



## RESEARCH DESIGNS & STANDARDS ORGANIZATION

Manaknagar, Lucknow – 226011

### EL-WI-8.1-1 Work Instruction for Development of Vendor

#### 1.0 Amendment History:

S. No.	Amendment Date	Version	Reasons for Amendment
1.	First Issue	1.0	First Issued under new documentation system for ISO9001:2015.
2.	28.09.2018	2.0	Vendor up-gradation annexure-1 replaced by vendor approval timeline and two new items are added.
3.	29.11.2018	2.1	Correction in Annexure-I Timeline for Vendor Approval.
4.	26.02.2019	2.2	Correction in Annexure-I Timeline for Vendor Approval.
5.	06.08.2020	3.0	Correction in Annexure-I Timeline for Vendor Approval.
6.	16.09.2021	4.0	Correction in Annexure-I Timeline for Vendor Approval as per timeline approval of Spl.DG(VD).
7.	15.06.2022	5.0	Revision in Annexure-I Timeline for Vendor Approval for field trial period for developmental vendor and quantity of Up gradation from 'Developmental Vendor' to 'Approved Vendor'
8.	20.08.2024	6.0	Correction in Annexure-I Timeline for Vendor Approval to include FogPASS.
9.	04.12.2024	6.1	Revised in compliance of Clause 4.1.1 of ISO document No. "QO-D-8.1-11 Version No: 3.1 Dated: 20.11.2024 Vendor - Changes in approved status". Field trial period for upgradation as one year for Electric Loco Items as per Annexure-I has been approved by DG RDSO on dated 30.11.2024 in file No. RDSO-PE0TLAC(MISC)/10/2021-ED/PSEMU/RDSO-Part(1) (Computer No. 259048 ).
10.	04.02.2025	6.2	Para 4.13 modified to ensure Quality Audit of all items of Electrical Directorate to complete in 3 years. Authority-approved by PED/PS&EMU on dated 04.02.2025 in file No. RDSO-EL/0/PN(HRP)/7/2020-O/o PED/SE/RDSO (Computer No. 32811 ).

## 2.0 Purpose

To lay down instructions for Vendor approval (Multi Sourcing), Vendor List, Quality Audit of vendor registration, product development, publishing expression of interest and creation/change/deletion/Change of controlling authority for equipment, item specification for items allotted to RDSO by Railway Board for Electrical Directorate. In case of any conflict with clause of this document, then the directive issued by MR/ISO should be followed.

## 3.0 Scope of Application

This covers the procedure for vendor development for Electric Locos items, including items referred to by Railway Board from time to time.

### Responsibility:

Directorate Head is responsible for establishing and changing of this procedure.

All Unit Officers of the directorate are responsible for implementing and maintaining this procedure.

### Definitions:

**Vendor:** Vendor is a firm, which supplies items to Indian Railways.

**Approved Vendor:** The vendor who can design manufacture and supply the items approved by Electrical Directorate to the Railways & Production Units directly.

## 4.0 Procedure

### 4.1 Creation of equipment, item specification:

For Creation of equipment, item specification directive issued by ISO CELL Document "QO-D-8.1-1 latest version Creation of equipment, item specification" shall apply.

### 4.2 Change of equipment, item specification:

For Change of equipment, item specification directive issued by ISO CELL Document "QO-D-8.1-2 latest version Change of equipment, item specification" shall apply.

### 4.3 Withdrawal specification of items:

For Deletion of equipment, item specification directive issued by ISO CELL Document "QO-D-8.1-3 latest version Withdrawal specification of items" shall apply.

### 4.4 Change of controlling authority for specification:

For Change of controlling authority for equipment, item specification directive issued by ISO CELL Document "QO-D-8.1-4 latest version Change of controlling authority for specification" shall apply.

### 4.5 Application for registration of Vendor

For Application for registration of Vendor directive issued by ISO CELL Document "QO-D-8.1-5 latest version Application for registration of Vendor" shall apply.

### 4.6 Vendor Application Processing

For Vendor Application Processing directive issued by ISO CELL Document "QO-D-8.1-6 latest version Vendor Application Processing" shall be applicable.

#### 4.6.1 Management of test samples

The procedure as given in below shall be followed for testing of samples:

- (a) Samples, being sent to testing laboratories, shall have the signature of authorized official of the Directorate which is sending the samples for testing. The signature will be on the sample itself and will be with an indelible ink. The signature shall be at places which are generally not disturbed during testing. All important subassemblies/components shall be signed in this manner wherever possible.

