PART 3: SCOPE OF WORK

Document reference	Title	No of pages
	This cover page	1
C3.1	*Employer*'s Service Information	
C3.2	*Contractor*'s Service Information	
	Total number of pages	

C3.1: EMPLOYER'S SERVICE INFORMATION

Contents

1 Description of the *service*

1.1 Executive overview

Kendal Water Treatment Plant (WTP) control and instrumentation requires that full recovery exercise be undertaken to return the plant in its original construction status. The environment in which the instrumentation is in is very harsh and leads to premature control and instrumentation failure. The situation requires that the critical instrumentation functionality is restored. This shall be achieved by diligently addressing the failures root cause. Firstly, WTP control air quality needs to be ensured by at the correct pressure, minimum of 5.5bar. The control air reticulation pipe work needs to be replaced and optimised to limit the likelihood of condensate collection in the control air pipe work.

The WTP control and instrumentations pneumatic devices and instruments including the Solenoid spool valves have been negatively affected by the poor quality of control air and insufficient control air pressure. The WTP pneumatic control and instrumentation and the rest of the plant instruments need to be restored for the plant to function properly. The details of the scope of work to restore the plant are shared in the following paragraphs.

1.2 *Employer*'s requirements for the *service*

The *Employer* requires that the *Contractor* supplies, delivers to site instruments, manufacture the Solenoid operated Valves panels, factory accept test the panels and deliver the panels to site, decommission the old panels and instruments, installs panels and instruments commissions the panels and instrument and correct all commissioning defects.

The *Contractor* is also required, by the *Employer*, to replace the WTP control air reticulation pipe work and fit the pipe work with a zero-air loss condensate auto-drain air filters before distributing to the plant. The new control air pipe work shall be installed to allow for condensate to roll to the auto drain filters. The pipe work **shall not** allow a room for the condensate to be trapped in the pipe work.

1.2.1 Detailed *Employers* Requirements

The WTP restoration exercise requires that the plant piping and instrumentation diagram (P&ID) is used by the *Contractor* to identify undocumented plant changes and defects the *Contractor* must address in the offering of the required service. The respective plants piping and instrumentation diagrams (P&ID) to be used for the plant recovery are referenced in the following sections respectively. The diagrams shall also be used to identify illegal or undocumented plant modifications which will trigger engineering change process for the required engineering approval. For the restoration to happen, the following must be implemented from the control and instrumentation point of view:

a. All solenoid operated valve (SoV) panels, refer to drawing (0.64/41078) need to be replaced, and Pneumatic instruments must be supplied with **Dry clean air at correct pressure**. The solenoid valves and panels water traps and air pressure regulators and all other panel accessories e.g. rotameter where applicable, terminal blocks, light emitting diode (LED) push buttons and contacts etc. must be tested and proven functional. Replace the SoV panel(s) solenoid spool valves. The panel must also be function tested by driving open and close the respective valves. In the process, ensure that there are no air leaks at the spool valve, couplings and fittings and at the valve actuators.

b. All flow, level, temperature and pressure instrumentation, passive (for local indication) and active (for local and remote indication), must be tested and replaced with new instruments. All these must be done in-line with the respective plant P&IDs which will be red lined in the process if there are discrepancies. Ensure that there are no leaks at all inline instrument installations and at all insertion points.

c. In all areas and sections of the plant where the plant is controlled and can be operated manually and automatically, function tests must be conducted, verified and confirmed by respective plants Shift Plant Operator (SPO) and the Assistant Shift Supervisor (ASS). In cases where either of the SPO and ASS is busy, the Shift Supervisor (SS) will verify and confirm the correctness of the control functions. Where the control philosophy exists, the function test and verifications shall be done accordingly, as define in the philosophy document.

d. Main demineralised water plant damaged industrial cable rack sections need to be replaced and any other field instrument cable racks that will be found damaged. Refer to drawing number (0.64/33618 Sht 6 and 7 Rev 0Z). This shall also include stainless steel strapping of fallen cables back on the racks and replacement of all damaged instrument cables.

It must be **noted** that all un-documented and un-approved new modifications will be declared as **illegal** plant modifications. During the effort to recover the plant, plant codification will also be verified and updated to influence plant maintenance strategies. Where labels are missing, plant configuration responsible engineering department shall be notified of such functional locations for the labels to be re-installed. Labels picked from the floor shall also be taken to the department if it cannot be matched with the device or equipment in the plant. Hence it is vitally important to uphold a firm compliance to the engineering change process. Further details on plant recovery scope of work are provided in the flowing sections.

Compressed scope comprises of the following in the respective areas of the plant. The compressed scope provides an inside of the required scope to be executed in the respective plant areas. The works quality control and assurance documents shall be signed immediately, by the *Contractor* and the *Employer* on completion of a task by all relevant stakeholders. In the next paragraphs are the areas with specific scope to be executed:

1.2.1.1 Clarifiers; Industrial Water Stream (0.64/4149 Rev 16)

i. Flash mixing chamber 1 and raw water intake

a. Test the flash mixer level instruments and replace if found defective.

b. The SPO shall test run the mixer from the local control panel and verify the indication in the control room with the ASS. Correct defects if any are picked.

c. All indications local and remote indication defects shall be addressed and cleared.

d. Ensure that all enclosures, junction boxes, LCSes and panels close properly.

ii. Clarifier 1 and 2

a. The SPO shall perform clarifier level control function test and verify the indications with the ASS in the control room. Correct all picked defects and repeat the tests.

b. All indication local and remote indication defects shall be addressed and cleared.

c. Ensure that all enclosures, junction boxes, LCSes and panels close properly

1.2.1.2 Clarifiers: Potable water stream (0.64/4150 Rev 12)

i. Flash mixing chamber 2

a. Test the flash mixer level instruments and replace if found defective.

b. The SPO shall test run the mixer from the local control panel and verify the indication in the control room with the ASS. Correct defects if any are picked.

c. All indication local and remote indication defects shall be addressed and cleared.

d. Ensure that all enclosures, junction boxes, LCSes and panels close properly.

ii. Clarifier 3 and 4

a. The SPO shall perform clarifier level control function test and verify the indications with the ASS in the control room. Correct all picked defects and repeat the tests.

b. All indication local and remote indication defects shall be addressed and cleared.

c. Ensure that all enclosures, junction boxes, LCSes and panels close properly

iii. Coagulant from pre-treatment plant (0.64/4151)

a. Ensure that there are chemicals, coagulant, flow from pre-treatment plant

iv. Polyelectrolyte from pre-treatment plant (0.64/4153)

a. Ensure that there are chemicals, polyelectrolyte, flow from pre-treatment plant

v. Lime / Calcium from dosing plant (0.64/32679)

a. Ensure that there is flow from lime or calcium dosing

vi. Chlorine from chlorinator 3 (0.64/4152)

a. Ensure that there is flow from chlorine plant.

1.2.1.3 Filtration For Industrial Water Stream (0.64/6933 Rev 11)

i. Sand filter 1, 2 and 3

a. Ensure that the sand filter bed dirt detection system functions properly to automatically trigger the filter backwash process of each respective filter.

b. Perform local and remote function test of each sand filter SoV panel and correct picked defects if there any.

c. SPO shall perform functional test and verify correctness of plant controls and indication with the ASS in the control room.

d. Ensure that the turbidity analyser is healthy and that its interface to the control system is healthy and that the indications in the plant and the control correspond.

ii. Sand filters blower Station

a. Ensure that the sand filters backwash blowers works and function properly and that all defects are cleared.

iii. Industrial water chamber level monitoring

a. Ensure that the chamber water level measuring device is working and functioning properly. The level detection air flow must be set at correct flow and pressure for correct level measurement.

b. Confirm and verify level indication with the ASS in the control room. Clear known and identified level defects

iv. Cation Pump Station

a. Ensure that each pump cavitation protection, temperature protection, and all local indications such as gauges and illuminated LCS push buttons, and controls work and function properly.

b. Replace the pumps LCS. The LCS wiring shall be done according to the verified wiring and connection diagram.

c. The LCS labelling shall according to the Kendal Power Station configuration management standard.

d. SPO shall run each pump locally and remotely and verify correctness of indications in the control room with the ASS. All identified defects shall be cleared.

e. Ensure that the pump station discharge pressure and flow devices work and function properly and all defects are cleared.

1.2.1.4 Filtration For Potable Water Stream (0.64/4154 rev 13)

i. Sand filter 4, 5 and 6

a. Ensure that the sand filter bed dirt detection system functions properly to automatically trigger the filter backwash process of each respective filter. The detection system uses vacuum switches to trigger the backwash process.

b. Perform local and remote function test of each sand filter SoV panel and correct picked defects if there any.

c. SPO shall perform functional test and verify correctness of plant controls and indication with the ASS in the control room.

d. Ensure that the turbidity analyser is healthy and that its interface to the control system is healthy and that the indications in the plant and the control room correspond.

ii. Chlorine chamber level monitoring

a. Ensure that the chamber water level measuring device is working and functioning properly. The level detection air flow must be set at correct flow and pressure for correct level measurement.

b. Confirm and verify level indication with the ASS in the control room. Clear known and identified level defects.

c. Ensure that the chlorine analyser is healthy and that its interface to the control system is healthy and that the indications in the plant and the control correspond.

iii. Potable water pump station (0.64/4155)

a. Ensure that each pump cavitation protection and all local indications and control work and function properly.

b. SPO shall run each pump locally and remotely and verify correctness of indications in the control room with the ASS. All identified defects shall be cleared.

c. Ensure that the pump station discharge pressure and flow devices work and function properly and all defects are cleared.

d. Ensure that the PH analyser is healthy and that its interface to the control system is healthy and that the indications in the plant and the control correspond. Refer to drawing 0.64/41616

iv. Potable head tank level monitoring

a. Ensure that the tank level and flow devices are working and functioning properly and that the level indication in the control room is correct.

1.2.1.5 Train 1, 2, and 3

i. Cation units (0.64/4156, 0.64/4157, 0.64/4158)

a. Ensure that the unit valve position indications are correct locally and in the control room and that the valves position limits works and function properly.

b. Ensure that the input flow matches the out flow at mixed bed to the storage tanks, assuming that there are no leaks. Refer to drawing number 0.64/6991

c. Ensure that Diluted sulphuric acid flow into the unit is at the correct flow, pressure and mixture. Confirm and verify the dilution motive water flow and pressure as well as that of the acid before they are mixed. Refer to drawing number 0.64/6991 and 0.64/4172

d. SPO shall Function test the unit and verify the controls and indications (valve positions, flow and pressure) locally and remotely with in the control room with the ASS for all required operations e.g. Cation regeneration. If any defect is picked, it shall be cleared.

ii. Degassifiers units (Vacuum & Atmospheric) (0.64/4159, 0.64.4160, 0.64/4161)

a. Ensure that the unit valve position indications are correct locally and in the control room and that the valves position limits works and function properly.

b. Ensure that the input flow matches the out flow at mixed bed to the storage tanks, assuming that there are no leaks. Refer to drawing number 0.64/6991

c. Ensure that both the atmospheric and vacuum degassifiers level controls work and function properly

d. Isolate control air, detach the positioner from the actuator and ensure that the discharge water flow control valve positioner has no defects.

e. Confirm and verify that the discharge water flow control valve actuator is firmly attached to the valve and that it can drive the valve freely to the required position, close position and close position.

f. Ensure that the control air is dry and free of water and is at the correct pressure before supplying and connecting the impulse line to the positioner. If the air is wet highlight the risk and load a defect.

g. The valve has to be electronically driven to the require position by injecting milli-amperes into the positioner. This shall be done by first correctly replacing the positioner on the actuator and connecting the impulse lines and terminating the signal cable cores on their respective terminals on the positioner. Check and confirm that the raw flow increases with the opening valve and decreases with the closing valve. Correct any defect picked accordingly.

h. Repeat the raw water test function, electronic valve positioning test, from the control room and verify with the ASS that raw water flow increases with the opening valve and decreases with the closing valve. Correct any defect picked accordingly.

i. Ensure that the pump cavitation protections, temperature and discharge water flow control as well as local pressure indication works and functions properly.

j. SPO shall Function test the unit and verify the controls and indications (valve positions, flow and pressure) locally and remotely with in the control room with the ASS for all required operations. If any defect is picked, it shall be cleared.

iii. Weak anion units (0.64/4162, 0.64/4163, 0.64/4164)

a. Ensure that the unit valve position indications are correct locally and in the control room and that the valves position limits works and function properly.

b. Ensure that the input flow matches the out flow at mixed bed to the storage tanks, assuming that there are no leaks. Refer to drawing number 0.64/6991

c. Ensure that Diluted caustic soda flow into the unit is at the correct flow, pressure and mixture. Confirm and verify the dilution motive water flow and pressure as well as that of the acid before they are mixed. Refer to drawing number 0.64/6991 and 0.64/4173

d. SPO shall Function test the unit and verify the controls and indications (valve positions, flow and pressure) locally and remotely with in the control room with the ASS for all required operations e.g. anion regeneration. If any defect is picked, it shall be cleared

iv. Strong anion units (0.64/4165, 0.64/4166, 0.64/4167)

a. Ensure that the unit valve position indications are correct locally and in the control room and that the valves position limits works and function properly.

b. Ensure that the input flow matches the out flow at mixed bed to the storage tanks, assuming that there are no leaks. Refer to drawing number 0.64/6991

c. Ensure that Diluted sulphuric acid flow into the unit is at the correct flow, pressure and mixture. Confirm and verify the dilution motive water flow and pressure as well as that of the acid before they are mixed. Refer to drawing number 0.64/6991 and 0.64/4173

d. SPO shall Function test the unit and verify the controls and indications (valve positions, flow and pressure) locally and remotely with in the control room with the ASS for all required operations e.g. anion regeneration. If any defect is picked, it shall be cleared

v. Mixed bed units (0.64/4168, 0.64/4169, 0.64/4170)

a. Ensure that the unit valve position indications are correct locally and in the control room and that the valves position limits works and function properly.

b. Ensure that the input flow matches the out flow at mixed bed to the storage tanks, assuming that there are no leaks. Refer to drawing number 0.64/6991

c. Ensure that Diluted sulphuric acid and caustic soda flow into the unit is at the correct flow, pressure and mixture. Confirm and verify the dilution motive water flow and pressure as well as that of the acid before they are mixed. Refer to drawing number 0.64/6991, 0.64/4172 and 0.64/4173

d. SPO shall Function test the unit and verify the controls and indications (valve positions, flow and pressure) locally and remotely with in the control room with the ASS for all required operations e.g. mixed bed regeneration. If any defect is picked, it shall be cleared

vi. Diluted Sulphuric acid and caustic soda (0.64/4172, 0.64/4173)

a. Ensure that these plants work and function for properly to meet the cations, weak and strong anions and mixed beds regeneration requirements.

vii. Air blowers

a. Ensure that the blowers work and function properly.

1.2.1.6 Demineralised Water Storage Tank (0.64/4171)

i. Demineralised water flow per train

a. Ensure and verify that the train throughput matches the input flow with the ASS, assuming that there are no leaks in between. Refer to drawing number 0.64/6991

b. Ensure that the pump station discharge pressure and flow devices work and function properly and all defects are cleared.

ii. Demineralised water tanks level monitoring

a. Ensure that each tank level devices are working and functioning properly and that the level indication in the control room is correct.

iii. Demineralised water recycling and services pumps

a. Ensure that each pump cavitation protection and all local indications and control work and function properly.

b. SPO shall run each pump locally and remotely and verify correctness of indications in the control room with the ASS. All identified defects shall be cleared.

c. Ensure that the pump station discharge pressure and flow devices work and function properly and all defects are cleared.

1.2.1.7 Actuators Stroking

All WTP actuators stroking, Plant control and functional testing and verification shall be performed to ensure that the plant control philosophy requirement and conditions are effectively meet.

1.2.1.8 Valve position switches

Valves proximity and micro switches inspection and replacement shall be performed to ensure that the plant control philosophy requirement and conditions are effectively meet

1.2.1.9 Flow measurement

Flowmeters flow meters shall be correctly configured, tested, verified, and replaced if found faulty.

1.2.1.10 Pressure measurement

Pressure gauges inspections shall be performed, and all defective pressure gauges shall be replaced.

1.2.1.11 Impulse lining and cabling

Impulse lines, cables, instrument panels and LCSes shall be inspected and defected accordingly.

