

**SPECIFICATION FOR THE TRAINING OF TRANSNET
FREIGHT RAIL PERSONNEL ON NEW EQUIPMENT**

**SPC-TFRT0003
APRIL 2009**

Revision 1.00

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TABLE OF CONTENTS

I	DOCUMENT AUTHORISATION.....	3
II	ABBREVIATIONS, ACRONYMS AND DEFINITIONS	3
1.	SCOPE	4
2.	LEVEL.....	4
3.	SYLLABUS	5
4.	DURATION.....	5
5.	ROSTER.....	5
6.	VENUE.....	6
7.	COSTS	6
8.	FEEDBACK.....	7
9.	Quality and Comprehensiveness.....	10
10.	Duration of Course.....	11
11.	Effectiveness.....	11

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Page 2 of 12

I DOCUMENT AUTHORISATION

FUNCTION	NAME	TITLE & DIVISION	SIGNATURE	DATE
Compiled by :	E van der Merwe	Operational Manager	<i>Signed</i>	2009-05-05
Authorised by :	M Nuttall	Divisional Manager	<i>Signed</i>	2009-05-05

II ABBREVIATIONS, ACRONYMS AND DEFINITIONS

ABBREVIATIONS AND ACRONYMS	DESCRIPTION
AC	Alternating Current
AIS	Alarm Indication Signal
db	Decibel
BER	Bit Error Rate
FERF	Far End Receive Failure
IEC	International Electro technical Commission
ITU-R	International Telecommunications Union Radio communication sector
ITU-T	International Telecommunications Union Telecommunication sector
LCT	Local Craft Terminal
MSP	Multiplex Section Protection
NMS	Network Management System

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Doc. No. : SPC-TFRT003

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Page 3 of 12

ABBREVIATIONS AND ACRONYMS	DESCRIPTION
OLTE	Optical Line Terminal Equipment
PCM	Pulse Code Modulation
SCADA	Supervisory Control and Data Acquisition
SFP	Small Form Factor Pluggable Modules (Small – factor pluggable)
SNCP	Sub Network Connection Protection
STM	Synchronous Transport Mode

DEFINITIONS	DESCRIPTION
None	

1. SCOPE

1.1 A training course for Transnet freight rail personnel is required when new equipment is introduced which employs technology, which is unfamiliar, or more advanced than that currently provided in-house.

1.2 Unless otherwise stipulated, the course will typically be for 10 students.

Since the content (quality) of the courses may vary considerably, certain essential items are specified and a flexible costing is called for.

2. LEVEL

2.1 The majority of students will have a minimum education of a National Diploma (light current) or equivalent.

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2.2 At the end of the course, students must be well equipped with an understanding of basic principles and system configuration. Students must be familiar with the manuals, notation and equipment subsystems, reconfiguration techniques and troubleshooting. Students must be well trained on the physical equipment, use of relevant instrumentation, to solve simulated faults and to reconfigure the subsystems

3. SYLLABUS

3.1 A detailed syllabus must be submitted with this tender, which will list all the subjects to be covered in theory and practical, with an amount of time allocated for each subject.

3.2 Details of the courses notes must be submitted with the tender.

3.3 Lecturers must be fluent in English. The names and qualifications of the proposed lecturers must be provided.

4. DURATION

4.1 The total duration of the course is dependent on the quantity and complexity of the equipment, but should the time required exceed two weeks, then the course must be split into modules of two weeks (or less) separated by intervals of at least two weeks.

4.2 Unless special permission is obtained from Transnet freight rail, the course must be provide during normal working hours.

4.3 Should the tenderer wish to run the course into the evening and /or over the weekend, this must be quoted for as an option.

5. ROSTER

5.1 Normal starting time is 08h00, ending at 16h00. This, however, is flexible within reason.

5.2 The following breaks must be provided in the course:

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5.2.1 10h00 – 10h15 Tea

5.2.2 12h00 – 12h30 Lunch

5.2.3 14h30 – 14h45 Tea

5.3 Theory lectures must be provided in the mornings. The afternoons must be devoted to demonstrations, use of test instruments, practical fault finding, reconfigurations and tests.

