

## 1 SCOPE

This document lists the tools and special equipment, which are approved and accepted for use in ScottishPower's transmission and distribution network.


## 2 ISSUE RECORD

This document is controlled maintained document.

All copies printed via the Intranet or photocopied will be deemed uncontrolled.

DATE	ISSUE NO	AUTHOR	AMENDMENT DETAILS
Oct 2009	11	David McMenemy	Update to Section 6.3.7: TSE-06-039 – Bowden Portable Fault Passage Indicator
March 2010	12	Ken Lennon	Update to Section 6.3.2 Page 8 TSE-06-041 – Biccotest – RL2000 & RL200 Cable Identifier.
April 2010	13	Jim Livie	Update to Section 6.3.7 Page 12. TSE-06-040 – Cable Sniffer TSE-06-042 – Cable Sniffer Drill System TSE-06-043 – Cable Sniffer Searcher Bar System
October 2010	14	Alan MacGregor	Insertion of 6.3.9 Miscellaneous Equipment TSE-06-044 – Generator Cable Splitter box
Nov 2010	15	Ken Lennon	Update to Section 7.3.7 TSE-06-045 – DILO SF6 Measuring Device (Sniffer)
Aug 2011	16	DM Jones	Update to Section 7.3.7 General Instruments TSE-06-049 – TruPulse 200 ( Laser Measuring Device for Overhead Line Clearances as part of ESQCR)

## 3 ISSUE AUTHORITY

Author	Owner	Issue Authority
<b>Alan MacGregor</b> Lead Engineer Technical Risk	<b>Carl Woodman</b> Engineering Services Manager	<b>Carl Woodman</b> Engineering Services Manager  



**4 REVIEW**

This document shall be reviewed as dictated by business change but at a period of no greater than five years from the last issue date.

**5 CONTENTS**

1	SCOPE.....	1
2	ISSUE RECORD.....	1
3	ISSUE AUTHORITY.....	1
4	REVIEW.....	2
5	CONTENTS.....	2
6	STANDARD REQUIREMENTS.....	3
	6.1 General Tools.....	3
	6.2 Insulated Tools and Shrouding.....	3
7	APPENDICES.....	4
	7.1 Jointing Tools.....	4
	7.1.1 Stripping Tools.....	4
	7.1.2 Gas Torches.....	5
	7.1.3 Miscellaneous Tools/kits.....	5
	7.1.4 6.1.4 Pilot/Telephone Cable Tools.....	5
	7.2 Overhead Line Tools.....	6
	7.2.1 Compression Tools.....	6
	7.2.2 Lever Hoists.....	7
	7.3 Instruments.....	7
	7.3.1 Voltage Indicators.....	7
	7.3.2 Cable identification/Locators.....	8
	7.3.3 Cable Fault Location.....	9
	7.3.4 Insulation Test Instrument.....	10
	7.3.5 Multimeters.....	10
	7.3.6 Clip On Ammeters.....	11
	7.3.7 General Instruments.....	12
	7.3.8 Leads.....	13
	7.3.9 Miscellaneous Equipment.....	13

---

## **6 STANDARD REQUIREMENTS**

### **6.1 General Tools**

General tools are not contained within this document i.e. hammers, chisels etc.

Tools should be used and inspected according to the Health, Safety and Environmental Handbook.

### **6.2 Insulated Tools and Shrouding**

Details of insulated tools and shrouding equipment are contained within the Live Working Manual.