1.2.1.12 House keeping

Tidy up cabling under the SoV panels. All cables must be on the racks and must be securely landed on the bottom mounting plate of the respective SoV panels.

1.2.1.13 Racks

All damaged cables and impulse tubes rack shall be replaced, and cables impulse tubes be installed back on the racks and stainless steel strapped back on the cable racks.

1.2.1.14 Racks installation

Install new cable and impulse tubes racks where racks are damaged. Install, terminate, and strap the replaced cables racks.

1.2.2 Plant Solenoid Operated Valve Panel, Local Control Stations, and Junction Boxes

The plant solenoid operated valve (SoV) panels need to be replaced on a like for like bases with all their accessory instruments. The panels have been exposed to very harsh plant environment and are no longer sealing properly to prevent water and dust ingress inside the panels. This phenomenon is also a challenge on the local control station (LCS) and the junction boxes. In the following sections, 1.2.2.1, 1.2.2.2 and 1.2.2.3, are the scopes to recover the SoVs, LCSes and the junction boxes that need to be recovered to restore the plant operation, controls and monitoring from the plant and from the control room.

1.2.2.1 Solenoid Operated Panels (SoV)

SoV Panel	Action required
Panel enclosure	*Replace the enclosure with the same size and type enclosure*
Illuminated pushbuttons and indication lights	*Replace the push buttons and indication lights*
Operation selection switch	*Replace*
Spool valves	*Replace*
Spool valves bank	*Replace to suit the valves*
Spool valves coils to fit	*Replace*
Spool valve LED coil plug	*Replace*
Impulse lines and fittings	*Replace to reach actuators*
Process timers	*Replace timers where applicable (clarifier desludging)*
Wire trunking	*Replace to suit the panel*
Wiring and termination	*Replace*
Labels (External & internal)	*Relabel the panel fully*
Panel stand	*Replace and bolt stand firmly on the floor and on the plinths where applicable*

1.2.2.2 Local Control Station (LCS)

SoV Panel	Action required
LCS enclosure	*Replace the enclosure with the same size and type enclosure*
Pump LCS	*Replace components (1:1)*
Illuminated push buttons	*Replace push buttons*
Wire trunking	*Replace to suit the panel*
Wiring and termination	*Replace*
Labels (External & internal)	*Relabel the panel fully*
Panel stand or Brackets or mountings	*Replace and bolt stand firmly on the floor or wall and on the plinths where applicable*

1.2.2.3 Junction Boxes

Junction box	Action required
Junction box enclosure	*Replace the enclosure with the same size and type enclosure*
Wire trunking	*Replace to suit the panel*
Wiring and termination	*Replace*
Labels (External & internal)	*Relabel the panel fully*
Panel stand or Brackets or mountings	*Replace and bolt stand firmly on the floor or wall and on the plinths where applicable*

1.2.2.4

1.2.3 General Arrangement & Location drawings

The work will be executed in compliance with the Eskom drawings referenced in the document.

1.2.4

1.3 Detailed Component Functional Location Scope of Work

System		WTP Industrial and Potable Stream Recovery Scope of Work		
COMPONENT ACTIVITIES				
№	COMPONENT FLOC (KKS CODE)	DESCRIPTION	REFERENCE DRAWING NUMBER	ACTIVITY TYPE (INSPECTION / TEST / REFURBISH / REPLACE)
1	**Clarifier Industrial Water Stream**			

System	WTP Industrial and Potable Stream Recovery Scope of Work			
COMPONENT ACTIVITIES				
№	**COMPONENT FLOC (KKS CODE)**	**DESCRIPTION**	**REFERENCE DRAWING NUMBER**	**ACTIVITY TYPE (INSPECTION / TEST / REFURBISH / REPLACE)**
2	**Flash Mixing Chamber 1**			
9	00 GYG 01	Industrial clarifier inlet Pneumatic control panel	0.64/41078	Replace the SOV panel with the same type of panel (1:1)
10	*AA 602*	*Regulating valve*	*0.64/41078*	Replace
11	*AT 002*	*Auto drain trap*	*0.64/41078*	Replace
12	*AA 505*	*Isolating Ball valve*	*0.64/41078*	Replace
13		Pumps LCS(s) & JB(s)	0.64/41078	Test & correct defect
14	**Sludge Sump**			
15		Pumps LCS(s) & JB(s)	0.64/4149	Test & correct defect
16	**Clarifier 1**			
17	00 GYG 04	Clarifier Sludge Pneumatic control panel	0.64/41078	Replace the SOV panel with the same type of panel (1:1)
18	*AA 601*	*Regulating valve*	*0.64/41078*	Replace
19	*AT 001*	*Auto drain trap*	*0.64/41078*	Replace
20	*AA 501*	*Ball valve*	*0.64/41078*	Replace
21	**Clarifier 2**			
22	00 GYG 03	Clarifier Sludge Pneumatic control panel	0.64/41078	Replace the SOV panel with the same type of panel (1:1)
23	*AA 602*	*Regulating valve*	*0.64/41078*	Replace
24	*AT 002*	*Auto drain trap*	*0.64/41078*	Replace
25	*AA 502*	*Ball valve*	*0.64/41078*	Replace
26				
27	**Clarifier Potable Water Stream**			
28	**Flash Mixing Chamber 2**			
29	00 GYG 02	Potable clarifier inlet Pneumatic control panel	0.64/41078	Replace the SOV panel with the same type of panel (1:1)
30	*AA 601*	*Regulating valve*	*0.64/41078*	Replace
31	*AT 001*	*Auto drain trap*	*0.64/41078*	Replace
32	*AA 504*	*Ball valve*	*0.64/41078*	Replace
33	*AA 502*	*Ball valve*	*0.64/41078*	Replace
34		Pumps LCS(s) & JB(s)	0.64/41078	Test & correct defect
35	**Clarifier 3**			
36	**Clarifier 4**			
37	**WTP Filtration Potable Water Stream**			
38	**Sand filters**			
39	00 GYG 05	Back wash Pneumatic control panel	0.64/41078	Replace the SOV panel with the same type of panel (1:1)
40	*AA 603*	*Regulating valve*	*0.64/41078*	Replace
41	*AT 003*	*Auto drain trap*	*0.64/41078*	Replace
42	*AA 503*	*Ball valve*	*0.64/41078*	Replace
43	*AA 504*	*Ball valve*	*0.64/41078*	Replace
44	00 GDK 10 CL 001	Bubbler level transmitter	0.64/4154	Replace

System	WTP Industrial and Potable Stream Recovery Scope of Work			
COMPONENT ACTIVITIES				
№	**COMPONENT FLOC (KKS CODE)**	**DESCRIPTION**	**REFERENCE DRAWING NUMBER**	**ACTIVITY TYPE (INSPECTION / TEST / REFURBISH / REPLACE)**
45	**Sand filter 4**			
46	00 GYG 09	Industrial filter 4 Pneumatic control panel	0.64/41078	Replace the SOV panel with the same type of panel (1:1)
47	*AA 603*	*Regulating valve*	*0.64/41078*	Replace
48	*AT 003*	*Auto drain trap*	*0.64/41078*	Replace
49	*AA 503*	*Ball valve*	*0.64/41078*	Replace
50	00 GDB 11 CP 301	Sand filter 1 pressure switch	0.64/4154	Test & correct defects
51	00 GDB 11 CP 501	Sand filter 1 pressure gauge	0.64/4154	Replace
52	**Sand filter 5**			
53	00 GYG 10	Industrial filter 5 Pneumatic control panel	0.64/41078	Replace the SOV panel with the same type of panel (1:1)
54	*AA 602*	*Regulating valve*	*0.64/41078*	Replace
55	*AT 002*	*Auto drain trap*	*0.64/41078*	Replace
56	*AA 502*	*Ball valve*	*0.64/41078*	Replace
57	00 GDB 12 CP 301	Sand filter 2 pressure switch	0.64/4154	Test & correct defects
58	00 GDB 12 CP 501	Sand filter 2 pressure gauge	0.64/4154	Replace
59	**Sand filter 6**			
60	00 GYG 11	Industrial filter 6 Pneumatic control panel	0.64/41078	Replace the SOV panel with the same type of panel (1:1)
61	*AA 601*	*Regulating valve*	*0.64/41078*	Replace
62	*AT 001*	*Auto drain trap*	*0.64/41078*	Replace
63	*AA 501*	*Ball valve*	*0.64/41078*	Replace
64	00 GDB 13 CP 301	Sand filter 3 pressure switch	0.64/4154	Test & correct defects
65	00 GDB 13 CP 501	Sand filter 3 pressure gauge	*0.64/4154*	Replace
66	**Potable Water Supply Pumps**			
67	00 GDK 14 CT 001	Temperature Tx	0.64/4155	Replace
68	00 GDK 14 CP 501	Pressure gauge	0.64/4155	Replace
69	00 GDK 13 CT 001	Temperature Tx	0.64/4155	Replace
70	00 GDK 13 CP 501	Pressure gauge	0.64/4155	Replace
71	00 GDK 12 CT 001	Temperature Tx	0.64/4155	Replace
72	00 GDK 12 CP 501	Pressure gauge	0.64/4155	Replace
73	00 GDK 11 CT 001	Temperature Tx	0.64/4155	Replace
74	00 GDK 11 CP 501	Pressure gauge	0.64/4155	Replace
75	00 GDK 20 CF 001	Orifice Flow Tx	0.64/4155	Replace
76		Pumps LCS(s) & JB(s)	0.64/4155	Test & correct defect
77	**Coagulant and Soda Ash**			
78	00 GYG 34	Demin services water Pneumatic control panel	0.64/41078	Replace the SOV panel with the same type of panel (1:1)
79	*AA 605*	*Regulating valve*	*0.64/41078*	Replace
80	*AT 005*	*Auto drain trap*	*0.64/41078*	Replace
81	*AA 505*	*Ball valve*	*0.64/41078*	Replace
82	**WTP Chlorine Dosing**			

System	WTP Industrial and Potable Stream Recovery Scope of Work			
COMPONENT ACTIVITIES				
№	COMPONENT FLOC (KKS CODE)	DESCRIPTION	REFERENCE DRAWING NUMBER	ACTIVITY TYPE (INSPECTION / TEST / REFURBISH / REPLACE)
83		Pumps LCS(s) & JB(s)		Test & correct defects
84	**Polyelectrolyte system**			
85	00 GYA 50	Poly-electrolyte dilution Pneumatic control panel	0.64/41078	Replace the SOV panel with the same type of panel (1:1)
86	*AA 601*	*Regulating valve*	*0.64/41078*	Replace
87	*AT 001*	*Auto drain trap*	*0.64/41078*	Replace
88	*AA 501*	*Ball valve*	*0.64/41078*	Replace
89	**WTP Demin Plant**			
90	**Filtration Demin Water**			
91	**Sand filters**			
92	00 GCR 20 CF 001	Ultrasonic Channel flow	0.64/06933	Replace
93	00 GCK 10 CL 001	Bubbler level transmitter	0.64/06933	Replace
94	**Sand filter 1**			
95	00 GYG 06	Industrial filter 1 Pneumatic control panel	0.64/41078	Replace the SOV panel with the same type of panel (1:1)
96	*AA 606*	*Regulating valve*	*0.64/41078*	Replace
97	*AT 006*	*Auto drain trap*	*0.64/41078*	Replace
98	*AA 506*	*Ball valve*	*0.64/41078*	Replace
99	**Sand filter 2**			
100	00 GYG 07	Industrial filter 2 Pneumatic control panel	0.64/41078	Replace the SOV panel with the same type of panel (1:1)
101	*AA 605*	*Regulating valve*	*0.64/41078*	Replace
102	*AT 005*	*Auto drain trap*	*0.64/41078*	Replace
103	*AA 505*	*Ball valve*	*0.64/41078*	Replace
104	00 GCB 12 CP 301	Sand filter 2 pressure switch	0.64/06933	Test & correct defects
105	00 GCB 12 CP 501	Sand filter 2 pressure gauge	0.64/06933	Replace
106	**Sand filter 3**			
107	00 GYG 08	Industrial filter 3 Pneumatic control panel	0.64/41078	Replace the SOV panel with the same type of panel (1:1)
108	*AA 604*	*Regulating valve*	*0.64/41078*	Replace
109	*AT 004*	*Auto drain trap*	*0.64/41078*	Replace
110	*AA 504*	*Ball valve*	*0.64/41078*	Replace
111	00 GCB 13 CP 301	Sand filter 3 pressure switch	0.64/06933	Test & correct defects
112	00 GCB 13 CP 501	Sand filter 3 pressure gauge	0.64/06933	Replace
113	**Filtered Water Supply Pumps**			
114	00 GCK 11 CP 501	PT-100 temperature	0.64/06933	Replace
115	00 GCK 11 CT 001	Cation pump discharge	0.64/06933	Replace
116	00 GCK 12 CP 501	PT-100 temperature	0.64/06933	Replace
117	00 GCK 12 CT 001	Cation pump discharge	0.64/06933	Replace
118	00 GCK 13 CP 501	PT-100 temperature	0.64/06933	Replace
119	00 GCK 13 CT 001	Cation pump discharge	0.64/06933	Replace
120	00 GCK 14 CP 501	PT-100 temperature	0.64/06933	Replace

System	WTP Industrial and Potable Stream Recovery Scope of Work			
COMPONENT ACTIVITIES				
№	**COMPONENT FLOC (KKS CODE)**	**DESCRIPTION**	**REFERENCE DRAWING NUMBER**	**ACTIVITY TYPE (INSPECTION / TEST / REFURBISH / REPLACE)**
121	00 GCK 14 CT 001	Cation pump discharge	0.64/06933	Replace
122	00 GCK 20 CF 001	Orifice Flow Tx	0.64/06933	Replace
123	00GCK20 CF 001 QB16	Flow sensing Orifice plate	0.64/06933	Replace
125	**Train 1**			
126	**Cation 1**			
127	00 GCK 21 CF 001	Orifice Flow Tx	0.64/4156	Replace
128	00GCK21 CF 001 QB10	Orifice plate	0.64/4156	Replace the SOV panel with the same type of panel (1:1)
129	00 GYG 13	Pneumatic control panel	0.64/41078	Replace
130	*AA 617*	*Regulating valve*	*0.64/41078*	Replace
131	*AT 017*	*Auto drain trap*	*0.64/41078*	Replace
132	*AA 523*	*Ball valve*	*0.64/41078*	Replace
133	**Atmospheric and Vacuum degassifier 1**			
134	00 GCH 11 CL 301	Level Switch	0.64/4159	Replace
135	00 GCH 11 CL 302	Level Switch	0.64/4159	Replace
136	00 GCH 11 CL 001	Level TX	0.64/4159	Replace
137	00 GCH 11 CL 002	Level TX	0.64/4159	Replace
138	00 GCH 11 CL 303	Level Switch	0.64/4159	Replace
139	00 GCH 11 CP 501	Pressure gauge	0.64/4159	Replace
140	00 GDK 30 CF 002	Orifice Flow Tx	0.64/4159	Replace
141	00GDK30CF 002 QB10	Orifice plate	0.64/4159	Replace
142	00 GCK 31 CT 001	Temperature Tx (PT 100)	0.64/4159	Replace
143	00 GCK 31 CP 501	Pressure gauge	0.64/4159	Replace
154	00 GYG 14	Pneumatic control panel	0.64/41078	Replace the SOV panel with the same type of panel (1:1)
155	*AA 614*	*Regulating valve*	*0.64/41078*	Replace
156	*AT 014*	*Auto drain trap*	*0.64/41078*	Replace
157	*AA 514*	*Ball valve*	*0.64/41078*	Replace
158	**Weak Anion 1**			
159	00 GYG 19	Pneumatic control panel	0.64/41078	Replace the SOV panel with the same type of panel (1:1)
160	*AA 610*	*Regulating valve*	*0.64/41078*	Replace
161	*AT 010*	*Auto drain trap*	*0.64/41078*	Replace
162	*AA 510*	*Ball valve*	*0.64/41078*	Replace
163	**Strong Anion 1**			
164	00 GYG 22	Pneumatic control panel	0.64/41078	Replace the SOV panel with the same type of panel (1:1)
165	*AA 607*	*Regulating valve*	*0.64/41078*	Replace
166	*AT 007*	*Auto drain trap*	*0.64/41078*	Replace
167	*AA 507*	*Ball valve*	*0.64/41078*	Replace
168	**Mixed Bed 1**			

