



REPORT OF THE  
**CPA EXAMINATION REVIEW BOARD**

*On the 2018 Uniform CPA Examination and International Qualification Exam*



# CPA EXAMINATION REVIEW BOARD

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## REPORT OF THE CPA EXAMINATION REVIEW BOARD

To the Boards of Accountancy of the Fifty-Five Jurisdictions of the United States of America:

We have reviewed and evaluated the policies and procedures utilized in the preparation, grading and administration of the Uniform CPA Examination and the International Qualification Examination for the year ended December 31, 2018.

Our review and evaluations were conducted for the purpose of determining the appropriateness of those policies and procedures for reliance by the Boards of Accountancy of the fifty-five jurisdictions of the United States of America in discharging their responsibility to test the qualifications of candidates for licensure as Certified Public Accountants.

Based on our review and evaluations, we believe that the Boards of Accountancy may rely on the Uniform CPA Examination and the International Qualification Examination in carrying out their licensing responsibilities for the year ended December 31, 2018.

This report is intended solely for the information and use of the Boards of Accountancy, and is not intended to be and should not be used by anyone other than the specified parties.

*CPA Examination Review Board*

CPA Examination Review Board

May 24, 2019

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# UNIFORM CPA EXAMINATION

The Uniform CPA Examination (Examination) is administered pursuant to a contract among the National Association of State Boards of Accountancy (NASBA), on behalf of its constituent members (Boards of Accountancy), the American Institute of CPAs (AICPA), and Prometric.



NASBA acts as the central clearinghouse to which all Boards of Accountancy or their designee submits information on eligible candidates and from which all Boards of Accountancy receive advisory scores and other Examination data.



The AICPA determines the content of the Examination, prepares the items/simulations, determines the method of scoring the Examination (including the choice of psychometric model), performs and coordinates the scoring of all test item formats including simulations and constructed response exercises, provides all quality control systems for test scoring, prepares advisory scores, and conducts statistical analyses of Examination results.



Prometric operates a network of computer-based test centers where candidates take the Examination and is responsible for examination delivery at authorized test centers.

## CREATION & PURPOSE

Few Boards of Accountancy have the resources to evaluate the psychometric quality and content of a licensing examination or to review its preparation, scoring and administration. Moreover, few Boards of Accountancy have the resources to evaluate the security and integrity of the electronic architecture and data communications surrounding a computer-based test (CBT). Because such evaluations and reviews are highly technical and time-consuming activities, they can be performed more effectively by a single agency acting on behalf of all Boards of Accountancy. Recognizing this need, the CPA Examination Review Board (ERB) was established as a committee of NASBA and reports directly to the Boards of Accountancy.

## COMMITTEE CHARGE

The ERB shall review, evaluate and report on the appropriateness of the policies and procedures utilized in the preparation, grading and administration of the Uniform CPA Examination and other examinations in general use by the Boards of Accountancy for the licensing of Certified Public Accountants. In carrying out its responsibilities the ERB shall examine such records and make such observations, inspections and inquiries, as it deems necessary. The ERB shall report annually to the Boards of Accountancy.

# DESCRIPTION OF EXAMINATION REVIEW BOARD PROCEDURES



## DEVELOPMENT

The Examination is developed by the AICPA Examinations Team (Examinations Team) in accordance with blueprints established by the AICPA Board of Examiners (BOE). The blueprints used in the 2018 Examination are based on the 2016 Practice Analysis. Examination content is reviewed and modified by the Content Preparation Subcommittees and is given final approval by the Content Committee. We reviewed and evaluated the development of the Examination. Our review included conferences with members of the Examinations Team, observations of the activities of the BOE, its Content Committee and Content Preparation Subcommittees, and interviews with the Examinations Team leadership and staff. We reviewed and evaluated systems security controls and compliance with certain administrative policies and procedures.

We compared test items to the blueprints to determine compliance with the approved guidelines.



