

D/Sm 8/25

**DEVIATION: CERTIFICATE OF EMERGENCY: FAILED COMPUTER ROOM
AIRCONDITIONING (CRAC) UNITS**

V2 Effective 01 July 2024



MEMORANDUM
CORPORATE SERVICES ICT

CHECK BEFORE SUBMISSION	YES	NO
REGISTERED ON CSD DATABASE		
LETTER - SOLE SUPPLIER if applicable.		
QUOTE/INVOICE ATTACHED		
BUDGET (SAMRAS)		
SIGNATURES		
SENT TO DEDICATED EMAIL ADDRESS?		

To : MUNICIPAL MANAGER
From : REGAN MOOIDEEN
Job Title : SENIOR MANAGER: ICT
Date : 20 August 2024
**Re : DEVIATION: CERTIFICATE OF EMERGENCY: FAILED
COMPUTER ROOM AIRCONDITIONING (CRAC) UNITS**

1. PURPOSE

To obtain approval in terms of Supply Chain Management Policy, to deviate from the official procurement process in terms of section 36 of the approved SCM Policy and appoint NEC XON to repair and secure cooling in the ICT Data Centre to prevent failure to key ICT hardware and services needed by the Municipality to run key services to the public.

REASON FOR DEVIATION: (Mark with x where applicable) (ONLY 1 CATEGORY, MOST APPLICABLE)		
1.	Emergency. "Emergency dispensation" means emergency as referred to in paragraph 36(1)(a)(i) of this policy under which one or more of the following is in existence that warrants an emergency dispensation;	
a	The possibility of human injury or death;	
b	The prevalence of human suffering or deprivation of rights;	
c	The possibility of damage to property, or suffering and death of livestock and animals;	
d	The interruption of essential services, including transportation and communication facilities or support services critical to the effective functioning of the municipality as a whole;	
e	The possibility of serious damage occurring to the natural environment;	
f	The possibility that failure to take necessary action may result in the municipality not being able to render an essential community service;	
g	The possibility that the security of the state could be compromised; or	
h	The prevailing situation, or imminent danger, should be of such a scale and nature that it could not readily be alleviated by interim measures, in order to allow time for the formal procurement process. Emergency dispensation shall not be granted in respect of circumstances other than those contemplated above.	X
2.	Goods or services are produced or available from a single provider	
3.	Acquisition of special works of art or historical objects where specifications are difficult to compile.	
4.	Acquisition of animals for zoos and /or nature and game reserves	
5.	Exceptional case and it is impractical or impossible to follow the official procurement processes	

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2. SUBSTANTIATE WHY SCM PROCESS COULD NOT BE FOLLOWED (TO BE REPORT TO COUNCIL)

Stellenbosch Municipality's ICT Data Centre experienced failures to 2 of the 3 units carrying out thermal management (cooling) needed to protect the critical hardware systems and services running Municipal applications required to service the public and its mandate. The 3rd unit was in an error state with continuous unit system alarms being presented on the management screen.

3. BACKGROUND

The ICT Data Centre incorporates 3 high-end purpose-built Computer Room Air-conditioning units (CRAC) to perform thermal management for our critical ICT hardware and systems supporting the Municipality. In order to provide sufficient and correct cooling, 2 units are always on with the third (3rd) unit in standby offering us high availability and continuity. On the 8th of August, the Stellenbosch Municipal ICT Data Centre presented with higher than normal temperatures within the room. The finding was that 2 of the units were in a failed state and non-operational with the third (3rd) unit in a warning state. The single unit was unable to perform the needed thermal management to help prevent low humidity and water vapor from forming on the critical hardware housed in the Data Centre.

