/electric	Blade pitch Hydraulic/electric	Blade pitch Hydraulic/electric	Blade pitch Hydraulic/electric	Majuba Manuals
FD Fans: RVC description, internal/external, annular/no annular plates	No annular plates	No annular plates	No annular plates	No annular plates	No annular plates	No annular plates	Majuba Manuals
FD Fans: Dorsal fins Y/N	N	N	N	N	N	N	Majuba Manuals
FD Fans: Bearing type (Roller Bearing/White Metal)	White Metal	White Metal	White Metal	White Metal	White Metal	White Metal	Majuba Manuals
FD Fans: Jacking oil pump Y/N	N	N	N	N	N	N	Majuba Manuals
FD Fans: Bearing Lubrication (oil bath, grease, forced Lubrication)	Forced lubrication	Forced lubrication	Forced lubrication	Forced lubrication	Forced lubrication	Forced lubrication	Majuba Manuals
FD Fans: Pump configuration, 2xelectric, 1electric+1 shaft driven, AC/DC motor, oil Rundown tanks?	2xelectric, Flinger disc rundown	2xelectric, Flinger disc rundown	2xelectric, Flinger disc rundown	2xelectric, Flinger disc rundown	2xelectric, Flinger disc rundown	2xelectric, Flinger disc rundown	Majuba Manuals
FD Fans: Bearing cooling type (oil/water/air)	Oil	Oil	Oil	Oil	Oil	Oil	Majuba Manuals
FD Fans: Coupling type (Fixed, fluid, holset, bibby, mutidisc, jolly)	Bibby multidisc (Turbo-flex)	Bibby multidisc (Turbo-flex)	Bibby multidisc (Turbo-flex)	Bibby multidisc (Turbo-flex)	Bibby multidisc (Turbo-flex)	Bibby multidisc (Turbo-flex)	Majuba Manuals
FD Fans: Vibration Monitoring? (Y/N)	Y	Y	Y	Y	Y	Y	Majuba Manuals
FD Fans: Wear liners on casing (Y/N)	N	N	N	N	N	N	Majuba Manuals
FD Fans: Wear liners on blades? (Y/N)	N	N	N	N	N	N	Majuba Manuals
FD Fans: Blade liner description/configuration, location,etc	Erosion protection coating	Erosion protection coating	Erosion protection coating	Erosion protection coating	Erosion protection coating	Erosion protection coating	Majuba Manuals
FD Fans motors: OEM/Model No	ABB/ZSM 1000-1011	ABB/ZSM 1000-1011	ABB/ZSM 1000-1011	ABB/ZSM 1000-1011	ABB/ZSM 1000-1011	ABB/ZSM 1000-1011	Majuba Manuals
FD Fans motors: Power (kW)	3903	3903	3903	3903	3903	3903	Majuba Manuals
FD Fans motors: Power (HP)	N/A	N/A	N/A	N/A	N/A	N/A	Majuba Manuals
FD Fans motors: Bearing type (Roller Bearing/White Metal)	White Metal	White Metal	White Metal	White Metal	White Metal	White Metal	Majuba Manuals
FD Fans motors: Bearing Lubrication (oil bath, grease, forced Lubrication)	Oil bath	Oil bath	Oil bath	Oil bath	Oil bath	Oil bath	Majuba Manuals
FD Fans motors: Bearing cooling type (oil/water/air)	Water	Water	Water	Water	Water	Water	Majuba Manuals
FD Fans motors: Vibration Monitoring?	No vibration monitoring	No vibration monitoring	No vibration monitoring	No vibration monitoring	No vibration monitoring	No vibration monitoring	Majuba Manuals
ID Fans: OEM/Model No	Kühnle, Kopp & Kausch (KKK)/AP 2-40/19	Kühnle, Kopp & Kausch (KKK)/AP 2-40/19	Kühnle, Kopp & Kausch (KKK)/AP 2-40/19	Kühnle, Kopp & Kausch (KKK)/AP 2-40/19	Kühnle, Kopp & Kausch (KKK)/AP 2-40/19	Kühnle, Kopp & Kausch (KKK)/AP 2-40/19	Majuba Manuals
ID Fans: Type (Axial, Centrifugal)	Axial	Axial	Axial	Axial	Axial	Axial	Majuba Manuals
ID Fans: Static pressure rise (kPa)	7,46	7,46	7,46	7,46	7,46	7,46	Majuba Manuals
ID Fans: Volume flow rate (cu.ft/s)	N/A	N/A	N/A	N/A	N/A	N/A	Majuba Manuals

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ID Fans: Volume flow rate (m3/s)	776,5	776,5	776,5	776,5	776,5	776,5	Majuba Manuals
ID Fans: RPM	745	745	745	745	745	745	Majuba Manuals
ID Fans: Fan Shaft Power (kW)	7280	7280	7280	7280	7280	7280	Majuba Manuals
ID Fans: No of fans/Boiler	2	2	2	2	2	2	Majuba Manuals
ID Fans: Impeller Diameter (mm)	4000	4000	4000	4000	4000	4000	Majuba Manuals
ID Fans: Aerofoil blades? (Y/N)	Y	Y	Y	Y	Y	Y	Majuba Manuals
ID Fans: Double/single inlet/stage	Double stage	Double stage	Double stage	Double stage	Double stage	Double stage	Majuba Manuals
ID Fans: Casing - centreline or Bottom supported?	Centerline	Centerline	Centerline	Centerline	Centerline	Centerline	Majuba Manuals
ID Fans: Shaft seal type - single/labyrinth, carbon/klingerite,	Labyrinth, steel	Labyrinth, steel	Labyrinth, steel	Labyrinth, steel	Labyrinth, steel	Labyrinth, steel	Majuba Manuals
ID Fans: Type control (ILD, RVC, Fluid coupling) Single/double electric/hydraulic/pneumatic actuator	Blade pitch Hydraulic/electric	Blade pitch Hydraulic/electric	Blade pitch Hydraulic/electric	Blade pitch Hydraulic/electric	Blade pitch Hydraulic/electric	Blade pitch Hydraulic/electric	Majuba Manuals
ID Fans: RVC description, internal/external, annular/no annular plates	External	External	External	External	External	External	Majuba Manuals
ID Fans: Dorsal fins Y/N	N	N	N	N	N	N	Majuba Manuals
ID Fans: Bearing type (Roller Bearing/White Metal)	White Metal	White Metal	White Metal	White Metal	White Metal	White Metal	Majuba Manuals
ID Fans: Jacking oil pump Y/N	N	N	N	N	N	N	Majuba Manuals
ID Fans: Bearing Lubrication (oil bath, grease, forced Lubrication)	Oil bath	Oil bath	Oil bath	Oil bath	Oil bath	Oil bath	Majuba Manuals
ID Fans: Pump configuration, 2xelectric, 1electric+1 shaft driven, AC/DC motor, oil Rundown tanks?	2xelectric, oil ring rundown	2xelectric, oil ring rundown	2xelectric, oil ring rundown	2xelectric, oil ring rundown	2xelectric, oil ring rundown	2xelectric, oil ring rundown	Majuba Manuals
ID Fans: Bearing cooling type (oil/water/air)	Oil	Oil	Oil	Oil	Oil	Oil	Majuba Manuals
ID Fans: Coupling type (Fixed, fluid, holset, bibby, mutidisc, jolly)	RIGIFLEX laminated spring	RIGIFLEX laminated spring	RIGIFLEX laminated spring	RIGIFLEX laminated spring	RIGIFLEX laminated spring	RIGIFLEX laminated spring	Majuba Manuals
ID Fans: Vibration Monitoring? (Y/N)	Y	Y	Y	Y	Y	Y	Majuba Manuals
ID Fans: Wear liners on casing (Y/N)	N	N	N	N	N	N	Majuba Manuals
ID Fans: Wear liners on blades? (Y/N)	N	N	N	N	N	N	Majuba Manuals
ID Fans: Blade liner description/configuration, location,etc	N/A	N/A	N/A	N/A	N/A	N/A	Majuba Manuals
ID Fans motors: OEM/Model No	GEC	GEC	GEC	GEC	GEC	GEC	Majuba Manuals
ID Fans motors: Power (kW)	7250.0	7250.0	7250.0	7250.0	7250.0	7250.0	Majuba Manuals
ID Fans motors: Power (HP)	N/A	N/A	N/A	N/A	N/A	N/A	Majuba Manuals
ID Fans motors: Bearing type (Roller Bearing/White Metal)	White Metal	White Metal	White Metal	White Metal	White Metal	White Metal	Majuba Manuals
ID Fans motors: Bearing Lubrication (oil bath, grease, forced Lubrication)	Oil bath	Oil bath	Oil bath	Oil bath	Oil bath	Oil bath	Majuba Manuals
ID Fans motors: Bearing cooling type (oil/water/air)	Water	Water	Water	Water	Water	Water	Majuba Manuals
ID Fans motors: Vibration Monitoring?	No vibration monitoring	No vibration monitoring	No vibration monitoring	No vibration monitoring	No vibration monitoring	No vibration monitoring	Majuba Manuals
Airheaters (Primary): OEM/Model No	Steinmueller/?	Steinmueller/?	Steinmueller/?	Steinmueller/?	Steinmueller/?	Steinmueller/?	Majuba Manuals
Airheaters (Primary): Type (Rotary/Tubular)	Tubular	Tubular	Tubular	Tubular	Tubular	Tubular	Majuba Manuals
Airheaters (Primary): Gas Inlet temp	364	364	364	364	364	364	Majuba Manuals
Airheaters (Primary): Gas Outlet Temp	138	138	138	138	138	138	Majuba Manuals
Airheaters (Primary): Air Inlet Temp	51	51	51	51	51	51	Majuba Manuals
Airheaters (Primary): Air outlet Temp	246	246	246	246	246	246	Majuba Manuals
Airheaters (Secondary): OEM/Model No	14.5 VU/14,5 VU (300 + 775 + 775 + (250F) + 300C	14.5 VU/14,5 VU (300 + 775 + 775 + (250F) + 300C	14.5 VU/14,5 VU (300 + 775 + 775 + (250F) + 300C	14.5 VU/14,5 VU (300 + 775 + 775 + (250F) + 300C	14.5 VU/14,5 VU (300 + 775 + 775 + (250F) + 300C	14.5 VU/14,5 VU (300 + 775 + 775 + (250F) + 300C	Majuba Manuals
Airheaters (Secondary): (Rothemuhle/Ljungstrom)	Rothemuhle	Rothemuhle	Rothemuhle	Rothemuhle	Rothemuhle	Rothemuhle	Majuba Manuals
Airheaters (Secondary): Type (rotating hood/matrix)	Rotating hood	Rotating hood	Rotating hood	Rotating hood	Rotating hood	Rotating hood	Majuba Manuals
Airheaters (Secondary): Include Primary Air? (Y/N)	N	N	N	N	N	N	Majuba Manuals

Model No?

