



شركة العين للتوزيع
Al Ain Distribution Company

**Health, Safety and Environment
Management System
Procedure**

**Standard Operating Procedure
Replacement of Fuse Cut Outs of
Pole Mounted Transformer
SOP.HSEMS.18**

Effective Date 10 / 01 / 2019

Procedure #: SOP.HSEMS.18

Issue : 1

Revision : 0

Page 1 of 8

Approved by:

Managing Director



شركة العين للتوزيع
Al Ain Distribution Company

**Standard Operating Procedure
Replacement of Fuse Cut Outs of
Pole Mounted Transformer**

Prepared by:

Senior Health, Safety and Environment Engineer

Reviewed by:

Health, Safety and Environment Department Manager

Approved by:

Managing Director



شركة العين للتوزيع
Al Ain Distribution Company

Issued by:

HSE Management System Representative

Effective Date: 10 / 01 / 2019

CONTROLLED



شركة العين للتوزيع
Al Ain Distribution Company

**Health, Safety and Environment
Management System
Procedure**

**Standard Operating Procedure
Replacement of Fuse Cut Outs of
Pole Mounted Transformer
SOP.HSEMS.18**

Effective Date 10 / 01 / 2019

Procedure #: SOP.HSEMS.18

Issue : 1

Revision : 0

Page 2 of 8

Approved by:

Managing Director

TABLE OF CONTENTS

1	INTENT	3
2	PRINCIPLES	3
3	DEFINITION	3
4	RESPONSIBILITIES	4
5	PROCEDURE	4
6	REFERENCES	7
7	APPENDICES	7

CONTROLLED



شركة العين للتوزيع
Al Ain Distribution Company

Health, Safety and Environment Management System Procedure

Standard Operating Procedure Replacement of Fuse Cut Outs of Pole Mounted Transformer SOP.HSEMS.18

Effective Date 10 / 01 / 2019

Procedure #: SOP.HSEMS.18

Issue : 1

Revision : 0

Page 3 of 8

Approved by:

Managing Director

1.0 Intent

- 1.1 This Standard Operating Procedure (SOP) defines the general rules and good practices required for the replacement of fuse cut outs of Pole Mounted Transformers (PMT).
- 1.2 This SOP is a supplement to the AADC System Safety Rules (SSR).
- 1.3 This procedure has been developed in line with the OSHAD CoP 15.0 Electrical Safety, OSHAD CoP 23.0 Working at Height Version 3.0 July 2016, and AADC SSRs.
- 1.4 This SOP is applicable to all AADC staff and contractor workers.

2.0 Principles

- 2.1 Replacement of Over Head Lines (OHL) fuse cut outs creates risks of access to exposed electrical equipment, Arc flash, electric shocks and falling from height. Work shall only be appropriately assessed, planned and supervised.
- 2.3 Only Persons shall be allowed to replace fuse cut outs that are trained and competent to do.
- 2.4 Competent Person (CP) shall maintain a safe distance from all exposed equipment.
- 2.5 Before working on fuse cut outs, the equipment shall be visually inspected in case for any defects and operational warnings, these shall be recorded and considerations shall be taken to control risk of harm.

3.0 Definitions

Term	Definition
AP	Authorized Person
CP	Competent Person
Hand line	A non-conductive rope used to pull up and lower down the material to poles
JSA / RA	Job safety analysis / Risk Assessment
OHL	Overhead Lines

CONTROLLED



شركة العين للتوزيع
Al Ain Distribution Company

**Health, Safety and Environment
Management System
Procedure**

**Standard Operating Procedure
Replacement of Fuse Cut Outs of
Pole Mounted Transformer
SOP.HSEMS.18**

Effective Date 10 / 01 / 2019

Procedure #: SOP.HSEMS.18

Issue : 1

Revision : 0

Page 4 of 8

Approved by:

Managing Director



PMT	Pole Mounted Transformer
SSR	System Safety Rules

4.0 Responsibilities

The relevant Section Manager is responsible to distribute this procedure to all involved parties and monitor the implementation. Added responsibilities:

