

CERTIFIED QUALITY TECHNICIAN (CQT) BODY OF KNOWLEDGE MAP 2018

The Certified Quality Technician (CQT) Body of Knowledge (BoK) has been updated to ensure that the most current state of quality technician practice is being tested in the examination. If you would like more information on how a BoK is updated, see a description of the process on <http://asq.org/cert/faq/create-body-of-knowledge>.

Part of the updating process is to conduct a job analysis survey to determine whether the topics in the 2012 BoK are still relevant to the job role of quality technicians and to identify any new topics that have emerged since that BoK was developed. The results of the CQT job analysis survey showed that most of the topics that were in the 2012 BoK are still relevant to the job roles of quality technicians. Six new areas were added to the 2018 BoK and four areas as well as parts of subtext were removed, as indicated in Table 2.

The 2018 Certified Quality Technician Body of Knowledge (CQT BoK) will be introduced at the **November 2018** administration. Both BoKs will be available online until January 1, 2019, at which time the 2012 BoK will be removed.

General comments about ASQ Body of Knowledge updates

When the Body of Knowledge (BoK) is updated for an ASQ exam, most of the material covered in the BoK remains the same. There are very few programs that change significantly over a 5-7 year period. One of the points that we make to all the exam development committees is that ASQ Certification Exams need to reflect “the state of practice” not “the state of the art.” This helps to keep the programs grounded in what people currently do, rather than being driven by the latest hot-topic improvement idea or trend. Typically, the biggest change in any updated BoK is in how the content is organized. When a new BoK is announced and posted on the ASQ website, we also include a “BoK Map” that highlights the changes between the two Bodies of Knowledge: old and new. The BoK map also clearly identifies any new content that has been added to the exam, as well as any content that has been removed from the exam.

With regard to exam preparation materials, you should be able to use any of the reference books that are currently listed on the bibliography for the exam program. These are the source materials that the exam development committees use to write questions and verify answers.

Specific comments about the 2018 CQT Body of Knowledge updates

The CQT Body of Knowledge mostly stayed the same with the 2018 update. There were no changes to content in II. Statistical Techniques and V. Quality Audits. The primary changes are the addition of risk to corrective and preventive action in Section VI, and the removal of 2012 BoK I.C Team Functions. Parts of the subtext for corrective and preventive action were moved to the new topic, VI.A Risk Assessment and Mitigation. The 2012 BoK I.C Team Functions topic was entirely removed from the new BoK due to low importance and frequency mean scores in the job analysis survey. 2012 BoK III.C.1 was split into two separate subtopics, Calibration intervals and Calibration results. Alongside the addition and removal of content, there were six topics that received an increase in level of cognition and five topics that were decreased.

Table 1 below portrays the change in items allocated to each section of the Body of Knowledge. The section names have remained the same except for Section VI. that is now Risk Management. Table 2 on Page 3 presents the 2018 CQT BoK and maps the topics to the 2012 BoK, and Table 3 starting on page 12 presents the 2012 CQT BoK and maps the topics to the 2018 BoK. Details on changes between the two can be found below.

Table 1. BoK Section Item Allocation

BoK Sections	2012 BoK	2018 BoK	Change
I. Quality Concepts and Tools	22	18	-4
II. Statistical Techniques	18	17	-1
III. Metrology and Calibration	17	18	+1
IV. Inspection and Test	23	23	0
V. Quality Audits	11	12	+1
VI. CAPA / Risk Management	9	12	+3

Table 2. 2018 CQT BoK mapped to the 2012 CQT BoK

2012 BoK Code	2018 BoK Details	Notes
	I. Quality Concepts and Tools [18 Questions]	Number of questions changed from 22 to 18
	A. Quality Concepts	
I.A.1	1. Customers and suppliers Define internal and external customers, identify their expectations, and determine their satisfaction levels. Define internal and external suppliers and key elements of relations with them. (Understand)	
I.A.2	2. Quality principles for products and processes Explain basic quality principles related to products (such as features, fitness-for-use, and freedom from defects) and processes (such as monitoring, measuring, and continuous improvement). (Understand)	
I.A.3	3. Quality standards, requirements, and specifications Define and distinguish between national or international standards, customer requirements, and product or process specifications. (Understand)	
I.A.4	4. Cost of quality (COQ) Describe and distinguish between the four classic cost of quality categories (prevention, appraisal, internal failure, external failure) and classify activities appropriately. (Apply)	
	B. Quality Tools	
I.B.1, I.B.2, I.B.3, I.B.4, I.B.5, I.B.6, I.B.7	1. The seven basic quality tools Select, construct, and interpret 1. cause and effect diagrams, 2. flowcharts (process maps), 3. check sheets, 4. Pareto charts, 5. scatter diagrams, 6. control charts, and 7. histograms. (Evaluate)	
NEW	8. Problem solving techniques Define, describe, and apply problem solving techniques such as 5 Whys and 8D. (Apply)	
I.A.5	9. Six Sigma Identify key Six Sigma concepts and tools such as quality function deployment (QFD), design of experiments (DOE), and design, measure, analyze, improve, control (DMAIC). (Remember)	Removed green belt and black belt roles and responsibilities; added design of experiments
I.A.6	10. Lean Identify key lean concepts and tools such as 5S, value-stream mapping, flow, and pull system. (Remember)	Clarified “pull” as “pull system” in subtext