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Airheaters (Secondary): Configuration single/twin/quad flow	Single	Single	Single	Single	Single	Single	Majuba Manuals
Airheaters (Secondary): Hot End seal Thermal compensators (Y/N)	Y	Y	Y	Y	Y	Y	Majuba Manuals
Airheaters (Secondary): Cold end seal adjustment (Y/N)	Y	Y	Y	Y	Y	Y	Majuba Manuals
Airheaters (Secondary): Hot End sector plate adjustment (Y/N) (electric/pneumatic/hydraulic)	N/A	N/A	N/A	N/A	N/A	N/A	Majuba Manuals
Airheaters (Secondary): Cold End sector adjustment (Y/N)	N/A	N/A	N/A	N/A	N/A	N/A	Majuba Manuals
Airheaters (Secondary): Shaft Orientation (Vertical/Horizontal)	Vertical	Vertical	Vertical	Vertical	Vertical	Vertical	Majuba Manuals
Airheaters (Secondary): Matrix Inner Radius :							Majuba Manuals
Airheaters (Secondary): Matrix Outer Radius :							Majuba Manuals
Airheaters (Secondary): Intermediate radius if twinflow :	N/A	N/A	N/A	N/A	N/A	N/A	Majuba Manuals
Airheaters (Secondary): Number of sectors	60	60	60	60	60	60	Majuba Manuals
Airheaters (Secondary): Number of element layers	4	4	4	4	3	3	Majuba Manuals
Airheaters (Secondary): Number of rings	7	7	7	7	7	7	Majuba Manuals
Airheaters (Secondary): Max Element total height:	hot end- 300mm,Hot end, intermediate- 775mm, Cold end, intermediate - 775mm, cold end- 300mm	hot end- 300mm,Hot end, intermediate- 775mm, Cold end, intermediate - 775mm, cold end- 300mm	hot end- 300mm,Hot end, intermediate- 775mm, Cold end, intermediate - 775mm, cold end- 300mm	hot end- 300mm,Hot end, intermediate- 775mm, Cold end, intermediate - 775mm, cold end- 300mm	hot end- 300mm,Hot end, intermediate- 775mm, Cold end, intermediate - 775mm, cold end- 300mm	hot end- 300mm,Hot end, intermediate- 775mm, Cold end, intermediate - 775mm, cold end- 300mm	Majuba Manuals
Airheaters (Secondary): No of Seal Frame articulation joints?	24 per Air Heater (12Top &12 Bottom)	24 per Air Heater (12Top &12 Bottom)	24 per Air Heater (12Top &12 Bottom)	24 per Air Heater (12Top &12 Bottom)	24 per Air Heater (12Top &12 Bottom)	24 per Air Heater (12Top &12 Bottom)	Majuba Manuals
Airheaters (Secondary): Rotor/hoods RPM:	0.6	0.6	0.6	0.6	0.6	0.6	Majuba Manuals
Airheaters (Secondary): Drive System details – eg pinrack (single/dual pinion)/ shaft drive	Pinrack single pinion	Pinrack single pinion	Pinrack single pinion	Pinrack single pinion	Pinrack single pinion	Pinrack single pinion	Majuba Manuals
Airheaters (Secondary): Gearbox type – eg size, manuf.	Ostermann Type/Ref SSNV4-280/2 spur gear	Ostermann Type/Ref SSNV4-280/2 spur gear	Ostermann Type/Ref SSNV4-280/2 spur gear	Ostermann Type/Ref SSNV4-280/2 spur gear	Ostermann Type/Ref SSNV4-280/2 spur gear	Ostermann Type/Ref SSNV4-280/2 spur gear	Majuba Manuals
Airheaters (Secondary): Lubrication system type – eg grease/oil	Greasing system	Greasing system	Greasing system	Greasing system	Greasing system	Greasing system	Majuba Manuals
Airheaters (Secondary): Gas Inlet temp	360	360	360	360	360	360	Majuba Manuals
Airheaters (Secondary): Gas Outlet Temp	134	134	134	134	134	134	Majuba Manuals
Airheaters (Secondary): Air Inlet Temp	44	44	44	44	44	44	Majuba Manuals
Airheaters (Secondary): Air outlet Temp	329	329	329	329	329	329	Majuba Manuals
Airheaters (Secondary): Sootblower type (Fixed/Retractable, Reciprocating, spider)	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed	Majuba Manuals
Airheaters (Secondary): Sootblower valve type (Rotary Valve, single poppet, stop valve, etc)	Rotary valve	Rotary valve	Rotary valve	Rotary valve	Rotary valve	Rotary valve	Majuba Manuals
Airheaters (Secondary): Sootblow Frequency	Once/day	Once/day	Once/day	Once/day	Once/day	Once/day	Majuba Manuals
Airheaters (Secondary): Gas bypass installed?	N	N	N	N	N	N	Majuba Manuals
Airheaters (Secondary): Air bypass installed?	N	N	N	N	N	N	Majuba Manuals
Airheaters (Secondary): Hot air recirc installed?	N	N	N	N	N	N	Majuba Manuals
Airheaters (Secondary): Fire detection installed?	Y	Y	Y	Y	Y	Y	Majuba Manuals
Airheaters (Secondary): Fire extinguishing installed?	Y	Y	Y	Y	Y	Y	Majuba Manuals
Airheaters (Secondary): Fire fighting equipment - single column or nozzle matrix	Nozzle matrix	Nozzle matrix	Nozzle matrix	Nozzle matrix	Nozzle matrix	Nozzle matrix	Majuba Manuals
O2 Measurement: matrix upstream of A/H? (Y/N)	Y	Y	Y	Y	Y	Y	Majuba Manuals

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O2 Measurement: matrix downstream of A/H? (Y/N)	N	N	N	N	N	N	Majuba Manuals

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Unit No:	1	2	3	4	5	6	Comments
Boilers: OEM/Model No	Sieva	Sieva	Sieva	Sieva	Sieva	Sieva	
Boilers: Type (El Paso, Tower)	Tower, once pass through	Tower, once pass through	Tower, once pass through	Tower, once pass through	Tower, once pass through	Tower, once pass through	
Boilers: Wind box pressure Kpa	Furnacce Pressure - 50kpa	Furnacce Pressure - 50kpa	Furnacce Pressure - 50kpa	Furnacce Pressure - 50kpa	Furnacce Pressure - 50kpa	Furnacce Pressure - 50kpa	
Boilers: Boiler setpoint (press (negative Kpa)	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
Gas Cleaning: Type (Precip/FFP)	Precip	Precip	Precip	Precip	Precip	Precip	
Mills: OEM/Model No	Sieva	Sieva	Sieva	Sieva	Sieva	Sieva	
Mills: Type (Tube, vertical spindle)	Ball Tube	Ball Tube	Ball Tube	Ball Tube	Ball Tube	Ball Tube	
Mills: No Mills/boiler	4	4	4	4	4	4	
Mills: Seal air fans? (Y/N)	Y	Y	Y	Y	Y	Y	
PA Fans: OEM/Model No	Airtec Davidson	Airtec Davidson	Airtec Davidson	Airtec Davidson	Airtec Davidson	Airtec Davidson	
PA Fans: Type (Axial, Centrifugal)	Single inlet BAB 42	Single inlet BAB 42	Single inlet BAB 42	Single inlet BAB 42	Single inlet BAB 42	Single inlet BAB 42	
PA Fans: Static pressure rise (kPa)	14.77	14.77	14.77	14.77	14.77	14.77	
PA Fans: Volume flow rate (cu.ft/s)	N/A	N/A	N/A	N/A	N/A	N/A	
PA Fans: Volume flow rate (m3/s)	127.5	127.5	127.5	127.5	127.5	127.5	
PA Fans: RPM	980	980	980	980	980	980	
PA Fans: Fan Shaft Power (kW)	2220	2220	2220	2220	2220	2220	
PA Fans: No of fans/Mill	1	1	1	1	1	1	
PA Fans: No of fans/Boiler	2	2	2	2	2	2	
PA Fans: Impeller Diameter (mm)	3390	3390	3390	3390	3390	3390	
PA Fans: Aerofoil blades? (Y/N)	N	N	N	N	N	N	
PA Fans: Location (before/after air heater)	After	After	After	After	After	After	
PA Fans: Hot/Cold operation?	Cold	Cold	Cold	Cold	Cold	Cold	
PA Fans: Cooling disc on shaft? (Y/N)	Y	Y	Y	Y	Y	Y	
PA Fans: Double/single inlet/stage	Single inlet	Single inlet	Single inlet	Single inlet	Single inlet	Single inlet	
PA Fans: Casing - centreline or Bottom supported?	Centreline	Centreline	Centreline	Centreline	Centreline	Centreline	
PA Fans: Shaft seal type - single/labyrinth, carbon/klingerite,	Labyrinth	Labyrinth	Labyrinth	Labyrinth	Labyrinth	Labyrinth	
PA Fans: Type control (ILD, RVC, Fluid coupling) Single/double electric/hydraulic/pneumatic actuator	RVC Electric atuator	RVC Electric atuator	RVC Electric atuator	RVC Electric atuator	RVC Electric atuator	RVC Electric atuator	
PA Fans: RVC description, internal/external, annular/no annular plates	External	External	External	External	External	External	
PA Fans: Dorsal fins Y/N	Y	Y	Y	Y	Y	Y	
PA Fans: Bearing type (Roller Bearing/White Metal)	White Metal	White Metal	White Metal	White Metal	White Metal	White Metal	
PA Fans: Jacking oil pump Y/N	N	N	N	N	N	N	
PA Fans: Bearing Lubrication (oil bath, grease, forced Lubrication)	Forced Lubrication	Forced Lubrication	Forced Lubrication	Forced Lubrication	Forced Lubrication	Forced Lubrication	
PA Fans: Pump configuration, 2xelectric, 1electric+1 shaft driven, AC/DC motor, oil Rundown tanks?	Lube oil Pump BMS3-25R	Lube oil Pump BMS3-25R	Lube oil Pump BMS3-25R	Lube oil Pump BMS3-25R	Lube oil Pump BMS3-25R	Lube oil Pump BMS3-25R	
PA Fans: Bearing cooling type (oil/water/air)	oil	oil	oil	oil	oil	oil	
PA Fans: Coupling type (Fixed, fluid, holset, bibby, mutidisc, jolly)	Bibby with springs	Bibby with springs	Bibby with springs	Bibby with springs	Bibby with springs	Bibby with springs	
PA Fans: Vibration Monitoring? (Y/N)	Y	Y	Y	Y	Y	Y	
PA Fans: Wear liners on casing (Y/N)	N	N	N	N	N	N	
PA Fans: Wear liners on blades? (Y/N)	N	N	N	N	N	N	
PA Fans: Blade liner description/configuration, location,etc	N/A	N/A	N/A	N/A	N/A	N/A	
PA Fans motors: OEM/Model No	BBC	BBC	BBC	BBC	BBC	BBC	
PA Fans motors: Power (kW)	2350	2350.0	2350.0	2350.0	2350.0	2350.0	
PA Fans motors: Power (HP)	N/A	N/A	N/A	N/A	N/A	N/A	