## PRACTICE ANALYSIS

The Practice Analysis Oversight Group established by the BOE designed and carried out an updated Practice Analysis, which was completed in 2016 as a basis for the blueprints used in the version of the Uniform CPA Examination launched in April 2017. In connection with our review and evaluations completed for the year ended December 31, 2018, we monitored and reviewed each major stage of the Practice Analysis, including the overall framework for this update and its oversight, the technical research design of the study, the sampling procedures used including defining the target population and the sampling frame, the design and use of the matrix sampling methods, the planning and execution of the computer-based survey, and the statistical analysis of the survey results and reporting thereof.

We evaluated the statistical quality indices for the results, such as the standard errors of the ratings, for the main sample and additional subsamples. We monitored and reviewed the work of the Content Committee, which used the Practice Analysis results to recommend revisions and additions/deletions to the blueprint. Finally, we reviewed the work of the BOE in finalizing the updated content and skill statements based on all of this empirical and judgmental Practice Analysis work.



## STANDARD SETTING

The AICPA conducted passing score studies to establish new standards for the Examination launched in 2017. In determining the new passing scores, the AICPA used sound scientific standard setting methods based on solid research; the methods used have a long history of use by high-stakes testing agencies and had no obvious bias. The data were collected systematically, and statistical analyses were performed by psychometricians to ensure that the standard-setting data were accurate and reproducible. The panel of experts who participated in the studies recommended a passing score for each section to the BOE. The BOE thoroughly discussed the panelists' recommendations and approved new passing scores.

The ERB performed a review of the standard setting process during the 2017 review. We reviewed the standard setting plan and design, observed the structure of the process, attended several standard setting panel discussions as well as the BOE deliberations and approval of the new passing scores. In addition, we reviewed the standard setting technical report in support of the passing scores.

# DESCRIPTION OF EXAMINATION REVIEW BOARD PROCEDURES



## NATIONAL CANDIDATE DATABASE

NASBA receives candidate information from Boards of Accountancy, or their designee, authorizing the candidate to test, and maintains such information in the National Candidate Database (NCD). We reviewed and evaluated the security policies and procedures related to the NCD and the Gateway System. Our procedures begin with testing the accuracy of the database processes and receipt of information into this database and end with the release of the advisory score.

## DELIVERY

The Examination is delivered at Prometric test sites located throughout the jurisdictions of the Boards of Accountancy as well as selected international locations. We reviewed and evaluated Prometric policies, procedures and security controls relative to the Examination. We visited selected domestic and international Prometric sites and observed the delivery of the Examination. Additionally, we electronically observed the delivery of the Examination at selected international sites. We also reviewed and evaluated security controls and compliance with administrative policies and procedures.



## SCORING

We reviewed and evaluated the policies and procedures followed in the scoring and reporting of results of the Examination; we performed procedures related to the scoring of a selected sample; and we traced a sample of scores through to the NCD. In addition, the psychometric consultant reviewed and evaluated the validity evidence for the Examination, including psychometric data from the tests, quality control policies and procedures, and statistical analyses of the Examination results.

## TECHNOLOGY ASSESSMENT

We evaluated and relied upon a comprehensive analysis and evaluation of the security, processing integrity and availability of the communications and systems of all parties. We performed assessments based on guidelines and standards set forth in COBIT, SSAE 18 guidelines, the AICPA Trust Services Principles and Criteria, ISO 27001, and on industry best practices. The evaluation encompassed the Examination as a whole and many different sources of evidence were reviewed to support the reasonableness of the overall systems integrity, security and sustainability of the Examination. The Information Technology Consultant assisted us in reviewing and evaluating the policies, procedures and controls employed by the AICPA, NASBA, and Prometric.



## POLICIES AND PROCEDURES OF THE AICPA BOARD OF EXAMINERS (BOE) AND THE AICPA EXAMINATIONS TEAM

We reviewed and evaluated the policies, procedures and security controls of the BOE and Examinations Team relative to the development and scoring of the Examination. We also reviewed and relied on the work and reports of AICPA Internal Audit, Risk & Compliance relative to the Examination.

