


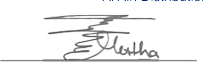


AADC SYSTEM SAFETY RULES (SSR)

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**Health, Safety and
Environment Department**

AADC System Safety Rules

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Approved by:

Managing Director

I acknowledge receipt of this copy of the Al Ain Distribution Company System Safety Rules

Copy number

Name

Company

Signature

Date

An electronic copy of the Al Ain Distribution System Safety Rules is available to download onto handheld wireless devices from the AADC home page. The electronic copy is fully searchable for key words and phrases.

A version of the System Safety Rules is also available to download in Arabic, however this issued copy is the official version.

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ISSUE/ REV. #	PAGE NUMBER	SUBJECT OF THE AMENDMENT	APPROVE D BY SIGNATU RE	DATE
1/1		Periodic review of the HSE-MS		02-06-2021

INTRODUCTION

Al Ain Distribution Company (AADC) acknowledges its responsibility to provide safe and reliable electricity, potable water and recycled water to the community of Al Ain region in the Emirate of Abu Dhabi. We are aware of our obligation towards the preservation of the health and safety of our employees, contractors, visitors, members of public and other stakeholders throughout our operations and premises.

We have developed the System Safety Rules (SSR) to assist and facilitate the safe operation of our electrical, potable water and recycled water networks.

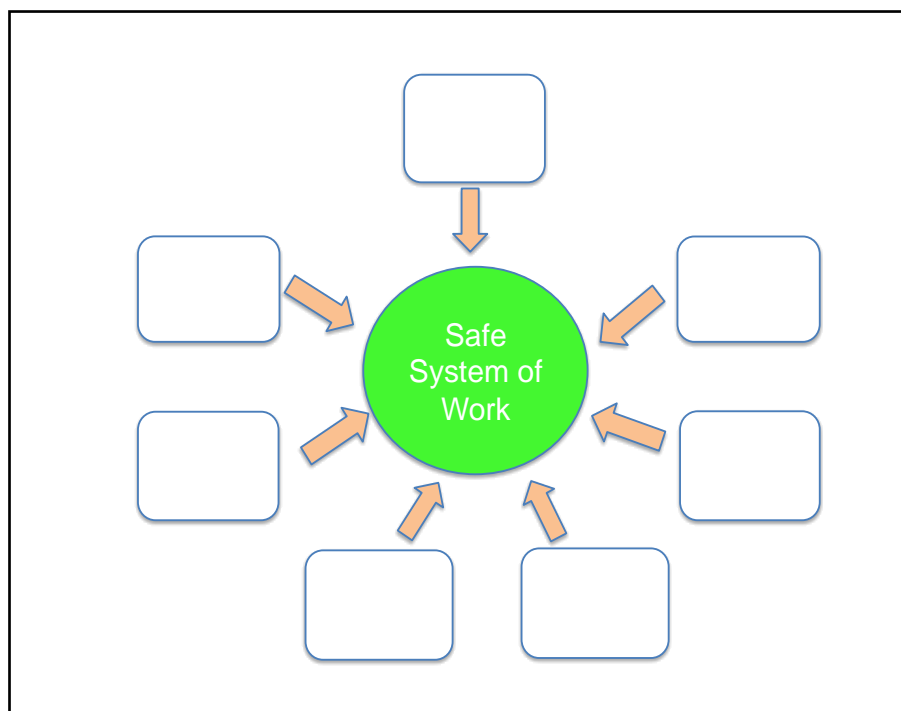
These SSR are mandatory and therefore must be adhered to by all who maintain and operate our networks. The SSRs apply to all AADC staff, contractors and consultants who are responsible for either supervising, operating or working on or near electrical or water distribution networks.

Everyone has a duty to make themselves thoroughly conversant with these SSR and ensure they are complied with in all circumstances.

Safe System of Work

These System Safety Rules (SSRs) are mandatory and are integral to the Safe System of Work for the Al Ain Distribution Company's power, potable water and recycled water networks.

Safe System of Work



However, there are seven key elements to ensure a Safe System of Work is established, and the System Safety Rules are only one of the key elements.

Work planning

Is a basic principal applied when assigning anyone to work so that all reasonable and practicable steps shall be taken to ensure work can be undertaken safely. Every operational or work task shall have a nominated planning person who shall consider, understand and communicate the risks involved to the person undertaking the task and take the necessary precautions to eliminate the risk as far as reasonably

practicable. Work planning includes routine tasks and fault response activities.

Supervision

It is good governance for work on distribution networks to be supervised by those with planning or supervision responsibilities, but also by managers, on a routine basis. Good supervision ensures that adequate controls are established to create a safe environment without undue risk for both the personnel undertaking activities on the network and the assets being operated or worked on.

Tools and Equipment

It is an essential requirement that correct tools and equipment are available, in good condition, calibrated and correctly used to undertake tasks. Equipment includes personal protection equipment (PPE) that must be used for prescribed tasks. PPE should be adequately stored, both on site and in transit, to protect it from damage

Appointed Persons

Personnel who are responsible for assigning operatives to work or undertaking work on the distribution networks must be suitably qualified, competent and appointed in writing to undertake the duties required.

Operational Control

The operation of the distribution networks must be controlled to ensure safe and secure electricity and water supplies. The Network Control Centre controls the high voltage network. The Power Control Person (CN2) coordinates the low voltage network and the water network is coordinated by the Water Control Person (CN3).

Culture and Behaviors

A high standard of personal behavior is always essential at work. Every employee must behave in a manner that respects the AADC safety culture, policies and procedures at all times.

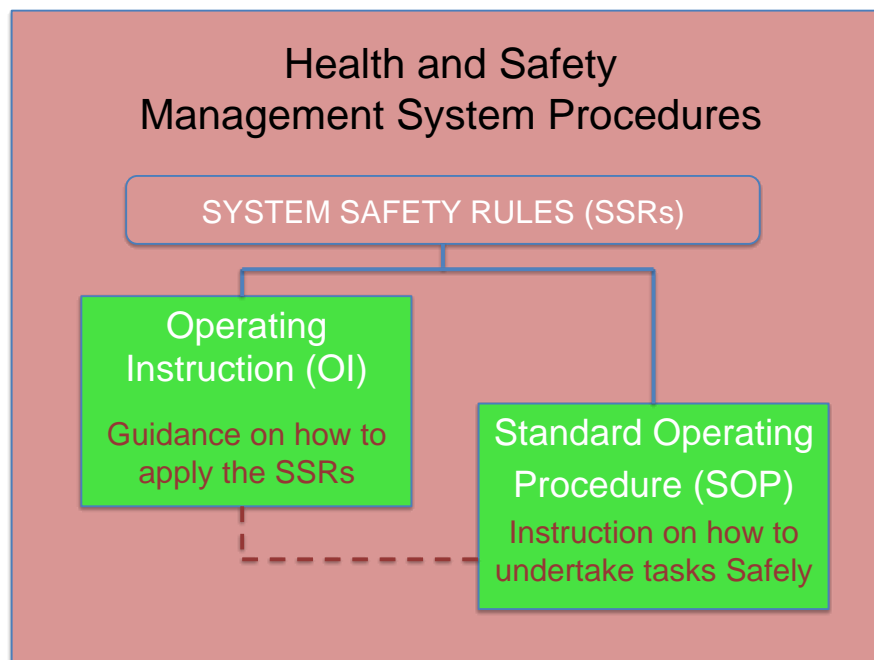
The following System Safety Rules Culture and Behavior Principles are a guide to setting an exemplary standard of behavior, and these should be observed at all times.