2012 BoK Code	2018 BoK Details	Notes
I.A.7	11. Continuous improvement techniques Define and use various continuous improvement techniques including the plan-do-check-act (PDCA) cycle, brainstorming, and benchmarking. (Apply)	Increase in level of cognition from Understand to Apply
NEW	C. ASQ Code of Ethics for Professional Conduct Determine and apply appropriate behaviors and action that comply with this ethical code. (Evaluate)	
	II. Statistical Techniques [17 Questions]	Number of questions changed from 18 to 17
	A. General Concepts	
II.A.1	1. Terminology Identify and differentiate between statistical terms such as population, sample, parameter, statistic, and statistical process control (SPC). (Understand)	
II.A.2	2. Frequency distributions Define and compare normal, Poisson, and binomial frequency distributions. (Understand)	Decrease in level of cognition from Apply to Understand
	B. Calculations	
II.B.1	1. Measures of central tendency Define, compute, and interpret mean, median, and mode. (Analyze)	
II.B.2	2. Measures of dispersion Define, compute, and interpret standard deviation, range, and variance. (Analyze)	
II.B.3	3. Confidence levels Explain confidence levels in various situations. (Understand)	Subtopic renamed from “Statistical inference” to “Confidence levels”; decrease in level of cognition from Apply to Understand
II.B.4	4. Confidence limits Explain confidence limits in various situations. (Understand)	Decrease in level of cognition from Apply to Understand

2012 BoK Code	2018 BoK Details	Notes
II.B.5	<p>5. Probability Explain probability using the basic concepts of combinations, permutations, and area under the normal curve. (Understand)</p>	Decrease in level of cognition from Apply to Understand
C. Control Charts		
II.C.1	<p>1. Control limits vs. specification limits Identify and distinguish the different uses of control limits and specification limits. (Analyze)</p>	Increase in level of cognition from Understand to Analyze
II.C.2	<p>2. Variables charts Identify, select, construct, and interpret variables charts such as $\bar{X} - R$ and $\bar{X} - S$. (Analyze)</p>	
II.C.3	<p>3. Attributes charts Identify, select, construct and interpret attributes charts such as p, np, c, and u. (Analyze)</p>	
II.C.4	<p>4. Process capability measures Define the prerequisites for capability, and calculate and interpret capability indices (e.g., C_p, C_{pk}, P_p, P_{pk}) and capability ratio (C_R) in various situations. (Analyze)</p>	
II.C.5	<p>5. Common and special cause variation Interpret various control chart patterns (e.g., runs, hugging, trends) and use rules for determining statistical control to distinguish between common cause and special cause variation. (Analyze)</p>	
II.C.6	<p>6. Data plotting Identify the advantages and limitations of using this method to analyze data visually. (Understand)</p>	

2012 BoK Code	2018 BoK Details	Notes
	III. Metrology and Calibration [18 Questions]	Number of questions changed from 17 to 18
	A. Types of Measurement and Test Equipment (M&TE) Describe, select, and use the following types of M&TE, and evaluate their measurement results to determine conformance to specifications. (Evaluate)	
III.A.1	1. Hand tools (e.g., calipers, micrometers, linear scales, analog, digital, vernier scales)	
III.A.2, III.A.11	2. Gauges (e.g., pins, thread, custom gauges, gage blocks)	Added Gage Blocks from 2012 BoK III.A.11
III.A.3	3. Optical tools (e.g., comparators, profiles, microscopes)	
III.A.4	4. Coordinate measuring machines (CMM) (e.g., touch probes, vision, laser)	Added examples of CMMs
III.A.5	5. Electronic measuring equipment (e.g., digital displays, output)	
III.A.6	6. Weights, balances, and scales	
III.A.7	7. Hardness testing equipment (e.g., Brinell, Rockwell)	
III.A.8	8. Surface plate methods and equipment	

