

New Hampshire Statewide Assessment System

2022–2023

Volume 5 Test Administration



New Hampshire

Department of Education

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1. INTRODUCTION

The state of New Hampshire implemented a new online assessment for operational use beginning with the 2017–2018 school year. This new assessment program, referred to as the New Hampshire Statewide Assessment System (NH SAS), replaced the Smarter Balanced Assessment Consortium (SBAC) assessments in reading, writing, and mathematics and the New England Common Assessment Program (NECAP) in science. The NH SAS comprises English language arts (ELA) assessments for grades 3–8, which include both reading and writing components; mathematics assessments for grades 3–8; and science assessments for grades 5, 8, and 11. In 2022–2023, all tests without accommodation were administered online.

The assessment instruments should have established test administration procedures to support useful interpretations of score results, as specified in Standard 6.0 of the *Standards for Educational and Psychological Testing* (AERA, APA, & NCME, 2014). This volume provides details on testing procedures, accommodations, Proctor (TA) training and resources, and test security procedures implemented for the NH SAS. Specifically, it provides the following evidence related to test administration for the validity of the assessment results:

- A description of the population for whom this test is intended
- A description of the training and documentation provided to TAs in order for them to follow the standardized procedures for test administration
- A description of available test accommodations intended to remove barriers that otherwise would interfere with test takers' ability to demonstrate what they know and can do
- A description of the test security procedures designed to mitigate loss, theft, or reproduction of any secure content or student data
- A description of Cambium Assessment, Inc.'s (CAI) quality monitoring (QM) system and the test irregularity investigation measures taken to detect cheating, monitor real-time item quality, and evaluate test integrity

2. TESTING PROCEDURES AND TESTING WINDOWS

Administering the 2022–2023 NH SAS required coordination, detailed specifications, and proper training. Because multiple individuals were involved in the testing process—from those who set up testing environments to those who administered the assessments—proper training and coordination of all assessment staff was necessary to ensure that standardization of test administration would not be compromised. The New Hampshire Department of Education (NHDOE) worked with CAI to develop and provide the training and documentation essential for the administration of the NH SAS under standardized conditions within all testing environments.

As required by the New Hampshire statutes, the NHDOE administers to public school students a test that is aligned to the state content and performance standards in reading and mathematics. New Hampshire students in grades 3–8 take the computer-adaptive NH SAS in ELA and mathematics, and students in grades 5, 8, and 11 take the linear-on-the-fly (LOFT) NH SAS in science. The NH SAS tests in ELA, mathematics, and science are all aligned to the NH College and Career Ready Standards (NH CCRS) for those subjects. The assessments are unique to New Hampshire and can be adjusted to meet the state’s needs. Previous statewide assessments were controlled by a consortium of states and could not be customized.

The accommodations made available to eligible students participating in the computer-based NH SAS ELA, mathematics, and science assessments are described in the *NH SAS Accommodations Guide* (Appendix A), which was accessible online before and during the testing window at <https://nh.portal.cambiumast.com>.

Practice and training tests enabled students to practice using the tools and features available in the online system. The training-test sessions contained sample test items and helped to familiarize students with the computer-based test system functionality and item types. Students were encouraged to access the training test on the portal and practice on their own.

All grades and subjects of the NH SAS were administered during one testing window. ELA was administered as a two-segment test, the first segment consisted of reading and the second of writing. Students were required to complete the reading segment before taking the writing segment. Administrators were encouraged to administer the reading and writing segments of the ELA assessment on separate days, but that decision was left up to administrators. Mathematics and science assessments were administered in one test session each. Students did not have a restricted length of time for each test but were given approximate time estimates for each test session for test administration planning purposes. The spring 2023 testing window ran from March 7 through June 16, 2023.