System	WTP Industrial and Potable Stream Recovery Scope of Work			
COMPONENT ACTIVITIES				
№	**COMPONENT FLOC (KKS CODE)**	**DESCRIPTION**	**REFERENCE DRAWING NUMBER**	**ACTIVITY TYPE (INSPECTION / TEST / REFURBISH / REPLACE)**
169	00 GYG 25	Pneumatic control panel	0.64/41078	Replace the SOV panel with the same type of panel (1:1)
170	*AA 604*	*Regulating valve*	*0.64/41078*	Replace
171	*AT 004*	*Auto drain trap*	*0.64/41078*	Replace
172	*AA 504*	*Ball valve*	*0.64/41078*	Replace
173	00 GYG 26	Pneumatic control panel	0.64/41078	Replace the SOV panel with the same type of panel (1:1)
174	*AA 601*	*Regulating valve*	*0.64/41078*	Replace
175	*AT 001*	*Auto drain trap*	*0.64/41078*	Replace
176	*AA 501*	*Ball valve*	*0.64/41078*	Replace
180	**Train 2**			
181	**Cation 2**			
182	00 GCK 22 CF 001	Orifice Flow Tx	0.64/4157	Replace
183	00 GYG 15	Pneumatic control panel	0.64/41078	Replace the SOV panel with the same type of panel (1:1)
184	*AA 618*	*Regulating valve*	*0.64/41078*	Replace
185	*AT 018*	*Auto drain trap*	*0.64/41078*	Replace
186	*AA 524*	*Ball valve*	*0.64/41078*	Replace
187	**Atmospheric and Vacuum degasifier 2**			
188	00 GCH 12 CL 301	Level Switch	0.64/4160	Replace
189	00 GCH 12 CL 302	Level Switch	0.64/4160	Replace
190	00 GCH 12 CL 001	Level TX	0.64/4160	Replace
191	00 GCH 12 CL 002	Level TX	0.64/4160	Replace
192	00 GCH 12 CL 303	Level Switch	0.64/4160	Replace
193	00 GCH 12 CP 501	Pressure gauge	0.64/4160	Replace
194	00 GDK 30 CF 003	Orifice Flow Tx	0.64/4160	Replace
195	00GDK30CF 003 QB10	Orifice Flow Tx	0.64/4160	Replace
196	00 GCK 32 CT 001	Temperature Tx (PT 100)	0.64/4160	Replace
197	00 GCK 32 CP 501	Pressure gauge	0.64/4160	Replace
200	00GCK32AA 210 QN01	Pneumatic control valve positioner	0.64/4160	Replace
201	00GCK32AA 210 MS01	Control valve pneumatic Actuator	0.64/4150	Replace
202	00GCK32AA 210	Control valve	0.64/4150	Replace
203	00GCK 34 CT 001	Temperature Tx (PT 100)	0.64/4160	Replace
204	00GCK 34 CP 501	Pressure gauge	0.64/4160	Replace
214	00 GYG 16	Pneumatic control panel	0.64/41078	Replace the SOV panel with the same type of panel (1:1)
215	*AA 615*	*Regulating valve*	*0.64/41078*	Replace
216	*AT 015*	*Auto drain trap*	*0.64/41078*	Replace
217	*AA 517*	*Ball valve*	*0.64/41078*	Replace
218	**Weak Anion 2**			

System	WTP Industrial and Potable Stream Recovery Scope of Work			
COMPONENT ACTIVITIES				
№	**COMPONENT FLOC (KKS CODE)**	**DESCRIPTION**	**REFERENCE DRAWING NUMBER**	**ACTIVITY TYPE (INSPECTION / TEST / REFURBISH / REPLACE)**
219	00 GYG 20	Pneumatic control panel	0.64/41078	Replace the SOV panel with the same type of panel (1:1)
220	*AA 611*	*Regulating valve*	*0.64/41078*	Replace
221	*AT 011*	*Auto drain trap*	*0.64/41078*	Replace
222	*AA 511*	*Ball valve*	*0.64/41078*	Replace
223	**Strong Anion 2**			
224	00 GYG 23	Pneumatic control panel	0.64/41078	Replace the SOV panel with the same type of panel (1:1)
225	*AA 608*	*Regulating valve*	*0.64/41078*	Replace
226	*AT 009*	*Auto drain trap*	*0.64/41078*	Replace
227	*AA 508*	*Ball valve*	*0.64/41078*	Replace
228	**Mixed Bed 2**			
229	00 GYG 27 (Inlet)	Pneumatic control panel	0.64/41078	Replace the SOV panel with the same type of panel (1:1)
230	*AA 605*	*Regulating valve*	*0.64/41078*	Replace
231	*AT 005*	*Auto drain trap*	*0.64/41078*	Replace
232	*AA 505*	*Ball valve*	*0.64/41078*	Replace
233	00 GYG 28 (Outlet)	Pneumatic control panel	0.64/41078	Replace the SOV panel with the same type of panel (1:1)
234	*AA 602*	*Regulating valve*	*0.64/41078*	Replace
235	*AT 002*	*Auto drain trap*	*0.64/41078*	Replace
236	*AA 502*	*Ball valve*	*0.64/41078*	Replace
237	**Train 3**			
238	**Cation 3**			
239	00 GCK 23 CF 001	Orifice Flow Tx	0.64/4158	Replace
240	00GCK23 CF 001 QB10	Flow	0.64/4158	Replace
241	00 GYG 17	Pneumatic control panel	0.64/41078	Replace the SOV panel with the same type of panel (1:1)
242	*AA 619*	*Regulating valve*	*0.64/41078*	Replace
243	*AT 019*	*Auto drain trap*	*0.64/41078*	Replace
244	*AA 525*	*Ball valve*	*0.64/41078*	Replace
245	**Atmospheric and Vacuum degassifier 3**			
246	00 GCH 13 CL 301	Level Switch	0.64/4161	Replace
247	00 GCH 13 CL 302	Level Switch	0.64/4161	Replace
248	00 GCH 13 CL 001	Level TX	0.64/4161	Replace
249	00 GCH 13 CL 002	Level TX	0.64/4161	Replace
250	00 GCH 13 CL 303	Level Switch	0.64/4161	Replace
251	00 GCH 13 CP 501	Pressure gauge	0.64/4161	Replace
252	00 GDK 30 CF 004	Orifice Flow Tx	0.64/4161	Replace
253	00 DK 30 CF 004 QB10	Orifice plate	0.64/4161	Replace
254	00 GCK 33 CT 001	Temperature Tx (PT 100)	0.64/4161	Replace
255	00 GCK 33 CP 501	Pressure gauge	0.64/4161	Replace

System	WTP Industrial and Potable Stream Recovery Scope of Work			
COMPONENT ACTIVITIES				
№	**COMPONENT FLOC (KKS CODE)**	**DESCRIPTION**	**REFERENCE DRAWING NUMBER**	**ACTIVITY TYPE (INSPECTION / TEST / REFURBISH / REPLACE)**
266	00 GYG 18	Pneumatic control panel	0.64/41078	Replace the SOV panel with the same type of panel (1:1)
267	*AA 616*	*Regulating valve*	*0.64/41078*	Replace
268	*AT 016*	*Auto drain trap*	*0.64/41078*	Replace
269	*AA 520*	*Ball valve*	*0.64/41078*	Replace
270	**Weak Anion 3**			
271	00 GYG 21	Pneumatic control panel	0.64/41078	Replace the SOV panel with the same type of panel (1:1)
272	*AA 612*	*Regulating valve*	*0.64/41078*	Replace
273	*AT 012*	*Auto drain trap*	*0.64/41078*	Replace
274	*AA 512*	*Ball valve*	*0.64/41078*	Replace
275	**Strong Anion 3**			
276	00 GYG 24	Pneumatic control panel	0.64/41078	Replace the SOV panel with the same type of panel (1:1)
277	*AA 609*	*Regulating valve*	*0.64/41078*	Replace
278	*AT 010*	*Auto drain trap*	*0.64/41078*	Replace
279	*AA 509*	*Ball valve*	*0.64/41078*	Replace
280	**Mixed Bed 3**			
281	00 GYG 29 (Inlet)	Pneumatic control panel	0.64/41078	Replace the SOV panel with the same type of panel (1:1)
282	*AA 606*	*Regulating valve*	*0.64/41078*	Replace
283	*AT 006*	*Auto drain trap*	*0.64/41078*	Replace
284	*AA 506*	*Ball valve*	*0.64/41078*	Replace
285	00 GYG 30 (Outlet)	Pneumatic control panel	0.64/41078	Replace the SOV panel with the same type of panel (1:1)
286	*AA 603*	*Regulating valve*	*0.64/41078*	Replace
287	*AT 003*	*Auto drain trap*	*0.64/41078*	Replace
288	*AA 503*	*Ball valve*	*0.64/41078*	Replace
289	**Demin Transfers and Storage**			
290	**Demin Storage Tanks**			
291	**DST 1**			
292	00 GYG 31	DST 1 Pneumatic control panel	0.64/41078	Replace the SOV panel with the same type of panel (1:1)
293	*AA 602*	*Regulating valve*	*0.64/41078*	Replace
294	*AT 002*	*Auto drain trap*	*0.64/41078*	Replace
295	*AA 502*	*Ball valve*	*0.64/41078*	Replace
296	**DST 2**			
297	00 GYG 32	DST 2 Pneumatic control panel	0.64/41078	Replace the SOV panel with the same type of panel (1:1)
298	*AA 603*	*Regulating valve*	*0.64/41078*	Replace
299	*AT 003*	*Auto drain trap*	*0.64/41078*	Replace
300	*AA 503*	*Ball valve*	*0.64/41078*	Replace

System	WTP Industrial and Potable Stream Recovery Scope of Work			
COMPONENT ACTIVITIES				
№	COMPONENT FLOC (KKS CODE)	DESCRIPTION	REFERENCE DRAWING NUMBER	ACTIVITY TYPE (INSPECTION / TEST / REFURBISH / REPLACE)
301	**DST 3**			
302	00 GYG 33	DST 3 Pneumatic control panel	0.64/41078	Replace the SOV panel with the same type of panel (1:1)
303	*AA 604*	*Regulating valve*	*0.64/41078*	Replace
304	*AT 004*	*Auto drain trap*	*0.64/41078*	Replace
305	*AA 504*	*Ball valve*	*0.64/41078*	Replace
306				
307	**Demin pumps**			
308	00 GCK 61 CT 001	Temperature Tx (PT 100)	0.64/4171	Replace
309	00 GCK 61 CP 501	Pressure gauge	0.64/4171	Replace
310	00 GCK 62 CT 001	Temperature Tx (PT 100)	0.64/4171	Replace
311	00 GCK 62 CP 501	Pressure gauge	0.64/4171	Replace
312	00 GCK 71 CT 001	Temperature Tx (PT 100)	0.64/4171	Replace
313	00 GCK 71 CP 501	Pressure gauge	0.64/4171	Replace
314	00 GCK 72 CT 001	Temperature Tx (PT 100)	0.64/4171	Replace
315	00 GCK 72 CP 501	Pressure gauge	0.64/4171	Replace

1.4 Applicable Corporate / Generation / International Guidelines and Standard

№	REFERENCE NUMBER	DOCUMENT TITLE
1	32-727	Eskom's Safety, Health, Environment and Quality (SHEQ) Policy
2	ISO 14001, 2004	Environmental Management System
3	ISO 9001:2008	Quality Management System
4	55-PC-010	Kendal Waste Management Procedure
5	36-689	Fossil Fuel Firing Regulation
6		Plant Safety Regulations
7	240-105658000 (QM58)	Supplier Quality Management Specification
8	*1017374	Kendal Quality Manual
9	*1015695	Document and Record Management
10	*1017357	Non-conformance, Corrective and Preventive Action
11	*1017401	Integrated Risk Management
12	*1017482	Control and Approval of Quality Control Plan
13	*1017483	Control of monitoring and measuring equipment

1.5 General Considerations

ACTIVITIES	SPECIFICATIONS
PRE-REQUISITES / PRE-CONDITIONS	
SAFETY **Specified safety requirements for the specific system**	
	Kendal Power Station SHE specifications for principal contractors
ENVIRONMENT **Specified pollution control requirements, specified waste management requirements, specified energy efficiency requirements.**	
	Kendal Power Station Waste

	Management procedure
QUALITY **All Outage QCP's to be done as per Kendal Control and Approval of QCP Process. (*1017482)**	
	Kendal Power Station Quality requirements for quality related items
RISK ASSESSMENT **A risk report with a complete list of risks, risk rating and mitigating actions for the specific plant system.**	

1.6 Bills of Material

KKS (FLOC)	Primary Device (Sensor)	Description	Proposed Instrument spec:	Sensor /Primary device spec	Manifold	Remote Display
00GDK30CF001		Back wash potable water	3051CD2A02A1BH2BCL 4M4Q4		0304RT32B11L4	N/A
	00GDK30CF001 QB01	Back wash PW orifice plate		ACS-OP/CR -400NB-316SS, 1/2" isolation ball valves		N/A
00GDK20CF001		Potable to head tank	3051CD2A02A1BH2BCL 4M4Q4		0304RT32B11L4	N/A
	00GDK20CF001 QB01	Potable to head tank orifice plate		ACS-OP/CR -400NB-316SS, 1/2" isolation ball valves		N/A
00GDK10CL001		Filtered water Pot cham L TX	2051TG1A2B21BS5B4M 4Q4		0306RT12AA11	N/A
00GDK11CT001		Pot. Pump 1 temperature TX	3144PD2A1NAB4M5Q4		N/A	N/A
	00GDK11CT001 QB01	Pot. Pump 1 temp. sensor (PT100)	114CM0080TAA2SC045 AXT	214CRTSMB1S3M0125SLAF1C 2B1UAE065TBXT	N/A	N/A
00GDK12CT001		Pot. Pump 2 temperature TX	3144PD2A1NAB4M5Q4		N/A	N/A
	00GDK12CT001 QB01	Pot. Pump 2 temp. sensor (PT100)	114CM0080TAA2SC045 AXT	214CRTSMB1S3M0125SLAF1C 2B1UAE065TBXT	N/A	N/A
00GDK13CT001		Pot. Pump 3 temperature TX	3144PD2A1NAB4M5Q4		N/A	N/A
	00GDK13CT001 QB01	Pot. Pump 3 temp. sensor (PT100)	114CM0080TAA2SC045 AXT	214CRTSMB1S3M0125SLAF1C 2B1UAE065TBXT	N/A	N/A
00GDK14CT001		Pot. Pump 4 temperature TX	3144PD2A1NAB4M5Q4		N/A	N/A
	00GDK14CT001 QB01	Pot. Pump 4 temp. sensor (PT100)	114CM0080TAA2SC045 AXT	214CRTSMB1S3M0125SLAF1C 2B1UAE065TBXT	N/A	N/A
00GCK20CF001		Filtered water totalizing F TX	3051CD2A02A1BH2BCL 4M4Q4		0304RT32B11L4	N/A
	00GCK20CF001	Filtered water totalizing F		ACS-OP/CR -400NB-316SS,	N/A	N/A