4. DISCUSSION

At 12:17 on the 8th August 2024, we made a decision to raise an emergency procurement process by contacting qualified and accredited service providers to assess and repair the 3 units within the Data Centre. These were namely :

- Frigotech Cooling Solutions mario@frigotech.co.za 021 551 8234
- NEC XON Andre.deVilliers@nec.xon.co.za 021 541 0635
- Diesel Electric Services dieseleelec@icon.co.za 011 4930282

On sending out the requests to the parties above, responses were received from Frigotech and NEC XON responding that their key and qualified service technician for this piece of work are not available immediately and as soon as they become available, they will be sent to site.

NEC XON responded later in the day and advised that a service technician will available the next day to attend to such need of firstly assessing and diagnosing the problem via a site visit. This successfully took place on the 8th of August where the fault problems were highlighted by the service technician (Attached Annexure A Service Report). Given that the root cause of the problems on the units were failed parts, the service technician was unable to repair and advised that his assessment will be taken back to the office to obtain a proposal together with costing for the repair of the failed units. It was further stated that the ONLY failed unit (unit 3) has a possibility of failing completely as there is insufficient refrigerant in the unit. This piece of work (assessment) was successfully carried out by the end of Thursday the 8th of August at a **total cost of R5 964.19 incl. VAT**

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It was confirmed by the Service provider that needed parts to carry out repairs would need to be obtained/ordered from outside of South Africa (Europe) where the units were originally manufactured.

By Wednesday the 14th of August the feedback received from NEC XON was that Vertiv (the Manufacturer of the units) are able to deliver parts to South Africa (expected time of arrival ETA) after 7-8 weeks provided there are no delays.

Given the above parts delivery time from Europe and the current critical status of the lack of proper cooling in the room, the best option available to the Stellenbosch Municipality was to carry out the below scope of work to provide some cooling in the Data Centre

- Fully repair the faulty and ONLY running unit 3. This unit may fail at any time to provide cooling in the room as there is insufficient refrigerant in the unit.

This scope of work will include

- Reclaim available refrigerant from failed units 1 and 2.
- Replace damaged condenser
- Replace liquid line filter drier
- Replace and weld copper piping to stop leak

This is the quickest option available to the Municipality to ensure some level of cooling is available whilst the needed parts are to be delivered. This piece of work may be done within 10-14 days once the material (copper piping and sundries) is ordered in.

5. FINANCIAL IMPLICATIONS

That the costs for the assessment from NEC XON for **R5 964.19 incl. VAT** be service from **Ukey: 20220630077981** and the repair to unit 3 at **R71 376,64 incl. VAT** be serviced from **Ukey: 20230621063361**

6. RECOMMENDATION

It is highly recommended that the approval, for the EMERGENCY repairs to the FAILED COMPUTER ROOM AIRCONDITIONING (CRAC) UNITS be granted in terms of the Municipality Supply Chain Management Policy 4.36.4. for a payment to NEC XON that amounts in total to **R77 340,83 incl. VAT**.

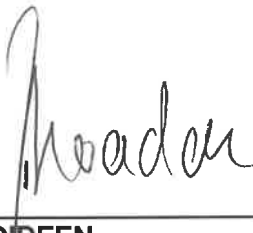
7. VALUE FOR MONEY (OTHER RATES/VALUES/...)

The current cost to replace the units amount to a total of R1 279 322.00 incl. VAT placing the cost per unit at R426 444.00 incl. VAT. This does not include or cater for installation and configuration of the units.

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8. IT IS RECOMMENDED THAT:

**8.1 NEC XON be appointed to carry out the needed work to the total value of R77 340,83
incl. VAT**



**R MOOIDEEN
SENIOR MANAGER: ICT**

Date: 23/8/2014

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7. SUPPLY CHAIN MANAGEMENT COMMENTS:

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8. APPROVAL:

