

Exhibit A: Proposed Scope of Work

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TASK 1: Comprehensive Plan & Schedule of Deliverables

Task 1 describes the activities, assumptions, and requirements to manage and administer the California Assessment of Student Performance and Progress (CAASPP) System for the 2015–16, 2016–17, and 2017–18 school years. Educational Testing Service (ETS) is the prime contractor and is responsible for the overall management and administration of the services provided to the state under this contract and will work closely with the California Department of Education (CDE) to ensure the success of the CAASPP administrations in the next three years.

The original SOW referred to the new CAASPP assessments as the California Alternate Assessments, the California Next Generation Science Standards (CA NGSS and CA NGSS Alternate), and the primary language assessments. Beginning with this amendment, the SOW refers to the active CAASPP assessments and tools as the following:

- Smarter Balanced Digital Library
- Smarter Balanced Interim Assessments
- Smarter Balanced Summative Assessments
- California Alternate Assessments for English-Language Arts and Mathematics (CAA for ELA and mathematics)—formerly known as CAA
- California Science Tests (CAST)—formerly known as CA NGSS
- California Alternate Assessments for Science (CAA for Science)—formerly known as CA NGSS Alternate
- California Spanish Assessments (CSA)—formerly known as the primary language assessments in Spanish
- Standards-based Tests in Spanish for reading language arts (STS RLA)

Beginning with this amendment, the CDE suspended the administration of the existing science tests based on the previous state science standards—the California Standards Tests (CSTs) for Science, the California Modified Assessments (CMA) for Science, and the California Alternate Performance Assessment (CAPA) for Science. ETS will reallocate the resources for the CST, CMA, and CAPA for sciences to the approved test development, census pilot test, and census field tests of CAST and CAA for Science.

While ETS further details individual roles and responsibilities within the Scope of Work (SOW), the following text provides a high level summary of responsibilities for ETS and its partners:

- **ETS** will manage the administration, scoring, and reporting activities and have overall responsibility for the constructed-response human scoring and artificial intelligence (AI) scoring. In addition, ETS will manage the logistics and coordination of all management meetings, along with the development of all relevant materials. ETS will also provide Help Desk services and psychometric support. ETS will provide item development for all state-specific assessments: CAST, CAA for ELA and mathematics, CAA for Science, and CSA. ETS will host and provide support for the Test Operations Management System (TOMS).

- **American Institutes for Research (AIR)** will provide hosting and support for its test delivery system and online reporting system, a component of the overall CAASPP Assessment Delivery System. These are the same systems used in the successful spring 2014 Field Test and in the current spring 2015 operational administration.
- **Measurement Incorporated (MI)** will assist ETS in the constructed-response scoring for various grades for all Smarter Balanced-related assessments, including human and AI scoring. These are the same capabilities and systems used in the Smarter Balanced Field Test activities and in the current spring 2015 operational administration.
- **Accenture** will publish the printed manuals and paper-pencil assessments, provide fulfillment services, and manage the test materials.
- WestEd will provide training to local educational agencies (LEAs) and educators about CAASPP with the goal of supporting classroom improvements using the assessment information. WestEd activities will include but are not limited to: developing and facilitating training workshops, materials, and videos.
- **Red Dog Records (RDR)** will serve as the program's multimedia experts and provide video (live and animated) production, Web broadcast, and audio-visual support services.
- **In-Touch Insight Systems (In-Touch)** will continue its role to provide test security site visit audits to CAASPP for this contract.

For simplicity, ETS and its partners will be referred to as ETS in this SOW except where references to specific proprietary systems or methodologies are noted.

1.1. Work Plan, Narrative Schedule, and Timeline

As part of project initiation, ETS will draft a work plan and a supporting project schedule for the delivery of the CAASPP System. During the initial start-up meeting with the CDE and State Board of Education (SBE) staff, ETS will review and finalize these draft documents. Each subsequent contract year, ETS will revise the work plan and scheduled documents, focusing on fine-tuning the plans for each coming contract year.

The work plan will include key tasks with dependencies, deliverables with corresponding durations, assigned resources, and responsible staff members. The comprehensive schedule, and accompanying Gantt chart, will clearly identify milestone tasks, resource names, and actual start and finish dates. The most current, approved versions of these documents will reside on a shared, password-protected virtual workspace accessible by both the CDE and ETS. The schedule will also be made available to the CDE in Microsoft Project (MPP) format upon request. For the purposes of initial planning, the sample program schedule is included as Appendix A.

ETS will use a three-step process to develop the work plan for the CAASPP System:

1. First, ETS will use Council of Chief State School Officers (CCSSO) **operational best practices** to detail the plans.

2. Second, ETS will develop a program summary—referred to as the **SOW**—based on the agreed-upon requirements that outlines the work that ETS will perform and how it will be performed.
3. Finally, ETS will use **process documents** to guide day-to-day activities.

The timeline referenced in Appendix A is a sample to be used for the initial planning discussions. All schedules will be reviewed and approved by the CDE prior to implementation. It is to be a working document that is updated on an ongoing basis throughout the life of the contract.

Regular reviews of the schedule will be conducted during internal weekly meetings and client status meetings. The purpose of these reviews is to discuss recent progress of scheduled tasks, upcoming tasks, and the likelihood of remaining on schedule with key upcoming critical milestones.

The schedule will include detailed information on resource and work associated with the CAASPP Assessment Delivery System to comply with State Information Technology (IT) Management Guidelines.

1.2. Orientation Meeting

Within two weeks of the effective date of the contract, ETS will arrange, attend, and facilitate an orientation meeting with the CDE and SBE staff. ETS will coordinate the agenda with the CDE. ETS staff will include project management, assessment, psychometric, scoring, and technology leads. The purpose of the orientation meeting is to plan for the execution of the full contract, with particular emphasis on the first year. ETS will also focus on the required work and services needed to fulfill the full scope of the CAASPP System activities from planning through reporting. The meeting participants will review the proposed work plan and implementation schedule, obtaining specific information, data, criteria, and/or instructions necessary to finalize that plan. ETS project managers will use their expertise to plan and facilitate this meeting, which will include such tasks as setting an agenda to cover each SOW task as well as producing minutes.

The orientation meeting will be held in downtown Sacramento over two (2) consecutive business days. ETS will invite a representative from the Smarter Balanced Assessment Consortium leadership to the orientation meeting to verify that the 2015 administration functioned according to Smarter Balanced's needs and to discuss any changes needed for 2016.

After the orientation meeting, ETS will submit the meeting minutes via e-mail to the appropriate CDE members as identified by the CDE CAASPP lead administrator for their review and approval. These minutes will address all tasks, with particular emphasis on questions or issues needing resolution, contract implementation timelines, and agreed-upon decisions. ETS also will submit the work plan and schedule that incorporates any changes agreed upon during the orientation meeting no later than ten (10) **business** days following the orientation meeting.

1.3. Management Meetings

ETS will schedule and facilitate management meetings with the CDE. ETS will be responsible for the meeting costs, including travel expenses, for its staff. ETS will continue to scope each meeting, develop agendas, and produce appropriate materials. All management meetings will take place in Sacramento, unless otherwise directed by the CDE.

ETS will submit minutes of all meetings via e-mail to the appropriate CDE staff. These minutes will address all tasks, with particular emphasis on questions or issues regarding contract fulfillment, coordination, and SOW modifications or enhancements. ETS will post these meeting minutes to the Web-based, password-controlled enterprise system.

1.3.A. Weekly Meetings

ETS will hold weekly management meetings with the CDE to update and assure that the CDE is informed of all decisions. The weekly management meeting may include managers of:

- California Technical Assistance Center (CalTAC)
- Statistical Analysis
- Information Technology
- Operations
- Test Development
- Appropriate Subcontractor Coordinators

ETS will involve the CDE contract monitor and CDE State program manager in all meetings that involve the CAASPP Assessment Delivery System. All weekly meetings will be in person at CDE offices with other key staff joining by conference call as appropriate. The CDE reserves the right to require any contractor or subcontractor to attend the meetings in person instead of via telephone- or video-conference when the CDE deems it warranted.

ETS will issue a weekly agenda in consultation with the CDE. The agenda will cover the current SOW in progress. At the beginning of each month, ETS will circulate a calendar for the month based on the project plan agreed upon at the weekly meetings.

During the weekly management meetings, ETS and the CDE may decide to hold separate weekly meetings for specific topics.

For all meetings, including face-to-face and video- or audio-conferences, ETS will facilitate the meeting, record minutes of the meeting, and track completion of assignments. The minutes will be distributed to the CDE and the entire team within two (2) business days of the management meetings.

1.3.B. Annual Meetings

ETS will annually host a multi-day meeting in Sacramento which gathers key ETS CAASPP team members to meet with CDE program managers. The annual planning meeting to discuss the overall test administration activities will take place during a 2-day period approved by the CDE. Additional planning meeting days to discuss specific areas of the contract—for example, separate planning meetings for CAAs, CAST, and CSA—may be hosted by ETS with CDE approval. Staff members from the SBE and from the Department of Finance (DOF) will be invited to attend the planning meeting. Those who cannot attend in person may attend via video and audio conference. The purpose of the meeting is to plan the upcoming year, including detailing any changes to the SOW and timeline. ETS will provide a draft timeline in MPP format for all to review. The outcome of this planning meeting will be an update to the draft timeline and any changes to the SOW requested by the SBE testing liaisons and SBE staff, the CDE CAASPP Program managers, and the DOF. The minutes and updated project documents will

be distributed to the CDE and the entire team within ten (10) business days of the annual planning meetings.

1.3.C. State Board of Education (SBE) Meetings

Every time the SBE conducts public meetings, ETS program managers and relevant ETS officers will attend as required by the CDE. When the SBE is discussing issues that may require ETS's expertise, such as test development or statistics, the appropriate specialists or subcontractors will also attend the meetings and be available to answer questions or provide background as requested. At the CDE's and SBE's direction, ETS will continue to offer special presentations to the SBE, based on ETS's expertise and experience.

1.3.D. Technical Advisory Group (TAG) Meetings

The ETS Executive Director or designee will coordinate with the CDE CAASPP program manager and psychometrics manager on the development of the TAG agenda topics. During the meeting, ETS will facilitate discussion about topics related to ETS activities by bringing the appropriate staff into the discussion and by providing the materials needed by the CDE, TAG members, and the independent evaluator. Additional staff will be available via teleconference as needed. ETS is responsible only for ETS staff travel and material preparation, as required.

For each meeting, ETS will work with the CDE to determine what data and information should be presented, and ETS will provide clear agenda topics and supporting materials to the CDE at least five (5) business days before the meeting. Within five (5) business days of the meeting, ETS will provide proposed studies or analysis plans to the CDE for review and approval.

1.4. Coordination, Continuous Improvement, and Independent Evaluation

In addition to the expertise of staff proposed as core members of the ETS team, ETS will provide the CDE with additional support as needed from a group of senior ETS advisors, all of whom were former state assessment directors.

1.4.A. Coordination with the Smarter Balanced Assessment Consortium and CDE/SBE Entities and Staff

ETS will coordinate activities to administer the CAASPP assessments with related efforts led by the CDE/SBE, including the CDE Senior Assessment Fellows, and, at the direction of the CDE, involving the CDE communications contractor, the Smarter Balanced Consortium, the K–12 High Speed Network (K12HSN), and the California Longitudinal Pupil Achievement Data System (CALPADS). Coordination efforts will include the independent project oversight consultant (IPOC) and the independent verification and validation (IV&V) consultant, if available and at the direction of the CDE.

ETS will manage the overall coordination activities with the Smarter Balanced Assessment Consortium and with CDE/SBE entities and staff. ETS will assign a project manager to take the lead in developing the coordination plan, handling the logistics of the monthly coordination meetings, and establishing and maintaining the secure coordination Web site.

ETS also will develop a communication plan for each annual administration that will contribute to and coordinate with the efforts by the CDE-led team. Specific activities may include, but are not limited to:

- Operating <http://www.caaspp.org/>, the Web site for local educational agencies (LEAs) and their staff that presents information about the administration activities for annual administrations;
- Producing Webcasts and online videos about CAASPP geared toward school and LEA staff, test administrators, technology coordinators, and student data coordinators;
- Developing a list of frequently asked questions (FAQs) about the annual administration processes and procedures; and
- Coordinating and staffing communication opportunities at statewide and regional association conferences such as the CDE North/South Assessment and Accountability Meetings, the annual conference for the California Educational Research Association, or Regional Assessment Network meetings.

All content of the communications under the communications plan with LEAs and the public regarding annual CAASPP administrations will be approved by the CDE and the SBE liaison and staff, where the CDE deems appropriate, before being disseminated.

1.4.B. Development of Plan for Continuous Improvement

ETS will work with the CDE to create a three-year plan supporting continuous improvement of the CAASPP System. In addition to opportunities for improvement identified in the three-year plan, ETS will propose, based on its experience, opportunities for program improvements that emerge over the course of the contract. ETS will submit the plan to the CDE in an agreed-upon timeline and refine it to reflect feedback from the CDE, SBE staff, the SBE testing liaisons, and the CDE's external evaluator.

1.4.C. Coordination with the Independent Evaluator

The law establishing the CAASPP assessment program called for an independent evaluation of the impact of this requirement and of the quality of the CAASPP assessments. ETS will provide support to the CDE in response to requests from the independent evaluator.

Attend Meetings

ETS will participate in meetings convened by the CDE and the independent evaluator for the purposes of identifying and providing the information necessary for the evaluation. The ETS Executive Director and Director of Operations will have access to other ETS and subcontractor staff that may participate in the meetings. ETS assumes that meetings related to the independent evaluation will be held at the CDE offices or by telephone.

Provide Materials and Data

ETS will provide all necessary materials and data to the independent evaluator. In recognition of the independent evaluator's need to gather data to further his or her analysis of the CAASPP System, ETS will:

- design test materials (e.g., online surveys, online tests, paper answer documents, and paper test booklets) to include questions that gather these data
- coordinate with the independent evaluator and the CDE to identify desired changes to these questions prior to the annual review of test materials, detailed later in this SOW

- deliver the questionnaire response data to the independent evaluator and to the CDE on a schedule developed with the evaluator
- continue to provide the evaluator with student demographic information and student item responses, in addition to questionnaire data

ETS will work with the independent evaluator and the CDE to comply with data sharing requests per the independent evaluator's preference. For example, the independent evaluator may request that ETS send demographic data via CD-ROM and post item responses to a secure file transfer protocol site. At a minimum, ETS will:

- submit a Final Item Analysis and equating file to the independent evaluator following each administration
- submit updated student data files for each administration after annual processing has been run

For each material requested, ETS will work with the independent contractor and the CDE to develop a plan and timeline for submission. ETS assumes that requests will be provided in writing to the ETS Executive Director and Director of Operations and that ETS will have ten (10) business days, at minimum, to respond to the request.

1.4.D. Responding to Concerns

ETS assumes that the independent evaluator will submit the first report to the CDE on October 31, 2015, and that an electronic copy of the report will be provided to ETS at the same time. ETS will provide a written response, within four (4) weeks of receipt of the report, to any concerns that may be included in the independent evaluator report. The response will include a process and timeline for resolving each concern reported by the independent evaluator. ETS assumes that any subsequent responses to evaluator comments will be provided in electronic copy to ETS and that ETS will provide written responses within four (4) weeks of receipt of each subsequent request.

1.5. Transition of Contracts

As contractor for the previous CAASPP contract, ETS will ensure the continued operations of CAASPP. ETS will also continue maintaining the comprehensive archive of data and materials from previous CAASPP and Standardized Testing and Reporting (STAR) administrations.

At the end of the contract, ETS will work closely with the CDE to develop and implement a plan and schedule for transition to another vendor. ETS will deliver all required materials, including, but not limited to, reports and electronic data files, applications and supporting documents, and other materials developed for the CAASPP System, including test blueprints, item and test specifications, test packages for online tests, and paper-pencil test forms for any assessments under development, on a schedule to be determined by the CDE, by December 31 of the year following the last test administration. One ETS project management team member will serve as a transition manager to assist the new contractor until the end of the calendar year in which the last administration is completed.

1.6. Records and Minutes

At all meetings, including, but not limited to, management meetings and program committee meetings, ETS will take minutes, record information, and document any assignments or tasks for follow up. These notes will be formatted in a format required by the CDE. ETS will keep secure electronic copies of all the records throughout the life of the CAASPP System unless otherwise directed by the CDE.

Each set of minutes will include listings of all those present and their contact information. ETS will review the contact information of attendees to determine if it has changed and update the CDE, if appropriate. At the Orientation Meeting, ETS will propose a format for the meeting minutes for CDE approval.

ETS will distribute minutes from weekly meetings and other conference calls to the CDE for approval within two (2) business days. For all other meetings, ETS will distribute minutes to the CDE for the CDE's approval within five (5) business days of the meeting. When approved, all relevant CAASPP team members will receive copies.

ETS will keep secure electronic copies of all the contract documents for five years after the final payment of the contract period.

1.7. Accomplishments and Monthly Progress Reports

ETS will communicate all accomplishments to demonstrate the CDE expenditures on the CAASPP System by means of a monthly accomplishments report submitted as part of the invoice. The accomplishments report is to be presented as a detailed narrative attached to each invoice from ETS to the CDE. The accomplishments report is to be sorted by test and test administration and provide a breakdown of the costs invoiced per task or subtask in the SOW. The summary shall also include a history of invoices previously submitted to date.

ETS will submit this report to the CDE by the fifteenth of the following month. A hardcopy original will be delivered to the CDE. The CDE will share accomplishments reports with SBE staff. In the event that this report will be delayed beyond the fifteenth of the following month, ETS will notify the CDE of the expected date of delivery by the seventh of that month.

