# Appendix C – Technical Specification

<table>
<tr><th>Equipment</th><th>Operational Requirements</th><th colspan="2">Technical Specification</th></tr>
<tr><td rowspan="2">Cabin baggage Screening equipment<br>(3D X-ray machine)</td><td rowspan="2">• Automatic threat detection of explosives, organic objects, inorganic objects, flammable explosive, narcotics alert and prohibited items.<br>• The machine shall be capable of detecting opaque and dense objects.<br>• The machine shall be able to store, export and import images.<br>• The machine shall have advanced detection algorithms which includes automatic target recognition – which enable faster and more accurate decision-making and reduce operational overheads.<br>• The machine shall have automated object recognition software which allows for automated detection of an ever-expanding list of prohibited items (latest threats) improving security outcomes and efficiency.<br>• The machine shall be installed with security features and controls to ensure that customer data and assets are well protected from cyber-attacks.<br>• The machine shall have the capability of producing screener performance detection (TIP Server) reports.<br>• The system shall allow for Screeners to log in and log off on a rotational 20-minute interval.<br>• The system must be able to alert the Screener 15 minutes into log in to allow for a rotation.<br>• The system must allow for the rotation functionality to be auditable.<br>• The machine TIP library shall be expandable to include new threat images.<br>• The machine shall produce quality images to allow the Screener to have a better and accurate judgement on bag contents.<br>• The machine shall reduce human errors, enhance efficiency and increase detection accuracy.<br>• The machine shall have a high detection rate combined with extremely low false alarm rates.<br>• The machine shall have the ability to screen bags with electronics including laptops and with liquids inside the bags.</td><td>General Description</td><td>Minimum Requirement</td></tr>
<tr><td>Screening technology</td><td>3D/CTX technology</td></tr>
<tr><td></td><td>Design Lifespan</td><td>Minimum of 10 years</td></tr>
<tr><td></td><td>Average ‘uptime’</td><td>99%</td></tr>
<tr><td></td><td>Compliance to:</td><td>TSA/ ECAC</td></tr>
<tr><td></td><td>Maximum leakage radiation</td><td>Less than 0.1 mR/hr</td></tr>
<tr><td></td><td>Storage format</td><td>1280x720 PXL</td></tr>
<tr><td></td><td>Export of Images</td><td>OBJ, FBX, GITF, JPEG, TIFF, PNG, GIF, PSD.</td></tr>
<tr><td></td><td>Processor and OS</td><td>Latest Windows OS</td></tr>
<tr><td></td><td>Self-diagnostic software</td><td>Provider to Specify</td></tr>
<tr><td></td><td>Memory (RAM)</td><td>Provider to Specify</td></tr>
<tr><td></td><td>Memory (HDD Storage capacity)</td><td>Provider to Specify</td></tr>
<tr><td></td><td>Image Archiving</td><td>Minimum 4000 Images</td></tr>
<tr><td></td><td>Software</td><td>Source code to be adaptable to enhance future threats</td></tr>
<tr><td></td><td>Dimensions : L x H x W</td><td>As per floor plan</td></tr>
</table>



