

Auditing Procedures for Meter Centers and Technicians

**2011 Meter Technician Training School
Springfield, MO**



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Topics to cover today

- ▶ **CDCB Certification and Audit Definitions**
- ▶ **Changes in the Auditing Guidelines**
- ▶ **Meter Center and Meter Technician Auditing Procedures**
- ▶ **Observations from Meter Center Audits**

Certification Status Definitions

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▶ Certified

A “certified” provider is one that in compliance with the Council on Dairy Cattle Breeding (CDCB) guidelines and the Uniform Operating Procedures (UOP) for its service area.

- ▶ Provisional
- ▶ Conditional
- ▶ Decertified
- ▶ In Review

Certification Status Definitions

▶ Certified

▶ **Provisional**

A provider is not in compliance with one or more aspects of the CDCB guidelines and/or the UOP will be deemed as “provisional.” Upon coming into compliance and review by the auditor, the provider may be:

- restored to full certification,
- designated conditional until an audit is conducted,
- designated provisional for an additional period of review, or
- decertified.

▶ Conditional

▶ Decertified

▶ In Review

Certification Status Definitions

- ▶ Certified
- ▶ Provisional

- ▶ **Conditional**

A “conditional” certification status may be assigned to both new and existing service providers. A new service provider may be assigned conditional status if the auditor believes that the provider has demonstrated competency to perform necessary procedures meeting CDCB guidelines and/or the UOP, but has not undergone a full on-site audit. An existing provisional provider may be assigned conditional status if the auditor believes that the provider has met all conditions or deficiencies outlined as part of a previous audit.

- ▶ Decertified
- ▶ In Review

Certification Status Definitions

- ▶ Certified
- ▶ Provisional
- ▶ Conditional

- ▶ **Decertified**

A provider that is out of compliance with the CDCB guidelines and/or the UOP, even after a period of provisional certification and review, will be “decertified” by the auditor. A decertified provider will not be allowed to submit data to the Genetic Evaluation Program. Further, data for management purposes will be designated as ‘non-certified.’

- ▶ In Review

Certification Status Definitions

- ▶ Certified
- ▶ Provisional
- ▶ Conditional
- ▶ Decertified

In Review

A provider may be listed as 'in review' on the website. This is not an official certification status, but simply a temporary designation used while the audit is being conducted and data evaluated. During this review period, the auditor may request additional documentation from the provider. The length of the review process is not an indicator of certification status and should not be construed as such.

Audit Definitions

Audit Definitions

- ▶ **Off-Site (applies to Field Service and DRPCs only)**
- ▶ **On-Site**

Mandatory

- Regularly scheduled audit conducted during the centering month

Discretionary

- Deemed necessary by either the auditor or provider when:
 - Changes in facilities, equipment, or staffing have occurred,
 - Certain aspects of the provider's performance are out of compliance with CDCB guidelines and/or the UOP,
 - Provider wishes to attain full certification from a conditional status,
 - Provider wishes to regain full certification from a provisional status, or
 - Provider wishes to regain provisional certification from a decertified status

Changes in the Auditing Guidelines

Changes in the Guidelines

- ▶ All changes originate with Field Service Advisory Committee (FSAC)
 - *Terry Hopper (Dairy Lab Services, IA) is current chair*
- ▶ Sent to Audit Review Committee (ARC) for review and approval
 - *Bruce Dokkebakken (MN DHIA) is current chair*
- ▶ Final approval by the CDCB at semi-annual meeting

Calibration Wand Requirements

- ▶ Approved by Audit Review Committee and CDCB in October 2010

Required Use of Manufacturer's Approved Wand – January 1, 2012

- Standard Flow and Dual Meter Procedures - new wand available from Waikato USA
- Fast Flow Procedure – wand available from Tru-Test.
- **No PVC wands – breakage, air leaks, etc**
- **Closed jar-to-jar systems for are okay with auditor's approval**

