

SPECIFICATION FOR THE SUPPLY, DELIVERY, INSTALLATION, COMMISSIONING, TRAINING AND WARRANTY OF CLOSED-CIRCUIT TELEVISION AND ACCESS CONTROL SYSTEMS FOR DIVISION CRIME INTELLIGENCE, DIVISION SUPPLY CHAIN MANAGEMENT AND TELKOM TOWERS - NORTH TOWER WITH MAINTENANCE AND SUPPORT: SOUTH AFRICAN POLICE SERVICE

- 4.3. Implemented material versus the original requirement
- 4.4. Final floor plans to be submitted.
- 4.5. Copper cabling test results.
- 4.6. Only a soft copy of the detailed test results needs to be provided, but a summary of the test results must be provided in a paper copy (Must be available within the Site File).
- 4.7. Fibre optic test results
- 4.8. An ODTR generated test result presented in both paper and soft copies.
- 4.9. Soft copies must be delivered on compact disk.
- 4.10. Audit form
- 4.11. A document detailing all the relevant asset information.
- 4.12. Cabinet Layout
- 4.13. After implementation a complete layout of each cabinet must be provided in Microsoft Visio
- 4.14. Patching layout
- 4.15. Complete patching layouts must be completed after completion of the site and submitted with the rest of the Sign off documentation. The document must indicate the wall box number and the port of the switches where the port was patched through in the format stipulated in Table 1:
- 4.16. The patching will only be done during the dismantling phase, except were dismantling is not applicable.

Patch No.	panel	Cabinet number	Wall box Number	Room Number / Description	Switch Number	Web	Switch Number	Port

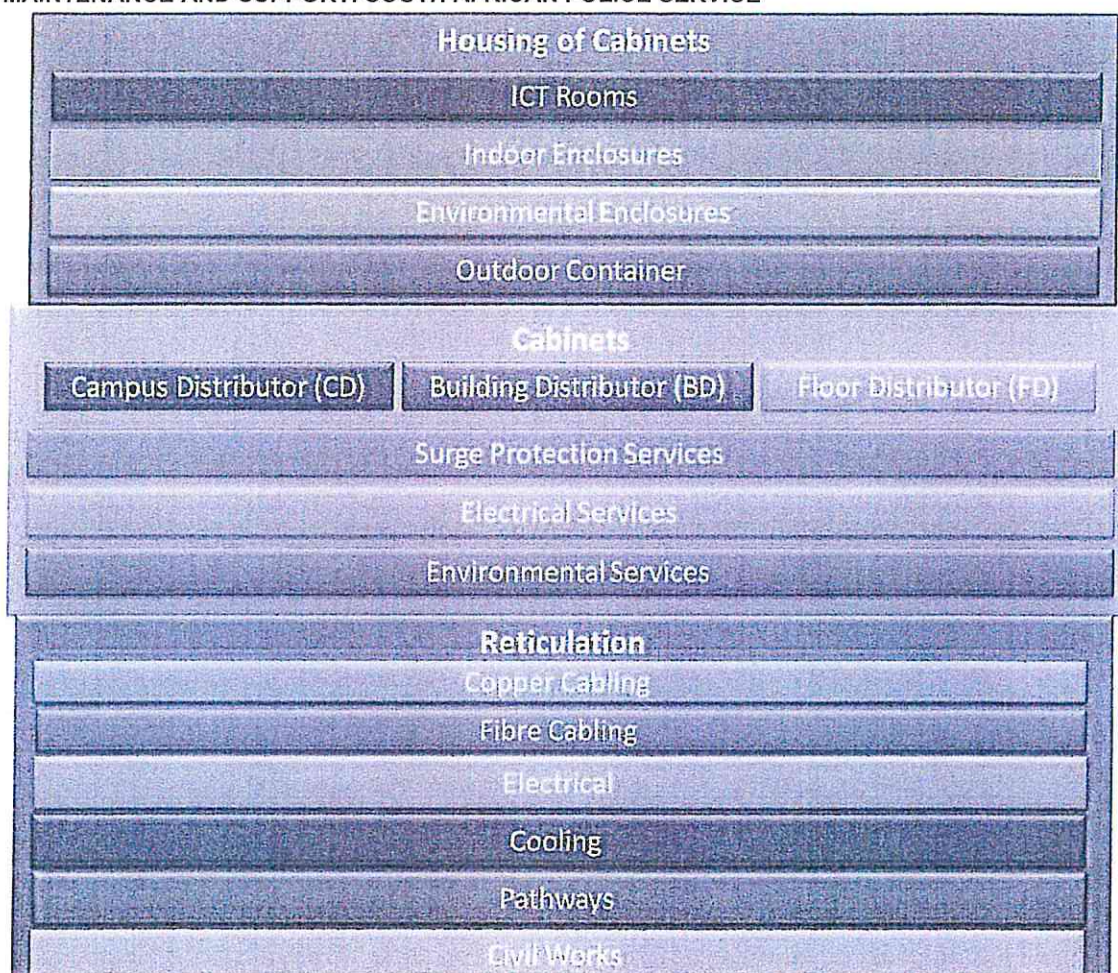
5. Patching information

6. Cabling Infrastructure Architecture

6.1. Cabling Infrastructure building blocks

- 6.1.1. The Cabling Infrastructure Architecture consists of the following building blocks and varies depending on the services required at each site:

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7. Cabinets

- 7.1. All network cabinets must be housed within a secure enclosure with dedicated surge protection, with uninterrupted power supplies and dedicated environmental services such as an air conditioner. Options are listed below;

7.2. Cabinet Placement

- 7.2.1. The vendor or service provider must preferably place cabinets in an enclosure close to an outside wall for easy access to the nearest relevant building entry and near the center of a building to minimize cable lengths and optimize performance. The location of the cabinets must be decided and based on the recommendation from the vendor or service provider and approved by SAPS.
- 7.2.2. The cabinet must be located in a position where at least the front, back and one of the side doors must be able to be opened entirely. The cabinet must stand securely and must be level.

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- 7.2.3. A floor distributor must not serve more than one floor. However, more than one floor distributor may be planned per floor.

7.3. Indoor ICT Rooms (Option A)

- 7.3.1. A dedicated room with the size of at least 2 m x 3 m must ideally be identified as the ICT room by the station/unit commander.
- 7.3.2. The ICT room must house a Core or distribution Cool Rack as per par. 4.2.3.

8. Indoor enclosure (Option B and failing option A)

- 8.1. If a dedicated room is not available the station/unit commander must identify an area within an existing room or a passage with sufficient space where an indoor enclosure can be constructed with the same specifications as the ICT rooms. This enclosure must preferably build on an outside wall. The enclosure needs to be made dust proof and must have a lockable door
- 8.2. This enclosure must house a core or distribution cool rack.

9. Cool Rack (Option C and failing option B)

- 9.1. A cool rack is a normal Core or distribution cabinet with a strengthened side or back panel / door to support the additional weight on the side of the cabinet where the air conditioner will be mounted.
- 9.2. These cabinets must be a sealed and dust free unit to contain the cold air – IP54
- 9.3. The Air conditioner as per par. 4.2.3.1 must be a self-contained unit and not a split unit. The air conditioner must have the necessary drainage implemented to avoid water from entering the cabinet or room
- 9.4. The cool rack needs to be fitted with a switch to ensure that the air conditioner is switched off when the cabinet door is opened.

10. Outdoor containers (Option D and failing option C)

- 10.1. In areas where no indoor space is suitable or available, a container with a minimum size of 2.4m (w) x 3m (l) X 2.4m (h) to house the core rack must be considered. Containers must not be considered for distribution cabinets. The implementation of outdoor containers must be motivated and will only continue once the necessary approval from national TMS has been granted.

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Cabinet and services

11. Labeling

- 11.1. All cabinets must be marked with a label, with a number for that cabinet, in the building it is situated in, according to specification below.
- 11.2. All labels must be permanent and printed black on white with a font size of at least 12 mm.
- 11.3. The label must be fitted in the middle on the top of the cabinet.
- 11.4. The label on cabinets must be: "Cabinet X/Y/Z" where:
- 11.5. X – Indicates the Building where the cabinet is housed with an A or where more than one building B, C etc.
- 11.6. Y – Indicates the floor on which the cabinet is situated as designated by the building owner (e.g.: -2, -1, G, 1, 2).
- 11.7. Z – Indicates the cabinet number that must be numbered A, B, C etc. for more than one cabinet per floor.

12. Asset Tagging

- 12.1. The vendor or service provider is responsible for the asset tagging (WEB number) of all the cabinets.

13. Cabinets types

- 13.1. Two types of cabinets can be used at a site, floor standing and wall mounted cabinets.
- 13.2. The rule is:
 - 13.2.1. Floor standing cabinet for the campus distributor (CD / Core) and building distributor (BD);
 - 13.2.2. Either a floor standing cabinet or a wall mounted cabinet for the floor distributor (FD) cabinet.