KKS (FLOC)	Primary Device (Sensor)	Description	Proposed Instrument spec:	Sensor /Primary device spec	Manifold	Remote Display
	QB01	orifice plate		1/2" isolation ball valves		
00GCK10CL001		Filter water Ind cham. L TX	2051TG1A2B21BS5B4M4Q4		0306RT12AA11	N/A
00GCK11CT001		Cat. Pump 1 temperature TX	3144PD2A1NAB4M5Q4		N/A	N/A
	00GCK11CT001QB01	Cat. Pump 1 temp. sensor (PT100)	114CM0080TAA2SC045AXT	214CRTSMB1S3M0125SLAF1C2B1UAE065TBXT	N/A	N/A
00GCK12CT001		Cat. Pump 2 temperature TX	3144PD2A1NAB4M5Q4		N/A	N/A
	00GCK11CT001QB01	Cat. Pump 2 temp. sensor (PT100)	114CM0080TAA2SC045AXT	214CRTSMB1S3M0125SLAF1C2B1UAE065TBXT	N/A	N/A
00GCK13CT001		Cat. Pump 3 temperature TX	3144PD2A1NAB4M5Q4		N/A	N/A
	00GCK11CT001QB01	Cat. Pump 3 temp. sensor (PT100)	114CM0080TAA2SC045AXT	214CRTSMB1S3M0125SLAF1C2B1UAE065TBXT	N/A	N/A
00GCK14CT001		Cat. Pump 4 temperature TX	3144PD2A1NAB4M5Q4		N/A	N/A
	00GCK11CT001QB01	Pump 4 temp. sensor (PT100)	114CM0080TAA2SC045AXT	214CRTSMB1S3M0125SLAF1C2B1UAE065TBXT	N/A	N/A
00GCK21CF001		Cat 1: filtered water	3144PD2A1NAB4M5Q4		0304RT32B11L4	N/A
	00GCK21CF001QB01	Cat 1: filtered water F orifice plate		ACS-OP/CR -200NB-316SS, 1/2" isolation ball valves	N/A	N/A
00GCK22CF001		Cat 2: filtered water	3051CD2A02A1BH2BCL4M4Q4		0304RT32B11L4	N/A
	00GCK22CF001QB01	Cat 2: filtered water F orifice plate		ACS-OP/CR -200NB-316SS, 1/2" isolation ball valves	N/A	N/A
00GCK23CF001		Cat 3: filtered water	3051CD2A02A1BH2BCL4M4Q4		0304RT32B11L4	N/A
	00GCK23CF001QB01	Cat 3: filtered water F orifice plate		ACS-OP/CR -200NB-316SS, 1/2" isolation ball valves	N/A	N/A
00GCH11CL001		Atmos Degas 1 L TX	3051CD3A02A1BH2BCL4M4Q4		0304RT32B11L4	N/A

KKS (FLOC)	Primary Device (Sensor)	Description	Proposed Instrument spec:	Sensor /Primary device spec	Manifold	Remote Display
00GCH11CL002		Vac Degas 1 L TX	3051CD3A02A1BH2BCL4M4Q4		0304RT32B11L4	N/A
00GCH12CL001		Atmos Degas 2 L TX	3051CD3A02A1BH2BCL4M4Q4		0304RT32B11L4	N/A
00GCH12CL002		Vac Degas 2 L TX	3051CD3A02A1BH2BCL4M4Q4		0304RT32B11L4	N/A
00GCH13CL001		Atmos Degas 3 L TX	3051CD3A02A1BH2BCL4M4Q4		0304RT32B11L4	N/A
00GCH13CL002		Vac Degas 3 L TX	3051CD3A02A1BH2BCL4M4Q4		0304RT32B11L4	N/A
00GCK31CT001		Anion pump 1 temperature TX	3144PD2A1NAB4M5Q4		N/A	N/A
	00GCK31CT001QB01	Anion pump 1 temp. sensor TX (PT100)	114CM0080TAA2SC045AXT	214CRTSMB1S3M0125SLAF1C2B1UAE065TBXT	N/A	N/A
00GCK32CT001		Anion pump 2 temperature TX	3144PD2A1NAB4M5Q4		N/A	N/A
	00GCK32CT001QB01	Anion pump 2 temp. sensor TX (PT100)	114CM0080TAA2SC045AXT	214CRTSMB1S3M0125SLAF1C2B1UAE065TBXT	N/A	N/A
00GCK33CT001		Anion pump 3 temperature TX	3144PD2A1NAB4M5Q4		N/A	N/A
	00GCK33CT001QB01	Anion pump 3 temp. sensor TX (PT100)	114CM0080TAA2SC045AXT	214CRTSMB1S3M0125SLAF1C2B1UAE065TBXT	N/A	N/A
00GCK34CT001		Anion pump 4 temperature TX	3144PD2A1NAB4M5Q4		N/A	N/A
	00GCK34CT001QB01	Anion pump 4 temp. sensor TX (PT100)	114CM0080TAA2SC045AXT	214CRTSMB1S3M0125SLAF1C2B1UAE065TBXT	N/A	N/A
00GDK30CF001		Vac Pump 1 PW TX	3051CD2A02A1BH2BCL4M4Q4		0304RT32B11L4	N/A
	00GDK30CF002QB01	Vac Pump 1 PW TX orifice plate		ACS-OP/CR -50NB-316SS, 1/2" isolation ball valves	N/A	N/A
00GDK30CT001		Vac pump seal water temp	3144PD2A1NAB4M5Q4		N/A	N/A
	00GDK30CT001QB01	Vac pump seal water temp sensor	114CM0080TAA2SC045AXT	214CRTSMB1S3M0125SLAF1C2B1UAE065TBXT	N/A	N/A

KKS (FLOC)	Primary Device (Sensor)	Description	Proposed Instrument spec:	Sensor /Primary device spec	Manifold	Remote Display
00GDK30CF003		Vac Pump 2 PW TX	3051CD2A02A1BH2BCL 4M4Q4		0304RT32B11L4	N/A
	00GDK30CF003 QB01	Vac Pump 2 PW TX orifice plate		ACS-OP/CR -50NB-316SS, 1/2" isolation ball valves	N/A	N/A
00GDK30CF004		Vac Pump 3 PW TX	3051CD2A02A1BH2BCL 4M4Q4		0304RT32B11L4	N/A
	00GDK30CF004 QB01	Vac Pump 3 PW TX orifice plate		ACS-OP/CR -50NB-316SS, 1/2" isolation ball valves	N/A	N/A
00GCK31CF001		Wk. Anion 1 water F TX	3051CD2A02A1BH2BCL 4M4Q4		0304RT32B11L4	751AM7 NAB
	00GCK31CF001 QB01	Wk. Anion 1 water F TX orifice plate		ACS-OP/CR -200NB-316SS, 1/2" isolation ball valves	N/A	N/A
00GCK32CF001		Wk. Anion 2 water F TX	3051CD2A02A1BH2BCL 4M4Q4		0304RT32B11L4	751AM7 NAB
	00GCK31CF001 QB01	Wk. Anion 2 water F TX orifice plate		ACS-OP/CR -200NB-316SS, 1/2" isolation ball valves	N/A	N/A
00GCK33CF001		Wk. Anion 3 water F TX	3051CD2A02A1BH2BCL 4M4Q4		0304RT32B11L4	751AM7 NAB
	00GCK31CF001 QB01	Wk. Anion 3 water F TX orifice plate		ACS-OP/CR -200NB-316SS, 1/2" isolation ball valves	N/A	N/A
00GCF41CF001		Mix bed 1 out flow F TX	3051CD2A02A1BH2BCL 4M4Q4		0304RT32B11L4	N/A
	00GCF41CF001 QB01	Mix bed 1 out flow F TX orifice plate		ACS-OP/CR -200NB-316SS, 1/2" isolation ball valves	N/A	N/A
00GCF42CF001		Mix bed 2 out flow F TX	3051CD2A02A1BH2BCL 4M4Q4		0304RT32B11L4	N/A
	00GCF41CF001 QB01	Mix bed 2 out flow F TX orifice plate		ACS-OP/CR -200NB-316SS, 1/2" isolation ball valves	N/A	N/A
00GCF43CF001		Mix bed 3 out flow F TX	3051CD2A02A1BH2BCL 4M4Q4		0304RT32B11L4	N/A
	00GCF41CF001 QB01	Mix bed 3 out flow F TX orifice plate		ACS-OP/CR -200NB-316SS, 1/2" isolation ball valves	N/A	N/A

WTP Pneumatic Panel and Instrument list

Plant	Panel KKS	Description	Spool v/v	S-Acting	D-Acting	Lamp test	Start-Bt	Stop-Bt	Select-SW
2023/05/29	**52**		**594**	**78**	**162**	**44**	**38**	**38**	**38**
Demin Generation Plant									
		Air Supply To Anion Blower Flow Element With Gauge							
Train No: 1	0 0GYG13	Cation Unit 1 Panel	6	1	5	1	6	6	1
	0 0GYG14	Cation Unit 1 & Degasser Panel	9	4	5	1	9	9	1
	0 0GYG19	Weak Anion Unit 1 Outlet Panel	8	2	6	1	8	8	1
	0 0GYG22	Strong Anion Unit 1 Outlet Panel	9	3	6	1	9	9	1
	0 0GYG25	Mixed Bed Unit 1 Inlet Panel	11	6	5	1	11	11	1
	0 0GYG26	Mixed Bed Unit 1 Outlet Panel	9	4	5	1	9	9	2
Train No: 2	0 0GYG15	Cation Unit 2 Panel	6	3	3	1	6	6	1
	0 0GYG16	Cation Unit 2 & Degasser Panel	9	4	5	1	9	9	1
	0 0GYG20	Weak Anion Unit 2 Outlet Panel	8	2	6	1	8	8	1
	0 0GYG23	Strong Anion Unit 2 Outlet Panel	9	3	6	1	9	9	1
	0 0GYG27	Mixed Bed Unit 2 Inlet Panel	11	6	5	1	11	11	1
	0 0GYG28	Mixed Bed Unit 2 Outlet Panel	8	4	4	1	8	8	1
Train No: 3	0 0GYG17	Cation Unit 3 Panel	6	1	5	1	6	6	1

WTP Pneumatic Panel and Instrument list

Plant	Panel KKS	Description	Spool v/v	S-Acting	D-Acting	Lamp test	Start-Bt	Stop-Bt	Select-SW
	0 0GYG18	Cation Unit 3 & Degasser Panel	9	4	5	1	9	9	1
	0 0GYG21	Weak Anion Unit 3 Outlet Panel	8	2	6	1	8	8	1
	0 0GYG24	Strong Anion Unit 3 Outlet Panel	9	3	8	1	11	11	2
	0 0GYG29	Mixed Bed Unit 3 Inlet Panel	11	6	5	1	11	11	1
	0 0GYG30	Mixed Bed Unit 3 Outlet Panel	8	4	4	1	8	8	1
Anion Pumps/Separation	0 0GYG44	Separation Box Panel	7	0	7	1	7	7	1
Neutralisation Sumps	0 0GYG40	Neutralisation Sump No: 1 Valves	8	2	6	1	8	8	1
	0 0GYG41	Neutralisation Sump No: 2 Valves	8	2	6	1	8	8	1
Recovery									
Side Stream									
Sand Filter 1 to 6	0 0GYG06	Industrial Filter No: 1 Backwash panel	5	0	5	1	5	5	1
	0 0GYG07	Industrial Filter No: 2 Backwash panel	5	0	5	1	5	5	1
	0 0GYG08	Industrial Filter No: 3 Backwash panel	5	0	5	1	5	5	1
	0 0GYG09	Industrial Filter No: 4 Backwash panel	5	0	5	1	5	5	1
	0 0GYG10	Industrial Filter No: 5 Backwash panel	5	0	5	1	5	5	1
	0 0GYG11	Industrial Filter No: 6 Backwash panel	5	0	5	1	5	5	1
	00GYG05	Sand filters backwash outlet v/vs	6	0	6	1	6	6	6

WTP Pneumatic Panel and Instrument list

Plant	Panel KKS	Description	Spool v/v	S-Acting	D-Acting	Lamp test	Start-Bt	Stop-Bt	Select-SW
Vacuum Fans/Flash Mixer	0 0GYG01	Industrial Clarifier Inlet Chamber Vent Panel	2	0	2	1	2	2	1
	0 0GYG02	Potable Clarifier Inlet Chamber Vent Panel	2	0	2	1	2	2	2
Clarifier BlowDowns	0 0GYG03	Industrial Clarifier Sludge Extraction Panel	6	6	0	1	6	6	2
	00GYG03GS003	Electronic Timer (DT-310/1)				1			
	00GYG03GS004	Electronic Timer (DT-310/1)				1			
	0 0GYG04	Industrial Clarifier Sludge Extraction Panel	6	6	0	1	6	6	2
	00GYG04GS003	Electronic Timer (DT-310/1)				1			
	00GYG04GS004	Electronic Timer (DT-310/1)				1			
DST's	0 0GYG31	Demin Water Storage Tank No: 1 Panel	2	0	2	1	2	2	1
		TSL 060-124 (Industrial power supply)				1			
	0 0GYG32	Demin Water Storage Tank No: 2 Panel	2	0	2	1	2	2	1
	0 0GYG33	Demin Water Storage Tank No: 3 Panel	2	0	2	1	2	2	1
		TSL 060-124 (Industrial power supply)							
Service Water Valve	0 0GYG34	Demin Service Water Supply Isolation Valve	1	0	1	1	1	1	1

WTP Pneumatic Panel and Instrument list

Plant	Panel KKS	Description	Spool v/v	S-Acting	D-Acting	Lamp test	Start-Bt	Stop-Bt	Select-SW
Polyeletrolyte	0 0GYA50	Poly Electrolyte Dilution Tank Outlet Panel	1	0	1	1	1	1	1

SUBSYSTEM		WTP			
№	**COMPONENT FLOC (KKS CODE)**	**COMPONENT DESCRIPTION**	**COMPONENT / MATERIAL SPECIFICATION**	**STOCK NUMBER**	**DESIGN QUANTITY**
1		Proximity switches		225911	TBD
		Micro switches			TBD
2		Proximity tube fitting	Swagelok tube fitting SS-10M0-6	NA	TBD
3		Proximity tube fitting	Swagelok tube fitting SS -600-61-4	NA	TBD
4		Proximity tube fitting	Swagelok tube fitting SS-10M0-R-6	NA	TBD
5		Proximity tube fitting	Swagelok tube fitting SS-400-1-6	NA	TBD
6		Proximity tube fitting	Swagelok tube fitting SS-400-2-4	NA	TBD
7		Proximity tube fitting	Swagelok tube fitting SS-400-1-4	NA	TBD
8		Proximity tube fitting	Swagelok tube fitting SS-400-3	NA	TBD
9		Proximity tube fitting	Swagelok Multipurpose push-on hose SS-T6_S-035-6ME	NA	TBD
10		Proximity tube fitting	Swagelok Sweden stock SS-T6-S-035-6ME	NA	TBD
11		Proximity tube fitting	Swagelok Multipurpose push-on hose PB-4	NA	TBD
12		Pressure regulator	Wilkerson **R26 – C4 – 000A**	NA	TBD
13		Water Trap	Wilkerson **SG F200 – 2** (1/2")	NA	TBD
14		Solenoid spool valve	ASCO Numatic **single** acting **C23BA400 – X** with solenoid and related LED plug	NA	TBD
15		Solenoid spool valve	ASCO Numatic **Double** acting **C23BB400 – X** with solenoid and related LED plug	NA	TBD
16		Solenoid spool valve	ASCO Numatic Double acting **C12BB400 – X** with solenoid and related LED plug	NA	TBD
17		Solenoid spool valve	ASCO Numatic Double acting **C12BA400 – X** with solenoid and related LED plug	NA	TBD
18		Solenoid	ASCO Solenoid 430 04473	NA	TBD
19		Solenoid plug	ASCO LED solenoid plug 3205 clear plastic EN17301 LED	NA	TBD
20		Switch	**ZBE – 102 NC** switch	NA	TBD
21		Switch	**ZBE – 101 NO** switch	NA	TBD
22		Push Button	Green Push Button **ZB4BW343**	NA	TBD
23		Push Button	Red Push Button **ZB4BW343**	NA	TBD
24		Push Button	Amber Push Button **ZB4BW343**	NA	TBD
25		Switch Collar	Light Block with body/fixing collar **BA9s Bulb 250**	NA	TBD
26		Isolation valve	½" WCB 1000 WOG (W8854)	NA	TBD

Bill of Materials for Impulse lines, Cables, Cable Racks and Junction Box(s):

No	COMPONENT DESCRIPTION	COMPONENT / MATERIAL SPECIFICATION	STOCK NUMBER	DESIGN QUANTITY
1	Stainless Steel pipe	Swagelok Stainless Steel Pipe SS-	N/A	Ten lengths of 6m

		T10M-S-1.5M-6ME		each
2	UNIONS	Swagelok no.SS-10M0-6	N/A	TBD
3	Male Connectors	Swagelok no.SS-10M0-1-4 (1/4 NPT male connectors)	N/A	TBD
4	Male Connectors	Swagelok no.SS-10M0-1-4RT (1/4 BSP male connectors)	N/A	TBD
5	Elbow Unions	Swagelok no.SS-10M0-9 (90° elbow unions)	N/A	TBD
6	Field Instrument Cables	UVG02	N/A	TBD
7	Field Interface Cable	UVG48	N/A	TBD
8	Field Cable Racks	Galvanised mesh	N/A	TBD
9	Field Junction Box	Stainless steel (IP67) with enough terminal count to suit and bottom cable entry	N/A	TBD

1.7 Interpretation and terminology

If required include here definitions additional to those used in the *conditions of contract* which are required only for the purpose of making the Service Information easier to draft and read. Also list abbreviations used and provide a full interpretation of each one, for example:

The following abbreviations are used in this Service Information:

Abbreviation	**Meaning given to the abbreviation**
OBL	Outside battery limits
SoV	Soleniod operated valve
TBD	To be determined
WTP	Water Treatment Plant

2 Management strategy and start up.

2.1 The *Contractor*'s plan for the *service*

2.1.1 General Planning

The *Contractor* submits a single integrated Level 4 Programme that incorporates all the work to be performed. Project Key dates are incorporated into the program.