In addition, ETS will submit to the CDE by the fifteenth of the following month, a monthly progress report that will provide the CDE-required details including the identification of issues, risks, and their resolutions; changes to the program documentation; and flags of the items that are directly related to the CAASPP Assessment Delivery System.

Early Identification of Potential Issues

ETS will develop a risk management plan for the CAASPP System with review and approval by the CDE. The plan will also identify what actions ETS can take to offset those risks, along with contingency plans if preventive actions cannot be implemented. The ETS Executive Director, along with staff from the ETS Corporate Project Management Office, in collaboration with the CDE will undertake this process immediately upon award of contract using the following steps.¹

¹ Dcosta, Amanda. *A Practical Approach to Creating a Risk Management Plan*. February 4, 2014.
<http://www.brighthubpm.com/risk-management/2875-a-practical-approach-to-creating-a-risk-management-plan/>

- **Risk Identification.** ETS will assemble stakeholders to identify possible project risks. ETS will base this identification on prior assessment reports, potential areas of security breach, areas of the project that are not yet well-defined, and areas of known potential for problems. ETS will document possible risks to the defined work plan and include this documentation in a risk register.
- **Risk Analysis.** Once potential risks are identified, ETS will analyze them for their probability, quantitative impact, and qualitative impact. ETS will then translate these into numerical values to accurately determine the outcome of these risks on the cost, time, and resource factors of the project.
- **Identify Risk Triggers.** ETS will identify triggers, or warning signs, for risks within their assigned areas of the CAASPP System that might affect the processes for deliverables in the work plan and document the triggers associated with each potential risk.
- **Risk Resolution.** Risks are unknown events that are inherently neutral, but which are categorized as either positive or negative. Each functional area within ETS will identify and document preventive actions for potential negative project risks, or threats, as well as enhancement actions for the positive risks or opportunities.
- **Risk Resolution Action Plan.** Based on the collective ideas of the departments, the ETS Executive Director will decide on a plan of action to bring about risk resolution. ETS will rate risks by urgency, based on potential impact to the CAASPP System's cost, timeline, and deliverables. In many cases where risks have lesser probability or impact, ETS will be able to simply monitor risks without a defined action.
- **Responsibility and Accountability.** ETS will assign responsibility to various teams and team members for carrying out the risk resolution plans for the CAASPP System. Ultimately, the ETS Executive Director will be solely accountable to the CDE for the plans and actions related to the risks of the CAASPP System.

As the project progresses, ETS will monitor the CAASPP System's initial risk management plan, which will include identifying new risks and dismissing current risks as no longer relevant.

1.8. Document Format and Style

ETS will verify that communications and reports sent to the CDE comply with the format and style as specified. ETS will maintain and implement the CDE format and style requirements.

ETS will comply with the most current version of the CDE Style Manual and the CDE Correspondence Guide, and the CDE Web requirements. In addition to the guidelines outlined in the CDE Style Manual, reports for special studies and research will comply with the CDE requirements in Appendix B: Reporting Expectations for Special Studies and Research Projects.

1.9. CDE Notification and Approval Schedule

Issue Escalation Procedure

ETS will make it a priority to keep the CDE informed on all important issues regarding the CAASPP System. ETS will prepare an escalation strategy for notifying the CDE of any issues that may arise during the program. This includes a plan for promptly communicating to the CDE Contract Monitor via telephone, with a follow-up in writing, of any problem that has the potential to impact the quality, timeliness, or other aspect of the project. This follow-up will include the proposed solution and a solution timeline. In addition, subsequent reports to the CDE will contain the issue, the determined solution, and current status within the solution timeline. ETS will work with the CDE to appropriately communicate critical information to the field.

With the CAASPP System, ETS developed multiple key strategies that maintain communications for all team members. These strategies include:

- having all of the ETS management team staff participate in weekly meetings, both internal and client-facing
- making all key managers available by cell phone, e-mail, and voicemail seven (7) days a week, especially during peak periods
- conducting weekly internal meetings among ETS staff
- using e-mail in a disciplined manner to keep ETS managers and the CDE informed of all activities in all components of the SOW
- distributing a key contact information sheet that provides telephone, e-mail, fax, and cell phone information for all key management or personnel
- maintaining issues logs and risks management logs, and providing access to them to all ETS staff and the CDE
- following an escalation process for routine and emergency issues
- identifying initial issue or potential scope change
- conducting an internal discussion of an issue or potential scope change
- conducting a discussion with senior management
- conducting a discussion of an issue with the CDE
- performing root cause analysis

In addition, during the contract period, ETS will enhance these techniques to best suit the needs of the CDE. The goal will be to alert each ETS manager promptly if a deliverable is at risk of falling behind schedule or faces some other type of challenge. ETS will also aim to keep the CDE Contract Monitor apprised of all potential and actual issues that occur and describe how they are being resolved.

Approval and Certification Process

ETS will use the information from the Orientation Meeting to finalize a project schedule and detailed SOW and provide these documents to the CDE for the CDE's review and approval no later than ten (10) business days following the Orientation Meeting.

This plan will include the refined proposal to describe the deliverables required for each task, which will include a minimum of ten (10) business days for the CDE staff to conduct their initial review and provide feedback. ETS's draft plans will include substantive operational testing opportunities of the CAASPP Assessment Delivery System for the CDE staff to confirm the elimination of sources of error wherever possible, prior to any content or system functionality appearing in a production environment. ETS's schedule will incorporate the required number of business days allocated for the CDE's review of the initial and subsequent drafts.

For planning purposes, ETS will use the standard deliverable review process outlined below; however, ETS understands and acknowledges the need for flexibility to meet compressed or extended review requirements and will work with the CDE to develop a mutually agreeable review process and schedule for the given deliverable.

1. ETS submits the initial draft deliverable to the CDE.
2. The CDE reviews the initial draft and provides comments to ETS within ten (10) business days of the ETS submission.
3. ETS prepares and submits the revised deliverable to the CDE within five (5) business days after receipt of the CDE's written comments to the initial draft.
4. The CDE reviews the revised draft and provides one of the following decisions:
 - Approval
 - Approval with edits
 - Edits and revisions required

Deliverables that receive an "Approval" will be finalized by ETS. The finalized deliverable will be submitted to the CDE for archive purposes within five (5) business days. Deliverables that receive an "Approval with edits" will be revised and finalized by ETS while incorporating the additional CDE edits. The finalized deliverable will be submitted to the CDE for archive purposes within five (5) business days. Deliverables that have "Edits and revisions required" will be revised by ETS and submitted to the CDE for another review. Prior to revising the deliverable, ETS will meet with the CDE to discuss the required revisions and to ensure that the revisions are clearly understood. The iterative revision and review process will continue until the CDE has approved the deliverable.

ETS will use a similar process for materials that required the CDE review and approval but were not identified in the SOW as a deliverable unless otherwise noted. ETS and the CDE will refer to these submissions as Review Items. Examples of Review Items include, but are not limited to, e-mail communications to the LEAs, memorandums to document decisions, and presentations or white papers to document CAASPP activities. Because time is of the essence with the content of some of the Review Items, ETS and the CDE will collaborate on the agreed upon timeline for each Review Item. Therefore, a Review Item could have a shorter CDE or ETS review timeline than a Deliverable.

Before ETS submits a deliverable to the CDE, and at each stage of the review for the deliverable, ETS's program management representative will submit a signed certification with every deliverable attesting that the deliverable is error-free and meets all requirements. ETS will use a Web-based Project Manager Certification process.

The ETS Gatekeeper will manage the process by which deliverables and review items are submitted to the CDE and will manage feedback received from the CDE. The Gatekeeper will serve as the single point of contact for submitting deliverables and review items to the CDE and notifying the CDE of the submissions. The Gatekeeper will work with the program management representative to verify the completion and inclusion of certification as part of the submission. The Gatekeeper will also be the single point of contact for the CDE to return feedback and/or approval of the deliverable and review item and will confirm that the CDE's feedback or approval has been communicated to the appropriate ETS program management member. The Gatekeeper may also assist the CDE and ETS in coordinating discussions about the deliverables and review items during the review process.

ETS will not disseminate materials to LEAs or publicly release any materials without the CDE's prior written approval.

TASK 2: Program Support Services

ETS is committed to providing superior support services that make it as easy as possible for schools, LEAs, and the CDE to implement the CAASPP System. This section describes how ETS will implement communication activities to help the CDE broaden California's understanding of the summative testing system and of the available interim and formative tools.

2.1. Coordinators

LEA CAASPP Coordinator and Superintendent Contact Information

TOMS will use the school hierarchy file provided by the CDE to populate its database. By August 18, annually, LEAs will receive communications from ETS requesting that the superintendent of each LEA provide the following information on or before July 1 or as required by the testing regulations (California Code of Regulations, Title 5, Section 857: LEA CAASPP Coordinator):

- designate from among the employees of the LEA an LEA CAASPP coordinator;
- identify school(s) with pupils unable to access the computer-based assessment (CBA) version of a CAASPP test(s) in accordance with EC Section 60640(e); and
- report to the CAASPP contractor(s) the number of pupils enrolled in the school identified in subdivision (2) that are unable to access the CBA version of a CAASPP test.

The prior year's LEA CAASPP coordinator will also receive a copy of this communication in order to assure receipt and action from the Superintendent. ETS will track the receipt of a completed form for the LEA along with any updates to the data in TOMS. Any changes to the assigned LEA CAASPP coordinator made during a testing year will require a new Superintendent's Designation of LEA CAASPP coordinator form signed by the LEA Superintendent. Representatives from CalTAC will enter the receipt date of these documents into TOMS, triggering LEA access to the system. LEA CAASPP coordinators will not be able to access TOMS until this form and a Security Agreement have been received from the LEA.

Security Agreements

LEA CAASPP and CAASPP test site coordinators receive from ETS the Test (including Field Tests) Security Agreement for LEA and Test Site Coordinators (the "Security Agreement form"). ETS will provide LEA and site coordinators with the Security Agreement form every June, together with the Superintendent's Designation Form for the appropriate school year. CalTAC tracks receipt of the forms, and the new online version automatically routes Security Agreement forms submitted by CAASPP test site coordinators to the appropriate LEA CAASPP coordinator.

Upon receipt of this form and the Superintendent's Designation of LEA CAASPP coordinator form, the LEA CAASPP coordinator will receive a user name and temporary password to access TOMS. ETS will conduct follow-up telephone, fax, and e-mail communications in order to obtain completed forms from all school LEAs.

LEA CAASPP coordinators will be required to sign a CAASPP Test Security Affidavit and to obtain a signed CAASPP Test Security Agreement and signed CAASPP Test Security Affidavit from each CAASPP test site coordinator. In addition, LEA CAASPP coordinators must obtain signed CAASPP Test Security Affidavits from all test examiners, proctors, and scribes as well

as from any other LEA and school staff that will have access to the CAASPP test materials either on paper or electronically. The LEA CAASPP coordinators must keep the signed agreements and affidavits on file at the LEA office.

2.2. Administration Management System LEA Support

The TOMS application will serve as the primary conduit for users of the online system. Administrators and teachers can upload files, retrieve reports, and utilize a long list of other functions. TOMS will use CALPADS data for the LEA/school hierarchy and for enrollment data. The CALPADS enrollment data will be used by TOMS to determine test assignments. ETS will work with the CDE to establish a daily data feed of CALPADS data to TOMS. Additional information about the data feed is described in Task 3.

TOMS will include functionality to collect supplemental ordering information, including overage rules, delivery date options, delivery to school or LEA (LEAs may choose different option for materials versus reports shipment), label options, updates to school and LEA addresses, contacts, rescore requests, and other information. TOMs will also allow LEAs to order accommodated test materials or additional materials and other services that cannot be accommodated by data flows from state-level data.

Users will access TOMS via the portal and will have one user ID and password (single sign-on) to perform all required functions to administer and report online and paper tests. Specifically, this includes viewing student information, including test eligibility, and preparing for online testing. Additional information about single sign-on is described in Task 3.

TOMS will be enhanced to manage and track LEA requests for rescoring, and AIR's proprietary Test Delivery System (TDS) system will manage and track LEA requests for appeals, as allowable by state regulations.

ETS will present a complete set of TOMS system requirements for the CDE's approval before TOMS is configured for the 2016 administration. After the CDE approves this plan, ETS will present a complete project schedule with achievable milestone dates that will include system demonstrations, user acceptance testing by CDE representatives with accompanying system user guides, and built-in time to make any potential system refinements before the published launch date.

2.3. Data Driven Improvement

ETS will use a variety of approaches to solicit and use data and information to improve processes and support, inclusive of all CAASPP assessments.

Specifically, under the leadership of the CDE, ETS proposes to expand the following data collection actions:

- collect feedback from LEAs across the state at key points and on specific topics using informal focus group discussions and short, well-crafted online surveys;
- provide statewide training that allows LEAs plenty of time to conduct local training;
- review question logs from live Webcasts for patterns and themes and include Quick Polls during Webcasts to check for understanding; and

- regularly obtain feedback from CalTAC representatives on the nature of calls and e-mails received to identify key recurring points and questions from the field.

ETS will also hold up to nine (9) formal in-person focus groups per administration (up to 45 focus groups during the initial contract period). Formal in-person focus groups involve an independent moderator, as approved by the CDE, interviewing a group of participants from the target population. An independent research vendor recruits and selects the participants based on criteria provided by the CDE or ETS. Whenever possible, the formal focus groups are conducted in facilities that allow for unobtrusive observations by the CDE, ETS, and other stakeholders identified by the CDE. Six (6) focus groups will be conducted at the end of each administration cycle to gather additional information from test administrators, special education representatives, primary language stakeholders and LEA CAASPP coordinators. Another three (3) focus groups may be conducted at CDE's request throughout an administration cycle that focus on specific topics such as Student Score Reports. ETS will work with the CDE to determine the purpose, location, schedule, and audience of each session. At the end of each formal in-person focus group, ETS will prepare a summary of the focus group responses and a set of recommendations about the given topic. ETS will submit each report in the timeline agreed upon with CDE through the deliverables and work plan and supporting project schedule.

2.4. Technical Assistance Center

ETS will provide a comprehensive support team to the CDE and LEAs during each annual administration for the support of CAASPP (including summative assessments, interim assessments, the Digital Library, user provisioning questions, etc.). The CDE and LEAs will have access to ETS program managers, LEA outreach team members, CalTAC technical assistance center staff, and computer-based testing technology experts.

ETS will provide three-tier help desk support. Support will be provided specifically to LEA CAASPP coordinators, LEA technology coordinators, and other LEA-level staff designated by the LEA CAASPP coordinator.

The three different tiers of help desk support are as follows:

- Tier 1 – CalTAC
- Tier 2 – ETS's internal technical support team (xBT)
- Tier 3 – Smarter Balanced and/or AIR

Tier 1: CalTAC

ETS will provide CalTAC services for state- and LEA-level customers throughout the calendar year. CalTAC will:

- operate during the hours of 7 a.m. to 5 p.m. Pacific Time, Monday to Friday, excluding designated California school holidays, with extended hours as needed;
- have a dedicated toll-free telephone number handling up to 200 concurrent callers;
- have a dedicated e-mail address;
- offer real-time chat as an alternative to telephone or e-mail; and

- operate a fax line to communicate sensitive information (e.g., information that includes student names).

ETS will publish all CalTAC contact information in program materials and on <http://www.caaspp.org/>.

In addition, the ETS director of operations will serve as the single point of contact for responding to inquiries from the CDE staff and the CDE contractors within two (2) business hours. The ETS program manager will serve as the single point of contact on critical Smarter Balanced issues (e.g., Tier 3 Support issues). These points of contact will have the support of ETS's CAASPP IT Manager.

Response Time. Given how important it is to provide a positive experience for California LEAs, ETS will promptly resolve customer inquiries. ETS will have 30 to 50 customer service representatives dedicated to handling CAASPP inquiries and will answer telephone calls within 60 seconds and respond to e-mail inquiries with a complete answer within two hours of receipt, if received before 3 p.m. during normal business hours. E-mail messages received after 3 p.m. or during non-business hours will receive responses by 9 a.m. the next business day. ETS will post chat feature responses within 90 seconds of receipt during normal business hours and will answer telephone messages received before business hours by 9 a.m. the same business day; telephone messages received after 3 p.m. will be answered by 9 a.m. the next business day. ETS relies on system productivity tools and supervisor interventions to monitor response time, and will meet the CDE's response expectations during the administration window.

ETS will have documented processes to monitor the accuracy of telephone and e-mail responses by CalTAC staff through supervisory monitoring, LEA or state feedback, or other methods, and will provide retraining as necessary.

ETS will provide weekly customer service summary reports to the CDE. Reports will include volume, wait time, and responses/resolutions by CalTAC staff. The reports will be provided to the Smarter Balanced Assessment Consortium vendor as part of the overall coordination activities with the Smarter Balanced Assessment Consortium.

CalTAC will support only CAASPP-related contacts. ETS will have protocols in place to ensure that the contact is transferred to the appropriate representative who could answer non-CAASPP-related calls.

Tiers 2 and 3: Technology Support (xBT and AIR)

Tier 2 support will be accomplished through a seamless integration of ETS's internal technical support team (xBT), a second level that will manage intermediate-plus issues. Two xBT support staff will continue to be based in California to provide Tier 2 technical support. Other xBT support staff will be located in New Jersey to provide additional Tier 2 technical support. In addition, xBT will assist in technical site visits, in-person training workshops, and technology-related Webcasts.

Tier 3 will escalate to the test delivery system (TDS) and reporting vendors AIR or Smarter Balanced for the Digital Library. Escalation to this level will be for technology issues directly related to the TDS or reporting system or the Digital Library. AIR will provide responses back to ETS in a timely manner to allow for information sharing across the platform. In addition, AIR will assist with in-person training workshops and test system-related Webcasts.