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PA Fans motors: Bearing type (Roller Bearing/White Metal)	White Metal	White Metal	White Metal	White Metal	White Metal	White Metal	
PA Fans motors: Bearing Lubrication (oil bath, grease, forced Lubrication)	Forced Lubrication	Forced Lubrication	Forced Lubrication	Forced Lubrication	Forced Lubrication	Forced Lubrication	
PA Fans motors: Bearing cooling type (oil/water/air)	oil	oil	oil	oil	oil	oil	
PA Fans motors: Vibration Monitoring?	N	N	N	N	N	N	
FD Fans: OEM/Model No	Airtec Davidson	Airtec Davidson	Airtec Davidson	Airtec Davidson	Airtec Davidson	Airtec Davidson	
FD Fans: Type (Axial, Centrifugal)	Double inlet BAB 143	Double inlet BAB 143	Double inlet BAB 143	Double inlet BAB 143	Double inlet BAB 143	Double inlet BAB 143	
FD Fans: Static pressure rise (kPa)	4.560	4.560	4.560	4.560	4.560	4.560	
FD Fans: Volume flow rate (cu.ft/s)	NA	NA	NA	NA	NA	NA	
FD Fans: Volume flow rate (m3/s)	38.85	38.85	38.85	38.85	38.85	38.85	
FD Fans: RPM	740	740	740	740	740	740	
FD Fans: Fan Shaft Power (kW)	2166	2166	2166	2166	2166	2166	
FD Fans: No of fans/Boiler	2	2	2	2	2	2	
FD Fans: Impeller Diameter (mm)	2890	2890	2890	2890	2890	2890	
FD Fans: Aerofoil blades? (Y/N)	Y	Y	Y	Y	Y	Y	
FD Fans: Double/single inlet/stage	Double inlet	Double inlet	Double inlet	Double inlet	Double inlet	Double inlet	
FD Fans: Casing - centreline or Bottom supported?	Bottom	Bottom	Bottom	Bottom	Bottom	Bottom	
FD Fans: Shaft seal type - single/labyrinth, carbon/klingerite,	Labyrinth	Labyrinth	Labyrinth	Labyrinth	Labyrinth	Labyrinth	
FD Fans: Type control (ILD, RVC, Fluid coupling) Single/double electric/hydraulic/pneumatic actuator	RVC Electric atuator	RVC Electric atuator	RVC Electric atuator	RVC Electric atuator	RVC Electric atuator	RVC Electric atuator	
FD Fans: RVC description, internal/external, annular/no annular plates	Internal	Internal	Internal	Internal	Internal	Internal	
FD Fans: Dorsal fins Y/N	Y	Y	Y	Y	Y	Y	
FD Fans: Bearing type (Roller Bearing/White Metal)	White Metal	White Metal	White Metal	White Metal	White Metal	White Metal	
FD Fans: Jacking oil pump Y/N	Y	Y	Y	Y	Y	Y	
FD Fans: Bearing Lubrication (oil bath, grease, forced Lubrication)	Forced Lubrication	Forced Lubrication	Forced Lubrication	Forced Lubrication	Forced Lubrication	Forced Lubrication	
FD Fans: Pump configuration, 2xelectric, 1electric+1 shaft driven, AC/DC motor, oil Rundown tanks?	Lube oil Pump BMS3-40R	Lube oil Pump BMS3-40R	Lube oil Pump BMS3-40R	Lube oil Pump BMS3-40R	Lube oil Pump BMS3-40R	Lube oil Pump BMS3-40R	
FD Fans: Bearing cooling type (oil/water/air)	oil	oil	oil	oil	oil	oil	
FD Fans: Coupling type (Fixed, fluid, holset, bibby, mutidisc, jolly)	Bibby with springs	Bibby with springs	Bibby with springs	Bibby with springs	Bibby with springs	Bibby with springs	
FD Fans: Vibration Monitoring? (Y/N)	Y	Y	Y	Y	Y	Y	
FD Fans: Wear liners on casing (Y/N)	N	N	N	N	N	N	
FD Fans: Wear liners on blades? (Y/N)	N	N	N	N	N	N	
FD Fans: Blade liner description/configuration, location,etc	Backward Aerofoil blades	Backward Aerofoil blades	Backward Aerofoil blades	Backward Aerofoil blades	Backward Aerofoil blades	Backward Aerofoil blades	
FD Fans motors: OEM/Model No	BBC	BBC	BBC	BBC	BBC	BBC	
FD Fans motors: Power (kW)	2310	2310	2310	2310	2310	2310	
FD Fans motors: Power (HP)	N/A	N/A	N/A	N/A	N/A	N/A	
FD Fans motors: Bearing type (Roller Bearing/White Metal)	White Metal	White Metal	White Metal	White Metal	White Metal	White Metal	
FD Fans motors: Bearing Lubrication (oil bath, grease, forced Lubrication)	Forced Lubrication	Forced Lubrication	Forced Lubrication	Forced Lubrication	Forced Lubrication	Forced Lubrication	
FD Fans motors: Bearing cooling type (oil/water/air)	oil	oil	oil	oil	oil	oil	
FD Fans motors: Vibration Monitoring?	N	N	N	N	N	N	
ID Fans: OEM/Model No	Airtec Davidson	Airtec Davidson	Airtec Davidson	Airtec Davidson	Airtec Davidson	Airtec Davidson	
ID Fans: Type (Axial, Centrifugal)	Cetrifugal	Cetrifugal	Cetrifugal	Cetrifugal	Cetrifugal	Cetrifugal	
ID Fans: Static pressure rise (kPa)	4400kpa	4400kpa	4400kpa	4400kpa	4400kpa	4400kpa	

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Draught Plant Technical Information

Matimba Power Station

ID Fans: Volume flow rate (cu.ft/s)	NA	NA	NA	NA	NA	NA	
ID Fans: Volume flow rate (m3/s)							
ID Fans: RPM	597	597	597	597	597	597	
ID Fans: Fan Shaft Power (kW)	3720	3720	3720	3720	3720	3720	
ID Fans: No of fans/Boiler	2	2	2	2	2	2	
ID Fans: Impeller Diameter (mm)	3390mm	3390mm	3390mm	3390mm	3390mm	3390mm	
ID Fans: Aerofoil blades? (Y/N)	N	N	N	N	N	N	
ID Fans: Double/single inlet/stage	Double	Double	Double	Double	Double	Double	
ID Fans: Casing - centreline or Bottom supported?	Centreline	Centreline	Centreline	Centreline	Centreline	Centreline	
ID Fans: Shaft seal type - single/labyrinth, carbon/klingerite,	Labyrinth	Labyrinth	Labyrinth	Labyrinth	Labyrinth	Labyrinth	
ID Fans: Type control (ILD, RVC, Fluid coupling) Single/double electric/hydraulic/pneumatic actuator	RVC Electric actuator	RVC Electric actuator	RVC Electric actuator	RVC Electric actuator	RVC Electric actuator	RVC Electric actuator	
ID Fans: RVC description, internal/external, annular/no annular plates	External	External	External	External	External	External	
ID Fans: Dorsal fins Y/N	Y	Y	Y	Y	Y	Y	
ID Fans: Bearing type (Roller Bearing/White Metal)	White Metal	White Metal	White Metal	White Metal	White Metal	White Metal	
ID Fans: Jacking oil pump Y/N	Y	Y	Y	Y	Y	Y	
ID Fans: Bearing Lubrication (oil bath, grease, forced Lubrication)	Forced Lubrication	Forced Lubrication	Forced Lubrication	Forced Lubrication	Forced Lubrication	Forced Lubrication	
ID Fans: Pump configuration, 2xelectric, 1electric+1 shaft driven, AC/DC motor, oil Rundown tanks?	2xelectric, Rundown tanks?	2xelectric, Rundown tanks?	2xelectric, Rundown tanks?	2xelectric, Rundown tanks?	2xelectric, Rundown tanks?	2xelectric, Rundown tanks?	
ID Fans: Bearing cooling type (oil/water/air)	oil	oil	oil	oil	oil	oil	
ID Fans: Coupling type (Fixed, fluid, holset, bibby, mutidisc, jolly)	Holset	Holset	Holset	Holset	Holset	Holset	
ID Fans: Vibration Monitoring? (Y/N)	Y	Y	Y	Y	Y	Y	
ID Fans: Wear liners on casing (Y/N)	N	N	N	N	N	N	
ID Fans: Wear liners on blades? (Y/N)	N	N	N	N	N	N	
ID Fans: Blade liner description/configuration, location,etc	Backward Aerofoil blades	Backward Aerofoil blades	Backward Aerofoil blades	Backward Aerofoil blades	Backward Aerofoil blades	Backward Aerofoil blades	
ID Fans motors: OEM/Model No	BBC	BBC	BBC	BBC	BBC	BBC	
ID Fans motors: Power (kW)	3720.0	3720.0	3720.0	3720.0	3720.0	3720.0	
ID Fans motors: Power (HP)	NA	NA	NA	NA	NA	NA	
ID Fans motors: Bearing type (Roller Bearing/White Metal)	White Metal	White Metal	White Metal	White Metal	White Metal	White Metal	
ID Fans motors: Bearing Lubrication (oil bath, grease, forced Lubrication)	Forced Lubrication	Forced Lubrication	Forced Lubrication	Forced Lubrication	Forced Lubrication	Forced Lubrication	
ID Fans motors: Bearing cooling type (oil/water/air)	oil	oil	oil	oil	oil	oil	
ID Fans motors: Vibration Monitoring?	N	N	N	N	N	N	
Airheaters (Primary): OEM/Model No	Airtec Davidson	Airtec Davidson	Airtec Davidson	Airtec Davidson	Airtec Davidson	Airtec Davidson	
Airheaters (Primary): Type (Rotary/Tubular)	Tubular	Tubular	Tubular	Tubular	Tubular	Tubular	
Airheaters (Primary): Gas Inlet temp	320	320	320	320		320	
Airheaters (Primary): Gas Outlet Temp	140	140	140	140		140	
Airheaters (Primary): Air Inlet Temp	48	48	48	48	48	48	
Airheaters (Primary): Air outlet Temp	270	270	270	270	270	270	
Airheaters (Secondary): OEM/Model No	14.5 VU	14.5 VU	14.5 VU	14.5 VU	14.5 VU	14.5 VU	
Airheaters (Secondary): (Rothemuhle/Ljungstrom)	Rothemuhle	Rothemuhle	Rothemuhle	Rothemuhle	Rothemuhle	Rothemuhle	
Airheaters (Secondary): Type (rotating hood/matrix)	Rorating hood	Rorating hood	Rorating hood	Rorating hood	Rorating hood	Rorating hood	
Airheaters (Secondary): Include Primary Air? (Y/N)	N	N	N	N	N	N	