2012 BoK Code	2018 BoK Details	Notes
III.A.9	9. Surface analyzers (e.g., profilometers, roughness reference standards)	Updated examples of surface analyzers
III.A.10	10. Force measurement tools (e.g., torque wrenches, tensometers)	
III.A.11	11. Angle measurement tools (e.g., protractors, sine bars, angle blocks)	Moved gage blocks to 2018 BoK III.A.2
III.A.12	12. Color measurement tools (e.g., spectrophotometer, color guides, light boxes)	
NEW	13. Automated in-line inspection methods (e.g., vision systems, laser inspection systems, pyrometers)	
B. Control and Maintenance of M&TE		
III.B.1	1. M&TE identification, control, and maintenance Describe various methodologies for identifying and controlling M&TE to meet traceability requirements, and apply appropriate techniques for maintaining such equipment to obtain optimum performance. (Apply)	
III.B.2	2. Customer-supplied M&TE Describe and apply requirements for validation and control of customer-supplied equipment. (Apply)	
C. Calibration of M&TE		
III.C.1 – Calibration schedules	1. Calibration intervals Apply calibration schedules on the basis of M&TE usage history and risk. (Apply)	Decrease in level of cognition from Analyze to Apply; replaced “gauge repeatability and reproducibility (R&R) data” with “risk”

2012 BoK Code	2018 BoK Details	Notes
III.C.1 – Impact of using out-of-calibration tools	<p>2. Calibration results Interpret calibration results and the potential impact of using out-of-calibration tools or failing to calibrate equipment on a regular basis. (Analyze)</p>	Added interpretation of calibration results
III.C.2	<p>3. Calibration error Identify the causes of calibration error and its effect on processes and products. (Understand)</p>	
NEW	<p>4. Hierarchy of standards Explain the levels of standards (e.g., reference, primary, transfer) and their relationship to one another. (Apply)</p>	
IV. Inspection and Test [23 Questions]		
A. Blueprint Reading and Interpretation		
IV.A.1	<p>1. Blueprint symbols and components Interpret drawings and apply requirements in various test and inspection activities. (Analyze)</p>	
IV.A.2	<p>2. Geometric dimensioning and tolerancing (GD&T) Define and apply GD&T covered in the ASME Y14.5 standard. (Analyze)</p>	Added application of GD&T
IV.A.3	<p>3. Classification of product defect characteristics Define and distinguish between defect characteristics (e.g., critical, major, minor). (Analyze)</p>	Increase in level of cognition from Apply to Analyze
B. Inspection Concepts		
IV.B.1	<p>1. Types of measurements Define and select between direct, differential, and transfer measurements. (Understand)</p>	
IV.B.2	<p>2. Gauge selection Determine which measurement instrument to use considering factors such as resolution, accuracy, tolerance, environment, and product features. (Evaluate)</p>	Updated the factors for use; increase in level of cognition from Analyze to Evaluate

2012 BoK Code	2018 BoK Details	Notes
IV.B.3	<p>3. Measurement systems analysis (MSA) Define and distinguish between measurement terms such as correlation, bias, linearity, precision-to-tolerance, and percent agreement. Describe how gauge repeatability and reproducibility (R&R) studies are performed and how they are applied in support of MSA. (Analyze)</p>	
IV.B.4	<p>4. Rounding rules Use truncation and rounding rules on both positive and negative numbers. (Apply)</p>	
IV.B.5	<p>5. Conversion of measurements Convert between metric and English units. (Apply)</p>	
IV.B.6	<p>6. Inspection points Define and distinguish between inspection point functions (e.g., receiving, in-process, final, source, first-article), and determine what type of inspection is appropriate at different stages of production, from raw materials through finished product. (Analyze)</p>	Increase in level of cognition from Apply to Analyze
IV.B.7	<p>7. Inspection error Explain various types of inspection error, including operator error (e.g., parallax, fatigue), environment (e.g., vibration, humidity, temperature), and equipment (e.g., limitations, capability, setup). (Understand)</p>	Updated types of inspection error
IV.B.8	<p>8. Product traceability Explain the requirements for documenting and preserving the identity of a product and its origins. (Apply)</p>	Increase in level of cognition from Understand to Apply
IV.B.9	<p>9. Certificates of compliance (COC) and analysis (COA) Define and compare these two types of certificates. (Understand)</p>	
C. Inspection Techniques and Processes		
IV.C.1	<p>1. Nondestructive testing (NDT) techniques Explain various NDT techniques (e.g., X-ray, eddy current, ultrasonic, liquid penetrant, magnetic particle). (Understand)</p>	Removed “electromagnetic” from examples
IV.C.2	<p>2. Destructive testing techniques Explain various destructive tests (e.g., tensile, fatigue, flammability). (Understand)</p>	