Technical issues identified during a testing window that cannot be resolved by CalTAC immediately will be transferred to ETS's xBT team. If a school LEA is calling with a technical issue and students are in the classroom unable to test, the call is to be moved to technical support immediately for resolution or a recommendation should be provided to have students test at a later time if the problem cannot be resolved. Students should not be kept in a classroom for more than 15 minutes waiting for resolution if not agreed upon by the LEA.

Tier 2 and Tier 3 will support only CAASPP-related contacts. ETS will have protocols in place to ensure that the contact is transferred to the appropriate representative who could answer non-CAASPP-related calls.

Training of CalTAC Staff, Training Materials, and Informational Updates

Customer Service Representative Training. ETS will continue to provide training for customer service representatives through an ETS Learning and Development-certified trainer. Training will last for ten (10) business days, and upon completion of this training all representatives will be able to assist customers with:

- installing secure browsers;
- creating users in TOMS and resetting system passwords;
- utilizing all CAASPP management functions in TOMS;
- processing supplemental orders for paper materials;
- understanding summative and interim test administration procedures, including for both computer-based and paper-pencil assessments, where applicable;
- using the Digital Library;
- accessing student-level and aggregate score reports;
- finding answers to questions about upcoming trainings and events; and
- accessing applicable resources on <https://www.caaspp.org>.

Customer Service Representative Training Materials. ETS will use information from CDE-approved sources to develop program training and reference materials. These sources will include:

- administration manuals
- CAASPP PowerPoint presentations
- FAQs
- Standard Operating Procedures
- CAASPP Webcast presentations
- hands-on user acceptance testing (UAT) environments
- <https://www.caaspp.org>/<http://www.caaspp.org/>

Informational Updates. ETS internal informational updates will follow an established protocol within CalTAC. ETS's Director of Operations will hold regularly scheduled internal briefing meetings with the CalTAC Manager and senior CalTAC Supervisors to provide the latest program updates. The internal briefings will occur at least weekly and will be scaled up to daily briefings, according to test administration needs.

As new information becomes available from the internal briefings of senior CalTAC Supervisors, ETS will distribute an updated informational flash to customer service representatives via e-mail and through a private, secure social media group used corporate wide. This flash tip sheet will detail the new information, the appropriate strategy for sharing the information with customers, the resolutions required, and the documentation method within ETS contact management tools and system. ETS will include informational flashes in any future training sessions, and will modify material to reflect these updates. As the CAASPP System evolves, ETS will update FAQs and training so that procedures for contact center staff remain up-to-date.

Annual and Periodic Customer Support Services Reports

CalTAC Annual Reports and Other Available Reports. ETS will continue to provide the CDE with annual reports that help determine the uses of customer support services. ETS will collaborate with the CDE to define views and intervals, and to gain approval on samples.

ETS will continue to distribute reports according to the CDE's specifications (i.e., posting to a project site or e-mailing to a distribution list), and will work with the CDE and its stakeholders at the Orientation Meeting to determine the most appropriate implementation method for program tracking and resolution.

Customer Contact Tracking System. The ETS customer contact tracking system collects contact information and tracks resolution, and ETS will provide the CDE with detailed information on why a contact is calling and the resolution for each contact. ETS can also provide, at the CDE request, customer service representative-level detail with a historical view for each time a customer has contacted CalTAC. ETS will collaborate with the CDE to anticipate events before they occur while providing support and resolution to the field with timely and effective information to resolve any emerging issues.

Customer Service Representative Efficiency. CalTAC uses a performance dashboard to view real-time telephone performance. ETS will use this dashboard to track individual performance and determine if additional support for the contact is necessary. ETS also uses the dashboard to make dynamic staffing adjustments as needed to maintain required response times.

2.5. Student Accessibility Tool

ETS will support the California version of the Individual Student Assessment Accessibility Profile (ISAAP) tool, including supporting the extract that can be uploaded into TOMS.

ETS will further customize and enhance the California ISAAP tool to include tools, supports, and accommodations that may be needed in order to respond to policy changes from the state, the federal government, or the Smarter Balanced Consortium, or there may be new accessibility components needed specifically for the new non-Smarter Balanced computer-based assessments. ETS will propose annually what changes are required and possible to customize and improve the California ISAAP Tool.

2.6. Internet Resource Site

ETS will maintain the Web site that will be the central repository for all information regarding the CAASPP System. At the beginning of the new contract period and annually thereafter, ETS will submit the Web site through a Web Application Review Team (WebART) review to ensure that the site continues to meet the CDE Web standards. The portal will have a section to house accessible manuals, software, item samplers, and training materials that do not require a user ID or password to access. The portal will have search capabilities for public use. The search results will provide links to the pertinent information in the current versions of manuals and documents posted.

The portal will also link to a secure site that will allow for secure posting of data directly to LEAs or that will be accessible by LEAs for retrieval of data. Only authorized users will be able to access the secure site.

ETS will track and report the number of times that resources have been accessed on the portal.

As new Internet and social media resources become available, ETS will consider each to determine whether or not they might be appropriate for CAASPP. ETS will provide recommendations to the CDE for consideration.

ETS will obtain feedback from users of <http://www.caaspp.org/> through a CDE-approved process such as an online feedback form. ETS will make recommendations to the CDE for improvements to the Web site based on user feedback and will implement the CDE-approved changes.

2.7. Workshops and Webcasts

ETS will establish and implement a training plan for LEA assessment staff on all aspects of the assessment program. The CDE and ETS, in collaboration with the CDE Senior Assessment Fellows and other stakeholders as needed, will determine audience, topics, frequency, and mode (in-person, Webcast, videos, modules, etc.) of the training, including such elements as format, participants, and logistics. It is anticipated that the training plan will be implemented in August annually.

ETS plans to conduct between 40–46 sets of workshops and Webcasts for each administration. Planned workshops and Webcasts are included in Table 2 at the end of this task.

ETS will present the names and qualifications of proposed presenters and all associated Workshop and Webcast materials to the CDE in advance for its review and approval. Following approval by the CDE, materials will be posted for each Webcast on <http://www.caaspp.org/> so that viewers may download them no later than the day before the presentation of the Webcast.

Webcasts and Recorded Training

ETS will launch a series of live Webcasts each year starting in September, leading up to the start of summative testing in January, and will conclude each testing cycle with in-person post-test training on testing results and reporting. Webcast viewers will be provided with a method of electronically submitting questions to the presenters during the Webcast. The Webcasts will be closed captioned. The Webcasts will be recorded and archived for on-demand viewing. The CDE may direct ETS to produce and make available pre-recorded training instead of a live Webcast.

In-person Training

In person trainings will typically be conducted at county offices of education. The first in-person training in a series will always be held in Sacramento. Proposed locations for the in-person training will take into consideration providing convenient locations for as many LEAs as possible, while ensuring efficient use of limited staffing resources.

ETS will use an online registration system to track reservations and provide registration confirmation to participants with location, date, and time of their training session.

Videos and Narrated PowerPoint Presentations

To supplement the live Webcasts and in-person workshops, ETS will produce up to 35 short “how to” videos and narrated PowerPoint presentations that will be available on <http://www.caaspp.org/>. The short videos, video sets (e.g., test settings and accessibilities, etc.) and narrated PowerPoint presentations average about 15 minutes long with the longest no more than 30 minutes long. (Videos and presentations longer than 30 minutes are considered full-length recorded training.) The videos will be provided in multiple formats (e.g., YouTube video, .mov file) and will be closed captioned.

2.8. Local Assessments: Smarter Balanced Interim Assessments and Digital Library

ETS will support California’s kindergarten through twelfth grade (K–12) educators in accessing and using Smarter Balanced Interim Assessments and their results. Additionally, ETS will help educators use the Smarter Balanced Digital Library. As described in Task 7.3.A.1, the ETS plan for supporting LEAs includes:

- use of a single system sign on for streamlined access
- a unified platform for delivery of all system components
- large-scale teacher training in the scoring of students’ responses to constructed-response and performance task items (discussed in Task 7.3.A.1)
- training and materials to guide use of the interim assessments and accurate interpretations of scores and support effective use of results for instructional purposes (discussed in Task 7.3.A.1)

ETS will provide eight (8) training sessions per administration of the Interim Assessment/Digital Library Clinics and eight (8) sessions per administration of the Interim Assessment Handscoring Workshops. ETS will add two (2) additional sessions per administration for each training set if scheduling and resources are available. The additional sessions must be located within the original eight (8) locations.

2.8.A. Smarter Balanced Interim Assessments

ETS understands that the intent of California is to have the Smarter Balanced-provided interim assessments available year round to LEAs through the life of the contract. To that end, ETS will deploy the interim assessments using the test delivery system in August of each year or during a timeframe that supports the annual rollover of the CAASPP Assessment Delivery Systems to the next school year. ETS will incorporate any Smarter Balanced-provided updates to the interim assessments by September 1 annually. The CAASPP Assessment Delivery System will

deliver both adaptive and fixed form test designs to support core and block interim tests. The system will also allow LEAs to access the on-demand online administration year upon request, and it will provide seamless integration with other CAASPP System components.

ETS will provide the following materials for the Interim Assessments:

- System User Guide
- Scoring Guide
- System Infrastructure Guide
- System Training Workbook

2.8.B. Digital Library of Formative Assessment Resources

CDE-authorized California principals, teachers, and educators will have access to all the instructional and literacy modules, as well as the educational resources, available within the Smarter Balanced Digital Library of formative assessment resources. ETS will seamlessly integrate this Digital Library sign-on into TOMS as deemed appropriate by the CDE.

As an additional benefit, a flexible user interface will allow authorized California educators to upload additional instructional modules and resources to the Digital Library, under the specifications and guidelines provided by Smarter Balanced. ETS understands that Smarter Balanced will host the Digital Library and may want to manage the process and means by which materials are added to the collection. Depending on how that process is managed, ETS will provide a solution that supports California educators' contributions to grow the resources available. ETS will also support the collaborative tools provided by the Smarter Balanced Digital Library, including user ratings, feedback, and other evaluation tools.

2.9 CAASPP Science Academy

The implementation of California's Next Generation Science Standards (CA NGSS) has presented challenges to both practitioners and policy makers. CA NGSS presents a different way to think about how students learn and how teachers teach. Understanding the standards, what they look like in instruction and how they are operationalized through assessment items is part of the implementation journey.

ETS and WestEd will take information and lessons learned from Building Educator Assessment Literacy (BEAL)² workshop to build the CAASPP Science Academy. The CAASPP Science Academy will be a 1-day professional learning workshop focused on building capacity of California practitioners for the CA NGSS implementation, focused on a deep understanding of the standards, 3-dimensional learning, and understanding how new science assessment item types can inform teaching and learning. ETS and WestEd will conduct one in-person workshop to pilot the PD materials and organization of delivery to a small group of California science educators and experts, the CDE, and other stakeholders as approved by the CDE. ETS and

² The Building Educator Assessment Literacy (BEAL) workshops focused on the Common Core State Standards (CCSS) for English-language arts and mathematics. BEAL was developed by WestEd and the Stanford Center for Assessment, Learning and Equity (SCALE) through a grant from the William and Flora Hewlett Foundation and Bechtel.

WestEd will conduct three (3) in-person Science Academies at locations in northern, central, and southern California.

Intended Audience

ETS and WestEd will target participation in the CAASPP Science Academy toward instructional leaders in the content area of science, including teacher leaders, teacher trainers, and instructional coaches. Participants may also include district-level and state-level curriculum, professional development, and assessment leaders.

Learning Objectives

Participants will analyze the standards on which the CAST items, including pilot and/or training test items, are based and learn about the CAST items and rubric expectations to promote CA NGSS readiness and inform instruction. Participants will use tools and processes to analyze student work and develop a deeper understanding of the standards and the implications for instruction. Participants will discuss the implications for classroom instruction, based on student responses, exemplars, and rubrics.

During the CAASPP Science Academy, participants have an opportunity to:

- Examine sample student responses
- Take different types of items themselves, identifying the demands on students and educators
- Understand assessment types, the high-level test design which speaks to the alignment to the three-dimensional model, the item specifications and how these might inform teaching and learning
- Plan how to use these new item types in the classroom, including accessibility for all students

Implementation Plan

ETS and WestEd will collaborate with the CDE and other stakeholders as approved by the CDE to finalize the audience, topics, communication and outreach, and mode (in-person, virtual Science Academy rooms, videos, modules, etc.) of the training, including such elements as format, participants, and logistics. A virtual Science Academy room allows individuals to join the in-person location remotely via their supported electronic device with internet access. ETS will have the ability place the virtual participants into virtual breakout rooms (e.g., a virtual room each for grade five, grade eight, and high school) similar to the in-person location and to monitor and moderate the discussion in each virtual breakout room.

ETS and WestEd will propose dates, format, and locations of the CAASPP Science Academy that enables the participation of as many educators as possible from different regions of California. ETS will submit the implementation plan for the CDE review and approval as specified in Task 1.9.

ETS also will prepare a timeline for the implementation of the CAASPP Science Academy for the CDE approval. ETS will submit the plan for the CDE review and approval as specified in Task 1.9. Table 1 includes a proposed high-level timeline of the CAASPP Science Academy. ETS and WestEd will submit a detailed timeline as part of the implementation plan.

Table 1. Proposed High-Level Timeline for the Implementation of the CAASPP Science Academy

July 2017	Submit the final implementation plan and timeline
August–December 2017	Prepare and submit the professional development materials to the CDE for review and approval Secure the locations and facilities for the CAASPP Science Academy and the post-academy professional learning modules
January or February 2018	Conduct a workshop to pilot of the CAASPP Science Academy training materials and organization of delivery in the Sacramento region. Revise as necessary.
March 2018	Finalize training materials based on information and feedback received from the pilot workshop and submit to the CDE for review and approval.
April–May 2018	Conduct three (3) 1-day CAASPP Science Academy Training of Trainers (in-person with virtual Science Academy rooms) Launch post-academy support activities (e.g., private social media group, e-mail, videoconferencing) Conduct first post-academy survey
June–July 2018	Finalize and release the CAASPP Science Academy materials to caaspp.org
August–September 2018	Conduct second post-academy survey
October 2018	Prepare and submit the draft CAASPP Science Academy summary report to the CDE for review and approval
November 2018	Submit the final CAASPP Science Academy summary report to the CDE for review and approval.

Training Materials

ETS and WestEd will conduct an in-person workshop to pilot the PD materials to California science educators and experts, the CDE, and other stakeholders and to obtain feedback on materials and organization of delivery prior to the three in-person CAASPP Science Academies. The pilot will be held in the Sacramento area. ETS will collaborate with the CDE on the attendee list, as specified in Task 1.9. ETS and WestEd will revise the materials based on feedback from this pilot workshop and submit the PD materials and any changes to the implementation plan to the CDE for approval as specified in Task 1.9.

ETS and WestEd will use a training-of-trainers (TOT) model to increase educator access to the training. In collaboration with the CDE, ETS and WestEd will develop a set of professional development (PD) materials that includes training materials, presentations, and a facilitator's guide. The PD materials will include integral components of the item specifications and analysis of the task models used to create the CAST items (see Task 6). All Science Academy participants, whether in-person or virtual, will also receive full presenter materials including PowerPoint slides, handout books, and detailed facilitators' guides. The in-person participants will receive hard copies of the PD materials as well as electronic files of the materials. The virtual participants will receive the materials electronically.

All CAASPP Science Academy Training trainers/presenters will have expertise in Next Generation Science Standards (NGSS). In collaboration with the CDE, ETS and WestEd will select the trainers/presenters. ETS will submit the names and qualifications of proposed trainers/presenters to the CDE for review and approval.

Logistics

ETS and WestEd will conduct the CAASPP Science Academy as a one-day TOT session to teacher leaders with background in teaching science. ETS will target recruitment of participants based on the CDE-approved implementation plan. ETS will provide the communication and outreach materials to the CDE Contract Monitor for review and approval, as specified in Task 1.9, as part of the implementation plan.

ETS and WestEd will conduct three (3) in-person Science Academies at locations in northern, central, and southern California. The specific locations will be submitted to the CDE Contract Monitor for review and approval as specified in Task 1.9. Any on-site location will have the capacity to serve 100 participants. Whenever possible, ETS will work with a county office of education, large school district, or universities for locations.

For each in-person Science Academy, ETS also will host virtual Science Academy rooms as another method of participation for educators who cannot travel to one of the in-person locations. Virtual participants will receive the Science Academy materials electronically. ETS will moderate the virtual Science Academy room to support active involvement of virtual participants with the in-person participants.

At the end of each Science Academy, all participants, including the virtual participants, will be asked to complete an evaluation form to provide feedback on the materials, logistics, and training they received.

Each in-person participant will be responsible for registration fees and any travel and lodging costs related to participation in the CAASPP Science Academy TOT. Each virtual participant will be responsible for providing the electronic device, audio connection, and internet access required to join the Science Academy remotely. A nominal registration fee will be used to offset some Science Academy administrative costs as allowed by state guidelines.

ETS will be responsible for all logistical arrangements, including materials production, for all in-person Science Academies and all virtual Science Academy rooms. ETS will include details of the logistics in the implementation plan.

Post-Academy Follow-up

Upon completion of the TOT session, ETS and WestEd will post the complete CAASPP Science Academy materials to caaspp.org for LEA and educator use. ETS will present the materials, as described in the Training Materials section above, in a manner that allows an educator to use

the documents even if they did not participate in the academy. ETS also will work with Smarter Balanced as feasible and as approved by the CDE to include the CAASPP Science Academy materials in the Smarter Balanced Digital Library.

