RFQ

FOR

CONTRACTOR APPOINTMENT FOR MAINTENANCE OF INFRASTRUCTURE MONITORING CONTROL SYSTEM(IMCS)
AT O. R. TAMBO INTERNATIONAL AIRPORT.

Tender Reference Number:

Nov 2023

Issued by
Airports Company South Africa
O. R. Tambo International Airport

Note:

Upon Acceptance of the Offer by the Employer, this Tender Document becomes the Contract Document, subsequent, to which, all references to the term "Tenderer(s)" then become synonymous with the term "Contractor".

VOLUME 1

NAME OF TENDERER: ……...

The Contract	
Part C1: Agreement and Contract Data	
C1.1	Form of Offer and Acceptance
Part C2: Pricing data	
C2.1	Pricing Assumptions
C2.2	Price List
Part C3: Service Information	
Part C4: Site information	

C1.1 Forms of Offer and Acceptance

Offer
The employer, identified in the acceptance signature block, wishes to enter into a contract for the

MAINTENANCE OF INFRASTRUCTURE MONITORING CONTROL SYSTEM

The Contractor, identified in the offer signature block, has examined this document and addenda hereto as listed in the schedules, and by submitting this offer has accepted the conditions thereof.

By the representative of the Contractor, deemed to be duly authorised, signing this part of this form of offer and acceptance, the Contractor offers to perform all the obligations and liabilities of the Contractor under the contract including compliance with all its terms and conditions according to their true intent and meaning for an amount to be determined in accordance with the Conditions of Contract identified in the Contract Data.

The offered total of the Prices exclusive of VAT is	
Value Added Tax @ 15% is	
The total offered amount due inclusive of VAT is	
(in words)	

(The above amount should be calculated as per the guide provided in the Pricing Data [Subtotal F]. In the event of any conflict between the amount above and the Pricing Data [Subtotal F], the former shall prevail.)

for the Contractor

Signature . . . . Date . . . .

Name . . . . Capacity . . . . . .

(Name and address of organisation) . . . .

. . . . . .

. . . . . .

Name and signature of witness . . . . . signature . . . . . .

This offer may be accepted by the employer by signing the acceptance part of this form of offer and acceptance and returning one copy of this document to the Bidder before the end of the period of validity stated in the tender data, whereupon the Bidder becomes the party named as the Contractor in the conditions of contract identified in the contract data.

Acceptance

By signing this part of this form of offer and acceptance, the employer identified below accepts the Contractor's offer. In consideration thereof, the employer shall pay the Contractor the amount due in accordance with the conditions of contract identified in the contract data. Acceptance of the Contractor's offer shall form an agreement between the employer and the Contractor upon the terms and conditions contained in this agreement and in the contract that is the subject of this agreement.

The terms of the contract, are contained in:

Part C1: Agreements and contract data, (which includes this agreement)
Part C2: Pricing data and Price List
Part C3: Service information.
Part C4: Site information
and schedules, drawings and documents or parts thereof where so indicated.

Deviations from and amendments to the documents listed in the tender data and any addenda thereto as listed in the tender schedules as well as any changes to the terms of the offer agreed by the Bidder and the employer during this process of offer and acceptance, are contained in the schedule of deviations attached to and forming part of this agreement. No amendments to or deviations from said documents are valid unless contained in this schedule.

The Contractor shall within two weeks after receiving a completed copy of this agreement, including the schedule of deviations (if any), contact the employer's agent (whose details are given in the contract data) to arrange the delivery of any bonds, guarantees, proof of insurance and any other documentation to be provided in terms of the conditions of contract identified in the contract data. Failure to fulfil any of these obligations in accordance with those terms shall constitute a repudiation of this agreement.

Notwithstanding anything contained herein, this agreement comes into effect on the date when the Bidder receives one fully completed original copy of this document, including the schedule of deviations (if any). Unless the Bidder (now Contractor) within five working days of the date of such receipt notifies the employer in writing of any reason why he cannot accept the contents of this agreement, this agreement shall constitute a binding contract between the parties.

for the Employer

Signature . . . . Date . . . .

Name . . . . Capacity . . . . . .

Airports Company South Africa,
3rd Floor ACSA North Wing Offices
O R Tambo International Airport
Kempton Park
1627

Name of witness . . . . . signature . . . . . .

Schedule of Deviations

1 Subject . . . . . .
Details . . . . . .
. . . . . .
. . . . . .
. . . . . .
2 Subject . . . . . .
Details . . . . . .
. . . . . .
. . . . . .
. . . . . .
3 Subject . . . . . .
Details . . . . . .
. . . . . .
. . . . . .
. . . . . .
4 Subject . . . . . .
Details . . . . . .
. . . . . .
. . . . . .
5 Subject . . . . . .
Details . . . . . .
. . . . . .
. . . . . .

By the duly authorised representatives signing this agreement, the employer and the Contractor agree to and accept the foregoing schedule of deviations as the only deviations from and amendments to the documents listed in the tender data and addenda thereto as listed in the tender schedules, as well as any confirmation, clarification, or changes to the terms of the offer agreed by the Bidder and the employer during this process of offer and acceptance.

It is expressly agreed that no other matter whether in writing, oral communication or implied during the period between the issue of the tender documents and the receipt by the Bidder of a completed signed copy of this Agreement shall have any meaning or effect in the contract between the parties arising from this agreement.

C2.1 Pricing assumptions: Option A

The *conditions of contract*

How work is priced and assessed for payment

Clause 11 in NEC3 Term Service Contract, April 2013 (TSC3) core clauses and Option A states:

Identified and defined terms	11 11.2	(12) The Price List is the *price list* unless later changed in accordance with this contract. (17) The Price for Services Provided to Date is the total of the Price for each lump sum item in the Price List which the *Contractor* has completed and where a quantity is stated for an item in the Price List, an amount calculated by multiplying the quantity which the *Contractor* has completed by the rate. (19) The Prices are the amounts stated in the Price column of the Price List. Where a quantity is stated for an item in the Price List, the Price is calculated by multiplying the quantity by the rate.

This confirms that Option A is a priced contract where the Prices are derived from a list of items of service which can be priced as lump sums or as expected quantities of service multiplied by a rate or a mix of both. Where it is contemplated that the Price List represents the type of work, quantity, and cost thereof which may or not be selected by the Employer, it is important to ensure that service items listed do not create liability daily if that is not the intention. For example, if the service is maintenance of an installation on an ad hoc or call-off basis which may require the Contractor to be on standby but not permanently on the Affected Property, avoid listing service items which may be treated as preliminary and general (P&Gs) items, whether fixed or time-related such as contractual requirements, establishing on site, offices, storage, ablutions, water supplies, power supply, telecommunications. The Price List should align with the intention of the contract and selection of Option X 19 should be considered. If the Contractor is required to price P&G items ensure that the tender, contract, and Price List provides clearly that daily charges are applicable only as necessitated by the specific activity and authorised by the Service Manager. Care should be taken when utilising SANS 1200 as a guide for tenderers or for preparing templates for Price Lists in tenders. Avoid referring to the Price List as the Activity Schedule.

Function of the Price List

Clause 54.1 in Option A states: “Information in the Price List is not Service Information”. This confirms that instructions to do work or how it is to be done are not included in the Price List but in the Service Information. This is further confirmed by Clause 20.1 which states, “The *Contractor* Provides the Service in accordance with the Service Information”. Hence the *Contractor* does **not** Provide the Service in accordance with the Price List. The Price List is only a pricing document.

Link to the *Contractor*’s plan

Clause 21.4 states “The *Contractor* provides information which shows how each item description on the Price List relates to the operations on each plan which he submits for acceptance”. Hence when compiling the *price list*, the tendering contractor needs to develop his first clause 21.2 plan in such a way that operations shown on it can be priced in the *price list* and result in a satisfactory cash flow in terms of clause 11.2(17).

Preparing the *price list*

It will be assumed that the tendering contractor has read Pages 14, 15 and 76 of the TSC3 Guidance Notes before preparing the *price list*. Items in the *price list* may have been inserted by the *Employer* and the

tendering contractor should insert any additional items which he considers necessary. Whichever party provides the items in the *price list* the total of the Prices is assumed to be fully inclusive of everything necessary to Provide the Service as described at the time of entering this contract.

1 As the *Contractor* has an obligation to correct Defects (core clause 42.1) and there is no compensation event for this unless the Defect was due to an ***Employer's*** risk, the lump sum Prices and rates must also include for the correction of Defects.

2 If the *Contractor* has decided not to identify a particular item in the *price list* at the time of tender the cost to the *Contractor* of doing the work must be included in, or spread across, the other Prices and rates in the *price list* to fulfil the obligation to complete the *service* for the tendered total of the Prices.

3 There is no adjustment to lump sum prices in the *price list* if the amount, or quantity, of work within that lump sum item of service later turns out to be different to that which the *Contractor* estimated at time of tender. The only basis for a change to the Prices is because of a compensation event. See Clause 60.1.

4 Hence the Prices and rates tendered by the *Contractor* in the *price list* are inclusive of everything necessary and incidental to Providing the Service in accordance with the Service Information, as it was at the time of tender, as well as correct any Defects not caused by an ***Employer's*** risk.

5 The Contractor does not have to allow in his Prices and rates for matters that may arise because of a compensation event. It should be noted that the list of compensation events includes those arising because of an *Employer's* risk event listed in core clause 80.1.

Format of the *price list*

(From page 76 of the TSC3 Guidance Notes)

Entries in the first four columns in the *price list* in section C2.2 are made either by the *Employer* or the tendering contractor.

If the *Contractor* is to be paid an amount for the item which is not adjusted if the quantity of work in the item changes, the tendering contractor enters the amount in the Price column only, the Unit, Expected Quantity and Rate columns being left blank.

If the *Contractor* is to be paid an amount for an item of work which is the rate for the work multiplied by the quantity completed, the tendering contractor enters the rate which is then multiplied by the Expected Quantity to produce the Price, which is also entered.

If the *Contractor* is to be paid a Price for an item proportional to the length of time for which a service is provided, a unit of time is stated in the Unit column and the expected length of time (as a quantity of the stated units of time) is stated in the Expected Quantity column.

C2.2 Price List

The following Activity Schedule is provided "as-is" for the benefit of the Bidder. ACSA (the Employer) cannot guarantee that it is complete in all respects. The Bidder is responsible for providing an Activity Schedule which is accurate, complete and in accordance with their proposal. Also, refer to C3 (Service information) for activities that need to be priced. Only items listed in this Activity Schedule may be billed to the Employer.
ACSA reserves the right to vary all the activities according to the rates given in this contract.

Table A: Activity Schedule Part 1: Infrastructure monitoring control (BMS)

Item no.	Activity Description	Frequency	Quantity ()	Amount (per single item)	Total (per year)
	A: Preliminary and General				
1	**Contract Management and Administration (including but not limited to all required reporting such as monthly reports and attendance of meetings and resolving queries by Technicians and Site Manager and spares management)**	**Monthly**	**24**		
2	**Tools, equipment, and consumables**	**Monthly**	**24**		
3	**Cell phones and two-way radios for onsite personnel**	**Monthly**	**24**		
4	**Airport permits – provisional sum**	**Once**	**1**		**2500**
5	**Site Manager system integrity review and maintaining up to date maintenance manuals and –drawings and issuing of reports**	**One per Year**	**2**		
Sub-total A: Preliminary and General			**R**		
B: Preventive Maintenance	**B: Technicians (Available for maintenance and standby)**				
9	Monthly Inspections AND Corrective maintenance. **Note**: All defects, user queries found and existing are resolved during the maintenance interval	Monthly	24		
10	Quarterly inspections and testing	Quarterly	8		
11	Yearly Service & inspections	One per Year	2		
Sub-total B: Preventative Maintenance			**R**		

The above activity schedule is minimum work required and the contractor as the subject expect matter on these services they are bidding for **shall fill in any other activity with prices for "other" activities which they deem necessary to achieve the set out comes on availability ,reliability, maintainability, MTTR, MTBF, legislative and all other targets set in this contract. **Should an alternative not be presented, the offer will be deemed as the contractor's optimal proposal for which they will be liable for.***

**All rates for all activities including diagnostic and repair shall include all required tools, software, hardware, and consumables (including all applicable specialized tools and software, hardware and consumables) Onus is on the contractor to price correctly).

***It is noted that the required labour resources and skills for this contract is not prescribed in detail. The

contractor is fully responsible to ensure that labour resources remain adequate and competent to maintain required service levels, system performance levels and according to all applicable laws and regulations. The Tenderer shall also ensure that all required maintenance is catered for as per the Original Equipment Manufacturer in the pricing above.
****Incentives and Low service damages will be applicable as per the Low **service damages table and Incentive table in this contract**

Labour rates and Mark-up
Any work not included under part 1 shall be deemed additional work or non-scheduled items and will be charged at the following rates:

Activity Schedule – part 2 (Labor rates and Mark-up - Breakdowns)

Any work not included under part 1 shall be deemed additional work or non-scheduled items and will be charged at the following rates:

*All rates to exclude vat. Subject to mutual agreement between ACSA and the Contractor, the number of staff allocated to the contract may be increased/decreased to cater for special needs that may arise from time to time.

Labor rates shall include all personnel insurance, holidays with pay, incentive bonuses.

Note: No labor shall be charged for travel or travelling. Labor time shall be calculated for the time spent on site.

Call out rate must include all required travelling and the **first hour on site**.

i) **LABOUR RATES:** ***(to be filled in)***

Item	**Description**	**Normal hours(R/hour)**	**After hours (R/hou**	
			Saturday	**Sunday/public holiday**
	Site Manager			
	Technician			
	Other specify:			
	Other specify:			

Detail requirements regarding staff
The Contractor shall continuously ensure that all staff is suitable, able and competent for the duties required of them. Staff must have experience and applicable competencies as per OEM and all legislations in the maintenance of Infrastructure monitoring control. The Contractor shall continuously ensure that all staff is knowledgeable on all equipment relating to the infrastructure monitoring control.

ii) CALL OUT FEE + DIOGNOSTIC AND REPAIR RATES

NOTE:

a) All rates for all activities including diagnostic and repair shall include all required tools, software, hardware and consumables (including all applicable specialized tools and software, hardware and consumables) Onus is on the contractor to price correctly).

b) All *call out* shall include all applicable travelling, all personnel insurance, holidays with pay, incentive bonuses etc. Labor laws and all applicable laws shall be followed by the contractor.

c) Call outs are not chargeable during hours technician/artisan/assistants, or any applicable resource are on site.

d) Call outs are not chargeable during working hours' technician/ assistants are on site (08:00 – 17:00)

e) The contractor will be compensated according to the contractor's repair rate provided in the below table B and it is subject to discussion with the service manager due to proven factors that are beyond the contractor's control (some of the internal and external factors are listed in Annex T) .

f) Call-out remuneration is applicable to activities falling out of preventative maintenance activities that were supposed to be done by the contractor, thus ACSA will not pay for breakdown which are due to preventative maintenance negligence by the contractor.