Role	Replacement of Fuse Cut Outs of PMT
Supervisor / Authorized Person	<ul style="list-style-type: none"> • Conducts onsite risk assessment • Coordinates, plans and observes the working activity for maintenance and replacement of fuse cut outs • Work shall be carried out by maintaining basic operational rules and appropriate safety document shall be issued. • Ensure that all required PPE and emergency equipment is available and worn / used as required
Workers / Competent Person	<ul style="list-style-type: none"> • Conducts onsite tool box talk / safety briefings. • Ensures accompany person and other workers are aware of the risks associated with working on electrical equipment and working at height. • Appropriate safety document shall be received • Work shall be in accordance with the AP's instructions and guidance

5.0 Procedure

5.1 Planning & Assessment

- 5.1.1 Approved shut down shall be carried out by maintaining basic operational rules.
- 5.1.2 In case of unplanned task, AP shall take appropriate instruction and guidance from Control Person (CN) and passed to CP. The CP shall strictly follow all instruction and guidance.
- 5.1.3 The CP shall perform the task according to work instruction and method

CONTROLLED



شركة العين للتوزيع
Al Ain Distribution Company

**Health, Safety and Environment
Management System
Procedure**

**Standard Operating Procedure
Replacement of Fuse Cut Outs of
Pole Mounted Transformer
SOP.HSEMS.18**

Effective Date 10 / 01 / 2019

Procedure #: SOP.HSEMS.18

Issue : 1

Revision : 0

Page 5 of 8

Approved by:

Managing Director

statement and these steps shall be recorded and be available at the work site.

- 5.1.4 Appropriate safety document shall be received by CP at worksite. Primary and additional earths shall be recorded according to switching and earthing schedule.
- 5.1.5 Before accessing and operating of equipment, the CP shall conduct a tool box talk / safety briefing as described in section 5.2.1. If any topic of tool box talk reveals high risks, this is to be communicated to the AP, or supervisor.
- 5.1.6 AP shall periodically monitor the work and ensure that all workers conducting the work wear / use the required approved PPE.

5.2 Tool box talk / Safety briefings

- 5.2.1 On-site Tool box talk shall be undertaken to review the risks for each location of work.

Tool box talk / safety briefing topics
Is the circuit single line diagram available at the worksite?
Is the circuit to be worked on, identified with unique number and location?
Is manoeuvring form available at worksite (Planned shutdown)
Are supervisor and workers authorized and competent for this specific task?
Is workplace well managed and free from slip and trip hazards?
Is work area barricaded to restrict unauthorized persons or public entry?
Are the work instruction and method statement available at worksite?
Is the appropriate safety document received by CP?
Are all isolation points isolated and Primary earths applied?
Is transformer low voltage side isolated and earthed?
Is all the required PPE worn and available at workplace? (Appendix -7.1)?

5.3 Accessing to Fuse Cut Outs

5.3.1 Required PPE

- Clothing Cat-II
- Safety helmet
- Safety Shoes
- Safety glasses
- Insulating Gloves
- Body Harness

CONTROLLED



شركة العين للتوزيع
Al Ain Distribution Company

Health, Safety and Environment Management System Procedure

Standard Operating Procedure Replacement of Fuse Cut Outs of Pole Mounted Transformer SOP.HSEMS.18

Effective Date 10 / 01 / 2019

Procedure #: SOP.HSEMS.18

Issue : 1

Revision : 0

Page 6 of 8

Approved by:

Managing Director

- 5.3.2 Verify equipment identification and location of work.
- 5.3.3 Fully inspect the pole, pole-top fittings, conductors, conductor fittings and stays on the pole and ensure these are free from damage.
- 5.3.4 Climbing on pole shall be conducted in a safe manner considering the pole strength and it is preferable that work to be carried out using a MEWP.
- 5.3.5 Access the fuse cut outs with MEWP and / or direct climbing on pole shall be by wearing PPE and fall protection equipment.