REQUEST SUPPORTED / NOT SUPPORTED BY THE STELLENBOSCH MUNICIPAL BID ADJUDICATION COMMITTEE		
Name	Signature	Date
S Chendake	online	23/8/2024
A de Beer	online	23/8/2024
A Barnes	online	23/8/2024
G Boshoff	online	23/8/2024
Comments: Deviation is supported for the repair work to the third unit. Tender process will be followed to appoint a service provider to repair units 1 and 2.		
CHAIRPERSON	DATE	
RECOMMENDATION FROM BID ADJUDICATION COMMITTEE APPROVED BY THE ACCOUNTING OFFICER		
Comments: critical hardware for municipal use and must be in a working condition also host critical firewalls needed for cyber security.		
ACCOUNTING OFFICER	DATE	23/08/2024

NEC XON Systems (Pty) Ltd - Coastal Office
Oxford University Press Building, C/o Vasco Boulevard & John Hattingh Street
N1 City, Goodwood, Cape Town, WC 7460
South Africa

T: +27 21 591 6901

Quote # 233170 v2
Date 16/08/2024
Expires 13/09/2024
Contact Paul van Jaarsveld

Prepared for Stellenbosch Municipality
Regan Mooideen
Plein Street
Stellenbosch, WC 7600
South Africa

T: 021 808 8111
E: regan.mooideen@stellenbosch.gov.za

ACCEPT QUOTE

Stellenbosch Municipality DC CRAC Repairs

Repair CRAC 3

Quotation Details

Category	Item	Qty	Price	Total
01 - Basic / Product	Reclaim cylinder	1	R1 218.75	R1 218.75
01 - Basic / Product	Nitrogen	1	R1 056.25	R1 056.25
01 - Basic / Product	Vacuum pump oil	1	R585.00	R585.00
01 - Basic / Product	Liquid line drier	1	R609.38	R609.38
01 - Basic / Product	Copper fittings	1	R325.00	R325.00
01 - Basic / Product	Welding	1	R1 462.50	R1 462.50
01 - Basic / Product	Welding Rods	6	R91.00	R546.00
01 - Basic / Services	R410a refrigerant	2	R2 600.63	R5 201.26
01 - Basic / Services	Labour	45	R887.50	R39 937.50
01 - Basic / Services	Travel time	5	R1 481.25	R7 406.25
01 - Basic / Services	Mileage	5	R743.75	R3 718.75

Subtotal excluding VAT **R62 066.64**

Compressor replacement CRAC 2

Quotation Details

Category	Item	Qty	Price	Total
01 - Basic / Product	Vacuum pump oil	1	R528.13	R528.13
01 - Basic / Product	Reclaim cylinder	1	R1 218.75	R1 218.75
01 - Basic / Product	Nitrogen	1	R975.00	R975.00

Category	Item	Qty	Price	Total
01 - Basic / Product	R410a refrigerant	2	R2 600.63	R5 201.26
01 - Basic / Product	Drier	1	R601.25	R601.25
01 - Basic / Product	Burnout drier	1	R869.38	R869.38
01 - Basic / Product	Welding	1	R1 950.00	R1 950.00
01 - Basic / Product	Welding rods	5	R97.50	R487.50
01 - Basic / Product	Silver solder rods	3	R178.75	R536.25
01 - Basic / Product	Compressor	1	R102 352.50	R102 352.50
01 - Basic / Product	Condenser	1	R120 193.50	R120 193.50
01 - Basic / Services	Labour	45	R887.50	R39 937.50
01 - Basic / Services	Travel time	5	R1 481.25	R7 406.25
01 - Basic / Services	Mileage	5	R743.75	R3 718.75
			Subtotal excluding VAT	R285 976.02