C: Table B: Call outs + Labor

Description	**Qty /2 year**	**Call out fee**	**Total/ 2year**
Call out including first hour on site and travelling fee			
	Hours / 2 year	**Rate (after Hours)**	**Total / 2year**
Technician	40		
Site Manager	40		
Subtotal C: Labour (per 2 years)		**R**	

iii) SPARES and MARK -UP

D: Spares list: Spares to be ordered as and when it is required

Spares/Material and System updates/Changes and repairs	**R 200 000(per 2 Years)**

*__Spares__ will be managed by the contractor using ACSA's manual inventory management system.
The manual inventory management system will include but not limited to.

- Conducting and submission of monthly and quarterly stock count to the Service Manager by the contractor,
- Keeping up-to-date inventory cards by the contractor,
- Management of spares movement by the contractor,
- Keeping an up-to-date inventory file (purchase order and request, work order, delivery note, stock count

records, etc.).
- Ensure safety and security of the storeroom by the contractor as per space given to them.
- The space for spare storage shall be allocated by ACSA to the contractor and can be a shared space as per space availability. Management of inventory by the contractor as per ACSA inventory procedure

Spares:

Mark-up (third party procured items/services)

Bidder to complete

Value of Item or Services	****Mark-up** ***(Contractor to fill in)***
R0 - R2,000	%
R2,001 - R5,000	%
R5,001 - R10,000	%
R10,001 - R50,000	%

[b]Cost shall be net cost (excluding VAT) of parts delivered to site with all discounts deducted.

The inserted amount ****Z*** are for budgeting purposes. The Total mark -up amount in the table is not guaranteed, but the mark-up will be applicable on third party quotations as per requirements of the system. Thus, the contractor will be held accountable to the mark-up filled in this table.*
***The mark-up will be applicable to the total of the third-party quotation not on a single line item in a quotation*.

Spares and sub – contractors work will be charged at cost plus mark-up. VAT shall not form part of mark-up calculations. Cost shall be net cost (excluding VAT) of parts supplied to site with all discounts deducted.

The spares list must be prepared based on tenderers best current spares prices (excl. VAT). The actual costs of spares will be reimbursed on submission of invoices and suppliers supporting documents.

Contract value
Below, the guide that must be used in estimating the contract value. This amount must be reported as the Contract Value in the corresponding schedules. Tenderers are reminded that this amount is for illustrative purposes only and that ACSA will not be under any obligation to expend the full or any portion of this amount. Monthly contract expenditure will be strictly calculated according to the Activity Schedule as provided above.

Infrastructure Monitoring Control for -24 MONTHS (2 years) maintenance expenditure:

Description	Total (excluding VAT)
Sub-total A (Total Preliminary & General	R
Sub-Total B (Maintenance & Inspections & Corrective)	R
Sub-total C (*Call out-repairs fee + **Diagnostic and repairs)	R

Sub-total D (Spares/Material and System updates/Changes, repairs)	R 200 000
Total E- Total maintenance cost for 24 months	**R**

Note:
****TOTAL- E (i.e., Total maintenance cost for duration of the contract) must be carried to the form of offer and acceptance***

Mandatory Returnable documents

ACSA will disqualify from the RFQ process any bidder that has failed to submit mandatory returnable documents and forms. Bidders should therefore ensure that all the mandatory returnable documents and forms have been submitted. In order to assist bidders, ACSA has also included a column next to the required mandatory document and forms to enable bidders to keep track of whether they have submitted or not. The mandatory documents and forms are as follows:

MANDATORY RETURNABLE DOCUMENTS AND INFORMATION	SUBMITTED [Yes or No]
Completed PRICING SCHEDULE/FORM OF OFFER	
SBD4 Bidders Disclosure Form	
SBD 6.1 Preference Points claim Form	
Declaration of interest and politically Exposed Person	
CIDB GRADING OF 3 EP or 3 EB OR HIGHER (Proof of CIDB certificate)	

Minimum Requirements

Description of quality criteria	**WQ**	**Sub criteria** **Quality Score**	***Maximum Points***	***Minimum Threshold***
Tenderer's resource proposal	**50**	Qualifications	*20*	*12*
		Years of experience in similar works (maintenance)	*30*	*18*
Maintenance programme	**10**	Scope of programme	*10*	*6*
Tenderers(company) References and experience in similar works (maintenance of Allen Bradley/ Rockwell, PLC's and system integration)	**40**	Years of Experience of maintenance work references	*40*	*24*
		Total	***100***	***60***

Qualifications (20 points)

		Max points=20	Min points=12	Poor = [0]
Item No	**Key Personnel Description**	**Qualifications**		
	Site Manager	12	8	If any of these resources qualifications is below minimum the score is automatically zero for the whole matrix on qualifications
		BSc/B-Eng./B-Tech Electrical/Electronics/IT/ Control, **Certification**: Rockwell (OEM) Software, Factory Talk: Control Logix maintenance and trouble shooting OR RSlogix 5000 Level 2: ControlLogix maintenance and troubleshooting	National Diploma Electrical/Electronics/ IT/Control. **Certification:** Rockwell (OEM) Software, Factory Talk: Control Logix maintenance and trouble shooting OR RSlogix 5000 Level 2: ControlLogix maintenance and troubleshooting	
	Technician	8	4	
		N3 Electronics/Electrical and Trade Test. **Certification:** Rockwell (OEM) Software, Factory talk view SE: Programming	N3 Electronics/Electrical **Certification:** Rockwell (OEM) Software, Factory talk view SE: Programming	
NB SCORING NOTES				
- Qualification requirements apply concurrently, and bidders must meet all requirements per category to score full points.				

Years of Experience – 30 (Proof of similar or relevant experience should be included in the resources' CV)

		Max points=30	Min points=18	Poor = 0
Item No	**Key Personnel Description**	**Experience**		
	Site Manager	20	10	If any of these resources experience is below minimum the score is automatical
		7 years or more' experience post BSc/B-Eng./B-Tech Electrical/Electronics/IT qualification, Working on PLC's, Programming, Software and Database development	4 to 6 years' post National Diploma Electrical/Electronics/IT/Control qualification, Working on PLC, Programming, Software and Database development	
	Technician	10	8	

		4 years or more experience post Trade Test Electrical/Electronic Working on PLC's, Programming	2 to 3 years' experience Electrical/Electronic Working on PLC's, Programming	ly zero for the whole matrix on experience (e.g., Less than the minimum required experience
NB SCORING NOTES				
- Qualification requirements apply concurrently, and bidders must meet all requirements per category to score full points.				

Scope of Programme – 10 points

	Scope of Programme	**10**
1	• An organogram that fully describes the roles that is aligned with the service of each human resource to be deployed in the contract **(4)** • An organogram with the roles for each human resource. Roles not fully described inline with service **(2)** • No Organogram **(0)**	**6**
2	• maintenance schedule indicating the maintenance tasks and resource for all and per category of system. The maintenance plan is specific to the installation **(4)** • Maintenance schedule for all systems. Maintenance plan is part specific and part generic **(2)** • No maintenance schedule **(0)**	**4**

References – 40 (Proof of previous work of the tendering entity where similar or relevant works were previously completed, submitted on the client's letterhead of the client and signed by the client, describing the type of work value and time frame.)

		Score
2 References	24	
3 and above References	40	
No Refences	0	
Maximum score	**40**	
Minimum score	**24**	

DESCRIPTION OF THE WORKS

Employer's objectives

The objective is to maintain the serviceability of the infrastructure at OR Tambo International Airport in a sustainable manner at the lowest operating and maintenance costs while ensuring compliance to general safety and aviation related legislation.

The Contractor will maintain all the Infrastructure Monitoring Control System at OR Tambo International Airport as described in the Overview of the works below. The specifications and requirements in this document comprise the description of the Works. The Contractor will be appointed directly by the Airports Company of South Africa.

Overview of the works

In brief, the Contractor will be responsible for maintaining the Infrastructure Monitoring Control System

- Maintenance as per OEM

INFRASTRUCTURE	FREQUENCY	MAINTENANCE ACTIVITIES
infrastructure Monitoring Control System (BMS)	As per Manufacturer's Specifications	As per Manufacturer's Maintenance Manual and C3.

Extent of the works

The Contractor will be fully responsible for meeting all requirements in this document regarding the Works.

Upon arrival at the Employer's premises, at the pre-arranged time, the Contractor shall report to the Service Manager and attend to any matters which may necessitate action.

Upon completion of the service/maintenance visit, the Contractor shall complete a comprehensive written service report in respect of Infrastructure Monitoring Control System visit, listing all activities undertaken, additional work performed, and consumables used. This report is to be submitted to the Service Manager for approval and endorsement before leaving the premises. The report pro-forma shall be to the Employer's approval. Detailed maintenance sheets shall be completed after service.

For each piece of equipment, all work will be carried out to standards as required by the Original Equipment Manufacturer (OEM) as well as any applicable governing law and/or regulations. Where OEM standards differ from those required by this document the more stringent requirement shall apply. The Contractor will be fully responsible for obtaining (and keeping up to date with) said requirements.

Where, such a need is mutually agreed between the Contractor and ACSA, The Contractor shall put in place a "Hotline" (i.e. 24-hour telephonic support by product specialist) agreement with the relevant OEM. In this event the Contractor shall be responsible that such Hotline services are always operational and available, but all costs in this regard shall be carried by ACSA. The contractor shall NOT add any mark-up to any Hotline related expenses. A "Hotline" agreement shall typically ensure that problems relating to system controls are promptly rectified. It is intended that Hotline agreements will be in place with OEMs for PLC related controls and computerised control systems.

The Contractor will be responsible for providing staff which are sufficiently skilled and qualified for successful execution of the works. The Contractor shall always comply with the Minimum Staffing Schedule – as stipulated in the Annexes. This may be amended by mutual arrangement between ACSA and the Contractor from time to time.

The Contractor shall always remain responsible to ensure that the on-site staff compliment and maintenance regime is sufficient to maintain the service levels and system performance indicators as stipulated in the Annexes. Should the Contractor not be able to maintain adequate system performance indicators due to constraints caused by the Employer, it shall be timeously reported, in writing, to the Contract Manager. Refer to the Annexes for the required system performance indicators.

The Contractor will ensure that his/her staff compliment is of a sufficient quantity to allow for uninterrupted supply of labour in the event of his/her staff taking sick leave, paid leave and will allow for all staff related eventualities.

The Contractor shall continuously ensure that all staff is suitable, able, and competent for the duties required of them. The Contractor shall continuously ensure that all staff is knowledgeable and trustworthy of the Infrastructure Monitoring Control System activities/procedures in the area. The Contractor shall further ensure that any staff member reasonably suspected of partaking in criminal activities is immediately removed from site and his permit returned and/or cancelled at the ACSA Permit Office.

All work shall be performed within the required Response Times – as stipulated in the Annexes. Any breakdown impacting on operations shall be attended-to until restored to good reliable condition. No breakdown may be left unattended or incomplete for the next day or shift. All repair work shall carry a defect free guaranteed period of 3 months after completion of work.

All work shall be charged according to the Activity Schedule. However, no labour shall be charged for any non-scheduled work, repair work or other work when carried out by a scheduled maintenance shift.

The Contractor will be responsible for keeping spares levels up to enough and standard as to comply with the requirements of this contract and will charge ACSA accordingly. All spares will be charged according to the Activity Schedule. The Contractor shall arrange for the spares room. The Contractor shall keep the spares room in a neat and clean state and an updated spares list will always be available on-site. Spares will be neatly arranged and easily locatable via an appropriate index on the spares list. Wherever practicable, a notice will be placed on the rack, next to the spare part, as to where the part is used in the installation. A resource will be dedicated to ensuring that spares are effectively managed and scrapped parts and waste removed from site.

The Contractor will be responsible for holding all tools and/or special equipment that might be required for the execution of the works, either on site or on their premises to comply with the Response Time requirements of this contract. Any exclusion to the above should be clearly communicated in the returnable schedules when submitting the tender.

The Contractor shall ensure that, unless a special arrangement is made with the Service Manager, all senior staff members and on-site support staff is always immediately reachable via cell phone.

The Contractor shall ensure that all maintenance staff are issued with uniforms that will comply with a minimum requirement as agreed with the Service Manager from time to time. Current airport requirements are: safety shoes, track suit and a uniquely numbered reflective jacket (for easy identification via CCTV).

Location of the works

The Works are located at ORT International Airport at various locations – mostly in controlled areas. It is crucial for the Contractor to note that ORT International Airport is a National Key Point and governed as such.

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PROCUREMENT

Preferential procurement procedures

Requirements

The Contractor will respect OEM warrantees to the Employer always when procuring spare parts, products, or 3rd party services. It will be the Contractor's sole responsibility to ensure that OEM warranty requirements are adhered to always.

Where Contractors use or quote on spare parts of a lower quality than recommended by the OEM, or parts not recommended by the OEM, this shall be clearly indicated to the Service Manager on the quotation. This also implies that the Contractor must build relationships with the various key OEM's.

The Contractor must adhere to all airport requirements regarding fire, health and safety when procuring replacement conveyor belts and/or other equipment or spares.

No casual labour (i.e., "off the street" labour) may be employed by the Contractor unless pre-arranged with the Employer. Whenever this is required, the Contractor shall come to a suitable arrangement with the Employer regarding sourcing and screening of such individuals.

Subcontracting
No part of this Contract may be subcontracted unless with written approval from the Employer. the Employer shall be under no obligation to grant such approval. Should any part of this Contract be subcontracted, the Contractor will be responsible for all Works (or failure to affect the Works) as if it were done so by the Contractor.

MANAGEMENT

Management of the works

Particular / generic specifications

All work shall conform to all relevant SANS standards, OHS ACT regulations and all other legislation that might be relevant to this Contract and the execution thereof.

All work shall be carried out in accordance with prevailing industry norms and best practice and will always comply with OEM requirements.

Planning and programming

All maintenance work shall be scheduled, and a roster presented to the Service Manager at the end of the preceding month. Work shall be scheduled in a manner as not to interfere with any normal airport operations.

Normal airport operational hours shall be **from 04:00 to 24:00** for every day of the year.

As a **minimum** requirement, the Contractor shall roster **scheduled** preventative maintenance activities

Maintenance teams will attend to scheduled preventative maintenance, non-scheduled maintenance, and breakdown maintenance. The Contractor must ensure that no scheduled maintenance work is carried over to the following week.

All Preventative Maintenance shall be scheduled, at least, to the requirements of the annexures (The Contractor must ensure that sufficient allowances for all these items are made with his/her pricing in the Activity Schedule.)

Methods and procedures

The Contractor must accept and respect the fact that the Airport is continuously undergoing construction and improvement and that a variety of stakeholders are involved in ACSA's business. Therefore, within reason and with prior arrangement with the Contractor, ACSA might require the following from time to time:

- Assisting with emergency repairs on Infrastructure Monitoring Control System
- Assisting with airport operations Re-scheduling of work to accommodate other contractors
- Allowing access and providing assistance to OEM suppliers to correct defects on equipment and/or systems
- Checking on other contractors to reduce risk to Infrastructure Monitoring Control System
- Pointing out services to consultants or other contractors
- Providing access to other contractors
- Attending co-ordination and planning meetings

- Removing rubble and/or equipment from site
- Training of ACSA operators and/or technicians
- Training of check-in of Infrastructure Monitoring Control System staff
- Providing of system data and/or statistics to ACSA
- Recommending improvements on maintenance procedures
- Recommending improvements on operational procedures
- Co-operating with ACSA Security relating to security issues

The ACSA Service Manager may instruct operational and works procedures to the Contractor as might be required from time to time. The Contractor will instruct his/her staff accordingly and implement measures to ensure that these procedures are strictly adhered to.