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<tr>
<td></td>
<td>
<ul>
<li>The machine shall have the ability to produce 360 rotatable 3D images.</li>
<li>The machine shall be ECAC or TSA approved.</li>
</ul>
</td>
<td>
<table>
<tr><td>Tunnel size (Minimum)</td><td>600 mm x 400 mm (H x W)</td></tr>
<tr><td>Conveyor speed</td><td>This speed to meet the Processing rate</td></tr>
<tr><td>Minimum Conveyor Belt Load</td><td>100 kg</td></tr>
<tr><td>System power</td><td>220V AC ± 10%, single phase, 50Hz<br>Voltage variation = +/-10%, frequency variation = +/-1%</td></tr>
<tr><td>False alarm rate</td><td>15% for standard passenger baggage</td></tr>
<tr><td>Gantry rotation</td><td>360°</td></tr>
<tr><td>Cooling</td><td>forced air (fan)</td></tr>
<tr><td>Duty Cycle</td><td>100 % Automatic Start-up</td></tr>
<tr><td>Operating Temperature</td><td>0 to 40$^0$C</td></tr>
<tr><td>Relative humidity</td><td>5 to 95%</td></tr>
</table>
</td>
</tr>
<tr>
<td>Cabin baggage Screening equipment<br>(3D X-ray machine)</td>
<td colspan="2">
<ul>
<li>This equipment will need to comply to the following minimum detection settings as provided by SACAA: 3D X ray (Computed Tomography – CT) for Cabin Baggage</li>
</ul>
<table>
<tr><th>PAREMETER</th><th>Requirement</th></tr>
<tr><td>Technology</td><td>CT with volumetric reconstruction, automatic threat detection</td></tr>
<tr><td>Detection probability (Pd)</td><td>Around 98% for threat objects at threshold alarm level</td></tr>
<tr><td>False alarm rate (FAR)</td><td>15% for standard passenger baggage</td></tr>
<tr><td>Liquid/laptop removal</td><td>Not required; system must detect liquid explosives without bag separation</td></tr>
</table>
</td>
</tr>
</table>

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| | | | | |
|---|---|---|---|---|
| | | **Resolution** | Spatial resolution sufficient to detect 0.16 mm wire in reconstructed images | |
| | | **Throughput** | gs/hour per lane under typical passenger load | |

| **Machine** | **Operational Requirements** | **Technical Specification** |
|---|---|---|
| Full body scanner | • The scanner shall have the capability to detect anomalies from head to toe.<br>• The scanner shall have automatic threat detection of explosives, plastic explosives, and prohibited items.<br>• The scanner shall have advanced detection algorithms which includes automatic target recognition, which enable faster and more accurate decision-making and reduce operational overheads.<br>• The scanner shall have an automated object recognition software which allows for automated detection of an ever-expanding list of prohibited items (latest threats) improving security outcomes and efficiency.<br>• The scanner shall be Installed with security features and controls to ensure that customer data and assets are well protected from cyber-attacks.<br>• The scanner shall be capable of adapting to future threats.<br>• The scanner shall be able to display the position of a weapon on a person.<br>• The scanner shall increase the rate of persons passing whilst effectively detecting weapons and prohibited items.<br>• The scanner shall identify multiple locations of weapons on person.<br>• The scanner shall have the ability to provide high speed of detection.<br>• The machine shall be ECAC or TSA approved. | **General Description** / **Minimum Requirement**<br>**Design Lifespan**: Minimum of 10 years<br>**Average 'uptime'**: 99% under realistic operating conditions<br>**Compliance to legislation**: TSA or ECAC<br>National Department of Health of South Africa<br>**Processing Capacity**:<br>Domestic / International<br>ORTIA (pax/hr): 3000 / 3000<br>CTIA (pax/hr): 2400 / 1250<br>KSIA (pax/hr): 1750 / 350<br>**Detection Speed**: To meet the Processing rate<br>**Power Supply**: 220V AC ± 10%, single phase, 50Hz<br>Voltage variation = +/-10%,<br>frequency variation = +/-1%<br>**Max Radiation**: Less than 0.1 mR/hr<br>**Climatic Condition**: Humidity = 5 to 93%<br>Temperature = 0 to 40$^0$C |

