

**Executive Order VR-208-A**  
**Emco Phase II EVR System with Hirt Thermal Oxidizer Including INCON ISD**

**Exhibit 3**  
**Performance Standards and Specifications**

**Part I - Emco Manufacturing Performance Standards and Specifications**

The Emco Phase II EVR System and all components shall be manufactured in compliance with the performance standards and specifications in CP-201 (amended May 25, 2006), as well as the requirements specified in this Executive Order. All components (Exhibit 1) shall be manufactured as certified; no change to the equipment, parts, design, materials or manufacturing process shall be made unless approved in writing by the Executive Officer or Executive Officer delegate. Unless specified in Exhibit 2 or in the **ARB Approved Installation, Operation and Maintenance Manual**, the requirements of this section apply to the manufacturing process and are not appropriate for determining the compliance status of a gasoline dispensing facility.

**1. NOZZLES**

Every nozzle shall be tested at the factory. Every nozzle shall have affixed to it a card or label stating the performance specifications listed below, and a statement that the nozzle was tested to, and met, the following specifications.

- a. The nozzle vapor valve leak rate shall not exceed 0.07 cubic feet per hour (CFH) at a pressure of +2 inches water column (WC) when tested in accordance with the latest version of TP-201.2B.
- b. The nozzle automatic shut off feature is tested at all service clip settings as well as handheld in accordance with Underwriters Laboratories (UL) Standard 842.
- c. The nozzle's primary and secondary shut-off mechanism shall be identical to the design that passed the California Department of Food and Agriculture Division of Measurement Standards Article 2 (DMS 6-6-97).
- d. The nozzle is manufactured to the specifications that passed all tests conducted during the ARB certification for the following:

TP-201.2C	- Spillage from Phase II Systems
TP-201.2D	- Post Fueling Drips from Nozzles
TP-201.2E	- Gasoline Liquid Retention in Nozzles and Hoses
TP-201.2J	- Pressure Drop Bench Testing of Vapor Recovery Components
- e. The nozzle bellows is manufactured such that the force necessary to compress the nozzle bellows 0.883 inches is 5.95 pounds-force.
- f. The terminal end of each nozzle shall be manufactured in accordance with the specifications referenced in Section 4.7.3 of CP-201.

## 2. COAXIAL HOSES

- a. Every coaxial hose is tested for continuity and pressure tests in accordance with UL Standard 330.
- b. Every coaxial hose is manufactured to the standards and specifications that passed all tests conducted during the ARB certification for the following:
  - Exhibit 5 - Liquid Removal Test Procedure (for curb hoses)
  - TP-201.2J - Pressure Drop Bench Testing of Vapor Recovery Components

## 3. Safe Break Valves

- a. Every safe break valve is tested for continuity and pressure tests in accordance with UL Standard 567.
- b. Every safe break valve is manufactured to the standard that passed all tests conducted during the ARB certification for the following:
  - TP-201.2J - Pressure Drop Bench Testing of Vapor Recovery Components

## Part II - Hirt Manufacturing Performance Standards and Specifications

The Hirt VCS 100 thermal oxidizer and all components shall be manufactured in compliance with the performance standards and specifications in CP-201 (amended May 25, 2006), as well as the requirements specified in this Executive Order. All components (Exhibit 1) shall be manufactured as certified; no change to the equipment, parts, design, materials or manufacturing process shall be made unless approved in writing by the Executive Officer or Executive Officer delegate. Unless specified in Exhibit 2 or in the ***ARB Approved Installation, Operation and Maintenance Manual***, the requirements of this section apply to the manufacturing process and are not appropriate for determining the compliance status of a gasoline dispensing facility.

### 1. HIRT VCS 100 THERMAL OXIDIZER

- a. The VCS 100 processor is subjected to an assembly quality check.
- b. The VCS 100 processor is visually inspected to verify identification, caution/warning, electrical, and other Agency labels are in place.
- c. The VCS 100 processor is subjected to vacuum and pressure leak tests.
- d. The VCS 100 processor is subjected to the following functional tests:
  - i. Power test;
  - ii. Verify set point of vacuum sensor switch;
  - iii. Verify operation of main vapor valve;
  - iv. Verify flow rate of pilot and main vapor valves; and
  - v. Dielectric test.

### **Part III - INCON Vapor Recovery Monitoring (VRM) Manufacturing Performance Standards and Specifications**

The INCON VRM System and all components shall be manufactured in compliance with the performance standards and specifications in CP-201 (amended May 25, 2006), as well as the requirements specified in this Executive Order. All components (Exhibit 1) shall be manufactured as certified; no change to the equipment, parts, design, materials or manufacturing process shall be made unless approved in writing by the Executive Officer or Executive Officer delegate. Unless specified in Exhibit 2 or in the **ARB Approved Installation, Operation and Maintenance Manual**, the requirements of this section apply to the manufacturing process and are not appropriate for determining the compliance status of a gasoline dispensing facility.

#### **1. CONSOLE**

- a. Every INCON Console has been designed and manufactured to have an Operating Temperature Range of 32°F to 104°F (0°C to 40°C) and Storage Temperature Range of -4°F to 140°F (-20°C to +60°C).
- b. Every INCON Console system including software, sensors and modules have been designed and is Underwriters Laboratories (UL) approved for operation near potentially hazardous fuel storage tanks.
- c. Every INCON Console system including software, sensors and modules have been designed and tested in accordance with ISO-9001 manufacturing quality standards.

#### **2. VRM SOFTWARE**

- a. Every INCON Console with VRM software is manufactured to the specifications that passed the operational test and is compliant with CP-201 ISD performance standards and specifications.
- b. Every INCON Console with VRM software has been designed, manufactured and tested to continually monitor the connectivity and operability status of all sensors and modules. All Console VRM software has been designed, manufactured and tested to issue a visual, audible as well as printed notification upon failure of the connectivity or operability status of sensors and modules.

#### **3. VAPOR FLOW METER**

- a. Every INCON Vapor Flow Meter is designed, tested and manufactured to interface to the INCON Console. The Vapor Flow Meter has been designed and tested for measuring flow between 1 - 100 GPM in HC concentrations between 0 – 100% saturation across a -40°F to 140°F (-40°C to 60°C) operating range.

#### **4. VAPOR PRESSURE SENSOR**

- a. Every INCON Vapor Pressure Sensor is designed, tested and manufactured to interface to the INCON Console. The Vapor Pressure Sensor has been designed and tested for measuring vapor pressure between -8 to +8 IWC in HC concentrations between 0 – 100% saturation across a -40°F to 140°F (-40°C to 60°C) operating range.

#### **5. TANK INVENTORY PROBE SENSOR**

- a. Every INCON Magnetostrictive Probe is designed, tested and manufactured to interface to the INCON Console System. The Magnetostrictive Probe has been designed and tested to have an Operating Temperature Range of -40°F to 140°F (-40°C to 60°C) and Storage Temperature Range of -40°F to 140°F (-40°C to +60°C).

#### **6. CONSOLE MODULES**

- a. Every Console system module has been designed and tested to interface to the INCON Console. The Console system modules have been designed, tested and manufactured to have an Operating Temperature Range of 32°F to 104°F (0°C to 40°C) and Storage Temperature Range of -4°F to 140°F (-20°C to +60°C).