## PSYCHOMETRIC ASSESSMENT

Psychometric Consultants assisted us in reviewing and evaluating the policies and procedures employed by the Examinations Team in preparing and scoring the Examination. We evaluated the psychometric model used to calibrate and score the computer-adaptive tests and many other important psychometric characteristics of the Examination such as the psychometric properties of simulations, candidate ability routing through adaptive testlets, the standard setting methods utilized by the BOE, and the passing scores established thereby. We also reviewed the rater reliability of those constructed response written communication exercises which were scored by human raters, the accuracy and consistency of the computer scoring of these written communication exercises, the correlations among test sections and item formats, and many other sources of validity evidence of the Examination. The Psychometric Consultants also assisted us in reviewing and evaluating the policies, procedures and controls for the Examination.



## IQEX PROCEDURES

Beginning with the November 2012 administration, the IQEX transitioned to a new format that uses an administration of the Uniform CPA Examination's Regulation section as the required examination. As part of the transition, the IQEX no longer has a dedicated content specification outline (CSO) and instead adopts the content outlined in the Regulation section of the Uniform CPA Examination CSOs. Therefore, we reviewed and evaluated the same procedures for IQEX as we did for the CPA Examination. We also reviewed and evaluated the IQEX candidate application and approval process, which is performed by NASBA, and the 2016 IQEX technical report, which was prepared by NASBA to provide validity evidence for the use of IQEX.

# INTERNATIONAL QUALIFICATION EXAMINATION



The purpose of the International Qualification Examination (IQEX) is to facilitate the U.S. CPA qualification process for those accounting professionals from other countries whose professional bodies have entered into Mutual Recognition Agreements (MRAs) with the U.S. accounting profession and to provide reasonable assurance to boards of accountancy that those who pass the examination possess the level of technical knowledge and skills necessary for licensure to protect the public interest.

The International Qualification Appraisal Board (IQAB), a joint body of the AICPA and NASBA, is charged with overseeing, on behalf of the U.S. accounting profession, the preparation of MRAs with the accounting profession in countries seeking mutual recognition of accounting qualifications. Education, examination, and experience are the principal elements considered in granting a professional accounting designation to perform the attest function. In preparing an MRA, IQAB reviews the education requirements, the required body of knowledge, and the required standards of professional practice with respect to the granting of the professional accounting designation.

IQAB has currently established MRAs with the following professional bodies:

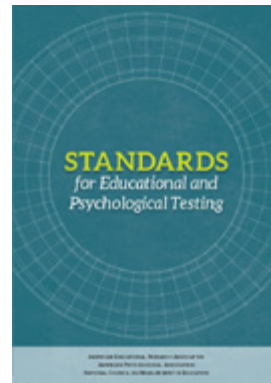
- Institute of Chartered Accountants in Australia (ICAA)
- CPA Australia (CPAA) – effective June 2018
- Chartered Professional Accountants Canada (CPAC)
- Hong Kong Institute of Certified Public Accountants (HKICPA)
- Chartered Accountants Ireland (CAI)
- Instituto Mexicano De Contadores Públicos (IMCP)
- New Zealand Institute of Chartered Accountants (NZICA)
- Institute of Chartered Accountants of Scotland (ICAS)

The intent of IQEX is to test the differences between the Federal Taxation, Business Laws, and Ethics practices of the United States and the relevant practices of the MRA countries. Accounting professionals from the MRA countries have already demonstrated competence in the areas that are the same in the candidate's home country and the United States by virtue of meeting the requirements outlined in the MRA and remaining a Member in Good Standing with the professional accounting body in the candidate's home country.