2012 BoK Code	2018 BoK Details	Notes
IV.C.3, NEW	<p>3. Other testing techniques Describe characteristics of testing techniques used for electrical measurement (e.g., DC, AC, resistance, capacitance, continuity), chemical analysis (e.g., pH, conductivity, chromatography), physical/mechanical measurement (e.g., hardness, pressure tests, vacuum, flow), and other techniques such as gravimetric testing, cleanliness testing, contamination testing, and environmental testing (e.g., bioburden, surface, air, water testing). (Remember)</p>	Added gravimetric testing, cleanliness testing, contamination testing, environmental testing with associated examples, hardness added as an example of physical/mechanical testing, and continuity was added as an example of electrical testing techniques.
D. Sampling		
IV.D.1	<p>1. Sampling characteristics Identify and define sampling characteristics such as operating characteristic (OC) curve, lot size, sample size, acceptance number, and switching rules. (Apply)</p>	
IV.D.2	<p>2. Sampling types Define and distinguish between sampling types such as fixed sampling, single, double, skip lot, 100 percent inspection, attributes, and variables sampling. (Apply)</p>	Added “single,” “double,” and “skip lot” as sampling types
IV.D.3	<p>3. Selecting samples from lots Determine sample size (e.g., AQL), selection method and accept/reject criteria used in various situations. (Apply)</p>	Removed “zero-defect sampling” as an example
E. Nonconforming Material		
IV.E.1	<p>1. Identifying and segregating Determine whether products or material meet conformance requirements, and use various methods to label and segregate nonconforming materials. (Evaluate)</p>	Increase in level of cognition from Apply to Evaluate
IV.E.2	<p>2. Material review process Explain various elements of this process such as the function of the material review board (MRB), the steps in determining fitness-for-use, and product disposition. (Understand)</p>	
V. Quality Audits [12 Questions]		Change in the number of questions from 11 to 12
V.A.1, V.A.2, V.A.3, V.A.4, V.A.5, V.A.6	<p>A. Audit Types and Terminology Define basic audit types: 1. internal, 2. external, 3. systems, 4. product, 5. process, and 6. distinguish between first-, second-, and third-party audits. (Understand)</p>	

2012 BoK Code	2018 BoK Details	Notes
V.B.1, V.B.2, V.B.3, V.B.4, V.B.5, V.B.6	<p>B. Audit Components Describe and apply various elements of the audit process: 1. audit purpose and scope, 2. audit reference standard, 3. audit plan (preparation), 4. audit performance, 5. opening and closing meetings, 6. final report and verification of corrective action. (Apply)</p>	
V.C.1, V.C.2, V.C.3, V.C.4	<p>C. Audit Tools and Techniques Define and apply various auditing tools: 1. checklists and working papers, 2. data gathering and objective evidence, 3. forward- and backward-tracing, 4. audit sampling plans and procedural guidelines. (Apply)</p>	
V.D	<p>D. Audit Communication Tools Identify and use appropriate interviewing techniques and listening skills in various audit situations, and develop and use graphs, charts, diagrams, and other aids in support of written and oral presentations. (Apply)</p>	
VI. Risk Management [12 Questions]		Number of questions changed from 9 to 12
VI.A, VI.B, NEW	<p>A. Risk Assessment and Mitigation Describe methods of risk assessment and mitigation such as trend analysis (SPC), failure mode and effects analysis (FMEA), root cause analysis (RCA), product and process monitoring reports, and control plans. (Understand)</p>	New topic to BoK. FMEA, and product and process monitoring reports transferred from 2012 BoK VI.B; root cause analysis transferred from VI.A
VI.A	<p>B. Corrective Action Explain and apply elements of the corrective action process: identify the problem, contain the problem (interim action), assign responsibility (personnel) to determine the causes of the problem and propose solutions to eliminate it or prevent its recurrence (permanent action), verify that the solutions are implemented, and confirm their effectiveness (validation). (Apply)</p>	
VI.B	<p>C. Preventive Action Explain and apply elements of a preventive action process: use various data analysis techniques to identify potential failures, defects, or process deficiencies; assign responsibility for improving the process (e.g., develop error- or mistake-proofing devices or methods, initiate procedural changes), and verify the effectiveness of the preventive action. (Apply)</p>	