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14. Floor standing Cabinet Specifications

- 14.1. The cabinet must be constructed of steel and / or aluminum.
- 14.2. Cabinets must be fitted with four punched profiles and four depth reducers. The punched profiles must be 19" from the front and back. The position of the punched profiles must be as close as possible to the front of the cabinet but must be deep enough to ensure that there is no strain on any cables against the front door of the cabinet.
- 14.3. Fitted with a 150 mm plinth where the cabinet is placed on a solid floor.
- 14.4. Fitted with two blank floor plates and two base side brush panel entries.
- 14.5. Fitted with perforated front and back doors and two lockable metal panels on the sides. The back door must be a saloon door, i.e. two doors opening to each side. All side panels must have clips on the outside for opening the panels.
- 14.6. The color of the cabinet must be black. The cabinet must be treated against corrosion and powder-coated.
- 14.7. The cabinet must be fitted with two separate 200mm light-duty cable trays on the same side of the cabinet. One cable tray must be for electrical cables and the other for copper and fiber cables.
- 14.8. The cable trays must be located on the opposite side of the cabinet that is most accessible.
- 14.9. 450 mm front-mount tray/s must be installed to house the carrier equipment such as a Telkom NTU.
- 14.10. No fans must be installed; the temperature must be controlled by the air conditioning.
- 14.11. The cabinet must be fitted with a six-way earth bar fitted on the bottom, opposite the cable tray of the cabinet. The earth bar must be easily accessible without opening any side panel.
- 14.12. Where more than one cabinet is installed next to each other a 300mm Slack-Rack must be installed in between the cabinets
- 14.13. The Cabinet needs to be fitted with a switch to ensure that the air conditioner is switched off when the cabinet door is opened.

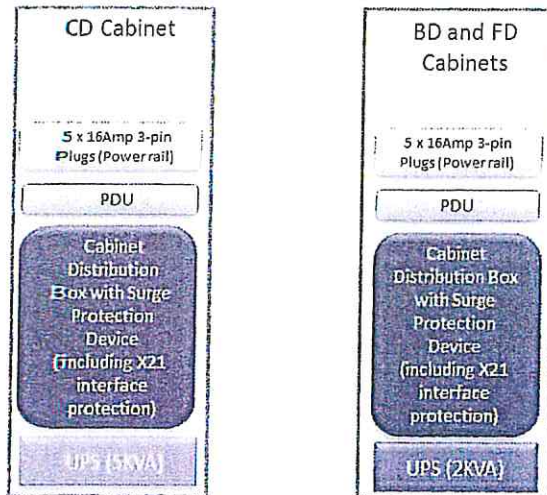
15. Wall mounted cool rack

- 15.1. A 15U Wall mounted cabinet must only be used as a distribution cabinet
- 15.2. Wall mounted cabinets must only be considered as a last resort due to space constraints and installed after recommendation and approval from SAPS TMS.
- 15.3. Wall mounted cabinets must be mounted at least 2m above finished floor or as high as the ceiling allows.
- 15.4. The wall mounted cabinet must have the enhanced fittings to support the weight requirement and fitted level on solid walls with at least four M8 roll bolts.
- 15.5. Wall mounted cabinets must not be fitted to temporary structures such as dry walls.
- 15.6. All wall mounted cabinets must be mounted on the side panel to allow sufficient access.
- 15.7. Fitted with a set of two punched profiles

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- 15.8. The color of the cabinet must be black. The cabinet must be treated against corrosion and powder-coated.
- 15.9. Must have cable entries at the bottom or top of the wall box.
- 15.10. The cabinet must be fitted with a six-way earth bar fitted on the bottom right-hand side of the cabinet
- 15.11. The wall mount cabinet must be fitted with an non split unit air-conditioner on the back door
- 15.12. The Cabinet needs to be fitted with a switch to ensure that the air conditioner is switched off when the cabinet door is opened.
- 16. Cabinet sizes**
 - 16.1. Campus/Core cabinets: Dimensions 43 U to 47 U to be managed as exceptions)(H) x 600 mm (W) x 1000 mm (D).
 - 16.2. Building Distribution cabinets; Dimensions 25 U to 47 U to be managed as exceptions) (H) x 600 mm (W) x 800 mm (D).
 - 16.3. Floor Distribution /Distribution cabinets; Dimensions 25 U to 47 U (H) x 600 mm (W) x 800 mm (D).
 - 16.4. Wall mounted cabinets: Dimensions 15U (H) x 600mm (W) x 800mm (D)
- 17. Cabinet access security**
 - 17.1. Keypad or
 - 17.2. Two keys must be supplied for each cabinet.
 - 17.3. All the cabinet keys must be supplied to the station/unit commander and preferably locked inside the community service center safe for safe keeping and easy 24/7/365 access. The key must be tagged with labels indicating: the site ID, building number/name and the cabinet number.
 - 17.4. The other copy must be handed to the SAPS Provincial Project manager.
- 18. Accessories**
 - 18.1. The Cabinet must be populated with cage nuts for all standard fittings and devices as per the standard cabinet layout. On all open spaces cage nuts must be placed 2u's apart for any future expansions
- 19. Cabinet Environmental Services including electrical distribution, surge protection, UPS and Air Conditioning**
 - 19.1. All the services below are required in all the cabinets unless otherwise specified.

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21. Surge protection services

21.1. Electrical 16 Amp 3-pin multi plug

21.2. A 4 socket 16 Amp electrical 3-pin multi plug must be available in the Core cabinet. The electrical feed to these sockets must be protected by the surge protector but must not be fed via the UPS. These sockets will be used for networking termination units and air conditioning which is separate from the UPS power to eliminate surge feed back to the UPS.

21.3. These sockets must be within or connected to the Cabinet Electrical Distribution unit for the electrical feed. If these sockets are not within the Cabinet Electrical Distribution unit it must be on a 1U rack mountable unit.

22. Power Distribution Unit (PDU)

22.1. The PDU must be manageable and monitored via the Cabinet Environmental unit

22.2. The functionality must enable capability on the PDU to switch banks and ports on and off individually.

22.3. The electrical PDU must preferably consist of at least two independent banks, the banks consist of a 32 Amp high power and 16 Amp power;

22.4. The PDU must provide an option for scalability for adding additional units as required

22.5. The add-on units can consist of either only 10Amp outlets or 16Amp outlets or a combination of the two types of outlets with not less than 12 outlets per PDU.

22.6. The 32 Amp bank consist of four C20 IEC60320 (16Amp) type electrical outlets;

22.7. The 16 Amp bank each consist of eight C13 IEC60320 (10Amp) electrical outlets;





22.8. The PDU must be within or connected to the Cabinet Electrical Distribution unit for the electrical feed and also for monitoring and control purposes. If the PDU is not within the Cabinet Electrical Distribution unit it must be on a 1U and rack mountable unit.

22.9. The operation of the PDU must not be affected by the control unit and even when this unit is faulty or not operational, the PDU must still be able to function independently in conjunction with the surge and lightning protection.

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PDU outlet and inlet types

IEC 60320 outlet C13 10Amp	
IEC 60320 Inlet C14 10Amp	
IEC 60320 outlet C20 16Amp	
IEC 60320 Inlet C19 16Amp	

23. **Cabinet Environmental monitoring and control unit with electrical distribution, surge and lightning protection.**
 - 23.1. The unit must be not more than a 5U rack mountable cabinet electrical distribution board, with surge and lightning protection and environmental monitoring and control functions;
 - 23.2. This unit must be mounted in the back of the cabinet, one U above the UPS. This unit must be pre-wired with the necessary Circuit Breakers to all electrical feeds, hubble outlets and inlets to and from the UPS. The unit must be equipped isolator to shut down all electrical feed to the cabinet;
 - 23.3. The unit must be fitted with or feed both the electrical 3-pin multi plug and the PDU;
 - 23.4. Both the PDU and UPS must connect to this unit for monitoring and control purposes;
 - 23.5. The unit must at least have two temperature probes. One will be used to monitor the temperature inside the cabinet and the other the temperature at the air outlet of the air conditioner;
 - 23.6. The unit must include surge protection for one up to four WAN V11/X.21 data interfaces depending on the requirement on the Site. These modules must also monitor if the connected X21 cable is transmitting data;
 - 23.7. These modules are only required in the cabinets (Core Cabinet) that houses the router infrastructure;

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- 23.8. The unit must be earthed to the earth bar provided in the cabinet;
- 23.9. The unit must monitor that there is a proper Earth Connection;
- 23.10. In the event of the UPS failing the unit must automatically bypass the UPS. The alarm received must trigger the receiver to remotely via the control software be able to bypass or restore the electrical feed to the UPS, for backup on the automatic switch over, until the UPS is corrected. There must also be a manual bypass switch on the unit;
- 23.11. The unit must have redundant surge protection and in the event of the first surge arrestor module being set inactive the second must automatically be activated;
- 23.12. In the event of the first surge arrestor module set inactive it must send an alarm and the receiver of the alarm must be able to reset the surge arrestor module active remotely via the control software to restore redundancy;
- 23.13. The electrical and surge protection modules of the unit must have a warranty of ten years from electrical surges and lightning strikes to ensure the functionality of remote restoration of redundancy on the surge and lightning protection, maintenance free operation and to ensure the uptime of the network equipment on the Site is not influenced by any of these events;
- 23.14. The unit must support DHCP Network configuration;
- 23.15. The unit must be connected to the relevant network Switch with an UTP cable and RJ45 connector to be monitored using SNMP;
- 23.16. With the addition of a SIM card the unit must be accessible and controllable remotely via the GSM network;
- 23.17. The control and monitor software and the configuration thereof must be bundled with the supply of the units and must include a minimum of 3 users per Province and National to control and monitor devices per Province or all devices nationally.

24. UPS

- 24.1. The UPS must be mounted in the front, 1U from the bottom of the cabinet;
- 24.2. The UPS must be an online double conversion unit;
- 24.3. The unit must be at least a 5KVA for the Core Cabinet (CD) and at least a 750VA up to 2KVA for the Building (BD) - and Floor Distributor (FD) Cabinets including the wall mount cabinet. This will be dependent on the electrical requirement in the cabinet;
- 24.4. The 5KVA UPS must be wired as follows: both the input and output of the UPS must be "hard-wired" on the UPS side unto two 4mm flexible cables of 300mm each. The other end of the INPUT cable must be fitted with a 32 amp male hubble connector and the other end of the OUTPUT cable must be fitted with a 32 amp female connector;
- 24.5. The unit must have a Modbus RS485 interface to connect to the Cabinet Environmental monitor and control unit for monitoring and control purposes;
- 24.6. The 750VA - 2KVA UPS must have an 3 years carry in warranty;
- 24.7. The 5KVA UPS must have an 3 years onsite warranty
- 24.8. The batteries must have a 2 year warranty;
- 24.9. The service intervals must be according to manufacture specification.