# REVIEW AND EVALUATION FRAMEWORK OF THE EXAMINATION REVIEW BOARD

The “Twelve Components for Effective Test Development” as described in the Handbook of Test Development (Lane, Raymond, & Haladyna, 2016) provide the framework for our review and evaluations. The “Twelve Components for Effective Test Development” are based on the *Standards for Educational and Psychological Testing* (AERA, APA, & NCME, 2014). These components are described in detail in Exhibit 1.



“The *Standards for Educational and Psychological Testing* (AERA, APA, & NCME, 2014) represent the consensus opinion concerning all major policies, practices, and issues in assessment. This document, revised every decade or so, is sponsored by three North American professional associations concerned with assessment and its application and practice: The American Educational Research Association (AERA), the American Psychological Association (APA), and the National Council on Measurement in Education (NCME)”.

## 12 COMPONENTS BASED ON *Standards for Educational and Psychological Testing*

1. Overall Plan
2. Content Definition and Claims Statement (Practice Analysis)
3. Content Specifications
4. Item Development
5. Test Design and Assembly
6. Test Production
7. Test Administration
8. Scoring Test Responses
9. Establishing Passing Scores (Standard Setting)
10. Reporting Test Results
11. Test Security
12. Test Documentation



# MEMBERS OF THE CPA EXAMINATION REVIEW BOARD



Barbara A. Ley, CPA, CITP, CFF. Chair of the ERB. Member of the ERB since 2016. Managing Shareholder and President of Barbara A. Ley, a Professional Corporation; Past Chair of the Oklahoma State Board of Accountancy;

Past President, Treasurer, Secretary, Board of Directors and Executive Committee member, and the 2010 Hall of Fame inductee of the Oklahoma Society of Certified Public Accountants (OSCPA); Past member of the AICPA Board of Examiners (BOE) and its Executive Committee; Past Chair of the BOE's State Board Committee; Past member of AICPA Council, Past member of the OSCP Education Foundation Board of Directors; Current member of the National Association of State Boards of Accountancy (NASBA) Nominating Committee; Past member of the NASBA Education Committee; Past member of the CPA Licensing Examinations Committee.



Douglas W. Skiles, CPA, Vice Chair of the ERB and Prometric Lead. He is also currently a shareholder with Skiles, Loop, Bremer & White, CPA's PC. He is a former NASBA Central Regional Director, Past Chair of NASBA's Relations with Member Boards Committee, former NASBA representative on the Board of Examiners' Practice Analysis Sponsor Advisory Group (SAG), Past Chair of the CBT Examination Administration Committee, and former member of NASBA's Audit Committee and Education Committee and NASBA Enforcement Committee member.

He served on the Nebraska Board of Public Accountancy from 2003-2013, with three years as its Chair. He is a former chair of the Nebraska Board's Education & Examination Committee, Educational Advisory Committee, Legislative Committee, and a former member of the Board's Quality Enhancement Program Committee. During 2011-2013, he chaired

the Experience Work Group, a collaboration between the Board, State Society and other stakeholders, which successfully passed new experience requirements in 2013 for Nebraska CPA candidates. He served as an accounting instructor for the University of Nebraska-Kearney and McCook Community College.



Ruben Davila, CPA, CFF, Esquire. AICPA Team Lead on the AICPA engagement team. Clinical Professor of Accounting and Diversity Officer at University of Southern California's Leventhal School of Accounting. Administrative Vice President and Member of the Executive Board of the USC Academic Senate. Past member of the California State Board of Accountancy. Past member of the AICPA/NASBA Board of Examiners (BOE). Past member of the BOE FARS Content Subcommittee. Past member of the AICPA/NASBA International Qualifications Appraisal Board. Current member of the NASBA Nominating Committee. Past member of numerous NASBA committees including the Nominating Committee, Education Committee, the State Board Committee. Current member of NASBA, AICPA Cal-CPA, California State Bar, Los Angeles County Bar Association. Current member of various boards and committees at the University of Southern California including the Executive Board of the Academic Senate, the Provost's Diversity and Inclusion Council, the Committee on Finance and Enrollment, the Committee, the Campus Climate Committee.