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<table>
<tr><td></td><td></td><td></td></tr>
<tr><td>Full body scanner</td><td>
<ul><li>This equipment will need to comply to the following minimum detection settings as provided by SACAA: (Millimeter wave or backscatter technology for passenger screening).</li></ul>
<table>
<tr><th>PAREMETER</th><th>Requirement</th></tr>
<tr><td>Technology</td><td>Advanced Imaging Technology (AIT) – millimeter wave or backscatter (non-imaging or privacy-preserving) with automated target recognition.</td></tr>
<tr><td>Detection capability</td><td>Must detect metallic and non-metallic threat objects (including explosives, firearms, knives) concealed on the body</td></tr>
<tr><td>Automated target recognition (ATR)</td><td>ATR required; no operator-viewable detailed body image</td></tr>
<tr><td>Detection probability (Pd)</td><td>95% for all defined threat objects in the NASP (Knife, improvised explosive device and guns)</td></tr>
<tr><td>False alarm rate (FAR)</td><td>15% per screening</td></tr>
<tr><td>Throughput</td><td>180 persons/hour per lane</td></tr>
<tr><td>Privacy safeguards</td><td>No storage of unblurred images; images deleted immediately after analysis; remote screening rooms must comply with data protection requirements</td></tr>
</table>
</td><td></td></tr>
<tr><th>Machine</th><th>Operational Requirements</th><th>Technical Specification</th></tr>
<tr><td>Automated Lanes (ATR)</td><td>
<ul>
<li>The Automated Lanes system shall fit into current checkpoints size and layout limitation.</li>
<li>The Automated Lanes system shall be a modular design allowing system to be adapted to available space.</li>
<li>The Automated Lanes system shall be an effective lane integrated with tray handling system.</li>
<li>The Automated Lanes system shall be able to deliver a steady flow of trays,</li>
</ul>
</td><td>
<table>
<tr><th>General Description</th><th>Minimum Requirement</th></tr>
<tr><td>Compliance to legislation</td><td>TSA / ECAC</td></tr>
<tr><td>Conveyor height divests</td><td>750/800/850</td></tr>
<tr><td>Conveyor height reclaims</td><td>750/800/850</td></tr>
</table>
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<table>
<tr>
<td></td>
<td>
<ul>
<li>The Automated Lanes system shall deliver the subsequent benefits of increased throughput and an improved passenger experience.</li>
<li>The Automated Lanes system shall remove current capacity bottlenecks and keeping the process moving by addresses the key issues of passenger divestment:
<ul>
<li>tray loading and return.</li>
<li>re- routing suspicious items.</li>
<li>and ‘reclaim’space at the end of the checkpoint.</li>
</ul></li>
<li>The Automated Lanes system shall offer the flexibility to develop a variety of configurations to meet different requirements and expand to handle increasing passenger traffic.</li>
<li>The Automated Lanes system shall be future proof with the capability to incorporate new inspection systems and functions.</li>
<li>The Automated Lanes system shall be able to seamlessly be integrated into the other checkpoint components.</li>
<li>The Automated Lanes system shall be capable of throughput increase by more than 100% compared to conventional checkpoints.</li>
<li>The Automated Lanes system shall have a Greater operational efficiency.</li>
<li>Open interfaces for technologies as
<ul>
<li>Remote screening</li>
<li>Automatic and random diversion</li>
</ul></li>
</ul>
</td>
<td>
<table>
<tr><td>Conveyor height Xray unit</td><td>To fit in the entire solution</td></tr>
<tr><td>Tray spacing</td><td>10-50 cm</td></tr>
<tr><td>Maximum Conveyor Load (kg/ conveyor zone)</td><td>25</td></tr>
<tr><td>Sound pressure</td><td>Less than or equal to 65 dB</td></tr>
<tr><td>Operating temperature</td><td>0 to 40$^0$C</td></tr>
<tr><td>Relative Humidity</td><td>10-95%</td></tr>
<tr><td>Design Lifespan</td><td>Min 7 years</td></tr>
<tr><td>Average ‘uptime’</td><td>99%</td></tr>
<tr><td>Power supply</td><td>Specify</td></tr>
<tr><td>Humidity</td><td>40-90% non-condensing</td></tr>
</table>
</td>
</tr>
<tr>
<td>Machine</td>
<td>Operational Requirements</td>
<td>Technical Specification</td>
</tr>
<tr>
<td>Arch Way Metal Detector</td>
<td>
<ul>
<li>The AMD shall have the capability of reliable and consistent detection of ferrous and non-ferrous metal.</li>
<li>Location, orientation and speed of metal passing through should not influence the detection capability.</li>
<li>The electromagnetic field inside the AMD shall meet minimum standards.</li>
<li>The AMD shall have the capability to differentiate between different metals and alloys. (iron based and non-iron-based)</li>
</ul>
</td>
<td>
<table>
<tr><th>General Description</th><th>Minimum Requirement</th></tr>
<tr><td>Design Lifespan</td><td>Minimum of 10 years</td></tr>
<tr><td>Average ‘uptime’</td><td>99% under realistic operating conditions</td></tr>
</table>
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<tr>
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<ul>
<li>The AMD shall have both audible and visual alarm indication, and the alarm duration should be adjustable.</li>
<li>The AMD shall be able to indicate the location of the metal detected.</li>
<li>The AMD shall be able to detect at multiple zones.</li>
<li>The AMD shall be able to adjust to selectable settings.</li>
<li>The AMD shall have continuous self-checking of key parameters and will alarm when a malfunction is detected.</li>
<li>The system shall include features to minimize electromagnetic interference from external sources, such as nearby electronic equipment.</li>
<li>The AMD shall be capable of accumulating statistical data such as time of operation; passenger counts and alarm counts.</li>
<li>The AMD shall be designed for ease of maintenance.</li>
<li>The AMD should have a battery backup with automatic intervention in the event of power blackout and battery operation signalling.</li>
<li>Instructions for installation, operation, maintenance, trouble- shooting, list of essential spare parts and equipment guarantees and warranties should be provided by the manufacturer.</li>
<li>The AMD must be fitted with a randomizer.</li>
<li>The machine shall be ECAC or TSA approved.</li>
</ul>
<table>
<tr><td>Compliance to legislation</td><td>TSA/ ECAC<br>National Department of Health of South Africa</td></tr>
<tr><td>Detection zones</td><td>multiple</td></tr>
<tr><td>Detection Speed</td><td>Up to 15 m/s</td></tr>
<tr><td>Sensitivity</td><td>0-100 or more adjustable or automatic calibration</td></tr>
<tr><td>Power Supply</td><td>220V AC ± 10%, single phase, 50Hz<br>Voltage variation = +/-10%,<br>frequency variation = +/-1%</td></tr>
<tr><td>Alarm</td><td>Audio and visual</td></tr>
<tr><td>Maximum Distance</td><td>0,3 at low sensitivity and 0,5 at high sensitivity</td></tr>
</table>
</td>
</tr>
<tr>
<td>Arch Way Metal Detector (Walk Through Metal Detector)</td>
<td>
<ul>
<li>This equipment will need to comply to the following minimum detection settings as provided by SACAA: Walk Through Metal Detector.</li>
</ul>
<table>
<tr><th>PAREMETER</th><th>Requirement</th></tr>
<tr><td>Test object detection</td><td>100% detection of specified test objects (e.g., 100 g ferrous blade, 50 g non-ferrous handgun replica).</td></tr>
</table>
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| | | | | |
|---|---|---|---|---|
| | | **Uniformity** | Must detect metallic and non-metallic threat objects (including explosives, firearms, knives) concealed on the body | |
| | | **Discrimination** | Capability to discriminate between ferrous and non-ferrous metals | |
| | | **False alarm rate (FAR)** | 5% under ambient electromagnetic conditions | |
| | | **Calibration** | Multi-zone (6 zones) with visual indicator of alarm location | |

