California Type Evaluation Program

Division of Measurement Standards
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www.cdfa.ca.gov/dms/

Introduction

Before any weighing or measuring device can be sold or used in California, it must first be evaluated and approved by the Department of Food and Agriculture. This process is known as “type evaluation”.

Type evaluation is the examination of weighing or measuring devices for the legal purpose of certifying that its design and performance complies with all applicable weights and measures requirements. It is unlawful for a device to be placed into commercial use unless it is of a type approved by the Department.

Type approval examination allows new and modified devices to be examined for compliance with Weights and Measures requirements before they are installed and used in commercial applications. If any deficiencies are found during the type evaluation process, the manufacturer will be requested to correct the deficiencies.

The evaluation process examines the design, features, operating characteristics, and performance of devices for compliance with legal requirements. Its purpose is to ensure devices are accurate, reliable, and do not facilitate fraud. For most devices, it is only feasible to determine compliance to certain design related requirements under laboratory conditions. For example, its susceptibility to temperature or voltage variations, durability, stability of indication under load, integrity of adjustments, etc., are best determined under controlled conditions.

“Commercial purposes” refers to devices that are:

- Used in buying, selling, or exchanging goods, things, or commodities.
- Used in determining value of goods or services for compensation or assessment.
- Used in establishing the cost for services or hire on the basis of measurement.

“Commercial purposes” does not include devices used within a plant or business to process or manufacture a commodity that will be offered for sale after the processing or manufacturing is completed.

General Terms and Definitions

Certificate of Approval	An official certificate issued by the California Type Evaluation Program (CTEP) after successful completion of evaluation and testing of sample devices. It indicates that the submitted device type meets applicable weights and measures requirements for commercial weighing and measuring instruments. This certificate is required only for the commercial use of weighing and measuring instruments within the State of California.
Certificate of Conformance	California is a participating National Type Evaluation Program (NTEP) laboratory and is authorized to evaluate weighing and measuring instruments for NTEP Certificates of Conformance when assigned by the National Conference on Weights and Measures. NTEP certificates are accepted in all states and form a basis for mutual recognition certification (NTEP and Measurement Canada) for some device types. You can obtain information and applications for NTEP certificates and mutual recognition with Measurement Canada from the worldwide web Internet at the following URL addresses: http://www.ncwm.net/content/get-ntep-certification, http://www.ic.gc.ca/eic/site/mc-mc.nsf/eng/h_lm00004.html, Both NTEP and California certificates are accepted in California unless specifically withheld or revoked by NTEP or by the Secretary of Food and Agriculture. Information on whether a certificate has been revoked or withheld in California is available from the Department.
Instrument or Device	A weighing or measuring instrument or system used to determine physical quantity or an element or component of a weighing or measuring instrument that performs a metrological function that can be separately examined or is subject to specified error limits or other requirements. Weighing or measuring instruments often include other related functions and features governed by weights and measures requirements such as display, storage, or comparison of measured values, price computations, value determinations, etc.
Measurement or Measuring Instrument	When used in general terms, measurement or measuring instrument includes devices or systems employed in the determination of physical quantity such as, but not limited to, weighing, dimensional measurement, volume determination, determination of energy or power content, timing devices, counting instruments, etc. Often weight determination is identified separately when being distinguished from other measuring instruments, hence the terms “weights and measures” or “weighing and measuring instruments”.
Metrological Functions	Elements or features of a measurement instrument or system that perform the measurement process or that may affect the final quantity determination or resulting price determinations. This includes accessories that can affect the validity of transactions based upon the measurement process. Metrological functions include determination of quantities; the transmission, processing, storage, or other corrections or adjustments of measurement data or values; and the display or recording of measurement values or other derived values such as price or worth or charges resulting from the measurement process.
Type Evaluation	The examination of a weighing or measuring instrument for the legal purpose of certifying that its design and performance complies with all applicable weights and measures requirements. It is unlawful for an instrument to be placed into commercial use unless it is of a type approved by the Department.
Use for Commercial Purposes	This term refers to weighing or measuring instruments: ♦ Used in buying, selling, or exchanging goods, things, or commodities. ♦ Used in determining value of goods or services for compensation or assessment. For establishing the cost for services or hire on the basis of measurement.

Questions & Answers

The following information provides you with answers to frequently asked questions and should be used only as a guide and not considered to be a legal authority.

Must all devices be submitted for type evaluation?

Only devices used in trade or commercial applications, or for law enforcement when specified by a government agency, are subject to Weights and Measures requirements. Non-commercial devices are not subject to type evaluation or approval, or to Weights and Measures control. Components or equipment attached to, or used in conjunction with, a device are required to be submitted for type evaluation only if they have requirements in weights and measures regulations or if they can affect accuracy of the device.

In California, the County Sealer can make provisional acceptance for simple, single-purpose, commercial devices found to comply with all applicable specifications and tolerances.