Standard Flow Calibration Wand



- **Waikato and QCS met in August 2010 on development of stainless steel 'standard-flow' calibration wand**
- **Works with Tru-Test pail and existing mounting brackets**
- **Includes restrictor, air admission orifice**
- **For all standard flow and dual-meter calibration procedures**
- **Required by January 1, 2012**
- **Available from Waikato Milking Systems USA**
 - **Part number 81380021**
 - **\$110.80 plus shipping**

TeSa Milk-o-Meter Approval

*Termination of TeSa Milk-o-Meters on
December 31, 2010*



The approval of TeSa Milk-o-Meters (all models) will expire on December 31, 2010. After that date, TeSa Milk-o-Meters will be removed from the list of approved meters and from all aspects of the auditing guidelines.

Any field service provider with TeSa Milk-o-Meters found using TeSa meters after December 31, 2010 will have those herds coded as not meeting QC requirements.

Meter Technician Training

- ▶ Approved by Audit Review Committee and CDCB in October 2007

Meter Technician Training Requirement

- In order to retain certification, each meter technician is required to attend a meter technician training school approved by the auditor at least once every five years.
- Ensures that all meter technicians are current with respect to meter repair and maintenance along with providing a venue for exchange of ideas/tips/experiences between meter technicians.

Service Provider Responsibilities

- ▶ Approved by Audit Review Committee and CDCB in April 2007

Service Provider Responsibilities

- To notify the auditor of changes in ownership, location address, billing address, list of customers and/or affiliates, equipment or meter technicians within 30 days.
- To pay the fees charged by the auditing organization prior to issuance of certification. For those providers certified biennially, but billed in annual installments, certification will be issued on an annual basis with a renewal on receipt of the second installment payment.

Auditing Procedures

General Information

- ▶ **Biennial, on-site mandatory audits for all meter centers**
 - Stationary
 - Portable

- ▶ **Designated centering months**
 - 26-month certification period
 - Annual fees must be paid to receive 2nd year certification

- ▶ **Discretionary audits for:**
 - New meter centers and technicians
 - Provisional or conditional providers in order to regain certification

Basic Meter Center Equipment

- ▶ **Current meter manuals (1997 is not current!)**
- ▶ **Parts supply for meter repair/maintenance**
- ▶ **Clean, solid, well-built and in good repair**
- ▶ **Initial volume verification**
 - **Volumetric flask or digital scale**
- ▶ **Ongoing volume confirmation**
 - **Working & accurate scale, properly working float pail**
- ▶ **Stable vacuum source @ 15" Hg with short recovery time (<10 seconds ideal)**

Standard Water Test Equipment

- ▶ Restrictor orifice at the inlet of wand
 - Fixed diameter, ahead of air admission orifice
- ▶ Air admission orifice in the calibration wand
 - 24-36” from meter inlet
 - #60 drill bit size hole in wand
- ▶ Level and secure hanging bracket
- ▶ No set meter height (standard water test only)
 - New wand uses same height at Fast Flow Procedure
- ▶ Flow rate
 - 8 lbs / minute or about 4:34 for 36.4 lbs

Fast-Flow Water Test Equipment

- ▶ Tru-Test meters only
- ▶ Approved Fast Flow rig
- ▶ Pail with anti-vortex baffle
- ▶ Level and secure hanging bracket
- ▶ Straight inlet tube w/ castellated orifice
 - 63” from inlet opening to top of meter flask
- ▶ Flow rate for 16.0 liters
 - 1:05 minutes for wide bore meters
 - 1:08 minutes for standard bore meters

Weight Test Method Equipment

- ▶ **Weights accurate to 2%**
- ▶ **Weights capable of checking:**
 - **10 – 20 – 30 – 40 – 50 pound checkpoints**
- ▶ **Approved scale models only**
 - **Hansen, Pelouze, Stewart-Oster, Taylor-Wharton**
- ▶ **If calibrating scales for goats**
 - **need to also have 1, 2, and 5 pound weight test checkpoints**