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Airheaters (Secondary): Configuration single/twin/quad flow	Single	Single	Single	Single	Single	Single	
Airheaters (Secondary): Hot End seal Thermal compensators (Y/N)	Y	Y	Y	Y	Y	Y	
Airheaters (Secondary): Cold end seal adjustment (Y/N)	Y	Y	Y	Y	Y	Y	
Airheaters (Secondary): Hot End sector plate adjustment (Y/N) (electric/pneumatic/hydraulic)	NA	NA	NA	NA	NA	NA	
Airheaters (Secondary): Cold End sector adjustment (Y/N)	NA	NA	NA	NA	NA	NA	
Airheaters (Secondary): Shaft Orientation (Vertical/Horizontal)	Vertical	Vertical	Vertical	Vertical	Vertical	Vertical	
Airheaters (Secondary): Matrix Inner Radius :							
Airheaters (Secondary): Matrix Outer Radius :							
Airheaters (Secondary): Intermediate radius if twinflow :							
Airheaters (Secondary): Number of sectors	60	60	60	60	60	60	
Airheaters (Secondary): Number of element layers	3	3	3	3	3	3	
Airheaters (Secondary): Number of rings	7	7	7	7	7	7	
Airheaters (Secondary): Max Element total height:	1100 hot &int, 300 cold	1100 hot &int, 300 cold	1100 hot &int, 300 cold	1100 hot &int, 300 cold	1100 hot &int, 300 cold	1100 hot &int, 300 cold	
Airheaters (Secondary): No of Seal Frame articulation joints?	3	3	3	3	3	3	
Airheaters (Secondary): Rotor/hoods RPM:	0.6	0.6	0.6	0.6	0.6	0.09	
Airheaters (Secondary): Drive System details – eg pinrack (single/dual pinion)/ shaft drive	Pinrack single pinion	Pinrack single pinion	Pinrack single pinion	Pinrack single pinion	Pinrack single pinion	Pinrack single pinion	
Airheaters (Secondary): Gearbox type – eg size, manuf.	Osterman spear gearSSNV4-280/2	Osterman spear gearSSNV4-280/2	Osterman spear gearSSNV4-280/2	Osterman spear gearSSNV4-280/2	Osterman spear gearSSNV4-280/2	Osterman spear gearSSNV4-280/2	
Airheaters (Secondary): Lubrication system type – eg grease/oil	Grease	Grease	Grease	Grease	Grease	Grease	
Airheaters (Secondary): Gas Inlet temp	340	340	340	340	340	340	
Airheaters (Secondary): Gas Outlet Temp	125	125	125	125	125	125	
Airheaters (Secondary): Air Inlet Temp	43	43	43	43	43	43	
Airheaters (Secondary): Air outlet Temp	314	314	314	314	314	314	
Airheaters (Secondary): Sootblower type (Fixed/Retractable, Reciprocating, spider)	Fixed	Fixed	Fixed	Fixed	Fixed		
Airheaters (Secondary): Sootblower valve type (Rotary Valve, single poppet, stop valve, etc)	Rotary valve	Rotary valve	Rotary valve	Rotary valve	Rotary valve	Rotary valve	
Airheaters (Secondary): Sootblow Frequency	Twice/day	Twice/day	Twice/day	Twice/day	Twice/day	Twice/day	
Airheaters (Secondary): Gas bypass installed?	N	N	N	N	N	N	
Airheaters (Secondary): Air bypass installed?	N	N	N	Y	N	N	
Airheaters (Secondary): Hot air recirc installed?	N	N	N	N	N	N	
Airheaters (Secondary): Fire detection installed?	Y	Y	Y	Y	Y	Y	
Airheaters (Secondary): Fire extinguishing installed?	Y	Y	Y	Y	Y	Y	
Airheaters (Secondary): Fire fighting equipment - single column or nozzle matrix	Nozzle matrix	Nozzle matrix	Nozzle matrix	Nozzle matrix	Nozzle matrix	Nozzle matrix	
O2 Measurement: matrix upstream of A/H? (Y/N)	Y	Y	Y	Y	Y	Y	
O2 Measurement: matrix downstream of A/H? (Y/N)							

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Eskom Generation

Draught Plant Technical Information

Matla Power Station

Unit No:	1	2	3	4	5	6	Comments
Boilers: OEM/Model No	Babcock	Babcock	Babcock	Babcock	Babcock	Babcock	
Boilers: Type (El Paso, Tower)	2 Pass	2 Pass	2 Pass	2 Pass	2 Pass	2 Pass	
Boilers: Wind box pressure Kpa	2.5	2.5	2.5	2.5	2.5	2.5	
Boilers: Boiler setpoint (press (negative Pa)	-150	-150	-150	-150	-150	-150	
Gas Cleaning: Type (Precip/FFP)	Precip	Precip	Precip	Precip	Precip	Precip	
Mills: OEM/Model No	12.9 Babcock Vertical	12.9 Babcock Vertical	12.9 Babcock Vertical	12.9 Babcock Vertical	12.9 Babcock Vertical	12.9 Babcock Vertical	
Mills: Type (Tube, vertical spindle)	Vertical Spindle Mills	Vertical Spindle Mills	Vertical Spindle Mills	Vertical Spindle Mills	Vertical Spindle Mills	Vertical Spindle Mills	
Mills: No Mills/boiler	6Mills/Boiler	6Mills/Boiler	6Mills/Boiler	6Mills/Boiler	6Mills/Boiler	6Mills/Boiler	
Mills: Seal air fans? (Y/N)	N	N	N	N	N	N	
PA Fans: OEM/Model No	Howden	Howden	Howden	Howden	Howden	Howden	
PA Fans: Type (Axial, Centrifugal)	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	
PA Fans: Static pressure rise (kPa)	2.5	2.5	2.5	2.5	2.5	2.5	
PA Fans: Volume flow rate (cu.ft/s)							
PA Fans: Volume flow rate (m3/s)	120	120	120	120	120	120	
PA Fans: RPM	1490	1490	1490	1490	1490	1490	
PA Fans: Fan Shaft Power (kW)	1860	1860	1860	1860	1860	1860	
PA Fans: No of fans/Mill	1 Fan per 3mills	1 Fan per 3mills	1 Fan per 3mills	1 Fan per 3mills	1 Fan per 3mills	1 Fan per 3mills	
PA Fans: No of fans/Boiler	2 Fans per Boiler	2 Fans per Boiler	2 Fans per Boiler	2 Fans per Boiler	2 Fans per Boiler	2 Fans per Boiler	
PA Fans: Impeller Diameter (mm)							
PA Fans: Aerofoil blades? (Y/N)	Y	Y	Y	Y	Y	Y	
PA Fans: Location (before/after air heater)	Before	Before	Before	Before	Before	Before	
PA Fans: Hot/Cold operation?	Cold	Cold	Cold	Cold	Cold	Cold	
PA Fans: Cooling disc on shaft? (Y/N)	N	N	N	N	N	N	
PA Fans: Double/single inlet/stage	Single Inlet	Single Inlet	Single Inlet	Single Inlet	Single Inlet	Single Inlet	
PA Fans: Casing - centreline or Bottom supported?	?	?	?	?	?	?	
PA Fans: Shaft seal type - single/labyrinth, carbon/klingerite,	Carbon seal	Carbon seal	Carbon seal	Carbon seal	Carbon seal	Carbon seal	
PA Fans: Type control (ILD, RVC, Fluid coupling) Single/double electric/hydraulic/pneumatic actuator	RVC	RVC	RVC	RVC	RVC	RVC	
PA Fans: RVC description, internal/external, annular/no annular plates	External, No annular plates	External, No annular plates	External, No annular plates	External, No annular plates	External, No annular plates	External, No annular plates	
PA Fans: Dorsal fins Y/N	Y	Y	Y	Y	Y	Y	
PA Fans: Bearing type (Roller Bearing/White Metal)	White Metal	White Metal	White Metal	White Metal	White Metal	White Metal	
PA Fans: Jacking oil pump Y/N	N	N	N	N	N	N	
PA Fans: Bearing Lubrication (oil bath, grease, forced Lubrication)	Forced Lubrication	Forced Lubrication	Forced Lubrication	Forced Lubrication	Forced Lubrication	Forced Lubrication	
PA Fans: Pump configuration, 2xelectric, 1electric+1 shaft driven, AC/DC motor, oil Rundown tanks?	1 Elecric, 1 Shaft Driven	1 Elecric, 1 Shaft Driven	1 Elecric, 1 Shaft Driven	1 Elecric, 1 Shaft Driven	1 Elecric, 1 Shaft Driven	1 Elecric, 1 Shaft Driven	
PA Fans: Bearing cooling type (oil/water/air)	Oil	Oil	Oil	Oil	Oil	Oil	
PA Fans: Coupling type (Fixed, fluid, holset, bibby, mutidisc, jolly)	Holset	Holset	Holset	Holset	Holset	Holset	
PA Fans: Vibration Monitoring? (Y/N)	Y	Y	Y	Y	Y	Y	
PA Fans: Wear liners on casing (Y/N)	N	N	N	N	N	N	
PA Fans: Wear liners on blades? (Y/N)	N	N	N	N	N	N	
PA Fans: Blade liner description/configuration, location,etc	N/A	N/A	N/A	N/A	N/A	N/A	
PA Fans motors: OEM/Model No	Alstom	Alstom	Alstom	Alstom	Alstom	Alstom	
PA Fans motors: Power (kW)	2050	2050.0	2050.0	2050.0	2050.0	2050.0	
PA Fans motors: Power (HP)							
PA Fans motors: Bearing type (Roller Bearing/White Metal)	White Metal	White Metal	White Metal	White Metal	White Metal	White Metal	

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PA Fans motors: Bearing Lubrication (oil bath, grease, forced Lubrication)	Forced Lubrication	Forced Lubrication	Forced Lubrication	Forced Lubrication	Forced Lubrication	Forced Lubrication	
PA Fans motors: Bearing cooling type (oil/water/air)	Oil	Oil	Oil	Oil	Oil	Oil	
PA Fans motors: Vibration Monitoring?	N	N	N	N	N	N	
FD Fans: OEM/Model No	Howden	Howden	Howden	Howden	Howden	Howden	
FD Fans: Type (Axial, Centrifugal)	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	
FD Fans: Static pressure rise (kPa)	2.5	2.5	2.5	2.5	2.5	2.5	
FD Fans: Volume flow rate (cu.ft/s)							
FD Fans: Volume flow rate (m3/s)							
FD Fans: RPM	750	750	750	750	750	750	
FD Fans: Fan Shaft Power (kW)	2035	2035	2035	2035	2035	2035	
FD Fans: No of fans/Boiler	2/Boiler	2/Boiler	2/Boiler	2/Boiler	2/Boiler	2/Boiler	
FD Fans: Impeller Diameter (mm)							
FD Fans: Aerofoil blades? (Y/N)	Y	Y	Y	Y	Y	Y	
FD Fans: Double/single inlet/stage	Double	Double	Double	Double	Double	Double	
FD Fans: Casing - centreline or Bottom supported?							
FD Fans: Shaft seal type - single/labyrinth, carbon/klingerite,	Carbon seal	Carbon seal	Carbon seal	Carbon seal	Carbon seal	Carbon seal	
FD Fans: Type control (ILD, RVC, Fluid coupling) Single/double electric/hydraulic/pneumatic actuator	RVC	RVC	RVC	RVC	RVC	RVC	
FD Fans: RVC description, internal/external, annular/no annular plates	Internal, Annular Plates	Internal, Annular Plates	Internal, Annular Plates	Internal, Annular Plates	Internal, Annular Plates	Internal, Annular Plates	
FD Fans: Dorsal fins Y/N	Y	Y	Y	Y	Y	Y	
FD Fans: Bearing type (Roller Bearing/White Metal)	White Metal	White Metal	White Metal	White Metal	White Metal	White Metal	
FD Fans: Jacking oil pump Y/N	Y	Y	Y	Y	Y	Y	
FD Fans: Bearing Lubrication (oil bath, grease, forced Lubrication)	Forced Lubrication	Forced Lubrication	Forced Lubrication	Forced Lubrication	Forced Lubrication	Forced Lubrication	
FD Fans: Pump configuration, 2xelectric, 1electric+1 shaft driven, AC/DC motor, oil Rundown tanks?	1 Elecric, 1 Shaft Driven	1 Elecric, 1 Shaft Driven	1 Elecric, 1 Shaft Driven	1 Elecric, 1 Shaft Driven	1 Elecric, 1 Shaft Driven	1 Elecric, 1 Shaft Driven	
FD Fans: Bearing cooling type (oil/water/air)	Oil	Oil	Oil	Oil	Oil	Oil	
FD Fans: Coupling type (Fixed, fluid, holset, bibby, mutidisc, jolly)	Holset	Holset	Holset	Holset	Holset	Holset	
FD Fans: Vibration Monitoring? (Y/N)	Y	Y	Y	Y	Y	Y	
FD Fans: Wear liners on casing (Y/N)	N	N	N	N	N	N	
FD Fans: Wear liners on blades? (Y/N)	N	N	N	N	N	N	
FD Fans: Blade liner description/configuration, location,etc	N/A	N/A	N/A	N/A	N/A	N/A	
FD Fans motors: OEM/Model No	ABB/Actom	ABB/Actom	ABB/Actom	ABB/Actom	ABB/Actom	ABB/Actom	
FD Fans motors: Power (kW)	2000kW	2000kW	2000kW	2000kW	2000kW	2000kW	
FD Fans motors: Power (HP)	2682.0	2682.044	2682.044	2682.044	2682.044	2682.044	
FD Fans motors: Bearing type (Roller Bearing/White Metal)	White Metal	White Metal	White Metal	White Metal	White Metal	White Metal	
FD Fans motors: Bearing Lubrication (oil bath, grease, forced Lubrication)	Forced Lubrication	Forced Lubrication	Forced Lubrication	Forced Lubrication	Forced Lubrication	Forced Lubrication	
FD Fans motors: Bearing cooling type (oil/water/air)	Oil	Oil	Oil	Oil	Oil	Oil	
FD Fans motors: Vibration Monitoring?	N	N	N	N	N	N	
ID Fans: OEM/Model No	Howden	Howden	Howden	Howden	Howden	Howden	
ID Fans: Type (Axial, Centrifugal)	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	
ID Fans: Static pressure rise (kPa)	3.886	3.886	3.886	3.886	3.886	3.886	
ID Fans: Volume flow rate (cu.ft/s)							
ID Fans: Volume flow rate (m3/s)	621.15	621.15	621.15	621.15	621.15	621.15	

