

CALA Publications Summary

Template for the Design and Development of a Quality Manual for Environmental Laboratories

This document is a 121-page template, which laboratories can adopt to their own requirements. The template is provided on a compact disc in Word 97 format.

The structure of the template is congruent with the requirements of CAN-P-4D (ISO/IEC 17025) and allows a laboratory to match these requirements with appropriate sections of the template. Topics include:

- Organisation
- Management
- Quality Policy
- Facilities
- Personnel
- Services
- Equipment
- Supplies
- Methodology
- Sample management
- Data management
- Workload management
- Traceability of measurement
- Quality control

2001 version 4.3 - 121 pages, loose-leaf bound

Member Price	\$330.00 + plus GST/HST
Non-Member Price	\$450.00 + plus GST/HST

Quality Control for Environmental Laboratories

This document is a 48-page set of instructions for establishing a comprehensive quality control system within an environmental laboratory. It also includes a 9-page workbook containing quality control examples, exercises, and the answers to the exercises.

"Quality Control for Environmental Laboratories" is applicable to all environmental testing (i.e. organic chemistry, inorganic chemistry, microbiology and toxicology) Topics include:

- Statistical applications for environmental testing
- Deriving measurement uncertainty
- Establishing measurement traceability
- Ensuring the quality of measurements
- Control charting

2001 version 4.5 - 48 pages, bound

Member Price \$150.00 + plus GST/HST

Non-Member Price \$225.00 + plus GST/HST

Understanding ISO/IEC 17025:2005

This document is a 200+ page binder, which discusses the principles, the nuances and background behind the specific requirements given in ISO/IEC 17025. It has been prepared by someone with a unique insight into the standard - one of its authors. Each of the six lessons includes discussion questions and reference materials from the international community regarding specific management and technical requirements.

This training document also includes 22 discussion/workshop questions designed to assist readers to better understand the requirements in the standard, and their implementation.

"Understanding ISO/IEC 17025:2005" is applicable to all testing and calibration laboratories. Topics include:

- The principles behind ISO/IEC 17025
- The components of a laboratory quality system (people, documents, records)
- Document control, including the use of electronic support to the laboratory.
- Establishing control of records
- Continual improvement definitions and concepts
- Identifying non-conformances and opportunities for improvement
- Implementing corrective and preventive action
- The elements of the periodic internal audit (what needs to be audited)
- Accommodation requirements
- Equipment requirements
- Selection and validation of test and calibration methods (primarily for environmental laboratories)
- Sampling in support of testing and calibration
- Demonstrating traceability of measurement in Canada
- Basic quality control / quality assurance
- Reporting test results

This document is available in paper copy only. The training is also available online at <http://cael.dameco.com/Coursesoffered.asp>

2006 - Version 1.1 - Over 200 pages, loose-leaf bound

Member Price	\$150.00 + plus GST/HST
Non-Member Price	\$200.00 + plus GST/HST

Care and Feeding of a Laboratory Quality System

This document is a 200+ page binder, which discusses the best practices in maintaining a quality system conformant to ISO/IEC 17025. The course focuses on how to maintain a quality system that supports the ability of the laboratory to consistently produce valid results. It is primarily focussed on the technical issues and the support required of a laboratory management system.

This material has been prepared by someone with a unique insight into the standard - one of its authors. Each of the six lessons includes discussion questions and reference materials from the international community regarding specific technical requirements and supporting management approaches.

This document also includes 26 discussion/workshop questions designed to assist readers to better understand the most practical methods for maintaining a quality system that meets organisational objectives and retains its conformance to requirements - potentially divergent aims.

"The Care and Feeding of a Laboratory Quality System" is applicable to all testing and calibration laboratories. Topics include:

- Estimating uncertainties associated with measurements
- The traceability chain and its components
- Using measurement uncertainty to establish calibration requirements.
- Document control and electronic support to a laboratory (documents, LIMS, e-mail)
- Simplified approaches to continuous improvement.
- Implementing corrective and preventive action
- Measuring and monitoring the quality system
- Responsibilities for internal audit and management review processes
- Tracking internal audit findings and management review decisions
- Working and supporting the quality system and its continuing development
- Staff training requirements and records

This document is available in paper copy only. The training is also available online at <http://cael.dameco.com/Coursesoffered.asp>

2006 - Version 1.2 - Over 200 pages, loose-leaf bound

Member Price	\$150.00 + plus GST/HST
Non-Member Price	\$200.00 + plus GST/HST

Laboratory Leadership

This document is a 60+ page binder, which discusses the methods and techniques used by successful leaders – those that can motivate dispirited teams of people to accomplish difficult things under impossible circumstances. The material and the associated one-day Training Course examines approaches that allow leaders to create success in their own organisations. It contains easy-to-understand approaches based on personal experience. It focuses on the leadership of laboratories.

