



TRANSSOL Ltd
TRANSPORT SOLUTIONS

Title

Competency Matrix

Date

1st March 2005

Reference

TS_CM_001

Transsol Limited

Competency Matrix

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AMENDMENT RECORD	
Version	Amendment
1.0	First Issue
2.0	Updated competencies in Quality Management following ISO 9001 certification and audits

1 INTRODUCTION

1.1 Purpose

1.1.1 The purpose of this document is to provide a record of the competency of the key staff of Transsol Ltd.

2 COMPANY COMPETENCE

2.1 General

2.1.1 Company competency is recorded as:

- Capability Matrix (to record specific areas of expertise).

2.2 Capability Matrix

2.2.1 The current areas of capabilities are identified in the Capability Matrix presented on the next and subsequent pages. The key to the capability matrix is explained below:

Key	Meaning	Definition
N	New	No previous experience of applying the task, however, this does not preclude a theoretical appreciation of the work involved. Would require training, close supervision and assistance to apply the task.
A	Appreciation	Appreciation of the requirements of the task plus limited experience of applying it. Would require close supervision and some assistance to apply the task. Able to understand the task if explained.
W	Working	Good knowledge of the requirements of the task plus experience of applying it. Would require limited supervision to apply the task.
P	Proficient	In depth knowledge of the requirements of the task plus good experience of applying it. No supervision or assistance required in applying the task. Would be able to provide supervision and assistance to other staff for the task.
S	Specialist	A fundamental understanding of the principles and key issues of the task plus significant experience of applying it. Capable of reviewing existing methodologies from first principles and designing new methodologies.

3 QUALITY MANAGEMENT

General Management	Capability Category
Design of Quality System	P
Design of Software Quality System	P
Writing Quality Manual	P
Writing Procedures	P
Writing Work Instructions	P
Quality Systems Review	S
Quality Systems Management	S

Quality Auditing	Capability Category
Internal Auditing	W
Quality Systems Audit	W
Software Quality Systems Audit	P

Instruction and Standards	Capability Category
Writing Instruction/Standard	P
Approving Instruction/Standard	P
Distribution Control Instruction Standard	P
Writing Briefing Documents	S
Audit of Instruction/Standard	P

Project Management	Capability Category
Project Start Up	P
Project Planning	P
Quality Planning	P
Performing Feasibility Studies	P
Writing System Requirements Specs	P
Project Control	P
Running Meetings	P
Project Quality Engineering	P
Validation/Acceptance Planning	P
Acceptance of Complete Systems	P
Risk Control	P

4 SAFETY MANAGEMENT

Safety Management	Capability Category
Develop Safety Management Process	S
Writing Safety Procedures	S
Complying with Safety Procedures	S
Writing Safety Plans	S
Preliminary Hazard Analysis	S
Hazard Analysis	S
Risk Assessment	S
Hazard Log	S
Safety Review	S
V + V Planning	S
Safety Case (Construction)	S
Current/Emergency Safety Standards	S
Group Railway Safety Plan	S
Network Rail Approvals Process	S

5 SYSTEM AND SOFTWARE ENGINEERING

System Type Approval	Capability Category
Type Approval Planning	P
Type Approval Trials	P
Type Approval Case	P
Type Approval Specification	P
Type Approval Testing	P

Test Schemes	Capability Category
Test Specification	S
Test Planning	S
Test Management	S
Test Attendance	S
Analysis of Test Results	S
Preparation of Test Report	S

Support (Post Design Services)	Capability Category
Design Organisation	W
Computer Hardware	W
Computer Software	W
Mechanical Systems	A
Electronic System	S
Application Engineering	S
Contingency/Emerging Planning	W

Systems Engineering	Capability Category
System Design	S
Formal Concept Generation	S
System Feasibility Analysis	S
Sensitivity Analysis	S
Requirements Specification	S
System Specification	S
Design Reviews	S
Change Control	S
Configuration Management	S
V + V Planning	S
Verification and Validation	S
System Modelling/Simulation	S

System Integration	Capability Category
Interface Definition	S
Interface Design/Specifications	S
Interface Control/Management	S
Allocation of Requirements	S
Compatibility	S
Internal Interfaces	S
External Interfaces	S
Stakeholder Identification	S
Managing Cross Boundary Issues	S

Software Engineering	Capability Category
Project Management	S
Requirements Specifications	S
Architectural Design	W
Module Design	W
Coding	A
Module Testing	W
Validation & Verification	P
Software/Hardware Integration	W
Software Assessment	S
Software Maintenance	W

6 RAILWAY CONTROL AND SIGNAL ENGINEERING

Railway Engineering	Capability Category
Rolling Stock 25 kV a.c.	S
Rolling Stock 1500 V and 750 V d.c.	S
Electrification	S
Electromagnetic Compatibility	S
Track Circuits and Axle Counters	S
Signalling and telecommunications	S
ATP / ATO	S
Programmable Interlockings (SSI, RETB)	S
European Rail Train Management System	S
UK Railway Group Standards	S

7. RAMS ENGINEERING

Reliability Engineering	Capability Category
Requirements Specification	S
Systems Analysis	S
Reliability Demonstration Testing	S
FMEA	S
FMECA	S
Fault & Events Trees	S
RCM	S