

## **FEUQ02- Quality Control of Metrology**

### **Scope**

This procedure outlines the quality control measures instituted for the digital calipers and steel rulers used within the laboratory.

### **Background**

In order for a piece of equipment to function accurately and reliably, it is essential that proper maintenance is performed. This maintenance can include calibration before each use, calibration based on a specified time period, routine cleaning, or placing service calls to outside contractors for calibration and cleaning.

### **Safety Precautions**

1. Wear personal protective equipment (e.g., lab coat, gloves, mask, eye protection) when carrying out standard operating procedures.
2. Read Material Safety Data Sheets to determine the safety hazards for chemicals and reagents used in the standard operating procedures.

### **Procedure**

#### **For Digital Calipers:**

1. All digital calipers used in the laboratory will be calibrated annually by an outside contractor using NIST traceable standards.
2. All digital calipers that are placed into service shall be calibrated internally each quarter to ensure consistent reproducibility.
3. If a digital caliper appears to be malfunctioning, notify a supervisor so that a service call may be placed to an outside contractor for repairs and take it out of service.
4. All calibration and maintenance should be recorded on the appropriate Equipment Maintenance Log.
5. Quarterly calibration should be placed on the FEU calibration frequency log.
6. If a digital caliper is sent out for maintenance or calibration, it shall be verified prior to being returned to service by performing measurements on three known standards used in the laboratory. The caliper will be considered in service if it is within +/- .0003 inches of the measured standard.

**For Stainless Steel Rulers:**

1. All stainless steel rulers used in the laboratory will be calibrated annually by an outside contractor using NIST traceable standards.
2. If a stainless steel ruler appears to be malfunctioning, notify a supervisor so that a service call may be placed to an outside contractor for repairs and take it out of service.
3. All calibration and maintenance should be recorded on the appropriate Equipment Maintenance Log.
4. If a stainless steel ruler is sent out for maintenance or calibration, it shall be verified prior to being returned to service by performing measurements on three known standards used in the laboratory. The ruler will be considered in service if it is within +/- .005 inches of each scale length.

**Documentation**

The following log(s) may be generated and managed:

<b>Casework Documentation</b>
Equipment Maintenance Log Calibration Verification Log