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ID Fans: RPM	590	590	590	590	590	590	
ID Fans: Fan Shaft Power (kW)	2750	2750	2750	2750	2750	2750	
ID Fans: No of fans/Boiler	2/Boiler	2/Boiler	2/Boiler	2/Boiler	2/Boiler	2/Boiler	
ID Fans: Impeller Diameter (mm)	3734	3734	3734	3734	3734	3734	
ID Fans: Aerofoil blades? (Y/N)	Y	Y	Y	Y	Y	Y	
ID Fans: Double/single inlet/stage	Double	Double	Double	Double	Double	Double	
ID Fans: Casing - centreline or Bottom supported?	?	?	?	?	?	?	
ID Fans: Shaft seal type - single/labyrinth, carbon/klingerite,	Carbon seal	Carbon seal	Carbon seal	Carbon seal	Carbon seal	Carbon seal	
ID Fans: Type control (ILD, RVC, Fluid coupling) Single/double electric/hydraulic/pneumatic actuator	RVC	RVC	RVC	RVC	RVC	RVC	
ID Fans: RVC description, internal/external, annular/no annular plates	Internal, Annular Plates/Z Plates	Internal, Annular Plates/Z Plates	Internal, Annular Plates/Z Plates	Internal, Annular Plates/Z Plates	Internal, Annular Plates/Z Plates	Internal, Annular Plates/Z Plates	
ID Fans: Dorsal fins Y/N	Y	Y	Y	Y	Y	Y	
ID Fans: Bearing type (Roller Bearing/White Metal)	White Metal	White Metal	White Metal	White Metal	White Metal	White Metal	
ID Fans: Jacking oil pump Y/N	Y	Y	Y	Y	Y	Y	
ID Fans: Bearing Lubrication (oil bath, grease, forced Lubrication)	Forced Lubrication	Forced Lubrication	Forced Lubrication	Forced Lubrication	Forced Lubrication	Forced Lubrication	
ID Fans: Pump configuration, 2xelectric, 1electric+1 shaft driven, AC/DC motor, oil Rundown tanks?	1 Elecric, 1 Shaft Driven	1 Elecric, 1 Shaft Driven	1 Elecric, 1 Shaft Driven	1 Elecric, 1 Shaft Driven	1 Elecric, 1 Shaft Driven	1 Elecric, 1 Shaft Driven	
ID Fans: Bearing cooling type (oil/water/air)	Oil	Oil	Oil	Oil	Oil	Oil	
ID Fans: Coupling type (Fixed, fluid, holset, bibby, mutidisc, jolly)	Holset	Holset	Holset	Holset	Holset	Holset	
ID Fans: Vibration Monitoring? (Y/N)	Y	Y	Y	Y	Y	Y	
ID Fans: Wear liners on casing (Y/N)	Y	Y	Y	Y	Y	Y	
ID Fans: Wear liners on blades? (Y/N)	Y	Y	Y	Y	Y	Y	
ID Fans: Blade liner description/configuration, location,etc	Blade Wrapper Liner (primary liner) and Nose Cap Liner (secondary liner)	Blade Wrapper Liner (primary liner) and Nose Cap Liner (secondary liner)	Blade Wrapper Liner (primary liner) and Nose Cap Liner (secondary liner)	Blade Wrapper Liner (primary liner) and Nose Cap Liner (secondary liner)	Blade Wrapper Liner (primary liner) and Nose Cap Liner (secondary liner)	Blade Wrapper Liner (primary liner) and Nose Cap Liner (secondary liner)	
ID Fans motors: OEM/Model No	ABB	ABB	ABB	ABB	ABB	ABB	
ID Fans motors: Power (kW)	2960.0	2960.0	2960.0	2960.0	2960.0	2960.0	
ID Fans motors: Power (HP)	3969.4	3969.4	3969.4	3969.425	3969.425	3969.425	
ID Fans motors: Bearing type (Roller Bearing/White Metal)	White Metal	White Metal	White Metal	White Metal	White Metal	White Metal	
ID Fans motors: Bearing Lubrication (oil bath, grease, forced Lubrication)	Forced Lubrication	Forced Lubrication	Forced Lubrication	Forced Lubrication	Forced Lubrication	Forced Lubrication	
ID Fans motors: Bearing cooling type (oil/water/air)	Oil	Oil	Oil	Oil	Oil	Oil	
ID Fans motors: Vibration Monitoring?	N	N	N	N	N	N	
Airheaters (Primary): OEM/Model No	Babcock	Babcock	Babcock	Babcock	Babcock	Babcock	
Airheaters (Primary): Type (Rotary/Tubular)	Tubular	Tubular	Tubular	Tubular	Tubular	Tubular	
Airheaters (Primary): Gas Inlet temp	367-300	367-300	367-300	367-300	367-300	367-300	
Airheaters (Primary): Gas Outlet Temp	90	90	90	90	90	90	
Airheaters (Primary): Air Inlet Temp	30-40	30-40	30-40	30-40	30-40	30-40	
Airheaters (Primary): Air outlet Temp	250-300	250-300	250-300	250-300	250-300	250-300	
Airheaters (Secondary): OEM/Model No	Howden	Howden	Howden	Howden	Howden	Howden	
Airheaters (Secondary): (Rothemuhle/Ljungstrom)	Ljungstrom	Ljungstrom	Ljungstrom	Ljungstrom	Ljungstrom	Ljungstrom	
Airheaters (Secondary): Type (rotating hood/matrix)	Matrix	Matrix	Matrix	Matrix	Matrix	Matrix	
Airheaters (Secondary): Include Primary Air? (Y/N)	N	N	N	N	N	N	

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Airheaters (Secondary): Configuration single/twin/quad flow	Single	Single	Single	Single	Single	Single	
Airheaters (Secondary): Hot End seal Thermal compensators (Y/N)	N	N	N	N	N	N	
Airheaters (Secondary): Cold end seal adjustment (Y/N)	Y (Manual)	Y (Manual)	Y (Manual)	Y (Manual)	Y (Manual)	Y (Manual)	
Airheaters (Secondary): Hot End sector plate adjustment (Y/N) (electric/pneumatic/hydraulic)	Y (Manual)	Y (Manual)	Y (Manual)	Y (Manual)	Y (Manual)	Y (Manual)	
Airheaters (Secondary): Cold End sector adjustment (Y/N)	N	N	N	N	N	N	
Airheaters (Secondary): Shaft Orientation (Vertical/Horizontal)	Vertical	Vertical	Vertical	Vertical	Vertical	Vertical	
Airheaters (Secondary): Matrix Inner Radius :	?	?	?	?	?	?	
Airheaters (Secondary): Matrix Outer Radius :	?	?	?	?	?	?	
Airheaters (Secondary): Intermediate radius if twinflow :	?	?	?	?	?	?	
Airheaters (Secondary): Number of sectors	24	24	24	24	24	24	
Airheaters (Secondary): Number of element layers	3 (on some Units, there are 2. Intermidiate packs are not there)	3 (on some Units, there are 2. Intermidiate packs are not there)	3 (on some Units, there are 2. Intermidiate packs are not there)	3 (on some Units, there are 2. Intermidiate packs are not there)	3 (on some Units, there are 2. Intermidiate packs are not there)	3 (on some Units, there are 2. Intermidiate packs are not there)	
Airheaters (Secondary): Number of rings	5	5	5	5	5	5	
Airheaters (Secondary): Max Element total height:	1.2m	1.2m	1.2m	1.2m	1.2m	1.2m	
Airheaters (Secondary): No of Seal Frame articulation joints?							
Airheaters (Secondary): Rotor/hoods RPM:	0.8875	0.8875	0.8875	0.8875	0.8875	0.8875	
Airheaters (Secondary): Drive System details – eg pinrack (single/dual pinion)/ shaft drive	Shaft drive	Shaft drive	Shaft drive	Shaft drive	Shaft drive	Shaft drive	
Airheaters (Secondary): Gearbox type – eg size, manuf.	David Brown	David Brown	David Brown	David Brown	David Brown	David Brown	
Airheaters (Secondary): Lubrication system type – eg grease/oil	Oil	Oil	Oil	Oil	Oil	Oil	
Airheaters (Secondary): Gas Inlet temp	367-400	367-400	367-400	367-400	367-400	367-400	
Airheaters (Secondary): Gas Outlet Temp	135	135	135	135	135	135	
Airheaters (Secondary): Air Inlet Temp	30-40	30-40	30-40	30-40	30-40	30-40	
Airheaters (Secondary): Air outlet Temp	250-300	250-300	250-300	250-300	250-300	250-300	
Airheaters (Secondary): Sootblower type (Fixed/Retractable, Reciprocating, spider)	Reciprocating	Reciprocating	Reciprocating	Reciprocating	Reciprocating	Reciprocating	
Airheaters (Secondary): Sootblower valve type (Rotary Valve, single poppet, stop valve, etc)	Single Poppet	Single Poppet	Single Poppet	Single Poppet	Single Poppet	Single Poppet	
Airheaters (Secondary): Sootblow Frequency	Once per shift	Once per shift	Once per shift	Once per shift	Once per shift	Once per shift	
Airheaters (Secondary): Gas bypass installed?	N	N	N	N	N	N	
Airheaters (Secondary): Air bypass installed?	Y	Y	Y	Y	Y	Y	
Airheaters (Secondary): Hot air recirc installed?	N	N	N	N	N	N	
Airheaters (Secondary): Fire detection installed?	Y	Y	Y	Y	Y	Y	
Airheaters (Secondary): Fire extinguishing installed?	Y	Y	Y	Y	Y	Y	
Airheaters (Secondary): Fire fighting equipment - single column or nozzle matrix	Nozzle Matrix	Nozzle Matrix	Nozzle Matrix	Nozzle Matrix	Nozzle Matrix	Nozzle Matrix	
O2 Measurement: matrix upstream of A/H? (Y/N)	Y	Y	Y	Y	Y	Y	

