REPORT OF THE
CPA EXAMINATION
REVIEW BOARD

On the 2017 Uniform CPA Examination
and International Qualification Exam
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, 2017.

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, 2017.

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
May 23, 2018
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.

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.

AICPA

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.
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 2017 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, 2017, 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 to the BOE. The BOE thoroughly discussed the panelists’ recommendations and approved the 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.
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.

**National Candidate Database**

NATIONAL CANDIDATE DATABASE

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.

**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.

**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 reviewed and evaluated security controls and compliance with administrative policies and procedures.

**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.
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.

IQAB has currently established MRAs with the following professional bodies:

- Institute of Chartered Accountants in Australia (ICAA)
- Canadian Institute of Chartered Accountants (CICA)
- 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)

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).”
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; Immediate 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 OSCPA 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 E. Warren, CPA, CFF, CFE. Past-Chair of the ERB. Member of the ERB since 2013. Senior Partner and CEO of WarrenJackson CPAs, PLLC. Past Chair, Vice Chair and member of the Tennessee State Board of Accountancy; a Past Chair and member of the AICPA Board of Examiners (BOE); Past Chair of the BOE’s State Board Committee; Past member of the BOE Executive Committee; Past member of the BOS Content Sub-Committee; Member of the Board of Directors and President for the Tennessee Society of CPA’s; Member of the Board of Directors for the TSCPA Education and Memorial Foundation; Founding member of the Center for Public Trust; member of the National Association of State Boards of Accountancy; Past member of the Mobility Task Force, NASBA CPE Advisory Committee and NASBA Education Committee; Chair and Trustee of Sweetwater Hospital; Member Board of Directors and Chair of Audit Committee of People’s Bank of East Tennessee, Inc.

Wendy Perez, CPA. Member of the ERB since 2016. Past Chair and member of the AICPA Board of Examiners (BOE); Past President and member of the California Board of Accountancy; Past member of the AICPA Practice Analysis Sponsor Group; Past member of numerous NASBA committees; Past member on the boards of various non-profit organizations; Current member of NASBA, AICPA and CalCPA; Retired Ernst and Young partner.

Douglas W. Skiles, CPA, served as the team lead on the AICPA engagement team. 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. Newly appointed member of the ERB. 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 CalCPA, 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, and the Campus Climate Committee.
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.


STAFF

Sheena Murphy, CPA, serves as CPA Examination Review Board Director. Sheena is responsible for the planning, supervision and execution of the ERB’s engagements. She is a former Accounting Manager with Qualifacts Systems, Inc., and a former Senior Auditor with Crowe Horwath LLC. Sheena has prior experience with the CPAES and NCD departments of NASBA. Currently, she is a member of the AICPA, TSCPA and NABA.

Shawn Jackson, CPA, CITP, CISA, CGMA, is the CPA Examination Review Board Assistant Director. Shawn is a former Internal Auditor with Deloitte USA LLP and a former Consultant with Deloitte & Touche LLP. He is a member of the American Institute of Certified Public Accountants (AICPA).
# EXHIBIT 1: TEST DEVELOPMENT PROCESS

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