System Safety Rules Culture and Behaviour Principles

- ✓ Give safety the highest priority and act to ensure that it takes priority over all other business issues.
- ✓ Understand the risks associated with our work.
- ✓ Directorates, Divisions, Departments and Business sections must work as one TEAM.
- ✓ Question instructions, at any time, that are unclear or unsafe.
- ✓ When unsafe acts and or conditions are observed, promptly report these to those at risk. If you are challenged for an unsafe act, accept this as a learning opportunity, not as criticism; it will keep you safe in the future.
- ✓ Set a strong safety example for others to follow.
- ✓ Follow all documented procedures and issued safety documents and strictly observe safety signs and barricades.
- ✓ Practice good housekeeping to minimize the potential for injuries.

Health and Safety Management Procedures

The System Safety Rules are the basic principles for all work on or near the AADC distribution networks and are supplemented by other levels of documentation that are part of the AADC Health and Safety Management System. The support documents are Operating Instructions (OIs), which provide guidance on how to apply the System Safety Rules and Standard Operating Procedures (SOPs) that document how specific tasks are to be undertaken safely.



In addition to the SSRs the OI's and SOPs are mandatory.

These SSRs cover all work on or near the low voltage and high voltage electrical distribution networks and also the potable water and recycled water networks. All the assets on these networks are within the scope of the SSRs, including but not limited to all mechanical equipment,

mechanisms, pressure vessels, pipe lines, pumps, hydraulic systems, mobile generators, SCADA, telecommunications and protection systems.

All personnel have a general duty to be familiar with and to follow the safe working practices for any activity which they are involved in. In addition, all persons shall have a personal responsibility to take reasonable care for the health and safety of themselves and any other person who may be affected by their activities at work.

Ignorance of these System Safety Rules, Operating Instructions or Standard Operating Procedures cannot be accepted as a reason for the neglect of duty or breach of these rules.

Any person who has an objection on the basis of safety related to the application of the System Safety Rules shall explain their reasons to the person giving the instruction. The objection must always be resolved satisfactorily before any work can proceed

SYSTEM SAFETY RULES

1.0 APPLICATION OF THE SYSTEM SAFETY RULES

- 1.1 The System Safety Rules shall always be applied when operating or working on or near equipment that is part of the AADC power, potable water and recycled water networks.
- 1.2 Where interconnection exists between the AADC power network and another utility's electrical network then, to achieve a safe system of work the Record of Inter-System Safety Precautions (RISSP) procedure shall be followed.
- 1.3 When work is undertaken on an electrical operational interface between the AADC network and a customer's network, then the AADC Operating Instruction - Customer Interface Agreement shall be followed.
- 1.4 Where interconnection between the AADC water network and another company or authority's network exists, then to achieve a safe system of work the Transco documented procedure shall be followed.
- 1.5 When work is undertaken on a water operational interface between the AADC network and a municipality network, then the AADC WOMD procedure shall be followed.
- 1.6 The minimum distance to which an exposed live electrical conductor can be approached is documented below in Table

Table 1. Safe Distance from Exposed Live Conductors

Safe Distance from Exposed Live Conductors	
Low Voltage up to 1kV	0.8 meters
High Voltage 11kV	1.0 meters
High Voltage 33kV	1.2 meters

- 1.7 No parts of the body, tools or equipment shall be allowed to encroach into the documented Safe Distance.
- 1.8 The Safe Distance is measured from the exposed live conductor in all directions as illustrated below in Figure 1.

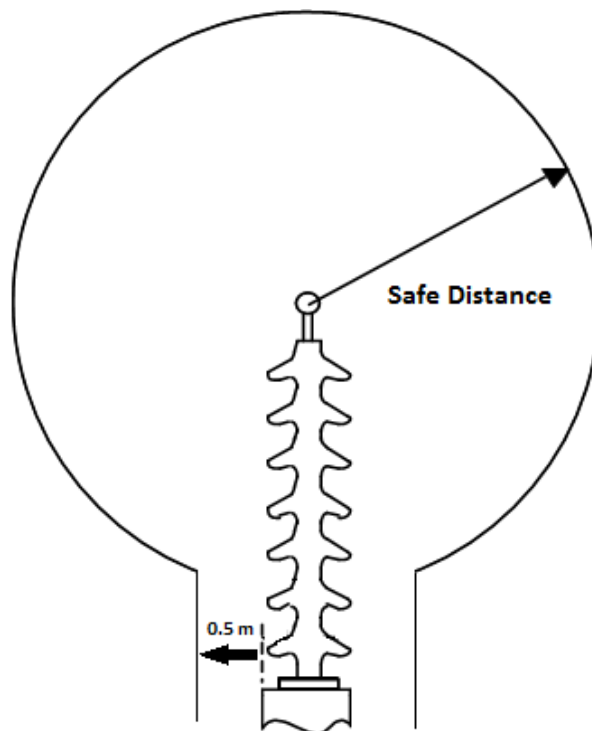


Figure 1. Safe Distance from Exposed Live Conductors

- 1.9 Any insulator structure support with an exposed live conductor shall have a Safe Distance of 0.5 meter. This Safe Distance applies to all voltages and shall not be encroached into by any part of the body, tools or equipment.
- 1.10 Work within the Safe Distance to live conductors shall only be permitted under the strict Live Working conditions as documented within the relevant sections of these System Safety Rules:

Section 8 – Work on Live High Voltage Equipment and

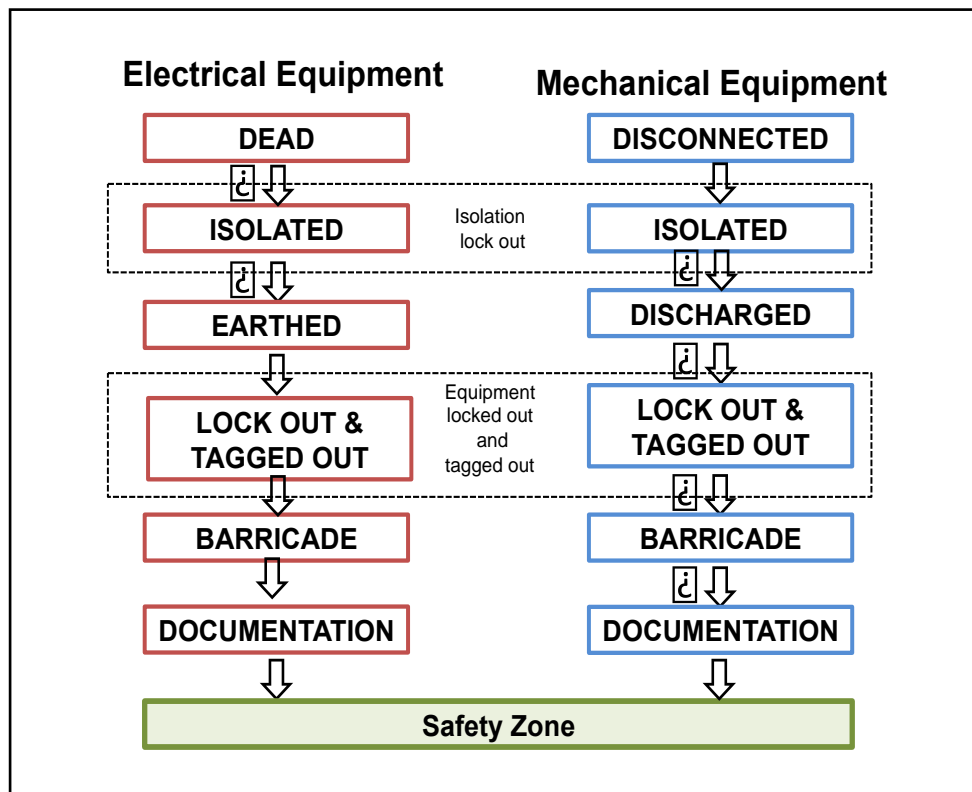
Section 10 – Work on Live Low Voltage Equipment.