Quality plans and control

All work must be executed in accordance with prevailing industry norms and standards relating to quality. In this regard, the Contractor will be expected to draft quality plans for the Service Manager from time to time. Emphasis must be on improving system reliability and on ensuring that rostered maintenance work is indeed performed as and when required.

Environment

The Contractor will keep noise and dust levels to a minimum. At no time shall his/her work result in nuisance, interference, or danger to the public or any other person working at the Airport.

At no time shall the Contractor:
- allow any pollutive or toxic substance to be released into the air or storm water systems
- interfere with, or put at risk, the functionality of any system or service
- cause a fire or safety hazard

Format of communications

Work instructions, daily check sheets, monthly maintenance reports, quarterly signal testing reports, inventory reports, breakdown reports, exception reports, etc. will all be in a format as agreed with the Service Manager.

Key personnel

A schedule of key personnel to this Contract (as per the Schedules) will be provided to the Service Manager at commencement of this Contract. This will, as a minimum, include all persons from technician level to management level. For the full duration of this Contract, none of these persons will be replaced by a person of lesser ability or qualification. All on-site staff leaves shall be reported to and agreed upon with the Service Manager.

Management meetings

The Contractor will be expected to attend meetings relating to maintenance, operations, contract management and other issues that may arise from time to time. As far as is practicable, the Contractor will make all required persons available for these meetings. The Contractor shall not submit claims for payment for staff attending any of these meetings.

Electronic payments

The Contractor should arrange with ACSA's finance department for making all payments electronically.

Daily records

The Contractor shall keep accurate daily records of staff attendance, maintenance work, safety inspections and exception reports. Records shall be available for scrutiny by the Service Manager at any time. All records shall be in a format as agreed with the Service Manager.

Monthly reports

When invoicing, the Contractor shall ensure that all required reports for the corresponding month are attached to the monthly invoice. This will include monthly reports on:

1. system availability (averaged per week)
2. maintenance work (including % of scheduled maintenance work completed)
3. daily checks performed
4. maintenance plan for the next month
5. the latest spares inventory
6. Asset register up to date including equipment data
7. Outstanding maintenance issues and action plan to resolve

The contractor shall keep copies of all reports for at least 3 years. All reports shall be in a format as agreed with the Service Manager from time to time.

Permits

The Contractor shall not be compensated for costs relating to ACSA required permits, or for labour/time spent in obtaining it. An allowance must be made in the Activity Schedule in this regard.

The Contractor must ensure that he/she is, always, familiar with ACSA's safety and security requirements relating to permits in order for no work to be delayed as a result thereof. This will include the permit application process.

Note that (within reason) the Contractor will have no claim against ACSA if a permit request is refused.

The following table is not all inclusive, but is provided for illustration purposes:

Permit	**Required by/for**	**Department**
AVOP – Airside Vehicle Operator permit	All drivers of vehicles on airside	ACSA Safety
Airside Vehicle Permit	All vehicles that enter airside	ACSA Safety
Basement Parking permit	All vehicles allowed to enter the delivery basement	ACSA Parking
Personal permit	All persons employed on the airport	ACSA Security

Cell phone permit	All persons taking cell phones to airside	ACSA Security
Lap top permit	All persons taking lap top computers to airside	ACSA Security
Camera permit	All persons taking cameras or camera equipment to airside	ACSA Security
Hot Works Permit	All welding and/metal cutting work	ACSA Safety

Proof of having attended the airside induction training course is required for all personal permit applications. Persons applying for an AVOP must provide proof of having attended an AVOP course. Fees are levied for these courses. Fees are further levied for all permit renewals and refresher courses - where applicable.

Proof of compliance with the law

The Service Manager may at any time request from the Contractor reasonable proof that the Contractor is in compliance with a law or regulation.

Insurance provided by the employer
Refer to General Conditions of Contract

Health and safety

Health and safety requirements and procedures

The Service Manager shall be entitled to fine the Contractor an amount of R2000.00 for each non-conformance to Health and Safety matters. This shall not transfer any of the Contractor's responsibilities in this regard to the Employer by any means.

The Contractor shall be fully responsible for compliance to the Occupational Health and Safety Act for all persons, equipment and installations relating to this Contract. The Contractor is expected to sign the undertaking in this regard as attached in the annexes.

It shall be the Contractor's responsibility to ensure that all relevant labour and safety legislation is adhered to in scheduling staff.

All persons on company premises shall obey all health and safety rules, procedures, and practices. In particular, NO SMOKING signs and the prohibition of the carrying of smoking materials in designated areas shall always be obeyed. A copy of the Safety Rules booklet is available on request from the ACSA Safety Department.

All the applicable requirements of the Occupational Health and Safety Act (1993) and Regulations and any amendments thereto, shall be met. Where the OHS Act prescribes certification of competency of persons performing certain tasks, proof of such certification shall be provided to the Service Manager.

The contractor's Workmen's Compensation fees must be up to date. A copy of the Contractor's WCA registration shall be produced on request.

The following areas in the company are declared as "HOT WORKS PERMIT" areas:

All airside areas

All basement areas

All areas accessible to the public

All enclosed areas

The terminal building

Any process in the above-mentioned areas involving open flames, sparks, or heat shall be authorised by the issue of a permit to work - obtainable from the ACSA Safety department. Any work done under the protection of a permit to work shall be in strict compliance with every prescription regarding the permit.

Safety equipment shall be used where applicable (e.g. safety, goggles, boots, harness, etc.) The Contractor, at his/her own expense shall provide such equipment, for his/her employees. The Contractor shall apply the necessary discipline and control to ensure compliance by his workers.

All Contractors must ensure that his/her employees are familiar with the existing emergency procedures and must co-operate in any drills or exercises, which might be held. Emergency / fire equipment and extinguishers shall not be obstructed at any time

No person shall perform an unsafe / unhygienic act or operation whilst on Company premises.

No unsafe/dangerous equipment or tools may be brought onto or used on Company premises. The Company reserves the right to inspect all equipment/tools at any time and to prevent/prohibit their use, without any penalty to the Company and without affecting the terms of the Contract in any way.

The Company reserves the right to act in any way to ensure the safety/security of any persons, equipment or goods on its premises and will not be liable for any costs or loss evoked by the action. This includes the right to search all vehicles and persons entering, leaving or on the premises and to inspect any parcel, package, handbag, and pockets. Persons who are not willing to permit such searches may not bring any such items or vehicles onto the premises.

The Contractor shall maintain good housekeeping standards in the area where he is working for the duration of the contract.

At no time must the Contractor interfere with, or put at risk, the functionality of any Sprinklers and/or fire prevention system. Care must also be taken so as to prevent fire hazards.

The Contractor is required to issue all staff with standard uniforms. This shall as a minimum include safety shoes, overalls (clearly marked with Contractor's company logo) and numbered reflective jackets (as per Airport requirements). All costs relating to uniforms shall be for the Contractor's account.

Cell phones and two-way radios
Use of cell phones on airside is **not** permitted unless the user is in possession of an appropriate Airport permit for the device. Cell phone permit issuing authority lies with the ACSA Security department.

The Contractor will **not** be allowed to use two-way radios at the Airport unless these radios are of the type, model and frequency range as approved by the ACSA IT department.

Protection of the public
The Contractor shall take special care in order not to harm or endanger the public in any way. Work shall be sufficiently hoarded and guarded in order to safeguard children and the general public from injury relating to machinery, work or other.

Barricades and lighting
Where hoarding, barricades or lighting is required in the execution of the Works, the Contractor shall provide same at his/her own expense. Hoarding, barricades, and lighting shall comply with industry accepted norms and standards and may not be used for purposes of advertising or any other purpose than safeguarding the Works.

C3.2.1 Definition of a Targeted Enterprise

A registered built environment professional firm contracted (either by Joint Venture, partnership or sub-contracting) by the tenderer to perform a specified percentage of work stated in the Contract Data under the guidance of the tenderer and which complies with the following:

a) does not share equity holding with the tenderer; and
b) is registered in terms of the Company's Act, 2008 (Act No. 71 of 2008) or Close Corporation Act, 1984 (Act No. 69 of 1984); and
c) is registered with the South African Revenue Service; and
d) is at least an Exempted Micro Enterprise (EME) with a B-BBEE Status of "Level One "Contributor", as defined in the Amended Codes of Good Practice for measuring Broad-based Black Economic Empowerment (published in Government Gazette No. 36928 on 11 October 2013) or?
e) is at least a Qualifying Small Enterprise (QSE) with a B-BBEE Status of "Level One? Contributor", as defined in the Amended Codes of Good Practice for measuring Broad-based Black Economic Empowerment (published in Government Gazette No.36928 on 11 October 2013).
f) has entered into a written relationship agreement of co-operation and assistance with the tenderer for the duration of the contract.

C3.2.2 Participation of Targeted Enterprise(s)

The involvement of Targeted Enterprise(s) in the project management, manufacturing and testing is a mechanism to broaden the economic share of the national spend on engineering services and a means to hasten and improve the transfer of technical skills.

The percentage specified for Targeted Enterprise shall be applicable to the management, manufacturing, and testing aspects of the project.

C3.2.3 Transformation monthly reporting

The tenderer shall report monthly and provide the following documents:

- The skill development or transferred during the month in question and
- The progress of the targeted enterprises skill development.
- Proof of payment to the target enterprise

C3.2.4 Sanctions for non-compliance with the transformation proposal

In the event that the tenderer does not meet the specified target of work value to the Targeted Enterprise, ACSA shall levy a low service damage. The low service damages payable is 50% of the value by which the cumulative value of the payments to the Targeted Enterprise fails to meet the specified percentage. The Targeted Enterprise(s) shall not be allowed to sub-contract any work that forms part of the specified participation percentage.

ANNEXES to C3 (Service information)

Title	Annex number
Schedule of Equipment	Annex A
Service Level Agreement	Annex B
OHS Act Appointment by Contractor	Annex C
Environmental terms and conditions	Annex D
Schedule of Tools and Special Equipment	Annex E
Contract start-up proposal (Scope of Programme)	Annex F
Resource proposal	Annex G
Suggested Maintenance Programme	Annex H
Site Information	Annex I

ANNEX A

Schedule of Equipment

Some of this equipment's might be modified/refurbished/replaced during the contract term, this must be taken into consideration and does not constitute a new scope)

Air Bridges (Some of this equipment might be modified/refurbished/replaced during the time of this contract, this must be taken into consideration in the maintenance plan)				
	To be in the Info Button			
Device Name	Name	Location Description	Gate	Item no
PLB_C1	**NKI Avionridge**	Charlie Apron C1	D1	1
PLB_C2	**NKI Avionridge**	Charlie Apron C2	D2	2
PLB_C3	**NKI Avionridge**	Charlie Apron C3	D3	3
PLB_C4	**NKI Avionridge**	Charlie Apron C4	D4	4
PLB_C5	**NKI Avionridge**	Charlie Apron C5	D5	5
PLB_C6	**NKI Avionridge**	Charlie Apron C6	D6	6
PLB_C7	**NKI Avionridge**	Charlie Apron C7	D7	7
PLB_C8	**NKI Avionridge**	Charlie Apron C8	D8	8
PLB_A1R_A	**Jetway FMC**	Alpha Apron A1R A	A15	9
PLB_A1R_B	**Jetway FMC**	Alpha Apron A1R B	A15	10
PLB_A1_A	**Jetway FMC**	Alpha Apron A1 A	A14	11
PLB_A1_B	**Jetway FMC**	Alpha Apron A1 B	A14	12
PLB_A2_A	**Jetway FMC**	Alpha Apron A2 A	A11	13
PLB_A2_B	**Jetway FMC**	Alpha Apron A2 B	A11	14
PLB_A3_A	**Jetway FMC**	Alpha Apron A3 A	A06	15
PLB_A3_B	**Jetway FMC**	Alpha Apron A3 B	A06	16
PLB_E1_A	**Jetway FMC**	Echo Apron E1 A	A18	17
PLB_E1_B	**Jetway FMC**	Echo Apron E1 B	A18	18
PLB_E3_A	**Jetway FMC**	Echo Apron E3 A	A16	19
PLB_E3_B	**Jetway FMC**	Echo Apron E3 B	A16	20
PLB_E6_A	**Jetway FMC**	Echo Apron E6 A	A12	21
PLB_E6_B	**Jetway FMC**	Echo Apron E6 B	A12	22
PLB_E9_A	**Jetway FMC**	Echo Apron E9 A	A09	23
PLB_E9_B	**Jetway FMC**	Echo Apron E9 B	A09	24
PLB_E12_A	**Jetway FMC**	Echo Apron E12 A	A07	25
PLB_E12_B	**Jetway FMC**	Echo Apron E12 B	A07	26
PLB_A4_A	**Jetway Aerotech**	Alpha Apron A4 A	A05	27
PLB_A4_B	**Jetway Aerotech**	Alpha Apron A4 B	A05	28
PLB_A5	**Jetway Aerotech**	Alpha Apron A5	A04	29
PLB_A6_A	**Jetway Aerotech**	Alpha Apron A6 A	A03	30
PLB_A6_B	**Jetway Aerotech**	Alpha Apron A6 B	A03	31
PLB_A7	**Jetway Aerotech**	Alpha Apron A7	A02	32
PLB_A8_A	**Jetway Aerotech**	Alpha Apron A8 A	A01	33
PLB_A8_B	**Jetway Aerotech**	Alpha Apron A8 B	A01	34
PLB_A9	**Jetway Aerotech**	Alpha Apron A9	C9	35
PLB_A10	**Jetway Aerotech**	Alpha Apron A10	C10	36
PLB_A11	**Jetway Aerotech**	Alpha Apron A11	C11	37

PLB_A12	**Jetway Aerotech**	Alpha Apron A12	C12	38
PLB_A13	**Jetway Aerotech**	Alpha Apron A13	C13	39

