



SPECIFICATION

FOR

TRANSNET FREIGHT RAIL

ERMELO

OPERATIONAL VOICE RECORDING

SYSTEMS

SPECIFICATION No. BBF1024

August 2011

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A. Document authorisation

FUNCTION	NAME	TITLE & DIVISION	SIGNATURE	DATE
Compiled by:	A Dreyer	Project Manager (Technical Execution)		
Authorized by:	F. Nel	Divisional Head (Technical Execution)		

B. DISTRIBUTION

Once updated, a copy of the latest revision will be published in the document management system in use. E-mail to this effect will be sent to the relevant personnel or heads of department.

C. DOCUMENT CHANGE HISTORY

ISSUE NO.	DATE ISSUED	ISSUED BY	HISTORY DESCRIPTION
1.00	June 2011	A Dreyer	New document
1.01	August 2011	F Nel	New document

D. CHANGES SINCE LAST REVISION

CLAUSE	DESCRIPTION
Several	Small changes made to overall requirement for tender purposes.

E. ABBREVIATIONS, ACRONYMS AND DEFINITIONS

ABBREVIATIONS AND ACRONYMS	DESCRIPTION
TCO	Train Control Officer
CTC	Centralized Traffic Control
MDF	Main Distribution Frame
Radio	Two way radio Base Stations.
Sites	Sites where the Voice Recording Systems must be installed.
TCC	Technical Control Centre

DEFINITIONS	DESCRIPTION
Recorder	One computer, hard drives, UPS and Line Interface Cards used to record conversations.
Recording system	Two recorders housed in a common cabinet with two separate UPS

F. RELEVANT DOCUMENTATION APPLICABLE

DOCUMENT NO.	DESCRIPTION	LOCATION
None		

1. Introduction

Transnet Freight Rail (TFR) requires the Supply, Installation and Commissioning of 2 Voice Recording Systems (2 sites), installed at Ermelo and Ogies CTC Rooms for TFR operational purposes.

The reasons for recording the voice communications between TCO's, Train Drivers and other train control personnel are: -

1.1 Governance

To ensure that the appropriate procedures are followed when communication takes place between the TCO and other parties involved in train movement.

1.2 Protection and dispute avoidance/resolution

Providing a reliable means of determining 'who said what and when ' in the event of an accident, incident or un-safe working practice.

1.3 Compliance

To comply with National and International standards and trends.

1.4 Accident Investigation

To provide investigators with a means of establishing the sequence of events, that occurred in a complex rail operational environment, preceding and post an incident/accident occurrence.

2. Minimum Operational and Technical requirements:

The recording equipment offered must comply with the following minimum operational and technical requirements:

A statement of compliance must be completed for this specification by stating Yes or No for each requirement specified under sections 2.0 . If a separate statement or clarification is necessary, this must be attached separately to the Tenderer's response.

	Comply yes/no
2.1. TCO telephones, <u>digital</u> , <u>analog</u> and <u>Premicell</u> serviced by MTN/ TFR/Neotel/Telkom lines must be recorded on the extension (MDF) side. The channels referred to in the site list are a combination of digital and analog channels. It is the responsibility of the supplier to determine what type of line cards are needed to record the channels.	
2.2. Analog output of all radios from -3 dBm to +3 dBm must be recorded. VOX switching will be applicable to radio channels. Supplier to verify all radio interface requirements per site.	
2.3. The recording capacity must be sufficient to simultaneously record all channels on a site.	
2.4 The local recorder/s must be able to store a minimum of 7 days of continuous recording of all channels on site.	

2.5	The recorder/s on site must be equipped to record the number of channels as specified in the site list and ensure a minimum of 20% spare channels of each type (digital/analog) on site.	
2.6	A visual and audible alarm must be provided in the Train Control Centre, at the TCO desk or terminal, as well as a central alarm, indicating that the recording system is operational or has failed.	
2.7	The recordings stored on the local equipment must be downloadable by authorized users to removable media (CD and USB memory stick) for transcription or distribution purposes. It must be possible to monitor and e-mail recordings across the TFR network.	
2.8	A recording system consisting of two recorders (Computer, hard drives, UPS and Line Interface cards) must be installed at each site to ensure 100% redundancy.	
2.9	The recording system must be housed in a 19" lockable cabinet with glass front door, completely wired. A Control Terminal and sliding keyboard must be allowed inside the 19" lockable cabinet.	
2.10	Connection to line interface cards must be via Krone blocks, wired and pre-installed at the rear of the cabinet.	
2.11	No alteration, tampering or modification of recordings must be possible.	
2.12	Remote Web access and playback must be possible by means of Transnet LAN/WAN with appropriate 'Firewall' protection to those persons authorized to access such recordings. The supplier must provide a network connection splitter card/module for LAN connection of both recorders.	
2.13	It must be possible to download and playback recordings by means of a standard Transnet Personal Computer using Windows Media Player (the codec required must be specified).	
2.14	The playback system shall have a minimum search criteria based on Channel no, Telephone no, Radio no, Date and time.	
2.15	The supplier must supply and install equipment and software to monitor the status and alarms of all recorders at a TFR Central control office in Johannesburg (TCC) making use of the TFR WAN. This system must also allow for local recording of voice channels at the TCC.	
2.16	The recorders must have a facility to synchronize its internal clock with an accurate external time source based on UTC (Universal Time Coordinated) time allowing for user adjustable Time Zone Compensation.	
2.17	In the event of a power failure, the recording system shall automatically shut down in an orderly fashion. The incident shall be recorded with date and time stamp.	
2.18	When switched on, or when power restores, the recording system must initialize automatically without human intervention.	
2.19	Recording system security must be ensured by multi-level password control. All persons with current access, local or remotely, must be re-instated on the new systems.	