In all other circumstances, the Safe Distance shall be observed.

- 1.11 The Safe Distance to live conductors shall only be measured using approved insulating tools.
- 1.12 All energized equipment that is not specifically insulated to prevent danger shall be regarded as live.

2.0 BASIC OPERATIONAL RULES

- 2.1 Work shall only be undertaken on or near the AADC power and water distribution networks when the following conditions are established:



- 2.2 **Dead** means the equipment has been switched off and physically separated from the power distribution or water electrical systems and all other forms of energy.
- 2.3 **Disconnected** means the equipment has been physically separated from all mechanical or pressure systems and all other forms of energy.
- 2.4 **Isolated** means physical isolation, both electrical and mechanical, from any source from which the equipment could become energized. The isolation equipment shall be locked where practical to prevent it being operated or interfered with during the course of work.

- 2.5 **Earthed** means that conductors are connected to the general mass of earth in such a manner as will ensure at all times an immediate discharge of electrical energy without danger.
- 2.6 **Discharged** means that mechanical equipment and pressure systems are free from all stored energy sources, i.e., zero potential to cause harm.
- 2.7 **Lock Out Tag Out** means that the points of isolation and earth connections, including valves and drains, are physically locked to prevent them being operated or interfered with during the course of work. In addition, clear warning signs (Caution and Danger Notices) shall be suitably placed to identify the equipment that remains energized and the equipment that has been made dead and is to be worked on. Lock Out Tag Out is commonly abbreviated by LOTO.
- 2.8 **Barricade** means physical barriers placed on site to prevent operatives from having access to equipment that remains energized and is not to be worked on.
- 2.9 **Documentation** means the issue of relevant safety documents:
- Permit to Work
 - Sanction for Test
 - Limited Access Permit
- 2.10 **Safety Zone** means an area under the control of AADC that has been made, as low as reasonably practicable, safe for work to be undertaken.
- 2.10.1 An Authorized Person shall assess safety from the system and be responsible for defining a Safety Zone.
- 2.10.2 A Safety Zone shall be defined with a barricade and Danger Notices appropriately spaced and facing into the Safety Zone.

2.10.3 All the conditions of 2.1 above shall be fully complied with before any work is commenced either on or adjacent to live equipment.

2.10.4 When more than one working party is to undertake tasks within the same Safety Zone, then only one safety document shall be issued and all working party members shall work to the direction of the safety document holder. The safety document holder will be the working party leader for the task and will be responsible for the safety of all members working within the scope of the safety document.

2.11 When work or inspection is to be undertaken in any enclosed space protected by automatic CO₂ or other chemical fire suppression equipment, then the automatic control shall be made inoperative for the duration of the work. A Caution Notice shall be attached at the isolation point and the issued safety document shall note the isolation of the fire suppression system.

2.12 Routine work on or near the distribution networks shall have written work instructions/job plan and this shall be in the possession of and clearly understood by the persons undertaking the work.

2.13 Emergency work on or near the distribution networks when a written work instruction has not been prepared in advance shall be under the control of an Authorized Person.

3.0 IDENTIFICATION OF EQUIPMENT

3.1 Work shall only be permitted on equipment that is clearly identified at the location of work by approved means.

3.2 The boundary of a Safety Zone shall be clearly defined using approved red and white tape or red and white insulating chain.

3.3 Approved Danger Notices shall be displayed at the limit of the Safety Zone facing towards the safe area at appropriate intervals.

- 3.4 When necessary, a physical barricade shall be used to prevent danger to individuals from exposed power and water hazards adjacent to a Safety Zone.

4.0 OPERATION OF EQUIPMENT

- 4.1 The operation of switchgear or equipment shall be by direct communication between a person giving an instruction and the person who will undertake the instruction. It is strictly prohibited to operate switchgear or equipment by pre-arranged signal or the use of agreed time intervals.
- 4.2 For planned work on the high voltage network, a Maneuvering Form (switching schedule) shall be requested, by the Planning Engineer, in advance and submitted to Operations Planning for approval.
- 4.3 Operations Planning will retain completed Maneuvering Forms for a minimum period of 2 years.
- 4.4 Switchgear and equipment that is either defective or damaged and the operation of the equipment, whilst energized, would be a risk to a person shall have an operational restriction placed on it. On the high voltage network this will be recorded by the Operational Planning and the operation of this equipment, while energized, shall be suspended until the operational restriction is cleared. Operational Restrictions on the low voltage network and will be managed by the Control Person (CN2) and operational restrictions on the water network will be managed by the Control Person (CN3).
- 4.5 Operation of low voltage switchgear and equipment shall be undertaken by authorized and competent persons.
- 4.6 Temporary changes to the low voltage network configuration shall be recorded.
- 4.7 All electrical and mechanical equipment shall be operated within their rated capacity. In circumstances where this is not possible, the master network control diagrams shall be clearly marked to identify the overstressed equipment and the equipment shall be clearly identified on site to show that it is outside its rated duty.

4.8 During any operational switching, network isolation, earthing or discharging activity, only those Authorized or Competent Persons necessary to undertake the operations shall be in the vicinity of the equipment being operated. This means that all personnel not directly involved with the operation shall be withdrawn from the area to prevent any distraction to the persons undertaking the operation.

5.0 ISOLATION AND LOCKING OFF

5.1 To establish a Safety Zone for work, points of isolation on the network shall be confirmed by an Authorized Person to verify that physical isolation from the network has been achieved. The isolation points shall be locked off inoperable using a control lock, where practicable, and a Caution Notice attached for the duration of the work.

5.2 The key of the control lock securing a point of isolation or a primary earth shall be securely retained by the Authorized Person.

5.3 When a multi-clasp is used to secure a point of isolation, then a control lock will be attached and the key retained by the Authorized Person. The Competent Person in charge of a working party shall attach an additional safety lock to secure the multi-clasp and they will retain that key for the duration of the work.

5.4 Where isolation is achieved by the removal of fuses or links then these shall be removed from the point of isolation and securely retained by the Authorized Person.

6.0 EARTHING OF EQUIPMENT

6.1 Any conductor that has been energized and is to be worked on shall be earthed by a primary earth at or as near as practicable to all points of isolation from the network.

6.2 Primary earths shall be applied by switchgear whenever the network configuration permits this. Only when a switchgear earth is not

available then it is permitted to apply a portable primary earth manually to the network.