2.1 ELIGIBLE STUDENTS

All students who were enrolled in tested grade levels and subjects participated in the spring 2023 NH SAS administration with or without accommodations, per state and federal law. Students were required to take the tests appropriate for the grade level and subjects in which they were receiving instruction. For NH SAS ELA, students had to take the same grade-level test for writing and reading in order to receive an ELA score. This section summarizes the eligibility rules applicable to various groups of students.

- **Public School Students.** Students enrolled in tested grade levels and subjects must participate in the NH SAS.
- **Home Education Program Students.** Students who receive instruction at home and are registered appropriately with their district office as Home Education Program students are eligible to participate in statewide assessments. If parents or guardians identify an NH SAS assessment as a selected measure of their child’s annual progress, Home Education Program students can participate in an NH SAS administration as directed by the District Test Coordinator (DC).

- **English Learners.** All English Learners (ELs) participate in statewide assessments. ELs who have been enrolled in a U.S. school for less than one year are exempt for one administration from NH SAS ELA assessments (reading and writing). Exempt ELs participate instead in the ACCESS for ELLs assessment. Under federal education law (Title I and Title III), all students who are identified as ELs must be assessed each year with this approved assessment. Additionally, all ELs enrolled in tested grade levels and subjects are expected to participate in mathematics assessments regardless of how long they have been enrolled in a U.S. school.
- **Students with Disabilities.** Students with disabilities participate in the statewide assessment program by taking one of the following tests:
 1. NH SAS without accommodations
 2. NH SAS with accommodations
 3. Dynamic Learning Maps (DLM) Assessment

Per the Individuals with Disabilities Education Improvement Act (IDEA) of 2004, a student with a disability who is, in the estimation of the Individualized Education Plan (IEP) team, prevented by a circumstance or condition from physically demonstrating the mastery of skills that are measured by the statewide standardized assessment or an alternate assessment shall be granted an extraordinary exemption from the assessment administration. Neither a learning, emotional, behavioral, or significant cognitive disability nor the receipt of services through the homebound or hospitalized program in accordance with IDEA is a sufficient criterion for the granting of an extraordinary exemption. All determinations regarding participation in the statewide assessment program should be documented in the student’s IEP or Section 504 Plan. A student with medical complexity may be exempt from participating in statewide, standardized assessments pursuant to the provisions of state and federal law.

2.2 TESTING ACCOMMODATIONS

Students participating in the computer-based NH SAS can use the standard online testing features, called universal tools, built into the Test Delivery System (TDS). These features include the ability to select an alternate font size before the test begins. During the tests, students can zoom in and out to increase or decrease the size of text and images, highlight items and passages in full or in part, cross out response options by using the strikethrough function, use a digital notepad to make notes, and mark a question for review using the flag function.

Accommodations are provided to students with disabilities enrolled in public schools with current IEPs or Section 504 Plans. Although students can decide not to use an accommodation, they must be offered the opportunity to use the accommodations indicated on their IEPs or Section 504 Plans.

The NH SAS provides three categories of assessment features to students. These include universal tools, designated supports, and accommodations. Volume 1, Section 2.3, of this technical report lists the allowed accommodations and the number of students who were provided accommodations during the spring 2023 test administration.

Table 1 lists the universal tools, designated supports, and accommodations that were offered in the spring 2023 test administration. Universal tools are TDS accessibility features that are delivered digitally (i.e., embedded) or separately (i.e., non-embedded). Designated supports for the NH SAS

are those features available for use by any student for whom the need has been indicated by an educator or team of educators with the parent or guardian and student. The *Test Administration User Guide* (Appendix B), commonly referred to as the *TA User Guide*, on the NH SAS portal provides instructions on how to access and use these features.