To provide additional support to educators with understanding CA NGSS and CAST, ETS will produce an annotated guide to the CAST task models described in Task 6.1. ETS will collaborate with the CDE to select the task models and will develop the annotations to the selected task models. ETS will submit the annotated guide to the CDE for review and approval as specified in Task 1.9. ETS will post the approved annotated guide with the Science Academy materials to caasp.org.

ETS will provide to the Science Academy participants (i.e., in person and virtual) additional training, support, and responses to frequently asked questions using tools such as a private social media group, e-mail, and videoconferencing.

ETS will also conduct two post-academy follow-up surveys of both the in-person and virtual participants. The purpose of the first survey is to collect feedback from participants on the contents and process of the CAASPP Science Academy. ETS will administer the first survey shortly after the participants complete the academy. The second survey will be administered in fall 2018 and will collect information about the implementation of the CAASPP Science Academy training and materials within the participant's LEA or school.

Summary Report

ETS and WestEd will prepare a report that will include a summary of participation including information on the number of school and school district teams participating. The summary report may also include, but are not limited to: summaries of workshop reflections, summaries of the workshop evaluations, counts of and information from the follow-up surveys, and hit counts from CAASPP.org for the Science Academy materials. All reports will be submitted to the CDE Contract Monitor for review and approval as specified in Task 1.9.

Table 2. Planned CAASPP Training Workshops and Webcasts

	Name and Description of Training	Type of Training	Audience or Estimated Number of Attendees	Planned # of Sessions	Estimated Durations	Planned Locations	Estimated Timeframe to Provide Training	School Years Provided	SOW Task Reference
1	Summer Scoring Workshop Provide thorough training and practice on the scoring of operational items	In-person	200 California educators per session	8	1 day	TBD – propose: 2 North 2 Central 4 South	July	2015–16 2016–17 2017–18	2.7.B 8.1.A.2
2	Using the Smarter Balanced Digital Library Familiarize users with the content and uses of the digital library resources	Webcast (archived), PowerPoint	CAASPP Coordinators, Test Administrators, Educators	1	2 hours	caaspp.org	August	2015–16 2016–17 2017–18	2.7.B
3	Digital Library & Interim Assessment Clinics Provide information on the access and administration of the interim assessments and general information about access of the Digital Library and available resources	In-person	CAASPP Coordinators + 3 participants per LEA (as space allows) 50-100 participants per session	8 (may expand to 10 if scheduling and resources are available)	4 ½ hours	TBD – propose: 2 North 2 Central 4 South	September–November	2015–16 2016–17 2017–18	2.7.B
4	What is Computer-Adaptive Testing (CAT) Provides high-level information on CAT and how it works	Online Presentation	CAASPP Coordinators, Test Administrators, Educators	1	15 minutes	caaspp.org	September	As Smarter Balanced updates	2.7
5	Embedded Universal Tools and Online Features Explains the online tools available to students for testing and how to access and use them	Online Presentation	CAASPP Coordinators, Test Administrators, Educators	1	25 minutes	caaspp.org	September	As Smarter Balanced updates	2.7
6	Performance Task Overview	Online Presentation	CAASPP Coordinators,	1	20 minutes	caaspp.org	September	As Smarter	2.7

	Name and Description of Training	Type of Training	Audience or Estimated Number of Attendees	Planned # of Sessions	Estimated Durations	Planned Locations	Estimated Timeframe to Provide Training	School Years Provided	SOW Task Reference
	Explains the Smarter Balanced performance tasks (PTs) and Classroom Activities and provides examples		Test Administrators, Educators					Balanced updates	
7	Technology Requirements for Online Testing Provides technology requirements and readiness tasks in preparation for online testing	Online Presentation	CAASPP Coordinators, Technology Coordinators	1	20 minutes	caaspp.org	September	Annual updates as needed	2.7
8	Using the CAASPP Individual Student Assessment Accessibility Profile (ISAAP) Tool Tutorial Instructions for using the tool to create student test settings files	Video and PowerPoint	CAASPP Coordinators, Test Administrators, Educators	2	1 hour	caaspp.org	September	Annual updates as needed	2.7
9	Interim Assessments Hand Scoring System Presentation Instructions for accessing and using the scoring module for hand scored items on the interim assessment	Video, PowerPoint	CAASPP Coordinators, Test Administrators, Educators	2	1 hour	caaspp.org	September	Annual updates as needed	2.7
10	Interim Assessments Reporting System Presentation Familiarize users with available reports, navigation, and tools for the interim reporting system	Video, PowerPoint	CAASPP Coordinators, Test Administrators, Educators	2	30 minutes	caaspp.org	September	Annual updates as needed	2.7
11	Setting up Test Administrations in TOMS Demonstration of functions of TOMS	Video	CAASPP Coordinators, Test Administrators	1	15 minutes	caaspp.org	September	Annual updates as needed	2.7
12	Adding and Managing Users in TOMS Tutorial on how to add and manage users in TOMS/single sign-on	Video	CAASPP Coordinators, Test Administrators	1	15 minutes	caaspp.org	September	Annual updates as needed	2.7

	Name and Description of Training	Type of Training	Audience or Estimated Number of Attendees	Planned # of Sessions	Estimated Durations	Planned Locations	Estimated Timeframe to Provide Training	School Years Provided	SOW Task Reference
13	Smarter Balanced Interim Assessments Provide an overview of the Interims, planning for them, uses of results and reporting	Webcast (archived), PowerPoint	CAASPP Coordinators, Test Administrators, Educators	1	2 hours	caaspp.org	September	2015–16 2016–17 2017–18	2.7.B
14	Preparing CALPADS Data Provide overview of CALPADS data elements and the process of loading to TOMS	Webcast (archived), PowerPoint	CAASPP Coordinators, CALPADS Coordinators	1	1 hour	caaspp.org	September	2015–16 2016–17 2017–18	2.7
15	TOMS Training Provide introduction to TOMS, logging on, and configuring test administrations	Webcast (archived), PowerPoint	CAASPP Coordinators	1	1 hour	caaspp.org	September	2015–16 2016–17 2017–18	2.7
16	Configuring Online Student Test Settings in TOMS Instructions for setting embedded and non-embedded supports and accommodations	Webcast (archived), PowerPoint	CAASPP Coordinators, Test Administrators	1	1 hour	caaspp.org	September–October	Annual updates as needed	2.7
17	CAASPP: Preparing Your LEA's Technology for Online Testing Review LEA technological resources and requirements and secure browser installation	Webcast (archived), PowerPoint	CAASPP Coordinators Technology Coordinators	1	1 hour	caaspp.org	September–October	2015–16 2016–17 2017–18	2.7
18	Interim Assessment Scoring Workshop Train teachers in the effective and consistent use of scoring rubrics	In-person	100 California educators per session	8 (may expand to 10 if scheduling and resources are available)	3 hours	TBD – propose: 2 North 2 Central 4 South	September–November	2015–16 2016–17 2017–18	2.7.B 8.1.A.2
19	Using the Interim Assessment Reporting System and Interim Assessment Results Interpretation Information to support accurate interpretation and effective use of interim assessment scores	Webcast (archived), PowerPoint	CAASPP Coordinators, Test	1	2 hours	caaspp.org	October	2015–16 2016–17 2017–18	2.7.B

	Name and Description of Training	Type of Training	Audience or Estimated Number of Attendees	Planned # of Sessions	Estimated Durations	Planned Locations	Estimated Timeframe to Provide Training	School Years Provided	SOW Task Reference
			Administrators, Educators						
20	Accessibility and Accommodations for CAASPP Purpose and importance of accessibility, available tools, supports and accommodations, process steps	Webcast (archived), PowerPoint	CAASPP Coordinators	1	1 hour	caaspp.org	October	2015–16 2016–17	2.7
21	Introduction to new CSA Overview of new assessments and development process	Webcast (archived), PowerPoint	CAASPP Coordinators, Test Administrators, Educators	1	2 hours	caaspp.org	October	17–18	2.7.C
22	Introduction to new CAST Overview of CAST, development process and a view of sample items	Video	CAASPP Coordinators, Test Administrators, Educators	1	2 hours	caaspp.org	October	2016–17 2017–18	2.7.C
23	Student Paper-pencil Test Registration in TOMS Instructions for setting up students for paper-pencil testing	Webcast (archived), PowerPoint	CAASPP Coordinators, Test Administrators	1	1 hour	caaspp.org	November	Annual updates as needed	2.7
24	Preparing Your LEA's Student Paper-pencil Test Registration File Instructions on file specifications and preparation and live demo	Webcast (archived), PowerPoint	CAASPP Coordinators, CALPADS Coordinators	1	1 hour	caaspp.org	November	Annual updates as needed	2.7
25	Using the Online Practice and Training Tests Differences and uses of Practice and Training tests, logging on, tools and layouts, and administration	Webcast (archived), PowerPoint	CAASPP Coordinators, Test Administrators	1	1 hour	caaspp.org	November	2015–16 2016–17 2017–18	2.7
26	Paper-Pencil Test Administration Workshop Familiarize coordinators with proper testing procedures, secure material handling, and secure test administration	Webcast (archived), PowerPoint	CAASPP Coordinators, Test Administrators	1	1 hour	caaspp.org	December	Annual updates as needed	2.7

	Name and Description of Training	Type of Training	Audience or Estimated Number of Attendees	Planned # of Sessions	Estimated Durations	Planned Locations	Estimated Timeframe to Provide Training	School Years Provided	SOW Task Reference
27	Pre-Test Workshop Comprehensive overview of test administration procedures for all CAASPP assessments	Webcast (archived), PowerPoint	CAASPP Coordinators	1	2 hours	Virtual	January	2015–16 2016–17 2017–18	2.7
28	Alternate Assessment Training (Math, ELA) Introduction and administration procedures for alternate assessments	Webcast (archived), PowerPoint	Alternate Assessment Test Administrators	1	1 hour	Virtual	January	2015–16	2.7
29	Alternate Assessment Training (Math, ELA, Science) Introduction and administration procedures for alternate assessments	Video	Alternate Assessment Test Administrators	1	1 ½ hours	Virtual	January	2016–17 2017–18	2.7.C
30	CSA Pilot Test Administration Training Introduction and administration of the pilot test	Webcast (archived), PowerPoint	CAASPP Coordinators, Test Administrators	1	2 hours	caaspp.org	August	2017–18	2.7.C
31	CSA Field Test Administration Training Introduction and administration of the field test	Webcast (archived), PowerPoint	CAASPP Coordinators, Test Administrators	1	2 hours	caaspp.org	January	2017–18	2.7.C
32	CAST Pilot Test Administration Training Introduction and administration of the pilot test	Webcast (archived), PowerPoint	CAASPP Coordinators, Test Administrators	1	2 hours	caaspp.org	January	2016–17	2.7.C
33	CAST Field Test Administration Training Introduction and administration of the field test	Webcast (archived), PowerPoint	CAASPP Coordinators, Test Administrators	1	2 hours	caaspp.org	January	2017–18	2.7.C
34	CAA for Science Pilot Test Administration Training Introduction and administration of the pilot test	Webcast (archived), PowerPoint	CAASPP Coordinators, Test Administrators	1	2 hours	caaspp.org	January	2016–17	2.7.C
35	CAA for Science Pilot Test Administration Training Introduction and administration of the field test	Webcast (archived), PowerPoint	CAASPP Coordinators,	1	2 hours	caaspp.org	January	2017–18	2.7.C

	Name and Description of Training	Type of Training	Audience or Estimated Number of Attendees	Planned # of Sessions	Estimated Durations	Planned Locations	Estimated Timeframe to Provide Training	School Years Provided	SOW Task Reference
			Test Administrators						
36	Test Security Requirements, test security guidelines for online and paper-pencil administrations, procedures for reporting irregularities	Webcast (archived), PowerPoint	CAASPP Coordinators	1	30 minutes	caaspp.org	January–February	2015–16 2016–17 2017–18	2.7
37	Pre-Test Administration Training (includes separate session for Alternate Assessments) In-depth train-the-trainer model on all aspects of test administration with live systems demonstrations with separate hands-on training for alternate assessment administrations	In-person	CAASPP Coordinators and Technology Coordinators 50-100 participants per session	17	4 ½ hours	Butte Humboldt Sacramento Shasta Alameda Fresno Monterey San Joaquin Santa Clara San Francisco Kern Los Angeles (2) Orange Riverside San Diego Santa Barbara	January–February	2015–16 2016–17 2017–18	2.7
38	Operational Scoring Workshops Operational training for scoring summative assessment items, qualifying, and live scoring	In-person or other CDE-approved mode of delivery	100 California educators per session	8	1 day	TBD – propose: 2 North 2 Central 4 South	Beginning mid-February	2015–16 2016–17 2017–18	2.7.B 8.1.A.2
39	Using the Aggregate Reporting System and Summative Results Interpretation Information to support accurate interpretation and effective use of summative assessment scores	Webcast (archived), PowerPoint	CAASPP Coordinators, Educators	1	2 hours	caaspp.org	May	2015–16 2016–17 2017–18	2.7.B

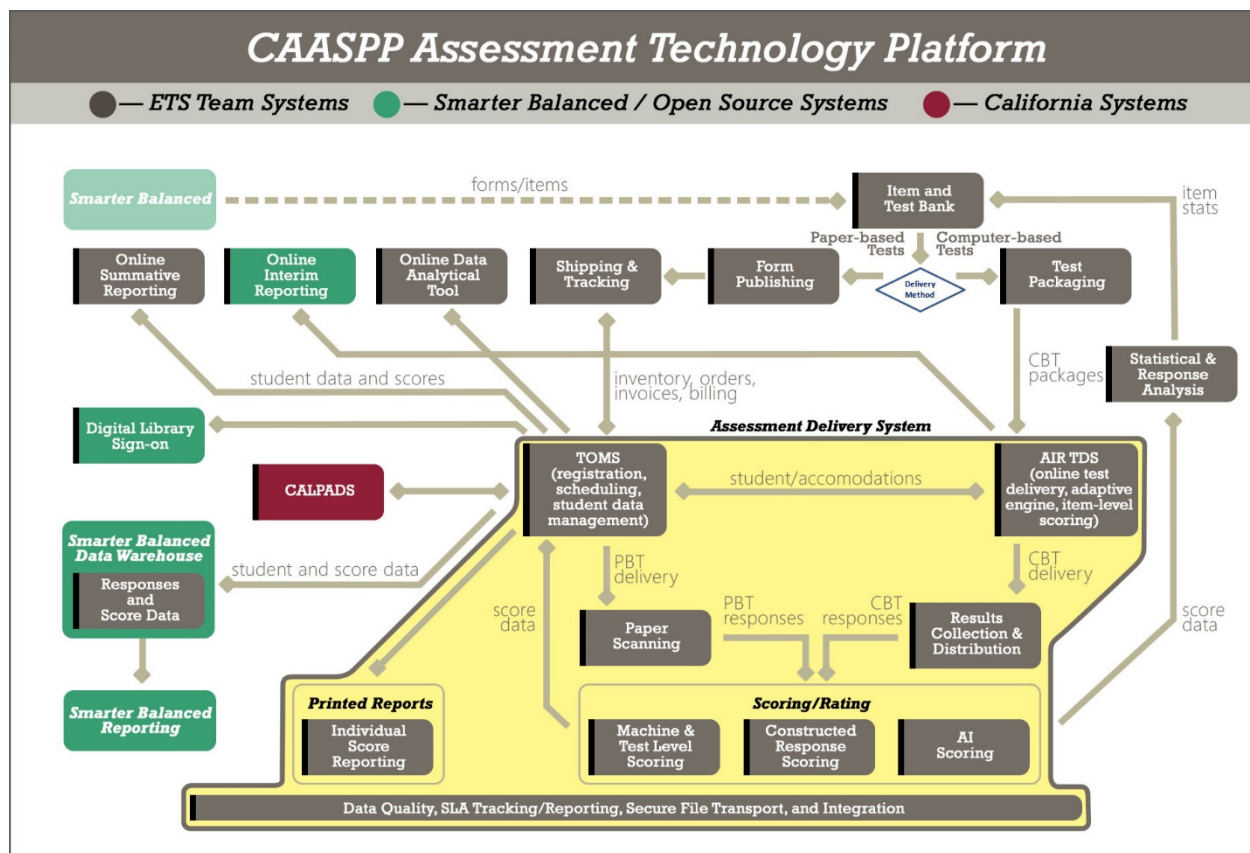
	Name and Description of Training	Type of Training	Audience or Estimated Number of Attendees	Planned # of Sessions	Estimated Durations	Planned Locations	Estimated Timeframe to Provide Training	School Years Provided	SOW Task Reference
40	Post-Test Workshops Review reporting systems and features and provide guidelines for score interpretation Morning session: All CAASPP assessments Afternoon session: Focus on alternate assessments	In-person	CAASPP Coordinators (AM and PM sessions) Special education coordinators (PM sessions only) 50-100 participants per session per location	8	4 ½ hours	TBD – propose: 2 North 2 Central 4 South	May–June	2015–16 2016–17 2017–18	2.7
41	Additional Webcast (archived) or Recorded Training, PowerPoint #1	Webcast (archived), PowerPoint	TBD	1	1 hour	caaspp.org	TBD	2015–16 2016–17 2017–18	2.7.C
42	Additional Webcast (archived) or Recorded Training, PowerPoint #2	Webcast (archived), PowerPoint	TBD	1	1 hour	caaspp.org	TBD	2015–16 2016–17 2017–18	2.7.C
43	Additional Webcast (archived) or Recorded Training, PowerPoint #3	Webcast (archived), PowerPoint	TBD	1	1 hour	caaspp.org	TBD	2015–16 2016–17 2017–18	2.7.C
44	Additional Webcast (archived) or Recorded Training, PowerPoint #4	Webcast (archived), PowerPoint	TBD	1	1 hour	caaspp.org	TBD	2015–16 2016–17 2017–18	2.7.C
45	CAASPP Science Academy Recording of one in-person Science Academy.	Video	Instructional leaders	1	8 hours	caaspp.org	Fall 2018	2017–18	2.9
46	CAASPP Science Academy Video Modules Provides short training videos to support the modular administration of the Science Academy training	Video	Instructional leaders	Number of video modules TBD	Length of each video module TBD	caaspp.org	Fall 2018	2017–18	2.9

	Name and Description of Training	Type of Training	Audience or Estimated Number of Attendees	Planned # of Sessions	Estimated Durations	Planned Locations	Estimated Timeframe to Provide Training	School Years Provided	SOW Task Reference
47	CAASPP Science Academy In-person and virtual training of trainers as described in Task 2.9	In-person Workshop with Virtual Workshop Rooms	Teacher leaders In-person: 100 participants	3 in-person plus virtual rooms	8 hours	Pilot: Sacramento In-person: 1 North 1 Central 1 South	Pilot: Jan-Feb 2018 Apr-May 2018	2017–18	2.9
48	Viewing Student Responses to the Interim Assessments Provides an overview of the Smarter Balanced application to view student responses to the Interim Assessments and provides a demonstration or tutorial to the application.	Webcast (archived) or Recorded Training	Educators	1	2 hours	Caaspp.org	TBD with CDE	2017–18	9
49	Using the Writing Extended Response (WER) Scores Provides an overview of the WER dimension scores and a tutorial or demonstration of the report available in ORS.	Webcast (archived) or Recorded Training	Educators	1	2 hours	Caaspp.org	TBD with CDE	2017–18	2.7

TASK 3: Technology Services

As part of the Assessment Technology Platform solution for California, the CAASPP Assessment Delivery System includes all components required to deliver the Smarter Balanced and non-Smarter Balanced assessments for the CAASPP System. Figure 1 below provides a diagram of the overall system for the CAASPP Assessment Technology Platform supported by ETS. ETS will work with Smarter Balanced to administer the 2017–18 STS utilizing as many of the Smarter Balanced open-source components as feasible and approved by the CDE.

