

Standard Operating Procedure Access and working hazards SOP.HSEMS.10

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Managing Director



Standard Operating Procedure Access and working hazards

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	Al Ain Distribution Company
Issued by:	HSE Management System Representative

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1.0 Intent

- 1.1 This Standard Operating Procedure (SOP) defines the general rules and good practices required for accessing AADC restricted areas and related working hazards for non-operation activities.
- 1.2 This SOP is a supplement to the AADC System Safety Rules (SSR).
- 1.3 Accessing of all persons such as authorized, competent, non-competent and third party person shall be controlled, and where required appropriate safety document shall be issued.
- 1.4 This SOP has been developed in line with the OSHAD CoP 15.0 Electrical Safety and AADC SSR.
- 1.5 This SOP is applicable to all AADC staff, contractor workers and third party persons.

2.0 Principles

- 2.1 There are many risks which have to be taken into account when entering restricted areas (Power or Water) and many accidents can be avoided if the access is controlled and / or supervised.
- 2.2 The main hazards to persons accessing and working in restricted areas is coming into contact with exposed equipment and this primarily cause by failure to obey caution and danger notices, not maintaining safe distance to exposed equipment, both on the power and water network.
- 2.3 All AADC restricted areas must remain securely locked at all times and access is only allowed to Authorized and Competent person who have valid access permission and / or hold master key or approved means of access.

3.0 Definitions

For the purpose of this document the following definition applies:

Term	Definition
AP	Authorized Person
CP	Competent Person
Exposed	A live conductor that is not specifically insulated to avoid danger.



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JSA / RA	Job Safety Analysis / Risk Assessment
Restricted Area	An area that is under the control of AADC where buildings and / or other equipment belonging to AADC are housed. Typical restricted areas: (electrical) are substations, switching yards and compounds and (water) pumping stations, desalination plants and chemical closing facilities.
Safe Distance	The minimum distance to an exposed live conductor that can be approached by a person. Safe Distance also applies to unearthed steelwork or an insulator supporting an exposed live conductor.
SSR	System Safety Rules
Third Party Person	ADWEA / RSB representatives, Consultants, College or University students etc.

4.0 Responsibilities

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

Role	Accessing and working hazards			
Authorized Person / Supervisor	 Ensure that persons accessing AADC restricted areas are well informed and are competent. 			
	 Ensure that the activity is supervised and that help is at hand when required. 			
	 Ensure that all required PPE is worn / used accordingly and all required emergency equipment including first aid material is at hand. 			
	 Issuance of Appropriate Safety document if required. 			
	 Coordinate and plan the work activity with Authorized person / Supervisor. 			
Competent Person / Workers	 Conduct an onsite tool box talk / safety briefing with the working party. 			
	 Granting access to working party shall be in accordance to this SOP including any special considerations 			



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determined	by Au	thorized	person	(AP).
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 Ensure all workers as accompanied / supervision and are aware of the associated hazards and risks.

5.0 Procedure

5.1 Requirements for Accessing and Working in Restricted Areas

- 5.1.1 Access to high voltage facilities such as substations and switch rooms, will be controlled by the Authorized or Competent person who shall notifying the Network Control Centre before access and after egress.
- 5.1.2 Access to water facilities such as pump stations, desalination plants and chemical dosing installations shall be granted by the respective area supervisors or the duty operators
- 5.1.3 All non-competent / non-essential or third party persons shall only have access to a restricted area when accompanied by an Authorized or Competent person.
- 5.1.4 Before access being allowed of non-competent and / or third party persons, the Authorized or Competent Person shall conduct onsite tool box talk / safety briefing as described in section 5.2.1. If any hazard or high risk is revealed during the safety briefing, then granting of access shall be accessed and approved or denied by the Authorized Person.

No more than 2 persons in a secondary substation or no more than 5 persons in a primary substation shall be granted access at a time with one supervisor under the one supervision.

- 5.1.5 Access to restricted areas of non-competent / non essential persons shall only granted in accordance with 5.1.3 and 5.1.4 and these persons are to ensure that they:
 - o Wear all appropriate PPE as describe in Appendix 7.1.
 - o Understand the instruction from the Authorized or Competent Person.

5.2 Tool box Talk / Safety Briefing

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

Tool box talk / Safety briefing	
s safe access and egress provided or available?	
s access area adequately ventilated, spaced and illuminated?	
s automated fire extinguisher mode changed into manual when required?	



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Is all equipment in safe operational condition and not under emergency conditions?

Is exposed equipment barricaded and / or safe distance highlighted to restrict access?

Are non-competent / non-essential and third party persons accompanied by the supervisor, CP or AP?

Are all persons wearing approved PPE (Appendix - 7.1)?

5.3 Hazards when accessing and working in restricted areas

- 5.3.1 Enclosed spaces including substations, switch rooms, battery rooms, basements and tunnels are regarded as hazardous and high risk areas and access shall be controlled to these areas.
- 5.3.2 Water facilities such as pump stations, desalination plants, chemical dosing installations and reservoirs / confined spaces are regarded as high risk areas and access shall be controlled to these areas.
- 5.3.3 Errors in these areas may result in interruption to both electrical and power networks.

