

 Eskom	Standard	Technology
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Compiled by



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Date: 24 February 2020

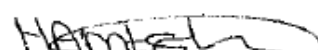
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## **1. Introduction**

This document was compiled by: Work Group and is applicable to all Live workers including contractors.

## **2. Supporting clauses**

### **2.1 Scope**

The purpose is to have a national evaluation document to enable the assessor to conduct fair and transparent evaluations on possible live work contractors prior to a contract being awarded to them, and also to be used during follow up audits. The outcome of this evaluation will enable the assessor to compile a report for Management to prove compliance / non-compliance to the Live Work standards, and Task Manuals.

#### **2.1.1 Purpose**

The purpose is to evaluate whether the respective contractors are able to meet the requirements for quality management and possess the necessary capability in terms of the following:

- Human Resources
- Vehicles
- Basic hand tools
- PPE
- Live work equipment
- Lifting gear
- Expertise
- Business Premises
- Quality management systems
- Safety Risk Process
- OHS act

#### **2.1.2 Applicability**

This document is applicable to all contractors who are working Live or indicated their interest to obtain live work contracts in Eskom.

## **2.2 Normative/Informative references**

Parties using this document shall apply the most recent edition of the documents listed below

### **2.2.1 Normative**

- [1] 240-135663316, Care, Inspection, Maintenance and testing of insulating gloves, sleeves, hoses, blankets and covers for live working.
- [2] 240-146738795, Standard for High Voltage Live Working.
- [3] 240-76222282, Care, Inspection, Maintenance and testing of live work lifting equipment
- [4] 240-125004047, Routine inspection, care, maintenance and testing of insulating aerial devices
- [5] 240-142701257, Minimum Requirements to be met for the Manufacturing of Live Work Insulating MEWP's.

- [6] 240-70413029, Care, Inspection, Maintenance and Testing of Live Work strain carriers.
- [7] 240-139695158, High Voltage Live Work Training standard.
- [8] 240-70175091, The Use, Care, Maintenance and Testing of High Voltage Operating sticks.
- [9] SCSASAAZ6, Standard for the inspection care, maintenance and testing of pedestal mounted ladder assemblies
- [10] 240-114967625, Eskom's Operating Regulations for High Voltage Systems

## **2.2.2 Informative**

None

## **2.3 Definitions**

### **2.3.1 General**

All definitions in DST 34-1148 are applicable.

### **2.3.2 Disclosure classification**

**Controlled disclosure:** controlled disclosure to external parties (either enforced by law, or discretionary).

## **2.4 Abbreviations**

All abbreviations in DST 34-1148 are applicable.

## **2.5 Roles and responsibilities**

Not applicable to this revision.

## **2.6 Process for monitoring**

Not applicable to this revision.

## **2.7 Related/supporting documents**

Not applicable to this revision.

## **3. Requirements**

### **3.1 Responsibilities**

#### **3.1.1 Zone Manager**

- a) The Field Service Manager shall ensure that the requirements of this standard is enforced.
- b) The Field Service Manager shall appoint a competent person to evaluate all live work contractors.

#### **3.1.2 Live work Senior Supervisor and OTS**

- a) Schedule a pre evaluation meeting with the contractor to define and explain requirements.
- b) Do a technical evaluation on the contractor prior to any contacts being assigned.

#### **3.1.3 Live work contractor employer (16.1)**

- a) Attend the pre-evaluation meeting.

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- b) Attend all evaluations.
- c) All employers shall appoint a person in the company that has the competence to do task observation on all teams.
- d) The employer shall ensure that at least 3 task observations are performed annually on every live worker in his employment.
- e) The employer shall ensure that all authorisations are maintained.
- f) .The employer shall ensure that all log books are maintained.
- g) The employer shall ensure that corrective action is taken on all non-conformances identified.
- h) The employer shall on request of Eskom provide work position of live work teams.
- i) The employer shall on request of Eskom produce any and all documentation of live workers.
- j) The employer shall ensure that no unauthorised labourers are actively involved in any part of the task while live work is being performed.
- k) The employer shall ensure that the original documentation and a copy of all log books and relevant evidence is provided to Eskom prior to evaluation.