Devices such as:

- Linear measures
- Farm holding tanks
- Timing devices
- Odometers
- Volumetric vessels for used waste material collection for recycling
- Simple counting devices easily verifiable by all parties subject to its transactions
- Simple printers without metrological functions
- Secondary indicators without metrological features

Devices failing to comply are subject to removal from commercial use as provided in the California Business and Professions Code. When provisional acceptance is made, no certificate is issued.

The Department may elect to require formal evaluation of such equipment when it is determined that a more thorough examination than can feasibly be conducted with local resources is necessary to evaluate compliance with the requirements of weights and measures regulations.

What documents will be used for California Type Approval for devices?

When evaluating a device, we use the National Institute of Standards and Technology Handbook 44 (NIST HB 44), Publication 14 from the National Conference on Weights and Measures (NCWM) and the California Code of Regulations Title 4 Division 9.

To access and download NIST HB 44, please go to NIST's website at: http://www.nist.gov/manuscript-publication-search.cfm?pub_id=904020. For the California regulations on type approval, go to: http://www.cdfa.ca.gov/dms/programs/general/2010_fieldreferencemanual.pdf. Publication 14 can be purchased from the NCWM website at: http://www.ncwm.net/publications.

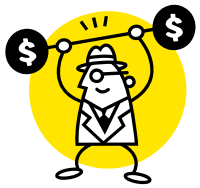
To assist you in ensuring your device will be in compliance we have compiled several checklists derived from NIST HB 44 and the California Code of Regulations which are available at http://www.cdfa.ca.gov/dms/programs/ctep/ctep.html.

How is the system software handled?

Computer software written to connect into, or receive output from, a commercial measurement system or device, is considered "an accessory used or connected therewith" (see 12500 (a) (b) California Business and Professions Code). It includes, but is not limited to controller "software", other metrological software, computer software based cash registers integrated in a weighing or measuring system, etc., and must be evaluated.

Computer software must be submitted with, and examined as, part of at least one weighing or measurement system or device. This applies even where the application is for software and computer integration designed for use in multiple system configurations.

Requirements for the system components will be applied to computer software and hardware controlled components as applicable. Storage and manipulation of measurement data and the display, input, and recording of transaction information are examples of features for which requirements exist in weights and measures regulations.



What does a type evaluation cost?

The fees and charges for type evaluation or approval are updated periodically. The cost of lab evaluations varies with the type of device and the extent of testing required. Time charges typically range from 12 to 60 hours. A typical complete laboratory test for a simple device requires approximately 40 hours of labor. The labor hours vary depending on the complexity of the device, how thoroughly the device has been previously tested and prepared by the applicant, and the number and nature of non-compliant items that must be dealt with. A type evaluation normally consists of an evaluation of design and operation, environmental influence tests, and either a laboratory or field permanence test.

When required, a field permanence test usually specifies a period of use for a minimum of 20 days with additional throughput or use requirements, after which a second set of tests is conducted to evaluate device performance. The manufacturer is responsible for arranging the test and having test standards available for the type evaluation and arranging for any equipment that may be needed to conduct the field permanence test.

Travel costs, travel time, and per diem associated with the type evaluation are also billed to the company requesting the evaluation. The laboratory requires deposits of the estimated costs prior to initiating a type evaluation test.

If an applicant does not pay an account within thirty days of the date of invoice, the following will apply until outstanding fees are paid:

- **Work which has stopped as a result of a failure will not resume**
- **No certificate will be issued for any approval**
- **New applications will not be accepted**

How long does it take to complete a type evaluation?

The time required to initiate and complete a type evaluation varies with the type of device and any backlog that may exist in the type evaluation process. Type evaluations are normally conducted in the order in which requests are received. Type evaluation testing can usually be started within 3 to 6 months of receiving the application. If no deficiencies are found during the initial evaluation, a type evaluation may be completed in approximately 2 to 3 months. If modifications must be made to a device, the request will go to the end of the queue. The laboratory technical manager should be contacted for a time estimate before submitting a device for evaluation and may be reached by calling (916) 229-3000 or by email at DMS@cdfa.ca.gov.

Can an evaluation be cancelled?

An application may be cancelled for the following reason(s):

(a) A sample device or full documentation is not received within two months of the laboratory's request.

(b) An applicant fails to reply to an examination report within one month of its date of issue.

(c) An applicant fails to correct deficiencies within an additional two months from their reply to the examination report.

(d) The device fails to meet evaluation requirements on three occasions, or

(e) An applicant fails to reply to, or supply requested illustrations suitable for the approval file, within 30 days of the date of receiving the draft.

An extension of time limits specified in (a), (b) and (c) will only be considered in extreme circumstances and on the individual merits of the application.

How many sample devices need to be submitted and what are the selection criteria?

Typically from one to five devices depending on factors such as the range of capacities, construction material, product gravity, viscosity ranges, abrasive and corrosion characteristics, etc. Please consult with the Weights and Measures laboratory for additional information.