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O2 Measurement: matrix downstream of A/H? (Y/N)	N	N	N	N	N	N	

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Draught Plant Technical Information

Medupi Power Station

Unit No:	1	2	3	4	5	6	Comments
Boilers: OEM/Model No	Hitachi						
Boilers: Type (El Paso, Tower)	Once-through Tower						
Boilers: Wind box pressure Kpa	3.0						
Boilers: Boiler setpoint (press (negative Kpa)	- 0.2						
Gas Cleaning: Type (Precip/FFP)	FFP						
Mills: OEM/Model No	Hitachi						
Mills: Type (Tube, vertical spindle)	Vertical spindle						
Mills: No Mills/boiler	5						
Mills: Seal air fans? (Y/N)	Y						
PA Fans: OEM/Model No	L3N 3457.96.97	L3N 3457.96.97	L3N 3457.96.97	L3N 3457.96.97	L3N 3457.96.97	L3N 3457.96.97	
PA Fans: Type (Axial, Centrifugal)	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	
PA Fans: Static pressure rise (kPa)	18.6	18.6	18.6	18.6	18.6	18.6	
PA Fans: Volume flow rate (cu.ft/s)	139.3	139.3	139.3	139.3	139.3	139.3	
PA Fans: Volume flow rate (m3/s)	139.3	139.3	139.3	139.3	139.3	139.3	
PA Fans: RPM	990	990	990	990	990	990	
PA Fans: Fan Shaft Power (kW)	2929	2929	2929	2929	2929	2929	
PA Fans: No of fans/Mill	N/A						
PA Fans: No of fans/Boiler	2	2	2	2	2	2	
PA Fans: Impeller Diameter (mm)	3319	3319	3319	3319	3319	3319	
PA Fans: Aerofoil blades? (Y/N)	N	N	N	N	N	N	
PA Fans: Location (before/after air heater)	Before	Before	Before	Before	Before	Before	
PA Fans: Hot/Cold operation?	Cold	Cold	Cold	Cold	Cold	Cold	
PA Fans: Cooling disc on shaft? (Y/N)	N	N	N	N	N	N	
PA Fans: Double/single inlet/stage	Single	Single	Single	Single	Single	Single	
PA Fans: Casing - centreline or Bottom supported?	Bottom						
PA Fans: Shaft seal type - single/labyrinth, carbon/klingerite,	Double Carbon	Carbon	Carbon	Carbon	Carbon	Carbon	
PA Fans: Type control (ILD, RVC, Fluid coupling) Single/double electric/hydraulic/pneumatic actuator	RVC	RVC	RVC	RVC	RVC	RVC	
PA Fans: RVC description, internal/external, annular/no annular plates	Internal, no annular plate						
PA Fans: Dorsal fins Y/N	N	N	N	N	N	N	
PA Fans: Bearing type (Roller Bearing/White Metal)	White Metal	White Metal	White Metal	White Metal	White Metal	White Metal	
PA Fans: Jacking oil pump Y/N	N	N	N	N	N	N	
PA Fans: Bearing Lubrication (oil bath, grease, forced Lubrication)	forced lubrication	forced lubrication	forced lubrication	forced lubrication	forced lubrication	forced lubrication	
PA Fans: Pump configuration, 2xelectric, 1electric+1 shaft driven, AC/DC motor, oil Rundown tanks?	2x Electric + Shaft driven, DC pump rundown						
PA Fans: Bearing cooling type (oil/water/air)	Oil cooled	water	water	water	water	water	
PA Fans: Coupling type (Fixed, fluid, holset, bibby, mutidisc, jolly)	bibby	bibby	bibby	bibby	bibby	bibby	
PA Fans: Vibration Monitoring? (Y/N)	Y	Y	Y	Y	Y	Y	
PA Fans: Wear liners on casing (Y/N)	N	N	N	N	N	N	
PA Fans: Wear liners on blades? (Y/N)	N	N	N	N	N	N	
PA Fans: Blade liner description/configuration, location,etc	N/A						
PA Fans motors: OEM/Model No	ACTOM/800?						
PA Fans motors: Power (kW)							
PA Fans motors: Power (HP)	N/A						
PA Fans motors: Bearing type (Roller Bearing/White Metal)	White Metal	White Metal	White Metal	White Metal	White Metal	White Metal	

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Draught Plant Technical Information

Medupi Power Station

PA Fans motors: Bearing Lubrication (oil bath, grease, forced Lubrication)	forced lubrication	forced lubrication	forced lubrication	forced lubrication	forced lubrication	forced lubrication	
PA Fans motors: Bearing cooling type (oil/water/air)	Oil	water	water	water	water	water	
PA Fans motors: Vibration Monitoring?	Y	Y	Y	Y	Y	Y	
FD Fans: OEM/Model No	VARIAX ANN-3200/1600B						
FD Fans: Type (Axial, Centrifugal)	Axial	Axial	Axial	Axial	Axial	Axial	
FD Fans: Static pressure rise (kPa)	5.05	5.05	5.05	5.05	5.05	5.05	
FD Fans: Volume flow rate (cu.ft/s)	N/A						
FD Fans: Volume flow rate (m3/s)	496.4	496.4	496.4	496.4	496.4	496.4	
FD Fans: RPM	990	990	990	990	990	990	
FD Fans: Fan Shaft Power (kW)	3183	3183	3183	3183	3183	3183	
FD Fans: No of fans/Boiler	2	2	2	2	2	2	
FD Fans: Impeller Diameter (mm) (with blades)	3200						
FD Fans: Aerofoil blades? (Y/N)	Y						
FD Fans: Double/single inlet/stage	Single	Single	Single	Single	Single	Single	
FD Fans: Casing - centreline or Bottom supported?	Bottom						
FD Fans: Shaft seal type - single/labyrinth, carbon/klingerite,	single klingerite						
FD Fans: Type control (ILD, RVC, Fluid coupling) Single/double electric/hydraulic/pneumatic actuator	Hydraulic with electric actuator	Hydraulic	Hydraulic	Hydraulic	Hydraulic	Hydraulic	
FD Fans: RVC description, internal/external, annular/no annular plates	N/A						
FD Fans: Dorsal fins Y/N	N/A						
FD Fans: Bearing type (Roller Bearing/White Metal)	White Metal	White Metal	White Metal	White Metal	White Metal	White Metal	
FD Fans: Jacking oil pump Y/N	N	N	N	N	N	N	
FD Fans: Bearing Lubrication (oil bath, grease, forced Lubrication)	forced lubrication	forced lubrication	forced lubrication	forced lubrication	forced lubrication	forced lubrication	
FD Fans: Pump configuration, 2xelectric, 1electric+1 shaft driven, AC/DC motor, oil Rundown tanks?	2x Electric, DC pump rundown						
FD Fans: Bearing cooling type (oil/water/air)	Oil cooled						
FD Fans: Coupling type (Fixed, fluid, holset, bibby, mutidisc, jolly)	Multidisc	bibby	bibby	bibby	bibby	bibby	
FD Fans: Vibration Monitoring? (Y/N)	Y	Y	Y	Y	Y	Y	
FD Fans: Wear liners on casing (Y/N)	N	N	N	N	N	N	
FD Fans: Wear liners on blades? (Y/N)	N	N	N	N	N	N	
FD Fans: Blade liner description/configuration, location,etc	N/A						
FD Fans motors: OEM/Model No	ACTOM/900?						
FD Fans motors: Power (kW)							
FD Fans motors: Power (HP)	N/A						
FD Fans motors: Bearing type (Roller Bearing/White Metal)	White Metal	White Metal	White Metal	White Metal	White Metal	White Metal	
FD Fans motors: Bearing Lubrication (oil bath, grease, forced Lubrication)	forced lubrication						
FD Fans motors: Bearing cooling type (oil/water/air)	Oil						
FD Fans motors: Vibration Monitoring?	Y	Y	Y	Y	Y	Y	
ID Fans: OEM/Model No	SAF 40/23, 2-2						
ID Fans: Type (Axial, Centrifugal)	Axial	Axial	Axial	Axial	Axial	Axial	
ID Fans: Static pressure rise (kPa)	10.18	101.8	101.8	101.8	101.8	101.8	

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Draught Plant Technical Information

Medupi Power Station

ID Fans: Volume flow rate (cu.ft/s)	N/A						
ID Fans: Volume flow rate (m3/s)	738.61	738.61	738.61	738.61	738.61	738.61	
ID Fans: RPM	745	745	745	745	745	745	
ID Fans: Fan Shaft Power (kW)	8913	8913	8913	8913	8913	8913	
ID Fans: No of fans/Boiler	2	2	2	2	2	2	
ID Fans: Impeller Diameter (mm)	3982	3982	3982	3982	3982	3982	
ID Fans: Aerofoil blades? (Y/N)	Y						
ID Fans: Double/single inlet/stage	Double	Double	Double	Double	Double	Double	
ID Fans: Casing - centreline or Bottom supported?	Bottom						
ID Fans: Shaft seal type - single/labyrinth, carbon/klingerite,	Casing: single klingerite Bearing: single brass						
ID Fans: Type control (ILD, RVC, Fluid coupling) Single/double electric/hydraulic/pneumatic actuator	Hydraulic with electric actuator	Hydraulic	Hydraulic	Hydraulic	Hydraulic	Hydraulic	
ID Fans: RVC description, internal/external, annular/no annular plates	N/A						
ID Fans: Dorsal fins Y/N	N/A						
ID Fans: Bearing type (Roller Bearing/White Metal)	White Metal						
ID Fans: Jacking oil pump Y/N	N	N	N	N	N	N	
ID Fans: Bearing Lubrication (oil bath, grease, forced Lubrication)	forced lubrication	forced lubrication	forced lubrication	forced lubrication	forced lubrication	forced lubrication	
ID Fans: Pump configuration, 2xelectric, 1electric+1 shaft driven, AC/DC motor, oil Rundown tanks?	2x Electric, DC pump rundown						
ID Fans: Bearing cooling type (oil/water/air)	Oil cooled						
ID Fans: Coupling type (Fixed, fluid, holset, bibby, mutidisc, jolly)	Multidisc x2						
ID Fans: Vibration Monitoring? (Y/N)	Y	Y	Y	Y	Y	Y	
ID Fans: Wear liners on casing (Y/N)	N	N	N	N	N	N	
ID Fans: Wear liners on blades? (Y/N)	N	N	N	N	N	N	
ID Fans: Blade liner description/configuration, location,etc	N/A						
ID Fans motors: OEM/Model No	ACTOM/1000?						
ID Fans motors: Power (kW)							
ID Fans motors: Power (HP)	N/A						
ID Fans motors: Bearing type (Roller Bearing/White Metal)	White Metal						
ID Fans motors: Bearing Lubrication (oil bath, grease, forced Lubrication)	forced lubrication	forced lubrication	forced lubrication	forced lubrication	forced lubrication	forced lubrication	
ID Fans motors: Bearing cooling type (oil/water/air)	Oil	air	air	air	air	air	
ID Fans motors: Vibration Monitoring?	Y	Y	Y	Y	Y	Y	
Airheaters (Primary): OEM/Model No							
Airheaters (Primary): Type (Rotary/Tubular)	Rotary	Rotary	Rotary	Rotary	Rotary	Rotary	
Airheaters (Primary): Gas Inlet temp							
Airheaters (Primary): Gas Outlet Temp							
Airheaters (Primary): Air Inlet Temp							
Airheaters (Primary): Air outlet Temp							
Airheaters (Secondary): OEM/Model No							
Airheaters (Secondary): (Rothemuhle/Ljungstrom)	Rothemuhle	Rothemuhle	Rothemuhle	Rothemuhle	Rothemuhle	Rothemuhle	
Airheaters (Secondary): Type (rotating hood/matrix)							

