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The Use of the High Voltage Access procedure is required in the following cases:

- Any type of maintenance on high voltage equipment.
- Any type of repair to high voltage equipment.
- Any form of measurement on high voltage equipment.
High Voltage
- DC > 1200V
- AC > 1000V
Terminology

LOTO
- Lock-out and Tag-out
LIVE

- Any electrical apparatus which is charged at a potential different from that of the mass.
Safe Approach Distance

The minimum safe approach distance that shall be maintained by an unauthorized person or any object from bare electrical apparatus and to day set at 3000mm
Safe Working Distance

- The minimum approach distance for authorized personnel, for 6,6KV this is 1120mm.
Competent Person (CP)

A first electrician who has been found competent by the Chief engineer to have sufficient system knowledge of a particular system within the site/vessel/workshop.
Terminology

Permit to Work

A formal written system used to control certain types of work that are potentially hazardous.
Isolation Device

- A device used to remove and or physically isolate the energy of a source of energy from equipment, machinery, systems, plants to make them safe to work on.
Isolated Device

- A device locked out and tagged off where appropriate with a personal danger lock and a personal danger tag by a person under supervision of a Competent Person according to the correct LOTO procedure.
JHA

- Job Hazard Analysis.
Switching Program

- A document prepared by the appointed competent person which identifies the required steps for isolation.
Installation Machinery

- Includes any equipment (mobile or fixed), appliance, apparatus, implement of tool and any component, fitting or accessory thereof, including all associated circuit breakers, valves, levers, isolators, etc.
Personal Danger Lock (PDL)

- Lock used to indicate that a person is working on the plant/machinery. Each person involved in the job attaches a personal danger lock and personal danger tag to each isolation device.
(Red) Personal Danger Tag (PDT)

- Tag used to indicate that a person is working on the plant or machinery. Each person involved in the job attaches a personal danger tag to each of his personal danger locks. PDT not to be used for anything else.
RES

- Rapid earth switch: This switch is used to earth and short circuit a part of a switchboard.
Terminology

PPE

- Personal protective equipment.
Complete a JHA

- This can also be called a risk analysis.
STEP 2

Prepare a written switching sequence.

- Which breakers are to be separated from the switchboard?
- How and where measuring will take place?
- How and where additional earth will be placed?
- Switching sequence is to be made up by the competent person in cooperation with an engineer deemed competent chief engineer.
- Is to be attached to this procedure.
- Use up to date circuit diagrams.
STEP 3

Switch-off/ de-energize the respective part of the installation

- This can also be called a risk analysis.
STEP 4

Separate the respective part of the system from the live system.

- Also called Isolate.
- There must be a physical separation of the parts.
- A possibility is racking out a breaker.
- Refer to the manufacturers instructions.
Measures against starting up.

- As described in the LOTO procedure.
Earth the respective part of the switchboard.

- Use the RES
Verify if dead

- Stick voltage measuring device.
- 6.6kv =1120mm minimum.
- Test before measuring and after measuring.
- Until an installation is earthed it is considered live.
Place additional earth if appropriate

- verify if dead
- use PPE
Mark and shield live components.

- Neighboring parts can be live
- Ideally they are isolated also, but this is not always possible.
- Place barriers, isolating covers and clearly mark live parts.
- Take care with tools ladders etc.
- Remember 1120mm for 6.6KV
Perform the job
STEP 11

Remove the additional earth.

- First remove the phase connections.
- Remove the earth connection last.
- Ass soon as the additional earth is removed the installation is considered live.
STEP 12

Remove the earth from the switchboard.

- Open the RES
Remove measures against starting up.

- See LOTO
Raise the separation, isolation.

- Meaning in most cases racking in the breaker.
Re-energize the installation.

Once the procedure is completed, the installation is declared operational and can be re-energized at any time it is deemed necessary.
Non competent persons and persons not involved in the job

- Warning signs must be placed in the vicinity of the work area, pointing out the dangers to non competent persons and persons not involved in the job.
- Remember safe approach distance for non competent persons = 3000mm.
Access routes around switching and distribution devices shall be free from obstacles and flammable materials.

- Sufficient access
- Enough room to work
- Adequate lighting
- Adequate escape routes
- Falling, tripping etc. can also cause severe accidents near an electric installation.