5.4 Removing of Fuse Cut Outs

5.4.1 Required PPE

- Clothing Cat-II
- Safety helmet
- Safety Shoes
- Safety glasses
- Work Gloves
- Body Harness

5.4.2 Disconnect the transformer and line jumper one by one and mark each phase for phase sequence identification.

5.4.3 Safely remove all three cut outs and lower to the ground and move to suitable place away from worksite. If work is carried out by climbing the pole, a hand line shall be used to lower down the removed fuse cut outs one by one.

5.4.4 Work gloves shall be used to protect the hand from cut or abrasion.

5.4.5 During work at height all workers on ground shall remain at safe distance by avoiding risk of falling objects.

5.5 Mounting of Fuse Cut Outs

5.5.1 Required PPE

- Clothing Cat-II
- Safety helmet
- Safety Shoes
- Safety glasses
- Work Gloves
- Body Harness

5.5.2 Erect the fuse cut outs one by one for all phases. If MEWP is not available then

CONTROLLED



شركة العين للتوزيع
Al Ain Distribution Company

Health, Safety and Environment Management System Procedure

Standard Operating Procedure Replacement of Fuse Cut Outs of Pole Mounted Transformer SOP.HSEMS.18

Effective Date 10 / 01 / 2019

Procedure #: SOP.HSEMS.18

Issue : 1

Revision : 0

Page 7 of 8

Approved by:

Managing Director

a hand line shall be used to pull up the new fuse cut outs one by one.

- 5.5.3 Clean the line and transformer jumpers with wire brush and apply a coating of oxidation inhibitor.
- 5.5.4 Connect each conductor jumper in the fuse cut outs as identified phases one by one and tighten connector hardware to 20 ft. lbs with torque wrench.
- 5.5.5 Place the fuse in fuse tube according to the transformer capacity.
- 5.5.6 Fuse tube shall be attached with cut out bottom hinge and hook the fuse top with hot stick to push into cut outs.
- 5.5.7 Work gloves shall be used to protect the hand from cut or abrasion

5.6 Emergency Planning & Rescue

- 5.6.1 Develop an emergency response plan when required and ensure that it is available prior to commencing task. (As per AADC Emergency management and response plan)
- 5.6.2 The CP and / or accompanying person shall be trained as First Aider. (AADC Emergency management and response plan is referenced)

6.0 References

- 6.1 OSHAD SF CoP 15.0 Electrical Safety – Version 3.0, July 2016
- 6.2 OSHAD SF – Element 2 – Risk Management – Version 3.0, July 2016
- 6.3 AADC SSR
- 6.4 AADC Emergency Management and Response Procedure

7.0 Appendices

- 7.1 Appendix- Approved PPE list for replacement of fuse cut outs of PMT

7.1 Appendix- Approved PPE list for replacement of fuse cut outs of PMT

Sr. No	Personal Protective Equipment	Standard / Specification
1	Clothing Cat -II	IEC 61482-2, ASTM F1506, ASTM F 1959
2	Safety helmet	ANSI Z89.1, ASTM F2178-12, EN 12492

CONTROLLED



شركة العين للتوزيع
Al Ain Distribution Company

**Health, Safety and Environment
Management System
Procedure**

**Standard Operating Procedure
Replacement of Fuse Cut Outs of
Pole Mounted Transformer
SOP.HSEMS.18**

Effective Date 10 / 01 / 2019

Procedure #: SOP.HSEMS.18

Issue : 1

Revision : 0

Page 8 of 8

Approved by:

Managing Director

3	Safety Shoes	ASTM F2412-11, ASTM 2413-11
4	Insulating gloves	ASTM D 120, NFPA 70E, IEC EN 60903, ASTM F 696, EN 420: 2003, EN 407: 2004
5	Gauntlet Gloves	EN 388, EN 420
6	Body Harness	EN 361

CONTROLLED