Past member of the AICPA/NASBA International Qualifications Appraisal Board. Current member of the NASBA Nominating Committee. Past member of numerous NASBA committees including the Nominating Committee, Education Committee, the State Board Committee. Current member of NASBA, AICPA Cal-CPA, California State Bar, Los Angeles County Bar Association. Current member of various boards and committees at the University of Southern California including the Executive Board of the Academic Senate, the Provost's Diversity and Inclusion Council, the Committee on Finance and Enrollment, the Committee, the Campus Climate Committee.



Janet Booker-Davis, CPA, CGMA, MBA. Newly appointed ERB member and NASBA Team Lead. Janet is founder and President of Booker Business Service, Inc. (BBS) – a CPA Firm located in Franklin, TN which specializes in working with small businesses. Janet has over

30 years of experience in accounting, taxation and business consulting. Prior to starting BBS, her experiences included work in a supervisory capacity in an international CPA firm, Director of Internal Audit Services with a fortune 500 corporation, Vice President/Client Manager, Commercial Loan Officer with an international financial services corporation, and Corporate Controller for privately held companies. In addition to her license as a CPA, and CGMA, she is licensed as a life, health & accident insurance producer and holds FINRA securities licenses, Series 6, 63 and 65. Janet was appointed by the Tennessee Governor's to serve on the Tennessee State Board of Accountancy and has served as a board member since 2015. She is a member of the Tennessee Society of CPAs, AICPA and Chartered Global Management Accountants. Janet has also been recognized on the list of Marquis Who's Who in the World.



Marianne (Mari) DeVries, CPA has over 30 years' experience in auditing, accounting and taxation, specializing in nonprofit and Single Audit engagements and served as the lead audit partner for HBL CPAs, PC in Tucson AZ until she retired in 2018. Mari served on the AICPA's Nonprofit Expert Panel and Task Force to assist in revising the Audit Guide for Nonprofit Organizations which was released in March 2013. Mari also served on the Arizona State Board of Accountancy from 2004 to 2009. Mari joined the AICPA's Board of Examiners Content Committee and Audit Sub-committee in 2008 and was appointed Chair of the Content Committee and member of the Executive Committee of the Board of Examiners from 2011 - 2016, at which time she served on the Board of Examiners' Practice Analysis Committee until 2017. In 2018, Mari was appointed to National Association of State Boards of Accountancy's Examination Review Board.

## CONSULTANTS



Michael W. Harnish, CPA.CITP, CISA, CDP, EnCE. Consultant to the ERB since 1999. Retired; Current Board of Directors of N-Able Consulting; Board of Directors of Two Rivers Water and Farming and chairman of the audit committee; Board of Directors of Water Redevelopment Company and chairman of the audit committee; Past Board of Directors of Alliance Sports Group and chairman of the compensation committee; Past Board of Directors of DeltaHawk Engines and chairman of the audit committee; Past COO/CIO of EthicsPoint, Inc., Fios, Inc., CPA2BIZ, Dickinson Wright PLLC; Past President and CEO, Technology Consulting Partners LLC; Former Associate, Technology Consulting Solutions, Plante & Moran; Former Partner, Crowe, Chizek and Company (now Crowe Horwath), Past Director of Consulting Services, Lotus Development Corp.; Former Member of Various AICPA Committees Including the Computerization Implementation Committee (CIC) and first Chairman of the Information Technology Executive Committee and Membership Division; Former Member of the Illinois CPA Society Board of Directors. Recipient of the AICPA Innovative User of Technology and the AICPA Sustained Contribution Awards.