People Movers (Escalators, Elevators and Travellators) (Some of this equipment might be modified/refurbished/replaced during the time of this contract, this must be taken into consideration in the maintenance plan)			
Device Name	**Proposed Name**	**Location Description**	**Item no**
ESC-AE 3	Escalator	Terminal A	1
ESC-AE 4	Escalator		2
ESC-AE 9	Escalator		3
ESC-AE 10	Escalator		4
ESC-AE 11	Escalator		5
ESC-AE 12	Escalator		6
ESC-AE 15	Escalator		7
ESC-AE 16	Escalator		8
ESC-AE 17	Escalator		9
ESC-AE 18	Escalator		10
ESC-AE 34	Escalator		11
ESC-AE 35	Escalator		12
ESC-E 19	Escalator		13
ESC-E 20	Escalator		14
ESC-E 36	Escalator		15
ESC-E 37	Escalator		16
ESC-E 41	Escalator		17
ESC-E 42	Escalator		18
TRV-A3	Travellator		19
TRV-A4	Travellator		20
TRV-A5	Travellator		21
TRV-D4	Travellator		22
Elevator 2A	Elevator		23
Elevator 2B	Elevator		24
Elevator 32	Elevator		25
Elevator 33	Elevator		26
Elevator 34A	Elevator		27
Elevator 34B	Elevator		28
Elevator 35A	Elevator		29
Elevator 35B	Elevator		30
Elevator 5A	Elevator		31
Elevator 5B	Elevator		32
Elevator 6	Elevator		33
Elevator 7A	Elevator		34
Elevator 7B	Elevator		35
Elevator 14A	Elevator		36
Elevator 14B	Elevator		37
Elevator 15A	Elevator		38
Elevator 15B	Elevator		39

Elevator 16A	Elevator		40
Elevator 16B	Elevator		41
Elevator 17A	Elevator		42
Elevator 17B	Elevator		43
Elevator 18A	Elevator		44
Elevator 18B	Elevator		45
Elevator 20A	Elevator		46
Elevator 20B	Elevator		47
Elevator 37	Elevator		48
Elevator VIP1	Elevator		49
Elevator VIP2 A1	Elevator		50
TRV-IPM 01	Travellator	**Terminal A - Pier -**	51
TRV-IPM 02	Travellator		52
TRV-IPM 03	Travellator		53
TRV-IPM 04	Travellator		54
TRV-IPM 05	Travellator		55
TRV-IPM 06	Travellator		56
TRV-IPM 07	Travellator		57
TRV-IPM 08	Travellator		58
TRV-IPM 09	Travellator		59
TRV-IPM 10	Travellator		60
TRV-IPM 11	Travellator		61
ESC-IPE 01	Escalator		62
ESC-IPE 02	Escalator		63
ESC-IPE 03	Escalator		64
ESC-IPE 04	Escalator		65
ESC-IPE 05	Escalator		66
ESC-IPE 06	Escalator		67
Elevator IPL 01	Elevator		68
Elevator IPL 02	Elevator		69
Elevator IPL 03	Elevator		70
Elevator IPL 04	Elevator		71
ESC-ME 1	Escalator	MSP 1	72
ESC-ME 2	Escalator		73
ESC-ME 3	Escalator		74
ESC-ME 4	Escalator		75
ESC-ME 5	Escalator		76
ESC-ME 6	Escalator		77
ESC-ME 7	Escalator		78
ESC-ME 8	Escalator		79
ESC-ME 9	Escalator		80
ESC-ME 10	Escalator		81
ESC-ME 11	Escalator		82
ESC-ME 12	Escalator		83
ESC-ME 13	Escalator		84
ESC-ME 14	Escalator		85
ESC-ME 15	Escalator		86
ESC-ME 16	Escalator		87

Elevator ML1	Elevator		88
Elevator ML2	Elevator		89
Elevator ML3	Elevator		90
Elevator ML4	Elevator		91
Elevator ML5	Elevator		92
Elevator ML6	Elevator		93
Elevator ML7	Elevator		99
ESC-ME17	Escalator	MSP 2 -	100
ESC-ME18	Escalator		101
ESC-ME19	Escalator		101
ESC-ME20	Escalator		102
ESC-ME21	Escalator		103
ESC-ME22	Escalator		104
ESC-ME23	Escalator		105
ESC-ME24	Escalator		106
Elevator ML10	Elevator		107
Elevator ML11	Elevator		108
Elevator ML12	Elevator		109
Elevator ML13	Elevator		110
Elevator ML14	Elevator		111
Elevator ML8	Elevator		112
Elevator ML9	Elevator		113
MSPTA			
MSPTB			
ESC-E 8	Escalator	Terminal B	114
ESC-E 9	Escalator		115
ESC-E 10	Escalator		116
ESC-E 11	Escalator		117
ESC-E 12	Escalator		118
ESC-OE 1	Escalator		119
ESC-OE 2	Escalator		120
ESC-OE 3	Escalator		121
ESC-OE 4	Escalator		122
ESC-OE 5	Escalator		123
ESC-OE 6	Escalator		124
ESC-OE 7	Escalator		125
TRV-A6	Travellator		126
TRV-A7	Travellator		127
TRV-A8	Travellator		128
TRV-A9	Travellator		129
TRV-D5	Travellator		130
TRV-D7	Travellator		131
TRV-P 2	Travellator		132
TRV-P 3	Travellator		133
TRV-P 4	Travellator		134
TRV-P 5	Travellator		135
TRV-P 6	Travellator		136
TRV-P 7	Travellator		137

TRV-P 8	Travellator		138
TRV-P 9	Travellator		138
Elevator 1A	Elevator		140
Elevator 1B	Elevator		141
Elevator 2	Elevator		142
Elevator 3A	Elevator		143
Elevator 3B	Elevator		144
Elevator 4A	Elevator		145
Elevator 4B	Elevator		146
Elevator 5A	Elevator		147
Elevator 5B	Elevator		148
Elevator 6	Elevator		149
Elevator 7	Elevator		150
Elevator C1 Landside E	Elevator		151
Elevator C2 Airside E	Elevator		152
Elevator C3 Landside W	Elevator		153
Elevator C4 Airside W	Elevator		154
TRV-P 10	Travellator	Terminal B Pier	155
TRV-P 11	Travellator		156
TRV-P 12	Travellator		157
TRV-P 13	Travellator		158
TRV-P 14	Travellator		159
TRV-P15	Travellator		160
Elevator 01	Elevator		161
Elevator 02	Elevator		162
ESC-E1	Escalator	CTB -	163
ESC-E2	Escalator		164
ESC-E3	Escalator		165
ESC-E4	Escalator		166
ESC-E5	Escalator		167
ESC-E6	Escalator		168
ESC-E7	Escalator		169
ESC-E8	Escalator		170
ESC-E9	Escalator		171
ESC-E10	Escalator		172
ESC-E17	Escalator		173
ESC-E18	Escalator		174
ESC-E19	Escalator		175
ESC-E20	Escalator		176
ESC-E21	Escalator		177
ESC-E22	Escalator		178
ESC-E25	Escalator		179
ESC-E26	Escalator		180
ESC-E27	Escalator		181
ESC-E28	Escalator		182
ESC-E29	Escalator		183
ESC-E30	Escalator		184
ESC-E31	Escalator		185

ESC-E32	Escalator		186
ESC-E33	Escalator		187
ESC-E34	Escalator		188
Elevator 3	Elevator		189
Elevator 12	Elevator		190
Elevator 2A	Elevator		191
Elevator 2B	Elevator		192
Elevator 2C	Elevator		193
Elevator 4A	Elevator		194
Elevator 4B	Elevator		195
Elevator 4C	Elevator		196
Elevator 5A	Elevator		197
Elevator 5B	Elevator		198
Elevator 9A	Elevator		199
Elevator 9B	Elevator		200
Elevator 11A	Elevator		201
Elevator 11B	Elevator		202
Elevator 16	Elevator		203
Elevator 10A	Elevator		204
Elevator 10B	Elevator		205
Elevator 1A	Elevator		206
Elevator 1B	Elevator		207
Elevator 17A	Elevator		208
Elevator 17B	Elevator		209
Elevator 8A	Elevator		210
Elevator 8B	Elevator		211
Elevator 15A	Elevator		212
Elevator 15B	Elevator		213
Elevator 6A	Elevator		214
Elevator 6B	Elevator		215
ESC-A1 E35	Escalator	Terminal A (Arrival 1/Arrrival 2)	216
ESC-A1 E36	Escalator		217
ESC-A1 E37	Escalator		218
ESC-A1 E38	Escalator		219
Elevator 19 A1	Elevator		220

Pump Stations
(Some of this equipments might be modified/refurbished/replaced during the time of this contract, this must be taken in to consideration in the maintenance plan)

Device Name	Description	Location Description	Qty
Fire Water Pumpstation	Pumps	Terminal A	6
Sewerage Pump	Pumps	Terminal A	2
Storm water Pump	Pumps	Terminal A	2
Fox Dumping (Water Meter Connection)	Water Meter connection	Terminal A	1

Echo Water meters (Water meter Connection)	Water Meter connection	Terminal A	1
Waste water Tunnel	Pumps	Terminal A	2
Fox Sewerage	Pumps	Terminal A	2
CTB North	Pumps	CTB -	3
CTB South	Pumps	CTB -	3
Parking Drain Water Pumps	Pumps	Terminal B	2
Basement Sewerage	Pumps	Terminal B	2
Baggage Storm Water	Pumps	Terminal B	3
SwissPort Pumps	Pumps	Terminal B	2
Storm Water Tunnel Pumps	Pumps	Terminal B Pier	3
Sewerage Pumps	Pumps	Terminal B Pier	3
Booster Pump Station	Pumps	Other Location	3
ATNS Sewerage	Pumps	ATNS	2
Old Nursery	Pumps	Other Location	2

Ground Power Unit
(Some of this equipments might be modified/refurbished/replaced during the time of this contract, this must be taken in to consideration in the maintenance plan)

Device Name	Name	Location Description	Item no
GPU-A4	AXA2200 Compact Solid state GPU (180KVA)	Alpha Apron A4	1
GPU-A5	AXA2200 Compact Solid state GPU (180KVA)	Alpha Apron A5	2
GPUA6	AXA2200 Compact Solid state GPU (180KVA)	Alpha Apron A6	3
GPU-A7	AXA2400 Compact Solid state GPU (90KVA)	Alpha Apron A7	4
GPU-A8	AXA2400 Compact Solid state GPU (90KVA)	Alpha Apron A8	5
GPU-A9	AXA2400 Compact Solid state GPU (90KVA)	Alpha Apron A9	6
GPU-A10	AXA2400 Compact Solid state GPU (90KVA)	Alpha Apron A10	7
GPU-A11	AXA2400 Compact Solid state GPU (90KVA)	Alpha Apron A11	8
GPU-A12	AXA2400 Compact Solid state GPU (90KVA)	Alpha Apron A12	9
GPU-A13	AXA2400 Compact Solid state GPU (90KVA)	Alpha Apron A13	10

Fuel Hydrant System
(Some of this equipments might be modified/refurbished/replaced during the time of this contract, this must be taken in to consideration in the maintenance plan)

Device Name	Description	Location Description	Item no

DEPOT SAT	Fuel Hydrant Monitoring Station	Fuel Depot	1	HIMA Station
CHARLIE SAT	Fuel Hydrant Monitoring Station	Charlie Apron	2	HIMA Station
PIERSUB SAT	Fuel Hydrant Monitoring Station	Pier	3	HIMA Station
MAIN SAT	Fuel Hydrant Monitoring Station	Main Station	4	HIMA Station
ECHO SAT	Fuel Hydrant Monitoring Station	Echo Apron	5	HIMA Station
DELTA SAT	Fuel Hydrant Monitoring Station	Delta Apron	6	HIMA Station
DEPOT UPS	UPS	Fuel Depot	1	UPS
CHARLIE UPS	UPS	Charlie Apron	2	UPS
PIERSUB UPS	UPS	Pier	3	UPS
MAIN UPS	UPS	Main Station	4	UPS
ECHO UPS	UPS	Echo Apron	5	UPS
DELTA UPS	UPS	Delta Apron	6	UPS

Additional Info		
FUEL DEPOT	2 VALVES	
ALPHA APRON	1 VALVES	10 ESD
BRAVO APRON	1 VALVES	8 ESD
CHARLIE	4 VALVES	24 ESD
DELTA	2 VALVES	21 ESD
ECHO	8 VALVES	12 ESD

Vehicle Blockers - Super South/ North Gate 1& 2/ Jet Center/Perishable and ATNS Gate (Some of this equipment might be modified/refurbished/replaced during the time of this contract, this must be taken into consideration in the maintenance plan and does not constitute a new scope))			
Device Name	**Description**	**Location Description**	**Item no**
ENTRY	Vehicle Blocker	Super South/ North Gate 1& 2/ Jet Center/Perishable and ATNS Gate	1

EXIT	Vehicle Blocker	Super South/ North Gate 1& 2/ Jet Center/Perishable and ATNS Gate	2
POWER PACKS	Vehicle Blocker	Super South/ North Gate 1& 2/ Jet Center/Perishable and ATNS Gate	3

Hydrocarbon Facilities
(Some of this equipment might be modified/refurbished/replaced during the time of this contract, this must be taken into consideration in the maintenance plan and does not constitute a new scope)

Device Name	Proposed Name	Location Description	Item no
SW04 AE03	Hydrocarbon Monitoring		1
SW04 AE04	Hydrocarbon Monitoring		2
SW02 AE01	Hydrocarbon Monitoring		3
SW02 AE02	Hydrocarbon Monitoring		4
SW07 Actuator	Hydrocarbon Monitoring		5
Golf Hydro Carbon HSO1	Hydrocarbon Monitoring		6
Golf Hydro Carbon HSO2	Hydrocarbon Monitoring		7
Golf Hydro Carbon Actuator	Hydrocarbon Monitoring		8

Generators
(Some of this equipment might be modified/refurbished/replaced during the time of this contract, this must be taken in to consideration in the maintenance plan and does not constitute a new scope)

Device Name	Description	Location Description	Item no
Sub 1	Generator	Terminal B	1
Sub 11	Generator	Terminal Substations	2
Sub 13	Generator	CTB	3
Sub 5	Generator	Terminal A	4
Sub 9	Generator	Terminal B	5
Sub 2	Generator	Terminal A	6
Sub 8	Generator	MSP 1	7
Sub 10	Generator	Terminal B	8
Sub 12	Generator	CTB	9
Sub 14	Generator	Terminal A (Bus Terminal)	10
Sub 15	Generator	Msp 2	11
Sub 03left	Generator	Airfeild Substations	12
Sub 03right	Generator	Airfeild Substations	13
15/33	Generator	Airfeild Substations	14

21 Left	Generator	Airfeild Substations	15
21 Right	Generator	Airfeild Substations	16
ATNS Gates	Generator	Airfeild ATNS	17
New OPS	Generator	Other Locations	18
Sub 1 Freight	Generator	Cargo	19
New L bend	Generator	Airfeild New L-Band	20
Fuel Farm	Generator	Airfeild New L-Band	21

	AIRCRAFT GATES	Location
1	SAA AIRLINK	SAA
2	SAA Technical	SAA
3	Denel Aviation	Denel
4	Victor 5(V5)	Airside
5	Victor 4(V4)	Airside
6	Victor 3A/B (V3A/VB)	Airside
7	Victor 2 (V2)	Airside
9	Victor 1 (V1)	Airside