- 6.3 In all circumstances the primary earth shall be, where practicable, locked on to prevent unauthorized removal and identified with an approved Caution Notice.
- 6.4 When a primary earth is applied at a remote location to the point of work then additional earths shall be applied at or as close as practicable to the work area on all in-feeds from the network. On the overhead line network, all members of a working party shall be in the direct sight of at least one additional earth.
- 6.5 Primary earths and additional earths applied to the overhead line network shall be effectively connected to the mass of earth to prevent a dangerous rise in potential of the overhead line conductors during the passage of fault current.
- 6.6 Before driving an earth rod into the ground for overhead line earths, the utility records shall be used to ensure that no buried services or cables are in the vicinity. In addition, a portable cable detector shall be used to verify the location is safe from buried cables.
- 6.7 Before a primary or additional earth is applied to an overhead line network, the overhead line conductors shall be proved dead with an approved detector, which shall be tested before and after proving the conductors dead.
- 6.8 When all the requirements of Section 2 above cannot be achieved and equipment to be worked on is isolated but earthing cannot be achieved, then the work shall be undertaken as if it is live. Working on live equipment is limited to the defined procedures documented in Sections 8 and Section 10 of these SSRs.

7.0 WORK ON OR NEAR TO DEAD HIGH VOLTAGE EQUIPMENT

- 7.1 When work is to be carried out or near to high voltage (HV) equipment, an Authorized Person shall assess the means of achieving Safety from the System. Near to dead HV equipment means within the appropriate Safe Distance specified in Rule 1.6, Table 1.
- 7.2 When work is within the Safe Distance the equipment shall be made dead, isolated from the network, primary earths applied and LOTO completed before a Permit to Work is issued to a Competent Person for work to be undertaken.
- 7.3 When work is to be undertaken adjacent to high voltage equipment outside the appropriate Safe Distance, then an Authorized Person shall assess the means of achieving Safety from the System and establish a Safety Zone from all live equipment.
- 7.4 When a Safety Zone is established near live equipment, the Authorized Person shall clearly instruct the working party on site and explain the limits of the Safety Zone and the adjacent hazards. When the Authorized Person decides it is necessary to confirm these instructions in writing a Limited Access Permit shall be issued.
- 7.5 Where access to and egress from a Safety Zone is through an area where equipment remains energized, then the access route shall be clearly marked with a barricade. Danger Notices shall be prominently placed at appropriate spacing along the access route and facing into the Safety Zone. The access route shall be documented on the safety document issued to the Competent Person.
- 7.6 The use of a mobile crane or excavator within an energized substation compound shall be controlled. An Authorized Person (Team Leader AP4) shall be responsible for defining safety from the system having assessed the risks and prepared a method statement that will define the access route and limits of movement of the

equipment.

- 7.7 A Competent Person may supervise the use of a mobile crane or excavator within the limits of a method statement. They shall have direct communication with the operator of the mobile crane or excavator at all time during the operation of the plant.
- 7.8 The use of a crane or excavator, within an energized substation compound, shall be earthed to the main substation earthing system at the earliest practicable opportunity and remain connected for the duration of its use.
- 7.9 All scaffold and access platforms used within an energized substation compound shall be assessed for risks and a documented method statement prepared in advance. The scaffold or access platform shall be earthed to the main substation earthing system at the earliest practicable opportunity and remain connected for the duration of its use.

8.0 WORK ON LIVE HIGH VOLTAGE EQUIPMENT

(Restricted to Long Stick and Hot Glove operations on 11kV and 33kV overhead lines)

- 8.1 No high voltage live overhead line work shall be carried out except in accordance with an AADC approved procedure.
- 8.2 High voltage live overhead line work shall be supervised by an Authorized Person who is specifically appointed in writing by AADC to supervise the procedure.
- 8.3 High voltage live overhead line work shall only be undertaken by Competent Persons that are specifically appointed in writing by AADC to undertake the procedure.
- 8.4 The Authorized Person supervising live work shall be in the direct sight of the Competent Persons undertaking the work throughout the procedure. If the Authorized Person leaves the site for any reason, the

procedure shall be made safe, work stopped and all Competent Persons withdrawn.

8.5 All high voltage live line work procedures shall be formally documented and approved by AADC. No documented procedure shall be amended without submission to AADC for approval and reissue.

8.6 All documented high voltage live work procedures shall be personally issued to all Authorized and Competent Persons who are appointed to undertake HV live line work.

8.7 All high voltage live work shall be planned in advance and be submitted to Operational Planning and the Network Control Centre who will approve the live line work to be undertaken at a precise identified location, date and time on the network.

8.8 Operational Planning shall consider the protection settings of the network to be worked on. Any required changes shall be communicated to the Authorized Person responsible for the live line work procedure in advance of the work being undertaken, e.g., switching off any auto-reclose function for the duration of the work or moving network open points.

8.9 Prior to the commencement of live line work on-site, the Authorized Person shall contact the Network Control Centre to obtain permission for the live line work to commence.

8.10 On completion of live line work, withdrawal of all personnel and equipment to outside the relevant Safe Distance, the Authorized Person shall contact the Network Control Centre to confirm the completion of the live line work. The Network Control Centre will manage the restoration of any protection settings or network changes that had been made back to normal operation.

8.11 If during the course of a live work procedure there is a system disturbance on the network in the location of the work, then the

Network Control Centre must contact the Authorized Person supervising the procedure before any system restoration can be undertaken.

8.12 All equipment used for high voltage live work shall be approved, maintained in good condition and routinely tested. If any live line tool or piece of equipment is suspected of being defective it shall not be used.

8.13 The Safe Distance from exposed live conductors, documented in System Safety Rule 1.6 Table 1, may be reduced to facilitate live line work. The permissible Safe Distance for high voltage live line work is documented in the AADC Operating Instruction, High Voltage Live Working.

8.14 All 'Long Stick' live line tools shall be clearly marked with an appropriate Safe Handling Limit. The mark shall be a 20 mm-wide red safety band. The Safe Handling Limit shall be measured from the nearest metallic conducting parts of the tool to the position that would be handled by an operative.

9.0 WORK ON OR NEAR TO DEAD LOW VOLTAGE EQUIPMENT

9.1 When work is to be carried out on or near to low voltage (LV) equipment, an Authorized Person shall assess the means of achieving Safety from the System. Near to dead LV equipment means within the appropriate Safe Distance specified in Rule 1.6, Table 1.

9.2 When work is within the Safe Distance the equipment shall be made dead, isolated from the network, primary earths applied and LOTO completed before a Permit to Work is issued to a Competent Person for work to be undertaken. All the requirements of Section 2.0 above shall be achieved to establish Safety from the System.

- 9.3 When work is to be undertaken adjacent to low voltage equipment outside the appropriate Safe Distance, then an Authorized Person shall assess the means of achieving Safety from the System and establish a Safety Zone from all live equipment.
- 9.4 When a Safety Zone is established adjacent to live equipment, the Authorized Person shall clearly instruct the working party on site and explain the limits of the Safety Zone and any adjacent hazards. When the Authorized Person decides it is necessary to confirm these instructions in writing, a Limited Access Permit shall be issued.
- 9.5 When LV equipment is made dead and isolated and earthing can not be achieved then it shall be worked on as Live in accordance with Section 10, Work on Live low voltage equipment.
- 9.6 When a mobile generator is to be connected to a substation, then the generator frame shall be connected to the substation earthing system before any phase connections are made and the generator started.

10.0 WORK ON LIVE LOW VOLTAGE EQUIPMENT

- 10.1 The risks associated with working on or near to the Live low voltage system, or undertaking operational tasks, are controlled by the strict compliance with the relevant Standard Operating Procedures (SOP) and the issue of a safety document is not required.
- 10.2 The low voltage live working rules apply to alternating current (AC) equipment operating above 50 volts and above up to and including 1,000 volts. This applies to all the AADC 240/415 volt distribution network.