Suzanne Lane, Ph.D. Consultant to the ERB since 2015. Professor, Research Methodology Program, School of Education, University of Pittsburgh. Past President of the National Council of Measurement in Education. Past Vice President of Division D (Methodology and Measurement) of AERA. Member of AERA, APA, NCME Joint Committee for the Revision of the Standards for Educational and Psychological Testing (1993-1999). Management Committee Member for the Revision of the 1999 Standards. Publications in Journal of Educational Measurement, Applied Measurement in Education, Educational Assessment, and Educational Measurement: Issues and Practice. Editorial Board member for Journal of Educational Measurement, Applied Measurement in Education, Educational Assessment, Educational Researcher, and Educational Measurement: Issues and Practice. Past chair of the AICPA Psychometric Oversight Committee. Technical Advisory Committee member for the College Board, ETS, PARCC, PSI, U.S. Department of Education, NCEO and state assessment programs (DE, KY, NJ, NY, PA, TN, TX).

## STAFF



Sheena Murphy, CPA, will be involved in planning, supervising, and conducting the engagement and will be the primary contact for this engagement. Sheena is the CPA Exam Review Board Director. She is a former Accounting Manager, Qualifacts Systems, Inc. and is a former Senior Auditor, Crowe Horwath LLC. She has prior experience with CPAES and NCD departments of NASBA.



Julie James, CPA, Examination Review Board Audit Manager. Former Technology and Management Consultant, RSM US LLP; Former Financial Reporting Manager, First Data Corporation, and Senior Internal Auditor with HCA Healthcare and LifePoint Health. Past board member of Quality Care for Children, Inc. Current member of the AICPA, ISACA, TSCPA, GSCPA, and NABA. Appointed member of the TSCPA Accounting Career Education Committee.

# EXHIBIT 1: TEST DEVELOPMENT PROCESS

Test Development Components	Test Development Recommendation	Example Relevant Standards
1. Overall Plan	Develop a detailed plan for the entire test development project, including information on all test components, a rationale for each component, and the specific methods to be used to evaluate the validity of all intended test score interpretations and uses and the psychometric quality of the test.	1.0, 2.0, 3.0, 4.0, 5.0, 11.1, 12.2, 13.4
2. Domain Definition and Claims Statement	Name and define the domain to be measured. Provide a clear statement of the claims to be made about examinee knowledge, skills, and abilities (KSAs).	1.0, 4.1, 11.2, 11.3, 11.13, 12.4
3. Content Specifications	Develop content specifications to guide item development, form assembly, score reporting, and other activities.	4.1, 4.2, 11.3, 12.4
4. Item Development	Identify suitable item formats and materials. Develop items and obtain validity evidence to support item use.	3.2, 4.7 -4.14
5. Test Design and Assembly	Design and create test forms based on test specifications; attend to issues related to test content, format, scoring rules, scaling and equating.	4.3, 5.0, 5.1-5.20, 11.15, 12.11, 13.2
6. Test Production	Produce a clear, accurate, and accessible test form.	4.0
7. Test Administration	Administer the test in a standardized way. Avoid threats to validity that may arise during administration.	3.0, 3.4, 4.3, 4.15-4.17, 6.1-6.7, 12.16
8. Scoring	Establish a quality control policy and procedures for scoring and tabulating item responses. Ensure accurate and consistent scoring where judgment is required.	4.3, 4.18-4.23, 6.8-6.9
9. Cut Scores	Establish defensible cut scores consistent with the purpose of the test.	2.16, 5.21-5.23, 11.16
10. Test Score Reports	Develop accessible and understandable test score reports.	2.0, 2.3-2.4, 2.13-2.14, 5.1-5.5, 6.10 -6.16, 8.7-8.8, 12.18
11. Test Security	Establish policies and procedures for ensuring test security during test development and administration.	6.7, 6.14, 6.16, 7.9, 9.0, 8.5-8.6, 8.9-8.12, 9.0, 9.21-9.23
12. Test Documentation	Prepare technical reports and other documentation supporting validity, fairness, and the technical adequacy of the test.	4.0, 7.0, 7.1-7.14, 12.6