The Contractor also provides a method statement and/or a plan at tender stage for the works clearly demonstrating compliance with the full scope of work as detailed in the Works information. As a minimum, the method statement includes the following

- Consideration for project constrains
- Erection procedures
- *Contractor's* time risk allowance

The *Contractor* should note that in accepting the Tender which includes a the *Contractor's* plan is not a condition precedent to the contractor proceeding with this work and that failure to accept a plan or revised plan does not require the contractor to stop the work.

2.1.2 Computerised Planning

MS Project is the only planning tool the *Employer* accepts for this project, therefore the *Contractor* is required to obtain this planning tool for the use of producing their programmes.

2.1.3 Planning and Scheduling Levels

All Planning and Scheduling is done based on the Critical Path Method (CPM). The Contractor uses activity codes to define interfaces to be agreed upon between Project Manager and Contractor. The Contractor's programme shows the actual critical path clearly.

The schedule layout takes into account the approved WBS, reflecting the manner the works are to be performed as per the Contractor's Method Statement and how activities are to be summarised, reported and monitored.

2.2 Management meetings

Meetings will be held between the *Project Manager* and the *Contractor* (and any other co-opted members). The Contractor is represented at each meeting by appropriate members of its staff.

The venue of these meetings is as determined by the *Project Manager*. The *Project Manager* writes the minutes of meetings.

The *Contractor* reports the overall progress and as a minimum requirement, the following is addressed

- *Contractor's* current activity progress and planned finish dates
- *Contractor* and *Project Manager's* programme agenda compared for problematic differences
- Current and projected manpower by class
- Health, safety and quality Management
- Progress of other relevant activities
- To discuss any technical and commercial issues.
- Problem areas or concerns

Regular meetings of a general nature may be convened and chaired by the *Supply Manager* as follows:

Title and purpose	Approximate time & interval	Location	Attendance by:
Risk register and compensation events	Every Second Week	To be decided by the Employer	*Employer*, *Contractor*
Overall contract progress	Weekly	To be decided by the Employer	*Employer*, *Contractor* and other relevant Personal
Progress Feedback	Daily when required	To be decided by the Employer	*Employer*, *Contractor*

Meetings of a specialist nature may be convened as specified elsewhere in this Service Information or if not so specified by persons and at times and locations to suit the Parties, the nature and the progress of the *service*. Records of these meetings shall be submitted to the *Service Manager* by the person convening the meeting within five days of the meeting.

All meetings shall be recorded using minutes or a register prepared and circulated by the person who convened the meeting. Such minutes or register shall not be used for the purpose of confirming actions or instructions under the contract as these shall be done separately by the person identified in the *conditions of contract* to carry out such actions or instructions.

2.3 *Contractor*'s management, supervision and key people

Project Organogram with responsibility Matrix(Names and IDs of the assigned resources) to be submitted for approval at Tender.

2.4 Provision of bonds and guarantees

N/A

2.5 Documentation control

2.5.1 Documentation lay out

All project documents are submitted to the *Project Manager* with a transmittal note according to Project / Plant Specific Technical Documents and Records Management Work Instruction (240-76992014). In order to portray a consistent image it is important that all documents used within the project follow the same standards of layout, style and formatting as described in the Work Instruction. The *Contractor* is required to submit documents as electronic and hard copies and both copies are delivered to the *Project Manager* with a transmittal note.

In addition, the *Contractor* adheres to the following standards:

- Project Plant Specific Technical Documents - Handover Works Instruction 240-124341168.
- Project Documentation Deliverable Requirement Specification 240-65459834.
- Technical Documentation Classification and Designation Standard 240-54179170.
- Configuration Management works instruction for project (1017821)
- Functional location(KKS) coding and Labelling works instruction (1017822)

2.5.2 Documentation Requirements

All documentation submitted, by the *Contractor*, is accompanied by the completed transmittal with the following fields as a minimum:

- Name of the Package
- Name of Contractor
- Transmittal Number
- Contractor Details
- Date of Submission
- Description of Document
- Document Number
- Document revision
- Document type
- Document media type
- Number of copies
- Purpose of submission
- Document PBS (e.g. AKZ / KKS)
- Signed by and date

2.5.3 Engineering Drawing

- The creation, issuing and control of all Engineering Drawings are in accordance to the latest revision of the Engineering Drawing Standard 240-86973501.
- As a minimum, the Contractor submits three hard copies and an electronic copy of all drawings to the Employer.
- The Contractor submits electronic drawings in Micro Station (DGN) format, and scanned drawings in PDF format. No drawings submitted in TIFF, AUTOCAD or any other electronic format are accepted.
- Drawings issued to the Employer are not “Right Protected” or encrypted.
- Drawings to be Natively drawn in MicroStation, No conventions will be accepted

2.6 Invoicing and payment

The Z clauses make reference to invoicing procedures stated here in this Service Information. Also include a list of information which is to be shown on an invoice.

Within one week of receiving a payment certificate from the *Service Manager* in terms of core clause 51.1, the *Contractor* provides the *Employer* with a tax invoice showing the amount due for payment equal to that stated in the *Service Manager*’s payment certificate.

The *Contractor* shall address the tax invoice to

_____

and include on each invoice the following information:

- Name and address of the *Contractor* and the *Service Manager;*
- The contract number and title;
- *Contractor*’s VAT registration number;
- The *Employer*’s VAT registration number 4740101508;
- Description of service provided for each item invoiced based on the Price List;
- Total amount invoiced excluding VAT, the VAT and the invoiced amount including VAT;
- (add other as required)

Add procedures for invoice submission and payment (e. g. electronic payment instructions)

2.7 Contract change management

Standard Forms to be used are to be found on the NEC 3 TSC Contract Templates

2.8 Records of Defined Cost to be kept by the *Contractor*

N/A

2.9 Insurance provided by the *Employer*

N/A

2.10 Training workshops and technology transfer

Troubleshooting guidelines and procedures must be submitted for approval.

2.11 Design and supply of Equipment

SOV panel design and manufacturing shall be done in compliance with Engineering process. All panel documentation such as Wiring, and connection diagrams shall be updated and submitted for verification and approval by the Employer before panel delivery to the station.

Panel FAT and SAT procedures shall be submitted to the Employer for approval before FAT and SAT can be undertaken.

2.12 Things provided at the end of the *service period* for the *Employer*'s use

2.12.1 Equipment

All equipment bought as part of the contract shall be handed over to the Employer.

2.12.2 Information and other things

Update Wiring and Connection diagrams, Signed QC and QA documents.

2.13 Management of work done by Task Order

- Task Orders will apply to this contract where only parts of the *service* may require to be handled by Task Order. Secondary option X19 conditions is applicable to this contract.

- A Task Order includes
  - a detailed description of the work in the Task,
  - a priced list of items of work in the Task in which items taken from the Price List are identified,
  - the starting and completion dates for the Task,
  - the amount of delay damages for the late completion of the Task and
    the total of the Prices

- The Service Manager consults the Contractor about the contents of a Task Order before he issues it. When a Task Order is issued
  - the priced list of items for the Task is inserted in the Price List, and
  - the work involved is added to the Service Information.

The Task Order format is provided in an Annexure A of this Service Information.

3 Health and safety, the environment and quality assurance

3.1 Health and safety risk management

3.1.1 General

In carrying out its obligations to the Employer in terms of this contract, which obligations include, amongst others, providing the works; using Plant, Materials and Equipment; and whilst at the site for any reason, the Contractor is the "Employer" in terms of the Occupational Health and Safety Act, No. 85 of 1993, in respect of its activities and in relation to its employees, agents, and mandatories.

The Contractor does not consider itself under the supervision or management of the Employer with regard to compliance with the Safety Health and Environmental requirements.

Furthermore, the Contractor does not consider himself to be a subordinate or under the supervision of the Project Manager in respect of these matters. The Contractor is responsible for the supervision of its employees, agents, and mandatories and takes full responsibility and accountability for ensuring that they are competent, aware of the Safety Health and Environmental requirements, whilst executing the works in accordance with the Safety Health and Environmental requirements.

The Contractor ensures compliance with, amongst others:

- The provisions of the Occupational Health and Safety Act, No. 85 of 1993 and all applicable regulations (as amended), binding in terms thereof;
- The latest versions of standards, procedures, specifications, rules, systems of work and requirements of the Employer, copies of which will be provided to the Contractor on request.
- The Contractor shall prepare an environmental management plan and method statements relating to the activities that will be carried out.
- The provisions of the National Environmental Management Act (as amended) and all regulations in force from time to time in terms of that Act.
- The Contractor implements a comprehensive health, safety and environmental management system, based on the OHSAS 18001 and ISO 14001 requirements for utilisation at the project.
- The Contractor appoints a person, qualified and competent in accordance with the safety health and environmental requirements, as the liaison with the Employer's Project Safety, Health and Environmental Manager or delegated person for all such matters as pertaining related to safety, health and the environment. The Contractor shall ensure that such a person is contactable 24 hours a day, and is registered with a registered professional council approved by the Principal Director of the Department of Labour, as per the requirements of the latest Construction Regulations, inclusive of all exemptions and amendments pertaining thereto.
- The Contractor hereby indemnifies the Employer and holds the Employer harmless in respect of any and all loss, costs, claims, demands, liabilities, damage, penalties or expenses that may be made against the Employer and/or suffered or incurred by the Employer (as the case may be) as a result of, any failure of the Contractor, its employees, agents, and mandatories to comply with their obligations, and/or the failure of the Employer to procure the compliance by the Contractor, its employees, agents, and/or mandatories with their responsibilities and/or obligations in terms of or arising from the Occupational Health and Safety Act, No. 85 of 1993.

3.1.2 Mandatory Agreements

In terms of sections 37(1) and 37(2) of the OHSA, the Employer is relieved of any and all of its responsibilities and liabilities pertaining to the activities performed by the Contractor (and its employees,

agents, Subcontractors and mandatories) relating to the works; the use of plant, materials and equipment; and whilst at the Site for whatsoever reason.

The Contractor confirms that, in terms of the Construction Regulations, regulation 6, it is hereby mandated as the designer and must perform all duties required of a designer.

The Contractor confirms that he has been provided with sufficient information regarding the health, safety and environmental arrangements applicable to the works; the use of Plant, Materials and Equipment, as well as at the Site.

The Contractor Further confirms that;

Prior to the Contractor commencing with any operations/ activities relating to the works and/or prior to gaining access to the Site, the Contractor concludes a written mandatory agreement with the Employer in terms of section 37(2) of the OHSA and 5(1)(k) under the construction regulations. The aforementioned agreement constitutes a record of the written arrangements and procedures between the Contractor and Employer regarding health and safety.

As far as is reasonably practicable, the safety and absence of risks to health in connection with the production, processing, use, handling, storage or transport of articles or substances is maintained;

As far as is reasonably practicable, all hazards pertaining to the health and safety of persons and harm to the environment that are attached to any work which is performed, any article or substance which is produced, processed, used, handled, stored or transported and any plant or machinery which is used in its business, is clearly identified and, as far as is reasonably practicable, further establishes what precautionary measures should be taken with respect to such work, article, substance, plant or machinery in order to protect the health and safety of persons and or harm to the environment, and provides the necessary means to apply such precautionary measures;

Such information, instructions, training and supervision as may be necessary to ensure, as far as is reasonably practicable, the health and safety at work of its employees, agents, and mandatories is provided;

As far as is reasonably practicable, no employee, agent, and mandatory performs any work or produces, processes, uses, handles, stores or transports any article or substance or operates any plant or machinery, unless the precautionary measures contemplated above, or any other precautionary measures which may be prescribed have been taken;

Such measures as may be necessary in the interest of health and safety and the environment are enforced;

Work is performed and that plant, materials or equipment is used under the direct supervision of a person trained to understand the hazards associated with it and who has the authority to ensure that precautionary measures required by the Employer are implemented; and

All employees are informed of the scope of their authority as contemplated in OHSA

3.1.3 Permit to Work

The Contractor allocates staff to be trained and authorised as Responsible Persons according to the Employers' Lant Safety Regulations (36-681) and /or High Voltage Regulations. These Responsible Persons are available on Site as and when required to take out permits to work.

In this contract the *Contracto*r shall appoint employees to attend and be authorised as follows;

- Two Supervisors to be Authorised in terms of the PSR as Responsible Person; and
- Two to be Authorised in terms of ORHVS as Responsible Person.

3.2 Environmental constraints and management

The *Contractor* shall comply with the environmental criteria and constraints stated in the SHEQ Policy statement 32-727 and ISO 14001.

3.3 Quality assurance requirements

- The *Contracto*r shall complete and sign Form A (Enquiry/Contract/Quality Requirements for Contractor Quality Management Specification 240-105658000/ QM 58 and ISO 9001).

- The *Contractor* shall submit objective evidence of a developed, implemented and maintained QMS that complies with ISO 9001 or any applicable standard of quality management system (the latest applicable revision ISO 9001:2015). The following documents (approved/ signed copies) shall be submitted:

    - Quality Management System manual or a documented information that have defines and describes the QMS and its scope
    - Quality Policy, aligned with the *Contractor*'s strategic direction (documented information)
    - Quality Objectives (documented information)
    - Control of documented information (both maintain and retain documented information)
    - Internal audit procedure (documented information)
    - Control of nonconforming outputs (documented information)
    - Nonconformity and Corrective action procedure (documented information)

The QMS should drive all the Contractor's business management processes to ensure that all of Eskom's requirements are fully met on a consistent basis.

- The *Contractor* shall submit the latest copy of the management system internal audit reports. The audit reports must include, if applicable, nonconformity identified, and the resulting remedial actions (correction and/ or corrective action reports).

- The *Contractor* shall submit a draft contract quality plan that is specific to the scope of work as described in the tender documents. The plan must address the minimum requirements as per ISO 10005.

- Where applicable; the *Contractor* shall submit an example of inspection and test plan (ITP) or quality control plan (QCP) on similar or previous work done.

- The *Contractor* shall submit documented information for Control of Externally Provided Processes, Products and Services.

- The *Contractor* shall submit a copy of documented information for roles, responsibilities and authorities in relation to the QMS. Examples of relevant documented information are; organization charts, job descriptions, work instructions, duty statements, manuals, procedures.

- The *Contractor* shall submit documented information retained (records) of management review meetings that include agenda, meeting minutes, attendance registers, reports, presentations, etc.

4 Procurement

4.1 People

4.1.1 Minimum requirements of people employed

N/A

4.1.2 BBBEE and preferencing scheme

N/A

4.1.3 Supplier Development, Localisation and Industrialisation (SDL&I)

Section 1: Specific Goals

A maximum of 10/20 points may be awarded to a tenderer for the specific goal specified for the tender. The points scored for the specific goal must be added to the points scored for price and the total must be rounded off to the nearest two decimal places. Subject to section 2(1)(f) of the Preferential Procurement Policy Framework Act, the contract must be awarded to the tenderer scoring the highest points.

B-BBEE Status Level of Contributor	Number of points (90/10 system)	Number of points (80/20 system)
1	10	20
2	9	18
3	6	14
4	5	12
5	4	8
6	3	6
7	2	4
8	1	2
Non-compliant contributor	0	0

NB: The following documents are required to claim preference points,

- Valid B-BBEE certificate issued by a SANAS accredited verification agency / sworn affidavit / CIPS affidavit
- Proof of ownership / shareholding (preferably CIPC documentation) inclusive of shareholding breakdown
- Certified ID copies of shareholder(s)
- Proof of Disability (where applicable)

Tenderer failing to provide documentation for the allocation of preference points will not be disqualified, but'

- May only score point out of 90/80 for price
- Scores 0 points out of 10/20 for specific goals

Section 2: Objective criteria

The inclusion of objective criteria is not mandatory but a condition for contract award. If the tenderer does not meet objective criteria; it may lead to the second-ranked tenderer being recommended for award.