6. VENUE

6.1 The contractor will provide a suitable venue (in South Africa) inclusive of all lunches and teas.

6.2 The contractor must supply sufficient units of each type of equipment to be studied, for effective practical evaluation, and deliver to the specified venue. The contractor must deliver the equipment manuals and comprehensive course notes in English.

6.3 Transnet freight rail will provide suitable accommodation, white board, audio visual aids, flip charts, etc. In the event that Transnet freight rail decides to have the course at their premises, the tenderer must stipulate his requirements. Lunches and teas will be provided by Transnet freight rail.

7. COSTS

7.1 The tenderer's quotation for training must include unit rates and provide details of the constituent components of the quotes, i.e.

7.1.1 Cost per set of course notes;

7.1.2 Overhead cost preparing course notes;

7.1.3 Cost per hour of each lecture or assistant;

7.1.4 Overhead cost of each lecturer (accommodation, transport);

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- 7.1.5 Cost of hired equipment;
 - 7.1.6 Cost of consumables;
 - 7.1.7 Cost per additional student;
- 7.2 The following options must be quoted for –
- 7.2.1 The provision of a venue and accommodation;
 - 7.2.2 The provision of teas and lunches;
 - 7.2.3 The provision of all classroom accessories;
- 7.3 Should the quote and rates not be acceptable to Transnet freight rail, then Transnet freight rail reserves the right to either make alternative arrangements for training external to the conditions of the final contract, or disqualify the tenderer from further consideration.
- 7.4 Further training in the future may be required which will be costed at unit rates. Tenderers must state what escalation would be applicable.

8. FEEDBACK

- 8.1 The course must be followed by an examination to test the quality and effectiveness of the course. Should the course be 2 weeks or longer, an exam must take place at the end of each week. The exam should not be longer than 2 hours.
- 8.2 The result of the exam, together with an assessment of the student's practical competence, must be recorded in the examiner's report (Annexure A) These results are confidential and must be given to the Project Manager. Each student is entitled to know his own results.
- 8.3 A suitable certificate should be presented to each of the qualifying students. The exact makes should not be reflected, but rather:

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- Passed with Distinction _____ 75% to 100%
- Passed with Higher Grade _____ 60% to 74%
- Passed with Standard Grade _____ 50% to 59%

8.4 The student will be required to comment anonymously on the course, each student must be given a copy of Annexure B. These must be collected and submitted to the Project Manager, who will then comment and forward these to the contractor upon request.

END OF SPECIFICATION

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Page 8 of 12

Annexure A to specification SPC-TFRT0003**Examiner's report**

CONTRACT NUMBER:	CONTRACTOR
Course Description:	
Names and Qualifications of Lecturer(s) / Examiner(s)	

Results

Student's Name	Theory %	Practical %	Comments

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Page 9 of 12

General Comments

**Annexure B to Specification SPC-TFRT0003
STUDENT'S REPORT**

Contract Number:	Contractor
Course Description:	
Name of Lecturer:	

9. Quality and Comprehensiveness

Please state your opinion on:

9.1	Theory Lectures	<input type="text"/>	A= Excellent B = Very Good C= Satisfactory D= Inadequate
9.2	Theory Presentation	<input type="text"/>	
9.3	Practical Demonstration	<input type="text"/>	
9.4	Documentation and Notes	<input type="text"/>	

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10. Duration of Course

Please state your opinion on;

10.1	Time spent on basic principles	<input type="checkbox"/>	A = Too short B = Could be longer C = Just right D = Too long
10.2	Time spent on Practical Theory	<input type="checkbox"/>	
10.3	Time "Hands on"	<input type="checkbox"/>	
10.4	Overall Course Duration	<input type="checkbox"/>	

11. Effectiveness

Please state how you feel about your ability, to maintain, fault-find or re-configure this equipment.

11.1	Confident with all aspects	<input type="checkbox"/>
11.2	Should manage most Aspects OK	<input type="checkbox"/>
11.3	Will require frequent reference to manuals	<input type="checkbox"/>
11.4	May need to call for help occasionally	<input type="checkbox"/>
11.5	Did not really understand the system	<input type="checkbox"/>

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Page 12 of 12