**Note:** The copy of documentation provided to Eskom shall remain in Eskom's custody for auditing purposes.

#### 4. Evaluation

Element		Remarks
Aerial devices (DST 34-657)	Registration no :	
Mechanical test	Date: Tested by :	
Electrical Test Boom, Basket, Liner	Date: Tested by :	
Max height		
Acoustic test		
Functional test		
Elect. Interlock system		
Emergency procedure display		
Voltage rating displayed		
SWL		
Foot plate & earth spike		
Type of vehicle		
Crane	Registration no :	
Mechanical test	Date: Tested by :	
SWL & punch marks on hook		
Safety latch		
Foot plate & earth spike		
SWL displayed		

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Working under live lines sticker					
Type of vehicle					
PML (SCSASAAZ6)	No 1	No 2	No 3	No 4	Remarks
Mechanical test					
Electrical Test					
Foot plate & earth spike					
Voltage rating displayed					
Functionality test (burst valve lock?)					
Out Riggers					
Live work Ladders (DST0051)	N o 1	N o 2	N o 3	N o 4	Remarks
Mechanical test					
Electrical Test					
Voltage rating displayed					
Functionality test					
SWL on ladder					
Live work platform's (SCSSCAAU6)	N o 1	N o 2	N o 3	N o 4	Remarks
Mechanical test					
Electrical Test					
No of platforms					
Marking of platform (as per 6.1 & 6.2)					

Live work Equipment	Y/ N	
<ul style="list-style-type: none"> <li>Modifications made to tools?</li> </ul>		Not allowed in terms of 5.6 in LW Standard need to be approved by DLWSC
Approved type		
Tested		
Condition		
Logged Inspections (daily, 3 Monthly etc		
Designated per team as per requirements (Annex)		
Storage facilities / Transporting		
Unique serial / Asset no's fixed on tools.		
SWL Fixed on tools		
Mechanical test		
<ul style="list-style-type: none"> <li>Numbers correspond with valid test certificates?</li> </ul>		
Lifting gear ( Summary )		
Adequate for all tasks		
On inspection register		
Inspected & Recorded 3 monthly		
Annual test done by a accredited person		
SWL permanently & correctly on equipment?		
Unique asset number fixed on equipment?		
Live work teams ( Summary )		
Training logbooks		
Previous Live ork declarations (confirm quality)		
No of gloving teams		
No of Stick & bare hand teams		

Authorization to apply & remove earths ( for Tie ins)		
On job observations on each team		
PPE per member		
Latest Live work Std's/ and Task Manuals & available to teams		
Regular Safety meetings with staff		
Local Live work meeting - Minutes		
Regional Live work meeting – (Proof of attendance)		
General remarks		

## 5. Requirements for live-workers

Requisite	Evidence	Team Leader	Team member	Team member	Team member	Team member	Remarks
Hard hat	Safety issue register/on job						
Gloves	Safety issue register/on job						
Safety shoes	Safety issue register/on job						
Safety clothing	Safety issue register/on job						
Conductive boots (for climbing any 132kv structure) 4.4.4 in LW Standard	Safety issue register/on job						Stick & bare hand only

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FAS System	Issue Register						
First Aid (L2)	Valid Certificate						
ORHVS 1&10	Valid Certificate	N/A					
ORHVS 1 to 10	Valid Certificate		N/A	N/A	N/A	N/A	
Basic Rigging	Valid Certificate		N/A	N/A	N/A	N/A	
Log book completed/ Signed off	Live work Log book						
Limited switching	Valid Authorization		N/A	N/A	N/A	N/A	
Medical certificate	Valid Certificate						
One year Eskom related line maintenance/building experience	Log book record						
Fire fighting course	Valid Certificate						
Task observations ( 3 per year from Eskom FSO / TSPO)	On job book						
Aerial Devices / PML / Ladders / Platforms training	Valid Certificate						
FAS training	Valid Certificate						
Crane operating	Valid Certificate		N/A	N/A	N/A	N/A	
Complete the person in charge module	Valid Certificate		N/A	N/A	N/A	N/A	
500 Hours active Live Work experience	Log book record		N/A	N/A	N/A	N/A	
Live work Lifting gear inspection course	Valid Certificate		N/A	N/A	N/A	N/A	FSO / S.S evaluate current course content
Previous Hand over's	Hand over book		N/A	N/A	N/A	N/A	

**6. Minimum Live Works Tools per team for Gloving Work of A PML**

Tool	Min required qty	Actual per team	Unique serial no? (permanently marked)		Remarks
Ladder/PML/Aerial device	1				
Line hose Long	2				
Line hose Short	2				
FAS per person	1				
Post Insulator cover	1				
Sleeve's per PML	2 Pairs				
Gloves per person	2 Pairs				
Glove protectors per PML	2 Pairs				
Little mule 1.5 Ton	1				
Spiral link stick (300mm)	1				
Snatch Pulley	1				
Pole cover	1				
Solid blanket	2				
Split blanket	2				
Pegs	8				
Nylon sling (2 Ton 450mm)	1				
Nylon sling (2 Ton 800mm)	1				
Nylon sling (2 Ton 1000mm)	1				
Come a long (2 Ton)	2				
Hand line (18m x 13mm) complete	1				
Groundsheet 2m x 2m	1				
Temporary conductor support	3				
Grip-all stick	1				
Wire holding stick	1				