DB change Overs	
ASSET	**Location**
A1 DB 104B Change Over	**Alpha1**
A1 DB 104B Change Over Cute	**Alpha1**
A1 DB 105C Change Over	**Alpha1**
A1 DB 106B Change Over	**Alpha1**
A1 DB 106C Change Over	**Alpha1**
A1 DB 141B Change Over	**Alpha1**
A1 DB 142B Change Over	**Alpha1**
A1 DB 143B Change Over	**Alpha1**
A1 DB 201C Change Over	**Alpha1**
A1 DB 202B Change Over	**Alpha1**
A1 DB 202C Change Over	**Alpha1**
A1 DB 203B Change Over	**Alpha1**
A1 DB 204B Change Over	**Alpha1**
A1 DB 205B Change Over	**Alpha1**
A1 DB 205C Change Over	**Alpha1**
A1 DB 206C Change Over	**Alpha1**
A1 DB 502C Change Over	**Alpha1**
A1 DB 503B Change Over	**Alpha1**
A1 DB 503C Change Over	**Alpha1**
A1 DB 504B Change Over	**Alpha1**
A1 DB 504C Change Over	**Alpha1**
A1 Wire Centre 50 Change Over	**Alpha1**
A1 Wire Centre 51 Change Over	**Alpha1**
A1 Wire Centre 52 Change Over	**Alpha1**
A1 WC 53 Change Over	**Alpha1**
A1 Wire Centre 54 Change Over	**Alpha1**
A1 Wire Centre 54 Change Over Cute	**Alpha1**
A1 Wire Centre 55 Change Over	**Alpha1**
A1 Wire Centre 56 Change Over	**Alpha1**

A1 Wire Centre 58 Change Over	**Alpha1**
A1 Wire Centre 60 Change Over	**Alpha1**
A1 WC 61 Change Over	**Alpha1**
A1 WC 62 Change Over	**Alpha1**
CTB Baggage Core Room Change Over Alarm	**CTB**
CTB Core Room 1 Change Over Alarm	**CTB**
CTB Core Room 2 Change Over Alarm	**CTB**
CTB Cute 2 Change Over Alarm	**CTB**
CTB Cute 3 Change Over Alarm	**CTB**
CTB Cute 4 Change Over Alarm	**CTB**
CTB Cute 5 Change Over Alarm	**CTB**
CTB DB A01 Change Over Alarm	**CTB**
CTB DB A02 Change Over Alarm	**CTB**
CTB DB A05 Change Over Alarm	**CTB**
CTB DB A07 Change Over Alarm	**CTB**
CTB DB B1.1 Change Over Alarm	**CTB**
CTB DB B1.2.1 Change Over Alarm	**CTB**
CTB DB B1.3 Change Over Alarm	**CTB**
CTB DB B1.5 Change Over Alarm	**CTB**
CTB DB B2.4 Change Over Alarm	**CTB**
CTB DB B2.5 Change Over Alarm	**CTB**
CTB DB B2.4 Change Over Alarm	**CTB**
CTB DB UR4 Change Over Alarm	**CTB**
CTB DB 1.1 Change Over Alarm	**CTB**
CTB DB 1.2.1 Change Over Alarm	**CTB**
CTB DB 1.3 Change Over Alarm	**CTB**
CTB DB 1.5 Change Over Alarm	**CTB**
CTB DB 1.7 Change Over Alarm	**CTB**
CTB DB 2.1 Change Over Alarm	**CTB**
CTB DB 2.4 Change Over Alarm	**CTB**
CTB DB 2.7 Change Over Alarm	**CTB**
CTB DB 3.5 Change Over Alarm	**CTB**
CTB DB 3.7 Change Over Alarm	**CTB**
CTB Substation 12 Change Over Alarm	**CTB**
CTB Substation 13 Change Over Alarm	**CTB**
CTB Wire Centre 1 Change Over Alarm	**CTB**
CTB Wire Centre 10 Change Over Alarm	**CTB**
CTB Wire Centre 11 Change Over Alarm	**CTB**
CTB Wire Centre 12 Change Over Alarm	**CTB**
CTB Wire Centre 13 Change Over Alarm	**CTB**
CTB Wire Centre 14 Change Over Alarm	**CTB**
CTB Wire Centre 15 Change Over Alarm	**CTB**
CTB Wire Centre 16 Change Over Alarm	**CTB**
CTB Wire Centre 2 Change Over Alarm Baggage Basement	**CTB**
CTB Wire Centre 3 Change Over Alarm	**CTB**
CTB Wire Centre 3.1 Change Over Alarm	**CTB**
CTB Wire Centre 4 Change Over Alarm	**CTB**
CTB Wire Centre 5 Change Over Alarm	**CTB**
CTB Wire Centre 6 Change Over Alarm	**CTB**
CTB Wire Centre 7 Change Over Alarm	**CTB**
CTB Wire Centre 8 Change Over Alarm	**CTB**
CTB Wire Centre 9 Change Over Alarm	**CTB**
International Pier DB R1 Change Over Alarm	**CTB**

International Pier DB R2 Change Over Alarm	**CTB**
International Pier DB R3 Change Over Alarm	**International Pier**

ANNEX B

Service Level Agreement

Operational hours

Normal airport operational hours shall be **from 04:00 to 24:00** for every day of the year but will be confirmed/amended by the Service Manager from time to time. The Contractor must allow for sufficient after-hours work in order for scheduled work not to interfere with airport operations.

Minimum Staffing Schedule

The Contractor must always maintain the following minimum staff available and should price accordingly:

Item	Description	Hours
	Site Manager	07:30 to 16:00
	Technician	07:30 to 16:00

The Contractor must have additional resources available to attend to lengthy breakdowns or breakdowns of a specialised nature.

It shall be the Contractor's responsibility to ensure that all relevant labour and safety legislation is adhered to in scheduling staff.

The Contractor shall schedule staff to complete the preventative and corrective maintenance schedule accordingly. The Tenderer must ensure that sufficient allowance for all these items is made for in his/her pricing in the Activity Schedule.

Response Times

All breakdowns **during normal working hours** shall be responded to within 45 minutes. Response time shall be measured as the time taken from reporting the call, to the technician arriving at the relevant piece of equipment.

All breakdowns **after working hours** shall be responded to within 1.5 hours. Response time shall be measured as the time taken from reporting the call, to the technician arriving at the relevant piece of equipment.

Primary Equipment (Fuel and Fire Water Pump) breakdowns **during normal working hours** shall be responded to within 30 minutes. Response time shall be measured as the time taken from reporting the call, to the technician arriving at the relevant piece of equipment.

Primary Equipment (Fuel and Fire Water Pump) breakdowns **after working hours** shall be responded to within 1.5 hours. Response time shall be measured as the time taken from reporting the call, to the technician arriving at the relevant piece of equipment

Any breakdown impacting on operations shall be attended-to until restored to good reliable condition. This implies that no breakdown may be left unattended or incomplete for the next day or shift.

ACSA will hold the Contractor liable for any costs incurred by any party as a result of negligence or unreasonable poor performance by the Contractor including excessive time taken to effect repairs.

Closure Duration/Repair Time

Closure duration is defined as the time elapsed since the maintenance call was logged at the IMC to the time the contractor reports to the IMC that the problem has been resolved.

95% of all breakdowns will be restored to good working condition within 2 Hours during **normal working hours** and within 3 Hours **after hours**.

Defect Free Period

The defect free period is defined as that period following completion of the work where no defect directly associated with the Contractors workmanship is detected.

Benchmarks

a. Preventative maintenance, defect free period will be no less than the interval between preventive maintenance. This implies that the repair of any failure as detailed will be for the contractors own account should the failure having occurred as a direct result of the contractor's deficiency.
b. Corrective or breakdown maintenance, defect free period will be no less than 90 days.
c. Project maintenance, the defect free period will be no less than 12 months

Notification of Penalties

The Service Manager will notify the contractor in writing of any penalties and any claims directed at ACSA as a result of the equipment being unavailable, will be for the account of the Contractor.

Failure to meet service levels

a. **Response time:** Consistent non-compliance to contracted response times for three consecutive months will result in a penalty of R2000.00 (two thousand rand) for each month after the third month until the specific service level is achieved.
b. **Closure duration/Repair Time:** Consistent non-compliance time to contracted response time for three consecutive months will result in a penalty of R2000.00 (one thousand rand) for each month after the third month until the specific service level is achieved.
c. **Defect free period:** Any corrective work resulting directly from defect workmanship will be the responsibility of the contractor. Where the contractor fails to correct the defect within 48 hours, ACSA reserves the right to use an alternative contractor, the cost of which will be withheld from outstanding invoice amounts.
D. **Safety and housekeeping:** It is expected that Contractors will maintain high standards of safety and housekeeping to safeguard passengers, personnel and facilities. No infringements will be allowed during the period of this contract. Should a safety and housekeeping infringement be committed, a penalty of R 2000.00 (two thousand rand) will be retained from the following months invoice. Should a specific individual be guilty of all the infringements, ACSA reserves right to instruct the Contractor to remove the individual from site.

Non-Conformance Report

In the event of any irregularity concerning contractor performance the report attached in the following page will be completed by an ACSA representative and signed by the respective contractor's representative.

Contractor name			
Contract/Service description			
Contract number		**Reference document**	
Number of non-conformances already issued against the contractor			
Location of Non-conformance			
Description of Non-conformance:			
ACSA Representative's Department			
ACSA Representative Name	**Signature**	**Date**	**Response date required**
ACSA Representative's Email Address	**Telephone**	**Cell**	**Facsimile**

CONTRACTOR'S REPRESENTATIVE: Acknowledgement of understanding of above Non Conformance			
Recipient/Reps Name	Signature	Title	Date
Email address	Telephone	Cell	Facsimile

contractor's Response: (A) Cause	(B) Immediate Corrective Action	(C) Action to Prevent Recurrence
(D) Corrective Action Implementation Date:	(E) Preventing Recurrence Implementation Date:	

Recipient/Reps Name	Signature	Title	Date

ACSA Representative: Evaluation of Proposed Corrective Action Accepted ☐ Rejected ☐

Comments

Name	Signature	Title	Date

CONTACTOR REPRESENTATIVE: Corrective Action Implemented to ACSA and contract requirements			
Recipient/Reps Name	Signature	Title	Date Implemented

ACSA Representative: Follow up and close out		Accepted ☐	Rejected ☐
Comments			
Name	Signature	Title	Date

NON CONFORMANCE REPORT (NCR) PROCESS

1 The ***ACSA representative*** notices any irregularity concerning contractor performance, quality, deviation from contract, etc. and fills out this form.

2 The ***ACSA representative*** completes the first part of the form and issues it directly to the ***Contractor's representative.***

3 The ***Contractor's representative*** signs acceptance and understanding of the NCR

4 The ***ACSA representative*** gives a copy of this signed NCR to the M&E manager's office for filing and noting***.***

5 The ***Contractor's representative*** informs his relevant internal management of the NCR and compiles a response indicating (A) Cause, (B) Corrective Action, (C) Action to Prevent Recurrence, (D) Corrective Action Implementation Date and (E) Action to Prevent Recurrence Implementation Date.

6 The ***Contractor's representative*** submits the response e-mail / fax .to the ***ACSA representative*** for evaluation of the Proposed Corrective Action Response by completing the relevant sections before carrying out the Corrective Action.

7 The ***ACSA representative*** informs the ***Contractor's representative*** of the result of the evaluation, by responding via e-mail / fax.

8 Note: If the response is not adequate, the ***Contractor's representative*** must resubmit a solution.

9 Upon completion of the corrective action and verification thereof, the ***Contractor's representative*** **then** informs the ***ACSA representative*** by responding via e-mail / fax that the corrective action has been carried out and is ready for inspection.

10 The ***ACSA representative's*** relevant personnel, carries out a check on the Corrective Action, as well as the Action to Prevent Recurrence and if found to be conforming to requirements, closes out the NCR.

11 The ***ACSA representative*** returns the concluding results to the ***Contractor's representative*** via e-mail / fax.

12 If the original situation still exists, and the NCR cannot be closed out, the ***ACSA representative*** or relevant personnel raises a new NCR, and the same procedure as above is repeated.

13 Contractors to note that inadequate response to these NCRs, repeated NCRs issues against the contractor (3 repetitions is unacceptable in any one contract period) or non-acceptance of the contractors corrective action by ACSA may lead to cancellation of the contract.

14 These NCRs may also be used as an indicator of poor performance by a contractor and may affect the adjudication of subsequent tenders to a contractor.

Note: All parties shall ensure that no delays are caused in the above chain of events.
The shaded areas are to be completed by the ***Contractor's representative***

MAINTENANCE RECORD SHEETS

When maintenance is performed record sheets must be completed and signed off by the Technician.

These record sheets must be stored for the duration of the contract and should be available for inspection at any time. **The lack of complete history files will result in immediate cancellation of the contract.**

All record sheets, job cards, history reports etc. will stay the property of ACSA and should be available on request. At the end of the contract period a complete set of documentation must be handed over to ACSA.

The contractor shall further provide copies of these record sheets to ACSA service manager by the fifth day of every month. **No money will be paid out if record sheets are not handed in.**

ANNEX C

OHS ACT Appointment by Contractor

OCCUPATIONAL HEALTH AND SAFETY AGREEMENT
IN TERMS OF SECTION 37(2) OF THE OCCUPATIONAL HEALTH & SAFETY ACT (ACT 85 Of 1993)
& CONSTRUCTION REGULATION 5.1(k)

OBJECTIVES

To assist Airport Company South Africa (ACSA) to comply with the requirements of:

1. The Occupational Health & Safety (Act 85 of 1993) and its regulations and

2. The Compensation for Occupational Injuries & Diseases Act (Act 130 of 1993) also known as the (COID Act).

To this end an Agreement must be concluded before any contractor/ subcontracted work may commence

The parties to this Agreement are:

Name of Organization: **AIRPORTS COMPANY SOUTH AFRICA** **O R TAMBO INTERNATIONAL AIRPORT**
Physical Address: **Airport Company South Africa** **O. R. Tambo International Airport** **ACSA Building, 4th Floor**

Hereinafter referred to as "Client"

Name of organisation:
Physical Address

Hereinafter referred to as "the Mandatary/ Principal Contractor"

MANDATORY'S MAIN SCOPE OF WORK

To be completed by contractor

GENERAL INFORMATION FORMING PART OF THIS AGREEMENT

1. The Occupational Health & Safety Act comprises of SECTION 1-50 and all un-repealed REGULATIONS promulgated in terms of the former Machinery and Occupational Safety Act No.6 of 1983 as amended as well as other REGULATIONS which may be promulgated in terms of the Act and other relevant Acts pertaining to the job in hand.
2. "Mandatary" is defined as including as agent, a principal contractor or a contractor for work, but WITHOUT DEROGATING FROM HIS/HER STATUS IN HIS/HER RIGHT AS AN EMPLOYER or user of the plant
3. Section 37 of the Occupational Health & Safety Act potentially punishes Employers (PRINCIPAL CONTRACTOR) for unlawful acts or omissions of Mandataries (CONTRACTORS) save where a Written Agreement between the parties has been concluded containing

arrangements and procedures to ensure compliance with the said Act BY THE MANDATARY.