Table 1: Universal Tools, Designated Supports, and Accommodations Available in Spring 2023

Universal Tools	Designated Supports	Accommodations
<i>Embedded</i>		
Video Playback Controls	Text-to-Speech (TTS)	Presentation
Audio Playback Controls	Embossing	TTS
Desmos Calculator	Streamlined Mode	Embossing
Dictionary	Braille Type	Streamlined Mode
Enhanced Contrast	American Sign Language (ASL)	Braille Type
Expandable Items	Print-on-Request	ASL
Expandable Passages	Mouse Pointer	Speech-to-Text (Writing)
Global Notes	Permissive Mode	
Highlight	Color Choices	
Mark for Review		
Masking		
Periodic Table		
Print Size/Zoom		
Strikethrough		
Tutorial		
<i>Non-Embedded</i>		
	Speech-to-Text	100s Number Table
	Scribe	Abacus
	Read Aloud	Print-on-Request
	ASL–Human Signer	Speech-to-Text
	Color Contrast	Scribe
N/A	Bilingual Dictionary	Read Aloud
	Amplification	ASL–Human Signer
	Magnification	
	Noise Buffers	
	Alternate Response Options	
	Separate Setting	
	Color Overlays	

Students who require computer-based accommodations (e.g., text-to-speech [TTS]) are provided the opportunity to participate in practice activities for the statewide assessments with appropriate allowable accommodations. Computer-based test settings and accommodations must be identified in the Test Information and Distribution Engine (TIDE) before a test session begins. Some settings and accommodations cannot be changed after a student starts the test.

If a student with an IEP or Section 504 Plan uses any accommodations during the test administration, this information is recorded by the TA in his or her required test administration records.

Guidelines recommended for making accommodation decisions include the following four criteria:

1. Accommodations should facilitate an accurate demonstration of what the student knows or can do.
2. Accommodations should not provide the student with an unfair advantage or negate the validity of a test; accommodations must not change the underlying skills the test is measuring.
3. Accommodations must be the same or nearly the same as those required by and familiar to the student when completing daily classroom instruction and routine assessment activities.
4. Accommodations must be necessary for enabling the student to demonstrate knowledge, ability, skill, or mastery.

Students with disabilities not enrolled in public schools or receiving services through public school programs who require accommodations to participate in a test administration are permitted access to accommodations if the following proof is provided:

1. Evidence that the student is found eligible as a student with a disability as defined by IDEA
2. Documentation that the requested accommodations are regularly used for instruction

2.2.1 Available Accommodations

The Proctor and the School Test Coordinator (SC) are responsible for ensuring that arrangements for accommodations are made before the test administration dates. The NHDOE provides a separate *NH SAS Accommodations Guide* (Appendix A) as a supplement to the *Test Administration Manual* (Appendix C) for individuals involved in administering tests to students with accommodations. The most current version of this document is available on the NH SAS portal at <https://nh.portal.cambiumast.com/resources>.

For eligible students with IEPs or Section 504 Plans participating in computer-based assessments, a comprehensive list of accommodations is published in the *Test Information Distribution Engine User Guide* (Appendix D). The section of that guide titled How District-Level Users Specify Student Accommodations and Test Tools provides information about the tools, supports, and accommodations that are available to students taking the New Hampshire ELA, mathematics, or science assessments. The New Hampshire ELA, mathematics, and science assessments provide three categories of assessment features to students: universal tools, designated supports, and accommodations.

3. ADMINISTRATOR TRAINING

The NHDOE has established and communicated to educators and key personnel a clear, standardized procedure for NH SAS administration, including administration with accommodations. Key personnel include District Test Coordinators (DCs), School Test

Coordinators (SCs), and TAs. The roles and responsibilities of staff involved in testing are further detailed in Section 3.1, Computer-Based Administration.

Throughout the 2022–2023 administration year, CAI and the NHDOE conducted ongoing, virtual training sessions/webinars. The sessions were recorded and made available to the field via YouTube. The training covered an introduction to the Statewide Assessment System and focused on the tools that DCs, SCs, and Proctors would need to administer and report on the NH SAS. Some training webinars also focused on how to use the results of interim tests to help inform instruction. Users were required to complete the online CAI TA Certification Course in order to gain access to the administration tools of the NH SAS.