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- (b) For items like paint, sand, oil, grease, very small items etc, on which signature cannot be done by indelible ink as per (a) above, the signature can be done by authorized official of the Directorate which is sending the sample for testing on the container/box/cover/bag which may be sealed after drawing sample in his presence.

Testing agencies have to ensure receipt of samples in any one of the above two manners they should not conduct testing and also advise authorised official of the directorate sending the sample.

- 4.6.2** Minimum quantity for electric locomotive item for inclusion of the firm in 'List of RDSO Vendors for developmental order' along with timeline for offering sample and type test period and quantity has been specified in enclosed Annexure-I.

#### **4.7 Vendor relaxation of registration requirements:**

For Vendor relaxation of registration requirements directive issued by ISO CELL document "QO-D-8.1-7 latest version Vendor relaxation of registration" shall be applicable.

#### **4.8 Vendor registration EOI:**

For Vendor registration EOI directive issued by ISO CELL document "QO-D-8.1-8 latest version Vendor registration EOI", shall be applicable.

#### **4.9 Vendor List :**

For Vendor List directive issued by ISO CELL document "QO-D-8.1-9 latest version Vendor List", shall be applicable.

Any changes regarding approval of new vendors or deletion of existing vendors will be advised to QA Electrical Directorate through separate letters. QA Electrical Directorate will compile the master list of all RDSO approved vendors of Electrical Directorate.

#### **4.10 Vendor sample type testing**

For Type testing of samples (during fresh registrations and Quality Audit) directive issued by ISO CELL document "QO-D-8.1-10 latest version Vendor sample type testing" shall be applicable.

#### **4.11 Vendor changes in approved status**

For Vendor changes in approved status for delisting directive issued by ISO CELL document "QO-D-8.1-11 latest version Vendor changes in approved status" shall be applicable.

Minimum quantity for electric locomotive item for upgradation of the firm from 'List of RDSO Vendors for developmental order' posted on RDSO website to 'List of Approved Vendors' has been specified in enclosed Annexure-I. Field trial period for upgradation for Electric Loco items shall be applicable as one year as specified in Annexure-I.

#### **4.12 Vendor changes in vendor entity**

For Vendor changes in vendor entity directive issued by ISO CELL document "QO-D-8.1-12 latest version Vendor changes in vendor entity" shall be applicable.

#### **4.13 Quality audit of approved vendor:**

For Vendor Quality audit issued by ISO CELL document "QO-D-8.1-13 latest version Quality Audit of Approved Vendor", shall be applicable. However, it should be ensured that Quality Audit of all items of Electrical Directorate shall be completed in 3 years.

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#### 4.14 Vendor registration schedule of charges

For Vendor registration schedule of charges directive issued by ISO CELL document “QO-D-8.1-14 latest version Vendor registration schedule of charges” shall be applicable.

#### 4.15 Product development :

For Product development directive issued by ISO CELL document “QO-D-8.1-15 latest version Product development” shall be applicable.

#### 4.16 Publishing expression of interest:

For publishing expression of interest directive issued by ISO CELL document “QO-D-8.1-16 latest version Publishing expression of interest” shall be applicable.

#### 4.17 Logistics provision by vendor for inspections

For Logistics provision by vendor for inspections directive issued by ISO CELL document “QO-D-8.1-17 latest version Logistics provision by vendor for inspections” shall be applicable.

#### 4.18 Empanelment of Inspection Agencies

For Empanelment of Inspection Agencies directive issued by ISO CELL document “QO-D-8.1-18 latest version Empanelment of Inspection Agencies” shall be applicable.

### 5.0 Responsibility and Authority

Responsibility and Authority of creation, maintenance and use of directives is as per table given under:

Activity	Responsible	Approver	Supporting	Consulted	Informed
Creation, maintenance of this document	DSE/Pn.	PEDSE	ADE/Pn. & concern Staff		All Units of directorate through intranet
Compliance of directives contained in this document.	All Unit officer	PEDSE	Concern Staff		
Requirement of deviation from directive.	PEDSE	Spl.DG(VD)	Respective officer of directorate	MR/ISO Cell	All directorates through intranet

### 6.0 Abbreviations

DG	:	Director General
PEDSE	:	Principal Executive Director Standards Electrical
EDSE	:	Executive Director Standards Electrical
DSE	:	Director Standards Electrical
DDSE	:	Deputy Director Standards Electrical
ADE	:	Assistant Design Engineer
STR	:	Schedule of Technical Requirement
QAP	:	Quality Assurance Plan
DM	:	Directorate Manual
P.O.	:	Purchase Order

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## ANNEXURE-I

TIMELINE FOR VENDOR APPROVAL- Applicable to all the vendors irrespective of their date of application.