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25. Air conditioning Services

- 25.1. The air conditioning units must be side mounted on the cabinet to control the cabinet temperature at $20^{\circ}\text{C} \pm 2^{\circ}\text{C}$ 24/7/365.
- 25.2. Humidity control is not a requirement.
- 25.3. The units must be rated according to BS2852 to meet the capacities
- 25.4. The unit must be suitable for inland and coastal use in terms of corrosion protection.
- 25.5. Terminals must be provided for normally open or normally closed dry contact for monitoring of the units.
- 25.6. The background noise levels for the air conditioning units must not exceed the levels described in SANS 103 (Between 50 and 62 decibels)
- 25.7. The self-contained air conditioner must have a 3 / 5 year onsite warranty.
- 25.8. The service intervals must be according to manufacture specification.

26. Roles and Responsibility for Electrical and environmental services

- 26.1. Installation – Vendor or service provider
- 26.2. Configure – Vendor or service provider
- 26.3. Monitor – SAPS
- 26.4. Maintain – Maintenance Provider

27. Reticulation Service

27.1. Copper Cabling

- 27.1.1. The product to be installed must be at least Category 5e UTP for all new sites and sites where the current network infrastructure will be upgraded.
- 27.1.2. Expansions will only be allowed where current installation does conform to Category 5e.
- 27.1.3. The installation must always be done according to OEM installation specifications.
- 27.1.4. Unless otherwise specified, a molded factory manufactured 5 m fly lead and a 1 m patch lead must be supplied with each point.
- 27.1.5. Where metal skirting is used as the cable pathways, outlets must be flush mounted and must be installed in a pre-punched skirting cover plate.
- 27.1.6. Only dual punch plates must be installed. The data point must be installed in the left punch out. Unused punch outs must be blanked-off.
- 27.1.7. Where additional voice points are needed and there is no data point required, provision must be made for such voice point.
- 27.1.8. Data outlets must not be placed directly under an electrical outlet.
- 27.1.9.

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- 27.1.10. Patch leads installed inside cabinets must be secured in such a manner as to ensure free movement of doors and covers. The cables must be secured to the cable tray installed in the cabinet.
- 27.1.11. Only 24-port patch panels must be installed.
- 27.1.12. A brush panel must be fitted for each patch panel (fibre and UTP) and switch, i.e. two brush panels for each 24 points.
- 27.1.13. Patch leads must be routed through the brush panel either below or above the patch panel depending on the location of the status indicators on the switch. If the status indicators are located at the top of the switch the patching must be routed through the brush panel below the switch and vice versa.
- 27.1.14. Chassis based switches must be patched using the chassis cable management trays feeding cables from the left and right hand sides of the chassis.
- 27.1.15. Appropriate cabling management on a slack-rack must be provided at the back of the brush panel for the patch leads.
- 27.1.16. Patch leads must not be strapped together with cable ties.
- 27.1.17. Patching from switch to patch panel must be from port one on the patch panel to port one of the switch. The last port of the first switch is reserved for the router; the second last port is reserved for the server and the following ports for the environmental devices.
- 27.1.18. The cabling vendor must do the required patching once all devices have been installed.

28. Color Coding

28.1. The colors of all cabling, including fly and patch leads, must be as follows:

Normal and POE data points(Patch and Fly-leads)	Blue
Data Point to Wireless Access Points (AP)	Green
Connection for devices within a cabinet	Yellow
Building Access Control	Red
Fire wall	
Close Circuit Television (CCTV)	Orange

29. Cabling colour codes

30. Labeling

- 30.1. All labeling must be printed on permanent ink PVC labels. All printed labels must be black on white with a font size of at least 8 mm except for the wall outlets where the font size must be 6 mm.
- 30.2. Labeling standard for the patch panels: A, B, C etc. from the top to bottom of the cabinet. The label must be on the left side of the patch panel.

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30.3. The cable must be labeled with the same number at the back of the patch panel and at the back of the wall outlet not more than 50 mm from the termination point/end. Oval grip labels must be accepted.

30.4. On sites with more than one building the cabinet numbers must be unique per site, the wall box numbering between cabinets at the same site must not be sequential and start from one (1).

30.5. Labeling standard for the Wall box:

30.5.1. Example: BGAPnn (Indicated in red in the diagram below):

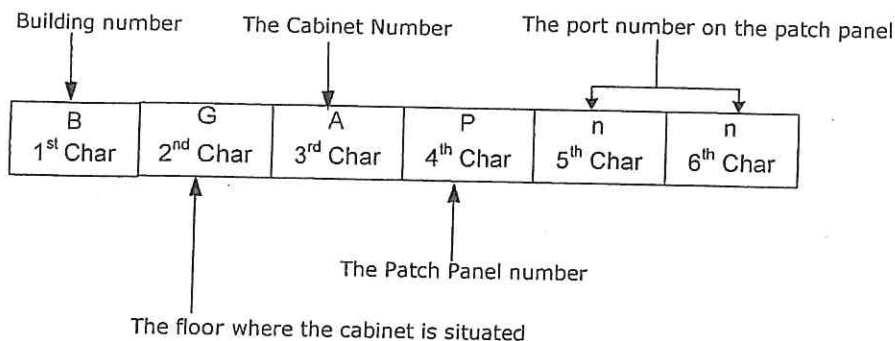
30.5.2. B – Indicates the Building where the cabinet is situated.

30.5.3. G – Indicates the floor on which the cabinet is situated.

30.5.4. A – Indicates the cabinet number.

30.5.5. P – Indicates the patch panel number.

30.5.6. nn – Indicates the port number on the patch panel.



Cable labelling standard

31. Fibre optic cabling options between buildings

31.1. Underground fibre:

31.2. Underground fibre is the only option to cross any public or private roads or any location that are accessible by vehicles.

31.3. Aerial fibre

31.4. Aerial fibre is not an option to cross any public or private roads or any location that are accessible by vehicles.

31.5. If this is a viable solution for installation between buildings, a complete motivation including pictures and the costs compared to underground fibre must be provided to National TMS for approval.

31.6. On dolomite sites Aerial fibre should be treated in the same manner as stated in point 4.4.4.2.2.

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- 31.7. Short span aerial cable (non-metallic self-supporting cable) must be used on overhead pole routes.
- 31.8. The size and type of poles to be used on an overhead route are, apart from the load carrying capacity of the pole, also determined by factors like ground clearance and the type of activity in the vicinity of the pole.
- 32. Fibre Specifications**
 - 32.1. Underground Fibre connections across public roads must comply with the relevant bi-laws and telecommunications act.
 - 32.2. Each switch in a BD or FD must be fed with its own fibre optic cable directly from the BD or CD.
 - 32.3. Where BD's and FD's are equipped with more than one switch, TWO fibre cables must be installed to EACH of the switches.
 - 32.4. The minimum fibre count to be installed must be four cores.
 - 32.5. Each fibre cable installed must have at least one spare fibre pair.
 - 32.6. Multi-mode fibre cables must be installed from 0 m up to 550 m, for lengths exceeding 550 m, single mode fibre must be installed.
 - 32.7. Single mode fibres must be implemented at sites with a requirement of 10Gig backbones.
 - 32.8. Fibre patch cables are to be factory assembled, terminated and certified to the relevant standards.
 - 32.9. Indoor backbone fibre optic cables must have a minimum bend radius of ten times the cable's outside diameter when under no strain and 15 times the cables outside diameter when being pulled. OSP backbone optical fibre cables must have minimum bend radius of ten times the cable's diameter when under no strain and 20 times the cables outside diameter when being pulled.
 - 32.10. Leave 5 m cable slack at both ends of the fibre cable for re-splicing. Leave 2 m cable slack in manholes throughout the route. Do not leave any slack at intermediate manholes.
 - 32.11. Only installation hardware verified according to the suppliers clamp approval specification may be used.
 - 32.12. The fibre optic cable must be terminated in a rack mountable fibre splicing termination tray. The cable must be spliced onto unjacketed pigtails connected to the mid-couplers.
 - 32.13. The splice tray must house sufficient splice organisers.
 - 32.14. All splices must be protected with splice protectors.
 - 32.15. All cores in a cable must be terminated at both ends.
 - 32.16. Always adhere to minimum bending radius when routing fibres in the termination drawers.
 - 32.17. Unused slots must be blanked-off both in the front and back of the splice tray.
 - 32.18. Fibre optic patch leads must be duplex patch leads used for connecting the single-mode or multi-mode fibre optic cables to equipment. The length of a patch lead must be as required.

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32.19. The connectors to be fitted on the patch leads must match the connectors on the equipment/termination devices.

32.20. Each fibre core must be tested with an OTDR from both sides. Multi-mode cable must be tested at 1300 nm and single mode cable at 1550 nm.

32.21. Maximum connector pair loss must not exceed 0,5dB.

32.22. Maximum connector loss must not exceed 0,5dB.

32.23. Maximum splice loss must not exceed 0,1dB.

33. Fibre Redundancy

33.1. The requirement for redundant fibre links will be approved in consultation with all SAPS role players.

34. Fibre Optic Labelling

34.1. The marking method of the fibre optic cable must be by means of a "carrier strip-on" method. The cable must be marked at the following points.