## 7 APPENDICES

### 7.1 Jointing Tools

#### 7.1.1 Stripping Tools

<b>Purpose</b>	<b>Type</b>	<b>Comments</b>	<b>SP Code</b>
MDPE sheath stripper	KMS-K		26251119
Rigid industrial stripping pliers	PG3	Width 2.8mm cutting wheels, for cable dia.30-55mm PICAS	Purchased direct from Pirrelli
Rigid industrial stripping pliers	PG4	Width 3.0mm cutting wheels, for cable dia.45-75mm PICAS	Purchased direct from Pirrelli
XLPE screen stripping tool (easy strip/peelable)	LHM1R	Adjustable screen scoring tool 14-40mm dia cables	Purchased direct from Pirrelli
XPLE scoring tool	TT2352/1	0.4mm(for use on 33Kv cables)	Purchased direct from Smith Elect.
XPLE scoring tool	TT2352/2	0.6mm(for use on 11Kv cables)	Purchased direct from Smith Elect.
XLPE screen stripping tool (fully bonded screen)	INT.BZ Mod. 1714	10-52mm	Purchased direct from Boddingtons
XLPE screen stripping tool (fully bonded screen)	500 30	16-40mm	NKT
XLPE screen stripping tool (fully bonded screen)	ASC40R2	38-60mm dia. cables (630mm cable)	Purchased direct from Smith Electrical/Raychem
XLPE adjustable insulation stripping tool	BRMrd1	14-40mm	Purchased direct from Pirrelli
XLPE adjustable insulation stripping tool	BRMrd2	38-60mm	Purchased direct from Pirrelli

7.1.2 Gas Torches

<b>Purpose</b>	<b>Type</b>	<b>Comments</b>	<b>SP Code</b>
Gas torch with 25mm burner head		For plumbing	Manweb code 78855
Heatshrink nozzle		For above torch	Manweb code 78874
Handle	FH 1630-HN2		Purchased direct from Smith Electrical/Raychem
Burner head	FH 1630-BN25		Purchased direct from Smith Electrical/Raychem
Gas hose/connections	FH 1630-S5		Purchased direct from Smith Electrical/Raychem

7.1.3 Miscellaneous Tools/kits

<b>Purpose</b>	<b>Type</b>	<b>Comments</b>	<b>SP Code</b>
Compression Tool (Pirelli)	G14	Suitable for 500-630 Crimps	Purchased direct from Pirelli
Pfisterer Tool kit		Size 2&3	Purchased direct from CBS
Pfisterer Tool kit		Size 4	Purchased direct from CBS

7.1.4 Pilot/Telephone Cable Tools

<b>Purpose</b>	<b>Type</b>	<b>Comments</b>	<b>SP Code</b>
Compression Tool	Amp	For Hardex 7 pair	Purchased direct from Amp
Crimping Pliers	3M	Scotchlock	Purchased direct from 3M

## 7.2 Overhead Line Tools

### 7.2.1 Compression Tools

Manufacturer	Type	Comments	SP code
Pirelli	G10	Hydraulic hand tool	Purchased direct from Pirelli
Pirelli	G5	Hydraulic hand tool	Purchased direct from Pirelli
Pirelli		Battery operated tool	Purchased direct from Pirelli
Framatome	MD6	Hand tool	Existing tools in good condition may be used but new tools may no longer be purchased.
Framatome	MD7	Hand tool (insulated)	Existing tools in good condition may be used but new tools may no longer be purchased.
Cembre	B54-D6	9.6V, 5.5 ton, stick shaped battery operated crimping tool. MD6 replacement tool. – 2.9kg (inc. battery), 120 crimps per charge.	New tools Approved for purchase.
	B55-KV	14.4V, 5.6 ton, insulated battery operated crimping tool. – 5.0kg (inc. battery), 150 crimps per charge	New tools Approved for purchase.
	B135-C/KV	14.4V, 13.3 ton, insulated battery operated crimping tool. – 6.6kg (inc. battery), 45 crimps per charge.	New tools Approved for purchase.
	B131-C	14.4V, 13.3 ton, battery operated crimping tool. – 7.4kg (inc. battery), 55 crimps per charge.	New tools Approved for purchase but may be used for MEWP/ground operation only.
	HT-TC026Y	Hydraulic cutting tool for conductor, stay wire and stay rods.	New tools Approved for purchase.
Izumi	ECO-EZBG with BP-70MH battery	14.4V, 6.0 ton, stick shaped battery operated crimping tool. MD6 replacement tool. – 3.0kg (inc. battery), 75 crimps per charge.	New tools Approved for purchase.
	REC-5431 with BP-70MH battery	14.4V, 12.0 ton, insulated battery operated crimping tool. – 6.65kg (inc. battery), 60 crimps per charge.	New tools Approved for purchase.
Klauke	EK425UK	9.6V, 5.0 ton, stick shaped battery operated crimping tool. MD6 replacement tool. – 2.5kg (ex. battery), 65 crimps per charge.	New tools Approved for purchase. Care to be taken to ensure tool works properly.