10.3 Live work on or near low voltage equipment shall not be undertaken unless:

- It is unreasonable in all circumstances for it to be dead;
- It is reasonable in all circumstances for the person to be at or near the equipment while it is live;
- Suitable precautions are taken to prevent injury:
 - Correct provision and use of PPE
 - Competence of operatives
 - Accompaniment
 - Correct tools and equipment
 - Adequate clearances between phases and phase to earth
 - Temporary insulation and screening.

10.4 Work on direct current (DC) equipment above 120 volts DC is low voltage and shall only be undertaken in accordance with an approved live working procedure. Undertaking work on DC equipment below 120 volts requires precautions to be undertaken when the equipment is supplied by a DC system with a high fault energy level, i.e., substation batteries, which shall only be undertaken in accordance with approved procedures.

10.5 Work near live equipment means work within the Safe Distance to exposed live conductors as documented in Rule 1.6 and Table 1.

10.6 Work on or near live low voltage equipment that can't be undertaken by making the network dead shall be limited to defined documented procedures.

10.7 Defined procedures:

10.7.1 Cable connection and disconnection in feeder pillars and service turrets.

10.7.2 Removing and replacing low voltage fuses.

- 10.7.3 Testing low voltage equipment.
- 10.7.4 Installing and replacing energy meters.
- 10.7.5 Work on protection and control equipment.
- 10.7.6 Connection of VIP mobile generators.
- 10.8 Adequate PPE shall be provided and used to prevent injury.
- 10.9 Work on live low voltage equipment shall only be undertaken by a Competent Person who is specifically appointed in writing to undertake the procedure.
- 10.10 All work on live low voltage equipment shall be accompanied by a second person who is competent, appointed in writing to provide accompaniment and able to safely provide assistance in the event of an incident during a live work procedure.
- 10.11 When work is to be undertaken on LV equipment that is dead and isolated but earthing cannot be achieved then it shall be worked on as if it is Live.
- 10.12 Only approved insulating or fully insulated tools shall be used to undertake live low voltage work.
- 10.13 A risk assessment shall be undertaken to ensure that adequate clearances between each phase and between phases to earth can be achieved. When adequate clearance cannot be achieved then live work shall not be permitted.
- 10.14 All exposed live equipment not being worked on shall be fully insulated using approved temporary insulating material.
- 10.15 All earthed metallic structures or objects within the vicinity of live work shall be fully insulated using approved temporary insulating material.
- 10.16 Adequate lighting shall be provided for live work. When natural light is deemed insufficient to be safe then artificial lighting shall be provided.

10.17 The Live LV activities to remove and replace fuses and undertake testing are Operational Tasks and not regarded as work. Operational tasks may be undertaken by a single person provided they are appointed as a Competent Person to undertake the task and use the appropriate live working equipment and personal protective equipment to prevent injury from electrical contact and or flashover.

10.18 During the planning stage of an LV operational task, an assessment shall be undertaken to determine whether it reasonable for the task to be undertaken unaccompanied. Factors that shall be taken into consideration are time of day or during hours of darkness, remoteness of location and routine task or emergency response.

11.0 WORK ON UNDERGROUND CABLES

11.1 No underground cable shall be worked on until it is isolated from the network, identified, proved dead, earthed and an appropriate safety document issued.

11.2 When excavation is proposed in a public place, then network schematic drawings and cable records - Graphical Information System (GIS) shall be used to identify all buried cables within that location, and a cable location detector shall be used to verify the position of the cable/s on site.

11.3 Before any underground cable is cut, an approved procedure shall be used to positively identify the cable, and then the cable shall be spiked using an approved spiking tool. The approved spiking tool shall be operated from a safe distance to the spiking head attached to the cable.

11.4 Permitted exceptions to cable spiking:

- Cable sheath repairs
- Removal of heat shrink sleeve for joint inspection.

11.5 It is strictly prohibited to use a manually operated hydraulic cable cutter, with uninsulated hose, as a means of cable spiking.

- 11.6 When work is to be undertaken on a high or low voltage cable and there are other cable(s) at the same location, then all cables shall be identified using cable records, cable sheath embossing and when practicable visual tracing. The cable to be worked on will then be positively identified and proved dead by spiking.
- 11.7 Cable tracing through a duct line or hole in a wall shall only be undertaken using a non-conductive, running noose from a known earthed termination to the point of work. It is prohibited to rod a duct run as a method of tracing and identification of a cable.

12.0 WORK ON OVERHEAD LINES

- 12.1 When work is to be carried out on an overhead line, an Authorized Person shall assess the means of achieving Safety from the System. The overhead line and any equipment shall be made dead, isolated, LOTO, primary earths applied and appropriate safety document issued to a Competent Person for the work to be undertaken.
- 12.2 When work is to be carried out near live overhead line conductors or unearthed support steelwork outside the appropriate Safe Distance documented in Rule 1.6, Table 1, an Authorized Person shall assess the means of achieving Safety from the System and establish a Safety Zone from all live equipment.
- 12.3 To identify a Safety Zone on an overhead line support, an approved red demarcation band, 100 mm-wide, shall be fitted to the structure at the appropriate Safe Distance from all conductors and unearthed support steelwork.
- 12.4 The measurement of a Safe Distance from overhead line conductors or unearthed steelwork shall only be undertaken using approved insulating measurement equipment.
- 12.5 When a Safety Zone is established on an overhead line structure, the Authorized Person shall clearly instruct the working party on site and

explain the limits of the Safety Zone and any adjacent hazards. When the Authorized Person decides it is necessary to confirm these instructions in writing, a Limited Access Permit shall be issued.

- 12.6 Only approved insulating equipment, operating rods or test devices can be used within the appropriate Safe Distance to live conductors or unearthed steelwork.
- 12.7 To prove an overhead line conductor dead, an approved test instrument shall be used. The test instrument will be verified as working both before and after the test to prove the conductors are dead.
- 12.8 Portable primary and additional earths shall be applied to overhead line conductors or equipment using approved insulating operating rods.
- 12.9 Additional earths shall be applied and removed in accordance with a documented Earthing Schedule that is prepared and agreed upon in advance of the work.
- 12.10 When primary earths on an overhead line cannot be seen from the Safety Zone, additional earths shall be applied at each side of the Safety Zone and each member of the working party must have visibility of at least one additional earth.
- 12.11 Adequate low voltage isolation and precautions shall be taken to prevent accidental energization of the high voltage network from all low voltage sources, including customer connections.
- 12.12 When tree branches are in contact with, or may come into contact with, a live overhead line conductor, tree cutting shall be undertaken with the overhead line dead, isolated, earthed and with an appropriate safety document issued on site.
- 12.13 Where trees are outside the Safe Distance of the overhead line conductors and the Safe Distance can be maintained at all times, then the activity of tree cutting may be carried out with the conductors

live. The work shall be under the direct supervision of an Authorized Person.

12.14 During work on overhead lines, adverse weather shall be considered and when there is a local lightning risk or high wind speeds that could be a risk to linesmen working at height, then work shall be suspended until the conditions are reasonable for the work to continue.

12.15 The removal of debris from live overhead line conductors or unearthed steelwork may only be undertaken following an on-site risk assessment by an Authorized Person. The risk assessment shall consider the risk of phase to phase flashover as well as the maintenance of the relevant Safe Distance at all times during the removal process.