34.2. Each end of the cable as close as possible to a termination point.

34.3. In each manhole/draw pit.

34.4. At each point where the cable enters or exits a building.

34.5. In cable shafts where the cable is routed between two or more floors.

34.6. The identification must be "M/SF BF CF BT CT", where:

34.6.1. M/S – Indicates multimode or single mode

34.6.2. F – Indicates the fibre count

34.6.3. BF – Indicates the building from

34.6.4. CF – Indicates the cabinet from

34.6.5. BT – Indicates the building to

34.6.6. CT – Indicates the cabinet to

34.7. Fibre warning tags must be attached to the cable in the same positions as the cable identifier. The warning tag must at least be printed with the following: "WARNING: Fibre Optic Laser Beam". The tag must be clearly visible.

34.8. Secure label and warning tag on fibre cable with cable ties.

34.9. Fibre splice trays must be labelled in the following manner: A, B, C etc.: from the top to bottom of the cabinet. The label must be on the left-hand side of the patch panel.

34.10. The mid-couplers must be labelled as follows (the label must indicate the destination of the fibre): "B/F/C/F/n", where:

34.10.1.

34.11. All labelling must be printed on permanent ink PVC labels. All printed labels must be black on white with a font size of at least 6 mm.

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35. Electrical endpoint services

35.1. Earthing and bonding

- 35.1.1. All exposed metallic elements of the cable system and cable containment system must be earthed (grounded) for safety and electromagnetic compatibility requirements.
- 35.1.2. All materials that form part of earthing and bonding must conform to SANS 10142-1:2003.
- 35.1.3. All data cabinets must be earthed with a 4 mm² flexible insulated copper conductor to a newly installed earth rod as close to the Cabinet as possible. If this is not possible the ground bar of the power distribution board and a crimped lug must be fitted at the other end for connection to the cabinet. The lug must be fastened onto the earth bar in the cabinet with a bolt and nut.
- 35.1.4. All metal pathways must be earthed with a 4 mm² flexible insulated copper conductor to the ground bar of the power distribution board and a crimped lug must be fitted at the other end for connection to the metal pathway. Where an earth pin is not available, the lug must be fastened onto the metal pathway with a bolt, nut and cerate washer.
- 35.1.5. A communication earth with an earth impedance of not more than five ohms must be installed at all the new ICT rooms. The earth must be connected with a 70 mm² flexible insulated copper conductor to a six-way earth BUS-bar to be fitted inside the cabinet. The other end of the 70 mm² insulated copper conductor must be clamped to the earth mat or earth rods. The option of an earth mat or earth rod(s) and the quantity thereof must be determined by the environment and the objective of a five ohm earth.

36. Electro-Magnetic Interference (EMI)

- 36.1. To decrease the EMI susceptibility, the design must:
- 36.2. Use metal conduit for electrical power circuits. Electrical circuits must be fully enclosed by solid-wall metal conduit.
- 36.3. Use solid-wall metal conduit for telecommunication circuits. Telecommunication circuits must not be installed into conduit containing electrical power conductors.
- 36.4. Not use isolated grounding circuits unless the equipment manufacturer mandates.
- 36.5. Maintain adequate physical separation between electrical noise sources and susceptible telecommunication circuits or equipment.
- 36.6. Use surge protection devices to reduce transients that emanate from inductive devices being switched off. Locate external surge protection devices as close as possible to the source of transient.
- 36.7. Prevent telecommunication circuits from running in close proximity of any florescent light.
- 36.8. Use grounded conduits and enclosures.
- 36.9. Maintain a distance of at least 1 m from electrical power transformers.
- 36.10. Minimise proximity to radiating antennae and towers.
- 36.11. Provide common bonding of the grounding point of multiple surge protection devices placed on both the electrical power and signal circuits of the telecommunications unit.
- 36.12. Use well balanced twisted-pair copper cabling.

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36.13. Always assume electrical noise exists in the proximity of any electrical equipment.

37. Horizontal power reticulation

- 37.1. The costing for the electrical feed to all data cabinets must be part of the data quotation submitted to SAPS.
- 37.2. It must be the responsibility of the SAPS TMS to obtain the necessary approval from the authority having jurisdiction to execute any electrical tasks.
- 37.3. All material that forms part of the electrical distribution must conform to SABS 0142 and SANS 10142-1:2003.
- 37.4. Distribution boards must be factory manufactured, white for normal power and red for UPS power.
- 37.5. All electrical reticulation must conform to SABS 0142 and SANS 10142-1:2003 installation specifications.
- 37.6. No more than six power sockets must be installed on a 20 amp circuit.
- 37.7. All electrical outlets must be flush mounted in metal power skirting.
- 37.8. For any other type of installation, written permission must be obtained from SAPS TMS prior to such installation.
- 37.9. Certified electricians must supervise all activities and perform terminations themselves.
- 37.10. If the specifications of the local authority having jurisdiction differs from the above standard, these local authority specifications must have precedence.
- 37.11. All power outlets must consist of a cluster of one dedicated (red) and one normal (white) 16 amp plug assemblies.
- 37.12. Existing electrical plugs must be utilised.
- 37.13. If a new network point is installed the following applies:
- 37.14. If there are no electrical plugs available, a new red and normal plug can be installed
- 37.15. If there are either a red or normal plug available one or the other should be installed.
- 37.16. Dedicated electrical points must be installed and connected in such a way to connect to a generator or UPS in future without major changes. Dedicated power points must be wired to a separate DB. If the existing DB makes provision for emergency power, this DB must be used; otherwise a new DB must be installed for connecting the dedicated power points.
- 37.17. Open spaces on distribution boards must be blanked off.

38. Pathways

38.1. General

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Pathways and services

- 38.2. In principle horizontal fill ratios for conduit, cable trays and ducts must conform to standards and manufacturer's recommendations, i.e. 50% utilisation for initial installation and a maximum of 70% after expansion work.
- 38.3. Except in the ICT room all cables must be enclosed at all times.
- 38.4. When designing horizontal pathways, the cabling vendor must consider such pathway's ability to accommodate changes and minimise occupants' disruption when such pathways are accessed.
- 38.5. The cabling vendor must:
- 38.6. Locate telecommunication pathways away from sources of EMI;
- 38.7. Consider the aesthetic appearance of the cabling pathways within offices and other visible areas;
- 38.8. Plan outlets to be within 3 m from the user workstation or network printer and in close proximity of a power point
- 38.9. All horizontal pathways that protrude through fire-rated barriers must be fire stopped according to the applicable codes as specified by the local authority with jurisdiction.
- 38.10. The data and power cable pathway providing access to the cabinet must be built to extend into the plinth underneath the cabinet
- 39. **Ducting**
- 39.1. Cable trunking must be of the steel type, single or double, 50 mm x 75 mm x 0,8 mm. Matching fittings i.e. couplings, corners (90 degree and diagonal), stoppers etc. must be used.
- 39.2. Metal ducting, must be installed in offices for routing data, voice and power cables. The ducting must run against the full length of a wall. Data and voice cables must be placed in the bottom layer of the metal trunking and power cables in the top layer of the metal trunking. All ducting accessories must be fastened with pop-rivets or self-tapping screws. Self-tapping screws used within installations must be cut/shortened and rounded off to avoid damage to cables. The colour of the ducting must be determined per project by the client and must be standard colour coded. Where ducting exists, the colour must be matched with these of the existing ducting. The preferred colour is "Easter Oak".
- 39.3. Ducting must be fastened to permanent structures by means of 6 mm Hilti plastic fasteners with non-corrosive flat washers with a minimum diameter of 25 mm. Fasteners must be spaced 1 m apart with double fasteners at the end of the ducting and must be offset when used for the installation of 100 mm or more ducting. The method used for alternative installations must be addressed during the design and/or site inspection phase to comply with other building structures. The method of fastening on non-permanent structures must be spring toggles on dry walls, and stainless steel bolts and lock nuts on corrugated iron buildings, with the same washers and spacing as above.

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- 39.4. Grommets/glands must be used for protecting cables that are routed through holes in metal.
- 39.5. Ducting must be routed through walls in a straight line. A section of the lid must be fitted at the points where the ducting is routed through a wall before such wall is patched and painted. The piece of the lid must protrude 50 mm on each side off the wall. Where damage takes place the structure must be restored to its original condition. In cases where this is not possible an alternative must be agreed on with SAPS. Block paint matching the current colour of the wall (a square block painted over the area where the damage occurred) must be done where walls were damaged and repaired.
- 39.6. Cables must be protected from rough or sharp edges by means of rubber grommets or protective material. All burr edges of ducting must be neatly filed to prevent damage to cables.
- 39.7. 200mm special purpose plates must be installed for installing flush type, telephone, data and dedicated (red) and ordinary (white) 16 amp power sockets in the metal ducting. No cables must be visible from the front. Blanks must be fitted in spaces where a telephone or data socket is not fitted.
- 39.8. Where ducting is installed against the roof with the lids facing downwards, permanent OEM approved supporting devices must be supplied to keep wiring in place to prevent the lids from carrying the weight of the cables.
- 40. Conduit**
- 40.1. Use flexible conduit only in situations where it is the only practical solution. If flexible conduit is used, increase the conduit size to the next industrial available size (25 mm upwards).
- 40.2. Conduit runs must be designed to:
- 40.3. Run in the most direct route possible with no more than two 90 degree bends;
- 40.4. Contain no continuous sections longer than 30 m; and
- 40.5. Withstand the environment to which they must be exposed to.
- 40.6. For runs longer than 30 m, draw boxes must be installed at no longer than 30 m intervals.
- 40.7. Metal conduit, no smaller than 32 mm in diameter, with matching couplings, adaptors, bends etc. must be used, depending on the environmental factors to which it is exposed.
- 40.8. Conduits must be fastened with saddles of the correct size and of a similar material and colour of which the conduit is manufactured of.
- 40.9. Saddles must be spaced 1 m apart and must be fastened to permanent structures by means of 6 mm Hilti plastic fasteners. The method of fastening on non-permanent structures must be spring toggles on dry walls, and stainless steel bolts and lock nuts on corrugated iron buildings.
- 40.10. If the conduit has an internal diameter of 50 mm or less, the bend radius must be at least six times the internal conduit diameter.
- 40.11. If the conduit has an internal diameter of more than 50mm, the bend radius must be at least ten times the internal conduit diameter.
- 40.12. The colour of the conduit must preferably match the colour of the walls.