| | | |
|---|---|---|
| Goods and Supplies<br>Xray machine<br>(Dual View) | • The machine shall be capable of accommodating bigger and out-of-gauge consignments (pallets).<br>• The machine shall be capable of detecting opaque and dense objects.<br>• The machine shall have an automatic threat detection of explosives, organic objects, inorganic objects, flammable explosive, narcotics alert and prohibited items.<br>• The machine shall have advanced detection algorithms which includes automatic target recognition – which enable faster and more accurate decision-making and reduce operational overheads.<br>• The machine shall be able to store, export and import images<br>• The machine shall have the capability of producing screener performance detection (TIP Server) reports.<br>• The machine shall reduce human errors and enhance efficiency and increase detection accuracy.<br>• The machine shall have a high detection rate combined with extremely low false alarm rates (DPrime).<br>• The machine shall be installed with security features and controls to ensure that customer data and assets are well protected from cyber-attacks.<br>• The machine TIP library shall be expandable to include new threat images.<br>• The machine shall have the capability of producing screener performance detection (TIP Server) reports.<br>• The machine shall produce quality images to allow the Screener to have a better and accurate judgement on goods being screened<br>• The machine shall reduce human errors, enhance efficiency and increase detection accuracy.<br>• The machine shall have a high detection rate combined with extremely low false alarm rates.<br>•<br>• The machine shall be ECAC or TSA. approved | |