7.2.2 Lever Hoists

<b>Manufacturer</b>	<b>Safe Working Load</b>	<b>Comments</b>	<b>SP code</b>
Yale	All Sizes	Chain with captive gates at both ends.	Purchased direct from distributors.
Bravo	All Sizes	Chain with captive gates at both ends.	Purchased direct from distributors.
Elephant	All Sizes	Chain with captive gates at both ends.	Purchased direct from distributors.
GT	All Sizes	Chain with captive gates at both ends.	Purchased direct from distributors.
NGK	1.5 tons	Web with captive gates at both ends.	Purchased direct from distributors.

**7.3 Instruments**

7.3.1 Voltage Indicators

<b>Manufacturer</b>	<b>Type</b>	<b>Comments</b>
Martindale	MTL9C	Test Lamp (TSE-06-029)
Martindale	MTL7	Lv fused Test Lamp. LED Modification (TSE-06-036)
Fameca	SL200-68170	11kV proximity tester
Fameca	TAG 5000	11 & 33kV wireless voltage phase comparator (TSE-06-005)
Karl Pfister	KP Tester –11E	
Edgecumbe	HVD04	Proximity Indicator
Edgecumbe	HVD10	Proximity Indicator

7.3.2 Cable identification/Locators

<b>Manufacturer</b>	<b>Type</b>	<b>Comments</b>
Foster	AFG 50	
BAUR	KSG 80	Polarised locator (Obsolete replaced byKSG100
BAUR	KSG 100	Cable Identifier (TSE-06-015)
Bicotest	RL2000 & RL1200	Not Live HV Cable Identifier (TSE-06-041)
Bowden Bros	CC1	Cable Core Identifier (TSE-06-008)
C Scope	XD	Cable Location Tool (TSE-06-012)
Grouser Fault Finders Ltd	Serial Nos. 640, 654, 656, 657	Grumbler Cable Identifier (TSE-06-021)
Lee Vaughn		
Radio Detection	RL 200	
Radio Detection	RD4000	Cable Locator (TSE-06-010)
Radio Detection	Lexxi T810	Time Domain Reflectometer (TSE-06-030)
SEBA KMT	Easyloc	Cable locator with depth measurement. Alternative to CAT & Genny (TSE-06-034)

7.3.3 Cable Fault Location

<b>Manufacturer</b>	<b>Type</b>	<b>Comments</b>
HDW Brengelat	T91/13.5/10kV	Fault burner
Bicotest	T121	Fault Burner
Bicotest	T433M	Pulse Echo
Bicotest	T207	Thyrister Thumper
CSD	T240	Telefault TDR
CSD	SRS	Telefault (service cables) TDR
Bicotest	Faultman	Handheld unit TDR
EA Technology	Fritter	
Kehui	T-P21/22, T-V22	Transient Locator (TSE-06-011)
Kelman	Fusemate	Cable Re-energising device
Kelman	Rezap	Cable Re-energising device (wheel clamp, dummy fuse and wedge clamp)
Edgcumbe	E2752	TDR
Megger	TDR2000	Replacement for Edgcumbe E2752 (TSE-06-023)