2.1 Designated Sectors

When applicable the following stipulated minimum threshold for Local Production and Content must be achieved in full by the tenderer

	YES	NO
a) Is this Commodity or part of it a Designated Sector?	☐	☑

Please indicate below Designated Components

Commodity	Components	Local Content Threshold
Not Applicable	Not Applicable	Not Applicable

NOTE: SBD 6.2 Declaration Form and Annex C (Local Content Declaration-Summary Schedule) are therefore **mandatory** and must be tender returnables if applicable.

2.2 CIDB Skills Development

Continuation of Mandatory Requirements

	YES	NO
a) Is there CIDB compulsory training?	☐	☑
If *Yes,* what is the% of the Construction Skills Development Goal % (CSDG)	**Not applicable**	

If the answer above is Yes, it will then be mandatory for the supplier to match Eskom's targets

Criteria	Eskom Target	Tenderer Commitment
CSDG Percentage	N/A	
Description	N/A	

NOTE: Failure by the Contractor/Service Provider/Supplier to meet the CIDB CSDG mandatory % will render their tender non-responsive.

2.3 National Industrial Participation Programme N/A

Eskom will implement the NIPP requirement, which determines that the contractor/supplier must contact the Department of Trade, Industry and Competition (dtic) to arrange for support and development of local businesses. Eskom is required to inform the tenderers of this requirement. NIPP will only be applicable for contracts with an FGN component or content of USD 5 million or more.

The following narrative must be captured in all tenders that have import/foreign content equal to or in excess of USD 5 million:

"NIPP is a programme that seeks to leverage economic benefits and support the development of South African industry by effectively utilising the instrument of government procurement. The NIPP programme is mandatory for all government and parastatal purchases or lease contracts (goods and services) with an imported content equal to or exceeding USD 5 million.

"The programme targets South African and foreign industries, enterprises, and suppliers of goods and services to government/parastatals, where the imported content of such goods and services equals to or exceeds USD 5 million. The first customer of NIPP is the South African industry that benefits through the NIPP business plans, which, when implemented, generate new or additional business activities through one or more of the following: investment, export opportunities, job creation, increased local sales, SMME and BEE promotion, R&D, and technology transfer.

"Companies with an NIPP obligation must sign this obligation agreement with the Department of Trade, Industry and Competition (dtic) before the contract with Eskom Holdings SOC Ltd, as a purchasing entity, is signed. The obligation agreement governs the relationship between the dtic and the supplier. It defines the NIPP obligation value(s), requirements to fulfil the NIPP obligation, performance milestones, performance monitoring processes, and the NIPP credit allocation criteria.

"All tenders with an import content that is equal to or exceeds the threshold of USD 5 million compels the winning bidder to negotiate and enter into a NIPP obligation agreement with the dtic before signing the contract with Eskom.".

Subcontracting, in this instance, will be treated as a condition for contract award. A supplier awarded a contract may not subcontract more than 25% of the value of the contract to any other entity that does not have an equal or higher B-BBEE status level of a contributor than the supplier concerned unless the contract is subcontracted to an EME that has the capability and ability to execute the subcontract

Section 3: SDL&I Objectives in line with Reconstruction and Development Programme (RDP) Goals

Tenderers who complete and submit the objectives as required, but who do not meet Eskom's targets, will not be disqualified. SDL&I objectives do not form part of scoring but commitments will form part of contractual obligations

1. Transformation – BBBEE Improvement or Retention Plan

Transformation remains an area of focus, where Eskom continuously strives to align itself with national transformation imperatives to unlock growth, drive industrialization, create employment and contribute to skills development.

Eskom encourages its suppliers to constantly strive to improve their B-BBEE rating. Whereas Tenderer/s will be allocated points in terms of a preference point system based on specific goals, Eskom also requests that tenderer/s submits their B-BBEE improvement or retention plan within 30 days of signing the contract.

Tenderer/s are therefore requested to indicate the extent to which they will maintain (only if the respondent is a Level 1) or may improve/maintain their B-BBEE status over the contract period if their B-BBEE status is level 2 or 3. Tenderer/s with a B-BBEE status level 4 at the time of contract award, shall migrate and achieve as a non-negotiable a milestone of B-BBEE Level 3 by the end of the first year of the contract and thereafter improve their B-BBEE status level or migrate by one level higher.

Tenderer/s with a B-BBEE recognition status of Level 5 to Level 8 or non-compliant at the time of contract award, shall migrate and achieve as a non-negotiable a milestone of Level 4 by the end of the first year of the contract and thereafter improve at least one B-BBEE Level higher of each year from the second year of the contract.

Tenderer/s are requested to submit their B-BBEE Improvement Plan as an essential document within 30 days of signing the contract.

NB: A valid B-BBEE certificate or Sworn Affidavit is a condition for contract award, if your company's annual Total Revenue is R10 Million or less you qualify as an Exempted Micro Enterprise therefore you can submit Sworn Affidavit. If your annual Total Revenue is R50 Million or less, you qualify as Qualifying Small Enterprise and must comply with all of the elements of QSE score card relevant to your sector unless an entity is at least 51% Black owned you are required to obtain a Sworn affidavit. If your Annual Total Revenue is above R50m you need to submit a Valid B-BBEE certificate

2. <u>Local Procurement Content</u>

"Local Procurement Content" refers to value added in South Africa by South African resources. Where a single contract involves a combination of local and imported goods and/or services, the tender response must be separated into its components as per the Price Schedule included with the tender documents. Local procurement content is total spending minus the imported component

Local Procurement Content	**Eskom target**	**Tenderer Proposal**
	100%	

3. Procurement spend on entities with a minimum 51% black ownership

The winning tenderer is encouraged to procure/spend on designated groups on the following paid invoices for both:

- the indirect expenses (e.g. overheads) on goods and services supplied to the contractor/supplier by designated groups; and
- direct spend on goods and services supplied by the subcontractors for the execution of the scope of work.

Activities, as a proportion of the local procurement content, which may be subcontracted to designated black owned enterprises must be submitted in a table below.

Procurement from Designated Group	Eskom Target	Tenderer Proposal
Black Owned	0.0%	
Black Women Owned	0.0%	
Black Youth Owned	0.0%	
Black Persons with Disability	0.0%	

4. Jobs. Tenderers are required to submit proposals for the type and number of jobs that will be created and retained in South Africa as a direct result of being awarded a contract.

Type of Jobs to be created	Number of Jobs to be created

Type of Jobs to be retained	Number of Jobs to be retained

5. Skills development

Tenderers are required to submit proposals in a table below for developing the skills of unemployed candidates in the country. Skills development is intended to address Eskom's core, scarce and critical skills and the scarce and critical skills. These skills are also included in a 2020 list of occupations in high demand as stipulated in the Government Gazette 43937. Candidates shall be from all provinces in the country, and their composition shall be representative of the population demographics of South Africa

Skill type / Occupation	Eskom target	Proposed Number of Candidates
N/A	N/A	N/A

The process of developing these skills shall involve the participation by tenderers directly and through their supply network. In certain cases, the SETA's accredited training providers can be approached to participate in developing critical and scarce skills.

Note: That these targets for skills development candidates categorically exclude Eskom employees and registered learners. The tenderers are required to take full responsibility for the total cost of developing the requisite skills, and Eskom shall not make any financial contribution towards the fulfilment of this obligation. Tenderers also are advised to approach their relevant SETAs to access grants, subsidies, and incentives as well as South African Revenue Services for tax rebates that are earmarked for skills development initiatives

Section 4: SDL&I Penalty and Performance Security

Eskom will apply a penalty of 2.5% of the invoice amount for failure to meet SDL&I obligations.
Eskom will apply a penalty of 2.5% of the Contract Value for failure to meet SDL&I obligations. For the duration of the contract, Eskom will retain 2.5% of every invoice (excluding VAT) as security for the fulfilment of all SDL&I Obligations. The retained amounts shall only be released to the Contractor upon: • Eskom receives the SDL&I progress report/s from the contractor. • Fulfilment of all SDL&I obligations by the contractor. • Submission of an approved compliance report by SDL&I Department.

Section 5: Reporting and Monitoring

- The suppliers shall on a quarterly basis submit a report to Eskom in accordance with Data Collection Template on their compliance with the SDL&I obligations described above.
- Eskom shall review the SDL&I reports submitted by the suppliers within 30 (thirty) days of receipt of the reports and notify the suppliers in writing if their SDL&I obligations have not been met.
- Upon notification by Eskom that the suppliers have not met their SDL&I obligations, the suppliers shall be required to implement corrective measures to meet those SDL&I obligations before the commencement of the following report, failing which Retention clauses shall be invoked.
- Every contract shall be accompanied by the SDL&I Implementation Schedule, which must be completed by the suppliers and returned to SDL&I representative for acceptance 28 days after contract award. This will be used as a reference document for monitoring, measuring and reporting on the supplier's progress in delivering on their stated SDL&I commitments

Section 6: Market Research

The following information demonstrates market analysis and assisted in arriving at the targets above.	
Current Suppliers Providing the Services • None	Potential Suppliers: • None

Section 7: General Information on Validity of Sworn Affidavits

The following must be considered when it comes to validity of Affidavits;
Tenderers submitting B-BBEE Sworn Affidavits must ensure that the affidavits meet the following key pointers to ensure their validity: • Name/s of deponent as they appear in the identity document and the identity number. • Designation of the deponent as the **director**, **owner** or **member** must be indicated in order to know that person is duly authorised to depose of an affidavit. **(Mark the applicable option).** • Name of enterprise as per enterprise registration documents issued by the CIPC, where applicable, and enterprise business address. • Percentage of black ownership, black female ownership and designated group. In the case of specialised enterprises as per Statement 004, the percentage of black beneficiaries must be reflected. (**No blank spaces to be left**). • Indicate total revenue for the year under review and whether it is based on **audited financial statements** or **management account**. **(Mark the applicable option).** • Financial year end as per the **enterprise's registration documents**, which was used to determine the total revenue. (Financial year end to be stipulated by **day/month/year).** • B-BBEE Status level. An enterprise can only have one status level. **(Tick applicable level)** • Empowering supplier status must be indicated. For QSEs, the deponent must select the basis for the empowering supplier status. • Date deponent signed and date of Commissioner of Oath must be the same. **(The sworn affidavit must be signed in the presence of the Commissioner of Oath. Furthermore the Commissioner must also sign and stamp)** • Commissioner of Oath cannot be an employee or ex officio of the enterprise because, a person cannot by law, commission a sworn affidavit in which they have an interest.

4.2 Subcontracting

4.2.1 Preferred subcontractors

N/A

4.2.2 Subcontract documentation, and assessment of subcontract tenders

N/A

4.2.3 Limitations on subcontracting

N/A.

4.2.4 Attendance on subcontractors

N/A

4.3 Plant and Materials

4.3.1 Specifications

4.3.1.1 Plant Coding and Labelilng

The Contractor shall manufacture and install KKS labels to identified plant items as per tlist supplied by the Employer.

The Labels shall be manufactured and installed according to the Employers' standards listed below.

- Configuration Management works instruction for project (1017821).
- Functional location(kks) coding and Labelling works instruction (1017822).

4.3.1.2 Configuration Change Control

Any changes to the design baselines will be formally managed according to the Employer's Project Engineering change procedure (240-53114026). All design reviews will be conducted according to the Design Review Procedure (240-53113685)

4.3.1.3 Quality Control Plan

The Contractor compiles and submits a quality control package that includes the final scope of work, quality control plans, safety files, work execution procedures, etc. to Electrical Engineering and Electrical Technical support for acceptance prior to the commencement of the works. Refer to Kendal Quality Management Manual *1017374.

4.3.1.4 Competency

The Contactor shall comply with all the scope of work requirements. The competence of the Contractor will be evaluated during the technical evaluation by the Kendal Electrical Engineering and Maintenance team

4.3.2 Correction of defects

The Contractor shall have enough spares to correct all defects picked during the project. Safety defects to be corrected within 24 hours and Normal defect 2 days. Defects during commissioning must be addressed with 24 hours.

4.3.3 *Contractor*'s procurement of Plant and Materials

The *Employer* expects the contractor to purchase good quality material and records of such can be requested by the *Employer* at any time.

4.3.4 Tests and inspections before delivery

SOV panel design and manufacturing shall be done in compliance with Engineering process. All panel documentation such as Wiring, and connection diagrams shall be updated and submitted for verification and approval by the Employer before panel delivery to the station.

Panel FAT and SAT procedures shall be submitted to the Employer for approval before FAT and SAT can be undertaken

4.3.5 Plant & Materials provided "free issue" by the *Employer*

There will be no 'Free issue' in this contract.

4.3.6 Cataloguing requirements by the *Contractor*

Contractor is expected to Catalogue all the supplied instruments and Valves. Cataloguing Forms will be provided by the Employer.

5 Working on the Affected Property

5.1 *Employer*'s site entry and security control, permits, and site regulations

5.1.1 Site regulation and access Control

- Access and Security control shall be done according to the Eskom Access Control Policies.
- Employees, Contractors, and visitors shall be subjected to induction training and substance abuse test when entering Eskom sites, or as and when required while on Eskom sites.
- It may be required that prior to access being granted that person(s) complete the required training e.g. plant access training, employee training, occupational health and safety training or any other prescribed training.
- The Principal Contractor shall subject it employees to complete Criminal clearance verifications with the South African Police Service (SAPS) Criminal Record Centre (CRC) or accredited supplier linked to SAPS AFIS system and provide proof to security delegated team before access can be granted.
- *Contractors* are to submit proof of verification record(s) (Security clearance) from SAPS or accredited supplier linked to SAPS AFIS system not older than thirty (30) days, as part of Risk Management process to curb any threats against the Installation. It is compulsory for these documents to be submitted to Security for verification before access to site is granted. Only individuals with clear criminal records will be considered.
- *Contractors* are required to submit the SAPS Clearance Certificate obtained by the employee along with a copy of his/her Identity Document or Passport to the site Security Manager.
- The following are prohibited items and shall not be allowed on Eskom sites unless the necessary authorisation for possession has been obtained.
  - Firearms and ammunition (excludes Eskom official firearms/ ammunition and firearms/ammunition issued to the South African Security Forces.
  - Liquor/Alcohol
  - Dangerous weapons
  - Drugs
  - Any other items that may be declared prohibited

5.1.2 Permit to Work System

The Contractor allocates staff to be trained and authorised as Responsible Persons according to the Employers' Lant Safety Regulations (36-681) and /or High Voltage Regulations. These Responsible Persons are available on Site as and when required to take out permits to work.

In this Contract the Contractor shall appoint employees to attend and be authorised as follows:

- Two Supervisors to be Authorised in terms of the PSR as Responsible Person; and
- Two to be Authorised in terms of ORHVS as Responsible Person.

5.2 People restrictions, hours of work, conduct and records

The employer shall keep records of time spend at work in a form of daily diaries and time sheets and the employer shall have access of those records at any time.

5.3 Health and safety facilities on the Affected Property

Refer to section 3.

5.4 Environmental controls, fauna & flora

The Contractor shall comply with the requirements stated in the SHEQ Policy statement 32-727 and ISO 14001

5.5 Cooperating with and obtaining acceptance of Others

The Contractor is to take into consideration that this is an operational site and is required to work with others and should also comply to any Requirements for liaison with and acceptance from statutory authorities or inspection agencies.

5.6 Records of *Contractor*'s Equipment

The Contactor shall supply all Equipment required to fully, and successfully, meet the requirements stated in this document.

5.7 Equipment provided by the *Employer*

N/A

5.8 Site services and facilities

5.8.1 Provided by the *Employer*

5.8.1.1 Site Yard

Site Yard for the Contractor shall conform to the Employer's Safety Health and Environmental Specification

It is required, for the proper co-ordination and execution of the works that the Contractor has an office on site for the duration of the contract.

A site will be made available to the Contractor for his yard within the Power Station security area. The proposed site will be shown to the Contractor during site meeting or clarification meeting. The yard is a raw site and will be used by the Contractor for the establishment of his offices, workshop and stores.

The Contractor's yard is subject to periodic inspection by the Project Manager/delegated person.
The location of the nearest sewer manhole, power distribution point, portable water connection storm water channel and road access point is indicated by the Employer. The Contractor is responsible for connection to the closest point of supply.