Figure 1. CAASPP Assessment Technology Platform



The CAASPP Practice and Training Tests are administered through the AIR TDS. The practice and training tests are maintained on a server that is separate from the CAASPP summative assessments and Smarter Balanced Interim Assessments.

ETS will work closely with the CDE to evolve the existing high-capacity CAASPP test delivery system, used for the 2015 administration, to meet future requirements. The CAASPP Assessment Delivery System will, at minimum, deliver the Smarter Balanced Summative Assessments to approximately 10,000 schools and more than 3.2 million students in approximately 1,900 LEAs statewide that will use a wide variety of online testing devices (e.g., desktop computers, laptop computers, tablets). Additionally, the CAASPP Assessment Delivery System will deliver the Smarter Balanced Interim Assessments to all participating K–12 students.

3.1. School Technology Readiness

For the 2015–16 administration, ETS will work with the CDE to collect information on the technology readiness of schools. This information will include, at minimum:

- bandwidth availability;
- networking capability;
- available facilities for computer-based test administration; and
- the number of devices available for computer-based test administration.

This information is the same as that which is outlined in the Smarter Balanced Technology Strategy Framework.

As the majority of schools adapt to online testing, ETS anticipates less of a need for a technology readiness survey. Beginning with the 2016–17 administration, ETS will work with the CDE to refocus this activity to develop an online questionnaire to assist schools that may be facing technological barriers when administering the Smarter Balanced Summative Assessments.

Collecting the School Technology Readiness Information

During the annual updates from LEA CAASPP coordinators for 2015–16 administration, described in Task 2.1, ETS will incorporate the Technology Readiness Survey, which will be conducted in September 2015. The Technology Readiness Survey will be an online form.

Beginning in July 2016, ETS will revise the survey to become an online form for CAASPP Special Requests for Smarter Balanced Paper Exams. ETS will provide the draft special request form to the CDE for the standard review and approval process described in Task 1. Special requests submitted by LEAs will be delivered to the CDE immediately for review and decision (e.g., approved, denied).

The Annual Report on School Technology Readiness

Once ETS receives the results for the 2015–16 School Technology Readiness Survey, they will be compared against the previous year's information. By November 1, 2015, ETS will submit to the CDE a preliminary report including a summary of the Technology Readiness Survey results. The report will also categorize the listed LEAs in terms of degree of readiness. The preliminary report will be updated and finalized by December 1, 2015.

Assistance to Schools to Meeting the Technology Requirements

Based on the results of the 2015–16 CAASPP Technology Readiness Survey and the special requests form, ETS will proactively reach out to each of those LEAs identified as being less ready, first via telephone and subsequently by site visit to assist them in determining what they need to do to become more technologically ready to participate in the CAASPP online assessment. For each such contact, ETS will provide the CDE with a report and recommendation for action it should take. At the CDE's direction, ETS will be available to the LEAs to implement these recommendations.

3.2. Assessment Delivery System

The solution supports both summative and interim Smarter Balanced assessments as well as the new succession CAAs (ELA, mathematics, and science), CAST, and the CSA. The solution will employ AIR's proprietary test delivery system, ETS's TOMS, scoring systems from ETS and MI, and an online reporting tool from AIR.

For the 2017–18 STS administration, ETS will work with Smarter Balanced to administer STS utilizing as many of the Smarter Balanced open-source components as feasible and approved by the CDE. The solution also will use ETS's TOMS, scoring systems from ETS and MI, and an online reporting system from AIR.

3.2.A. Project Management Plan

During project initiation, ETS project managers will develop a Project Management Plan (PMP) for the CAASPP System, including the Assessment Technology Platform. The PMP will cover the three-year period of the contract; start-up tasks will be included only in Year 1. ETS will ensure that the PMP is in compliance with California Project Management Methodology (CA-PMM) and the State Information Management Manual (SIMM) and will include all identified schedule elements such as actual and planned start and finish dates. ETS will use a template consistent with the CA-PMM to confirm that all key components are identified and presented in a consistent format. After completion, the PMP will remain accessible on the project SharePoint® site and will be updated annually. ETS will make the schedule available in MPP format for the CDE. The ETS Technology Manager and ETS CPMO Project Manager will provide the PMP to the CDE within 30 business days of contract start and will work with the CDE, the CDE contract manager, and the CDE state project manager to facilitate a review by IV&V Consultant and by IPOC.

The PMP will include, at a minimum, the following elements:

- **Scope Management Plan**—During project initiation, ETS will identify and document scope using the Project Definition document template. The PMP will require the project team to document work in-scope, work out-of-scope, deliverables produced, stakeholders, and interdependencies with other projects.
- **Organizational Chart and Governance Model**—ETS has created the Project Organization chart as one component of the PMP. ETS's Project Review Committee will regularly evaluate the CAASPP System activities to ensure that the project team has the support needed to be successful.
- **Configuration Management Plan**—ETS will document the configuration management plan for California and use a configuration management tool to manage changes to the production system, including production environments, software releases and their content, and other production configurations.

- **Change Control Management Plan**—ETS will manage the scope for development of the Assessment Technology Platform through a structured change management process. First, ETS will establish baselines for scope and schedule at the outset of the project. In the project SharePoint site, ETS will establish a change log to document and track change requests, and will set up a review process to confirm that requests are vetted with the appropriate stakeholders. Project leadership will then review change requests to assess impacts and gain agreement on how to address those impacts in support of a formal approval process. As soon a change request is approved and obtains signoffs, ETS will update the change log, integrate changes into the project plan, and re-baseline schedules if necessary.
- **Communications Management Plan**—During project initiation, ETS will plan for proper communications so that the CDE stakeholders will be aware of not just the type of communications they will receive but also the purpose, frequency, and media (e.g., meeting, e-mail) of each communication.
- **Risk Management and Escalation Plan**—The ETS CPMO project manager will lead the project team and other key stakeholders through a risk identification and analysis session during the project's planning phase. Identified risks will be added to a risk log which remains accessible on the project's SharePoint site. In the event that a risk becomes an issue, the ETS CPMO project manager will add the issue to the issue log that is always accessible on the project's SharePoint site. The project manager identifies appropriate owners to remediate issues in a timely fashion to confirm continued project success while reducing the emergence of new issues or risks. Senior management, consisting of ETS's Project Review Committee and the CDE representatives, will regularly review critical project risks and issues.
- **Quality Management Plan**—The ETS project team will utilize the ETS Quality Management Plan template to construct a California Quality Plan during the Project Planning phase. The Quality Management Plan summarizes the quality targets and management processes undertaken during the Project Execution phase. As a result, ETS will be able to consistently reference the Quality Management Plan throughout the project to monitor and control the level of quality of the deliverables built and processes undertaken on the project.
- **Requirements Management Plan**—ETS based the requirements management process on best practices of the International Institute of Business Analysis. ETS uses this process to manage solution scope, requirements, and requirements traceability, as well as to maintain requirements for re-use and communicate the requirements. ETS will utilize seasoned business analysts to identify stakeholders; elicit, document, and confirm business needs; and manage traceability and gaps. The requirements management process includes securing approvals, managing issues that emerge during elicitation and analysis, and managing change control of baseline requirements and solution scope. ETS uses requirements traceability to detect missing functionality and to assist in scope and change management, as well as during risk management. ETS analysts will confirm the requirements are clear, concise, accurate, and at the appropriate level of detail so that ETS can effectively communicate the requirements the stakeholders.

- **Schedule Management Plan**—ETS will utilize detailed schedules and dashboards built in the Microsoft Project component of the Microsoft® Enterprise® Project Management (EPM) system solution to create and actively manage the project schedule. ETS builds schedules and dashboards based on well-developed scheduling principles and published best practice guidelines. Breakdown structures highlight key task dependencies, critical paths, milestones, deadlines, and resources. ETS then baselines and reviews the schedule on a weekly basis to verify the maintenance of all tasks and timelines. ETS will closely monitor any variance from the schedule baseline to minimize impacts from tasks added, deleted, or updated to reflect changes based on the project team's input.
- **Resource Management Plan**—ETS will monitor resources across all project teams and departments to optimize resource capacity, improve productivity, and use analytics to track utilization and reforecast staffing for projects when necessary.

ETS assumes that the CDE will provide comments to the initial PMP within 20 business days of receipt. ETS will respond and provide an updated PMP within 20 business days following receipt of the CDE-written comments. Upon approval by the CDE, ETS will implement and monitor the PMP and will collaborate fully with the CDE and the California Department of Technology (CalTech) to confirm that the plan meets expectations.

ETS will also collaborate with the CDE to determine the technology services summary information required for reporting purposes and will develop and implement a mutually-agreed upon format. ETS understands that the CDE may use the technology services summary to report to the SBE, CalTech, the California DOF, and other stakeholders as needed.

3.2.B. System Requirements

ETS will implement the CAASPP Assessment Delivery System for this program according to the expectations of CDE staff, the CDE contract manager, and the CDE state project manager. ETS will plan each meeting to efficiently use the time of the CDE staff, the IV&V consultant, the IPOC, and program management and technology staff to accomplish the tasks identified.

At the start of the contract, ETS will schedule a series of joint requirements sessions to review and discuss the minimum requirements outlined agreed upon by ETS and the CDE. (Request for Submission (RFS) Table 3.1.1. is included as Appendix C for reference.) ETS will be responsible for providing the initial requirements document, which will describe the known CAASPP requirements and how ETS handles those requirements. ETS proposes to hold joint requirements sessions before the Orientation Meeting. At each joint requirements session, ETS will use and refine the initial requirements document to establish that the requirements meet or exceed what is needed for the 2016 administration. The revised requirements document will also include a plan by which periodic reviews of the requirements will be conducted to confirm that they continue to meet the functional and technical requirements needed for the CAASPP Assessment Delivery System.

From time to time, there may be changes to state or federal policies or Smarter Balanced requirements that would have an immediate impact on the CAASPP System. The revised requirements also will include a process for ad hoc requirement reviews to address these changes in a flexible but immediate manner.

Within 15 business days of the effective date of the contract, ETS will conduct the Orientation Meeting as required in Task 1. ETS program managers will plan and facilitate this meeting, which will include topics under each functional area of the solution such as technology,

assessment development, research, delivery, and operations. ETS will review the proposed work plan and implementation schedule and obtain specific information, data, and criteria in order to successfully implement the solution. By August 1, 2015, ETS will also present the revised requirements as defined and agreed to in the joint requirements sessions with the goal of receiving the initial go-ahead to implement the CAASPP Assessment Delivery System. Should additional discussions about the requirements be needed, ETS will schedule and conduct additional joint requirements sessions until the CDE approves the solution for implementation. ETS will submit the final systems requirements, including flow charts and other required artifacts, document to the CDE by August 15, 2015.

ETS's technology team will also participate in Annual Planning meetings, as described in Task 1.3, in Sacramento to review and confirm the SOW. The purpose of the meeting will be to plan any changes to the SOW, system enhancements and fixes, and the timelines to incorporate the changes for the upcoming test administration year. . ETS will submit the revised systems requirements documents by date agreed upon by the CDE and ETS, including business requirements, functional requirements, requirements traceability matrix (RTM), and user acceptance testing (UAT) plans through the gatekeeper for approval for each release cycle. After a release is deployed to production, the final requirements are submitted via gatekeeper to reflect the "as built" software that was deployed to production.

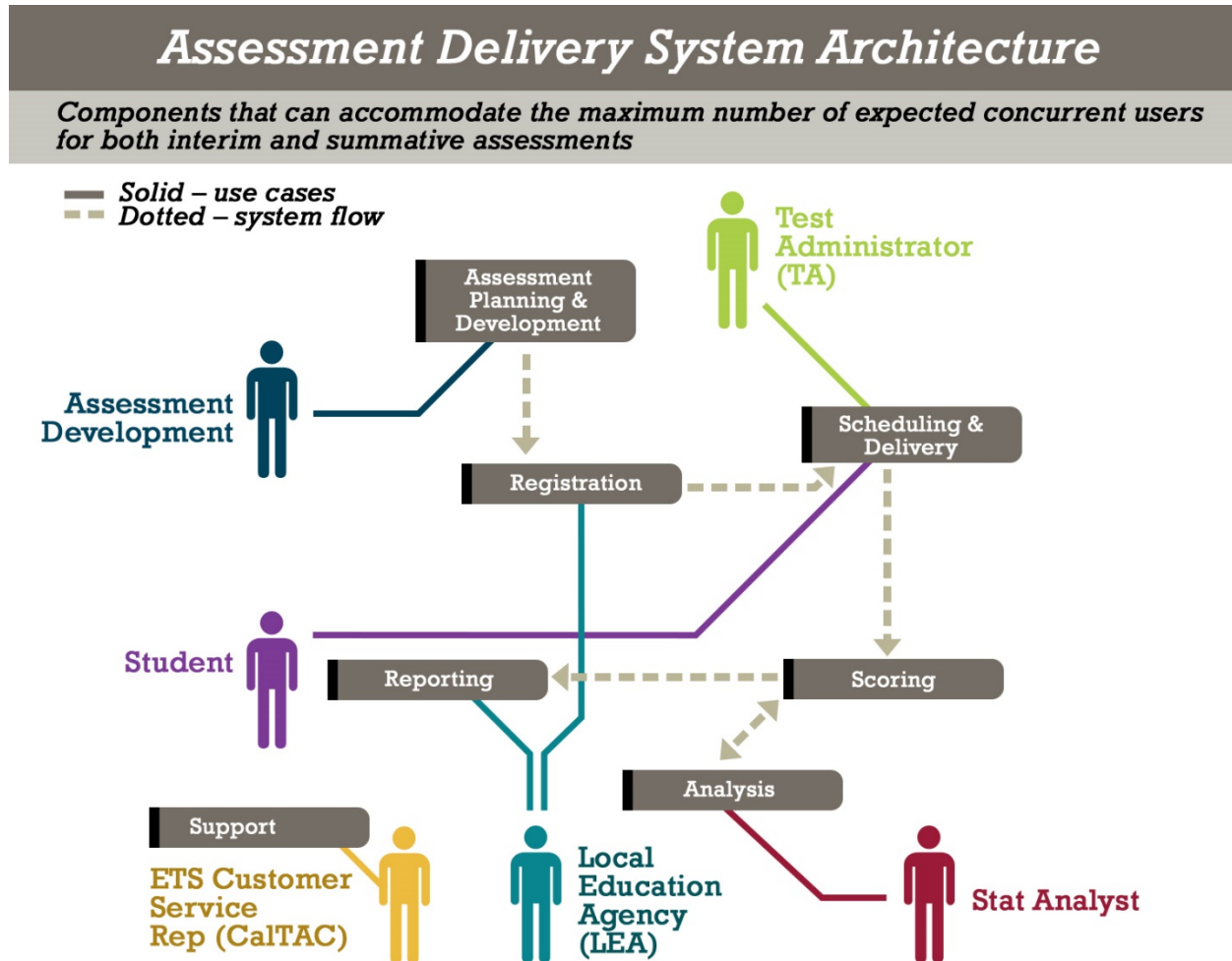
In addition to Orientation and Annual Planning meetings, ETS's technology teams will also participate in weekly management and technical/data exchange meetings, co-facilitated by the ETS Technology Manager and program manager that will anchor communication between all parties and appropriate technical personnel. These weekly meetings will provide the forum for communication with the CDE about project activities and technical items/issues.

ETS will document all business, technical, and functional requirements—new and updated—that are captured in the joint requirements sessions. ETS will then implement these, after the CDE's approval, following the ETS software development lifecycle (SDLC) methodology. The ETS SDLC process is a combination of waterfall and agile software development processes.