The two major case studies are drawn from the two most successful companies in the world, MicroSoft and Berkshire-Hathaway.

The material identifies what teams really need from their leaders, in order for the organization, and therefore the leader, to succeed. It is for the leaders within a laboratory – laboratory owners, and those who manage any aspect of laboratory operations. Or for those preparing for such responsibilities and want to learn successful leadership approaches.

Contents

- Case studies – Effects of good (and bad) leadership
- Basics of leadership
- Environments that create success
- Leadership within a laboratory quality system
- Reaping the benefits of good leadership
- Ned's Rules of Engagement
- Case study reference materials

The material in this binder is not yet available as an online training course.

2007 – Version 1.0 – Over 60 pages, loose-leaf bound

Member Price	\$275.00 + plus GST/HST
Non-Member Price	\$350.00 + plus GST/HST

Proficiency Testing and the Analytical Laboratory

This document is a 80+ page binder, which discusses the use of Proficiency Testing in analytical laboratories. This course binder identifies the benefits of PT in the lab and the ways a laboratory can make best use of the PT data provided beyond just monitoring lab performance. It describes how the lab can identify process weaknesses and enhance process strengths. Most labs do not know how to do this.

The material in this binder provides information on how to make PT a powerful process improvement tool in the laboratory. This material represents an approach that is sought by laboratories in enhancing their own QC efforts.

Contents

- Proficiency Testing Basics
- Proficiency Testing Studies
- Proficiency Testing Schemes
- Proficiency Testing Providers
- The contents of Proficiency Testing Reports
- Using the PT Report to Improve the System - Identify the Obvious
- Using the PT Report to Improve the System II - Identify the Less Obvious
- Using the PT Report to Improve the System III - Identify Trends and Potential Failures

The material in this binder is not yet available as an online training course.

2007 - Version 1.0 - Over 80 pages, loose-leaf bound

Member Price	\$200.00 + plus GST/HST
Non-Member Price	\$300.00 + plus GST/HST

Investigation of Non-conformances through Root Cause Analysis

This document is a 70+ page binder, which discusses the best practices in examining non-conformances in a manner that actually helps improve a lab QMS. The course is based on the systematic and objective approach that is accepted worldwide. The document helps laboratories to avoid the blame game and conduct root cause analysis that meets the intent and requirements of ISO/IEC 17025.

Read how to determine when the lab QMS is not supporting the work of the lab staff and the production of consistent results. Many laboratories have difficulty with these processes. Determination of root cause is a powerful tool that can be used to the benefit of a the laboratory's own quality system. However, non conforming conditions are shown to repeat themselves in both accredited and PT-participant laboratories. For example, documenting that analyst error as a root cause leading to the corrective action of a reprimand is an indication of a problem in the credibility of both the accreditation and PT programs.

This material has been prepared by someone with a unique insight into the standard - one of its authors. Each of the lessons includes discussion questions and reference materials from the international community regarding specific requirements and supporting approaches.

"The Investigation of Non-conformances through Root Cause Analysis" is applicable to all testing and calibration laboratories. Topics include:

Background and Principles

- Non-conformances
- Opportunities for improvement
- Corrective/preventive action
- Continual improvement process

Basic Approaches

- Determine the overriding and contributing factors.
- Select those that need attention

This document is available in paper copy only. The training is also available online at <http://caaal.dameco.com/Coursesoffered.asp>

2006 - Version 1.1 - Over 70 pages, loose-leaf bound

Member Price \$150.00 + plus GST/HST
Non-Member Price \$200.00 + plus GST/HST

Internal Calibration in Accredited Laboratories

This document is a 100+ page binder, which discusses the best practices in how to competently propagate uncertainties from calibrated laboratory reference devices to working measurement devices within accredited testing laboratories. The material applies to temperature, mass and volume measurements only and should **not be confused** with the effort and training required to do the same type of work as an **accredited calibration laboratory**, which deals with complexities and types of uncertainty considerations outside the competence of most testing laboratories.

Accredited environmental laboratories are required to demonstrate traceability of measurement with environmental testing. Traceability is described and defined in CALA A61 - *CALA Traceability Policy*. This document provides information to laboratory personnel seeking guidance concerning competent approaches in the calibration of their own working instruments. It also includes 7 discussion/workshop questions, and 3 assignments designed to give readers a better understanding of the most practical methods for estimating uncertainties when calibrating laboratory instruments.

