

Your Company Name / Logo	INSTRUMENT ISOLATION AND LOTO SOP	Doc no: SOP SAF 001	Rev: 0
Department: Instrumentation	Standard operating procedure	Date:	Page: see footer

1. Purpose

To protect people and the process when field instruments are removed or worked on.

2. Scope

Field instruments connected to process lines or vessels, and their electrical and pneumatic supplies. It supplements, and does not replace, the site permit and isolation procedure.

3. References

- Site permit to work and isolation procedure
- P&IDs and hook up drawings
- Safety data sheets for the process fluid

4. Responsibilities

- Instrument technician: carries out the work and records results.
- Instrument engineer or supervisor: reviews and approves the records.
- Operations: grants the permit, isolates the process and returns the equipment to service.

5. Safety precautions

- Work only under a valid permit to work and follow the site isolation (lockout tagout) procedure.
- Wear the PPE required for the area: safety helmet, glasses, gloves and safety shoes as a minimum.
- In hazardous areas use certified or intrinsically safe test equipment, or obtain a gas free certificate and hot work permit.
- Inform the control room before starting, and before returning the instrument to service.
- For hazardous, toxic or high pressure services use double block and bleed isolation where required by the site procedure.
- Never rely on a control valve as an isolation valve.

6. Tools and equipment

- Personal locks, tags and lockout devices
- Drain container and spill kit
- Gas detector where applicable
- Correct tools and PPE for the fluid

7. Prerequisites

- Permit issued; isolation points identified on the P&ID and hook up drawing.
- Affected control loops in manual and any trips bypassed under authorisation.

8. Procedure

8.1 Process isolation

- 8.1.1 Close the instrument root valve(s) or manifold block valves.
- 8.1.2 Open vent and drain valves slowly to depressurise and drain into a container.
- 8.1.3 Verify zero pressure on a gauge or by observing that venting has stopped.

8.2 Electrical and pneumatic isolation

- 8.2.1 Isolate the loop power at the marshalling or by the field breaker where required (most 4 to 20 mA loops can be worked on live only if the site rules allow).
- 8.2.2 Isolate instrument air at the filter regulator and vent the actuator for valves.

8.3 Lock and tag

- 8.3.1 Apply personal locks and tags to every isolation point listed on the permit.
- 8.3.2 Try to operate (test) where safe, to confirm the isolation is effective.

8.4 Return to service

- 8.4.1 Reinstall and leak test the instrument.
- 8.4.2 Remove locks and tags only after the work is complete and the area is clear.
- 8.4.3 De isolate in reverse order with operations, then remove bypasses and close the permit.

9. Acceptance criteria

- Zero energy verified before work starts.
- All locks and tags removed and isolation reversed after work.
- No leaks on return to service.

10. Records

- Permit to work and isolation certificate (site forms) (free template: instrumentationblog.in/downloads/templates/)
- Instrument breakdown report (free template: instrumentationblog.in/downloads/templates/instrument-breakdown-report/)

11. Approval

	Prepared by	Reviewed by	Approved by
Name			
Signature			
Date			

This procedure is a generic template. Adapt it to your site permit system, the manufacturer instructions and your quality system before use.