| General Description | Minimum Requirement |
|---|---|
| Compliance | TSA / ECAC |
| Material discrimination | Dual-energy with colour coding |
| Minimum Tunnel Dimensions (W x H) (cm) | 100x100 |
| Minimum conveyor speed | 0.2 m/s |
| Minimum Conveyor Belt Load | 100 kg |
| System power | 220V AC ± 10%, single phase, 50Hz<br>Voltage variation = +/- 10%,<br>frequency variation = +/- 1% |
| Guaranteed Detection Capability | Zero False Image Detection |
| x-ray beam | Multiple X-ray fan beams |

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| | | |

| | |
|---|---|
| Storage format | 1280x720 PXL |
| Export of Images | OBJ, FBX, GITF, JPEG, TIFF, PNG, GIF, PSD. |
| Processor and OS | Latest Windows OS |
| Self-diagnostic software | Provider to Specify |
| Memory (RAM) | Provider to Specify |
| Memory (HDD Storage capacity) | Provider to Specify |
| Image Archiving | Minimum 4000 Images |
| Cooling | Sealed oil bath with forced air |
| Duty Cycle | 100 % Automatic Start-up |
| Generator imaging type | Dual Generator Imaging |
| Operating temperature | 0 to $40^0$C |
| Relative humidity | 10 to 95% |
| Design Lifespan | Min 10 years |
| Average ‘uptime’ | 99% |
| Maximum leakage radiation | Less than 0.1 mR/hr |

Goods and Supplies
Xray machine
(Dual View)

- This equipment will need to comply to the following minimum detection settings as provided by SACAA: *GOODS / OUTSIZE BAGGAGE SCREENING*

| PAREMETER | Requirement |
|---|---|

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<table>
<tr><td></td><td></td><td>
<table>
<tr><td>Equipment type</td><td>Large-tunnel X-ray (minimum tunnel dimensions: 1.0 m width × 1.0 m height)</td></tr>
<tr><td>Wire resolution</td><td>0.2 mm (AWG 32) copper wire visible in both orientations</td></tr>
<tr><td>Steel penetration</td><td>30 mm steel (high penetration mode)</td></tr>
<tr><td>Material discrimination</td><td>Dual-energy with colour coding</td></tr>
<tr><td>Threat detection</td><td>Must detect threat objects (including improvised explosive devices) with Pd 98% at FAR 20% when using automatic detection; if manual image interpretation, operator training and certification required</td></tr>
<tr><td>Trace detection (ETD)</td><td>In-line or integrated explosive trace detection (ETD) with minimum detectable mass 100 ng for RDX, TNT, PETN; analysis time 15 seconds</td></tr>
</table>
</td></tr>
<tr><td>Remote Screening Rooms</td><td>
<ul><li>This equipment will need to comply to the following minimum detection settings as provided by SACAA: For centralised image analysis where screeners are located away from the physical checkpoint.</li></ul>
<table>
<tr><th>PAREMETER</th><th>Requirement</th></tr>
<tr><td>Image latency</td><td>Maximum expectancy between image capture and display at remote screening station 1 second (end-to-end)</td></tr>
<tr><td>Image resolution</td><td>Image quality (spatial resolution, contrast, colour fidelity) identical to that of the local screening workstation</td></tr>
<tr><td>System redundancy</td><td>Fully redundant network and power; loss of communication must trigger local alarm and revert to local screening mode</td></tr>
<tr><td>Cybersecurity</td><td>Encrypted communication between equipment and remote station; isolated network segment (no internet connectivity)</td></tr>
<tr><td>Access control</td><td>Two-factor authentication for remote screeners; all accesses logged; remote stations located in physically secured rooms with restricted entry</td></tr>
<tr><td>Audit trail</td><td>Full audit trail of all remote screening actions, including time stamps, screener identity, alarm handling, and any override commands</td></tr>
</table>
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| | | | |
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| | | **Fallback mode** | Manual override: if remote screening is degraded, local screening capability must remain available within 5 minutes |
| | | **CCTV coverage** | Continuous CCTV coverage of all remote screening workstations with recording retention 90 days |
| GENERAL CALIBRATION & COMPLIANCE | • Calibration tolerance: All MDS values shall be maintained within 5% of the established set point during normal operations.<br>• Periodic testing: Daily, weekly, and monthly performance tests shall be conducted using certified test pieces.<br>• Data logging: All screening events, alarms, and system parameters shall be logged and retained for a minimum of 90 days.<br>• Configuration management: Any change to detection settings (including software updates affecting detection algorithms) requires prior CAA approval and re-validation.<br>• Provide distributed load per machine in $kg/m^2$ | | |