4. All documents attached or refer to in the above Agreement form an integral part of the Agreement.
5. To perform in terms of this agreement Mandataries must be familiar and conversant with the relevant provisions of the Occupational Health & Safety Act 85 of 1993 (OHS Act) and applicable Regulations.
6. Mandatories who utilize the services of their own Mandatories (contractors) must conclude a similar Written Agreement with them.
7. Be advised that this Agreement places the onus on the Mandatary to contact the CLIENT in the event of inability to perform as per this Agreement.
8. This Agreement shall be binding for all work the Mandatary undertakes for the client.
9. All documentation as per the Safety checklist including a copy of the written Construction Manager appointment in terms of construction regulation 8, must be submitted 7 days before work commences.

THE UNDERTAKING

The Mandatary undertakes to comply with:

INSURANCE

1. The Mandatary warrants that all their employees and/or their contractor's employees if any are covered in terms of the COID Act, which shall remain in force whilst any such employees are present on the Client's premises. A letter is required prior commencing any work on site confirming that the Principal contractor or contractor is in good standing with the Compensation Fund or Licensed Insurer.

2. The Mandatary warrants that they are in possession of the following insurance cover, which cover shall remain in force whilst they and /or their employees are present on the Client's premises, or which shall remain in force for that duration of their contractual relationship with the Client, whichever period is the longest.

    - Public Liability Insurance Cover as required by the Subcontract Agreement.

    - Any other Insurance cover that will adequately makes provision for any possible losses and/or claims arising from their and /or their Subcontractors and/or their respective employee's acts and/or omissions on the Client's premises.

COMPLIANCE WITH THE OCCUPATIONAL HEALTH &SAFETY ACT 85 OF 1993

The Mandatary undertakes to ensure that they and/or their subcontractors if any and/or their respective employees will always comply with the following conditions:

1. All work performed by the Mandatary on the Client's premises must be performed under the close supervision of the Mandatary's employees who are to be trained to understand the hazards associated with any work that the Mandatary performs on the Client's premises.
2. The Mandatary shall be assigned the responsibility in terms of Section 16(1) of the OHS Act 85 of 1993, if the Mandatary assigns any duty in terms of Section 16(2), a copy of such written assignment shall immediately be forwarded to the Client.
3. The Mandatary shall ensure that he/she familiarise himself/herself with the requirements of the OHS Act 85 of 1993 and that s/he and his/her employees and any of his subcontractors comply with the requirements.
4. The Mandatary shall ensure that a baseline risk assessment is performed by a competent person before commencement of any work in the Client's premises. A baseline risk assessment document will include identification of hazards and risk, analysis and evaluation of the risks and hazards identified, a documented plan and safe work procedures to mitigate, reduce or control the risks identified, and a monitoring and review plan of the risks and hazards.
5. The Mandatary shall appoint competent persons who shall be trained on any Occupational Health & Safety aspect pertaining to them or to the work that is to be performed.
6. The Mandatary shall ensure that discipline regarding Occupational Health & Safety shall be strictly enforced.
7. Any personal protective equipment required shall be issued by the Mandatary to his/her employees and shall be worn at all times.
8. Written safe working practices/procedures and precautionary measures shall be made available and enforced and all employees shall be made conversant with the contents of these practises.
9. No unsafe equipment/machinery and/or articles shall be used by the Mandatary or contractor on the Client's premises.
10. All incidents/accidents referred to in OHS Act shall be reported by the Mandatary to the Provincial Director: Department of Labour as well as to the Client.
11. No user shall be made by the Mandatary and/or their employees and or their subcontractors of any of the Client's machinery/article/substance/plant/personal protective equipment without prior written approval.
12. The Mandatary shall ensure that work for which the issuing of permit is required shall not be performed prior to the obtaining of a duty completed approved permit.
13. The Mandatary shall ensure that no alcohol or any other intoxicating substance shall be allowed on the Client's premises. Anyone suspected to be under the influence of alcohol or any other intoxicating substance shall not be allowed on the premises. Anyone found on the premises suspected to be under the influence of alcohol or any other intoxicating substance shall be escorted off the said premises immediately.
14. Full participation by the Mandatary shall be given to the employees of the Client if and when they inquire into Occupational Health & Safety.

FURTHER UNDERTAKING

1. Only a duly authorised representative appointed in terms of Section 16.2 of the OHS Act is eligible to sign this agreement on behalf of the Mandatary. The signing power of this representative must be designated in writing by the Chief Executive Officer of the Mandatary. A copy of this letter must be made available to the Client.
2. The Mandatary confirms that he has been informed that he must report to the Client's management, in writing anything he/she deems to be unhealthy and /or unsafe. He has versed his employees in this regard.
3. The Mandatary warrants that he/she shall not endanger the health & safety of the Client's

employees and other persons in any way whilst performing work on the Client's premises.

4. The Mandatary understands that no work may commence on the Client's premises until this procedure is duly completed, signed and received by the Client.
5. Non-compliance with any of the above clauses may lead to an immediate cancellation of the contract.

ACCEPTANCE BY MANDATARY

In terms of section 37(2) of the Occupational Health & Safety Act 85 of 1993 and section 5.1(k) of the Construction Regulations 2014,

I, _____ (Name and Surname), a duly authorised 16.2

Appointee acting for and on behalf of _____ (Company Name) undertake to ensure that the requirements and the provision of the OHS Act 85 of 1993 and its regulations are complied with.

Mandatary – WCA/ Federated Employers Mutual No……..

Expiry date ……

_____ _____

SIGNATURE ON BEHALF OF MANDATARY **DATE**
(Warrant his authority to sign)

_____ _____

SIGNATURE ON BEHALF OF THE CLIENT **DATE**
AIRPORTS COMPANY SOUTH AFRICA SOC LTD

ANNEX D

ACSA SERVICE & MAINTENANCE CONTRACTORS
ENVIRONMENTAL TERMS AND CONDITIONS TO COMMENCE WORK - EMS 048

The following Environmental Terms and Conditions shall be strictly adhered to by all contractors when conducting works for ACSA. ACSA shall audit contractor activities, products and services on an ad hoc basis to ensure compliance to these environmental conditions. Any pollution clean-up costs shall be borne by the contractor.

ISSUE	REQUIREMENT
Environmental Policy	ACSA's Environmental Policy shall be communicated, comprehended and implemented by all ACSA appointed contractor staff.
Storm water, Soil and Groundwater Pollution	• No solid or liquid material may be permitted to contaminate or potentially contaminate storm water, soil or groundwater resources. • Any pollution that risks contamination of these resources must be cleaned-up immediately. Spills must be reported to ACSA immediately. Contractors shall supply their own suitable clean-up materials where required. • Washing, maintenance and refuelling of equipment shall only be allowed in designated service areas on ACSA property. It is the contractor's responsibility to determine the location of these areas. • No leaking equipment or vehicles shall be permitted on the airport.
Air Pollution	• Dust: Dust resulting from work activities that could cause a nuisance to employees or the public shall be kept to a minimum. • Odours and emissions: All practical measures shall be taken to reduce unpleasant odours and emissions generated from work related activities. • Fires: No open fires shall be permitted on site.
Noise Pollution	• All reasonable measures shall be taken to minimize noise generated on site due to work operations. • The Contractor shall comply with the applicable regulations regarding noise.
Waste Management	• Waste shall be separated as general or hazardous waste. • General and hazardous waste shall be disposed of appropriately at a permitted landfill site should recycling or re-use of waste not be feasible. • Under no circumstances shall solid or liquid waste be dumped, buried or burnt. • Contractors shall maintain a tidy, litter free environment always in their work area. • Contractors must keep on file: 1. The name of the contracting waste company 2. Waste disposal site used 3. Monthly reports on quantities – separated into general, hazardous and

	recycled 4. Maintained file of all Waste Manifest Documents and Certificates of Safe Disposal 5. Copy of waste permit for disposal site This information must be available during audits and inspections.
Handling & Storage of Hazardous Chemical Substances (HCS)	• All HCS shall be clearly labelled, stored and handled in accordance to Materials Safety Data Sheets. • Materials Safety Data Sheets shall be stored with all HCS. • All spillages of HCS must be cleaned-up immediately and disposed of as hazardous waste. (HCS spillages must be reported to ACSA immediately). • All contractors shall be adequately informed with regards to the handling and storage of hazardous substances. • Contractors shall comply with all relevant national, regional and local legislation regarding the transport, storage, use and disposal of hazardous substances.
Water and Energy Consumption	ACSA promotes the conservation of water and energy resources. The contractor shall identify and manage those work activities that may result in water and energy wastage.
Training & Awareness	The conditions outlined in this permit shall be communicated to all contractors and their employees prior to commencing works at the airport.

Penalties

Penalties shall be imposed by ACSA on Contractors who are found to be infringing these requirements and/or legislation. The Contractor shall be advised in writing of the nature of the infringement and the amount of the penalty. The Contractor shall take the necessary steps (e.g. training/remediation) to prevent a recurrence of the infringement and shall advise ACSA accordingly.
The Contractor is also advised that the imposition of penalties does not replace any legal proceedings, the Council, authorities, land owners and/or members of the public may institute against the Contractor.

Penalties shall be between R200 and R20 000, depending upon the severity of the infringement. The decision on how much to impose will be made by ACSA's Airport Environmental Management Representative in consultation with the Airport Manager or his/her designate, and will be final. In addition to the penalty, the Contractor shall be required to make good any damage caused due to the infringement at his/her own expense.

I, _____ (name & surname) of _____

_____ (company) agree to the above conditions and acknowledge ACSA's right to impose penalties should I or any of my employees or sub-contractors fail to comply with these conditions.

Signed: _____ on this date: _____ (dd/mm/yyyy)

at: _____ (airport name).

ANNEX E

Tools and Special Equipment

The Contractor shall have **all** Tools and Special Equipment, necessary for the execution of the works, either on site or readily available at his/her premises. The principle that applies to Tools and Special Equipment is that downtime must be kept to an absolute minimum. Any **exclusion** to the above should be listed with the lead-time required to deliver same to site.

Number	Item description	Lead time

Software

No Software required

ANNEX F

Contract start-up proposal (scope of programme)

The Tenderer shall include a detailed proposal as to starting up the new maintenance contract. This must, as a minimum, include required timelines and personnel training.

ANNEX G

Resource proposal

The Tenderer shall include a detailed resource proposal. This shall, as a minimum, include the quantity of staff (with reference to level of skill and formal training of each) and how/where they will be deployed and utilised under this contract. This must also include a proposed shift roster and deployment schedule.

ANNEX H

Maintenance Programme

The Tenderer shall include a suggested maintenance programmes to cover all requirements under this contract.

All Preventative Maintenance shall be scheduled, at least, to the requirements of the following table (the contractor must ensure that sufficient allowance for all the items are made with the pricing in the Activity Schedule) and the resource allocation is clearly demonstrated in the maintenance programme:

EQUIPMENT	VISIT FREQUENCY	VISIT ACTIVITIES
System (RSView/RAD) IMCS Server and Fuel system Server	Monthly Tasks	Access the server: ➢ Check for: system faults ➢ Attend to all faults ➢ Check disk status ➢ Backup history files to a backup server ➢ Backup system ➢ Fix any reported errors ➢ Check alarm summaries ➢ Check RSSql operation and confirm data transfer. ➢ Liaise with the Technical Help desk for any changes/enhancements ➢ Liaise with ACSA IT regarding any reported problems and any changes to the network. ➢ Check reports and confirm availability
	Monthly	Access the server : ➢ Check for system faults ➢ Attend to all faults ➢ Check disk status ➢ Backup history files to a backup server ➢ Backup system ➢ Fix any reported errors ➢ Check alarm summaries ➢ Liaise with the Technical Help desk for any changes/enhancements ➢ Liaise with ACSA IT regarding any reported problems and any changes to the network. ➢ Check reports and confirm availability. Check for updates and modify as required. ➢ Check all system schedules and confirm operation. ➢ Check RSSql operation and confirm data transfer. ➢ Backup any systems that have been modified ➢ Liaise with ACSA personnel to determine reports to be modified or new reports to be generated.

EQUIPMENT	VISIT FREQUENCY	VISIT ACTIVITIES
	Three monthly	Access the server : ➢ Check for system faults ➢ Attend to all faults ➢ Check disk status ➢ Backup history files to a backup server ➢ Backup system ➢ Fix any reported errors ➢ Check alarm summaries ➢ Liaise with the Technical Help desk for any changes/enhancements ➢ Liaise with ACSA IT regarding any reported problems and any changes to the network. ➢ Check reports and confirm availability. Check for updates and modify as required. ➢ Check RSSql operation and confirm data transfer. ➢ Liaise with Rockwell and check for any software updates – if required load and test. ➢ Backup all PLC programs and archive. ➢ Backup any systems that have been modified ➢ Signal testing on people movers
ROCKWELL HARDWARE	Monthly	Check system for faults. Check all operating parameters. Check ControlNet for any faults. Attend to any network faults.
	Monthly	Check system for faults. Check ControlNet for any faults. Physically check applicable sub stations. Check all operating parameters. Check all PLC cabinets and confirm fan operations and clean as necessary.
Network equipment	Monthly	Clean and vacuum all network equipment. Clean all filters and check all fans.

Tenderers to ensure that the proposed maintenance programme agrees with the OEM maintenance recommendations

ANNEX I

Site Information

Overview of the Infrastructure Monitoring and Control System

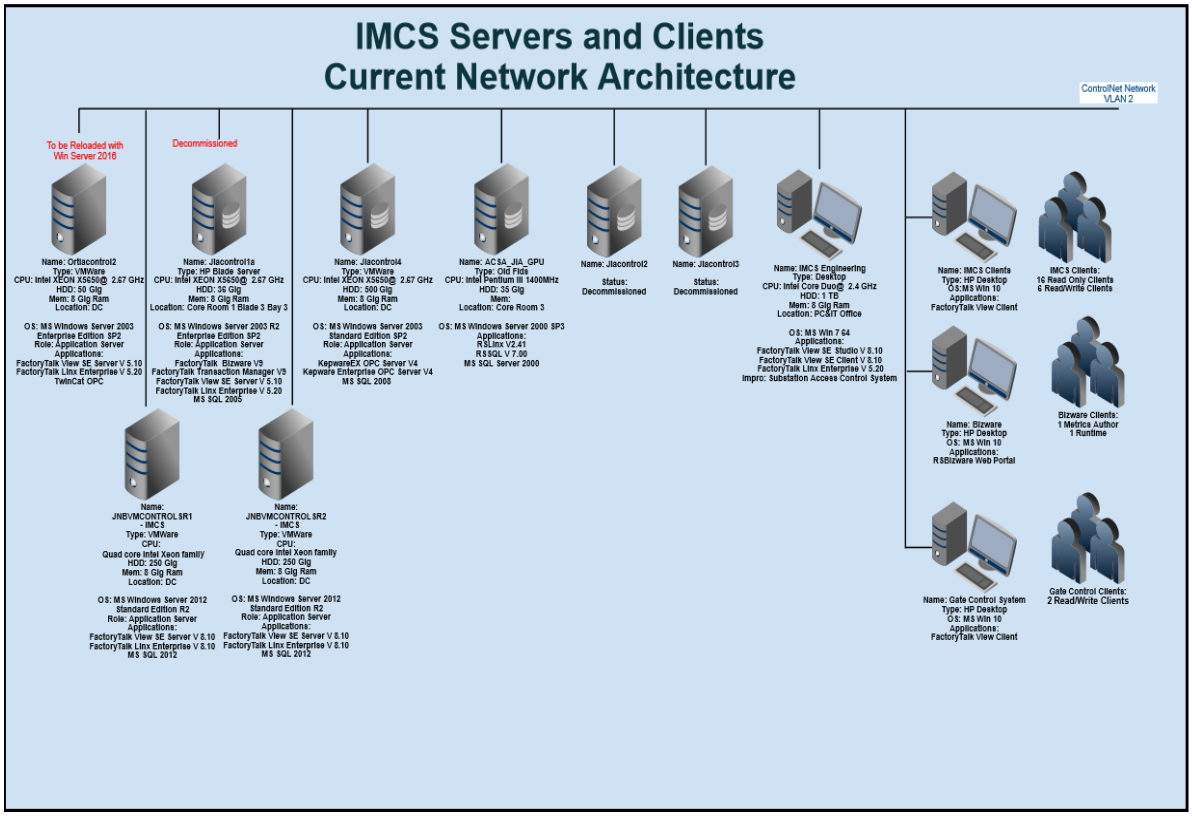
The IMCS (Infrastructure Monitoring and Control System) is BMS (Building Management System) solution which has been specifically tailored to meet ACSA's requirements to monitor and control their electro-mechanical equipment.