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W
S.NO.	Item	Sub S. No	Sub Item	Specification No.	Drawing No.	STR No.	Time permitted for offering Sample (days)	Sample Testing Charges, if applicable (Rs./\$)	Sample Testing Quantity	Sample Testing Unit	Sample Testing Period(days)	Time permitted for offering Prototype (days)	Prototype Testing Quantity	Prototype Testing Unit	Prototype Testing Time required (days)	Requirement of Field Trial for approval as Developmental Vendor (Quantity)	Quantity for Field Trial. (Unit)	Requirement of Period of Field Trial (Days)	Up gradation from 'Developmental Vendor' to 'Approved Vendor' Quantity	Up gradation from 'Developmental Vendor' to 'Approved Vendor' Period (Days)	Up gradation from 'Developmental Vendor' to 'Approved Vendor' Period (Days)	Remarks
1.	Brake System for 3-phase locomotives	1	Brake System for 3-phase locomotives	For WAP-5, CLW/MS/10/031 Alt. 9 For WAG- 9 Co-Co, CLW/MS/3/001 Alt .16	NIL	RDSO/2011/EL/STR/0076 Rev. '2'	0	0	0	0	0	180	1	No.	210	1	No.	365	60	Loco sets	365	
2.	Computer /Microprocessor controlled air brake for 3 phase electric locomotive	1	Computer / Microprocessor controlled air brake for 3 phase electric locomotive	RDSO/2017/EL/ SPEC/ 0126 Rev."0"	NIL	RDSO/2011/EL/STR/0076 Rev. '2'	0	0	0	0	0	180	1	No.	210	1	No.	365	60	Loco sets	365	
3.	Main Compressor (Oil Lubricated) for Electric Locomotives (1745 LPM Capacity)	1	Main Compressor (Oil Lubricated) for Electric Locomotives (1745 LPM Capacity)	RDSO/2018/EL/ SPEC/ 0137 Rev."0"	NIL	RDSO/2007/EL/STR/0015, Rev. '1'	0	0	0	0	0	180	1	No.	180	1	No.	180	60	Loco sets	365	
4.	Oil Free Main Compressor for 3-Phase Electric & WAP-4 Locomotives (1750 LPM Capacity)	1	Oil Free Main Compressor for 3-Phase Electric & WAP-4 Locomotives (1750 LPM Capacity)	RDSO/2008/EL/SPEC/0076 (Rev. "3")	NIL	RDSO/2007/EL/STR/0015, Rev. '1'	0	0	0	0	0	180	1	No.	180	1	No..	180	60	Loco sets	365	

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A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W
5.	3 Phase Locomotive Traction Motor Bearing for TM type 6FRA6068	1	3 Phase Locomotive Traction Motor Bearing for TM type 6FRA6068	FRS No. RDSO/EL/FRS/BEARING/0012-2015 Rev.'0'	NIL	NIL	0	0	0	0	0	180	1	loco set	30	10	Loco sets	180	120 (20)	TM sets (Loco sets)	365	
6.	3 Phase Locomotive Traction Motor Bearing of TM type 6FXA7059	1	3 Phase Locomotive Traction Motor Bearing of TM type 6FXA7059	FRS No. RDSO/EL/FRS/BEARING/0011-2015 Rev.'0'	NIL	NIL	0	0	0	0	0	180	1	loco set	30	5	Loco sets	180	60 (10)	TM sets (loco sets)	365	
7.	Suspension Tube Bearings for WAG9/ WAP7 locomotives	1	Suspension Tube Bearings for WAG9/ WAP7 locomotives	NIL	NU 1964 & NH1044	NIL	0	0	0	0	0	180	1	loco set	30	10	Loco sets	180	330 (55)	TM sets (Loco sets)	365	
8.	Axle Box Bearing For WAP5 Locomotives	1	Axle Box Bearing For WAP5 Locomotives	NIL	TBU- 150	NIL	0	0	0	0	0	180	1	loco set	30	5	Loco sets	180	10	loco sets	365	
9.	Axle Box Bearing For WAG9/WAP7 Locomotives	1	Axle Box Bearing For WAG9/WAP7 Locomotives	NIL	CRU 150	NIL	0	0	0	0	0	180	1	loco set	30	10	Loco sets	180	55	loco sets	365	
10.	a. Main Gear bearing for Aluminium Gear Case of WAP5 b. Intermediate Gear bearing for Aluminium Gear Case of WAP5 c. Pinion bearing	1	a. Main Gear bearing for Aluminium Gear Case of WAP5 b. Intermediate Gear bearing for Aluminium Gear Case of WAP5 c. Pinion bearing	NIL	a. L 558548 – L 558510 b. M 432148A – M 432111 c. 798-792	NIL	0	0	0	0	0	180	1	loco set	30	5	Loco sets	180	10	loco sets	365	
11.	Spheribloc for three phase electric locomotive	1	Spheribloc for three phase electric locomotive	RDSO/2007/EL/SPE C /0051 Rev."3"	IA016-00003 (Rev. 1) IA016-00005 (Rev.3), IA016-00269 (Rev.3)	RDSO/2008/EL/STR/0050(Rev 1 )	0	0	0	0	0	180	4 No. of each type	No.	90	2	Loco sets	180	60	loco sets	365	
12.	Elastic Ring for three phase electric locomotive	1	Elastic Ring for three phase electric locomotive	RDSO/2007/EL/SPE C /0053 Rev."2"	SKEL-4717 Alt. 4	NIL	0	0	0	0	0	180	2	No.	45	5	Loco sets	180	60	Loco sets	365	

