



# **TENNESSEE BUREAU OF INVESTIGATION**

## *Forensic Services Division*

---

### Breath Alcohol Unit Standard Operating Procedures Manual Dry Gas Cylinder and Instrument Quality Assurance

---

## **5. DRY GAS CYLINDER and INSTRUMENT QUALITY ASSURANCE**

### 5.1. Purchasing

- 5.1.1. Only NIST Traceable dry gas cylinders will be used.
- 5.1.2. Standards will be purchased ready-to-use from an approved provider.
- 5.1.3. Evidentiary breath alcohol instruments will be purchased providing that they are on the NHTSA Conforming Products List.

### 5.2. Receipt

- 5.2.1. Upon receipt, dry gas cylinders and instruments will be inspected and inventoried against the packing slip. That shipment will be cross checked with the purchase document. Discrepancies will be immediately brought to the attention of the vendor. The receipt of the order will be documented in the Parcel and Tank Tracking Logbook.

### 5.3. Dry Gas Cylinder Verification

- 5.3.1. Each dry gas cylinder lot used for calibration and adjustment will be verified prior to use.
- 5.3.2. When possible, these checks will be performed on an instrument that was calibrated with a different dry gas lot or with a dry gas cylinder from a different manufacturer.
- 5.3.3. Each cylinder will be run through three (3) accuracy checks.
  - 5.3.3.1. The three values must be within +/-5% or 0.005, whichever is greater, of the target value and within 3% or 0.003, whichever is greater, of each other for acceptance.
  - 5.3.3.2. If the dry gas cylinder meets the above parameters, the same cylinder lots will be initialed, dated and marked as "lot verified".
  - 5.3.3.3. The pressure of all tanks will be checked to ensure they are full.
  - 5.3.3.4. If the dry gas cylinder does not meet the above parameters, troubleshooting of the instrument and/or cylinder will be conducted. The cylinder may be returned to the manufacturer.

**TENNESSEE BUREAU OF INVESTIGATION**  
*Forensic Services Division*

---

**Breath Alcohol Unit Standard Operating Procedures Manual**  
**Dry Gas Cylinder and Instrument Quality Assurance**

---



- 5.3.4. The checks will be performed by the Breath Alcohol Technical Leader (or designee) and documented on the dry gas standard quality control form.
- 5.3.5. The Certificate of Analysis for each tank will be saved on the TBI share drive in the "Breath Alcohol" folder.
- 5.3.6. All documentation will be kept in the Breath Alcohol Section in Nashville, TN. Electronic copies of the Quality Control Forms will be saved on the TBI share drive available to Breath Alcohol Scientists statewide.

#### 5.4. Instrument Verification

- 5.4.1. Each breath alcohol instrument will be certified prior to use.
- 5.4.2. An initial certification of different known standards will be sampled through the instrument and documented. This documentation will reside in the instrument's folder at the location where the certifying Breath Alcohol Scientist is stationed.

#### 5.5. Storage and Handling

- 5.5.1. The cylinders and instruments will be stored in the Breath Alcohol designated storage area in each TBI Crime Laboratory.
- 5.5.2. Cylinders and instruments that are being transported for field use will not be left in an un-locked vehicle.

#### 5.6. Protection

- 5.6.1. Dry gas cylinder will be installed in the instrument under lock and key that is in the custody of the Breath Alcohol Scientists and Technical Leader.
- 5.6.2. Instruments will be installed in secure law enforcement locations.

#### 5.7. Dry Gas Cylinder Installation

- 5.7.1. Upon installation of a new cylinder for use in an EC/IR II evidentiary breath instrument, the O-ring will be replaced.

#### 5.8. Instrument Installation

- 5.8.1. An instrument being initially installed at a location can be certified at the laboratory or in the field.

**TENNESSEE BUREAU OF INVESTIGATION**  
*Forensic Services Division*

---

Breath Alcohol Unit Standard Operating Procedures Manual  
Dry Gas Cylinder and Instrument Quality Assurance

---

An instrument being returned after repair must be certified before being reinstalled. Follow the Certification Procedure (Section: 4).

5.9. Retention of Instruments

5.9.1. Evidentiary Breath Alcohol Instruments will be retained in inventory until they are no longer in working order or have been replaced by new instrumentation.

5.10. Disposal of Instruments

5.10.1. Evidentiary Instruments that are the custody of the Tennessee Bureau of Investigation and have state inventory tags placed on each of them. Disposal of these instruments will follow state surplus procedures.

5.10.2. Instruments owned by other agencies will have their software removed before being taken out of service.