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Bypass jumper	1				
FAS & bag per person	1				
Hose bag	1				
Silicon cloths	2				
Blanket bag	1				
Plastic bucket 25L for hand line	1				
Sunglasses	1 pair				
Safety helmet with chin strap type	1				
Leather gloves	1 pair				
Leather shoes (No steel cap)	1 pair				
Overall or Cotton shirt and trousers	1				
PPE bag	1				
Fire extinguisher (9kg)	1				
First aid kit (Team size)	1				
Wind speed meter	1				
Stick Tester	1				
General remarks					

## 7. Minimum live-work tools per team for stick and bare hand work

Tool	Min required	Actual per team	Unique serial no? (permanent marked)	Test Certificate (available and valid)	Lab	Test type	Recorded on inspection books	Rev to remarks
Ladder/PML/Aerial device/Scaffold	1							
Bare hand suit	1							
Conductive Boots	1 pair							
Wire holding stick	2							
Grip all stick 4.5m	2							

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Universal stick 38x 3m	3							
Universal stick 38 x 4.5m	2							
Hand line complete	1							
2 x 3 or 3 x 4 rope block	1							
Spiral link stick 38 x 1.2m	1							
Snatch Pulley	1							
Strainer sticks	2							
Live yoke 2 Ton	1							
Dead yoke 2 Ton	1							
Trunnion ratchets	2							
Chain sling	1							
Nylon slings	3							
Come a long	2							
Universal Shepherd hook	2							
Universal W-pin remover	1							
Universal W-pin inserter	1							
Universal rotary prong	1							
Universal ball socket fork	1							
Universal mirror	1							
Universal cotter key replacer	1							
Universal hammer	1							
Universal steel brush	1							
Static shunt	1							
Cradle	1							
Tower bracket	1							
Bare hand ladder	1							
Stick tester	1							
Leakage monitor	1							
(5.2.6 in LW Std)								
63mm jinn pole	1							

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## 8. Conclusions

Key to contractors ratings √= Fully meets Requirements X= Do not Fully meet requirements ? = Non Responsive N/A = Not Applicable	Company name	Remarks
Aerial device's		
PML' s		
Gloving tools condition		
Gloving tools storage		
Stick & bare hand tools condition		
Stick & bare hand tools storage		
Gloving tools test records for each tool		
Lifting gear inspections		
Lifting gear condition		
No of staff per team ( Gloving )		
No of staff per team ( Stick & bare hand )		
Training logbooks		
Training of staff		
Authorisations		
On jobs		
PPE		
Standards up to date?		
Latest minutes of safety meeting as per OHS act		
Latest minutes of Live work steering committee meeting		
Latest minutes of Area live work meeting		

**Note:** Items mark in grey is used only for indication of possible poor performance of overall quality of output.

## 9. Findings

	Non-compliance observed

Acceptance by Owner / Manager of company as true reflection of non conformances in terms of relevant Live work requirements/ Standards as observed by Live work TSPO /FSO.

Name: \_\_\_\_\_

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Capacity: \_\_\_\_\_

Date: \_\_\_\_\_

Signature: \_\_\_\_\_

## **10. Recommendations**

Based on the Technical evaluation conducted, the contractor is recommended for contract work within the relevant Region, subject to limitations as defined.


## **11. Revision history**

This revision cancels and replaces revision no 0 of document no. **DST\_34-373**.

<b>Date</b>	<b>Rev</b>	<b>Compiler</b>	<b>Remarks</b>
April 2020	1	M Voudouris	New ISO format, numbering and document reference update
Nov 2010	1	B van Wyk	Document review and on new template.
Nov 2007	0	G Boshoff	Document approved

## **12. Authorisation**

This document has been seen and accepted by

<b>Name and surname</b>	<b>Designation</b>
Amelia Mtshali	Senior Manager DBOUS
A Bekker	Manager DB&M
A Bekker	Maintenance SC Chairperson

This standard shall apply throughout Eskom Holdings Limited, its divisions, subsidiaries and entities wherein Eskom has a controlling interest.

## **13. Development team**

Document reviewed by Billie van Wyk

## **14. Acknowledgements**

Not applicable.

## **Annex A – Impact Assessment**

(Normative)

Impact assessment form to be completed for all documents.