The contractor will be responsible for the safe keeping of all equipment on his yard.

5.8.1.2 Supply of Electricity

Electricity will be made available for construction purposes free of charge from power points which will be indicated by the Project Manager. The *Contractor* is responsible for the provision of the reticulation system from the point of supply. Both 220 (AC) Volt and 380 (AC) Volt are available on request. All points of supply requested by the *Contractor* are provided in terms of quantity and location at the discretion of the Project Manager.

No guarantees of power supply quality are given and power supply breaks of some duration may occur without warning. Planned outages are also a possibility. The *Contractor* makes arrangements at his own expense to improve continuity and quality of power where necessary for any reason and no claim of any nature relating to power failures is considered.

No connection is made to the permanent installation at Kendal Power Station without the prior acceptance of the Project Manager.

The power supply is managed in accordance with the latest revision of the Eskom safety regulations i.e.:

- 32-846, Operating Regulations for High-Voltage Systems
- 36-681, Generation Plant Safety Regulations
- COC for the site installation is required prior to power being switched on.

5.8.1.3 Water

Water will be made available on request free of charge from water points on site. The Contractor supplies at his own cost all the necessary connections, fittings, piping work, temporary plumbing and pumps necessary to lead water from the Employer's points of supply to the various points where it is required. The Contractor is responsible for maintaining this equipment and for removing it at Completion of the whole of the works.

The Project Manager does not guarantee continuity of supply and the Contractor makes his own provision for standby supplies to maintain continuity of work. Claims of any nature relating to discontinuity of water supply are not considered.

The contractor may be required to measure the water usage of the site layout by making use of a meter approved by Eskom.

5.8.1.4 Roads

Main access roads are surfaced and complete and may be used by the Contractor with the necessary care. The Employer maintains the Site roads, described above, to a fair condition. Any costs incurred by the Project Manager from damage caused to underground services, structures, etc. as a result of the Contractor not using the prescribed routes is recovered from the Contractor.

The Contractor provides temporary access points from the prescribed routes and roads to the points where the Contractor is required to perform work, having first obtained permission in writing from the Project Manager.

5.8.2 Provided by the *Contractor*

5.8.2.1 Lighting

The Contractor at his own expense provides temporary local lighting in accordance with the requirements of the OHS Act as amended. The Project Manager provides no local lighting. All construction lighting is the responsibility of the Contractor.

5.8.2.2 Ablution Facilities

The Contractor shall provide and maintain adequate and suitable sanitised portable ablution facilities appropriate to the workforce size and work duration that conforms to the requirements of all applicable

legislation. Separate ablution facilities shall be provided for both genders. These portable ablution facilities will be kept tidy and hygienic during the duration of the project

5.9 Control of noise, dust, water and waste

Appropriate PPE to be worn and all measures to reduce dust to be taken into consideration

5.10 Hook ups to existing works

To be conducted as per the scope of work.

5.11 Tests and inspections

5.11.1 Description of tests and inspections

Panel FAT and SAT results shall be witnessed by the Employer and can only commence once the Employer is satisfied by the results

5.11.2 Materials facilities and samples for tests and inspections

The Contractor compiles and submits testing and commissioning procedures, for acceptance prior to any installation work starting.

Upon the successful completion of commissioning activities, the Contractor compiles and submits a commissioning report for acceptance. This report shall describe the commissioning results and, as a minimum, refer to the relevant commissioning procedure as well as any defects found and how they were rectified.

The Contractor provides all Equipment, tools and software required for testing and commissioning

6 List of drawings

6.1 Drawings issued by the *Employer*

Drawing that applies to this contract have been identified through different sections in this documents.

Drawing number	Revision	Title

Temporary works, Site services & Construction Constraints

Kendal Power Station Specific Constraints

Rev 10 August 2018

INDEX

Legend for the contract persons under the NEC Family of Contracts:

Form of NEC Contract	Eskom Holdings Limited	The contract person representing Eskom Holdings Limited	The Contracting Party	Tick ✓ and highlight the box applicable to this Contract
ECC3 – The Engineering and Construction Contract	The *Employer*	The *Project Manager*	The *Contractor*	✓
ECSC3 – The Engineering and Construction Short Contract	The *Employer*	The *Employer's R*epresentative		
TSC3 – The Term Service Contract	The *Employer*	The *Employer's R*epresentative		
TSSC3 – The Term Service Short Contract	The *Employer*	The *Employer's R*epresentative	The *Contractor*	
PSC3 – The Professional Services Contract	The *Employer*	The *Employer's Agent*	The *Consultant*	

Legend for the contract persons under the Eskom Holdings SOC Limited Contracts:

Form of Eskom Holdings SOC Limited Contract	Eskom Holdings SOC Limited	The contract person representing Eskom Holdings Limited	The Contracting Party	Tick ✓ and highlight the box applicable to this Contract
Eskom's Standard Condition of Tendering	The *Purchaser*	The *End user*	The *Supplier*	
SC3 – The Supply Contract	The Purchaser	The *Purchaser's Representative*	The Supplier	

1. The Contracting Party notes and complies with the following:

a) Eskom Holdings Limited reserves the right to have any of the Contracting Party's personnel removed from site without cancelling the contract if, in Eskom Holdings SOC Limited's opinion, it is warranted.
b) Eskom Holdings SOC Limited reserves the right to request disciplinary/corrective action if, and when, required.
c) The Contracting Party operates under the direction and instructions of the Kendal Power Station Manager or such person/s as may be appointed by him if not in conflict with the Occupational Health and Safety Act and the Generation Plant and Safety Regulations.
d) The Contracting Party maintains a high standard of workmanship expected by Eskom Holdings SOC Limited and complies with any quality assurance and quality procedures implemented by Eskom SOC Holdings Limited.
e) The Contracting Party provides all overalls for his staff with clearly identifying motifs.
f) The Contracting Party provides the necessary supervision to ensure that activities are conducted safely.

2. Security Arrangements:

a) The Contracting Party applies for a photo permit (if on site for longer than two- (2) months) at Protective Services at the Kendal Power Station main security gate, prior to the start of any work on site.
b) All Contracting Party's personnel are issued with a temporary access permit if not on site for at least two- (2) months which contains the following information:
   - Name
   - ID Number
   - Company
   - Validity date
c) In order to assist Protective Services with the issuing of permits and the identification of personnel on site, the Contracting Party supplies a list of all personnel that he intends using on site, at least 24-hours prior to entry of the Kendal Power Station Security Area. This list is hand delivered to Protective Services, or can be faxed to (013) 647-9100. The list, identified with the Contracting Party's name, contains the following information:
   - Employee name
   - Employee ID Number
   - Signature of the contract person representing Eskom Holdings SOC Limited
   - Copy of the first page of the ID book of every employee of the Contracting Party
d) The list of details is completed on the special form attached to the Contractor's Safety Manual, available on request from the contract person representing Eskom Holdings SOC Limited.
e) The Contracting Party's personnel are required to be in possession of their Contractor's Permits at all times.
f) All Contractor Permits are submitted to Protective Services when the relevant personnel leave the site after completion of the work.
g) Lost permits are paid for by the Contracting Party to Protective Services at a cost of R200,00 per lost permit.
h) The Contracting Party's visitors and all personnel conform at all times, to the security arrangements in force at the time. Application forms for visitors are filled in by the Contracting Party's Site Manager and approved by the contract person representing Eskom Holdings SOC Limited, one- (1) day before the visit and submitted to the Protective Services office. Visitors are not allowed on site if the necessary forms are not in the possession of security staff.
i) The Chief of Protective Services may with valid cause remove any of the Contracting Party's personnel form the site, either temporarily or permanently. He may deny access to the site to any person, whom, in the opinion of the said Chief of Protective Services, constitutes a security risk.
j) No unauthorised vehicles are allowed on site. Only the Contracting Party's vehicles with displayed Contract Vehicle Permit disks are allowed on site. Contract Vehicle Permit applications are directed to the contract person representing Eskom Holdings SOC Limited.
k) The Contracting Party is restricted to the areas associated with his place of work. The Contracting Party is forbidden to enter any other areas, and ensures that his employees, subcontractors and/or sub consultants abide by these regulations.
l) Parking inside the Kendal Power Station building is strictly forbidden, except for loading and off-loading purposes.
m) No recruiting of labour, casual or otherwise, may be done on the Kendal Power Station premises, including the area outside the Kendal Power Station main security gate.

Health and Safety:

2.1. Plant Safety Regulations:

a) Eskom Holdings SOC Limited, on request from the Contracting Party, isolates required plant from all sources of danger as described in the Plant Safety Regulations
b) Eskom Holdings SOC Limited, on request from the Contracting Party, makes available a copy of the latest revision of the Plant Safety Regulations to the Contracting Party.
c) The Contracting Party conforms to all rules and regulations applicable to Plant Safety and completes the Workman's Register prior to working on the plant.

2.2. Fire Precautions:

a) Any tampering with Eskom Holdings SOC Limited's fire equipment is strictly forbidden.
b) All exit doors, fire escape routes, walkways, stairways and stair landings and access to electrical distribution boards are kept free of obstruction and are used for work or storage at any time. Firefighting equipment remains accessible at all times.
c) In case of fire, report the location and extent of the fire to the Kendal Power Station Electrical Operating Desk at 6795/6/7.
d) Take the necessary action to safe guard the area to prevent injury and spreading of the fire.

2.3. Reporting of accidents:

Eskom Holdings SOC Limited follows an accident prevention policy that includes the investigation of all accidents involving personnel and property. This is done with the intention of introducing control measures to prevent a recurrence of the same incidents. The Contracting Party is expected to co-operate fully to achieve this objective. The Contractor shall notify the client of any incident occurring during the contract period preferable immediately/ before end of the shift and therefore submit the notification of the incident by means of flash report within 24 hours.

NOTE: This report does not relieve the Contracting Party of his legal obligation to report certain incidents to the Department of Labour, or to keep records in terms of the Occupational Health and Safety Act, and Compensation for Occupational Injuries and Diseases Act and Eskom incident management procedure 32-95.

2.4. Speed limit:

All vehicles are driven with due consideration for personnel and property. A maximum speed limit of 40 km per hour is adhered to on the Kendal Power Station premises at all times.

2.5. Health and Safety Arrangements:

a) The Contracting Party ensures that all his personnel attend a Health and Safety Induction Course prior to starting with the work. A SHEQ induction session is provided by Eskom Holdings SOC Limited and is valid for the duration of one- (1) year.
b) The Contracting Party complies with the guidelines set out in the provided SHE specification. The Contracting Party shall submit a health and safety file to the client for evaluation and approval by the Safety Risk Department before taking access of the areas associated with his place of work.
c) Kendal Power Station Safety Risk Management reserves the right and authority to visit and inspect the Contracting Party's workplace or site establishment to ensure that tools, machinery and equipment comply with the minimum safety requirements.
d) The contract person representing Eskom Holdings SOC Limited may instruct the Contracting Party to stop work, without penalty to Eskom Holdings Limited, where the Contracting Party's personnel fail to conform to safety standards or contravene health and safety regulations. The contract person representing Eskom Holdings SOC Limited may cause the Contracting Party to discipline his employees and to submit a disciplinary action report to Eskom Holdings SOC Limited. The Contracting Party implements additional health and safety precautions where necessary.
e) The following Health & Safety requirements are also complied with:
   i) The Contracting Party's proof of registration with the Compensation Commissioner and assessment of payment is verified.
   ii) The Contracting Party demonstrates that all of his/her employees have been made aware and understand the risks and hazards associated with the type of work or activity to be carried out.
   iii) The Contracting Party shall ensure that all employees performing work under his management have been trained and are competent to perform any work allocated to them.
   iv) The Contracting Party demonstrates to Eskom Holdings SOC Limited that he/she is capable of providing adequate free issue (preferably SABS approved) Personal Protective Equipment (P.P.E.) for use by his employees.

v) The Contracting Party obtains a Eskom OHS Act section 37(2) agreement to be signed at procurement during the signing of the NEC contract, it is the responsibility of the project manager to ensure that the 37(2) agreement is signed and a copy be kept in the contractor file at procurement.
vi) All the Contracting Party's employees receive formal Safety Induction Training from SRM before commencement of work on site.
vii) Noisy equipment and tools - no equipment or tools > 105dB (A) are supplied or used by the Contracting Party.
viii) Contractors - the Principal Contractor (Contracting Party) states if the use of contractor/s are envisaged and who the contractor/s are. Proof is provided to Eskom Holdings SOC Limited that the sub-contractor/s has the necessary competence and resources to carry out the work safely and to ensure that the obligation of care to the environment is exercised.
ix) The Contracting Party complies with medical examination processes.

2.6. Vehicle and driver safety

All drivers, passengers and pedestrians must obey all vehicle safety requirements in terms of the National Road Traffic Act, Act No 93 of 1996, as amended, including other relevant provincial or local requirements.

Transportation of passengers

a) The contracting party shall comply with requirements National Road Traffic Act an OHSA act.
b) All motor vehicles driven / operated by contractors within the contract shall, in all respects, comply with the National Road Traffic Act.
c) Eskom does not approve the conveying of passengers in the back of vehicles designed to carry equipment/loads (any truck/trailer), irrespective of whether crew cabs are fitted and seating with four-point seat belts is fitted. Eskom procedure 240-62946386.

2.7. Eskom Life Saving Rules:

a) Five Life Saving Rules have been developed that will apply to all Eskom Holdings SOC Limited employees, agents, consultants and contractors.
b) Due to the importance to save life's and apparatus of Eskom it is recommended that if a contractor abuse any Lifesaving rules, the affected work allocated to the contractor will immediately put on hold until final outcome with investigation. Safety is the combined responsibility of the team and therefore team leader or team will be disciplined together. There are five lifesaving rules that may not be broken by the Team Leader and his/her team.

The five Eskom Lifesaving Rules are as follows:

Rule 1: Open, isolated, tests, earth, and bond and/or insulate before touch.
Rule 2: Hook up at height.
Rule 3: Buckle Up.
Rule 4: Be Sober.
Rule 5: Ensure that you have a permit to work.

2.8. Thermal and Flash Suits – Personal Protective Equipment

The following Health & Safety requirements are also complied with:

a) Policy:

Generation Policy GGP 36-941 Rev 0 – "SAFETY MEASURES AND APPROVED PROTECTIVE CLOTHING AND PERSONAL PROTECTIVE EQUIPMENT AGAINST THERMAL HAZARDS OF AN ELECTRIC ARC FOR METAL CLAD SWITCHGEAR (UP TO 11Kv) NOT INTERNAL ARC PROOF" was issued in February 2008, and all Generation BU's are to comply with it.

b) Standard:
Standard GGS 36-941 Rev 0 - "SAFETY MEASURES AND APPROVED PROTECTIVE CLOTHING AND PERSONAL PROTECTIVE EQUIPMENT AGAINST THERMAL HAZARDS OF AN ELECTRIC ARC FOR METAL CLAD SWITCHGEAR (UP TO 11Kv) NOT INTERNAL ARC PROOF" was issued in February 2008, and sets out the requirements to ensure safety with this plant.

c) Procedure:
A proper Procedure is required at each Station to ensure that all involved and affected staff are fully aware of the dangers attached to MV and LV Switchgear, and the approved methods of managing the risks involved.

For externally mounted Switchgear, GGS 36-942 prescribes the following standard Flash Protection Boundaries:

FLASH PROTECTION BOUNDRY	
VOLTAGE (VOLTS)	**DISTANCE (METERS)**
50 TO 750	0.9
750 TO 1,000	1.2
1,000 TO 11,000	4.8

2.9. Plant Safety Regulations - Appointment of a Responsible Person, Appointed Person and/or an Authorised Supervisor (Rev 0 - May 2008)

The OHSA states that anyone entering Eskom Holdings SOC Limited's premises must adhere to its set of regulations, i.e. Plant Safety Regulations, as Eskom Holdings SOC Limited is responsible for the Contractor's safety while they are on Eskom Holdings SOC Limited's sites.
It is required that all Contractors must appoint a Responsible Person or an Authorised Supervisor to supervise work done by the Contracting Party.
An Appointed Person can be appointed by the Contracting Party to do isolations if required.

