

Your Company Name / Logo	GUIDED WAVE RADAR LEVEL COMMISSIONING SOP	Doc no: SOP INST 014	Rev: 0
Department: Instrumentation	Standard operating procedure	Date:	Page: see footer

1. Purpose

To start GWR transmitters with the right probe, medium and range settings so they measure level and interface reliably.

2. Scope

Guided wave radar transmitters with rod, cable or coaxial probes in vessels, chambers and bridles.

3. References

- Transmitter manual
- Level data sheet
- Vessel or chamber drawing with nozzle dimensions

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.
- Do not remove probes from pressurised vessels; probes are part of the pressure boundary.

6. Tools and equipment

- HART communicator or configuration software with echo curve view
- Tape measure and vessel drawing

7. Prerequisites

- Mechanical installation complete; probe length and type match the data sheet.

8. Procedure

8.1 Installation check

- 8.1.1 Probe clear of internals and nozzle walls as the manual requires; centring disc fitted in chambers if needed.
- 8.1.2 Probe length, nozzle height and reference point recorded.

8.2 Configure

- 8.2.1 Enter probe type and length, tank or chamber geometry, reference height and dielectric constant of the product.
- 8.2.2 For interface, enter upper layer dielectric and enable interface measurement.
- 8.2.3 Set range, damping and failure current.

8.3 Echo curve review

- 8.3.1 Save the echo curve with the vessel at a known level.
- 8.3.2 Identify the level and end of probe peaks; set thresholds or suppress fixed disturbances as the manual allows.

8.4 Verify and record

- 8.4.1 Compare the reading with a gauge glass or manual dip at two levels if possible.
- 8.4.2 Save the configuration backup and record it.

9. Acceptance criteria

- Level within the agreed limit of the reference at the checked levels.
- Echo curve clean with a clear level peak.
- Configuration saved and recorded.

10. Records

- HART configuration record (free template: instrumentationblog.in/downloads/templates/hart-transmitter-configuration-record/)
- Loop check sheet (free template: instrumentationblog.in/downloads/templates/loop-check-sheet/)

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.