"Internal Calibration in Accredited Laboratories " is applicable to all testing laboratories making use of liquid-in-glass thermometers, analytical and top-loading balances, and pipettes. Material includes:

- Understanding traceability of measurement and uncertainty.
- Conducting balance calibrations
- Conducting liquid-in-glass thermometer calibrations
- Conducting pipette calibrations
- Documenting the calibration (certificates of calibration)

This document is available in paper copy only. The training is also available online at <http://caaal.dameco.com/Coursesoffered.asp>

2006 - Version 1.2 - Over 100 pages, loose-leaf bound

Member Price	\$200.00 + plus GST/HST
Non-Member Price	\$300.00 + plus GST/HST

Managing Accreditation

This document is a 100+ page binder, which discusses the principles, the nuances and background and the leadership challenges posed by accreditation to ISO/IEC 17025. It has been prepared by someone with a unique insight into the standard - one of its authors. Each of the five lessons includes discussion questions and reference materials from the international community regarding specific management and technical requirements.

This training document also includes 17 discussion/workshop questions designed to assist laboratory managers and leaders better understand the requirements in the standard, their implications, and their implementation.

"Managing Accreditation" is applicable to all testing and calibration laboratories. Topics include:

- Introduction to the principles behind ISO/IEC 17025
- Basic management systems
- Document control, and control of records, including IT support to the laboratory
- Establishing "Capacity" and acquiring "Competence"
- Feedback as a management tool
- Continual improvement tools in support of organizational objectives
- Management reviews and their decisions
- Investing in the success of the laboratory
- Understanding risk
- Maintaining accreditation
- Visible commitment

This document is available in paper copy only. The training is also available online at <http://caaal.dameco.com/Coursesoffered.asp>

2006 - Version 1.1 - Over 100 pages, loose-leaf bound

Member Price	\$150.00 + plus GST/HST
Non-Member Price	\$200.00 + plus GST/HST

ISO/IEC 17025:2005 - Changes to the Standard

This document is a 80+ page binder, which discusses the changes to the standard from the 1999 version. These changes were the result of the ISO directive in 2001 to align ISO/IEC 17025 with the management system wording in the 2000 version of ISO 9000. It has been prepared by someone with a unique insight into the change - one of its authors. The two lessons include discussion questions and reference materials from the international community regarding specific management and technical requirements.

This training document also includes 4 discussion/workshop questions designed to assist readers to better understand the requirements in the standard, and their implementation.

"ISO/IEC 17025:2005 - Changes to the Standard" is applicable to all testing and calibration laboratories. Topics include:

- The listing of all the changes to ISO/IEC 17025
- The effect of these changes on the operations of accredited laboratories, and
- Practical implementation solutions for laboratories.

This document is available in paper copy only. The training is also available online at <http://caaal.dameco.com/Coursesoffered.asp>

2006 - Version 1.1 - Over 80 pages, loose-leaf bound

Member Price \$50.00 + plus GST/HST

Non-Member Price \$75.00 + plus GST/HST

Measurement Uncertainty for Users of Laboratory Data

This document is a 100+ page binder, which discusses the rationale, requirements and uses of uncertainty of measurement as it applies to laboratory testing and calibration results. This topic is one of the least understood requirements within the laboratory competence standard, ISO/IEC 17025, and can often cause confusion for the recipients of the data. Many regulatory agencies are now faced with the concept when interpreting data that is close to specification / regulatory limits.

This course and binder has been prepared by someone with a unique insight into the standard, and the topic – one of its authors of the standard and the facilitator of the CALA Policy on the Estimation of Uncertainty in Environmental Measurements. Each of the four lessons includes discussion questions and reference materials from the international community regarding specific this specific technical requirement.

This training document also includes 11 discussion/workshop questions designed to assist readers to better understand this requirement in the standard, and its applicability to users of laboratory data and regulators interpreting results.

"Measurement Uncertainty for Users of Laboratory Data" is applicable to all clients of testing and calibration laboratories and to persons working in regulatory agencies that interpret laboratory results. Topics include:

- Understanding the concept of measurement uncertainty
- The effect of uncertainty on the competence of the laboratory
- The effect of uncertainty on the traceability of laboratory measurements
- The effect of uncertainty on the interpretation of results

This document is available in paper copy only. The training is also available online at <http://cael.dameco.com/Coursesoffered.asp>

2006 - Version 1.1 - Over 100 pages, loose-leaf bound

Member Price	\$50.00 + plus GST/HST
Non-Member Price	\$75.00 + plus GST/HST