13.0 WORK ON PRESSURE SYSTEMS AND MECHANISMS

- 13.1 To work on a pressure system, pipeline or vessel disconnection from the network shall take place followed by isolation. Venting or draining shall be undertaken in order to prevent the risk of stored energy being released. When reasonably practicable, the venting / draining valve shall be locked in the open position but in all cases a Caution Notice will be appropriately displayed for the duration of the work.
- 13.2 All points of isolation that are established to provide Safety from the System shall be made inoperable with a control lock and a Caution Notice fixed for the duration of the work. The control lock key shall be retained by the Authorized Person and LOTO applied for the duration of the work.
- 13.3 When it is not practicable to lock an isolation point either directly with a control lock or by using a chain and control lock, then other means shall be used to prevent operation of the isolation point and LOTO shall be applied for the duration of the work.
- 13.4 A non-return valve shall not be used as a point of isolation from a live system. Where reasonably practicable, valves that are capable of being locked should be used for isolation.
- 13.5 When a new connection has to be made to an isolated pipe section that cannot be drained, then this shall be undertaken in accordance with the AADC Procedure for New Connections and SOP Working on Pipelines.
- 13.6 Work on mechanical equipment or a mechanism that has retained energy shall only be undertaken once the retained energy has been discharged and any electrical supply to the equipment made dead, isolated, discharged of all energy and an appropriate safety document issued.
- 13.7 Work on mechanical equipment or a mechanism that is electrically

driven then the electrical supply shall be isolated and where reasonably practicable locked in the off position, the control key shall be retained by an Authorized Person and LOTO applied for the duration of the work and an appropriate safety document issued.

- 13.8 When it is necessary to restore the means of supplying power or pressurization during work on a mechanism or pressure system then the Permit to Work shall be cancelled and a Sanction to Test issued.
- 13.9 When internal access to a vessel or chamber is necessary then the AADC Standard Operating Procedure for Confined Spaces shall be followed.
- 13.10 Maintenance or repair work on generator alternator, circuit breaker, control equipment or temporary cable connections shall only be undertaken when it is disconnected from the network and the prime mover starter mechanism is isolated or rendered in-operable, locked and LOTO applied for the duration of the work. All electrical conductors shall be proved dead, earthed and appropriate safety document issued.
- 13.11 Maintenance and repair work on alternator prime mover (diesel or petrol engine) shall only be undertaken when the prime mover starter mechanism is isolated or rendered in-operable, locked and LOTO applied for the duration of the work.
- 13.12 Maintenance and repair work on mobile generators, bulk tankers and transport equipment shall only be undertaken when the chassis is effectively connected to the mass of earth with a grounding lead. The grounding lead shall have LOTO applied for the duration of the work.

14.0 CONNECTION OR DISCONNECTION OF ASSETS

14.1 Connection of a New Asset

14.1.1 Before a new asset is connected to the distribution network, a formal handover shall take place, when practicable, on site from the Team Leader (Projects) responsible for the construction and testing of the asset to the Authorized Person (Operations) responsible for the connection of the asset to the network.

14.1.2 An Asset Connection Certificate shall be prepared and signed by the Authorized Person (Projects) and formally issued on site to the Authorized Person (Operations).

14.1.3 The Authorized Person (Operations) will receive the Asset Connection Certificate, sign it, noting the date and time, and from that moment will control all the equipment to be connected to the network, which will then come under the jurisdiction of the System Safety Rules.

14.2 Disconnection of an Asset

14.2.1 The disconnection of the asset shall be carried out in a planned shut-down in accordance with the System Safety Rules. The asset shall be physically disconnected from the distribution network with the permanent removal of all electrical conductors and all possible sources of mechanical energy.

14.2.2 The physical disconnection of the asset shall be such that all parts of the asset are outside the relevant Safe Distance from the network that remains energized.

14.2.3 On completion of a disconnection and cancellation of all safety permits, a Disconnection Certificate shall be issued by the Authorized Person (Operations) to enable the recovery of the disconnected equipment from the site.

14.2.4 The dismantling and recovery of the disconnected equipment from the site shall be undertaken in accordance with a documented Risk Assessment and Method Statement approved by AADC.

15.0 SAFETY DOCUMENTATION

15.1 General

15.1.1 Safety documentation is the process used to control and communicate Safety from the System for work to be undertaken on or near the power and water distribution networks. The system shall be regarded as all the electrical high voltage and low voltage networks, control, protection, mechanical plant, pipe lines, mechanisms, generators, diesel engines, pressure vessels and any equipment that stores energy or has the potential to cause harm to AADC staff, contractors or the public.

15.1.2 Safety documents that can be issued to communicate Safety from the System are:

- Permit to Work
- Sanction to Test
- Limited Access Permit.

15.1.3 A safety document shall be issued on site by an Authorized Person to a Competent Person in charge of the work. The Competent Person may be responsible for a working party as team leader and shall keep any issued safety document and any safety key(s) in safe custody.

15.1.4 An Authorized Person may receive a safety document and be in charge of a working party, but is strictly prohibited from issuing a safety document to himself.

15.1.5 The Competent Person in charge of work shall instruct and fully explain the safety precautions that achieve Safety from the System to all members of his working party. He also has a further duty to explain how the general safety has been established and will be maintained throughout the work.

15.1.6 On completion of work and before signing the clearance section of a safety document, the Competent Person shall ensure that:

- All persons in his working party have been withdrawn from the work area and instructed not to continue to work on the equipment concerned;
- All equipment, tools and the number of additional earths in accordance with the Earthing Schedule have been removed;
- All loose material has been removed and permanent guards and access doors have been replaced;
- All temporary access equipment has been removed.

15.1.7 Safety documents will be issued using a pad of numbered forms and shall be issued in sequence.

15.2 SAFETY DOCUMENT - PERMIT TO WORK (PTW)

15.2.1 A Permit to Work shall be issued when Safety from the System has been established in accordance with Section 2 of these SSRs for work to be undertaken on the power or water networks.

15.2.2 Before issuing a Permit to Work to a Competent Person, the Authorized Person shall:

- a) Physically identify to the Competent Person on site the equipment to be worked on;
- b) Show the Competent Person the isolation and earthing diagram, which illustrates the safety arrangements at the points of isolation and at the point of work;
- c) Explain in detail to the Competent Person the exact extent of the work to be undertaken;
- d) Explain to the Competent Person any special safety precautions noted in the permit;

e) Demonstrate to the satisfaction of the Competent Person that the equipment is safe to work on.

15.2.3 The Competent Person receiving a PTW shall read the document back to the Authorized Person to confirm their understanding before accepting and signing the safety document.

15.2.4 A PTW shall be cancelled before a Sanction for Test is issued for the same equipment.

15.2.5 The PTWs shall be issued in sequence at the location where the work is to be undertaken.

15.2.6 When a PTW is issued and additional earths are required then an additional Earthing Schedule shall be issued and attached to the permit. The Earthing Schedule shall include the number and location of each additional earth.

15.3 SAFETY DOCUMENT – SANCTION FOR TEST (SFT)

15.3.1 A Sanction for Test will be issued when Safety from the System has been achieved to undertake work and primary earths are required to be removed or disconnected during the period of testing. On completion of testing, the primary earths shall be replaced before the SFT is cleared and cancelled.

15.3.2 A Sanction for Test may be issued by an Authorized Person to a Competent Person in charge of testing. On the high voltage network, the Authorized Person will confirm the issue of the SFT with the Network Control Center.