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# Appendix D – Engineering, Risk, and Technical Information (part of the technical proposed solution)

| ACSA Requirement | Rationale for request | Additional Comments/Guideline to Bidders |
|---|---|---|
| **D.1 Contingency planning to prevent interruption of airport operation** | Outline the situations that can cause business interruption during the installation of CSP equipment and mitigation there-of. | • Describe the situations/incidents that could occur during the installation and the contingency plan to prevent business interruption.<br>• Provide a view of how redundancy of the current system/s can be leveraged to continue operation while the new devices are being installed.<br>• At a minimum, contingency planning for the following should be contained in the bid: equipment damage during installation; deviations in the rigging plan; environmental occurrence; damage to building; injury to staff and/or passengers.<br>• ACSA further expects that the Estimated Maximum Loss (EML) of these occurrences will be covered by the insurance program of the Bidder. Bidders to confirm this. |
| **D.2 Detailed environmental management plan** | Assessing the impact on the environment, disposal/installation and remediation plans | • This is a mandatory requirement for a project of this nature. Particularly on the matter of handling and disposal of radioactive materials. The handling of such matters will be in a live operating environment. Irrespective of whether work will be done after hours, aspects such as isotope half-lives will need to be provided and test certificates issued on a daily basis that radioactivity is within acceptable limits<br>• Guidelines for handling Radio-active substances are prescribed by Department of Health with the completion of certain forms and arrangements for inspection serves and on-site presence during such work.<br>• ACSA expectation is that the environmental program will ensure that the equipment replacement does not negatively impact flora and fauna. ACSA environmental management commitments cannot be compromised as they would threaten our operating permits. |



