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## **BOP #5 (formerly 4.11.01)**

**Document Title:      Operational Test and Calibration of Equipment**

**Approval Authority: Bureau Chief**

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### **A. PURPOSE**

This Bureau Operating Procedure (BOP) defines the system by which the Consultative Services Bureau ensures the testing and proper operation of its sampling equipment.

### **B. SCOPE**

This procedure applies to all Consultative Services personnel who use sampling equipment in the performance of their job duties.

### **C. DEFINITIONS**

Calibration Tag- A self-adhesive tag placed on equipment used to indicate the last date the equipment was calibrated by the Technician.

Consultant- A safety or health consultant.

Consultation Case File- A group of forms and completed documents prepared by Consultative Services employees.

Consultation Case File Reminders Checklist- A mandatory tracking sheet used to verify that certain key steps in the Case File documentation process have been completed by the Consultant.

Field Calibration- A standardized procedure performed by the consultant before and after sampling equipment is used in the field to accurately determine and document that the sampling equipment operated correctly and within established guidelines during use.

Lab Calibration – Laboratory or manufacturer grade calibration of equipment.

OSHA Technical Manual- An electronically maintained document found in the osha.gov website which provides guidelines for the usage of sampling and technical equipment. TED 01-00-015.

Sampling Equipment- Equipment used by the consultant to determine atmospheric and physical conditions at a worksite.

Testing- A standardized procedure performed by the consultant prior to use of sampling equipment to accurately determine that the sampling equipment will operate correctly and within established guidelines.

Technician – The electronics technician of the OSH Division of NCDOL or the manufacturer calibration technician or the federal technician at the federal calibration lab (Cincinnati).

## **D. RESPONSIBILITIES AND AUTHORITIES**

1. Technician (Electronics Technician II) -Responsible for following required calibration schedules, informing the Consultative Services Bureau of needed calibration, and performing calibration in accordance with manufacturer's instructions or technical references.
2. Consultant Supervisor – Acts as the equipment coordinator. Responsible for coordinating with the Technician and district consultants to ensure that the requested equipment is forwarded to be calibrated, and to ensure that any other equipment in need of repair or calibration is forwarded for calibration.
3. Safety and Health Consultant- Responsible for following documented testing procedures in accordance with manufacturer's instructions or technical references, and informing the Equipment Coordinator of the need for equipment calibration. .

## **E. REQUIREMENTS**

1. Prior to testing the sampling equipment, the consultant shall review the lab calibration tag to ensure that the sampling equipment has had a calibration within the required period (often twelve months).
2. All testing of sampling equipment shall be performed within accepted guidelines found in the OSHA Technical Manual, the equipment manufacturer's guidelines, and/or any established Bureau and Department requirements. [OSHA Technical Manual](#) Section II, Chapter 3 reviews sampling equipment and provides information on testing of some sampling equipment.
3. If new equipment is obtained, it shall be added to the inventory pool and a memo sent to the electronics technician with factory calibration details. The electronics technician will add the equipment to the annual list of equipment needing calibration. The equipment coordinator will add a calibration tag showing the factory calibration information.
4. Some equipment may be calibrated at the federal OSHA lab (in Cincinnati). Some will be calibrated by the Electronics Technician of the OSH Division.
5. If a consultant notices a non-conformance of the calibration records of any piece of equipment, they will follow the appropriate action steps in F1 or F2 for the non-conforming equipment.

## **F1. ACTION STEPS FIELD CALIBRATION**

1. The consultant selects the appropriate sampling equipment based upon visit requirements.
2. The lab calibration tag attached to the sampling equipment is reviewed.
3. If the lab calibration tag shows that the sampling equipment has been calibrated within the required time frame the consultant can proceed with field testing and use.
4. If the equipment has not been calibrated, the consultant using the equipment will notify their supervisor and begin to correct the problem by initiating the calibration process.

5. The Consultant who requires the use of equipment stored in the Raleigh field office shall contact the Administrative Assistant who is responsible for coordinating the sign-out and return of this equipment. If the Administrative Assistant is not available, the Processing Assistant or Bureau Chief will serve as the point of contact for this purpose. Coordination shall include documentation of the specific equipment taken, the borrower's name as well as the date borrowed, the date due back, and the date actually returned. Equipment may be reserved in advance to ensure availability. It is the borrower's responsibility to ensure equipment is returned on schedule. Any damage incurred or operational problems experienced during use by the borrower shall be reported at the time of return, and this information shall be forwarded to the Equipment Coordinator.
6. The consultant performs the necessary field calibration and testing of the sampling equipment.
7. The testing of the equipment is documented using the Consultation Forms.
8. After use of sampling equipment, the consultant post field calibrates the equipment.
9. The post field calibration is documented on the Consultation Forms.
10. Any malfunctions of equipment during testing or use shall be reported to the supervisor and Administrative Assistant.
11. Sampling equipment is returned to its proper storage location.

## **F2. ACTION STEPS FOR LAB CALIBRATION**

1. Consultants will send the equipment in need of lab calibration to the OSH Division Electronics Technician or the appropriate federal lab or manufacturer for the needed calibration.
2. The technician performs the necessary performance test and calibration.
3. The technician updates the database with the revised calibration data.
4. The technician places a revised calibration sticker on the equipment with the date and time of calibration.
5. The technician returns the equipment to the Consultant.
6. If the equipment is not found to be within specifications and the calibration tag is not updated, the technician will communicate that to the Consultant.
7. The equipment is returned to its proper storage location.
8. If a new piece of equipment is purchased by the Bureau, the Administrative Assistant will send a memo or email to the technician providing the needed information so that the equipment can be added to the calibration inventory (Technician's Log). The memo or email will include the equipment manufacturer, make, model, and location where the equipment is stored. If a piece of equipment fails to be placed on the Technician's Log, the first time the equipment is delivered to the technician for calibration or repair, it will be added to the Technician's Log to ensure future calibrations.

## **G. DOCUMENT CONTROL**

1. The content of this BOP is the responsibility of the Bureau Chief.
2. Requests for interpretation of the provisions of this procedure and suggestions for changes should be addressed to the supervisor or Bureau Chief.
3. This procedure is maintained electronically.

## **H. REVISIONS**

4.11.01 E Rev 1 04/01/00 Add E3 and Revise F4  
4.11.01 F5 Rev 2 10/02/02 Revision to Equipment Sign-out Procedure  
4.11.01 Rev 4 03/10/03 Consultation Case File Reminders Checklist (Attachment)  
Consultant Checklist (Reference)  
4.11.01 Rev 5 Updated with OSHA Express language and current personnel. Combined  
with 4.11.02 Calibration of equipment and 4.11.03 non-conformance of calibration.  
BOP #5 Rev 6 4/27/2016 Small format changes and personnel updates only.