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Draught Plant Technical Information

Medupi Power Station

Airheaters (Secondary): Include Primary Air? (Y/N)	Y	Y	Y	Y	Y	Y	
Airheaters (Secondary): Configuration single/twin/quad flow							
Airheaters (Secondary): Hot End seal Thermal compensators (Y/N)							
Airheaters (Secondary): Cold end seal adjustment (Y/N)							
Airheaters (Secondary): Hot End sector plate adjustment (Y/N) (electric/pneumatic/hydraulic)							
Airheaters (Secondary): Cold End sector adjustment (Y/N)							
Airheaters (Secondary): Shaft Orientation (Vertical/Horizontal)							
Airheaters (Secondary): Matrix Inner Radius :							
Airheaters (Secondary): Matrix Outer Radius :							
Airheaters (Secondary): Intermediate radius if twinflow :							
Airheaters (Secondary): Number of sectors							
Airheaters (Secondary): Number of element layers							
Airheaters (Secondary): Number of rings							
Airheaters (Secondary): Max Element total height:							
Airheaters (Secondary): No of Seal Frame articulation joints?							
Airheaters (Secondary): Rotor/hoods RPM:							
Airheaters (Secondary): Drive System details – eg pinrack (single/dual pinion)/ shaft drive							
Airheaters (Secondary): Gearbox type – eg size, manuf.							
Airheaters (Secondary): Lubrication system type – eg grease/oil							
Airheaters (Secondary): Gas Inlet temp							
Airheaters (Secondary): Gas Outlet Temp							
Airheaters (Secondary): Air Inlet Temp							
Airheaters (Secondary): Air outlet Temp							
Airheaters (Secondary): Sootblower type (Fixed/Retractable, Reciprocating, spider)	Retractable	Retractable	Retractable	Retractable	Retractable	Retractable	
Airheaters (Secondary): Sootblower valve type (Rotary Valve, single poppet, stop valve, etc)	single poppet	single poppet	single poppet	single poppet	single poppet	single poppet	
Airheaters (Secondary): Sootblow Frequency	8 hours	8 hours	8 hours	8 hours	8 hours	8 hours	
Airheaters (Secondary): Gas bypass installed?	No	No	No	No	No	No	
Airheaters (Secondary): Air bypass installed?							
Airheaters (Secondary): Hot air recirc installed?							
Airheaters (Secondary): Fire detection installed?	Yes	Yes	Yes	Yes	Yes	Yes	
Airheaters (Secondary): Fire extinguishing installed?	Yes	Yes	Yes	Yes	Yes	Yes	
Airheaters (Secondary): Fire fighting equipment - single column or nozzle matrix	yes	yes	yes	yes	yes	yes	
O2 Measurement: matrix upstream of A/H? (Y/N)	Yes	Yes	Yes	Yes	Yes	Yes	

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Draught Plant Technical Information

Medupi Power Station

O2 Measurement: matrix downstream of A/H? (Y/N)	Yes	Yes	Yes	Yes	Yes	Yes	

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Draught Plant Technical Information

Tutuka Power Station

Unit No:	1	2	3	4	5	6	Comments
Boilers: OEM/Model No	Steinmuller	Steinmuller	Steinmuller	Steinmuller	Steinmuller	Steinmuller	
Boilers: Type (El Paso, Tower)	Tower	Tower	Tower	Tower	Tower	Tower	
Boilers: Wind box pressure Kpa	1.5 - 2.6	1.5 - 2.6	1.5 - 2.6	1.5 - 2.6	1.5 - 2.6	1.5 - 2.6	
Boilers: Boiler setpoint (press (negative Kpa)	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	
Gas Cleaning: Type (Precip/FFP)	Precips	Precips	Precips	Precips	Precips	Precips	
Mills: OEM/Model No	Stein Industrie	Stein Industrie	Stein Industrie	Stein Industrie	Stein Industrie	Stein Industrie	
Mills: Type (Tube, vertical spindle)	Tube mills	Tube mills	Tube mills	Tube mills	Tube mills	Tube mills	
Mills: No Mills/boiler	6	6	6	6	6	6	
Mills: Seal air fans? (Y/N)	Y	Y	Y	Y	Y	Y	
PA Fans: OEM/Model No	Howden	Howden	Howden	Howden	Howden	Howden	
PA Fans: Type (Axial, Centrifugal)	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	
PA Fans: Static pressure rise (kPa)	8.74	8.74	8.74	8.74	8.74	8.74	
PA Fans: Volume flow rate (cu.ft/s)							
PA Fans: Volume flow rate (m3/s)	86.1	86.1	86.1	86.1	86.1	86.1	
PA Fans: RPM	1480	1480	1480	1480	1480	1480	
PA Fans: Fan Shaft Power (kW)	890	890	890	890	890	890	
PA Fans: No of fans/Mill	2 fans/6 mills	2 fans/6 mills	2 fans/6 mills	2 fans/6 mills	2 fans/6 mills	2 fans/6 mills	
PA Fans: No of fans/Boiler	2	2	2	2	2	2	
PA Fans: Impeller Diameter (mm)	2020	2020	2020	2020	2020	2020	
PA Fans: Aerofoil blades? (Y/N)	Y	Y	Y	Y	Y	Y	
PA Fans: Location (before/after air heater)	Before	Before	Before	Before	Before	Before	
PA Fans: Hot/Cold operation?	Cold	Cold	Cold	Cold	Cold	Cold	
PA Fans: Cooling disc on shaft? (Y/N)	Y	Y	Y	Y	Y	Y	
PA Fans: Double/single inlet/stage	Single inlet	Single inlet	Single inlet	Single inlet	Single inlet	Single inlet	
PA Fans: Casing - centreline or Bottom supported?	Centreline	Centreline	Centreline	Centreline	Centreline	Centreline	
PA Fans: Shaft seal type - single/labyrinth, carbon/klingerite,	Single	Single	Single	Single	Single	Single	
PA Fans: Type control (ILD, RVC, Fluid coupling) Single/double electric/hydraulic/pneumatic actuator	RVC	RVC	RVC	RVC	RVC	RVC	
PA Fans: RVC description, internal/external, annular/no annular plates	External	External	External	External	External	External	
PA Fans: Dorsal fins Y/N	N	N	N	N	N	N	
PA Fans: Bearing type (Roller Bearing/White Metal)	White metal	White metal	White metal	White metal	White metal	White metal	
PA Fans: Jacking oil pump Y/N	N	N	N	N	N	N	
PA Fans: Bearing Lubrication (oil bath, grease, forced Lubrication)	Forced lub	Forced lub	Forced lub	Forced lub	Forced lub	Forced lub	
PA Fans: Pump configuration, 2xelectric, 1electric+1 shaft driven, AC/DC motor, oil Rundown tanks?	2 x Electric	2 x Electric	2 x Electric	2 x Electric	2 x Electric	2 x Electric	
PA Fans: Bearing cooling type (oil/water/air)	Oil	Oil	Oil	Oil	Oil	Oil	
PA Fans: Coupling type (Fixed, fluid, holset, bibby, mutidisc, jolly)	Bibby	Bibby	Bibby	Bibby	Bibby	Bibby	
PA Fans: Vibration Monitoring? (Y/N)	Y	Y	Y	Y	Y	Y	
PA Fans: Wear liners on casing (Y/N)	Y	Y	Y	Y	Y	Y	
PA Fans: Wear liners on blades? (Y/N)	Y	Y	Y	Y	Y	Y	
PA Fans: Blade liner description/configuration, location,etc	Blade nose	Blade nose	Blade nose	Blade nose	Blade nose	Blade nose	
PA Fans motors: OEM/Model No	BBC	BBC	BBC	BBC	BBC	BBC	
PA Fans motors: Power (kW)	1000	1000.0	1000.0	1000.0	1000.0	1000.0	
PA Fans motors: Power (HP)							
PA Fans motors: Bearing type (Roller Bearing/White Metal)	white metal	white metal	white metal	white metal	white metal	white metal	