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| ACSA Requirement | Rationale for request | Additional Comments/Guideline to Bidders |
|---|---|---|
| | | • Bidders to provide such a plan in their bids |
| **D.3 Detailed engineering, technology and quality plans** | ACSA receives assessments of the suitability of the terminal infrastructure and obligations to ensure that the quality management program is executed | • ACSA expects a Class 2 cost estimate for this proposal. The level of detail for such an estimate is contained in Appendix 1.<br>• Engineering and structural due diligence, method statements, process and instrumentation diagrams, battery limit conditions, and assurance plan. This should be approved by a Professional Engineer.<br>• This is to ensure that ACSA terminal building infrastructure would not be compromised during the build program. Failing this, a work permit to perform the replacement cannot be issued. |
| **D.4 Plans for commissioning and decommissioning** | Ensuring the Airport Operations value chain functions during the program as well as assurance on technology performance without negative impact to health and airport | • The duration of the program is important for each airport to enable ACSA to alert stakeholders and provision for movement of materials to and from the staging area<br>• Plans for the decommissioning and safely disposal of current equipment assets.<br>• Start-up, declaring beneficial operation, and reliability testing. The reliability test condition and the report will be required to provide assurance that safety and equipment deviations (if any) are manageable |
| **D.5 Construction completion guarantee and reliability test program for the new installation** | An incomplete construction renders the airport operations value chain interrupted and/or terminal building | This is a significant installation, and an incomplete project can render the airport at risk of disruption for an extended period. In the event of a radio-active incident, there is also risk of contamination, human and environment radiation and permanent damage to high value equipment. ACSA will require this risk to be suitably covered in the Builders all risk insurance program. The underwriting technical report should consider these situations. In the event such situations are triggered, there should be clear remedy in favour of ACSA and its stakeholders that business is able to fulfil its payment obligations. Business interruption is a well-known insurance risk and ACSA has the expectation that ACS provides it with an instrument that addresses and covers such a risk. |
| **D.6 Risk management and safety plan to enable issue of works permits** | Risk assessment to enable suitable insurance coverage and to understand the | • ACSA has OHS processes for construction and stakeholders. These should be adhered to and will be provided in the tender data-room. |

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| ACSA Requirement | Rationale for request | Additional Comments/Guideline to Bidders |
|---|---|---|
| | likely occurrences plus their mitigation | • A risk assessment should be performed, and all risks be evaluated from a monetary perspective to enable determination of the loss events that can occur. This is crucial in determining whether the insurance claims procedure and recurrences are properly stipulated. |
| **D.7 Insurance program for the replacement plus policy wording** | ACSA and Stakeholders are name insured. Suitable coverage and coverage areas indicated | • ACSA requires the policy wording for the Builders All Risk program and Third-Party Liability that would be project specific.<br>• ACSA also expects to receive a copy of the underwriting technical manuscript. This will be a submission that will form part of the work permit. |
| **D.8 Maintenance Regime and Cost** | Determine the maintenance program and associated cost | • Provide details of the preventative maintenance regime to be followed over the useful life of the equipment. Provide indication of cost and duration to perform such work.<br>• Assessment of the top 10 recurring failures on such equipment. The time taken to repair and the components replacements for such work. Provide cost estimate in each case.<br>• View of the maintenance team required to provide maintenance services on such equipment.<br>• Training and development program plus costs to capacitate staff to maintain/operate such equipment |
| **D.9 Life Cycle Costing** | Assess the total cost of ownership for the equipment | • Capital cost (Equipment)<br>• Preventative maintenance cost estimate for the duration of the useful live<br>• Reactive Maintenance cost estimate for the duration of the equipment<br>• List of critical spares and spares holding cost per site<br>• Establishment/Set-up costs to enable the maintenance and oversight of equipment.<br>• Operating overheads to enable the asset management program.<br>• Cost to inspection and certify equipment from time to time |

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## Annexure E: Processing Capacity

| | | Current Processing rate (Pax/Hr) | Targeted Processing Capacity (Pax/hr) | Bidder Proposed Capacity (Pax/hr) | Additional Pax from Targeted Capacity (Pax/hr) | % increase from targeted Capacity | No. of lanes | No. of Machines | Guaranteed Availability |
|---|---|---|---|---|---|---|---|---|---|
| Domestic | **ORTIA** | 2160 | 3000 | | | | | | |
| | **CTIA** | 2315 | 2400 | | | | | | |
| | **KSIA** | 1191 | 1750 | | | | | | |
| International | **ORTIA** | 2880 | 3000 | | | | | | |
| | **CTIA** | 750 | 1250 | | | | | | |
| | **KSIA** | 332 | 350 | | | | | | |
| Local Airports | **CDSIA** | 421 | 450 | | | | | | |
| | **George** | 355 | 450 | | | | | | |
| | **KPA** | 317 | 500 | | | | | | |
| | **BFIA** | 243 | 300 | | | | | | |
| | **Kimberley** | 125 | 150 | | | | | | |
| | **Upington** | 37 | 120 | | | | | | |