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41. Ceiling distribution

- 41.1. Ceiling distribution is acceptable if the:
- 41.2. Ceiling is adequate and suitable;
- 41.3. Ceiling space is available for cabling pathways;
- 41.4. Ceiling space is used only for horizontal cables serving the floor below;
- 41.5. Areas used for cabling pathways are fully accessible from the floor below; and
- 41.6. Ceiling tiles are removable and placed at a maximum height of 3,4 m or the ceiling void is accessible through a trap door.
- 41.7. Connecting hardware such as ten-way disconnect modules or telecommunications equipment must not be placed in the ceiling space.
- 41.8. The ceiling space must:
- 41.9. Allow for 75 mm of clear vertical space above conduits;
- 41.10. Allow for 300 mm of clear vertical space above the tray or raceway for overhead ceiling cable tray or raceway system;
- 41.11. Not allow horizontal pathways to rest directly on or be supported by ceiling panels; and
- 41.12. Allow for human movement if the ceiling structure is not constructed of removable panels.

42. Backbone cable pathways

- 42.1. Only 110 mm cable-flex pipe in 6 m lengths, complete with water seals must be used for underground cable routes except for dolomite areas where a civil engineer should be consulted.
- 42.2. At least one 110 mm pipe must be installed. The quantity of pipes per run can be increased depending on the capacity required. Note the trench width increases with an increase in pipes.
- 42.3. The minimum size for a hauling pit for a fibre optic route is 800 mm measurement with the 1 m length being in line with the duct run to accommodate minimum bending radius (300 mm) for fibre optic cables and hauling equipment.
- 42.4. A good quality nylon rope with a thickness of at least 7 mm must be used for all pipe routes for future hauling of a cable.

43. Civil Works



Civil works and services

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43.1. Manholes and draw-pits

- 43.1.1. Civil works for manholes and draw pits must be done as specified in the Telkom Civil Works Specification.
- 43.1.2. The top of a manhole/draw-pit must protrude in the middle at least 100 mm above ground level with a slope towards the outside perimeter. This is to prevent any water from gathering on top of a manhole/draw-pit.
- 43.1.3. The light-duty lids must be used for the draw-pits and the heavy-duty lids for the manholes.
- 43.1.4. The compaction around the manhole/draw-pit must be done by using a mechanical device such as a plate compacter.
- 43.1.5. Manhole/jointing pits must be aligned with the trench direction (for perpendicular duct entry) or the curb/road and must only be shifted or adjusted to bypass obstructions by other services (if the manhole cannot be relocated).

43.2. Trenching

- 43.2.1. Trenching must be carried out to a minimum standard as specified in the Telkom Civil Works Specification.
- 43.2.2. Trenching must preferably be done in straight lines.
- 43.2.3. The cabling vendor must take full responsibility for any damage to the existing services indicated on a drawing supplied by the client or pointed out to the contractor by means of route markers. In case of damage to such services during executing their task, the contractor must take immediate action to repair such services. If such repair actions are not taken promptly, the client must have the right to nominate a work team to do such repairs. Cost of such repairs must be for the contractor's account.
- 43.2.4. The contractor must take precautions to prevent cable trenches from being hazardous to personnel and the public and must have the responsibility of safeguarding all structures, roads, water and sewage works, or other property from the risk of subsidence or damage.
- 43.2.5. The trench must be backfilled in 300 mm layers of soil (sieved through a 10 mm mesh) and compacted per layer.
- 43.2.6. Backfill material that did not pass through the 10 mm mesh may not be reused for backfilling. Suitable backfill must be imported as required. The contractor must remove the unsuitable backfill material from site. No claims for additional costs incurred in this regard must be considered. The tendered rates for excavations must include for backfilling, importing suitable backfill, re-compaction and removing unsuitable material from site, all as specified.
- 43.2.7. The dimensions of the trenches must have minimum dimensions of 800 mm x 300 mm.
- 43.2.8. No trees or plants must be removed without written approval of the SAPS ISM.
- 43.2.9. Pipe entries have to be finished off neatly at all places.

43.3. Building entries

- 43.3.1. Provision must be made for an entry into the building, specifically to the core cabinet to provide entry for the Data Carrier provider. This entry must be a
- 43.3.2. All building entries must be 110 mm unless differently specified.

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- 43.3.3. At least four 110 mm entries must be made into the ICT or PBX rooms.
- 43.3.4. Different types of entries are allowed and must be approved per site prior to commencement of the planning by the SAPS TMS.
- 43.3.5. A sump type entry to a building must be made between a manhole/draw-pit and from underneath the building foundation to the floor level. Buildings where a 110 mm pipe is fed to must have a floor entry of 400 mm (L) x 400 mm (W) x 400 mm (D). The construction of the entry must be such that it can support an aluminium chequered plate top cover with at least 6 mm thickness. The top cover must be recessed to be level with the floor. The inside of the entry must have a smooth finish. The floor covering must be reinstated with the same type of covering and method as the original floor covering.
- 43.3.6. A 110 mm pipe to a building may be from below the foundation level of the building and be fitted such that it is in line with the metal cable duct to be fitted alongside an interior wall. An opening of at least 90 mm must be made in the length of the double ducting for ease of cable hauling.
- 43.3.7. One 110 mm PVC pipe with a 90 degree bend and inspection hole must be fitted at pre-manufactured or temporary building on the outside of the building and through the wall where the floor is raised above the ground level on the outside. The height of the pipe on the outside must not exceed 1 200 mm from the ground level. The inside entry must be directly into the metal ducting in a room. The opening into the ducting must not be smaller than the diameter of the pipe.
- 43.3.8. The cable entry to buildings with brick walls must be made through the wall and by removing the outer bricklayer of a double wall. The entry inside the building must be made directly into the double metal ducting installed in a room. The opening into the ducting must not be smaller than the diameter of the pipe.
- 43.3.9. Utmost caution must be taken not to damage the structure of the building. The restoration of the wall on the outside must be as close as possible to the original state.
- 43.3.10. The pipe entry must be sealed off at the building entry side only. This is to prevent any water from entering the sump type building entry.
- 43.3.11. Any other type of entry must be done according to the building architectural specification.

44. Poles

- 44.1. 10 m heavy treated wooden poles must be used for all backbone routes where aerial cables need to be provided.
- 44.2. Maximum permissible span for aerial cables is 10 m.
- 44.3. 10 m treated light wooden poles must be used for routes carrying only drop wires.
- 44.4. Holes must be excavated in the positions as indicated on the working drawings and/or way leave plans. If it is necessary to excavate an oblong hole the longer side must be at right angles to the proposed pole route.
- 44.5. The size of the holes must be kept to the practical minimum necessary taking into account the possible use of excavation equipment. The walls must be vertical to ensure a minimum disturbance of earth. The depth of holes must be 1 m. In sloping ground the depth of the hole must be measured from the lowest point in the ground surface.
- 44.6. Arms, bracing straps, cable support fittings, kick pipes and cross connection boxes must be attached to each pole according to the prevailing requirement at each point.

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- 44.7. Poles must be set plumb and aligned with the other poles in the route.
- 44.8. The hole must be filled in layers of not more than 300 mm and each layer well rammed. Surplus ground must be banked up round the pole base.
- 44.9. Where poles are situated such that the planting of stays is impracticable the poles must be set in concrete. These poles must be indicated on drawings.

45. Stays and struts

- 45.1. Stays or struts must be fitted to the overhead route to withstand the stresses to which an overhead route is subjected.
- 45.2. Terminal stays must be fitted at terminal poles (first-pole and end-poles) to withstand the pull of the overhead cable and wires.
- 45.3. Stays must be fitted to poles where there is a change in the direction of the route or where there is a change in the gradient of the route (angle stays).
- 45.4. Stays must be fitted at poles to withstand the wind force where required (wind stays).
- 45.5. Alternative staying methods can be used where there is not enough space to fit a stay. These are overhead stays, tubular stays and struts, stays fitted by means of an angle stay bracket or poles set in concrete - determined by specific requirements and constraints.
- 45.6. Wooden poles set in concrete must be used in preference to alternative staying methods.
- 45.7. The spread/height ratio for stays must be as follows:
 - 45.7.1. 4/0,4 mm support wire (20, 30 pr cable) - A ratio of 1:1 is required; and
 - 45.7.2. 3/0,4 support wire (6, 10, 14 pr cable) - A ratio of 0,6:1 is required.
- 45.8. The hole for a stay must be dug so that the stay plate bears against undisturbed earth. The depth of the hole must be 1,3 m. A slot must be cut for the stay rod that must protrude from the ground and be in line with the pole route in the case of a line stay or bisect the angle in the case of an angle stay. The rod must not be bent. The ground must be returned in layers of 300 mm and layers must be well rammed. The threaded portion of a stay rod must be oiled.
- 45.9. The butt of the strut must rest on solid ground at a vertical depth of at least 750 mm. The top of the wooden strut must be shaped to fit the line pole to which it must be bolted with a 16 mm diameter bolt. All cut surfaces must be treated with creosote as supplied.