TAMs and guides were available online for school and district staff. The *TA User Guide* (Appendix B) was designed to familiarize TAs with the TDS. In addition to helpful tips and screen captures, the guide contained

- steps to take prior to accessing the system and logging in;
- navigation instructions for the TA Interface;
- details about the Student Interface used for online testing;
- instructions for using the training sites available to TAs and students; and
- information on secure browser features and keyboard shortcuts.

The User Support sections of the *TA User Guide* (Appendix B) and the *TIDE User Guide* (Appendix D) provided instructions on how to address potential technology challenges during test administration. The CAI Helpdesk also supported New Hampshire schools as they administered the state assessment.

3.1 COMPUTER-BASED ADMINISTRATION

The *TA User Guide* (Appendix B) provides instructions for creating test sessions; monitoring sessions; verifying student information; assigning test accommodations; and starting, pausing, and submitting tests. The *Quick Guide for Setting Up Your Online Testing Technology* (Appendix E) provides information about hardware, software, and network configurations to run CAI’s various testing applications.

Personnel involved with administering statewide assessments play an important role in ensuring the validity of the tests by maintaining both standardized administration conditions and test security. Their roles and responsibilities are summarized in the following paragraphs.

3.1.1 Roles and Responsibilities in the Online Testing Systems

DCs, SCs, and Proctors each have distinctive roles and responsibilities in the online testing systems. See the *Test Administration Manual* (Appendix C) for their specific responsibilities before, during, and after testing.

District Test Coordinators

DCs are responsible for coordinating testing at the district level and for ensuring that the SCs in each school are appropriately trained and aware of policies and procedures and that they are trained to use CAI's systems.

School Test Coordinators

Before each test administration, SCs and DCs must verify that student eligibility has been correctly entered into TIDE and that any accommodations or test settings are correct. To participate in a computer-based test, students must be listed as eligible for that test in TIDE. See the *TIDE User Guide* (Appendix D) for more information.

SCs are responsible for ensuring that testing at their schools is conducted in accordance with the test security and other policies and procedures established by the NHDOE. SCs are primarily responsible for identifying and training Proctors. SCs work with technology coordinators to ensure that computers and devices are prepared for testing and technical issues are resolved. During the testing window, SCs monitor testing progress, ensuring that all students participate as appropriate, and handle testing issues as necessary.

Proctors

Proctors, as well as SCs, administer the NH SAS. Proctors are responsible for reviewing necessary manuals and user guides; for preparing the testing environment; and for ensuring that students do not have access to books, notes, scratch paper (excluding their work folders, worksheets, or planning sheets), or electronic devices. Proctors must administer the NH SAS according to the directions found in the guide. Any deviation in test administration must be reported to the SC, who is to report it to the DC. Then, if necessary, the DC is to report it to the NHDOE. Proctors also ensure that only the resources allowed for specific tests are available and that no additional resources are being used during the NH SAS administration.

3.2 TEST ADMINISTRATION RESOURCES

The list of webinars and training resources for the spring 2022 NH SAS administration was provided at the link below. All training materials were available online at <https://www.youtube.com/channel/UCFGkezQ-ve17NpEg3Dq81eQ/videos> and <https://nh.portal.cambiumast.com>.

The test administration resources comprised various materials and user guides (manuals, quick guides, etc.) available at NH SAS portal (<https://nh.portal.cambiumast.com>). The *TA User Guide* (Appendix B) provided details of the TA interface that was used to administer online tests. The *TIDE User Guide* (Appendix D) demonstrated several examples of TIDE's features, including managing student test settings and instructions on performing tasks before and during the test administration. The tasks that occurred before testing included setting up new users and establishing student test settings and tools. The tasks performed during test administration included monitoring test progress, such as planning and managing testing reports, test completion rates reports, and test status code reports.

Table 2 presents a list of the user guides and manuals that were available for the spring 2023 NH SAS administration. The table also includes a brief description of each resource and its intended use.