The IMCS will collect real-time vital data from each system and its various sub-systems and will report all this information to the IMC (Infrastructure monitoring & Control).
The goal is to empower the IMC to have a clear indication of how the field equipment is performing and also to be aware of the current state of each infrastructure. This will enable a prompt and timeous response to any infrastructure damage or equipment breakdowns.

All the information is collected using various methods. The primary method of data collection is by the use of programmable Logic Controllers (PLC). These PLC's are intelligent devices that can be programmed to perform certain functions. PLC's can be programmed to control devices such as pumps, fans and hydraulic equipment. All field equipment will produce states such a running, stopped and fault. These states are then accepted by the PLC using various methods. These include potential free contacts (relay contacts), open source pier to pier protocols such Modbus, Device net, DH485 and Object Linking & Embedding (OLE) such as OPC. This field data is collected and distributed via Rockwell's FactoryTalk View SE SCADA system and displayed as a GUI (Graphical User Interface) on the IMCS clients.

The IMCS architecture is based on Rockwell Automations Integrated Architecture; this allows for the convergence of control and information system to deliver optimization and performance.

ORTIA IMCS Network Architecture



IMCS Infrastructure that is being monitored

Air Bridges				
Device Name	**Name**	**Location Description**	**Gate**	**Item No**

PLB_C1	**NKI Avionridge**	Charlie Apron C1	D1	1
PLB_C2	**NKI Avionridge**	Charlie Apron C2	D2	2
PLB_C3	**NKI Avionridge**	Charlie Apron C3	D3	3
PLB_C4	**NKI Avionridge**	Charlie Apron C4	D4	4
PLB_C5	**NKI Avionridge**	Charlie Apron C5	D5	5
PLB_C6	**NKI Avionridge**	Charlie Apron C6	D6	6
PLB_C7	**NKI Avionridge**	Charlie Apron C7	D7	7
PLB_C8	**NKI Avionridge**	Charlie Apron C8	D8	8
PLB_A1R_A	**Jetway FMC**	Alpha Apron A1R A	A15	9
PLB_A1R_B	**Jetway FMC**	Alpha Apron A1R B	A15	10
PLB_A1_A	**Jetway FMC**	Alpha Apron A1 A	A14	11
PLB_A1_B	**Jetway FMC**	Alpha Apron A1 B	A14	12
PLB_A2_A	**Jetway FMC**	Alpha Apron A2 A	A11	13
PLB_A2_B	**Jetway FMC**	Alpha Apron A2 B	A11	14
PLB_A3_A	**Jetway FMC**	Alpha Apron A3 A	A06	15
PLB_A3_B	**Jetway FMC**	Alpha Apron A3 B	A06	16
PLB_E1_A	**Jetway FMC**	Echo Apron E1 A	A18	17
PLB_E1_B	**Jetway FMC**	Echo Apron E1 B	A18	18
PLB_E3_A	**Jetway FMC**	Echo Apron E3 A	A16	19
PLB_E3_B	**Jetway FMC**	Echo Apron E3 B	A16	20
PLB_E6_A	**Jetway FMC**	Echo Apron E6 A	A12	21
PLB_E6_B	**Jetway FMC**	Echo Apron E6 B	A12	22
PLB_E9_A	**Jetway FMC**	Echo Apron E9 A	A09	23
PLB_E9_B	**Jetway FMC**	Echo Apron E9 B	A09	24
PLB_E12_A	**Jetway FMC**	Echo Apron E12 A	A07	25
PLB_E12_B	**Jetway FMC**	Echo Apron E12 B	A07	26
PLB_A4_A	**Jetway Aerotech**	Alpha Apron A4 A	A05	27
PLB_A4_B	**Jetway Aerotech**	Alpha Apron A4 B	A05	28
PLB_A5	**Jetway Aerotech**	Alpha Apron A5	A04	29
PLB_A6_A	**Jetway Aerotech**	Alpha Apron A6 A	A03	30
PLB_A6_B	**Jetway Aerotech**	Alpha Apron A6 B	A03	31
PLB_A7	**Jetway Aerotech**	Alpha Apron A7	A02	32
PLB_A8_A	**Jetway Aerotech**	Alpha Apron A8 A	A01	33
PLB_A8_B	**Jetway Aerotech**	Alpha Apron A8 B	A01	34
PLB_A9	**Jetway Aerotech**	Alpha Apron A9	C9	35
PLB_A10	**Jetway Aerotech**	Alpha Apron A10	C10	36
PLB_A11	**Jetway Aerotech**	Alpha Apron A11	C11	37
PLB_A12	**Jetway Aerotech**	Alpha Apron A12	C12	38
PLB_A13	**Jetway Aerotech**	Alpha Apron A13	C13	39

IMCS Infrastructure
People Movers (Escalators, Elevators and Travellators)

Device Name	Description	Location Description	Item no
ESC-AE 3	Escalator	Terminal A	1
ESC-AE 4	Escalator		2
ESC-AE 9	Escalator		3
ESC-AE 10	Escalator		4
ESC-AE 11	Escalator		5
ESC-AE 12	Escalator		6
ESC-AE 15	Escalator		7
ESC-AE 16	Escalator		8
ESC-AE 17	Escalator		9
ESC-AE 18	Escalator		10
ESC-AE 34	Escalator		11
ESC-AE 35	Escalator		12
ESC-E 19	Escalator		13
ESC-E 20	Escalator		14
ESC-E 36	Escalator		15
ESC-E 37	Escalator		16
ESC-E 41	Escalator		17
ESC-E 42	Escalator		18
TRV-A3	Travellator		19
TRV-A4	Travellator		20
TRV-A5	Travellator		21
TRV-D4	Travellator		22
Elevator 2A	Elevator		23
Elevator 2B	Elevator		24
Elevator 32	Elevator		25
Elevator 33	Elevator		26
Elevator 34A	Elevator		27
Elevator 34B	Elevator		28
Elevator 35A	Elevator		29
Elevator 35B	Elevator		30
Elevator 5A	Elevator		31
Elevator 5B	Elevator		32
Elevator 6	Elevator		33
Elevator 7A	Elevator		34
Elevator 7B	Elevator		35
Elevator 14A	Elevator		36
Elevator 14B	Elevator		37
Elevator 15A	Elevator		38
Elevator 15B	Elevator		39
Elevator 16A	Elevator		40
Elevator 16B	Elevator		41
Elevator 17A	Elevator		42

Elevator 17B	Elevator		43
Elevator 18A	Elevator		44
Elevator 18B	Elevator		45
Elevator 20A	Elevator		46
Elevator 20B	Elevator		47
Elevator 37	Elevator		48
Elevator VIP1	Elevator		49
Elevator VIP2 A1	Elevator		50
TRV-IPM 01	Travellator	**Terminal A - Pier -**	51
TRV-IPM 02	Travellator		52
TRV-IPM 03	Travellator		53
TRV-IPM 04	Travellator		54
TRV-IPM 05	Travellator		55
TRV-IPM 06	Travellator		56
TRV-IPM 07	Travellator		57
TRV-IPM 08	Travellator		58
TRV-IPM 09	Travellator		59
TRV-IPM 10	Travellator		60
TRV-IPM 11	Travellator		61
ESC-IPE 01	Escalator		62
ESC-IPE 02	Escalator		63
ESC-IPE 03	Escalator		64
ESC-IPE 04	Escalator		65
ESC-IPE 05	Escalator		66
ESC-IPE 06	Escalator		67
Elevator IPL 01	Elevator		68
Elevator IPL 02	Elevator		69
Elevator IPL 03	Elevator		70
Elevator IPL 04	Elevator		71
ESC-ME 1	Escalator	MSP 1	72
ESC-ME 2	Escalator		73
ESC-ME 3	Escalator		74
ESC-ME 4	Escalator		75
ESC-ME 5	Escalator		76
ESC-ME 6	Escalator		77
ESC-ME 7	Escalator		78
ESC-ME 8	Escalator		79
ESC-ME 9	Escalator		80
ESC-ME 10	Escalator		81
ESC-ME 11	Escalator		82
ESC-ME 12	Escalator		83
ESC-ME 13	Escalator		84
ESC-ME 14	Escalator		85
ESC-ME 15	Escalator		86
ESC-ME 16	Escalator		87

Elevator ML1	Elevator		88
Elevator ML2	Elevator		89
Elevator ML3	Elevator		90
Elevator ML4	Elevator		91
Elevator ML5	Elevator		92
Elevator ML6	Elevator		93
Elevator ML7	Elevator		99
ESC-ME17	Escalator	MSP 2 -	100
ESC-ME18	Escalator		101
ESC-ME19	Escalator		101
ESC-ME20	Escalator		102
ESC-ME21	Escalator		103
ESC-ME22	Escalator		104
ESC-ME23	Escalator		105
ESC-ME24	Escalator		106
Elevator ML10	Elevator		107
Elevator ML11	Elevator		108
Elevator ML12	Elevator		109
Elevator ML13	Elevator		110
Elevator ML14	Elevator		111
Elevator ML8	Elevator		112
Elevator ML9	Elevator		113
MSPTA			
MSPTB			
ESC-E 8	Escalator	Terminal B	114
ESC-E 9	Escalator		115
ESC-E 10	Escalator		116
ESC-E 11	Escalator		117
ESC-E 12	Escalator		118

ESC-OE 1	Escalator		119
ESC-OE 2	Escalator		120
ESC-OE 3	Escalator		121
ESC-OE 4	Escalator		122
ESC-OE 5	Escalator		123
ESC-OE 6	Escalator		124
ESC-OE 7	Escalator		125
TRV-A6	Travellator		126
TRV-A7	Travellator		127
TRV-A8	Travellator		128
TRV-A9	Travellator		129
TRV-D5	Travellator		130
TRV-D7	Travellator		131
TRV-P 2	Travellator		132
TRV-P 3	Travellator		133
TRV-P 4	Travellator		134
TRV-P 5	Travellator		135
TRV-P 6	Travellator		136
TRV-P 7	Travellator		137
TRV-P 8	Travellator		138
TRV-P 9	Travellator		138
Elevator 1A	Elevator		140
Elevator 1B	Elevator		141
Elevator 2	Elevator		142
Elevator 3A	Elevator		143

Elevator 3B	Elevator		144
Elevator 4A	Elevator		145
Elevator 4B	Elevator		146
Elevator 5A	Elevator		147
Elevator 5B	Elevator		148
Elevator 6	Elevator		149
Elevator 7	Elevator		150
Elevator C1 Landside E	Elevator		151
Elevator C2 Airside E	Elevator		152
Elevator C3 Landside W	Elevator		153
Elevator C4 Airside W	Elevator		154
TRV-P 10	Travellator	Terminal B Pier	155
TRV-P 11	Travellator		156
TRV-P 12	Travellator		157
TRV-P 13	Travellator		158
TRV-P 14	Travellator		159
TRV-P15	Travellator		160
Elevator 01	Elevator		161
Elevator 02	Elevator		162
ESC-E1	Escalator	CTB -	163
ESC-E2	Escalator		164
ESC-E3	Escalator		165
ESC-E4	Escalator		166
ESC-E5	Escalator		167
ESC-E6	Escalator		168

ESC-E7	Escalator		169
ESC-E8	Escalator		170
ESC-E9	Escalator		171
ESC-E10	Escalator		172
ESC-E17	Escalator		173
ESC-E18	Escalator		174
ESC-E19	Escalator		175
ESC-E20	Escalator		176
ESC-E21	Escalator		177
ESC-E22	Escalator		178
ESC-E25	Escalator		179
ESC-E26	Escalator		180
ESC-E27	Escalator		181
ESC-E28	Escalator		182
ESC-E29	Escalator		183
ESC-E30	Escalator		184
ESC-E31	Escalator		185
ESC-E32	Escalator		186
ESC-E33	Escalator		187
ESC-E34	Escalator		188
Elevator 3	Elevator		189
Elevator 12	Elevator		190
Elevator 2A	Elevator		191
Elevator 2B	Elevator		192
Elevator 2C	Elevator		193

Elevator 4A	Elevator		194
Elevator 4B	Elevator		195
Elevator 4C	Elevator		196
Elevator 5A	Elevator		197
Elevator 5B	Elevator		198
Elevator 9A	Elevator		199
Elevator 9B	Elevator		200
Elevator 11A	Elevator		201
Elevator 11B	Elevator		202
Elevator 16	Elevator		203
Elevator 10A	Elevator		204
Elevator 10B	Elevator		205
Elevator 1A	Elevator		206
Elevator 1B	Elevator		207
Elevator 17A	Elevator		208
Elevator 17B	Elevator		209
Elevator 8A	Elevator		210
Elevator 8B	Elevator		211
Elevator 15A	Elevator		212
Elevator 15B	Elevator		213
Elevator 6A	Elevator		214
Elevator 6B	Elevator		215
ESC-A1 E35	Escalator	Terminal A (Arrival 1/Arrrival 2)	216
ESC-A1 E36	Escalator		217
ESC-A1 E37	Escalator		218

ESC-A1 E38	Escalator		219
Elevator 19 A1	Elevator		220

IMCS Infrastructure			
Pump Stations			
Device Name	**Description**	**Location Description**	**Qty**
Fire Water Pump station	Pumps	Terminal A	6
Sewerage Pump	Pumps	Terminal A	2
Storm water Pump	Pumps	Terminal A	2
Fox Dumping (Water Meter Connection)	Water Meter connection	Terminal A	1
Echo Water meters (Water meter Connection)	Water Meter connection	Terminal A	1
Waste water Tunnel	Pumps	Terminal A	2
Fox Sewerage	Pumps	Terminal A	2
CTB North	Pumps	CTB -	3
CTB South	Pumps	CTB -	3
Parking Drain Water Pumps	Pumps	Terminal B	2
Basement Sewerage	Pumps	Terminal B	2
Baggage Storm Water	Pumps	Terminal B	3
SwissPort Pumps	Pumps	Terminal B	2
Storm Water Tunnel Pumps	Pumps	Terminal B Pier	3
Sewerage Pumps	Pumps	Terminal B Pier	3
Booster Pump Station	Pumps	Other Location	3
ATNS Sewerage	Pumps	ATNS	2
Old Nursery	Pumps	Other Location	2