Table 3. 2012 CQT BoK mapped to the 2018 CQT BoK

2012 BoK		2018 BoK		Notes
Number	Label	Number	Label	
I.A.1	Customers and suppliers	I.A.1	Customers and suppliers	
I.A.2	Quality principles for products and processes	I.A.2	Quality principles for products and processes	
I.A.3	Quality standards, requirements, and specifications	I.A.3	Quality standards, requirements, and specifications	
I.A.4	Cost of quality (COQ)	I.A.4	Cost of quality (COQ)	
I.A.5	Six sigma	I.B.9	Six sigma	Removed green belt and black belt responsibilities
I.A.6	Lean	I.B.10	Lean	Clarified “pull” as “pull system” in subtext
I.A.7	Continuous improvement techniques	I.B.11	Continuous improvement techniques	
I.B.1	Cause and effect diagrams	I.B.1	Cause and effect diagrams	
I.B.2	Flowcharts (process maps)	I.B.2	Flowcharts (process maps)	
I.B.3	Check sheets	I.B.3	Check sheets	
I.B.4	Pareto charts	I.B.4	Pareto charts	
I.B.5	Scatter diagrams	I.B.5	Scatter diagrams	
I.B.6	Control charts	I.B.6	Control charts	
I.B.7	Histograms	I.B.7	Histograms	
I.C.1	Meeting management	Removed		All portions of 2012 BoK I.C were removed
I.C.2	Team building methods	Removed		
I.C.3	Team stages	Removed		
I.C.4	Global communication	Removed		
II.A.1	Terminology	II.A.1	Terminology	

2012 BoK		2018 BoK		Notes
Number	Label	Number	Label	
II.A.2	Frequency distributions	II.A.2	Frequency distributions	Decrease in level of cognition from Apply to Understand
II.B.1	Measures of central tendency	II.B.1	Measures of central tendency	
II.B.2	Measures of dispersion	II.B.2	Measures of dispersion	
II.B.3	Statistical inference	II.B.3	Confidence levels	Subtopic renamed to “Confidence levels” and decrease in level of cognition from Apply to Understand
II.B.4	Confidence limits	II.B.4	Confidence limits	Decrease in level of cognition from Apply to Understand
II.B.5	Probability	II.B.5	Probability	Decrease in level of cognition from Apply to Understand
II.C.1	Control limits vs. specification limits	II.C.1	Control limits vs. specification limits	Increase in level of cognition from Understand to Analyze
II.C.2	Variables charts	II.C.2	Variables charts	
II.C.3	Attributes charts	II.C.3	Attributes charts	
II.C.4	Process capability measures	II.C.4	Process capability measures	
II.C.5	Common and special cause variation	II.C.5	Common and special cause variation	
II.C.6	Data plotting	II.C.6	Data plotting	
III.A.1	Hand tools	III.A.1	Hand tools	
III.A.2	Gauges	III.A.2	Gauges	Added “gage blocks” as an example from III.A.11
III.A.3	Optical tools	III.A.3	Optical tools	
III.A.4	Coordinate measuring machines	III.A.4	Coordinate measuring machines	Added examples of CMMs
III.A.5	Electronic measuring equipment	III.A.5	Electronic measuring equipment	
III.A.6	Weights, balances, and scales	III.A.6	Weights, balances, and scales	
III.A.7	Hardness testing equipment	III.A.7	Hardness testing equipment	
III.A.8	Surface plate methods and equipment	III.A.8	Surface plate methods and equipment	Updated examples of surface analyzers