Meter Technician Audits

▶ Verification of training

- Attendance at QCS Meter Technician Training School once every five years
- Attendance at local affiliate and/or manufacturer sponsored workshops

▶ Demonstration of various test methods

- Standard Flow, Fast Flow
- Dual Meter (not every meter center can run this)
- Weight Test (if hand scales are in use)

Meter Technician Audits

- ▶ **Demonstration of proper number of calibration checks**
 - **1 time if within 2%**
 - **2 times if within 2-3%**
- ▶ **Demonstration of meter repair/maintenance**
- ▶ **Demonstration of meter identification, record keeping and data recording**

Meter Technician Certification

- ▶ **Certification is meter model specific**
 - *TeSa Milk-o-Meter – expires December 31, 2010*
 - Foss Milk-O-Scope
 - Tru-Test Auto Sampler models
 - Tru-Test Economy models
 - Tru-Test Electronic milk meters
 - Tru-Test Ezi-Test models
 - Tru-Test Farmer models
 - Tru-Test Pull-Out models
 - Waikato Mark 5
 - Waikato SpeedSampler

Observations from Meter Center Audits

Portable Meters and Scales

- ▶ **Inventories are either excellent or poor**
 - Accuracy in reading serial numbers
 - Recording model types
 - Status – In? Out? Storage?
 - QCS can handle multiple calibration dates
- ▶ **Record weights from all calibration runs**
- ▶ **12 month interval is requirement!**
 - Audit guidelines allow 14 months ‘in certain cases’
 - More prevalent problem with ISP technicians

Usage of Meters

Field Service Affiliate	No. Meters	Cows/Meter/Year	Times Calibrated/Year
A	3,131	896	4x to 12x
B	4,965	2,429	1x
C	5,708	1,301	1x to 2x
D	10,511	882	1x
E	1,307	1,068	1x
F	2,076	694	2x
G	364	4,185	1x
H	184	6,916	1x – will be 2x in 2011

Availability of Meters and Parts

- ▶ Meter centers with different meter models need to have at least one functioning meter of each model available during the audit
- ▶ Parts need to be available for both routine maintenance and repairs – especially if needed during the audit

5 Meter Center audits in 2009 and 3 in 2010 had to rescheduled because of this factor – if we cannot calibrate it or fix it – how can we certify it?

Use of Float Pails

- ▶ **Float pails are used to verify water volume between calibration runs**
- ▶ **Many of the floats are broken or cannot be adjusted**
- ▶ **An affordable alternative is the use of a digital scale to verify both initial and intermediate water volume**
- ▶ **Improves accuracy, reduces repair costs**

Condition of Equipment

- ▶ Aging meter centers and equipment
- ▶ Check hoses for wear, air leaks, cracks
- ▶ Maintenance of vacuum pumps a concern in some meter centers
- ▶ Take care of your wands – most of the variation in flow rates comes from PVC wands
 - Worn castellated orifices
 - Worn shut-off valves that leak air
 - Cracked wands
 - This why new guideline for manufacturer's stainless wand was approved.

Post-Calibration Meter Procedures

- ▶ **An important part of meter calibration includes what happens after the run**
 - **2nd runs if needed (<35.5 or >37.1)**
 - **Recording data – all calibration results**
 - **Identifying with certification tag/sticker**
- ▶ **Lost calibration worksheets, no backup files**

Record Your Observations

- ▶ **Parts replacements**
 - **Annual Service Kits**
 - **Other parts (caps, nozzles, T-Pieces, etc.)**
- ▶ **Verify the model of meter and record any corrections**
- ▶ **Meter condition and cleanliness**

★ 697944			TT	WBAS					
A	SO dirty had maggots inside meter.								

★ all meters so dirty, none were working/wasting properly

Quality Certification Services Inc.

- Performance & Quality Standards

- Compliance Auditing of Providers

- Education, Training, & Development

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Providing a reliable source of information to people interested in the U.S. dairy records industry.