IMCS Infrastructure			
GROUND POWER UNITS			
Device Name	**Name**	**Location Description**	**Item no**
GPU-A4	AXA2200 Compact Solid state GPU (180KVA)	Alpha Apron A4	1

GPU-A5	AXA2200 Compact Solid state GPU (180KVA)	Alpha Apron A5	2
GPUA6	AXA2200 Compact Solid state GPU (180KVA)	Alpha Apron A6	3
GPU-A7	AXA2400 Compact Solid state GPU (90KVA)	Alpha Apron A7	4
GPU-A8	AXA2400 Compact Solid state GPU (90KVA)	Alpha Apron A8	5
GPU-A9	AXA2400 Compact Solid state GPU (90KVA)	Alpha Apron A9	6
GPU-A10	AXA2400 Compact Solid state GPU (90KVA)	Alpha Apron A10	7
GPU-A11	AXA2400 Compact Solid state GPU (90KVA)	Alpha Apron A11	8
GPU-A12	AXA2400 Compact Solid state GPU (90KVA)	Alpha Apron A12	9
GPU-A13	AXA2400 Compact Solid state GPU (90KVA)	Alpha Apron A13	10

IMCS Infrastructure Naming Convention			
Fuel Hydrant System			
Device Name	**Description**	**Location Description**	**Item no**
DEPOT SAT	Fuel Hydrant Monitoring Station	Fuel Depot	1
CHARLIE SAT	Fuel Hydrant Monitoring Station	Charlie Apron	2
PIERSUB SAT	Fuel Hydrant Monitoring Station	Pier	3
MAIN SAT	Fuel Hydrant Monitoring Station	Main Station	4
ECHO SAT	Fuel Hydrant Monitoring Station	Echo Apron	5

HIMA Station
HIMA Station
HIMA Station
HIMA Station
HIMA Station

DELTA SAT	Fuel Hydrant Monitoring Station	Delta Apron	6	HIMA Station
DEPOT UPS	UPS	Fuel Depot	1	UPS
CHARLIE UPS	UPS	Charlie Apron	2	UPS
PIERSUB UPS	UPS	Pier	3	UPS
MAIN UPS	UPS		4	UPS
ECHO UPS	UPS	Echo Apron	5	UPS
DELTA UPS	UPS	Delta Apron	6	UPS

Additional Info		
FUEL DEPOT	2 VALVES	
ALPHA APRON	1 VALVES	10 ESD
BRAVO APRON	1 VALVES	8 ESD
CHARLIE	4 VALVES	24 ESD
DELTA	2 VALVES	21 ESD
ECHO	8 VALVES	12 ESD

IMCS Infrastructure Naming			
Vehicle Blockers - Super South/ North Gate 1& 2/ Jet Center/Perishable and ATNS Gate			
Device Name	**Description**	**Location Description**	**Item no**
ENTRY	Vehicle Blockers	Super South/ North Gate 1& 2/ Jet Center/Perishable and ATNS Gate	1
EXIT	Vehicle Blockers	Super South/ North Gate 1& 2/ Jet Center/Perishable and ATNS Gate	2
POWER PACKS	Vehicle Blockers	Super South/ North Gate 1& 2/ Jet Center/Perishable and ATNS Gate	3

IMCS Infrastructure Naming Convention			
Hydrocarbon Facilities			
Device Name	**Description**	**Location Description**	**Item no**
SW04 AE03	Hydrocarbon Monitoring		1
SW04 AE04	Hydrocarbon Monitoring		2
SW02 AE01	Hydrocarbon Monitoring		3
SW02 AE02	Hydrocarbon Monitoring		4

SW07 Actuator	Hydrocarbon Monitoring		5
Golf Hydro Carbon HSO1	Hydrocarbon Monitoring		6
Golf Hydro Carbon HSO2	Hydrocarbon Monitoring		7
Golf Hydro Carbon Actuator	Hydrocarbon Monitoring		8

IMCS Infrastructure			
Generator Monitoring			
Device Name	**Description**	**Location Description**	**Item no**
Sub 1	Generator	Terminal B	1
Sub 11	Generator	Terminal Substations	2
Sub 13	Generator	CTB	3
Sub 5	Generator	Terminal A	4
Sub 9	Generator	Terminal B	5
Sub 2	Generator	Terminal A	6
Sub 8	Generator	MSP 1	7
Sub 10	Generator	Terminal B	8
Sub 12	Generator	CTB	9
Sub 14	Generator	Terminal A (Bus Terminal)	10
Sub 15	Generator	Msp 2	11
Sub 03left	Generator	Airfield Substations	12
Sub 03right	Generator	Airfield Substations	13
15/33	Generator	Airfield Substations	14
21 Left	Generator	Airfield Substations	15
21 Right	Generator	Airfield Substations	16
ATNS Gates	Generator	Airfield ATNS	17
New OPS	Generator	Other Locations	18
Sub 1 Freight	Generator	Cargo	19
New L bend	Generator	Airfield New L-Band	20
Fuel Farm	Generator	Airfield New L-Band	21

IMCS Infrastructure			
Generator Bulk Fuel Tank Monitoring			
Device Name	**Description**	**Location Description**	**Item no**
Sub 2	Generator Fuel Tank	TA-Basement	1

Sub 9	Generator Fuel Tank	TB-Basement	2
Sub 10	Generator Fuel Tank	Charlie Apron	3
sub 13	Generator Fuel Tank	CTB-Basement	4
Sub 15	Generator Fuel Tank	MSP 2	5
Sub 03 Left	Generator Fuel Tank	Airside	6
Sub 03 Right	Generator Fuel Tank	Airside	7
Sub 15/33	Generator Fuel Tank	Airside	8
Sub 21 Left	Generator Fuel Tank	Airside	9
Sub 21 Right	Generator Fuel Tank	Airside	10

IMCS Infrastructure Communication Table

IMCS INFRASTRUCTURE COMMUNICATION - PASSENGER LOADING BRIDGES					
Infrastructure	**Primary Interface**	**Secondary Interface**	**Primary Communication Protocol**	**Secondary Communication Protocol**	**SCADA Communication Interface**
CHARLIE LOADING BRIDGES	Siemens S7 PLC	Siemens MPI Gateway	Siemens MPI	Ethernet	Kepware OPC
ALPHA LOADING BRIDGES	BECHOFF PLC		Ethernet		TwinCAT OPC
INT PIER LOADING BRIDGES	BECHOFF PLC		Ethernet		TwinCAT OPC

IMCS INFRASTRUCTURE COMMUNICATION - PUMPS					
Infrastructure	**Primary Interface**	**Secondary Interface**	**Primary Communication Protocol**	**Secondary Communication Protocol**	**SCADA Communication Interface**
Fire Water Pump Station	AB Controllogix PAC	EthernetIP to SMCFLEX	EthernetIP		RSLinx Enterprise
Booster Water Pump Station	AB Controllogix PAC	EthernetIP to SMCFLEX	EthernetIP		RSLinx Enterprise
Waste Water Pump Stations	AB Micrologix PLC	Modbus To Powerflex VSD's	EthernetIP	Modbus	RSLinx Enterprise
Stormwater Pumps	Hardwired Interface to PLC		EthernetIP		RSLinx Enterprise

(Monitor Only)					
Waste Water Pumps (Monitor Only)	Hardwired Interface to PLC		EthernetIP		RSLinx Enterprise
HVAC Pump Station	AB Controllogix PAC	EthernetIP to Powerflex	EthernetIP		RSLinx Enterprise

IMCS INFRASTRUCTURE COMMUNICATION - UPS					
Infrastructure	**Primary Interface**	**Secondary Interface**	**Primary Communication Protocol**	**Secondary Communication Protocol**	**SCADA Communication Interface**
Fuel Hydrant UPS	SNMP Interface Card		SNMP	Ethernet	Kepware OPC
UPS	Hardwired To AB PLC		EthernetIP		RSLinx Enterprise

IMCS INFRASTRUCTURE COMMUNICATION - HYDROCABON FACILITY					
Infrastructure	**Primary Interface**	**Secondary Interface**	**Primary Communication Protocol**	**Secondary Communication Protocol**	**SCADA Communication Interface**
Golf	AB PAC		EthernetIP		RSLinx Enterprise
SW04 and SW07	AB PLC		EthernetIP		RSLinx Enterprise

IMCS INFRASTRUCTURE COMMUNICATION - GENERATORS					
Infrastructure	**Primary Interface**	**Secondary Interface**	**Primary Communication Protocol**	**Secondary Communication Protocol**	**SCADA Communication Interface**
Deep Sea Gensets	Deep Sea Controller	Moxa Serial to Ethernet Server	Modbus TCP	Ethernet	Kepware OPC
Circon Gensets	Mitsubishi PLC	Moxa Serial to Ethernet Server	Melsec RS485	Ethernet	Kepware OPC

Bulk Tank Monitoring	Veeder-Root	Moxa Serial to Ethernet Server	Modbus Serial	Ethernet	Kepware OPC

IMCS INFRASTRUCTURE COMMUNICATION – PEOPLE MOVERS (ELEVATORS, ESCALATORS, TRAVELLATORS					
Infrastructure	Primary Interface	Secondary Interface	Primary Communication Protocol	Secondary Communication Protocol	SCADA Communication Interface
CTB Escalators	Hardwired Interface to Main Programable Automation Controller		EthernetIP		RSLinx Enterprise
CTB Elevators	Hardwired Interface to Main Programable Automation Controller		EthernetIP		RSLinx Enterprise
T2 Escalators	Hardwired Interface to Programable Logic Controller	Networked via DH485 to Main Controller	DH485	EthernetIP	RSLinx Enterprise
T2 Elevators	Hardwired Interface to Programable Logic Controller	Networked via DH485 to Main Controller	DH485	EthernetIP	RSLinx Enterprise
T2 Travellators	Hardwired Interface to Programable Logic Controller	Networked via DH485 to Main Controller	DH485	EthernetIP	RSLinx Enterprise
MSP 1 Escalators	Hardwired Interface to Programable Logic Controller		EthernetIP		RSLinx Enterprise
MSP 1 Elevators	Hardwired Interface to Programable Logic Controller		EthernetIP		RSLinx Enterprise
MSP 2 Escalators	Hardwired Interface to Main Programable Automation Controller		EthernetIP		RSLinx Enterprise
MSP 2 Escalators	Hardwired Interface to Main Programable Automation Controller		EthernetIP		RSLinx Enterprise
T1 Escalators	Hardwired Interface to Programable Logic Controller	Networked via DH485 to Main Controller	DH485	EthernetIP	RSLinx Enterprise
T1 New Escalators	Hardwired Interface to Main Programable Automation Controller		EthernetIP		RSLinx Enterprise
T1 Elevators	Hardwired Interface to Programable Logic Controller	Networked via DH485 to Main Controller	DH485	EthernetIP	RSLinx Enterprise
T1 New Elevators	Hardwired Interface to Main Programable Automation Controller		EthernetIP		RSLinx Enterprise

T1 Travellators	Hardwired Interface to Programable Logic Controller	Networked via DH485 to Main Controller	DH485	EthernetIP	RSLinx Enterprise
T1 New Travellators	Hardwired Interface to Main Programable Automation Controller		EthernetIP		RSLinx Enterprise

IMCS INFRASTRUCTURE COMMUNICATION – FUEL HYDRANT ESD SYSTEM					
Infrastructure	Primary Interface	Secondary Interface	Primary Communication Protocol	Secondary Communication Protocol	SCADA Communication Interface
Fuel Depot HIMA	HIMA H41q Safety PLC		SafeEthernet	HIMA OPC	Linkmaster OPC
MainSAT HIMA	HIMA H41q Safety PLC	Modbus To Level Monitoring System	SafeEthernet	HIMA OPC	Linkmaster OPC
CharlieSAT HIMA	HIMA H41q Safety PLC		SafeEthernet	HIMA OPC	Linkmaster OPC
PierSAT HIMA	HIMA H41q Safety PLC		SafeEthernet	HIMA OPC	Linkmaster OPC
EchoSAT HIMA	HIMA H41q Safety PLC	Modbus To Level Monitoring System	SafeEthernet	HIMA OPC	Linkmaster OPC
SATF HIMA	HIMA H41q Safety PLC		SafeEthernet	HIMA OPC	Linkmaster OPC

IMCS INFRASTRUCTURE COMMUNICATION - GROUND POWER UNITS					
Infrastructure	**Primary Interface**	**Secondary Interface**	**Primary Communication Protocol**	**Secondary Communication Protocol**	**SCADA Communication Interface**
AXA100 TCP GATEWAY	AXA Power TCP Gateway		Modbus	Ethernet	Kepware OPC
AXA Power Hardwired Connections	AB Micrologix PLC Hardwired		EthernetIP		RSLinx Enterprise

IMCS INFRASTRUCTURE COMMUNICATION - VEHICLE GATE CONTROL SYSTEM

Infrastructure	Primary Interface	Secondary Interface	Primary Communication Protocol	Secondary Communication Protocol	SCADA Communication Interface
Vehicle Gates	AB SLC 500 PLC		EthernetIP	Ethernet	RSLinx Enterprise
Security Gate	Impro IXP Controller	AB Micrologix 1100 PLC	EthernetIP		RSLinx Enterprise

IMCS INFRASTRUCTURE COMMUNICATION - AIRCRAFT GATE CONTROL SYSTEM					
Infrastructure	Primary Interface	Secondary Interface	Primary Communication Protocol	Secondary Communication Protocol	SCADA Communication Interface
Aircraft Gates PLC's	AB SLC 500 PLC	Powerflex VSD's	EthernetIP		RSLinx Enterprise
Aircraft Gates PAC's	AB Compactlogix PAC	Powerflex VSD's	EthernetIP		RSLinx Enterprise

IMCS INFRASTRUCTURE COMMUNICATION - DB CHANGE OVER MONITORING					
Infrastructure	**Primary Interface**	**Secondary Interface**	**Primary Communication Protocol**	**Secondary Communication Protocol**	**SCADA Communication Interface**
DB Change Over Monitoring	AB ControlLogix PAC Hardwired		EthernetIP		RSLinx Enterprise

IMCS INFRASTRUCTURE COMMUNICATION - VENTILATION FANS					
Infrastructure	**Primary Interface**	**Secondary Interface**	**Primary Communication Protocol**	**Secondary Communication Protocol**	**SCADA Communication Interface**
KB1 Ventiation Fan Monitoring	AB Microligix 1000 Hardwired		EthernetIP	DH485	RSLinx Enterprise