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13.	Cable Transit System with EPDM Rubber Modules	1	Cable Transit System with EPDM Rubber Modules	RDSO/2008/EL/SPE C/0067 (Rev "3") of January 2021	NIL	NIL	0	0	0	0	0	180	1	Set (As per Spec)	20	NA	NA	0	30	loco sets	365	
14.	Thin walled flexible elastomeric cables with copper conductors for working voltages (i) up to 750 volts and (ii) above 750 volts up to 1.8/3.0 kv for tap changer electric locomotives , AC/DC EMU, BG AC EMU & MEMU/ coaching stock ( Chemical curing process / Electron Beam Irradiation curing process)	1	Thin walled flexible elastomeric cables with copper conductors for working voltages (i) up to 750 volts and (ii) above 750 volts up to 1.8/3.0 kv for tap changer electric locomotives , AC/DC EMU, BG AC EMU & MEMU/ coaching stock ( Chemical curing process / Electron Beam Irradiation curing process)	RDSO Spec no. ELRS/SPEC/ ELC/00 19, Rev "4" of February 2018	NIL	RDSO/2017/EL/STR/0087, Rev. '0'	0	0	0	0	0	180	1	set (As per Spec)	190	NA	NA	0	80 50 20	Kms. (up to 2.5Sqmm) Kms. ( 4.0 - 35 Sqmm) Kms(50.0 Sqmm & above)	365	
15.	Thin Walled Cable for 3-phase locomotives	1	Thin Walled Cable for 3-phase locomotives	Single Core Cable CLW/ES/3/04 58, and Multi Core Cable CLW/ES/3/04 59	NIL	RDSO/2017/EL/STR/0087, Rev. '0'	0	0	0	0	0	180	1	Set (As per Spec)	180	NA	NA	0	80 50 20	Kms. (up to 2.5Sqmm) Kms. ( 4.0 - 35 Sqmm) Kms(50.0 Sqmm & above)	365	
16.	Single Core & Multi Core Elastomeric Cables (for loco & EMU)	1	Single Core & Multi Core Elastomeric Cables (for loco & EMU)	E-14/01 (Rev.2) 1993 (part I & II)	NIL	NIL	0	0	0	0	0	180	1	Set (As per Spec)	30	NA	NA	0	50 30 10	Kms. (up to 2.5Sqmm) Kms.(4.0 - 35 Sqmm) Kms(50.0 Sqmm & above)	365	