### **1) Guidelines**

- All comments must be completed.
- Motivate why items are N/A (not applicable)
- Indicate actions to be taken, persons or organisations responsible for actions and deadline for action.
- Change control committees to discuss the impact assessment, and if necessary give feedback to the compiler of any omissions or errors.

### **2) Critical points**

**2.1 Importance of this document. E.g. is implementation required due to safety deficiencies, statutory requirements, technology changes, document revisions, improved service quality, improved service performance, and optimised costs.**

Comment: Implementation required due to statutory requirements and safety.

**2.2 If the document to be released impacts on statutory or legal compliance - this need to be very clearly stated and so highlighted.**

Comment: This document will ensure that the live work contractors meet the minimum requirements in terms of the live work standards and procedures as well as the OHSact sections which is currently relevant to live work.

**2.3 Impact on stock holding and depletion of existing stock prior to switch over.**

Comment: None

**2.4 When will new stock be available?**

Comment: No impact

**2.5 Has the interchange ability of the product or item been verified - i.e. when it fails is a straight swap possible with a competitor's product?**

Comment: Not applicable

**2.6 Identify and provide details of other critical (items required for the successful implementation of this document) points to be considered in the implementation of this document.**

Comment: All current contractors need to be evaluated against this document, to ensure their compliance.

**2.7 Provide details of any comments made by the Regions regarding the implementation of this document.**

Comment: None

### **3) Implementation timeframe**

**3.1 Time period for implementation of requirements.**

Comment: Immediate as it is based on the min requirements from OHSact and Live work standards.

**3.2 Deadline for changeover to new item and personnel to be informed of DX wide change-over.**

Comment: N/A

#### **4) Buyers Guide and Power Office**

##### **4.1 Does the Buyers Guide or Buyers List need updating?**

Comment: No

##### **4.2 What Buyer's Guides or items have been created?**

Comment: None

##### **4.3 List all assembly drawing changes that have been revised in conjunction with this document.**

Comment: Not Applicable

##### **4.4 If the implementation of this document requires assessment by CAP, provide details under 5**

##### **4.5 Which Power Office packages have been created, modified or removed?**

Comment: None

#### **5) CAP / LAP Pre-Qualification Process related impacts**

##### **5.1 Is an ad-hoc re-evaluation of all currently accepted suppliers required as a result of implementation of this document?**

Comment: No

##### **5.2 If NO, provide motivation for issuing this specification before Acceptance Cycle Expiry date.**

Comment: Document reviewed only

##### **5.3 Are ALL suppliers (currently accepted per LAP), aware of the nature of changes contained in this document?**

Comment: N/A

##### **5.4 Is implementation of the provisions of this document required during the current supplier qualification period?**

Comment: N/A

##### **5.5 If Yes to 5.4, what date has been set for all currently accepted suppliers to comply fully?**

Comment: N/A

##### **5.6 If Yes to 5.4, have all currently accepted suppliers been sent a prior formal notification informing them of Eskom's expectations, including the implementation date deadline?**

Comment: N/A

##### **5.7 Can the changes made, potentially impact upon the purchase price of the material/equipment?**

Comment: No

##### **5.8 Material group(s) affected by specification: (Refer to Pre-Qualification invitation schedule for list of material groups)**

Comment: Not Applicable

#### **6) Training or communication**

##### **6.1 State the level of training or communication required to implement this document. (E.g. none, communiqués, awareness training, practical / on job, module, etc.)**

Comment: N/A

##### **6.2 State designations of personnel that will require training.**

Comment: Not applicable

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**6.3 Is the training material available? Identify person responsible for the development of training material.**

Comment: Not Applicable

**6.4 If applicable, provide details of training that will take place. (E.G. sponsor, costs, trainer, schedule of training, course material availability, training in erection / use of new equipment, maintenance training, etc).**

Comment: Not Applicable

**6.5 Was Training & Development Section consulted w.r.t training requirements?**

Comment: Not Applicable

## **7) Special tools, equipment, software**

**7.1 What special tools, equipment, software, etc will need to be purchased by the Region to effectively implement?**

Comment: None

**7.2 Are there stock numbers available for the new equipment?**

Comment: Not Applicable

**7.3 What will be the costs of these special tools, equipment, software?**

## **8) Finances**

**8.1 What total costs would the Regions be required to incur in implementing this document? Identify all cost activities associated with implementation, e.g. labour, training, tooling, stock, obsolescence**

Comment: None

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.....  
.....

Impact assessment completed by:

Name: B. van Wyk Designation: Senior Advisor