3.2.B.1. Assessment Delivery System Architecture

The solution focuses on the following seven major domains: assessment planning and development, registration, scheduling and delivery, support, scoring, reporting, and analysis (see Figure 2).

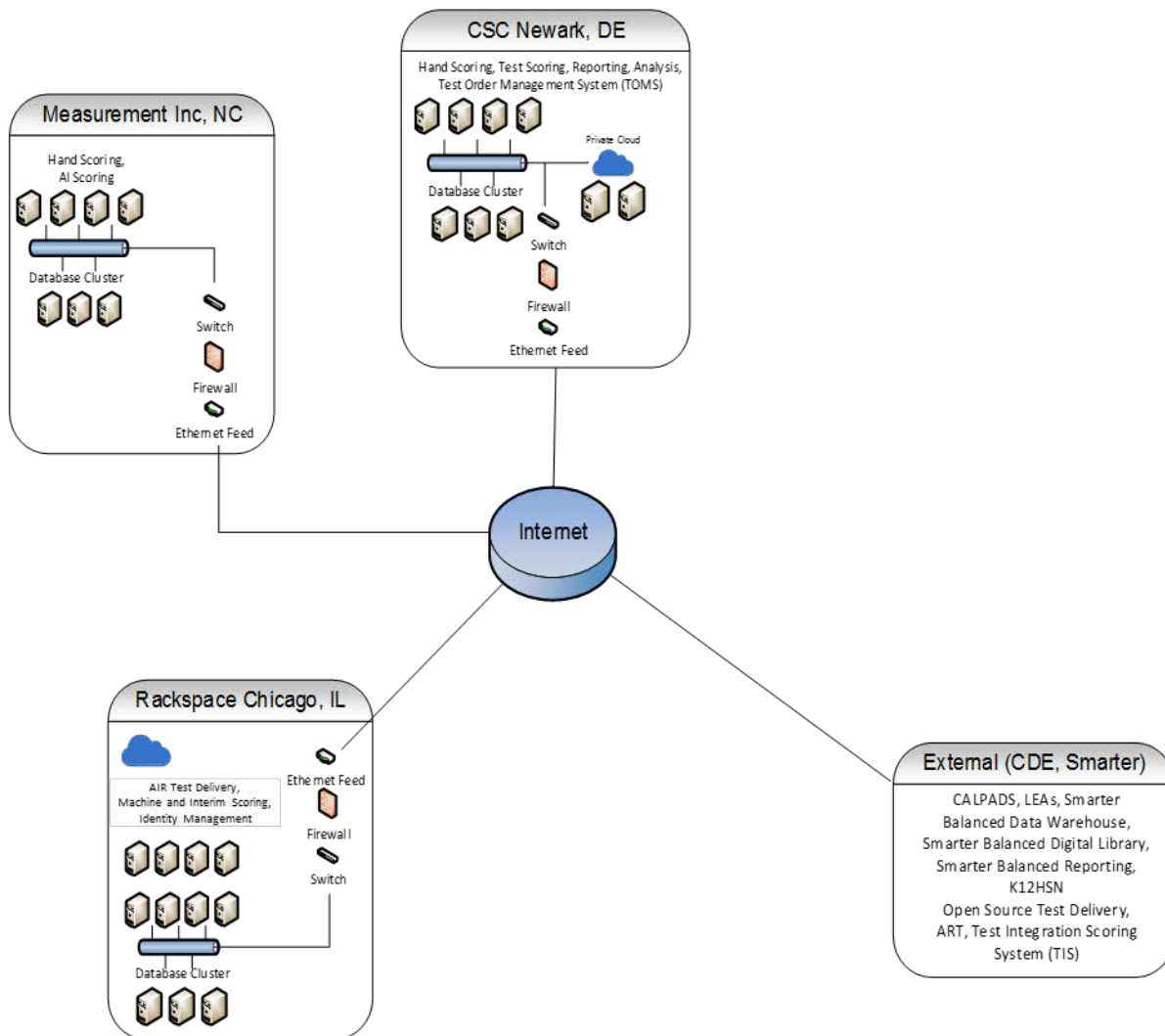
Figure 2. CAASPP Assessment Delivery System



The ETS solution supports all operational domains, from test development to scoring and reporting. ETS's system consists of fully integrated individual component services that provide a high performance and robust solution for the administration of Smarter Balanced and non-Smarter Balanced assessments for California.

Figure 3 represents the high-level physical architecture of the CAASPP Assessment Delivery System that supports interim and summative Smarter Balanced assessments as well non-Smarter Balanced assessments. For the 2017–18 STS administration, ETS will work with Smarter Balanced to administer STS utilizing as many of the Smarter Balanced open-source components as feasible and approved by the CDE.

Figure 3. Scalable Architecture of the CAASPP Assessment Delivery System



The CAASPP Assessment Delivery System will use a single proprietary solution (i.e., AIR Test Delivery System) that meets the general Smarter Balanced-defined requirements. ETS will further clarify with the CDE that this implementation addresses any California-specific variations allowable through the Smarter Balanced state procedures manual. Where the solution integrates with external Smarter Balanced systems, such as the Digital Library, ETS will use the defined standards and formats for data exchange.

The configuration specifications development process requires making a number of important decisions, often in a short period of time, following contract award. ETS will schedule a series of one- to two-hour meetings over several business days to review the provided system configurations and inform any required adjustments. ETS will coordinate with the CDE to schedule the systems configuration meetings to work through the necessary details of the solution specifications.

During these specifications meetings, ETS will work through the configuration decisions needed at one time. When applicable, ETS will provide screen shots and other supporting documentation to allow participants to visualize how different options will look in the various

solution components. Decisions to be made during the configuration specifications meetings will include, but are not limited to:

- test names and the order of tests listed;
- the dates during which the student test window will be open, including any scheduled downtime for maintenance and updates;
- which test settings that the test administrator can change in the test administration interface at the time the student takes a test, and which test settings must be changed in advance in TOMS;
- what values are allowed for each tool;
- the content of the messages that will be displayed to the student at various times during a testing session; and
- which forbidden applications should be included in the check performed on the student's computer prior to testing.

ETS will record all decisions made during the specifications development process. ETS will provide the documentation to the CDE summarizing major decisions and any issues for which a final decision was not made during the meetings.

3.2.B.2. Interface Requirements

The CAASPP Assessment Delivery System provides a number of touch points with external systems and components as required by the CDE and/or Smarter Balanced policies. To meet those needs, systems will support scalable and reliable integrations with other systems and technologies by utilizing standardized interfaces wherever possible. For Smarter Balanced assessments, ETS will use the plug-and-play XML data exchange for the information about items and test packages needed to support test scoring. Non-Smarter Balanced computer-based assessments will also use the Smarter Balanced test package format whenever possible. If a non-Smarter Balanced computer-based assessment requires a different format to best support the items types developed for those assessments, ETS will work to confirm that the system can support the formats, prior to the item development process.

The CAASPP Assessment Delivery System consists of a series of integrated components. Even still, the CDE, LEAs, and schools will be able to access the features needed to administer, manage, operate, and conduct test delivery using a single sign-on. This enables these components to appear to users as a single integrated system. ETS will work with Smarter Balanced to provide a solution that allows users to log onto the CAASPP Assessment Delivery Systems and the Smarter Balanced systems using a single sign-on.

Smarter Balanced Implementation Readiness Package

ETS has verified that the delivery system conforms with the Smarter Balanced IRP version 1.0, which currently covers capabilities in test administration and item level score results delivery. Annually, and upon a request from the CDE, ETS will provide evidence, including the Summary Performance Report produced by the Implementation Readiness Package, as well as electronic access to the simulated assessment, to allow the CDE to verify that: items and applicable tools, supports, and accommodations rendered correctly; items were scored correctly; and results were correctly delivered to the Smarter Balanced data warehouse.

CALPADS

ETS will verify with the CDE ETS's ability to accurately accept data extracts from CALPADS, import that data into the management system, and provide appropriate exception reporting to the CDE. ETS will configure TOMS to process daily CALPADS updates. To be consistent with the 2015 CAASPP System, ETS anticipates receiving two CALPADS extract files nightly via Secure File Transfer Protocol (SFTP). One extract file will have organization data, and the other will have student data.

To follow the process for the 2015 CAASPP System, ETS will coordinate with the appropriate CDE staff to facilitate the secure upload of CALPADS data extracts for use in the summative assessments. ETS will also verify the handling procedures for approval of paper-pencil test materials and special forms.

ETS will process the CALPADS files within 24 hours of successful receipt from the CDE. ETS will provide the following notifications when processing the CALPADS data:

- Notify the CDE via e-mail by 8 a.m. Pacific Standard Time (PST) if one or more of the CALPADS extract files fail to upload to the FTP site.
- Notify the CDE via e-mail within two hours of processing whether ETS has received and has processed the file and the number of records processed.
- Notify the field via e-mail and <http://www.caaspp.org/> system alert if there are any issues with the files that affect the field.

LEA System Compatibility

ETS will continue to propose to the CDE ways to optimize the appropriate data capture from LEAs in the CALPADS interface, so that the regular extracts provided to support CAASPP accurately reflect the CDE-approved supports and accommodations. ETS will also continue working closely with the CDE by providing a TOMS user interface that provides the LEAs with the flexibility to update student support or accommodations needs directly. To be consistent with the 2015 CAASPP System, ETS will consult with the CDE to establish the protocols and permissions needed to allow for this flexibility and configure TOMS accordingly.

3.2.B.3 Data Security

ETS maintains dedicated staff with responsibility for information security, physical security, test security, privacy, disaster recovery/business continuity, and internal audit. These staff members communicate and collaborate via a corporate-level Security Steering Committee of leaders responsible for each function, which ETS's chief information security officer leads.

Data Security Plan

ETS will provide all interfaces with the most stringent security considerations in mind, including interfaces for data encryption at rest and in transit for databases that store test items and student data. The CAASPP Assessment Delivery System will implement strong encryption (in transit and at rest) consistent with the most recent version of encryption guidelines published by the National Institute of Standards and Technology (NIST), (at least equivalent or better), to protect confidential information handled by the system. This information includes student registration information, student identifiable results information, test items, and other information as identified by applicable Federal, State of California, and the CDE laws, regulations, or policies. Whenever feasible, cryptographic modules shall be validated to the Federal Information

Processing Standard (FIPS) 140-2. In rare instances where encryption cannot be implemented, compensating control(s) or alternatives to encryption will be in place. Compensating controls and alternatives to encryption must be reviewed on a case-by-case basis and approved in writing by the state entity ISO, after a thorough risk analysis.

ETS will manage, maintain, transport, and appropriately secure data storage and backup files. Also, ETS will employ industry-standard encryption to protect personally identifiable information both when it is in storage and when it electronically transfers across a public network. ETS will maintain that data in a portable format as agreed upon with the CDE.

ETS will meet the CDE's expectations to develop and execute a data security plan that follows NIST SP 800-15 rev1 to comply with the applicable data security requirements outlined in the final system requirements that may be updated annually. Discussions about the data security plan and user roles and permissions will be an integral part of the joint requirements sessions, and ETS will document decisions in the requirements document for the CDE's approval.

Working with Subcontractors and Vendors

ETS's company policy mandates an Inter-Enterprise Security Assessment (IESA) of external organizations whenever their work impacts any of the following: sharing sensitive or critical data, communicating sensitive or critical data via non-ETS networks and systems, or interconnecting ETS networks and systems with others. ETS requires subcontractors and vendors by contract to maintain agreed-upon security controls and to provide periodic control assurance.

Providing for User Roles and Permissions

The CAASPP Assessment Delivery System will feature system access control features and authentication of users using industry-standard user access, authentication methods, and encryption. The CAASPP Assessment Delivery System allows for numerous user roles and permissions based on the functions that each user must perform in order to complete their responsibilities for the CAASPP System. The access control features will restrict access to information that is outside the responsibility of the assigned user role when the user has numerous, different roles. ETS will coordinate with the CDE to schedule meetings to review, refine, and add user roles and permissions for finalization within fifteen (15) business days of the contract start date.

3.2.B.4. System Development Process

At the CDE's direction, ETS will provide process maps, standard operating procedures, templates, definitions of roles and responsibilities, technical documentation utilizing templates, and project schedules to the CDE's IV&V consultant and IPOC, through June 2016 or when CalTech determines successful completion of project implementation.

Design Process

Led by the ETS Technology Manager, ETS will perform design at two levels:

- **Solution Architects** will tailor a high-level solution design, designing for innovation and capacity from the start. Their work will provide the big picture, establish that all bases are covered, and confirm that all involved parties are identified and collaborating to make CAASPP successful. The solution architects' high-level solution design includes: (1) a high-level use case diagram identifying the key capabilities/domains of the solution, (2) activity diagrams depicting flow of responsibilities across software applications, (3) deployment diagrams identifying all participating applications and all interfaces, and (4)

other Unified Modeling Language diagrams and text as needed to describe the solution. These solution architects work closely with the various development teams in scope for the solution.

- **Application Architects** on these development teams then design their respective software applications and interfaces based on the solution design, verifying that their component fits in with the others.

Development and Testing Process

ETS's SDLC teams will continuously improve, support, and enforce smooth and effective operation end-to-end in the technology components of this project. This team will work closely with all IT staff across ETS to establish smooth operation, quality output, and exceptional communication. ETS will perform an analysis at two levels. For the first, at the business level, a specialized team of business analysts will work with the CDE to capture, confirm, and analyze the CDE's needs; at the second, at the software level, system analysts will determine the functions of the systems based on the business needs. Through ETS's documentation practices, ETS will capture and account for all of the CDE's functions.

Validation Process

ETS will follow industry best practices in software development and coding for the CAASPP Assessment Delivery System. This means ETS will use continuous integration, unit testing, code reviews, separation of environments (e.g., development, various levels of testing, and production), and version control. ETS will use repositories to systematically control all versions. ETS will use reference architecture to guide the use of technologies to keep abreast of the latest technologies, verifying that external support is available and keeping IT focused and efficient. ETS also verify operational readiness of software development by: (1) developing knowledge scripts for use by CalTAC personnel on how to route issues raised by end users, (2) documenting/communicating how to operate the software to the operations team, and (3) updating the software's disaster recovery plan as appropriate.

ETS's software development teams perform rigorous testing of their developed software, including unit testing, dev-to-dev integration testing, and functional testing. ETS will complement that with additional rigorous testing by a dedicated group specializing in software testing. This group provides a robust suite of testing, including: (1) functional testing, (2) integration testing, (3) performance testing, (4) security testing, and (5) accessibility testing. In particular, in the area of performance and load testing, this group will verify that ETS meets the scalability needs of California through capacity testing, extended period testing, stability testing, stress testing, functional verification under load testing, aggregate testing, and increasing load testing. Dedicated performance testers will tune specialized performance testing tools for the CAASPP Assessment Delivery System to account for the anticipated load.

ETS's software testing group will perform progression and regression testing using a combination of commercial, open source, and custom developed tools. This testing will follow a rigorous and robust process. ETS will strictly manage defects and maintain traceability between requirements and test cases in order to verify complete coverage. ETS's testing group will leverage testing automation through scripting and specialized testing tools in order to bring great efficiencies and value to the CDE by saving on manpower and enabling robust regression testing — all while utilizing highly skilled testers to weed out those issues that tools can overlook.

3.2.B.5. System Implementation

The System Implementation Plan will be part of the PMP, and ETS will discuss this plan as part of the joint requirements sessions before the Orientation meeting. Following the Orientation meeting, ETS will refine the System Implementation Plan for final review and approval by the CDE.

Overview of Hosting System

ETS will use two proven hosting providers to meet the CDE's requirements: Rackspace® and Computer Sciences Corporation (CSC).

System Implementation Readiness Assessment Methodology and Schedule

To cover system implementation readiness assessments, or the Operational Readiness Review (ORR), a dedicated team of release managers carry out ETS's Release Management (RM) process. As the pilots, field tests, and eventually implements new CAASPP computer-based assessments are conducted, ETS will analyze historical test taker estimates as well as survey data from LEAs about the target test taker populations to plan for a capacity that will support continuous systems operations for all CAASPP computer-based assessments.

Implementation Schedule, including Field Tests and Pilots

ETS will work closely with the CDE and will use the RM process to establish the implementation schedule for all administrations as outlined in Task 7, Table 13. .

Overall Resources Needed to Support the Implementation Effort, including Hardware, Software, Facilities, Materials, and Personnel

By means of a formal resource planning process, ETS proactively determines and regularly re-assesses anticipated resource capacity based on California's estimates for computer-based Smarter Balanced summative and interim assessments, test taker volumes, and expected peak volumes. ETS will also use historical resource usage data from the 2014 field test and the 2015 administration to refine capacity estimates. As the pilot tests, field tests, and eventually the implementations of the new CAASPP computer-based assessments are completed, ETS will analyze historical test taker estimates as well as survey data from LEAs about the target test taker populations to plan for a capacity that will support continuous systems operations for all CAASPP computer-based assessments. Capacity planning will enable the right sizing of the infrastructure capacity in order to scale rapidly and handle spikes in demand.

Security Features Associated with the System When it is Implemented, Including Security during Implementation

ETS has built security into the production environments and the technologies used and software developed. ETS's software development process and software testing process includes a comprehensive security framework. This risk-based framework focuses on minimizing vulnerability, increasing awareness, and developing proficiency. In order to establish this level of security, ETS assesses every component of its systems for vulnerability. ETS utilizes Threat Modeling analysis and Attack Tree analysis, which are methods to analyze designs for threats and mitigate them.