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APPENDIX A - PART # 1 Services"

PRICING SCHEDULE.

All pricing quoted must include VAT and must be the full price for the service in full compliance to specification.

MAINTENANCE SUPPORT SERVICES

Item No	Description	Price per month.	Price for full contract period of 36 months.
1	Complete System maintenance and support as detailed in the specification, including all components consumed in routine maintenance.		

TRAINING SERVICES

No	Description	Price per unit	Total price
2	Technical Product Specific training for two technicians per training intervention as detailed in clause 2.12 and all sub clauses of clause 2.12 to 2.12.5. as well as clauses 2.4.9 and 2.4.10 A unit priced must be per student.		
3	User training as detailed in clause 3.5 and all sub clauses of clause 3.5 The training must be for groups of 5 to 10 students per intervention and the bidder must only quote in the price per unit column a cost per student. The SAPS reserves the right to order quantities as per need at any time during the contract period.		

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APPENDIX A - PART #2 “Original parts of product/system”

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SITE NAME					Equipment Totals	Unit Price	Total Cost \$	Item Description and additional notes.
Camera Indoor HD 1080p With IR illumination and Backlight Compensation.								Camera Indoor HD 1080p With IR illumination and Backlight Compensation. The camera must be complete with all mounting hardware for ceiling or surface mounting. The camera must be ruggedized to withstand accidental impact by items carried by persons in the building. The camera must be evaluated for optical and functional performance. The camera must provide full motion video reproduction on measuring at least 6 on the Rotakin motion reproduction scale in a scene illumination of 300 lux. The camera default lens must provide a 90degree angle of view horizontally. The Camera must provide face recognition of more than 95% of faces tested against the Rotakin set of test faces when the image displayed is viewed by person who would pass the South African vehicle driver license eye test. Testing for indoor use must be done at 3.5 meter from the camera on a 90 degree angle of view camera in no more than 300 lux illumination.

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SITE NAME

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SITE NAME							Equipment Totals	Unit Price	Total Costs	Item Description and additional notes.
Door locks magnetic with sensor.										
Installation cost for all items.										For purposes of pricing the bidder must provide an average of 80 meter cable and installation of cable per camera as well as other Ethernet devices from switch to device. Bidder to provide detail breakdown of cost as additional pricing table.

SPECIFICATION FOR THE SUPPLY, DELIVERY, INSTALLATION. COMMISSIONING, TRAINING AND WARRANTY OF CLOSED-CIRCUIT TELEVISION AND ACCESS CONTROL SYSTEMS FOR THE TELKOM TOWERS - NORTH TOWER BUILDING, DIVISION SUPPLY CHAIN MANAGEMENT (SCM) AS WELL AS DIVISION CRIME INTELLIGENCE WITH MAINTENANCE AND SUPPORT: SOUTH AFRICAN POLICE SERVICE (SAPS)

SPECIFICATION NUMBER 32161/2022

SPECIFICATION APPROVAL PAGE:

End User Approval

Division Technology Management Services: Radio Communication Infrastructure Management



Brigadier

(Mm SEABU)

Date: 2022/11/15

THE NATIONAL TREASURY

Republic of South Africa



GOVERNMENT PROCUREMENT: GENERAL CONDITIONS OF CONTRACT

July 2010

GOVERNMENT PROCUREMENT
GENERAL CONDITIONS OF CONTRACT
July 2010

NOTES

The purpose of this document is to:

- (i) Draw special attention to certain general conditions applicable to government bids, contracts and orders; and
- (ii) To ensure that clients be familiar with regard to the rights and obligations of all parties involved in doing business with government.

In this document words in the singular also mean in the plural and vice versa and words in the masculine also mean in the feminine and neuter.

- The General Conditions of Contract will form part of all bid documents and may not be amended.
- Special Conditions of Contract (SCC) relevant to a specific bid, should be compiled separately for every bid (if applicable) and will supplement the General Conditions of Contract. Whenever there is a conflict, the provisions in the SCC shall prevail.

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General Conditions of Contract

1. Definitions

1. The following terms shall be interpreted as indicated:
 - 1.1 "Closing time" means the date and hour specified in the bidding documents for the receipt of bids.
 - 1.2 "Contract" means the written agreement entered into between the purchaser and the supplier, as recorded in the contract form signed by the parties, including all attachments and appendices thereto and all documents incorporated by reference therein.
 - 1.3 "Contract price" means the price payable to the supplier under the contract for the full and proper performance of his contractual obligations.
 - 1.4 "Corrupt practice" means the offering, giving, receiving, or soliciting of any thing of value to influence the action of a public official in the procurement process or in contract execution.
 - 1.5 "Countervailing duties" are imposed in cases where an enterprise abroad is subsidized by its government and encouraged to market its products internationally.
 - 1.6 "Country of origin" means the place where the goods were mined, grown or produced or from which the services are supplied. Goods are produced when, through manufacturing, processing or substantial and major assembly of components, a commercially recognized new product results that is substantially different in basic characteristics or in purpose or utility from its components.
 - 1.7 "Day" means calendar day.
 - 1.8 "Delivery" means delivery in compliance of the conditions of the contract or order.
 - 1.9 "Delivery ex stock" means immediate delivery directly from stock actually on hand.
 - 1.10 "Delivery into consignees store or to his site" means delivered and unloaded in the specified store or depot or on the specified site in compliance with the conditions of the contract or order, the supplier bearing all risks and charges involved until the supplies are so delivered and a valid receipt is obtained.
 - 1.11 "Dumping" occurs when a private enterprise abroad market its goods on own initiative in the RSA at lower prices than that of the country of origin and which have the potential to harm the local industries in the

RSA.

- 1.12 "Force majeure" means an event beyond the control of the supplier and not involving the supplier's fault or negligence and not foreseeable. Such events may include, but is not restricted to, acts of the purchaser in its sovereign capacity, wars or revolutions, fires, floods, epidemics, quarantine restrictions and freight embargoes.
- 1.13 "Fraudulent practice" means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of any bidder, and includes collusive practice among bidders (prior to or after bid submission) designed to establish bid prices at artificial non-competitive levels and to deprive the bidder of the benefits of free and open competition.
- 1.14 "GCC" means the General Conditions of Contract.
- 1.15 "Goods" means all of the equipment, machinery, and/or other materials that the supplier is required to supply to the purchaser under the contract.
- 1.16 "Imported content" means that portion of the bidding price represented by the cost of components, parts or materials which have been or are still to be imported (whether by the supplier or his subcontractors) and which costs are inclusive of the costs abroad, plus freight and other direct importation costs such as landing costs, dock dues, import duty, sales duty or other similar tax or duty at the South African place of entry as well as transportation and handling charges to the factory in the Republic where the supplies covered by the bid will be manufactured.
- 1.17 "Local content" means that portion of the bidding price which is not included in the imported content provided that local manufacture does take place.
- 1.18 "Manufacture" means the production of products in a factory using labour, materials, components and machinery and includes other related value-adding activities.
- 1.19 "Order" means an official written order issued for the supply of goods or works or the rendering of a service.
- 1.20 "Project site," where applicable, means the place indicated in bidding documents.
- 1.21 "Purchaser" means the organization purchasing the goods.
- 1.22 "Republic" means the Republic of South Africa.
- 1.23 "SCC" means the Special Conditions of Contract.
- 1.24 "Services" means those functional services ancillary to the supply of the goods, such as transportation and any other incidental services, such as installation, commissioning, provision of technical assistance, training, catering, gardening, security, maintenance and other such

obligations of the supplier covered under the contract.

- 1.25 "Written" or "in writing" means handwritten in ink or any form of electronic or mechanical writing.

2. Application

- 2.1 These general conditions are applicable to all bids, contracts and orders including bids for functional and professional services, sales, hiring, letting and the granting or acquiring of rights, but excluding immovable property, unless otherwise indicated in the bidding documents.
- 2.2 Where applicable, special conditions of contract are also laid down to cover specific supplies, services or works.
- 2.3 Where such special conditions of contract are in conflict with these general conditions, the special conditions shall apply.

3. General

- 3.1 Unless otherwise indicated in the bidding documents, the purchaser shall not be liable for any expense incurred in the preparation and submission of a bid. Where applicable a non-refundable fee for documents may be charged.
- 3.2 With certain exceptions, invitations to bid are only published in the Government Tender Bulletin. The Government Tender Bulletin may be obtained directly from the Government Printer, Private Bag X85, Pretoria 0001, or accessed electronically from www.treasury.gov.za

4. Standards

- 4.1 The goods supplied shall conform to the standards mentioned in the bidding documents and specifications.

5. Use of contract documents and information; inspection.

- 5.1 The supplier shall not, without the purchaser's prior written consent, disclose the contract, or any provision thereof, or any specification, plan, drawing, pattern, sample, or information furnished by or on behalf of the purchaser in connection therewith, to any person other than a person employed by the supplier in the performance of the contract. Disclosure to any such employed person shall be made in confidence and shall extend only so far as may be necessary for purposes of such performance.
- 5.2 The supplier shall not, without the purchaser's prior written consent, make use of any document or information mentioned in GCC clause 5.1 except for purposes of performing the contract.
- 5.3 Any document, other than the contract itself mentioned in GCC clause 5.1 shall remain the property of the purchaser and shall be returned (all copies) to the purchaser on completion of the supplier's performance under the contract if so required by the purchaser.
- 5.4 The supplier shall permit the purchaser to inspect the supplier's records relating to the performance of the supplier and to have them audited by auditors appointed by the purchaser, if so required by the purchaser.