2.9.1. Process to appoint a Responsible Person, Appointed Person and/or Authorised Supervisor

The Contracting Party will identify a person who will represent him as a Responsible Person, Appointed Person and/or an Authorised Supervisor. The Contracting Party may send more than one person for training.
The appointed person/s will be trained by Eskom Holdings SOC Limited. There are two Formal sets of training, i.e. Theoretical Training and Practical Training

2.9.2. Training

i) Practical training

The Contracting Party will send a representative for training to become a Responsible Person, an Appointed Person and/or an Authorised Supervisor to be instructed in the Practical aspects of the plant, Isolations, Plant Identification, Plant systems etc.

ii) Theoretical training

During his practical training period, the representative of the Contracting Party must attend a theoretical course of 5 days for a Responsible Person and 2.5 days for an Authorised Supervisor. From the time that the person has written the Exam for the theoretical test to the time that he must appear before the Authorisation Committee is three months.
If he does not appear before the Authorisation Committee during the three months, he must redo the theoretical exam.
The duration and cost for Practical and Theoretical training, as a package, will be determined by Mr Joseph Malaza (Legislation Instructor – Kendal Power Station).
He can be contacted at +27 13 647 6867, to arrange for training.
The costs will be handled as a compensation event.

3.9.3.1 **Costs related to training**

The Contracting Party will be responsible for all costs related to the training. The costs must be shown separately in the price list.

3.9.3.2 **Accreditation and validity period and area**

A certificate will be issued to the Responsible Person, an Appointed Person and/or an Authorised Supervisor which will be valid for 2 years and it will only be applicable to Kendal Power Station.
If a person who is authorised moves from one Contracting Party to another, his/her authorisation automatically lapses.

3.9.3.3 **Contact Person - Kendal Power Station**

Mr Joseph Malaza (Legislative Instructor - Kendal Power Station) is the custodian at Kendal Power Station for the above training and accreditation and he can be contacted at Tel +27 13 647 6867.
No work will be done at Kendal Power Station by the Contracting Party if he did not appoint an accredited Responsible Person for Kendal Power Station.

2.10. Authorisation of contractors in term of ORHVS (Operating Regulations for High Voltage Systems) and PSR (Plant Safety Regulations):

Eskom Holdings SOC Limited employs many contractors to work not only on new installations but to a greater extent on existing plant and networks and the contractors are therefore required to comply with Eskom Holdings SOC Limited's relevant regulations.
To enable contractor's staff to be authorized as responsible persons or other authorizations in terms of the ORHVS, PSR, and Directive ESKADAAU4 there has been much speculation as to what the requirements are in terms of the OHS act.
In order to clarify these issues, many discussions with our Legal department and consulting advocates had taken place and the following are minimum requirements to ensure that reasonable steps are taken.
1. It is absolutely necessary at the outset to stipulate in the tender documents what the requirements are in terms of the ORHVS and PSR. These requirements must include (inter alia):

- Competencies required of the contractor or their employees.
- What knowledge of the ORHVS and PSR parts thereof, is required by the relevant persons.
- The scope of the contractor's responsibilities in terms of any authorizations.
- What the contractor will be required to satisfy with respect to the requirements of the OHS Act.

2.10.1 Contracts shall include:

•In terms of Section 37(2) of the OHS Act an agreement to ensure compliance by the mandatory with the provisions of the Act. It is not possible to quote a single standard that will cater for all contracts, each contract shall be handled on a case by case basis.
•The above-mentioned requirements that were requested in the call for Tender.
•The contractor's person designated in terms of Section 16 of the Act. The contractor shall also declare in writing their employees competent in terms of the relevant requirements.

Once a contract is awarded, the Eskom Holdings SOC Limited person designated in terms of the General Machinery Regulation 2, shall ensure the following before work in terms of the ORHVS and PSR is done.
•The contractor or their employees shall be evaluated against the scope of authorization.
•The Eskom Holdings SOC Limited regulations applicable to the scope of the work to be done shall be handed to the contractor. Depending on the nature of the contract it may be beneficial for the contractors person/s requiring authorization to attend the relevant formal regulation course.
•With regard to the actual authorization the contractor shall declare in writing their Section 16 appointee competent and define the extent of his responsibility. The Eskom Holdings SOC Limited GMR2 appointee shall approve the acceptability of the contractor's Responsible Person (Section 16 appointee) or shall authorize any other duties in terms of the ORHVS and PSR as per ESKADAAU4.

•All authorizations shall be for specific contracts and limited to a specific time frame.
•Notwithstanding the Section 37(2) agreement that was concluded between Eskom Holdings SOC Limited and the contractor, Eskom Holdings SOC Limited is not absolved from a "Duty of Care" requirement over the "mandatory". This implies that for example, when contractors are working on, or in close proximity to Eskom Holdings SOC Limited's live apparatus they shall be supervised to the extent of what would be considered reasonable.

1. Barricading / Screens and Scaffolding:

The Contracting Party provides and installs barricades and warning devices to ensure that equipment and persons are not exposed to danger or to prevent access to dangerous areas.
Eskom Holdings SOC Limited supplies scaffolding. Arrangements of such is made at least one- (1) week in advance by the Contracting Party. (Tampering of any approved scaffold is not allowed for any adjustments – The contract person representing Eskom Holdings SOC Limited is notified for any adjustments.

2. Asbestos (if applicable):

a) All stripping of asbestos material shall be undertaken strictly in accordance with the Eskom Holdings SOC Limited Procedure OVP76 HSPHRN 00 00 5 and other relevant standards and updates, with special reference to the asbestos regulations according to the Occupational Health and Safety Act number 85 of 1993.
b) The contract person representing Eskom Holdings SOC Limited advises the Contracting Party whether areas that are to be stripped of lagging have been identified as containing asbestos. If the Contracting Party is not sure whether lagging contains asbestos, he is to notify Safety Risk Management who will identify whether the lagging contains asbestos.
c) The Contracting Party shall be obliged to ascertain from the contract person representing Eskom Holdings SOC Limited in advance whether areas required to be stripped are non-asbestos. Any contractor, other than the contractor appointed to remove asbestos shall strip lagging material containing asbestos fibres.
d) The contractor appointed to remove asbestos, may not begin removal without first obtaining the necessary permission from the Inspector of Labour and Risk Management.

3. Construction/ Erection/ Maintenance work on site:

a) The Contracting Party is responsible for the provision of all or any temporary or expendable materials required allowing for storage of material.
b) The Contracting Party is responsible for the safeguarding, care and security of all items whilst in the Contracting Party's custody and control, until completion of the work.
c) The Contracting Party is responsible for all craneage and equipment that is required to complete the work.
d) The Contracting Party is responsible to check and verify correctness of civil work installed by others prior to commencement of installation/erection.
e) The Contracting Party is responsible for the repair, replacement or correction as necessary of any and all items of plant and/or materials supplied by Eskom Holdings SOC Limited, which are damaged and/or lost while in the Contracting Party's custody and control.
f) The site where the work was done must be clean when the Contracting Party leaves Eskom's premises.

5. Use of Eskom Holdings SOC Limited's Tools and Equipment:

a) For the purpose of expediting the work, Eskom Holdings SOC Limited may make facilities and services available to the Contracting Party at no cost to the Contracting Party. The Contracting Party will not receive any reimbursement or make any change to the beneficial use of the facilities or services.

b) Eskom Holdings SOC Limited may allow the Contracting Party, for the execution of the work, the reasonable use of its workshop, cranes, tools and equipment, provided that the Eskom Holdings SOC Limited's own work and business are not interfered with in any manner by such use. The Contracting Party shall leave all workshops, cranes, tools and equipment in as good a condition as he found them, fair wear and tear excepted, and shall be liable for any damages as a result of any act of negligence by the Contracting Party, his employees or sub-contractor while using such workshop, cranes, tools and equipment.
c) The Contracting Party is responsible for the repair, replacement or correction as necessary of all pieces of tools and equipment supplied by Eskom Holdings Limited which are damaged and/or lost whilst in the Contracting Party's custody and control.
d) The Contracting Party ensures that any one of his employees or subcontractor, operating hoist equipment belonging to Eskom Holdings SOC Limited, is authorised by the Contracting Party.

6. Plant Identification Labels:

a) The Contracting Party replaces or repairs all plant identification labels that are removed or damaged during the execution of the work.

7. Quality Requirements:

a) Quality requirements for Engineering and Construction Works QM 58 is adhered to. This document is available on request, from the contract person representing Eskom Holdings SOC Limited.

8. Waste Disposal:

a) All waste introduced to and/or produced on Eskom Holdings SOC Limited's premises by the Contracting Party for this contract, is handled in accordance with the minimum requirements for the Handling and Disposal of Hazardous Waste in terms of Government Legislation as proclaimed by the Department of Water Affairs and Forestry Act, 1994 Ref: ISBN0621-16296-5.

9. Hazardous substances

a) If any products used by the Contracting Party are classified as a hazardous substance, Material safety data sheet, must accompany delivery in accordance with the Occupational Health and Safety Act (OHSA), Act 85 of 1993 section 10 and Hazardous chemical substance regulations.
b) If any hazard is identified by the Contracting Party, he immediately informs the contract person representing Eskom Holdings SOC Limited.

c) The Contracting Party must make sure that hazardous waste is not dumped in improper areas at the Station, it should be handled according to the above Act. The site where the work was done must be clean when the Contracting Party leaves Eskom's premises.

10. Environmental Requirements:

The Contracting Party ensures that the following environmental requirements are complied with at all times:
a) Environmental Management System (ISO 14001, 2015)
b) Kendal Waste and Recycling Management Work Instruction (*1024102). All waste must be disposed in a legal manner and environmental department must be provided with a waste manifest and safe disposal certificate.
c) Non-Conformance, corrective and preventive Action *1017357.
d) Environmental Legal and other requirements *1015685.
e) Environmental communication *1015692.
f) Environmental Management procedure for contractors *1018332.
g) The contractor must have an oil spill kit on site and a trained person in oil spillage management.
h) The contractor must provide the department with Environmental file which must be checked and approved by environmental department before the contractor can start to work.
i) The contractor must report any Environmental incident immediately to environmental department.
j) No water shall be drained into the clean water dam/ storm water drains.

11. Contracting Party terms and conditions of employment

a) The terms and conditions of employment of the Contracting Party is made available to the contract person representing Eskom Holdings SOC Limited before any work commences.

12. Rigging, working at elevated places and with mobile equipment

The Contracting Party ensures that:
a) all the necessary resources (people, materials and tools, etc) are available.
b) all his employees who are appointed in terms of the OHS Act are trained and made aware of their legal liabilities (16(2)'s, etc).
c) all supervisors and drivers are trained in the HIRA technique of risk assessment.
d) where applicable, special tools/auxiliary equipment such as tractors, trailers, cranes and any mobile equipment are inspected and declared fit and roadworthy for the task at hand.
e) Adequate Risk Assessments are conducted in advance to identify all the anticipated hazards associated with the task/activity. Special attention is given to rigging, working at elevated places and with mobile equipment.
f) pre-job briefs are conducted before commencement of the planned activities. The detail of the task and the details of the anticipated hazards are explained and mitigation measures are understood by all.
g) during the task execution regular job observations by the incumbent supervisor takes place, especially where high risks had been anticipated.
h) for each task/activity the relevant Procedure/Works Instruction is current and approved.

13. Accommodation:

a) Eskom Holdings SOC Limited does not supply accommodation. The Contracting Party provides accommodation for his employees and the cost for this is deemed to be included in the contract prices.

14. Messing Facilities:

a) Eskom Holdings SOC Limited does not provide meals. The Contracting Party provides meals for his employees and the cost for this is deemed to be included in the contract prices. However, the Contracting Party can make use of the Tuck-shop on site.

15. Medical Facilities:

a) Eskom Kendal Power Station Medical Centre and Ambulance assistant facilities are available for incidents occurring within Kendal Power Station Boundaries.
b) Eskom Kendal Power Station Medical Centre is entitled however to recover the reasonable costs incurred in respect thereof from the Contracting Party.
c) After-hours all incident must be reported to Kendal Power Station Electrical Operating desk 013 647 6795, Internal Pax 7911.

16. Scrap Removal

a) Scrap bins are provided at set points. These are for scrap metal only and not for cement or any other form of debris. The Contracting Party takes cognizance of the fact that scrap metal and rubber are stored in two different locations.

17. Irregularities

In accordance with Eskom's Directive "ESKADABK9 - Protecting Disclosure of Crime and Irregularities in the Workplace", the Contracting Party is encouraged to report any crime and irregularities in accordance with the provisions of the Protected Disclosures Act 26 of 2000 as follows:

1. You may direct any concerns or process related queries, in writing, to the Kendal Power Station Manager.
2. Kindly include the following information with your concerns:

2.1: Enquiry or Purchase orders number (if available).
2.2: Date of enquiry or purchase order.
2.3: Name of person or buyer.

3. Contact details of the Kendal Power Station Manager is as follows:
Kendal Power Station
The General Manager
Mr Lukhanyo Ndube
Private Bag X7272
Witbank
1035 Mpumalanga
Tel: 017 799 2127
4. Alternatively, to disclose any concerns or process related queries you may contact:
Eskom's Corporate Investigations and Security
Phone toll free: 0800 11 27 22
Speak to a person: (011) 800 4444
Via the Internet: ciands@eskom.co.za

All information will be handled and dealt with extreme confidentiality.

18. Abuse of alcohol and/or intoxicating substances

Eskom Kendal Power Station will test the Contracting Party's employees for being under the influence of alcohol and/or intoxicating substances on an ad hoc basis. The Contracting Party informs his employees that such behaviour is in contravention of the Occupational Health and Safety Act and Eskom Life Saving Rules Procedure (Rule 4 :Be Sober). The Contracting Party shall enforce compliance to these rules and implement disciplinary measures where the rules are contravened.
Should such behaviour persist, Eskom Holdings SOC Limited reserves the right to review this contract.
The Contracting Party's co-operation in this regard is paramount.

19. Assessment and Invoicing

To enable payment, the Contracting Party ensures conformance to the following:

- An official 4500..... Order Number is available BEFORE commencing work.
- An assessment is jointly completed by the contract person representing Eskom Holdings Limited and the Contracting Party and that they are in agreement on at least the following:

* Completed scope
* Completed quantity
* Value of work completed

- Preparation of an invoice in accordance with the assessment and deliver it directly to the Accounts Payable Department at the Commercial Building, Kendal Power Station.
- A copy of the invoice is forwarded to the contract person representing Eskom Holdings SOC Limited.

Invoices - Value-Added Tax Act No 89 of 1991 (the VAT Act)
A valid invoice is an invoice that corresponds per line to the applicable valid order, complies with all tax law requirements and is addressed to Eskom Holdings SOC Limited for attention, Kendal Power Station.

Particulars to be included on the Contracting Party's Tax Invoice:
Contract number and/or Order number
The word "TAX INVOICE" in a prominent place (preferably at the top of the page)
An individual serial number (tax invoice number)
Name, address and VAT registration number of the Contracting Party *
Name, address and VAT registration number of Eskom Holdings SOC Limited *
(Eskom Holdings SOC Ltd, Kendal Power Station - VAT No 4740101508)
Date of issue of Tax Invoice
A full and proper description of goods delivered and/or service/s rendered
Quantity or volume of goods or services supplied *
Where the supply is subject to VAT at the standard rate, the following in Rand:

- The value, VAT amount and consideration OR
- The total consideration with a statement that VAT is included @ 15% OR
- The total consideration and the amount of VAT charged

Address where service was rendered
Value and VAT amount
Task Order number
Discounts

* These two requirements do not apply where the consideration (VAT inclusive amount) is less than R3 000,00.

Scanned tax invoices sent by e-mail are not acceptable to Eskom Holdings SOC Limited- only original tax invoices are considered for payment.

Address where invoices are to be forwarded

invoiceseskomlocal@eskom.co.za

20. Cost Price Adjustment (CPA) implementation

If CPA is applicable, the contract person representing Eskom Holdings SOC Limited and the Contracting Party confirms the increase/decrease with the buyer BEFORE the revised prices are stated on the Invoice.

21. Invoice price versus order price

It is important that the value stated on the Invoice corresponds with the Order. If the Invoice value is different to the Order value payment is likely to be delayed. The Contracting Party confirms that there are no discrepancies on the Invoice to ensure timely payment in accordance with the contractual terms of payment. Any discrepancies are resolved by the Contracting Party with the Buyer BEFORE it is submitted for payment.

22. Labour

All labour laws must be adhered to.