EEV replacement CRAC 1

Quotation Details

Category	Item	Qty	Price	Total
01 - Basic / Product	Vacuum pump oil	1	R528.13	R528.13
01 - Basic / Product	Reclaim cylinder	1	R1 093.75	R1 093.75
01 - Basic / Product	Nitrogen	1	R975.00	R975.00
01 - Basic / Product	R410a refrigerant	2	R2 600.63	R5 201.26
01 - Basic / Product	Drier	1	R601.25	R601.25
01 - Basic / Product	Welding	1	R1 950.00	R1 950.00
01 - Basic / Product	Welding rods	5	R97.50	R487.50
01 - Basic / Product	Silver solder rods	3	R178.75	R536.25
01 - Basic / Product	Labour	45	R887.50	R39 937.50
01 - Basic / Product	Travel time	5	R1 481.25	R7 406.25
01 - Basic / Product	Mileage	5	R743.75	R3 718.75

Subtotal excluding VAT	R62 435.64
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Summary

Please contact us if you have any questions.

Subtotal excluding VAT	R410 478.30
ZAR VAT (15%)	R61 571.75
Total including VAT	R472 050.05 ZAR

ACCEPT QUOTE

Comments

Scope of Work:

Repair CRAC 3

- Reclaim refrigerant from CRAC 2
- Reclaim refrigerant from CRAC 3
- Replace damaged condenser 3 with condenser 2
- Replace liquid line filter drier
- Pressure test system with nitrogen for any additional leaks
- Vacuum system
- Charge system with refrigerant

Compressor replacement CRAC 2

- Reclaim refrigerant
- Remove existing compressor and replace with new
- Replace liquid line drier
- Fit new burnout drier
- Fit new condenser
- Pressure test system
- Vacuum system to 500 microns
- Charge with refrigerant

EEV Replacement CRAC 1

- Reclaim refrigerant
- Remove existing EEV and replace with new
- Pressure test system
- Vacuum system to 500 microns
- Charge with refrigerant
- Fault find system for additional faults

Delivery of parts from Europe 6-8 weeks from date of order.

Notes:

- There may be additional underlying problems that have resulted in CRAC 2 and CRAC 1 failure. This can only be tested and determined once the replacement parts have been fitted, this could mean additional parts would need to be quoted.
- Dependent on parts delivery, this could be done as a once off which could mean a reduction in labour and travelling costs, as all repairs might be able to be done at the same time.

FCID: TBC

Customer Ref.: Repair of CRAC1, 2 & 3

Quote Terms and Conditions

- Errors and omissions excepted (E&OE)

NEC XON Systems (Pty) Ltd - Coastal Office

Oxford University Press Building, C/o Vasco Boulevard & John Hattingh Street
N1 City, Goodwood, Cape Town, WC 7460
South Africa

T: +27 21 591 6901

Quote # 233072

Date 12/08/2024

Expires 11/09/2024

Contact Paul van Jaarsveld

Prepared for Stellenbosch Municipality
Regan Mooideen
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South Africa

T: 021 808 8111
E: regan.mooideen@ Stellenbosch.gov.za

ACCEPT QUOTE

Stellenbosch Municipality - DC Call Out

Quotation Details

Category	Item	Qty	Price	Total
01 - Basic / Services	On Site Labour	3	R987.50	R2 962.50
01 - Basic / Services	Travel time - Return trip	1.5	R987.50	R1 481.25
01 - Basic / Services	Travel Mileage - Return trip	90	R8.25	R742.50

Please contact us if you have any questions.

Subtotal excluding VAT R5 186.25

ZAR VAT (15%) R777.94

Total including VAT R5 964.19 ZAR

ACCEPT QUOTE

FCID: TBC

Quote Terms and Conditions

- Errors and omissions excepted (E&OE)
- Unless otherwise clearly indicated: the prices herein exclude Value-Added Tax, freight and any other taxes or duties; and the prices herein are subject to the ROE exchange rate and subject to change; and unless otherwise indicated on the quotation, forward exchange contract insurance/cover is excluded.
- Final pricing and delivery lead times will be confirmed upon receipt of a purchase order
- This quotation is subject to NEC XON's standard terms and conditions of sale
- These terms and conditions shall supersede any additional or conflicting terms and conditions that appear on the customer's purchase order.