6. Patent rights

- 6.1 The supplier shall indemnify the purchaser against all third-party claims of infringement of patent, trademark, or industrial design rights arising from use of the goods or any part thereof by the purchaser.

7. Performance security

- 7.1 Within thirty (30) days of receipt of the notification of contract award, the successful bidder shall furnish to the purchaser the performance security of the amount specified in SCC.
- 7.2 The proceeds of the performance security shall be payable to the purchaser as compensation for any loss resulting from the supplier's failure to complete his obligations under the contract.
- 7.3 The performance security shall be denominated in the currency of the contract, or in a freely convertible currency acceptable to the purchaser and shall be in one of the following forms:
- (a) a bank guarantee or an irrevocable letter of credit issued by a reputable bank located in the purchaser's country or abroad, acceptable to the purchaser, in the form provided in the bidding documents or another form acceptable to the purchaser; or
 - (b) a cashier's or certified cheque
- 7.4 The performance security will be discharged by the purchaser and returned to the supplier not later than thirty (30) days following the date of completion of the supplier's performance obligations under the contract, including any warranty obligations, unless otherwise specified in SCC.

8. Inspections, tests and analyses

- 8.1 All pre-bidding testing will be for the account of the bidder.
- 8.2 If it is a bid condition that supplies to be produced or services to be rendered should at any stage during production or execution or on completion be subject to inspection, the premises of the bidder or contractor shall be open, at all reasonable hours, for inspection by a representative of the Department or an organization acting on behalf of the Department.
- 8.3 If there are no inspection requirements indicated in the bidding documents and no mention is made in the contract, but during the contract period it is decided that inspections shall be carried out, the purchaser shall itself make the necessary arrangements, including payment arrangements with the testing authority concerned.
- 8.4 If the inspections, tests and analyses referred to in clauses 8.2 and 8.3 show the supplies to be in accordance with the contract requirements, the cost of the inspections, tests and analyses shall be defrayed by the purchaser.
- 8.5 Where the supplies or services referred to in clauses 8.2 and 8.3 do not comply with the contract requirements, irrespective of whether such supplies or services are accepted or not, the cost in connection with these inspections, tests or analyses shall be defrayed by the supplier.
- 8.6 Supplies and services which are referred to in clauses 8.2 and 8.3 and which do not comply with the contract requirements may be rejected.
- 8.7 Any contract supplies may on or after delivery be inspected, tested or

analyzed and may be rejected if found not to comply with the requirements of the contract. Such rejected supplies shall be held at the cost and risk of the supplier who shall, when called upon, remove them immediately at his own cost and forthwith substitute them with supplies which do comply with the requirements of the contract. Failing such removal the rejected supplies shall be returned at the suppliers cost and risk. Should the supplier fail to provide the substitute supplies forthwith, the purchaser may, without giving the supplier further opportunity to substitute the rejected supplies, purchase such supplies as may be necessary at the expense of the supplier.

- 8.8 The provisions of clauses 8.4 to 8.7 shall not prejudice the right of the purchaser to cancel the contract on account of a breach of the conditions thereof, or to act in terms of Clause 23 of GCC.

9. Packing

- 9.1 The supplier shall provide such packing of the goods as is required to prevent their damage or deterioration during transit to their final destination, as indicated in the contract. The packing shall be sufficient to withstand, without limitation, rough handling during transit and exposure to extreme temperatures, salt and precipitation during transit, and open storage. Packing, case size and weights shall take into consideration, where appropriate, the remoteness of the goods' final destination and the absence of heavy handling facilities at all points in transit.
- 9.2 The packing, marking, and documentation within and outside the packages shall comply strictly with such special requirements as shall be expressly provided for in the contract, including additional requirements, if any, specified in SCC, and in any subsequent instructions ordered by the purchaser.

10. Delivery and documents

- 10.1 Delivery of the goods shall be made by the supplier in accordance with the terms specified in the contract. The details of shipping and/or other documents to be furnished by the supplier are specified in SCC.
- 10.2 Documents to be submitted by the supplier are specified in SCC.

11. Insurance

- 11.1 The goods supplied under the contract shall be fully insured in a freely convertible currency against loss or damage incidental to manufacture or acquisition, transportation, storage and delivery in the manner specified in the SCC.

12. Transportation

- 12.1 Should a price other than an all-inclusive delivered price be required, this shall be specified in the SCC.

13. Incidental services

- 13.1 The supplier may be required to provide any or all of the following services, including additional services, if any, specified in SCC:
- (a) performance or supervision of on-site assembly and/or commissioning of the supplied goods;
 - (b) furnishing of tools required for assembly and/or maintenance of the supplied goods;
 - (c) furnishing of a detailed operations and maintenance manual for each appropriate unit of the supplied goods;

- (d) performance or supervision or maintenance and/or repair of the supplied goods, for a period of time agreed by the parties, provided that this service shall not relieve the supplier of any warranty obligations under this contract; and
- (e) training of the purchaser's personnel, at the supplier's plant and/or on-site, in assembly, start-up, operation, maintenance, and/or repair of the supplied goods.

13.2 Prices charged by the supplier for incidental services, if not included in the contract price for the goods, shall be agreed upon in advance by the parties and shall not exceed the prevailing rates charged to other parties by the supplier for similar services.

14. Spare parts

14.1 As specified in SCC, the supplier may be required to provide any or all of the following materials, notifications, and information pertaining to spare parts manufactured or distributed by the supplier:

- (a) such spare parts as the purchaser may elect to purchase from the supplier, provided that this election shall not relieve the supplier of any warranty obligations under the contract; and
- (b) in the event of termination of production of the spare parts:
 - (i) Advance notification to the purchaser of the pending termination, in sufficient time to permit the purchaser to procure needed requirements; and
 - (ii) following such termination, furnishing at no cost to the purchaser, the blueprints, drawings, and specifications of the spare parts, if requested.

15. Warranty

15.1 The supplier warrants that the goods supplied under the contract are new, unused, of the most recent or current models, and that they incorporate all recent improvements in design and materials unless provided otherwise in the contract. The supplier further warrants that all goods supplied under this contract shall have no defect, arising from design, materials, or workmanship (except when the design and/or material is required by the purchaser's specifications) or from any act or omission of the supplier, that may develop under normal use of the supplied goods in the conditions prevailing in the country of final destination.

15.2 This warranty shall remain valid for twelve (12) months after the goods, or any portion thereof as the case may be, have been delivered to and accepted at the final destination indicated in the contract, or for eighteen (18) months after the date of shipment from the port or place of loading in the source country, whichever period concludes earlier, unless specified otherwise in SCC.

15.3 The purchaser shall promptly notify the supplier in writing of any claims arising under this warranty.

15.4 Upon receipt of such notice, the supplier shall, within the period specified in SCC and with all reasonable speed, repair or replace the defective goods or parts thereof, without costs to the purchaser.

15.5 If the supplier, having been notified, fails to remedy the defect(s) within the period specified in SCC, the purchaser may proceed to take

such remedial action as may be necessary, at the supplier's risk and expense and without prejudice to any other rights which the purchaser may have against the supplier under the contract.

- 16. Payment**
- 16.1 The method and conditions of payment to be made to the supplier under this contract shall be specified in SCC.
- 16.2 The supplier shall furnish the purchaser with an invoice accompanied by a copy of the delivery note and upon fulfillment of other obligations stipulated in the contract.
- 16.3 Payments shall be made promptly by the purchaser, but in no case later than thirty (30) days after submission of an invoice or claim by the supplier.
- 16.4 Payment will be made in Rand unless otherwise stipulated in SCC.
- 17. Prices**
- 17.1 Prices charged by the supplier for goods delivered and services performed under the contract shall not vary from the prices quoted by the supplier in his bid, with the exception of any price adjustments authorized in SCC or in the purchaser's request for bid validity extension, as the case may be.
- 18. Contract amendments**
- 18.1 No variation in or modification of the terms of the contract shall be made except by written amendment signed by the parties concerned.
- 19. Assignment**
- 19.1 The supplier shall not assign, in whole or in part, its obligations to perform under the contract, except with the purchaser's prior written consent.
- 20. Subcontracts**
- 20.1 The supplier shall notify the purchaser in writing of all subcontracts awarded under this contracts if not already specified in the bid. Such notification, in the original bid or later, shall not relieve the supplier from any liability or obligation under the contract.
- 21. Delays in the supplier's performance**
- 21.1 Delivery of the goods and performance of services shall be made by the supplier in accordance with the time schedule prescribed by the purchaser in the contract.
- 21.2 If at any time during performance of the contract, the supplier or its subcontractor(s) should encounter conditions impeding timely delivery of the goods and performance of services, the supplier shall promptly notify the purchaser in writing of the fact of the delay, its likely duration and its cause(s). As soon as practicable after receipt of the supplier's notice, the purchaser shall evaluate the situation and may at his discretion extend the supplier's time for performance, with or without the imposition of penalties, in which case the extension shall be ratified by the parties by amendment of contract.
- 21.3 No provision in a contract shall be deemed to prohibit the obtaining of supplies or services from a national department, provincial department, or a local authority.
- 21.4 The right is reserved to procure outside of the contract small quantities or to have minor essential services executed if an emergency arises, the

supplier's point of supply is not situated at or near the place where the supplies are required, or the supplier's services are not readily available.

21.5 Except as provided under GCC Clause 25, a delay by the supplier in the performance of its delivery obligations shall render the supplier liable to the imposition of penalties, pursuant to GCC Clause 22, unless an extension of time is agreed upon pursuant to GCC Clause 21.2 without the application of penalties.

