



**US Environmental Protection Agency
Office of Pesticide Programs**

**Office of Pesticide Programs
Microbiology Laboratory
Environmental Science Center, Ft. Meade, MD**

**Standard Operating Procedure for
Calibration and Maintenance of Timers**

SOP Number: EQ-05-07

Date Revised: 04-26-16

SOP Number	EQ-05-07
Title	Calibration and Maintenance of Timers
Scope	Describes process for calibration and maintenance of timers, certified instruments that can display time in seconds.
Application	Timers are used for managing timed activities in test methods.

	Approval	Date
SOP Developer:	_____	
	Print Name: _____	
SOP Reviewer	_____	
	Print Name: _____	
Quality Assurance Unit	_____	
	Print Name: _____	
Branch Chief	_____	
	Print Name: _____	

Date SOP issued:	
Controlled copy number:	
Date SOP withdrawn:	

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1. Definitions	1. ISO = International Organization for Standardization
2. Health and Safety	None
3. Personnel Qualifications and Training	Refer to SOP ADM-04, OPP Microbiology Laboratory Training.
4. Instrument Calibration	1. Calibration of the timers is performed every two years by an ISO 17025 accredited vendor.
5. Sample Handling and Storage	Not applicable
6. Quality Control	For quality control purposes, the required information is documented on the appropriate form(s) (see section 14).
7. Interferences	None
8. Non-conforming Data	<ol style="list-style-type: none"> 1. If the vendor determines that a timer is out of tolerance and cannot be properly calibrated, the timer will be replaced. 2. Procedures to handle non-conformances are consistent with SOP ADM-07, Non-Conformance Reports.
9. Data Management	<ol style="list-style-type: none"> 1. An inventory of timers requiring vendor calibration will be maintained electronically (Timer Certification Record; see section 14). After each addition to or deletion from the inventory, a hard copy of the inventory will be filed in the Timer Calibration Certificates notebook. 2. Data will be archived consistent with SOP ADM-03, Records and Archives.
10. Cautions	Timers are removed from service when the calibration expires (two years from the date of calibration) and are returned to service when recalibration is completed.
11. Special Apparatus and Materials	<p>Timer Specifications:</p> <ul style="list-style-type: none"> • Bench top timers • Single action • Time in/Time out • Cumulative and interval split • Reads in hours, minutes, seconds, and hundredths or in decimals • Individually serial numbered • Calibrated by ISO 17025 accredited vendor

12. Procedure and Analysis	Calibration certificates must contain the stamp of the accrediting body (e.g., A2LA, NVLAP) and the calibration vendor certificate number.
12.1 Calibration	<ul style="list-style-type: none"> a. Before the calibration expires, remove the timer from service. b. Consult ISO 17025 accredited vendor regarding quote for service, packing/shipping instructions, and completion of any required forms prior to shipping timers. c. Pack and ship timer to vendor. d. Once timer has been recalibrated and shipped back to the laboratory, complete the Timer Certification Record (section 14), file the certificate in the Timer Calibration Certificates notebook, and return the timer to service. e. Replace timers that fail calibration.
12.2 Operation	Follow the instructions, provided by the manufacturer, for the operation of each timer. See section 15.
13. Data Analysis/ Calculations	None
14. Forms and Data Sheets	Form is stored separately from the SOP under the following file name: <p style="text-align: center;">Timer Certification Record EQ-05-07_F1.docx</p>
15. References	Operation manuals for timers located in file cabinet in D-wing.