

Standard Operating Procedure (SOP)

Adjustment of Equipment Settings to Meet Specified Tolerances

This SOP details the process for **adjustment of equipment settings** to meet specified tolerances, ensuring precision and compliance with operational standards. It covers the identification of required settings, calibration procedures, verification techniques, documentation of adjustments, and quality control measures to maintain equipment accuracy and performance.

1. Purpose

To establish a standard procedure for adjusting equipment settings to meet specified tolerances, ensuring operational accuracy and compliance with quality standards.

2. Scope

This SOP applies to all personnel responsible for operating, calibrating, and maintaining equipment that requires regular adjustment to specified tolerances.

3. Responsibilities

- **Operators:** Identify deviations, adjust settings, and document changes.
- **Maintenance Personnel:** Perform calibrations and advanced adjustments as needed.
- **Supervisors:** Review documentation and ensure compliance.

4. Definitions

- **Tolerance:** The allowable deviation from a specified value or standard.
- **Calibration:** Process of configuring an instrument to provide results within an acceptable range.
- **Adjustment:** Changing equipment settings to bring performance within specified tolerances.

5. Procedure

1. **Identification of Required Settings**
 - Refer to manufacturer specifications and operational guidelines to determine the correct settings and tolerances.
2. **Preparation**
 - Ensure equipment is powered off, isolated from process materials, and safe to access.
 - Gather necessary tools, manuals, and calibration devices.
3. **Calibration Procedure**
 - Connect calibration devices as per manufacturer's recommendations.
 - Follow the calibration procedure to bring equipment within the target range.
4. **Adjustment of Settings**
 - Adjust controls, dials, or software configurations to achieve the required settings.
 - If adjustment is outside normal means, escalate to maintenance or engineering as per escalation procedure.
5. **Verification**
 - Verify settings using standard test procedures and record results.
 - Repeat calibration and adjustment if results are outside tolerance.
6. **Documentation**
 - Log all adjustments and verifications in the equipment maintenance record.
 - Record date, personnel involved, and details of adjustment.
7. **Quality Control**
 - Conduct random periodic checks as per quality assurance plan.
 - Report and investigate deviations outside of tolerance.

6. Documentation & Records

- Equipment Adjustment Log
- Calibration Certificates
- Verification Test Results

7. Safety and Precautions

- Follow all safety procedures when accessing and adjusting equipment.
- Wear appropriate PPE as required.
- Ensure adjustments do not compromise the safety features of the equipment.

8. References

- Manufacturer's equipment manuals
- Internal equipment calibration guidelines
- Relevant standards and regulations