Simultaneously, ETS will employ a few different methods of security testing, including vulnerability testing, penetration testing, and vulnerability code review. These methods utilize numerous state-of-the-art automated tools as well as manual security assessment and hacking

techniques performed by dedicated and trained security professionals. These methods also involve comprehensive testing and analysis steps.

Driving software development and providing a measurement base for testing, ETS will use tools to generate security requirements tailored to individual systems based on their characteristics. Open Web Application Security Project (OWASP) best practices, which are the industry leader in security standards, guide software development to verify that the software is secure. ETS also has an Information Protection Office (IPO) group in IT with oversight over all aspects of security, including software, hardware, network, and personnel security.

Performance-monitoring Tools and Techniques

ETS will employ a number of strategies to verify ongoing systems performance, including monitoring of system availability and providing reports of online system usage to the CDE. ETS can configure the metrics and thresholds for monitoring based on the CDE's needs during start-up planning and annual project planning engagements.

ETS will include detailed planning steps identified during project initiation with the CDE to identify the most effective parameters for the assessment programs, so that systems are configured to capture and provide reports that are useful for the CDE. During subsequent project meetings, ETS will establish regular reporting practices and will periodically review the elements being captured and reported out, and ETS will provide the most relevant and actionable data possible for the CDE and other stakeholders.

Site-specific Implementation Requirements

Outside of preparation of the computer labs at the schools, the test delivery system has no site-specific implementation requirements. ETS will provide a diagnostic tool that may be used by LEAs and schools to verify that they have the bandwidth to support the desired number of testers.

System Acceptance and Sign-off Process

To accomplish system acceptance and sign off, ETS will deploy systems software to a user acceptance testing (UAT) environment for a full cycle of testing with the CDE. ETS develops and CDE reviews the user acceptance testing to confirm that systems meets the CDE's requirements. Upon successful completion of user acceptance testing, a joint review meeting takes place to confirm that the release is ready to move to production. Software is deployed directly from the UAT environment to production on a mutually agreed upon release schedule. Final approval of user acceptance testing triggers final deployment of the system.

3.2.B.6. User Experience

ETS will use a rigorous applications user experience design process, which includes checkpoints during the following phases: architectural design, requirements gathering, user interface (UI) design, usability testing, piloting, and operational delivery. Application design and development will follow industry best practices for delivery on multiple platforms and devices, leveraging World Wide Web Consortium (W3C®), Microsoft®, and Apple® human interface guidelines.

For accessibility, ETS will adhere to the Web Content Accessibility Guidelines (WCAG) 2.0, Level A & AA. ETS will audit and validate application content and interfaces to confirm they are compliant with international Web standards. The WCAG 2.0 guidelines meet or exceed the WCAG 1.0 and Section 508 guidelines set forth in the California Government Code section

11135 and policies included in the CDE's Web Accessibility Standards. As part of this contract, the development process will incorporate the checklists provided on the CDE Web site (<http://www.cde.ca.gov/re/di/ws/webaccessstds.asp>) into the development checkpoints.

ETS will include detailed plans for conforming to the User Experience requirements and will include these plans as part of the PMP document described in Task 3.2.B. The User Experience plans will outline the following:

- Consistent look and feel
- Name of student displayed on workstation
- Single sign-on and easy navigation
- Best practice standards
- Accessibility standards
- Online help
- Identical interfaces for administrators and students

3.2.B.7. Technical Assistance Center (Technology Support)

ETS provides Tier 1, 2, and 3 support for the CAASPP Assessment Delivery System via telephone, e-mail, and customer-initiated chat.

For telephone support, ETS uses a Verizon®-hosted implementation of Avaya Contact Center v.7.0. The ETS CaITAC can support the staff required to quickly respond to contacts and can shift calls to another ETS Help Desk location if needed for disaster recovery purposes. Additionally ETS will use the Verizon-hosted cloud service to provide additional services. The Avaya and Verizon platforms have back-up technologies in place to continue to route calls in the event of a localized issue. The ETS Help Desk solution includes audio recording of 100 percent of inbound calls and call storage for up to six months.

ETS will use customer service analytic software (e.g., eGain®, etc.) for e-mail and chat response management. ETS's e-mail and chat software has the capability to separate Tier 1, 2, and 3 contact types and responds to them based on set timeframes.

ETS will provide escalation to Tier 2 and Tier 3 via telephone, e-mail, or chat transfer. ETS logs all contacts and their statuses as cases into the Customer Relationship Management (CRM) system by institution, LEA, and individual contact.

ETS will maintain e-mail addresses for various groups such as the LEA and CDE information technology groups to allow for quick dissemination of information. During the Orientation Meeting, and at each Planning Meeting, adding specific groups to the CRM workflow will be discussed.

Cases escalate to Tier 2 and Tier 3 support via a workflow system based on program and issue type, which allows ETS to determine when cases escalate to resolver groups. LEAs or other callers will receive a unique case number that they can reference their case against for all contact methods. The CRM system provides detailed level-reporting for the program overall or down to the school level. Reports on case escalation and case aging are available for review.

3.2.B.8. System Delivery Release Management

ETS will use the RM process for coordinating, tracking, and reporting on software releases, from new release identification through production implementation. The process consists of three phases: release planning, release tracking, and release approval.

ETS will schedule RM planning meetings based on the agreed-upon frequency among the stakeholders, including AIR, MI, and the CDE. These Orientation and Annual Planning meetings will provide a forum for ETS to verify that the California releases are well-understood, that risks are identified, and that mitigation plans are in-place. ETS will hold a joint meeting with parties to be identified by the CDE prior to a production release to review the migration steps, address risk, and obtain a consensus approval for the release. ETS will develop the System Delivery Release Management Plan during RM planning, which is the initial starting point of the RM process.

As part of the Release Tracking Process, ETS will have a dedicated RM group that actively coordinates, tracks, and reports on software releases from the initial planning phase through to production deployment/implementation. The RM group will work directly with the ETS IT manager and program manager for CAASPP so that the team effectively coordinates tasks, requirements, and communications with the CDE. ETS will establish communication channels for release of information notification and will determine the stakeholders, communication frequencies, and information the stakeholders should communicate via these channels. RM also obtains the implementation approvals to initiate the production deployment process.

ETS will distribute the release schedule to all identified stakeholders identified, who will then need to review and approve the Release Management Schedule and associated tasks respectively.

Other key Release Management processes and services include the following:

- Processes and procedures for communications, and coordination with internal and external partners, will be a critical component of the process, since ETS includes external partners such as AIR, MI, and the CDE.
- Provide release artifacts that describe release content, testing requirements, and data sourcing to the CDE.
- Closely coordinate system outage management with the CDE so that it occurs when no testing is taking place, at night or on weekends, and will not impact batch processing.
- Provide environments that utilize the same code base to be used in production to the CDE for end user acceptance testing.
- Provide SDLC release testing procedures—including regression and integration testing with CALPADS, Smarter Balanced, and other external partners—to the CDE.
- Provide a detailed and complete Migration document that details every step and every piece of information that is needed to deploy it to production from scratch, including application and environment configuration, third-party libraries/software/technologies, system accounts, connection details, complete steps to install the entire environment and the application, as well as rollback procedures.

- Provide the UAT plan, which documents processes and procedures for system delivery acceptance.
- Conduct post-production validation (PPV) using predefined manual and automated scripts to verify that the system is released correctly and that it is operational. ETS will also work with the CDE to develop and review the user validation scripts to verify that users deploy the system properly in the schools and that it remains accessible on all the devices used for accessing the Assessment Delivery System.
- Initiate a roll back to the previous state of the production environment in the unlikely event that the PPV is not successful. Once system engineers roll back the release, the software development team verifies the release once again to verify that the rollback was successful.

3.2.B.9. Performance

The CAASPP Assessment Delivery System will support up to 500,000 concurrent users. Should there be issues with performance during the administration of Smarter Balanced and non-Smarter Balanced computer-based summative assessments, ETS has the capability to “turn off” or throttle back access to the Smarter Balanced Interim Assessments upon direction from the CDE.

The CAASPP Assessment Delivery System also includes existing network optimizations with the California K12HSN. ETS will continue the existing optimizations and will work with the CDE and the K12HSN vendor to continue improving performance whenever possible.

Performance Testing

ETS will conduct three types of performance testing: (1) load testing to verify customer-facing components function under peak expected loads; (2) verification that back-end processes run in acceptable time frames under all expected conditions; and (3) validation that individual requests are processed to specification, excluding exceptions such as certain administrative reports. ETS will:

- execute tests (with appropriate iteration);
- analyze the results; and
- implement corrective actions.

Working with the CDE State Project Manager, the IPOC, and IV&V Consultants

Within ten (10) business days of the performance report produced by the IV&V contractor, ETS will develop and submit a detailed Systems Performance Plan, in coordination with the CDE contract monitor and the CDE state project manager. The plan will include the most relevant ETS artifacts for monitoring performance, as well as the process that will be used to work collaboratively with the IPOC and IV&V consultants. During subsequent project meetings, ETS will establish and maintain regular reporting practices and issue escalation procedures to the CDE contract monitor, the CDE state project manager, the IPOC, and IV&V consultants.

Working with LEAs to Conduct Benchmark Testing

As part of the System Performance Plan, ETS will propose a list of schools to consider for benchmark testing; and will conduct systems benchmark testing with a set of LEAs and schools.

The proposed list will include schools that represent the range of school types that participate in the CAASPP System. ETS will also schedule and LEA participation requirements for the benchmark testing; and will submit this list to the CDE for review.

Upon the CDE's approval, ETS will contact each LEA to obtain permission to conduct benchmark testing. Each LEA will receive detailed information on what is required to participate in the benchmark testing and the goals for the benchmark testing. Within ten (10) business days upon completion of the benchmark testing, ETS will submit a report of the results, with recommendations for performance improvement where necessary. ETS will work directly with the CDE staff, including the CDE contract monitor and the CDE state program manager, to implement the systems changes needed.

3.2.B.10. Disaster Recovery and Business Continuity (DR/BC)

ETS will provide robust and fault-tolerant systems and processes. ETS houses systems in Tier 3 data centers with dual-powered equipment and multiple uplinks to support at least 99.982 percent availability. Additionally, industry-standard backup and recovery procedures are in place. ETS will work with the CDE to document and execute on a formal DR/BC plan that supports the specified uptime and recovery time objectives.

3.2.B.11. Data Policy Retention and Destruction

ETS complies with the data retention, handling, and destruction requirements outlined in the requirements in the California State Administrative Manual (SAM) Section 5305.8; the Department of Education Administrative Manual (DEAM) sections 10120, 10600, and 10601; California EC 60607; and the Family Educational Rights and Privacy Act (FERPA) of 1975.

The ETS solution also meets the FIPS PUB 140-2 issued by the NIST for data with personally identifiable information and secure test data (e.g., items, score keys), both in transit and at rest.

To comply with the contract transition requirements, ETS will maintain the final data of record as identified in the Requirements document and will confirm the appropriate transfer of the information to the next contract. ETS will securely destroy any data generated by and for CAASPP not considered the data of record. ETS will seek the CDE's approval prior to the secure destruction of these provisional data.

3.2.B.12. Maintenance and Operations

ETS will manage and coordinate requested changes in an orderly fashion. This will include scoping, at a high level, the amount of overall software changes anticipated for each test administration as well as accounting for infrastructure and technology upgrades.

As California's needs change over time, ETS will capture those growing needs as Business Requirements, which will then be allocated to relevant ETS applications for implementation. The application development teams determine Functional Requirements additions/changes that address those changed business needs. The additions/changes will be allocated into releases considering the customer's timing needs and other constraints.

ETS will establish appropriate communication channels to coordinate and communicate both scheduled and unscheduled releases, to the CDE's specifications. Every release will contain release notes, including a list of all the functional changes and all the bug fixes that went out with the release.

TASK 4: Test Security

ETS will provide the CDE with a secure system that is designed to meet the security challenges—both current and emerging—facing today’s LEAs and schools. The system has security checks before, during, and after testing—protecting the integrity of the CAASPP System.

4.1. Test Security Plan

Upon commencement of the contract, ETS will review and propose revisions to the CDE for the current test security plan as needed to be specific to the 2016 CAASPP administration. ETS will deliver the draft 2016 test security plan to the CDE at the Orientation Meeting. Then the 2016 test security plan will be revised based on comments from the CDE review and, within three (3) business days after receipt of the CDE’s comments, will be delivered to the CDE. ETS will deliver the final version of the 2016 test security plan to the CDE within three (3) business days after receipt of the revised plan. Upon the CDE’s approval, ETS will implement the test security plan and will annually revise the test security plan for each administration.

Commitment to Security

ETS shares the CDE’s commitment to the confidentiality of students’ personal data as well as to the security of tests and will strictly enforce ETS’s security process. Every ETS employee must sign and abide by the ETS Code of Ethics, which explicitly describes the personal responsibility of employees to protect personally-identifiable information and intellectual property. ETS subcontractors must also sign documentation acknowledging their understanding of ethical and legal business practices, the need for site security, and expectations for confidentiality policies.

California will have the support of dedicated ETS staff who are responsible for information security, privacy, test security, physical security, disaster recovery/business continuity, and internal audits. These staff members communicate and collaborate via a corporate-level security steering committee, led by ETS’s chief information security officer.

Continual education and certification allow ETS to keep up-to-date in emerging security threats and industry best practices, both of which inform the continuous improvement of security practices and services.

ETS has adopted the International Organization for Standardization’s (ISO’s) 27000 series of standards as both its information security framework and the foundation of its Corporate Information Protection policies. This series of standards for information security management and control drives ETS’s information security program, as well as the manner in which ETS delivers services.

In addition to the ETS Code of Ethics policy noted above, ETS require all employees, agency personnel, consultants, and other work-for-hire staff that use its network services to sign a statement of agreement, verifying that they have read the ETS Corporate Information Protection policy and that they understand and agree to abide by its provisions. In addition, all staff who see or handle secure test items, forms, or booklets must sign a confidentiality agreement as a condition of employment. Information protection policies and the confidentiality agreement form will be provided to the CDE upon request.

ETS’s infrastructure provider holds an ISO 27001 certification for both ETS’s data center, where ETS systems such as servers and the mainframe reside, and ETS’s operations (e.g., network

administration and desktop support). This certification covers the systems and internetworks supporting all phases of ETS's assessment process, including identity, authentication, authorization, registration, test delivery, results collection, scoring, and reporting. An independent firm regularly audits controls and provides an annual Statement on Standards for Attestation Engagements No. 16 (SAE16) Statement of Controls report.

Secured Access. The ETS data center will continue to protect the CAASPP System's data. Only personnel with functional responsibilities may unlock the doors with their badges, and authorized personnel accompany visitors within the data center at all times. The data center contains extensive smoke detection and alarm systems, as well as a pre-action fire-control system. ETS stores critical files for software, applications, and documentation offsite in a secure location and has a backup site so that operations may continue in the event of a natural disaster.

The Assessment Delivery System is hosted in secure data centers in Chicago, Illinois, and in Ashburn, Virginia, that meet or exceed industry standards, are regularly audited by an independent firm, and provide multiple physical layers of security, including: an integrated proximity card-reader system, a closed circuit monitoring throughout the facility, and security staff available 24 hours a day, seven days a week. Industry standards and best practices — such as file system encryption, host-based firewalls, system hardening, and secure access — are used to enable network, host, and application security.

ETS is in compliance with all applicable legal and regulatory obligations at both the state and federal level. Applicable regulations for information security most often involve the protection of privacy, payment mechanisms, and other sensitive information and systems. Internal and external audits and management reviews grade compliance. Every three (3) years, a team of internal and external auditors, analyze and evaluate, audit the products and services delivered.

Item and Test Development Security

ETS will keep materials locked when not in use and will transmit items via ETS's internal item banking system or secure file transfer protocol sites to maintain security for item development, item field tests, and test form construction. ETS will encrypt databases and backups to meet the standards published in FIPS 140-2.

Item Bank Security

The measures ETS takes for assuring the security of electronic files are as follows:

- Access to item banks requires secure login identification and passwords, and is restricted to the least amount of privilege required to perform one's job functions.
- Backups of electronic forms of test content and item banking systems will be kept off-site in order to prevent loss from a system breakdown or a natural disaster.
- The off-site backup files will be kept in secure storage, with access limited to authorized personnel only.

Committee Meeting Security Procedures

For committee meetings participants will be required to sign and submit confidentiality forms. For meetings that use paper materials, participants must sign numbered materials in and out. To maintain security for meetings that require electronic devices be used, ETS will provide the electronic devices for use by participants during the meeting.

Computer-Based Testing Security

ETS designs identity and access management as a set of services, processes, and technologies to securely and consistently manage user identities, privileges, and usage. ETS strictly controls CAASPP Assessment Delivery System access based on the assigned user role. Access control features will restrict access to information that is outside the responsibility of the assigned user role when the user has numerous, different roles.

The CDE can direct ETS to change access to data and functionality at any time based on the available user roles. The CAASPP Assessment Delivery System will require users to authenticate themselves by providing a username and password before gaining access. The system's single sign-on implementation will use industry-proven security standards and best-practice protocols. ETS also will enforce an industry-standard secure password policy every time a user creates a new password or updates an existing one.

The test delivery system will provide a secure browser that locks down the student's desktop by blocking certain external applications and system hot keys. Any student or item data communicated to and from the test delivery system uses industry-standard encryption to enable secure content delivery. ETS will follow established standards and perform quality inspections so that the data are accurate.

Paper-Pencil Testing Security

ETS has agreements with more than 60 printing vendors specializing in the production of high-stakes assessment materials, including secure test booklet printing, accessible formats, scannable form production, non-secure materials production, non-standard formats, and other media.