2.20 The tender price must include all software required and unlimited software licensing for use within TFR for its own requirements.	
2.21 Availability of spare parts must be guaranteed for a minimum of 7 years. The successful tenderer will be required to carry stock for this period.	
2.22 Each recording system must include a one-year technical support service, where the recorder will be monitored centrally from the supplier's support centre with complete back office reaction and support. This technical support service must commence on commissioning of each recording system. The support service must enable TFR TCC and field technicians to repair/rectify faults.	
2.23 Lightning protection is required on all line cards. The primary (on Krone blocks) and secondary lightning protection (on line card) offered must be specified in tender responses.	

3. Scope of work:

- 3.1 Supply and build of recording systems as per specification above.
- 3.2 Transport and install recording systems on the TFR sites as per sites list.
- 3.3 Tracing and connection of all lines to the recorder's from the MDF is the responsibility of the contractor. All cabling, Krone blocks and primary lightning protection must be supplied, installed and marked.
- 3.4 Commission, test and certify that all channels connected to recording systems are fully functional and are being recorded. Issue commissioning certificate.
- 3.5 Conduct three (3) technical training courses at Ermelo Infrastructure Telecoms Building for a minimum of 10 Technicians/Training officials
- 3.6 Additional technical support (after the first year of operation) will be required by Transnet per the various classes of support available from suppliers.

Important Note: A detailed roll-out schedule must be provided with tenders.

4. Training to be provided by Tenderers to Transnet after Installation:

- 4.1 Hardware installation and configuration
- 4.2 Wiring and Termination
- 4.3 Software installation and configuration.
- 4.4 Monitoring and first line faultfinding.
- 4.5 Searching for and playback of recordings locally and remotely.
- 4.6 Copying and distribution of recordings by various media and e-mail.
- 4.7 Explain the function of the Central Management System at TCC.

5. **Handover and acceptance documentation:**

- 5.1 Detail cabinet wiring and channel allocation diagram must be supplied.
- 5.2 Detail wiring diagram including strip and line information on the MDF and Krone blocks in the cabinet
- 5.3 Commissioning certificate of all lines on the recorders.
- 5.4 The recording system will be tested via the WAN by TFR before final acceptance.
- 5.5 Monitoring and Management of all recorders from the TCC.
- 5.6 Handover and acceptance documentation must accompany invoices

6. **Recording System**

6.1 Site List and Location

Site No.	Location	No of Channels	Replace Year
11	Ermelo CTC	64	1
24	Ogies CTC	32	1

6.2 Ermelo Voice Logger should record a Maximum of 64 Numbers (Analogue, Digital, RTO, VoIP and Trunking)

6.3 Ogies Voice Logger should record a Maximum of 32 Numbers (Analogue, Digital, RTO, VoIP and Trunking)

6.4 **Voice Logger System PRO Series**

- 19" Rack mountable Server Chassis
- Intel Pentium platform motherboard with 1333 MHZ
- Intel Dual Core Processor with minimum 8GB DDR800 Ramm
- 2x 2TB SATA 7200RPM Hard drives with 22 Speed DVD+R/RW 2MB Buffer
- 18.5" CRT/LCD Monitor, Keyboard, Optical Mouse and Speakers
- Voice logger Server and client software
- Drivers, firmware and patches for above hardware
- Operating system - Microsoft Windows 10 Professional

6.5 **Warranty:**

- A full warranty should be supplied on the Voice logger Configuration for the duration of the SLA.

6.6 **Software Upgrades:**

- For the first 12 months from the date of installation we should be entitled to free Voice Logger software upgrades. Should there be any other defects that need serious attention, the Supplier should be reachable and should come and sort out that issue.

7. **Bill of Quantity**

The Price List is as follows / contained in

Item no	Description	Unit	Quantity
1	Operational Voice Logger Recording System	each	2
2	8 Chanel analog line card	each	1
3	8 Channel digital line card	each	1
4	16 Channel analog line card	each	1
5	16 channel digital line card	each	1
6	16 Channel Voil line card	each	1

End of Specification