Table 2: Guides and Manuals

Resource	Description
<i>NH SAS Accommodations Guide</i>	The <i>NH SAS Accommodations Guide</i> provides information for administering the NH SAS online assessments for all students, including those with visual, auditory, linguistic, or physical needs. These guidelines were developed in collaboration with NHDOE and nationally recognized experts on ELs and students with disabilities (see Appendix A).
<i>Test Administration User Guide</i>	The <i>TA User Guide</i> is designed to help users navigate the TDS, including the Student Interface and the TA Interface, and to help support TAs as they manage and administer testing for students participating in the NH SAS online assessments (see Appendix B).
<i>Test Administration Manual</i>	The TAM provides information for administering the NH SAS online assessments in English language arts/reading, mathematics, and science. It includes screen captures and step-by-step instructions on how to administer the online tests (see Appendix C).
<i>Test Information Distribution Engine User Guide</i>	The <i>TIDE User Guide</i> is designed to help users navigate TIDE. Users can find information on managing user account information and managing student account information, student test settings and accommodations, appeals, and voice packs (see Appendix D).
<i>Quick Guide for Setting Up Your Online Testing Technology</i>	This manual provides instructions for setting up online testing technology and outlines the basic technology requirements for administering an online assessment, including operating system requirements and supported web browsers for using CAI's systems (see Appendix E).
<i>Configurations, Troubleshooting, and Advanced Secure Browser Installation Guides</i>	These documents contain configurations, troubleshooting, and Secure Browser installation instructions for your network and various operating system workstations (see Appendix F).

3.2.1 Department Resources and Support

In addition to the resources listed in Table 2, the NHDOE provided the following resources to districts:

- Communications to the field via email memos on an ad hoc basis. These communications generally addressed specific issues that needed to be communicated quickly to the field. The distribution was to superintendents, DCs, principals, and special education directors.
- General information about the assessments posted on the NHDOE assessment website, such as testing windows for all state-administered assessments. The *NH SAS Accommodations Guide* (Appendix A) was often referenced to address questions pertaining to accommodations and overall accessibility.

Students in grades 3–8 were required to have headphones or earbuds for all tests in all subject areas. There were no technical specifications for headphones or earbuds. The NHDOE did not provide them; rather, the schools provided them, or students could use their own. Headphones were checked prior to the first day of testing to ensure that they worked with the computer or device the students would use when taking the assessment. To further verify that headphones were functional, a sound check was built into the assessment sign-in process, and students were asked to confirm that headphones or earbuds were in working order before they began the test.

3.2.2 NH SAS Training Tests

The purpose of training tests is to familiarize students with the TDS, its functionality, and item types. The items provide a grade-specific testing experience, including a variety of question types. The training tests are not intended to guide classroom instruction. Users can also use the tutorials for each item to familiarize themselves with the different features and response instructions for each item type.

Computer-based training tests were available on the New Hampshire portal throughout the testing window. These training tests were designed for use with the secure browser or a supported web browser. The portal provided a list of supported web browsers and their versions for the practice tests. CAI's TDS delivered the training tests in guest mode and secure mode. In each mode, the training tests were deployed using the same test delivery engine as the operational test.

In guest mode, anyone can log on to the training test system anonymously and take any test offered in the system. Users can experience all item types presented in the Student Interface and may take as many tests as they like. Additionally, the user can select from among the available accommodations and supports at the beginning of the test.

The design of the secure mode ensures that students, teachers, and educators are familiar with the online testing system before operational testing begins. The same set of tools, accommodations, and embedded supports as in operational tests are available in secure mode, because both training and operational tests are delivered through the same system.