Not maintaining a safe distance may result in coming into contact with exposed equipment which can result in severe injuries or fatalities. This can occur:

- By coming into contact with exposed live electrical equipment / conductor with any exposed part of the body.
- By coming into contact with hazardous materials with any exposed part of the body
- o By coming into contact with high pressurized equipment
- By accidentally allowing any metal object or faulty tool get too close to the live high voltage exposed conductor which may result in an arc occurring between the conductor and the body.
- By getting too close to or touching live high voltage exposed conductor with material or equipment, other than equipment designed for such contact.
- 5.3.4 Electric arcs and fire near high voltage exposed equipment and conductors
- 5.3.5 Fail to change automated fire extinguisher mode into manual.
- 5.3.6 Use of extendable equipment such as ladder or mobile elevated platform.
- 5.3.7 Release of hazardous material
- 5.3.8 Release of water under high pressure





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5.3.9 Electrocutions coming into contact with live low voltage equipment.

Prohibited items

The following items shall not be taken into a sub-station or switch room or switchyard:

- o Metal Ladders
- o Extendable metal rulers
- o Umbrellas
- o Crutches
- 5.3.10 Portable insulated ladders and other long objects shall not be used without the permission of an Authorized Person.
- 5.3.11 The movement and erection of such ladders shall only be carried out only under the direct supervision of the Authorized or Competent Person. When moving is required it shall be done at ground level in a horizontal position and as near the ground as practicable under the supervision of the AP or CP.

5.4 Access Control for Authorized and Competent Persons

- 5.4.1 All restricted areas must remain securely locked at all times. Authorized and Competent Persons shall be issued appropriate master keys and / or approved means of access to allow access as may be deemed necessary.
- 5.4.2 The issue of master keys and / or approved means of access shall be recorded and requires acknowledgement by a signature of the recipient.

Master keys / electronic gate pass shall be retained and well controlled by the respective person. Keys are not to be handed out to other persons not authorised as this shall be considered a safety / security breach.

5.4.3 When AP or CP access an AADC substation on a third-party controlled site such

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as "BBSF- Bin Bahree Steel Factory" they shall comply with the entry requirements of the third-party site owner prior to entry into the substation.

- 5.5 Access Control of Non Competent Persons of AADC, Contractor and third Party
- 5.5.1 Any third party person's access into restricted areas shall be pre-approved from operations section (Power) and Area supervisor or pump station operator (Water). All information of non-competent / non-essential and third party person and purpose shall be recoded. As a minimum this shall include:
 - o Name and initials:
 - o Identification Number;
 - o Name of company;
 - o Mobile number;
 - Designation;
 - o Date;
 - o Time; (24 hour clock format, i.e. 13:00 hours for 1.00 pm)
 - Purpose; (A brief and concise description of the purpose)
- 5.5.2 All non-competent / non-essential or third party persons entering in a restricted area shall be given a safety briefing by the AP or CP prior to entry, this shall include as a minimum:
 - o Physical and electrical hazards at this area
 - o PPE requirements for entry
 - Minimum safe distance(s)
 - o Work restrictions and limitations with respect to activities
 - Identification of persons responsible for access and work supervision
- 5.5.3 Any non-competent / non-essential persons from AADC and Contractors can only gain access when accompanied by a CP or AP. This access shall be recoded with Control Centre Engineer (Control Person).

CP is responsible for supervision of access of all non-competent / non-essential persons and third parties. He is to provide clear and proper instructions and obtain confirmation that the instructions are understood.

5.5.4 Erect temporary barriers to prevent persons unintentionally coming into contact with equipment and to ensure that safety distance(s) are maintained to equipment.



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- 5.5.5 All non-operational tasks such as cleaning, painting, HVAC maintenance etc. are required all workers in the working team shall be granted access by the CP when equipment are in a safe operational condition. Safe distance(s) shall be maintained from all equipment at all times.
- 5.5.6 When leaving the restricted area, the CP is responsible for ensuring that all non-competent / non-essential or third party persons have vacated the restricted area and that the facility has been locked as required.

5.6 Emergency Planning and excavation

- 5.6.1 The CP shall be trained as First Aider.
- 5.6.2 Following actions shall be carried out in case of emergency
 - o If required to evacuate, safely evacuate yourself and anyone who you are supervising and move to an assembly area.
 - Inform to AADC Calls Centre Number 8009008 from any phone and to Control Centre number 037626346 of the nature of the emergency or incident.

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, March 2016
- 6.3 AADC SSR
- 6.4 AADC Emergency Management and Response Procedure

7.0 Appendices

7.1 Appendix - General list for Access in AADC Restricted Area

Sr. No	Personal Protective Equipment	Standard and Specification
1	Cover all (Full body)	General
2	Safety Helmet	ANSI Z89.1, ASTM F2178-12, EN 12492
3	Safety Shoes	ASTM F2412-11, ASTM 2413-11





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Note:

- This is General List of PPE and shall be worn before accessing in AADC restricted areas.
- Selection of PPE for specialized work such as cleaning, painting, HVAC etc. shall be according to JSA / RA and the instruction of worksite supervisor.