When should the applicant send a device for evaluation?

Laboratory personnel will review the application and determine if all required documentation has been submitted. The manufacturer will then be contacted to provide further information if necessary, discuss the schedule and timetable for the evaluation, and be advised of the date the sample device(s) must be submitted or will be available.

What documentation is required with applications?

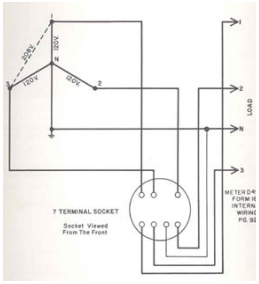
The following documentation **must** accompany each application for California Type Approval:

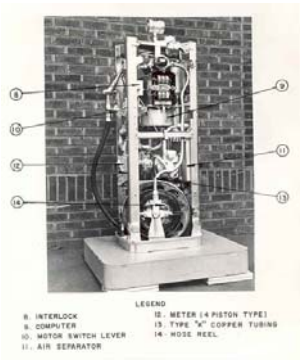
- Technical information such as working drawings, functional drawings, electrical diagrams, piping diagrams, operating and service manuals.
- A declaration that the device has been designed and constructed to relevant California and national safety standards.
- Specifications, photographs and descriptions sufficient to provide understanding of construction and method of operation of the device and components.
- A declaration that no other device or component type produced by or for the manufacturer uses the same model designation(s).

Highly Recommended:

- Consult the information on the Applicant Pre-Evaluation Checklist available at http://www.cdfa.ca.gov/dms/programs/ctep/ctep.html. Complete the checklist and submit it with the application. You may request the checklist by contacting the program as listed on the application form at the end of this guide.

All descriptive material is required to be in English. The documentation may be supplied in electronic format (i.e., Word, Excel, Adobe pdf or Rich Text Format). The illustrations must be labeled and show the complete system and its major components. An explanation should be provided if the labeling is not the same as used in the operation or maintenance documentation. The illustrations may be supplied as hard copy, on a CD-ROM or by e-mail. If electronic images are used, photographs should be in TIFF or JPG format; drawings should be in TIFF or PDF format. Required documentation and application submitted to the Department will not be returned.





Illustrations and photographs intended for inclusion in laboratory records must be consistent with the submitted type. It should be assumed that they may be made available to officials reviewing production devices after completion of a successful evaluation.

What are the applicant's responsibilities during the type evaluation process?

The applicant is responsible for the following:

- To submit the attached application and other required information before submitting the device for type evaluation.

- To authorize payment for the cost of the evaluation and submit any deposit or fee that may be required by the type evaluation laboratory prior to initiation of the type evaluation process.

- To conduct an initial evaluation against the type evaluation criteria in the California Code of Regulations and test procedures before submitting the device for evaluation.

- To have the device installed, adjusted, and ready for test prior to the type evaluation laboratory beginning any tests (if a laboratory test is required, the manufacturer may have to set up and adjust the device in the laboratory prior to the start of the type evaluation).

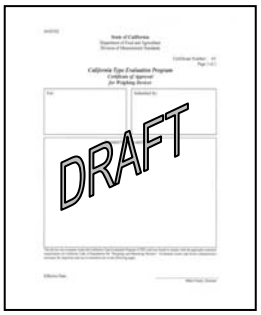
- To explain the intended application for the device and its operating features, particularly any new or questionable features that may be incorporated in the device.

- To provide technical assistance and other assistance to test the device as needed, particularly when evaluation and testing requirements exceed those of the type evaluation laboratory.

- If a field type evaluation is required, arrange for the test and have test standards available for the type evaluation. Arrange for any equipment that may be needed to conduct the test.

- To notify the type evaluation authority of any modifications to the device that may affect performance or the compliance of the device with weights and measures requirements after issuance of approval.

Are applicants required to provide a draft certificate?



On completion of a successful evaluation, a draft certificate is prepared and sent to the applicant for comment and agreement. Applicants are encouraged to provide a draft certificate in conjunction with their application whenever possible. The applicant may be asked to provide any additional illustrations necessary for laboratory records. A certificate will not be issued until all costs due to the Department have been paid. Certificates requiring more than two pages will incur additional costs.

The certificate of approval lists the type and variants (if any), applicant's name, manufacturer, date of approval, approval number, test conditions, and typical application. The type is described as well as the procedures to examine or apply security, and to examine metrological settings.

Once supporting documentation (if requested), payment, and written agreement to the draft documents are received from the applicant, the final certificate of approval is prepared, printed and issued.

What are the applicant's responsibilities after evaluation?

It is the responsibility of the applicant listed in the certificate of approval, whether as agent or manufacturer:

- To ensure all devices manufactured and installed for commercial use comply with the certificate of approval, and the applicable specifications and tolerances as well as the drawings and documentation retained by the Department.

- To ensure that devices do not deviate in any significant structural or metrological fashion from the sample device, or its approved variants, as tested and approved by the Department.