7.3.4 Insulation Test Instrument

<b>Manufacturer</b>	<b>Type</b>	<b>Comments</b>
Bicotest	Victor T120A	Not to be used as Potential Indicator. (TSE-06-009)
Martindale	IN1003	
Megger	M7027	
Megger	M2008	
Megger	BM223	
Megger	MIT 400 Series	Industrial Insulation/Continuity Testers (TSE-06-022)
Megger	MIT 510, 520 &1020	Insulation Resistance Testers (TSE-06-017) <i>direct replacement for BM11D</i>
Metrohm	16A	
Metrohm	9A	

7.3.5 Multimeters

<b>Manufacturer</b>	<b>Type</b>	<b>Comments</b>
AVO	Model 8	Analogue
AVO	Model 40	
Fluke	27	
Fluke	77	
Fluke	87	
Fluke		Graphical Multimeter
Metrix ITT	MX52	
Metrum	SAP/KL	

7.3.6 Clip On Ammeters

Manufacturer	Type	Comments
BBC	WZ-11	1000A clamp probe for use with BBC multi meter
Biddle		Digital True RMS
Eurism	SM600	400A ac/dc
Ferranti	100-1000A	analogue
HEME	H100	
HEME	H200	
HEME	H1000	
Kewtech	KT 21	
Kyoritsu	K8112	Current Clamp Adapter (TSE-06-013)
Kyoritsu	2040	Digital Clamp Meter (TSE-06-032)
Prova	CM-01	
Robin	K2004	
Soar	NE-610	

7.3.7 General Instruments

<b>Manufacturer</b>	<b>Type</b>	<b>Comments</b>
BBC MetraWatt	MA5D	
Bowden	Mk10 portable Fault Passage Indicator (FPI)	Portable remote signalling FPI for use on OHL network, details on OHL-22-035. Approval in (TSE-06-039)
Deta		Polarity tester
DILO	3-033-R002	SF6 Measuring Device (Sniffer) (TSE-06-045)
Drummond	DRU PU4	Drummond Test Lamp Tester (TSE-06-004)
EATL	CS1	Cable Sniffer (TSE-06-040)
EATL	CS1-DS	Cable Sniffer Drill System (TSE-06-042)
EATL	CS1-SBS	Cable Sniffer Searcher Barholing System (TSE-06-043)
Elcomponent Ltd	SP Max Energy Profile Logger	ScottishPower weatherproof Version (TSE-06-037)
Fluke	41	Harmonic Analyser
Fluke	1743	Fluke Power Quality Logger 1743 (TSE-06-028)
GMC	Metraphase 1-UK	Phase rotation meter
IRC Ltd	IRC 230LV	LV Clip On Block (TSE-06-006)
Kelman Ltd, Lisburn	P1 & P2	Profile Recorder. (TSE-06-007)
Kewtech	KEW8031F	Phase Rotation Meter
Martindale	FD550	Elite Professional Fuse Finder Kit (TSE-06-018)
Megger	DET3TC	Digital Ground Tester (TSE-06-035)
Robin ( <i>now obsolete</i> )	8031F	Phase rotation meter (TSE-06-014)( <i>obsolete replaced by Kewtech</i> )
Robin	KMP	Earth Loop Impedance Tester
Seaward	DL750	Earth Loop Impedance Tester
SupaRule Systems Ltd.	CHM 300	Conductor Height Meter. Measures3 conductors vertically
SupaRule Systems Ltd.	CHM 300E	Conductor Height Meter. Measures3 conductors vertically
TruPulse Technology Inc	TruPulse 200	Laser Measuring Device for Overhead Line Clearance (TSE-06-049)



**APPROVED EQUIPMENT REGISTER  
-TOOLS AND SPECIAL EQUIPMENT-**

**TSE- 06 – 001  
Issue 15**

---

7.3.8 Leads

<b>Manufacturer</b>	<b>Type</b>	<b>Comments</b>
Silvertronic	Fused leads	complying with G38

7.3.9 Miscellaneous Equipment

<b>Manufacturer</b>	<b>Type</b>	<b>Comments</b>
Ten47	CST1PS2PS-T7	Generator cable splitter box. 600A, 2kV <sub>ac</sub> (TSE-06-044) One input; 2 outputs.