4. TEST SECURITY PROCEDURES

Test security involves maintaining the confidentiality of test questions and answers and is critical to ensuring the integrity of a test and validity of the test results. If non-embedded accessibility supports are used, assessment security can become an issue when other test formats are used or when someone other than the student is allowed to see the test (e.g., interpreter, reader, scribe). To ensure test security and confidentiality, TAs need to (1) keep testing materials in a secure place to prevent unauthorized access, (2) keep all test content confidential and refrain from sharing information or revealing test content, and (3) return all materials as instructed.

Some of the same considerations for test security apply to embedded accessibility supports. For example, ensuring that only authorized personnel have access to the test and that test materials are kept confidential is critical in technology-based assessments. In addition, it is important to guarantee that (1) students are seated in such a manner that they cannot see one another's terminals, (2) students are not able to access any unauthorized programs or the Internet while they are taking

the assessment, and (3) students are not able to access any saved data or computer shortcuts while taking the test. In most cases, any special required hardware devices and appropriate applications, such as switches, should be compatible with computer-based assessments. Prior to testing, educators should check on device compatibility and make appropriate adjustments if necessary. Test security procedures for the NH SAS include

- procedures to ensure security of test materials;
- procedures to investigate test irregularities; and
- guidelines to determine if test invalidation is appropriate and necessary.

New Hampshire has developed an appropriate set of policies and procedures to prevent test irregularities and ensure integrity of test results. These policies include maintaining the security of test materials, ensuring adequate training for everyone involved in test administration, outlining appropriate incident-reporting procedures, detecting test irregularities, and planning for investigation and handling of testing security violations.

If a TA has reason to believe that a violation in testing security has occurred, he or she should notify the SC immediately. The SC should then notify the DC. If a DC has reason to believe that a lapse in test security has occurred, he or she must

- immediately notify the NHDOE;
- securely transmit relevant evidence of irregularities via secure file transfer after the incident occurred; and
- maintain the confidentiality of all evidence and documentation related to test security investigations.

If the NHDOE has reason to believe that a violation in testing security has occurred, it has an obligation to investigate the incident as soon as possible. Districts and schools must comply with NHDOE requests for documentation and information relevant to the initial investigation. The NHDOE may involve the school district or conduct an independent investigation.

If the NHDOE determines that an irregularity in test administration or security has occurred, they will notify the DC in writing, indicating the status of the case. Depending on the severity of the incident and its potential impact on the NH SAS program, actions may include but are not limited to

- invalidation of student scores;
- a requirement for the district or school to administer the breach form;
- a requirement for the district or school to complete a corrective action plan;
- the NHDOE’s recommendations and/or requirements for inclusion in the district or school corrective action plan; or
- no further action.

A DC must submit a corrective action plan to the NHDOE, which may include but is not limited to

- investigative findings indicating that the testing irregularity resulted from inappropriate district test administration and/or inadequate security protocol or

- investigative findings indicating that the DC did not provide adequate or sufficient trainings to those involved in test administration and/or security procedures.

4.1 SECURITY OF TEST MATERIALS

Before test materials are finalized, items go through multiple reviews, including reviews by various committees. It is critical to maintain the security of test items during these committee meetings. Items are accessed directly from CAI’s secure Item Tracking System (ITS) for online committee meetings; thus, no printed copies need to be transported to meetings. Any materials that need to be printed are printed on light green paper with each page marked as secure in the header and/or footer. Such printed materials are distributed to participants only after they have signed the CAI and state nondisclosure forms. CAI staff review the security procedures with the committee members.

All test items, test materials, and student-level testing information are deemed secure and must be handled appropriately. Secure handling protects the integrity, validity, and confidentiality of assessment questions, prompts, and student results. Any deviation in test administration must be reported to protect the validity of assessment results.

The security of all test materials must be maintained before, during, and after test administration. Under no circumstances are students permitted to assist either in preparing secure materials before testing or in organizing and returning materials after testing. After any test administration, initial or makeup, secure materials (e.g., passage booklets, test tickets, used worksheets, used work folders) must be returned immediately to the SC and placed in locked storage. Secure materials must never be left unsecured, remain in classrooms, or be removed from the school’s campus overnight. Secure materials are not allowed to be destroyed (e.g., shredded, discarded in the trash), except for soiled documents. In addition, any monitoring software that might allow test content on student workstations to be viewed or recorded on another computer or device during testing must be disabled.