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PA Fans motors: Bearing Lubrication (oil bath, grease, forced Lubrication)	Forced lub	Forced lub	Forced lub	Forced lub	Forced lub	Forced lub	
PA Fans motors: Bearing cooling type (oil/water/air)	Oil	Oil	Oil	Oil	Oil	Oil	
PA Fans motors: Vibration Monitoring?	N	N	N	N	N	N	
FD Fans: OEM/Model No	Howden	Howden	Howden	Howden	Howden	Howden	
FD Fans: Type (Axial, Centrifugal)	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	
FD Fans: Static pressure rise (kPa)	4.65	4.65	4.65	4.65	4.65	4.65	
FD Fans: Volume flow rate (cu.ft/s)							
FD Fans: Volume flow rate (m3/s)	405.5	405.5	405.5	405.5	405.5	405.5	
FD Fans: RPM	740	740	740	740	740	740	
FD Fans: Fan Shaft Power (kW)	2426	2426	2426	2426	2426	2426	
FD Fans: No of fans/Boiler	2	2	2	2	2	2	
FD Fans: Impeller Diameter (mm)	3270	3270	3270	3270	3270	3270	
FD Fans: Aerofoil blades? (Y/N)	Y	Y	Y	Y	Y	Y	
FD Fans: Double/single inlet/stage	Double inlet	Double inlet	Double inlet	Double inlet	Double inlet	Double inlet	
FD Fans: Casing - centreline or Bottom supported?	Centreline	Centreline	Centreline	Centreline	Centreline	Centreline	
FD Fans: Shaft seal type - single/labyrinth, carbon/klingerite,	Single	Single	Single	Single	Single	Single	
FD Fans: Type control (ILD, RVC, Fluid coupling) Single/double electric/hydraulic/pneumatic actuator	RVC	RVC	RVC	RVC	RVC	RVC	
FD Fans: RVC description, internal/external, annular/no annular plates	External	External	External	External	External	External	
FD Fans: Dorsal fins Y/N	N	N	N	N	N	N	
FD Fans: Bearing type (Roller Bearing/White Metal)	white metal	white metal	white metal	white metal	white metal	white metal	
FD Fans: Jacking oil pump Y/N	Y	Y	Y	Y	Y	Y	
FD Fans: Bearing Lubrication (oil bath, grease, forced Lubrication)	Forced lub	Forced lub	Forced lub	Forced lub	Forced lub	Forced lub	
FD Fans: Pump configuration, 2xelectric, 1electric+1 shaft driven, AC/DC motor, oil Rundown tanks?	2 x Electric	2 x Electric	2 x Electric	2 x Electric	2 x Electric	2 x Electric	
FD Fans: Bearing cooling type (oil/water/air)	Oil	Oil	Oil	Oil	Oil	Oil	
FD Fans: Coupling type (Fixed, fluid, holset, bibby, mutidisc, jolly)	Bibby	Bibby	Bibby	Bibby	Bibby	Bibby	
FD Fans: Vibration Monitoring? (Y/N)	Y	Y	Y	Y	Y	N	
FD Fans: Wear liners on casing (Y/N)	Y	Y	Y	Y	Y	Y	
FD Fans: Wear liners on blades? (Y/N)	Y	Y	Y	Y	Y	Y	
FD Fans: Blade liner description/configuration, location,etc	Blade nose	Blade nose	Blade nose	Blade nose	Blade nose	Blade nose	
FD Fans motors: OEM/Model No	BBC	BBC	BBC	BBC	BBC	BBC	
FD Fans motors: Power (kW)	2500	2500	2500	2500	2500	2500	
FD Fans motors: Power (HP)							
FD Fans motors: Bearing type (Roller Bearing/White Metal)	White metal	White metal	White metal	White metal	White metal	White metal	
FD Fans motors: Bearing Lubrication (oil bath, grease, forced Lubrication)	Forced lub	Forced lub	Forced lub	Forced lub	Forced lub	Forced lub	
FD Fans motors: Bearing cooling type (oil/water/air)	Oil	Oil	Oil	Oil	Oil	Oil	
FD Fans motors: Vibration Monitoring?	N	N	N	N	N	N	
ID Fans: OEM/Model No	Howden	Howden	Howden	Howden	Howden	Howden	
ID Fans: Type (Axial, Centrifugal)	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	
ID Fans: Static pressure rise (kPa)	3.77	3.77	3.77	3.77	3.77	3.77	
ID Fans: Volume flow rate (cu.ft/s)							
ID Fans: Volume flow rate (m3/s)	566.9	566.9	566.9	566.9	566.9	566.9	

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Draught Plant Technical Information

Tutuka Power Station

ID Fans: RPM	740	740	740	740	740	740	
ID Fans: Fan Shaft Power (kW)	2827	2827	2827	2827	2827	2827	
ID Fans: No of fans/Boiler	2	2	2	2	2	2	
ID Fans: Impeller Diameter (mm)	3271	3271	3271	3271	3271	3271	
ID Fans: Aerofoil blades? (Y/N)	Y	Y	Y	Y	Y	Y	
ID Fans: Double/single inlet/stage	Double inlet	Double inlet	Double inlet	Double inlet	Double inlet	Double inlet	
ID Fans: Casing - centreline or Bottom supported?	Centreline	Centreline	Centreline	Centreline	Centreline	Centreline	
ID Fans: Shaft seal type - single/labyrinth, carbon/klingerite,	Single	Single	Single	Single	Single	Single	
ID Fans: Type control (ILD, RVC, Fluid coupling) Single/double electric/hydraulic/pneumatic actuator	RVC	RVC	RVC	RVC	RVC	RVC	
ID Fans: RVC description, internal/external, annular/no annular plates	External	External	External	External	External	External	
ID Fans: Dorsal fins Y/N							
ID Fans: Bearing type (Roller Bearing/White Metal)	White metal	White metal	White metal	White metal	White metal	White metal	
ID Fans: Jacking oil pump Y/N	Y	Y	Y	Y	Y	Y	
ID Fans: Bearing Lubrication (oil bath, grease, forced Lubrication)	oil	oil	oil	oil	oil	oil	
ID Fans: Pump configuration, 2xelectric, 1electric+1 shaft driven, AC/DC motor, oil Rundown tanks?	2 x Electric	2 x Electric	2 x Electric	2 x Electric	2 x Electric	2 x Electric	
ID Fans: Bearing cooling type (oil/water/air)	Oil	Oil	Oil	Oil	Oil	Oil	
ID Fans: Coupling type (Fixed, fluid, holset, bibby, mutidisc, jolly)	Bibby	Bibby	Bibby	Bibby	Bibby	Bibby	
ID Fans: Vibration Monitoring? (Y/N)	Y	Y	Y	Y	Y	Y	
ID Fans: Wear liners on casing (Y/N)	Y	Y	Y	Y	Y	Y	
ID Fans: Wear liners on blades? (Y/N)	Y	Y	Y	Y	Y	Y	
ID Fans: Blade liner description/configuration, location,etc	Blade nose and blade liners	Blade nose and blade liners	Blade nose and blade liners	Blade nose and blade liners	Blade nose and blade liners	Blade nose and blade liners	
ID Fans motors: OEM/Model No	GEC	GEC	GEC	GEC	GEC	GEC	
ID Fans motors: Power (kW)	3000.0	3000.0	3000.0	3000.0	3000.0	3000.0	
ID Fans motors: Power (HP)							
ID Fans motors: Bearing type (Roller Bearing/White Metal)	White metal	White metal	White metal	Roller	Roller	White metal	
ID Fans motors: Bearing Lubrication (oil bath, grease, forced Lubrication)	oil bath	oil bath	oil bath	oil bath	oil bath	oil bath	
ID Fans motors: Bearing cooling type (oil/water/air)	Air	Air	Air	Air	Air	Air	
ID Fans motors: Vibration Monitoring?	N	N	N	N	N	N	
Airheaters (Primary): OEM/Model No	N/A	N/A	N/A	N/A	N/A	N/A	
Airheaters (Primary): Type (Rotary/Tubular)	(see secondary)	(see secondary)	(see secondary)	(see secondary)	(see secondary)	(see secondary)	
Airheaters (Primary): Gas Inlet temp	346	346	346	346	346	346	
Airheaters (Primary): Gas Outlet Temp	140	140	140	140	140	140	
Airheaters (Primary): Air Inlet Temp	48	48	48	48	48	48	
Airheaters (Primary): Air outlet Temp	295	295	295	295	295	295	
Airheaters (Secondary): OEM/Model No	Howden	Howden	Howden	Howden	Howden	Howden	
Airheaters (Secondary): (Rothemuhle/Ljungstrom)	Rothemuhle	Rothemuhle	Rothemuhle	Rothemuhle	Rothemuhle	Rothemuhle	
Airheaters (Secondary): Type (rotating hood/matrix)	Rotating hood	Rotating hood	Rotating hood	Rotating hood	Rotating hood	Rotating hood	
Airheaters (Secondary): Include Primary Air? (Y/N)	Y	Y	Y	Y	Y	Y	
Airheaters (Secondary): Configuration single/twin/quad flow	Twin flow	Twin flow	Twin flow	Twin flow	Twin flow	Twin flow	

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Airheaters (Secondary): Hot End seal Thermal compensators (Y/N)	Y	Y	Y	Y	Y	Y	
Airheaters (Secondary): Cold end seal adjustment (Y/N)	N	N	N	N	N	N	
Airheaters (Secondary): Hot End sector plate adjustment (Y/N) (electric/pneumatic/hydraulic)	N	N	N	N	N	N	
Airheaters (Secondary): Cold End sector adjustment (Y/N)	N	N	N	N	N	N	
Airheaters (Secondary): Shaft Orientation (Vertical/Horizontal)	Vertical shaft	Vertical shaft	Vertical shaft	Vertical shaft	Vertical shaft	Vertical shaft	
Airheaters (Secondary): Matrix Inner Radius :	1152.75	2305.5	2305.5	2305.5	2305.5	2305.5	Diameter or Radius?
Airheaters (Secondary): Matrix Outer Radius :	6632	6632	6632	6632	6632	6632	
Airheaters (Secondary): Intermediate radius if twinflow : (ring 2/3	3115/3828	3115/3828	3115/3828	3115/3828	3115/3828	3115/3828	
Airheaters (Secondary): Number of sectors	64	64	64	64	64	64	
Airheaters (Secondary): Number of element layers	3	3	3	3	3	3	
Airheaters (Secondary): Number of rings	7	7	7	7	7	7	
Airheaters (Secondary): Max Element total height:	1500	1500	1500	1500	1500	1500	
Airheaters (Secondary): No of Seal Frame articulation joints?	24 per A/H (unmodified)	16 per A/A (modified)	16 per A/A (modified)	24 per A/A (unmodified)	16 per A/A (modified)	16 per A/A (modified)	
Airheaters (Secondary): Rotor/hoods RPM:	0.78	0.78	0.78	0.78	0.78	0.78	
Airheaters (Secondary): Drive System details – eg pinrack (single/dual pinion)/ shaft drive	Pinrack single pinion	Pinrack single pinion	Pinrack single pinion	Pinrack single pinion	Pinrack single pinion	Pinrack single pinion	
Airheaters (Secondary): Gearbox type – eg size, manuf.	12.17:1	12.17:1	12.17:1	12.17:1	12.17:1	12.17:1	
Airheaters (Secondary): Lubrication system type – eg grease/oil	Oil	Oil	Oil	Oil	Oil	Oil	
Airheaters (Secondary): Gas Inlet temp	346	346	346	346	346	346	
Airheaters (Secondary): Gas Outlet Temp	140	140	140	140	140	140	
Airheaters (Secondary): Air Inlet Temp	43	43	43	43	43	43	
Airheaters (Secondary): Air outlet Temp	290	290	290	290	290	290	
Airheaters (Secondary): Sootblower type (Fixed/Retractable, Reciprocating, spider)	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed	
Airheaters (Secondary): Sootblower valve type (Rotary Valve, single poppet, stop valve, etc)	Rotary Valve	Rotary Valve	Rotary Valve	Rotary Valve	Rotary Valve	Rotary Valve	
Airheaters (Secondary): Sootblow Frequency	1ce/24 hrs	1ce/24 hrs	1ce/24 hrs	1ce/24 hrs	1ce/24 hrs	1ce/24 hrs	
Airheaters (Secondary): Gas bypass installed?	N	N	N	N	N	N	
Airheaters (Secondary): Air bypass installed?	Y	Y	Y	Y	Y	Y	
Airheaters (Secondary): Hot air recirc installed?	Y	Y	Y	Y	Y	Y	
Airheaters (Secondary): Fire detection installed?	Y	Y	Y	Y	Y	Y	
Airheaters (Secondary): Fire extinguishing installed?	Y	Y	Y	Y	Y	Y	
Airheaters (Secondary): Fire fighting equipment - single column or nozzle matrix	Nozzle matrix	Nozzle matrix	Nozzle matrix	Nozzle matrix	Nozzle matrix	Nozzle matrix	
O2 Measurement: matrix upstream of A/H? (Y/N) (Not matrix)	Y	Y	Y	Y	Y	Y	
O2 Measurement: matrix downstream of A/H? (Y/N)	Not functional/de-commissioned	Not functional/de-commissioned	Not functional/de-commissioned	Not functional/de-commissioned	Not functional/de-commissioned	Not functional/de-commissioned	

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