2012 BoK		2018 BoK		Notes
Number	Label	Number	Label	
III.A.9	Surface analyzers	III.A.9	Surface analyzers	Changed examples to “profilometers, roughness reference standards”
III.A.10	Force measurement tools	III.A.10	Force measurement tools	
III.A.11	Angle measurement tools	III.A.11	Angle measurement tools	Gage blocks moved to 2018 BoK III.A.2
III.A.12	Color measurement tools	III.A.12	Color measurement tools	
III.B.1	M&TE identification, control, and maintenance	III.B.1	M&TE identification, control, and maintenance	
III.B.2	Customer-supplied M&TE	III.B.2	Customer-supplied M&TE	
III.C.1	Calibration intervals	III.C.1; III.C.2	Calibration intervals; Calibration results	Calibration intervals cognitive level decreased from Analyze to Apply, while calibration results remained at Analyze. The interpretation of calibration results was split out into its own subtopic, “III.C.2 Calibration results”
III.C.2	Calibration errors	III.C.3	Calibration error	
IV.A.1	Blueprint symbols and components	IV.A.1	Blueprint symbols and components	
IV.A.2	Geometric dimensioning and tolerancing (GD&T) terminology	IV.A.2	Geometric dimensioning and tolerancing (GD&T) terminology	Added application of GD&T
IV.A.3	Classification of product defect characteristics	IV.A.3	Classification of product defect characteristics	Increase in level of cognition from Apply to Analyze
IV.B.1	Types of measurements	IV.B.1	Types of measurements	
IV.B.2	Gauge selection	IV.B.2	Gauge selection	Increase in level of cognition from Analyze to Evaluate. Changed use factors from TUR/TAR to resolution, accuracy, tolerance, environment, and product features
IV.B.3	Measurement systems analysis (MSA)	IV.B.3	Measurement systems analysis (MSA)	
IV.B.4	Rounding rules	IV.B.4	Rounding rules	
IV.B.5	Conversion of measurements	IV.B.5	Conversion of measurements	
IV.B.6	Inspection points	IV.B.6	Inspection points	Increase in level of cognition from Apply to Analyze
IV.B.7	Inspection error	IV.B.7	Inspection error	Updated types of inspection error

2012 BoK		2018 BoK		Notes
Number	Label	Number	Label	
IV.B.8	Product traceability	IV.B.8	Product traceability	Increase in level of cognition from Understand to Apply
IV.B.9	Certificates of compliance (COC) and analysis (COA)	IV.B.9	Certificates of compliance (COC) and analysis (COA)	
IV.C.1	Nondestructive testing (NDT) techniques	IV.C.1	Nondestructive testing (NDT) techniques	
IV.C.2	Destructive testing techniques	IV.C.2	Destructive testing techniques	
IV.C.3	Other testing techniques	IV.C.3; IV.C.4; IV.C.5; IV.C.6	Electrical testing techniques; Chemical testing techniques; Physical/mechanical testing techniques; Other testing techniques	This topic was split into four categories to address the different testing techniques
IV.D.1	Sampling characteristics	IV.D.1	Sampling characteristics	
IV.D.2	Sampling types	IV.D.2	Sampling types	Added “single,” “double,” and “skip lot” as sampling types
IV.D.3	Selecting samples from lots	IV.D.3	Selecting samples from lots	Removed “zero-defect sampling” as an example
IV.E.1	Identifying and segregating	IV.E.1	Identifying and segregating	Increase in level of cognition from Apply to Evaluate
IV.E.2	Material review process	IV.E.2	Material review process	
V.A.1	Internal audits	V.A.1	Internal audits	
V.A.2	External audits	V.A.2	External audits	
V.A.3	Systems audits	V.A.3	Systems audits	
V.A.4	Product audits	V.A.4	Product audits	
V.A.5	Process audits	V.A.5	Process audits	
V.A.6	First-, second-, and third-party audits	V.A.6	First-, second-, and third-party audits	
V.B.1	Audit purpose and scope	V.B.1	Audit purpose and scope	
V.B.2	Audit reference standard	V.B.2	Audit reference standard	
V.B.3	Audit plan (preparation)	V.B.3	Audit plan (preparation)	

2012 BoK		2018 BoK		Notes
Number	Label	Number	Label	
V.B.4	Audit performance	V.B.4	Audit performance	
V.B.5	Opening and closing meetings	V.B.5	Opening and closing meetings	
V.B.6	Final report and verification of corrective action	V.B.6	Final report and verification of corrective action	
V.C.1	Checklists and working papers	V.C.1	Checklists and working papers	
V.C.2	Data gathering and objective evidence	V.C.2	Data gathering and objective evidence	
V.C.3	Forward- and backward-tracing	V.C.3	Forward- and backward-tracing	
V.C.4	Audit sampling plans and procedural guidelines	V.C.4	Audit sampling plans and procedural guidelines	
V.D	Audit communication tools	V.D	Audit communication tools	
VI.A	Corrective action	VI.A; VI.B	Corrective action	Root cause was pulled from VI.A and entered in the new VI.A, Risk Assessment and Mitigation
VI.B	Preventive action	VI.A; VI.C	Preventive action	FMEA, and product and process monitoring reports were pulled from VI.B and entered in the new VI.A, Risk Assessment and Mitigation