It is a testing security violation for an individual to fail to follow security procedures set forth by the NHDOE, and no individual is permitted to

- read or view the passages or test items before, during, or after testing;
- reveal the passages or test items;
- copy the passages or test items;
- explain the passages or test items to students;
- change or otherwise interfere with student responses to test items;
- copy or read student responses; or
- cause achievement of schools to be inaccurately measured or reported.

Users must access the computer-based NH SAS tests with a secure browser. The secure browser provides a secure environment for student testing by disabling hot keys, copy, and screen-capture capabilities and preventing access to the desktop (i.e., Internet, email, and other files or programs installed on school machines). Users cannot access other applications from within the secure browser, even if they know the keystroke sequences. Students are not able to print from the secure

browsers. During testing, the desktop is locked down. The secure browser is designed to ensure test security by prohibiting access to external applications or navigation away from the test. See the *Test Administration User Guide* in Appendix B for further details.

4.2 INVESTIGATING TEST IRREGULARITIES

Throughout the testing window, TAs must report breaches of protocol and testing irregularities to the appropriate school district administrator, the NHDOE, and/or the NH SAS Help Desk. They can submit online test invalidation requests as appropriate through the Appeals/Invalidations module under *Administering Tests* in the TIDE system.

CAI's quality monitoring (QM) system gathers data used to detect cheating, monitors item functioning in real time, and evaluates test integrity. Every completed test runs through the QM system, and any anomalies (e.g., unscored or missing items, unexpected test lengths, or other unlikely issues) are flagged. CAI psychometricians and project teams monitor these anomalies via quality assurance (QA) reports. The forensic analysis report from the QM system flags unlikely patterns of behavior in testing administrations aggregated at the test administration, TA, and school levels. If any unexpected results are identified, the lead psychometrician alerts the project manager immediately to resolve any issues.

4.3 GUIDELINES FOR TEST INVALIDATION

During the testing window, TAs must immediately report any test incidents (e.g., disruptive students, loss of Internet connectivity, student improprieties) to the SC. A test incident could include testing that was interrupted for an extended period due to a local technical malfunction or severe weather. SCs notify DCs of any test irregularities that are reported. DCs must submit requests for test invalidations to the NHDOE via CAI's TIDE system. The NHDOE makes the final decision on whether to approve the requested test invalidation. DCs can track the status and final disposition of test invalidation requests in TIDE.

4.4 CAI'S SYSTEM SECURITY

CAI has built-in security controls in all its data stores and transmissions. Unique user identification is a requirement for all systems and interfaces. All of CAI's systems encrypt data at rest and in transit. NHDOE data reside on servers at Rackspace, CAI's hosting provider. Rackspace maintains 24-hour surveillance of the interior and exterior of its facilities. Staff at CAI and Rackspace receive formal training in security procedures to ensure that they know the protocols and implement them properly.

Hardware firewalls and intrusion detection systems protect CAI networks from intrusion. CAI's systems maintain security and access logs that are regularly audited for login failures, which may indicate intrusion attempts. All of CAI's secure websites and software systems enforce role-based security models that protect individual privacy and confidentiality in a manner consistent with the Family Educational Rights and Privacy Act (FERPA).

CAI's systems implement sophisticated, configurable privacy rules that can restrict data access to appropriately authorized personnel only. CAI maintains logs of key activities and indicators,

including data backup, server response time, user accounts, system events and security, and load test results.

REFERENCES

American Educational Research Association (AERA), American Psychological Association (APA), & National Council on Measurement in Education (NCME). (2014). *Standards for Educational and Psychological Testing*. Washington, DC: American Educational Research Association.