

# Program Notice

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## EXAMINATION OF AUDIT TRAILS OF SCALES USED FOR OFFICIAL WEIGHING

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## 1. PURPOSE

This notice provides guidance on the use of audit trails to determine whether the calibration or configuration of a scale has been altered without authorization, before proceeding with official weighing or an official scale test.

## 2. REPLACEMENT HIGHLIGHTS

This notice elaborates on the description of audit trails as a security measure in the Weighing Handbook. Discard this notice after the next update of the Weighing Handbook.

## 3. BACKGROUND

An audit trail is an alternative to mechanical sealing of electronic scales. An audit trail is a permanent record, updated whenever a scale parameter that affects the validity of measurements is adjusted, e.g., span, linearity correction value, division size, number of scale divisions, motion detection, etc. These records can be viewed at the scale display and include a date/time stamp and a count of previous adjustments.

Many digital scale indicators, particularly those for vehicle and rail scales, rely on audit trails to prevent unauthorized adjustments, instead of providing manually adjustable components or physical interlock devices which can be sealed. These scales are adjusted using a keyboard after entering a calibration or configuration mode. The command to gain these increased privileges might not be password protected, or a password might exist but not be controlled by official personnel. Examining the audit trail is the only way official personnel can determine if the scale has been adjusted since the last official test.

## 4. PROCEDURES

### a. Scale Testing and Approval

All weighing devices which allow adjustments to be made in software must have a means to protect the access to these adjustments. Acceptable protection methods include a device such as a switch or jumper that can be sealed, or an audit trail. A password by itself is not an acceptable protection method.

When approving a scale for official use, in addition to descriptive specifications for the scale, note in the Scale Record Log (FGIS-963) whether the scale utilizes an audit trail. Record the audit trail event counts with the date, time, and your initials. There will be separate event counts for calibration and configuration parameters. The facility is responsible for bringing up the audit trail to examine it.

When adjusting a scale during an official test, record any adjustment affecting an audit trail on the Scale Test Report forms (FGIS-965, FGIS-965-1, FGIS-965-2) and in the Scale Record Log (FGIS-963), along with the audit trail event count, date, time, and appropriate explanation.

As with the unauthorized breakage of a seal, an unauthorized adjustment which affects an audit trail will require recertification of the scale. When an unauthorized adjustment has been made, consider the scale as not maintaining its accuracy, and put the scale on an increased frequency testing schedule. In addition, record the

unauthorized adjustment along with when it was made on the Scale Test Report Form and in the Scale Record Log.

b. Official Weighing

Examine the Scale Record Log to determine if a scale is protected by an audit trail. When a scale has an audit trail, compare the audit trail event counters to the counts recorded in the Scale Record Log before providing weighing service and after any break in service. There will be separate event counts for calibration and configuration parameters. The facility is responsible for bringing up the audit trail to examine it. If the audit trail indicates that the scale may have had an unauthorized adjustment, report this to the shift supervisor and the scale official, and remove the scale from official service until an official test has been performed.

5. QUESTIONS

Direct any questions concerning this policy to the Policies, Procedures, and Market Analysis Branch at (202) 720-0228.