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A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W
17.	HRPVC cables (for EMUs & coaches)	1	HRPVC cables (for EMUs & coaches)	E-14/01 (Rev.2) 1993 (Part III)	NIL	NIL	0	0	0	0	0	180	1	Set (As per Spec)	30	NA	NA	0	50 30 10	Kms. (up to 2.5Sqmm) Kms. ( 4.0 - 35 Sqmm) Kms(50.0 Sqmm & above)	365	
18.	Zero Halogen Low Smoke Cables for Metro coaches	1	Zero Halogen Low Smoke Cables for Metro coaches	E-14/04 (Rev.1) 1998	NIL	NIL	0	0	0	0	0	180	1	Set (As per Spec)	30	NA	NA	0	50 30 10	Kms. (up to 2.5Sqmm) Kms. ( 4.0 - 35 Sqmm) Kms(50.0 Sqmm & above)	365	
19.	High Reach Pantograph for Electric locomotives	1	High Reach Pantograph for Electric locomotives	RDSO/2007/ EL/SPE C/ 0054 Rev."3" of May 2019	NIL	RDSO/2008/EL/STR/ 0049 Rev'2'	0	0	0	0	0	180	1	No.	180	1	No.	180	60	Loco sets	365	
20.	LED based twin beam head light	1	LED based twin beam head light	RDSO/2017/ EL/ SPEC/ 0134 Rev."2"	NIL	NIL	0	0	0	0	0	180	1	Nos.	45	10	Loco sets	180	60	Loco sets	365	
21.	Metallised Carbon Strips for pantograph with Auto dropping	1	Metallised Carbon Strips for pantograph with Auto dropping	RDSO/2014/ EL/ SPEC/ 0114 Rev."0"	NIL	NIL	0	0	0	0	0	180	1	No.	15	5	Loco sets	180	60	Loco sets	365	
22.	EP Assisted brake system for 3- phase Electric locomotive application compatible with EP assisted brake system on coaches	1	EP Assisted brake system for 3- phase Electric locomotive application compatible with EP assisted brake system on coaches	RDSO/2018/ EL/SPEC/0138 Rev. '0' April'18	NIL	NIL	0	0	0	0	0	180	1	No.	210	1	No.	180	60	Loco sets	365	
23.	Bearing for traction motor type HS1050Er /HS15250A	1	Bearing for traction motor type HS1050Er /HS15250A	NIL	NIL	NIL	0	0	0	0	0	180	1	loco set	30	5	Loco sets	180	60 (10)	TM sets (loco sets)	365	
24.	Bearings for traction motor TAO-659	1	Bearings for traction motor TAO-659	NIL	NIL	NIL	0	0	0	0	0	180	1	loco set	30	5	Loco sets	180	60 (10)	TM sets (loco sets)	365	

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25.	Auxiliary Machine Bearings	1	Auxiliary Machine Bearings	NIL	NIL	NIL	0	0	0	0	0	180	1	loco set	30	5	Loco sets	180	6000 (200)	Nos. (Loco sets Approx.)	365	
26.	Suspension bearing for Hitachi /TAO-659 Traction Motor	1	Suspension bearing for Hitachi Traction Motor	NIL	NIL	NIL	0	0	0	0	0	180	1	loco set	30	5	Loco sets	180	50	TM sets	365	
27.	Single Phase to Three Phase 2 X 130 KVA Converter (SIV) for Conventional Locomotives	1	Single Phase to Three Phase 2 X 130 KVA Converter (SIV) for Conventional Locomotives	RDSO/2018/EL/SPEC/0140 Rev '1'	NIL	NIL	0	0	0	0	0	180	1	No.	30	1	No.	180	5	loco sets	365	
28.	Development of Functionality Equivalent PCB Cards of GTO Based Converters and MICAS VCU in Three Phase Electric Locomotives	1	KU B921 A01	RDSO/2018/EL/SPEC/0139, Rev-4	NIL	RDSO/2018/EL/STR/0091, Rev-15	0	0	0	0	0	180	1	Number each type of card	90	5	Nos. for each Card	180	30	Nos.	365	
		2	AR B705 B01																			
		3	UA B514 B33																			
		4	PP B622 B01																			
		5	PP B908 A01																			
		6	UR B512 D15																			
		7	XB C029 A01																			
		8	PP B626 B01																			
		9	UF B660 A01																			
		10	LA A424 C01																			
		11	PP A425 B01																			
		12	PP B624 A01																			
		13	AF B635 B08																			
		14	UA B630 A36																			
		15	UA B630 A91																			
		16	UA B630 A36																			
		17	XV A987 C22																			
		18	PP A988 B02																			
		19	XV A986 B22																			
		20	UF B701 A01																			
		21	UR B177 D15																			

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		23	PP B471 A02																			
		24	RD B472 A01																			
		25	UA B476 A01																			
		26	KV B993 A01																			
		27	KU C153 A02																			
		28	GV A587 A																			
		29	KY A924 D01																			
		30	XVB175																			
29.	FOG Pilot Assistance System For Safety (FOG PASS)	1	FOG Pilot Assistance System For Safety (FOG PASS)	RD SO/SPN/ 201/2010 Ver. 2	NIL	SIQ 0366	0	0	0	0	0	180	1	No.	120	1	No.	90	1900	Nos.	365	

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