15.3.3 The Authorized Person shall hand over the control keys securing the primary earths to the Competent Person. The Authorized Person shall retain any control keys securing isolation points from the network.

15.3.4 The SFTs shall be issued in sequence. The original will be issued to the Competent Person in charge of the testing and the duplicate retained in the pad.

- 15.3.5 The Authorized Person shall ensure that no other safety document is in force for the equipment on which the SFT is to be issued. When a Permit to Work is cancelled to facilitate testing, then all members of the PTW working party shall be removed from the Safety Zone in which testing is to take place.
- 15.3.6 The Authorized or Competent Person responsible for testing and receiving the SFT shall control the test area and be responsible for any Competent Person assisting with the test.
- 15.3.7 When a SFT is to be cleared, all changes to the condition of isolation or earthing within the test area shall be documented on the SFT. On the high voltage power network, the Authorized Person cancelling the SFT shall inform the Control Engineer of any changes.

15.4 SAFETY DOCUMENT – LIMITED ACCESS PERMIT (LAP)

- 15.4.1 A Limited Access Permit shall be issued when Safety from the System has been established but oral instruction is not sufficient to control work or activity near the power or water networks. A Limited Access Permit shall not be used when isolation and earthing of the network is required to ensure Safety from the System.
- 15.4.2 An Authorized Person shall issue a Limited Access Permit to a Competent Person to manage Safety from the System.
- 15.4.3 A Team Leader shall issue a Limited Access Permit to a Competent Person to manage hazards not directly associated Safety from the System. The hazards may include: confined spaces, excavation or hot work.
- 15.4.4 A Competent Person receiving a Limited Access Permit may be in charge of a working party.

15.4.5 The Limited Access Permit shall document the control measures that must be taken to ensure Safety from the System, the boundary, limitation of work and the safe access approach to a Safety Zone.

16.0 APPOINTMENT OF PERSONNEL

16.1 The assessment and appointment of persons to undertake duties on the AADC Power and Water distribution networks shall be undertaken in accordance with the AADC Assessment and Appointment procedure.

16.2 The following categories of appointment are recognized by these System Safety Rules:

- Competent Person
- Authorized Person
- Control Person.

16.3 A Competent Person is someone who has sufficient technical knowledge and experience to recognize and avoid danger. They shall be assessed and appointed in writing to undertake specific duties and be proficient in the skills to undertake work within the scope of their appointment. A Competent Person must have reasonable knowledge of these System Safety Rules, relevant Operating Instructions and detailed knowledge of relevant Standard Operating Procedures.

16.4 An Authorized Person is someone who has sufficient technical knowledge and experience to recognize danger and has been appointed in writing to undertake specific duties. An Authorized Person must have a comprehensive understanding of the AADC System Safety Rules and all relevant Operating Instructions and have the ability to apply them in practice.

16.5 A Control Person is someone who has sufficient technical knowledge and experience to recognize danger and has been appointed in writing to undertake specific duties. A Control Person must have a comprehensive understanding of the System Safety Rules and all relevant Operating Instructions and have the ability to apply them in practice.

16.6 Before an individual can be appointed to one of these roles, he shall be assessed in terms of qualifications, documented competencies, employment history, technical and practical skills, as appropriate. The assessment shall be undertaken by an Assessing Officer who has been appointed in writing to the role of Assessing Officer for the scope of work they are assessing. The Assessing Officer shall make a recommendation for appointment of an individual to an Appointment Officer.

- 16.7 The Appointment Officer shall be appointed in writing and have the necessary knowledge to review the recommendations for appointment from the Assessing Officer. The Assessing Officer and Appointment Officer shall not be the same person for the appointment of the same candidate.
- 16.8 All authorization and competency certificates shall clearly define the category of authorization or competency together with the limits of voltage level, equipment type, geographical area or location, date of issue and date of expiry.
- 16.9 The maximum period of an appointment is three years. When determining an appointment period the frequency, duration and nature of the work to be carried out shall be taken into consideration.
- 16.10 The assessment and appointment of persons shall apply to contractors and third-party persons who are required to work or operate on the AADC networks.
- 16.11 A person may be appointed to more than one of the appointment categories.

DEFINITIONS

AADC	The Al Ain Distribution Company, holder of the license for electricity distribution, water distribution and recycled water within the district of Al Ain.
Additional Earth	Earth that is applied to the network either to prevent induced voltages being a danger or when a working party on the overhead line network is not in sight of a primary earth.
Appointing Officer	A person that is appointed in writing and has the necessary knowledge and experience to appoint a candidate to a role within these SSRs.
Appointment Certificate	A document issued to and retained by a person that has been assessed and appointed as competent to undertake defined responsibilities.
Approved Procedure	A controlled, documented procedure issued by AADC management defining a policy, activity or process that is mandatory.
Assessing Officer	A person that is appointed in writing and has the necessary knowledge and experience to assess a candidate for authorization.
Asset	An identifiable item of equipment that is part of the AADC power or water distribution network.
Authorized Person	A person appointed in writing, by an appropriate officer of AADC, that has sufficient technical knowledge and experience to recognize and avoid danger. The duties may include the operation of equipment and the preparation, issue and cancellation of specified safety documents.
Barricade	A temporary physical barrier to provide a boundary to a safe working area. The barricade shall be constructed of approved equipment, which is red and white plastic safety chain or red and white safety tape.

Caution Notice

An approved notice with the words “Caution do not operate men working ” printed in white lettering on a red background in both English and Arabic.

Company

The Al Ain Distribution Company holding a distribution license, granted by the bureau and pursuant to the law.

Competent Person

A person appointed in writing, by an appropriate officer of AADC, that has sufficient knowledge, experience to recognize and avoid danger. The duties may include working safely and efficiently on the Electrical or Water Distribution Networks.

Control Lock

A safety lock with unique key used by an Authorized Person to secure a point of isolation, primary earth or mechanical valve.

Control Person

A person appointed in writing, by an appropriate officer of AADC, that has sufficient technical knowledge and experience to recognize danger. The duties are to be responsible for the operational control of the high voltage electricity network.

Control Valve

A mechanical valve that is manually operated to control the flow of a gas or fluid. A control valve should have a facility to lock it either in a fully open or fully closed position.

Danger

Risk of injury to people from fire, electric shock, burns, explosion or mechanical movement of electrically controlled equipment or the risk of damage to property.

Danger Notice

An approved notice with the words “Danger” printed in black lettering on a yellow background in both English and Arabic.

Discharged

To release and make safe all forms of stored energy from electrical, mechanical, hydraulic, pneumatic or fuel energy equipment to prevent harm to an individual working on that equipment.

Earth

The conductive mass of Earth, whose electrical potential (voltage) at any point is conventionally taken as zero.

Earthing/Earthed

General terms used to describe the conductive parts of an electrical installation or equipment that is used to make a connection to the mass of earth.

Earthing Schedule

A schedule indicating the additional earth requirements for each stage of the work necessary to control induced voltages as circumstances change.

Energized

The condition of equipment that has potential energy, either electrical or water pressure, that can cause harm to a person.

Equipment

All electrical equipment and mechanical plant forming part of the operational assets to which the System Safety Rules apply.

Exposed

A live conductor that is not specifically insulated to avoid danger.

General Safety

The provision and maintenance of safe access to and from a place of work, a safe place of work, a safe working environment, safe methods of work and the correct use of effective personal protective equipment.

GIS

Geographical Information System used to visualize network asset details including underground cables and pipes.