21.6 Upon any delay beyond the delivery period in the case of a supplies contract, the purchaser shall, without canceling the contract, be entitled to purchase supplies of a similar quality and up to the same quantity in substitution of the goods not supplied in conformity with the contract and to return any goods delivered later at the supplier's expense and risk, or to cancel the contract and buy such goods as may be required to complete the contract and without prejudice to his other rights, be entitled to claim damages from the supplier.

22. Penalties

22.1 Subject to GCC Clause 25, if the supplier fails to deliver any or all of the goods or to perform the services within the period(s) specified in the contract, the purchaser shall, without prejudice to its other remedies under the contract, deduct from the contract price, as a penalty, a sum calculated on the delivered price of the delayed goods or unperformed services using the current prime interest rate calculated for each day of the delay until actual delivery or performance. The purchaser may also consider termination of the contract pursuant to GCC Clause 23.

23. Termination for default

23.1 The purchaser, without prejudice to any other remedy for breach of contract, by written notice of default sent to the supplier, may terminate this contract in whole or in part:

- (a) if the supplier fails to deliver any or all of the goods within the period(s) specified in the contract, or within any extension thereof granted by the purchaser pursuant to GCC Clause 21.2;
- (b) if the Supplier fails to perform any other obligation(s) under the contract; or
- (c) if the supplier, in the judgment of the purchaser, has engaged in corrupt or fraudulent practices in competing for or in executing the contract.

23.2 In the event the purchaser terminates the contract in whole or in part, the purchaser may procure, upon such terms and in such manner as it deems appropriate, goods, works or services similar to those undelivered, and the supplier shall be liable to the purchaser for any excess costs for such similar goods, works or services. However, the supplier shall continue performance of the contract to the extent not terminated.

23.3 Where the purchaser terminates the contract in whole or in part, the purchaser may decide to impose a restriction penalty on the supplier by prohibiting such supplier from doing business with the public sector for a period not exceeding 10 years.

23.4 If a purchaser intends imposing a restriction on a supplier or any

person associated with the supplier, the supplier will be allowed a time period of not more than fourteen (14) days to provide reasons why the envisaged restriction should not be imposed. Should the supplier fail to respond within the stipulated fourteen (14) days the purchaser may regard the intended penalty as not objected against and may impose it on the supplier.

23.5 Any restriction imposed on any person by the Accounting Officer / Authority will, at the discretion of the Accounting Officer / Authority, also be applicable to any other enterprise or any partner, manager, director or other person who wholly or partly exercises or exercised or may exercise control over the enterprise of the first-mentioned person, and with which enterprise or person the first-mentioned person, is or was in the opinion of the Accounting Officer / Authority actively associated.

23.6 If a restriction is imposed, the purchaser must, within five (5) working days of such imposition, furnish the National Treasury, with the following information:

- (i) the name and address of the supplier and / or person restricted by the purchaser;
- (ii) the date of commencement of the restriction
- (iii) the period of restriction; and
- (iv) the reasons for the restriction.

These details will be loaded in the National Treasury's central database of suppliers or persons prohibited from doing business with the public sector.

23.7 If a court of law convicts a person of an offence as contemplated in sections 12 or 13 of the Prevention and Combating of Corrupt Activities Act, No. 12 of 2004, the court may also rule that such person's name be endorsed on the Register for Tender Defaulters. When a person's name has been endorsed on the Register, the person will be prohibited from doing business with the public sector for a period not less than five years and not more than 10 years. The National Treasury is empowered to determine the period of restriction and each case will be dealt with on its own merits. According to section 32 of the Act the Register must be open to the public. The Register can be perused on the National Treasury website.

24. Anti-dumping and countervailing duties and rights

24.1 When, after the date of bid, provisional payments are required, or anti-dumping or countervailing duties are imposed, or the amount of a provisional payment or anti-dumping or countervailing right is increased in respect of any dumped or subsidized import, the State is not liable for any amount so required or imposed, or for the amount of any such increase. When, after the said date, such a provisional payment is no longer required or any such anti-dumping or countervailing right is abolished, or where the amount of such provisional payment or any such right is reduced, any such favourable difference shall on demand be paid forthwith by the contractor to the State or the State may deduct such amounts from moneys (if any) which may otherwise be due to the contractor in regard to supplies or services which he delivered or rendered, or is to deliver or render in terms of the contract or any other contract or any other amount which

may be due to him

**25. Force
Majeure**

25.1 Notwithstanding the provisions of GCC Clauses 22 and 23, the supplier shall not be liable for forfeiture of its performance security, damages, or termination for default if and to the extent that his delay in performance or other failure to perform his obligations under the contract is the result of an event of force majeure.

25.2 If a force majeure situation arises, the supplier shall promptly notify the purchaser in writing of such condition and the cause thereof. Unless otherwise directed by the purchaser in writing, the supplier shall continue to perform its obligations under the contract as far as is reasonably practical, and shall seek all reasonable alternative means for performance not prevented by the force majeure event.

**26. Termination
for insolvency**

26.1 The purchaser may at any time terminate the contract by giving written notice to the supplier if the supplier becomes bankrupt or otherwise insolvent. In this event, termination will be without compensation to the supplier, provided that such termination will not prejudice or affect any right of action or remedy which has accrued or will accrue thereafter to the purchaser.

**27. Settlement of
Disputes**

27.1 If any dispute or difference of any kind whatsoever arises between the purchaser and the supplier in connection with or arising out of the contract, the parties shall make every effort to resolve amicably such dispute or difference by mutual consultation.

27.2 If, after thirty (30) days, the parties have failed to resolve their dispute or difference by such mutual consultation, then either the purchaser or the supplier may give notice to the other party of his intention to commence with mediation. No mediation in respect of this matter may be commenced unless such notice is given to the other party.

27.3 Should it not be possible to settle a dispute by means of mediation, it may be settled in a South African court of law.

27.4 Mediation proceedings shall be conducted in accordance with the rules of procedure specified in the SCC.

27.5 Notwithstanding any reference to mediation and/or court proceedings herein,

- (a) the parties shall continue to perform their respective obligations under the contract unless they otherwise agree; and
- (b) the purchaser shall pay the supplier any monies due the supplier.

**28. Limitation of
liability**

28.1 Except in cases of criminal negligence or willful misconduct, and in the case of infringement pursuant to Clause 6;

- (a) the supplier shall not be liable to the purchaser, whether in contract, tort, or otherwise, for any indirect or consequential loss or damage, loss of use, loss of production, or loss of profits or interest costs, provided that this exclusion shall not apply to any obligation of the supplier to pay penalties and/or damages to the purchaser; and

- (b) the aggregate liability of the supplier to the purchaser, whether under the contract, in tort or otherwise, shall not exceed the total contract price, provided that this limitation shall not apply to the cost of repairing or replacing defective equipment.
- 29. Governing language** 29.1 The contract shall be written in English. All correspondence and other documents pertaining to the contract that is exchanged by the parties shall also be written in English.
- 30. Applicable law** 30.1 The contract shall be interpreted in accordance with South African laws, unless otherwise specified in SCC.
- 31. Notices** 31.1 Every written acceptance of a bid shall be posted to the supplier concerned by registered or certified mail and any other notice to him shall be posted by ordinary mail to the address furnished in his bid or to the address notified later by him in writing and such posting shall be deemed to be proper service of such notice
- 31.2 The time mentioned in the contract documents for performing any act after such aforesaid notice has been given, shall be reckoned from the date of posting of such notice.
- 32. Taxes and duties** 32.1 A foreign supplier shall be entirely responsible for all taxes, stamp duties, license fees, and other such levies imposed outside the purchaser's country.
- 32.2 A local supplier shall be entirely responsible for all taxes, duties, license fees, etc., incurred until delivery of the contracted goods to the purchaser.
- 32.3 No contract shall be concluded with any bidder whose tax matters are not in order. Prior to the award of a bid the Department must be in possession of a tax clearance certificate, submitted by the bidder. This certificate must be an original issued by the South African Revenue Services.
- 33. National Industrial Participation Programme (NIP)** 33.1 The NIP Programme administered by the Department of Trade and Industry shall be applicable to all contracts that are subject to the NIP obligation.
- 34 Prohibition of Restrictive practices** 34.1 In terms of section 4 (1) (b) (iii) of the Competition Act No. 89 of 1998, as amended, an agreement between, or concerted practice by, firms, or a decision by an association of firms, is prohibited if it is between parties in a horizontal relationship and if a bidder (s) is / are or a contractor(s) was / were involved in collusive bidding (or bid rigging).
- 34.2 If a bidder(s) or contractor(s), based on reasonable grounds or evidence obtained by the purchaser, has / have engaged in the restrictive practice referred to above, the purchaser may refer the matter to the Competition Commission for investigation and possible imposition of administrative penalties as contemplated in the Competition Act No. 89 of 1998.

- 34.3 If a bidder(s) or contractor(s), has / have been found guilty by the Competition Commission of the restrictive practice referred to above, the purchaser may, in addition and without prejudice to any other remedy provided for, invalidate the bid(s) for such item(s) offered, and / or terminate the contract in whole or part, and / or restrict the bidder(s) or contractor(s) from conducting business with the public sector for a period not exceeding ten (10) years and / or claim damages from the bidder(s) or contractor(s) concerned.

Js General Conditions of Contract (revised July 2010)

CERTIFICATION

I THE UNDERSIGNED (FULL SURNAME)

TAKE NOTE OF THE CONTENTS OF GENERAL CONDITIONS OF CONTRACT
(GCC), SPECIAL CONDITION OF CONTRACT (SCC) AND SPECIFICATION AND
WILL ABIDE BY THEM.

.....
Signature

.....
Date

.....
Position

.....
Name of Bidder

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