

Operating Instruction Lock Out & Tag Out OI.HSEMS.08

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Managing Director



Operating Instruction Lock Out & Tag Out

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1. PURPOSE

This Operational Instruction (OI) is mandatory and should be read in conjunction with the AADC System Safety Rules. This OI documents the procedure to be adopted to provide Safety from the System by locking off, with control or safety locks:

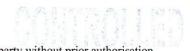
- Points of isolation from energized equipment and stored energy;
- Primary earths, additional earths, drain valves and vent valves;
 and the attachment of prominent safety notices to:
 - o Points of isolation;
 - o Primary earths, additional earths, drain valves and vent valves;
 - Demarcation of a safe zone barricade;
 - o Safe access routes:
 - Hazardous equipment adjacent to a safe zone;
 - Hazardous equipment not to be worked on.

This OI applies to all AADC distribution networks and associated systems that have the potential to cause harm including but not limited to:

- High voltage system;
- Low voltage system;
- Water distribution system;
- o Pumps;
- o Mobile generators;
- Control and protection systems.

The approved safety notices are a Danger Notice and a Caution Notice illustrated in the System Safety Rules Appendix A - Approved Notices and Barricades.

The term Lock Out and Tag Out is permitted to be abbreviated to LOTO.





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2. **DEFINITIONS**

For this document the following definitions apply

Caution Notice	An approved notice with the words 'Caution Men working do not operate' printed in Black lettering on a Red background in both English and Arabic.
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 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 Notice	An approved notice with the words 'Danger' printed in Black lettering on a Yellow background in both English and Arabic.
High Voltage (HV)	High voltage alternating current (AC) is above 1,000 volts or direct current (DC) over 1,500 volts.
Low Voltage (LV)	Low voltage alternating current (AC) is 50 volts and above up to and including 1,000 volts. Direct current (DC) low voltage is 120 volts and above up to and including 1,500 volts.
Isolation	A physical disconnection of a portion of the network from the energized network. Also see Point(s) of Isolation.
Multi Clasp	An approved security clasp providing dual control for Authorized Persons and Competent Persons used to prevent operation or removal of points of isolation, primary earth, valves and vents.
Portable Earth	A primary or additional earth that is portable and the type of earth applied to overhead lines.
Primary Earth	A switchgear or portable earthing device applied to an isolated electrical network to effectively keep all the electrical conductors at zero potential to the mass of earth.



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Safety from the System	The conditions that safeguard persons working on or near to equipment from the dangers that are inherent in that system.
Safety Lock	A unique lock and key that is used to secure equipment as inoperable that is used to isolate equipment from the network or the earthing/discharging device operated to secure a safe zone.
Safe Zone	An area under the control of AADC that has been made, as low as reasonably practicable, safe for operational tasks or work to be undertaken
Switchgear Earth	A primary or additional earth applied by either a circuit breaker or switchgear isolator earth switch.
Vent or Vented	Having a permanent outlet to the atmosphere so that internal pressure is equalized to atmospheric pressure.

PROCEDURE

3.1 Lock Out

- 3.1.1 All points of isolation to provide safety from the system on the high voltage, low voltage, potable water and treated sewage effluent systems shall be locked inoperable with a control lock.
- 3.1.2 When there is no provision on the point of isolation to lock it inoperable then access to it shall be prevented using a control lock.
- 3.1.3 On the high voltage electrical network primary earths, applied by switchgear, shall be prevented from unauthorized interference with a control lock.
- 3.1.4 Where drain valves and pressure relief vents are used to provide safety from the system they shall, where reasonably practicable, be prevented from unauthorized interference with a control lock.
- 3.1.5 When safety from the system is provided for more than one working party then a multi-clasp lock shall be used to secure all devices that are providing safety from the system. The multi-clasp shall be locked with a control lock by the Authorized Person who will retain the key and then each working party leader will apply their safety lock and retain their respective keys.



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3.2 Tag Out - Caution Notice

- 3.2.1 All points of isolation to provide safety from the system on the high voltage, low voltage, potable water and treated sewage effluent systems shall have a caution notice prominently displayed.
- 3.2.2 Whenever a control lock or safety lock is applied to a device to provide safety from the system then a caution notice shall be prominently displayed.

3.3 Tag Out - Danger Notice

- 3.3.1 Danger notices shall be used to clearly identify equipment adjacent to a safety zone that remains energized or may be a hazard.
- 3.3.2 When a safety zone is established with a barricade then danger notices shall be displayed in sufficient numbers and at appropriate intervals facing into the safety zone to clearly identify it.
- 3.3.3 When a safe access route is established to a safety zone then danger notices shall be displayed in sufficient numbers and at appropriate intervals facing into the safe access route to identify the safe access route.

3.4 General application of LOTO

- 3.4.1 When LOTO is applied to an overhead line isolator that is providing isolation for safety from the system then the following shall be applied:
 - o a control lock to prevent operation;
 - o a caution notice to warn that work is being undertaken, and
 - o a danger notice to identify that one side of the isolator remains energized.
- 3.4.2 When LOTO is applied to a withdrawable ground mounted circuit breaker then the busbars shutters shall be locked closed with a control lock, and a danger notice applied to warn that the busbars remain energized. The circuit breaker, when used to provide a primary earth, shall be locked inoperable with a control lock, and a caution notice applied.
- 3.4.3 When LOTO is applied to a pipeline or pressure vessel control valve that is providing isolation for safety from the system then the following shall be applied
 - a control lock to prevent operation;
 - o a caution notice to warn that work is being undertaken, and



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- o a danger notice to identify that one side of the valve remains energized.
- 3.4.4 When it is not practicable to directly lock a mechanical isolation point 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 the following applied
 - o a control lock to prevent removal of the retaining device;
 - o a caution notice to warn that work is being undertaken, and
 - o a danger notice to identify that one side of the valve remains energized.
- 3.4.5 When LOTO is applied to pressure systems, a pipe line or vessel; then valves or devices that control draining, venting, purging shall have the following applied:
 - o a control lock to prevent operation when reasonably practicable, and
 - o in all cases a caution notice to warn that work is being undertaken.
- 3.4.6 When addition earths are applied to provide safety from the system then the following shall be used:
 - when reasonably practicable a safety lock to prevent removal or operation, and
 - o a caution notice to warn that work is being undertaken.
- 3.4.7 When a multi clasp lock is used to secure a device that is providing safety from the system then this shall have a caution notice prominently attached.

4. REFERENCES

- 4.1 Article 98 of Federal Law No. 8 for 1980 on Regulation of Labour Relations
- 4.2 Abu Dhabi Occupational Health and Safety Management System Framework (OSHAD-SF) Management Systems Elements Element 05 Training, Awareness and Competency, Version 3.1 March 2017

5. APPENDICIES

Non