High Voltage (HV)

High voltage alternating current (AC) is over 1,000 volts or direct current (DC) over 1,500 volts.

Hot Glove

Work on live HV overhead line networks from an insulating aerial device, mobile platform that has a boom constructed of insulating material.

Insulated Tools

Tools with metallic or conductive parts that have electrical insulation applied to provide electrical protection.

Insulating Tools

Tools that are made wholly from non-conductive material and have no metallic or conductive parts.

Isolated / Isolation

The physical disconnection of a portion of the network from the energized network. Also see point(s) of isolation.

Isolating Device

A device used for rendering equipment isolated.

Limited Access Permit (LAP)

Live Connected to the power system or electrically charged.

Location A place at which work under the AADC Safe System of Work is carried out.

Locked A condition of equipment that cannot be altered without the release of a safety or security lock.

Long Stick A technique of working on live HV networks using a long insulating tool with the operators outside the Safe Distance.

LOTO An abbreviation of Lock Out and Tag Out, which is the procedure to lock off with safety locks isolation points and primary earths on the network and apply Danger and Caution Notices as appropriate.

Log Book A permanent written record used at all control points and workplaces to create a comprehensive detailed record of operational and safety switching and associated safety procedures.

Low Voltage (LV) Low voltage alternating current (AC) is 50 volts and above up to and including 1,000 volts. Low voltage direct current (DC) is 120 volts and above up to and including 1,500 volts.

Maneuvering Form A documented switching schedule prepared by Operational Planning for operational tasks to be undertaken on the high voltage network.

Multi-clasp An approved security clasp providing dual control for Authorized Persons and Competent Persons. It is used to prevent operation or removal of points of isolation, primary earth, valves and vents.

Operation(s) The activity of physically changing the configuration of the distribution network. This includes operating electrical switches and isolators as well as valves and control systems.

Operation Instruction(s)

Mandatory procedures on how to apply the SSRs and operations to the power and water networks. Can be abbreviated to OI(s).

Permit to Work (PTW) A safety document that is a form of declaration specifying the equipment that has been made safe, as low as reasonably practicable, to work on.

Point(s) of Isolation A point on the distribution network where a physical separation has been made from the energized network to allow work to take place.

Team Leader Is responsible for putting people to work on the power and water networks and has sufficient technical knowledge and experience to recognize and avoid danger. Also may prepare, issue and cancel specified safety documents (Limited Access Permit) for safety from the system, confined spaces, excavation and hot work. Authorization Category AP4.

Pressurized The condition of equipment containing a gas or fluid above atmospheric pressure.

Primary Earth A switchgear or portable earthing device applied to an isolated electrical network to effectively maintain the electrical conductors at zero potential to earth.

Prohibited Area An area under the control of AADC where an asset is housed that can pose a risk to persons.

Purged A condition of equipment from which all dangerous contents have been removed.

Record of Inter-System Safety Precautions (RISSP)

A safety document that is a form of declaration specifying the equipment and actions across an interface boundary to achieve Safety from the System and must be used in conjunction with a Permit to Work or a Sanction for Test.

Restricted Area An area that is under the control of AADC where buildings and or other equipment belonging to AADC or Transco are housed. Typical restricted areas (electrical) are a substation yard or compound.

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.

Safe System of Work The formal procedure based on a systematic examination of work to identify hazards. It defines safe methods of working that eliminate those hazards or minimizes the risks associated with them. These System Safety Rules are part of the AADC Safe System of Work.

Safety Lock A unique lock and key that is used to secure equipment as inoperable and isolate equipment from the network or the earthing/discharging device operated to secure a Safety Zone.

Safety from the System The conditions that safeguard persons working on or near equipment from the dangers that are inherent in that system.

Safety Signs Approved Danger and Caution Notices prominently displayed to warn of either energized equipment or equipment that must not be operated.

Safety Zone An area under the control of AADC that has been made as safe as reasonably practicable for operational tasks or work to be undertaken. The zone will be adequately identified with barricade and signs.

Sanction for Test (SFT) A safety document that is a declaration specifying the equipment that testing can be carried out on when it is required to remove a primary earth.

Standard Operating Procedure(SOP) Mandatory procedures, derived by risk assessment or Job Safety Analysis (JSA), on how to undertake work on the power and water networks safely.

Supervision The control and direction exercised by a Competent Person or an Authorized Person who is present at the point of work at all times during the progress of the work.

Switchgear Earth A primary or additional earth applied by either a circuit breaker or switchgear isolator earth switch.

System Items of equipment owned by the AADC that are used separately or in combination for the generation, transmission or distribution of electricity or water.

Vented	Having a permanent outlet to the atmosphere so that internal pressure is equalized to atmospheric pressure.
Water Network	Includes potable water and recycled water
Work	The activity of undertaking physical alteration to the distribution network including inspection, maintenance, installing, recovering or upgrading any network asset.
Working Party	A team of individuals working under the direct supervision of a Competent or Authorized Person.

Appendix A – Approved Notices and Barricade

Danger Notice
210 mm x 130 mm



Caution Notice
210 mm x 130 mm



Barricade Chain
(UPVC, 8 mm diameter links)



Barricade Tape



Barricade Support
(0.8 meters tall)



Appendix B – Operating Instructions

Reference	Title	Operating Instruction Guidance on the System Safety Rules
OI -001	RISSP	Procedure to be adopted when undertaking operational switching on the AADC high voltage (HV) 11 KV and 33 KV equipment that is connected to another Electricity Authority network.
OI -002	Connection & Disconnection of Asset	Procedure to be adopted when assets are to be connected to or disconnected from the high voltage or low voltage distribution network to ensure the safety from the system.
OI -003	Operational Earthing	Procedure for the application of operational earthing to achieve safety from the system for person working on high voltage and low voltage distribution network.
OI -004	Operational Switching	Procedure to be adopted when undertaking operational and safety switching operation on the Power or Water distribution network.
OI -005	Metal Clad Switchgear	Procedure to be adopted when accessing and working on all types of high voltage and low voltage ground mounted metalclad switchgear to provide safety from the system.
OI -006	Overhead Lines	Procedure to be adopted for work on or near to high voltage (HV) and low voltage (LV) over headlines to provide safety from the system.
OI -007	Underground Cables	Procedure to be adopted when working on or near to underground cables to provide safety from the system.
OI - 008	HV Live Working	Procedure to be a adopted when undertaking high voltage Live work on 11 KV and 33 KV over headlines.
OI -009	Lock Out Tag Out	Procedure to be adopted to provide safety from the system by locking off with safety locks at points of isolation from energized equipment and stored energy and the attachment of safety notices.
OI -010	Safety Zone and Demarcation	Procedure defines safety zones and demarcation when undertaking work adjacent to energized equipment on the Power and Water network. It also defines the Exclusion Zone for mobile plant operating adjacent to, or below, overhead lines conductors and support structures.

OI -011	Electrical High Voltage Testing	Procedure to be adopted when undertaking high voltage electrical testing on the alternating current (AC) equipment over 1,000 volts or application of test voltages over 1,000 volts.
OI -012	Customer Operational Interface	Procedure to be adopted at the operational interface between AADC and customer's high voltage (HV) or low voltage (LV) network to provide safety from the system.
OI -013	Safety Documentation	Procedure to be adopted for the control, issue and cancellation of safety documents to provide safety from the system. Including: Permit to work (PTW), Sanction for Test (SFT) and Limited Access Permit (LAP).