Only those printing vendors who have met the security criteria and who have successfully passed the qualification process will produce secure test materials under contract by ETS for the CAASPP System. ETS will use established, secure processes to facilitate the back-and-forth of quality checks during the production cycle. ETS will use a secure courier to ship all test materials to California LEAs in unmarked boxes, bearing only the return address of ETS's test materials processing center.

ETS will combine bar-code reading technology with a proprietary order tracking system to facilitate closed loop tracking for all secure materials. This process will create a permanent, detailed record of items distributed to each school, which can be matched against returning materials to assess the completeness of each LEA's/school's return.

ETS will systematically match the captured barcode numbers to the outbound shipment barcode numbers' data files. An output log will be generated that identifies missing test materials by school and LEA. ETS program managers will receive this log, called a "Missing Materials Report," for follow-up calls to LEA staff to investigate any missing test materials. ETS will provide a document identifying the check-in of all secure materials after each administration.

ETS will use a barcode verification system to account for the secure items received in the warehouse for closed loop tracking.

ETS will obtain written permission from the CDE prior to proceeding with certified, approved destruction at an approved facility after appropriate retention periods. Upon destruction, ETS will present a certificate of destruction of those materials.

Encryption of All Test Items and Student Data at Rest and In Transit

ETS will provide all interfaces with security for data encryption at rest and in transit. Encryption at rest primarily applies to any data files that reside on a server that uses the SFTP waiting to be retrieved. Best security practices, including system-to-system authentication/authorization, are integrated in ETS's solution design to meet the FIPS 140-2 issued by the NIST. As the CDE requires, all CAASPP data will remain within the continental United States.

Secure Data Transmissions

As a part of implementation, ETS will establish an SFTP service that will manage SFTP transfers to a directory structure. Gatekeepers, generally one at the CDE and one at ETS, will determine access privileges. The ETS gatekeeper will be responsible for approving all users for access.

Reporting

The reporting system will produce quality-controlled reports and copy them to a secure location. There, score recipients can access only the information allowed by their security profile.

ETS will store California students' information on servers that will be encrypted and protected with multiple levels of password protection to prevent unauthorized access. Additionally, ETS will earmark the reports displayed to a particular user for his or her assigned access permissions. The method used to download or electronically transfer files that contain student level data will utilize encryption that meets the standards outlined in FIPS 140-2. Secure socket layer encryption will protect all data transferred over the Internet, and ETS will maintain data behind a corporate firewall; intrusion-detection software monitors this firewall for breaches 24 hours a day, seven days a week, 365 days a year.

4.2. Test Administration Monitoring

ETS will provide the following test administration monitoring activities for the CAASPP System:

- working proactively with LEA CAASPP coordinators
- social media monitoring
- on-site test security site visits

During a test administration cycle, ETS will meet weekly with the CDE to review test monitoring activities, including the areas described in the following sections. These weekly meetings are separate from the weekly management meetings and will focus specifically on test monitoring activities such as appeals for computer-based tests.

Working with LEA CAASPP Coordinators

Prior to the beginning of the test administration window, ETS's program staff and ETS's Office of Testing Integrity staff will provide training, through a live Webcast, to LEA CAASPP coordinators over all required test security procedures for the CAASPP System. ETS will record and post the Webcast to <http://www.caaspp.org/> for later viewing. The test security training Webcast will use a train-the-trainer model — that is, in addition to informing LEA CAASPP coordinators of the test security requirements, ETS will provide them with tools and training materials that they may use in training their LEA staff, CAASPP test site coordinators, test administrators and test Examiners, and even students.

ETS will also provide additional information, tools, and materials on <http://www.caaspp.org/> that will assist LEAs in meeting test security requirements. ETS will work with the CDE to provide additional test security materials, as needed, for LEAs.

ETS will also work directly with LEA CAASPP coordinators and technology coordinators as they prepare their local systems, devices, and sites for test administration. ETS will conduct up to 100 on-site visits and up to 200 virtual site visits to LEAs to provide technology and test preparation support as needed.

The CAASPP Assessment Delivery System includes an online method for submitting appeals for computer-based assessments. ETS will work with the CDE to develop the online testing irregularities reporting process, which will include a decision tree to address reported irregularities in a timely fashion.

Social Media Monitoring for All CAASPP Tests

ETS will monitor social media and other Web sites throughout each CAASPP administration. Monitoring will begin when the first LEA receives its test materials in January of each administration year and will end upon the closing of the final testing window, in August, or when the last LEA has confirmed completion of testing. ETS will monitor such Web sites as YouTube®, Facebook®, Instagram®, Google+®, Twitter®, and school and LEA Web sites. ETS will include other Web sites identified during the test administration window. ETS will look for any postings—both images and text— that include secure test materials such as test questions or passages, test booklet covers, and answer documents.

For each identified posting, ETS will collect any relevant information, including student name and school or LEA, if possible. ETS will enter this information into a secure online log that is accessible by both ETS and the CDE staff. ETS test development and psychometric experts will evaluate each posting identified to be test material and will make recommendations to the CDE on the impact of the items to the validity of the test administration.

On-site Test Security Visits

ETS's Office of Testing Integrity (OTI) and partner In-Touch Insight (In-Touch) will plan and conduct up to 130 on-site test security site visits annually. In-Touch's team of in-state auditors will conduct the test security site visits.

OTI and CAASPP Program Management staff will provide training to the In-Touch auditors on the expected site visit audit procedures. ETS will conduct the auditor training via live Webcast from the ETS Sacramento office, which will allow participation by the CDE staff. ETS will record and post the Webcast on an auditor-only section of <http://www.caaspp.org/> for later viewing. Each auditor will complete the provided training; and In-Touch supervisors will not assign auditors to site visits until they verify the completion of training.

The site visits will include audits of both computer-based (i.e., interim assessments and summative assessments) and paper-pencil test administrations. ETS will conduct before-, during-, and after-testing audits. For the 2015-16 administration, ETS will conduct the following:

- 25 pre-test audits (both computer-based and paper-pencil testing)
- 60 during-testing audits (both computer-based and paper-pencil testing)
- 15 post-test audits (paper-pencil testing only)

Beginning with the 2016–17 administration, ETS will conduct the following to adjust for the new online assessments and the reduction of paper-pencil tests:

- 30 pre-test audits (both computer-based and paper-pencil testing)
- 65 during-testing audits (both computer-based and paper-pencil testing)
- 5 post-test audits (paper-pencil testing only)

ETS will submit the proposed test security site visits auditor checklists to the CDE for review and approval. ETS will randomly select 125 LEAs as potential sites, with 100 primary sites plus 25 replacement sites. The proposed list will be representative of California's diverse LEA demographics. In addition to the 100 primary sites, ETS will include up to 30 additional LEAs at the CDE's direction. ETS will submit the combined list to the CDE within sixty (60) business days before the first test administration window.

Upon the CDE's approval of the combined list, ETS staff will e-mail each selected LEA to inform the LEA CAASPP coordinator that an In-Touch auditor will be contacting him or her to schedule a security site visit. The In-Touch auditors will begin scheduling the 130 test security site visits within three (3) business days after ETS has notified the LEA CAASPP coordinator. Auditors will notify the LEA CAASPP coordinator at least three (3) business days before the scheduled site visit. At the direction of the CDE, a site visit may be scheduled and conducted immediately.

When conducting the site visits, auditors will present a letter of introduction from the ETS Office of Testing Integrity as well as valid government-issued identification. In-Touch will conduct thorough background investigations of each potential auditor before the auditor may complete training and conduct audits for CAASPP.

ETS will report the schedule of site visits weekly to the CDE. As site visits are completed, ETS will also report the preliminary results of the site visits. When a site does not meet the test security requirements, ETS will work with the CDE to determine the next action item, such as instigating a security breach investigation. ETS will submit the final report for a site visit to the CDE within ten (10) business days after the completion of that site visit.

4.3. Investigating Security Breaches

ETS will conduct an investigation of any confirmed test security breach that may compromise the CAASPP administration. An investigator from OTI will be available within 48 hours to handle security concerns related to the CAASPP administration.

Investigations will include interviews with test administrators and/or test examiners, students (at the discretion of the LEA), CAASPP test site coordinators, users with the Interim Assessment Administrator Only role, and any others who had access to the test materials (online or paper). ETS also analyze data from computer-based incident response and forensic investigation. These investigations will attempt to determine the identity of those involved in the incident, recover any missing material, and assess the extent to which they compromised the test content.

For all reported security breaches, ETS will coordinate and communicate the investigation with the CDE. If the breach involves Smarter Balanced test materials, ETS will work with both the CDE and Smarter Balanced to conduct the investigation and determine the proposed resolution. If the breach occurred in one or more of the member states, ETS assumes that Smarter

Balanced will notify the CDE, and will coordinate with both the CDE and Smarter Balanced to mitigate the breach.

When requested, OTI will conduct an immediate on-site investigation in response to security breaches. As required, ETS will obtain the CDE's approval prior to the investigation. OTI will investigate and report results to CAASPP program management within five (5) business days of being informed of a security breach. When necessary, ETS will provide immediate reports through telephone and/or e-mail.

In-Touch auditors will immediately report any breaches to OTI, and OTI will notify CAASPP program management, which will in turn will immediately notify the CDE. ETS requires auditors to file an online site visit form with ETS within three (3) business days of the site visit.

ETS will submit a summary report of the investigation within ten (10) business days following the conclusion of the investigation.

TASK 5: Accessibility and Accommodations

ETS is committed to establishing that California students have the most accessible user experience with the CAASPP System. In this section, an overview is provided of the appropriate universal tools, designated supports, and accommodations that are available in compliance with Smarter Balanced policies (for the Smarter Balanced assessments) and with the most recent version of the California Code of Regulations, Title 5, Section 850 et seq., as adopted by the SBE.

5.1 Accessibility Plan for Computer-Based and Paper-Pencil Tests

5.1.A. Computer-Based Tests

ETS will use the AIR proprietary TDS to deliver all CAASPP computer-based assessments including: Smarter Balanced Summative Assessments, Smarter Balanced Interim Assessments, CAA for ELA and mathematics, CAA for Science, CAST, and CSA . ETS will provide students access to all of the appropriate universal tools, designated supports, and accommodations needed for the computer-based assessments. ETS will provide recommended plans to the CDE for implementing the accessibility supports for each CAASPP program.

The accessibilities available for the Smarter Balanced assessments will align with the most recent version of the Smarter Balanced Usability, Accessibility, and Accommodations Guidelines (see table in Appendix D).

For the non-Smarter Balanced CAASPP assessments, ETS will collaborate with nationally recognized experts externally and within ETS to develop test designs that are appropriate for the students and content standards assessed. In addition, ETS will obtain feedback from the experts as well as other stakeholders to identify the most appropriate accessibility supports for each assessment. The accessibility supports will be consistent, when the construct necessitates, with the accessibility supports available for the Smarter Balanced assessments. As new accessibility supports are considered, ETS will review the technology or feature and make recommendations to the CDE subject to CDE's approval. California will be able to determine whether test administrators may adjust settings at the beginning of the session or whether access to specific features requires higher-level authorization.

ETS intends to work with Smarter Balanced and the state of California to implement new tools or supports in the student interface and secure browser. ETS is committed to working with the CDE and Smarter Balanced to support emergent technologies and accessibility features to the greatest extent possible. As new opportunities arise, ETS will review the technology or feature and make recommendations to the CDE and, if appropriate, Smarter Balanced on the potential systems and impact. ETS will implement new technology or features that are approved in writing by the CDE and ETS.

According to the CDE's needs and preferences, ETS offers the following choices so that each accessibility support can be:

- available to all students
- assigned to students in advance through data upload or through the designated state, LEA, or school administrators
- assigned to students at testing time by the test administrator

At the beginning of the contract and annually thereafter, ETS will make recommendations to the CDE on the assignment of the tools and supports. ETS's recommendations will be based on experiences from the previous year's CAASPP administration as well as information from other sources if available such as the California Special Education Management Information System (CASEMIS) and TOMS.

5.1.A.1. Print on Demand

The AIR system will continue to support the print on demand accommodation for items. It is the responsibility of the local test administrators to securely destroy any items that were printed. The test administration manuals developed for each assessment and the test security Webcast will provide full instructions for the secure destruction of locally printed secure test materials. Test security site visit audits, described in Task 4, will include audits of the proper handling of these secure materials.

The TDS will deliver real-time adaptive braille; large print, AIR's secure print-on-demand feature, which prints an item or item group to a designated printer, for large print and other paper assessments, or to an embosser for braille forms. Only the computer-based assessments will be available through the Print-On-Demand feature that is available in the TDS. Task 7.2.A.2. provides information on the paper-pencil braille and large print materials.

The print-on-demand function are protected with security controls at three levels:

- embedded security in the print-on-demand function
- authentication, which confirms that only authorized users access information
- policy and test administration procedures, which confirm the proper handling, retrieval, and tracking of secure materials

5.1.A.2. Assistive Technology

The TDS currently supports a wide array of assistive technologies, and ETS continues efforts to expand the classes of these assistive technologies. The system's streamlined interface adheres to the current version of the Web Content Accessibility Guidelines, and AIR is actively working to secure certification of compliance. Permissive mode is built into the system, which relaxes these security restrictions for individual students who need to use such technologies.

The TDS currently works with a variety of refreshable braille devices, screen readers, on-screen keyboards, and a wide array of input devices.

ETS will collaborate with the CDE to understand the assistive technology needs of California LEAs and students. While it is impossible for any organization to guarantee support for unknown hardware and software, ETS is committed to providing accessibility for all students.

5.1.A.3. Translations

The TDS will support all means of translation access which Smarter Balanced has designed within its Assessment Delivery System or which the CDE determines to be available for the new CAASPP assessments. The availability of access features, embedded supports, and accommodations is completely configurable, at the CDE's direction.

ETS will provide written translations of test directions in 12 languages. ETS will support the translated test directions as provided by Smarter Balanced for the Smarter Balanced

Summative Assessments for ELA and mathematics. ETS will work with the CDE to determine the languages designated for the non-Smarter Balanced CAASPP assessments.

Translations for Smarter Balanced Assessments

ETS's system will deliver Smarter Balanced items with translation tags for all required language translations, and the provided translations will remain consistent with Smarter Balanced specifications. These translations include Spanish, Arabic, Vietnamese, Cantonese, Mandarin, Tagalog, Punjabi, Korean, Russian, Ilocano, Ukrainian, and American Sign Language (ASL).

Translation Glossaries for CAST

Translation glossaries are an embedded designated support that provides for selected construct-irrelevant terms for CAST. Similar to the mathematics translation glossaries provided by Smarter Balanced, the CAST translation glossaries will be available in written and audio formats. The translation glossaries will be available as part of the TDS. For translation glossaries, ETS will select a subset of items that will be identified to translate construct-irrelevant items that will total to approximately 300 – 350 words for each of the three grade-level tests developed, for an estimated total of 900 – 1,050 words.

ETS assessment development specialists will work with EL specialists to identify the words that are recommended for translation. ETS will submit the recommended word lists to the CDE for review and approval. The CDE-approved word lists will then be submitted to ETS's translations services vendor. ETS will provide CAST translation glossaries in 12 languages as specified in the SBE-adopted California Code of Regulations.

If Smarter Balanced implements additional glossaries such as an illustrated glossary, ETS will assess the impact of implementing the new glossary and provide recommendations to the CDE. If the CDE request that the new glossary be implemented under the current contract, the CDE, in consultation with the SBE, may make material amendments to the contract that do not increase the contract cost. Contract amendments that increase contract costs may only be made with the approval of the CDE, the SBE, and the Department of Finance.

In addition, ETS will provide stacked³ translations of the CAST in Spanish. ETS assumes that the CDE will provide its own language experts to conduct the CDE reviews. At the CDE's direction, ETS will arrange to have an independent review completed.

³ Stacked translations are a language support. Stacked translations are available for some students; stacked translations provide the full translation of each test item in Spanish above the original item in English.

5.1.B. Paper-Pencil Tests

ETS assumes that the following assessments⁴ will require braille and large print versions in accordance with student individualized education program (IEP) requirements:

- Smarter Balanced ELA and mathematics, grades three through eight and grade eleven
- California Standards Tests (CSTs) and California Modified Assessment (CMA) for Science in grades five, eight, and ten (for the 2015–16 administration)
- Standards-based Tests in Spanish (STS) for Reading/Language Arts (RLA) in grades two through eleven (2015–16 and 2016–17 administrations)

The print quantities of the CST/CMA for Science (2015–16 administration) and the STS RLA braille and large-print test books will be estimated based on usage from previous administrations and take into account any other factors that could influence volumes. The quantities of the Smarter Balanced braille and large-print test books will be based on orders provided by LEAs through TOMS by December 1 annually.

ETS will provide detailed LEA CAASPP coordinator instructions and test administrator directions to support the test for the special versions.

ETS will produce sufficient quantities of the special version test booklets and supporting answer documents to support the initial orders, any supplemental orders, and any samples necessary to support review and archival processes. ETS will continue to make available the Smarter Balanced special versions of tests, along with their accompanying test materials, even when the standard paper-pencil version is no longer administered.

5.1.B.1. Braille and Large Print Testing Materials

ETS will print the CST and CMA Science braille and large print materials for the 2015–16 administration. ETS will provide the STS braille and large print materials through the term of the contract. ETS will print the Smarter Balanced Summative Assessment braille and large print materials for the 2015–16, 2016–17, and 2017–18 administrations as described in Task 7.

Braille Versions of the CST and CMA Science tests and STS RLA Tests

Braille versions for this contract will be based on existing braille versions of the previously administered assessments. ETS assumes that there will be some level of updates and edits to existing braille materials.

If revisions to the existing braille versions are required, ETS will use contracted braille for CST sciences and CMA sciences and uncontracted braille for STS grades two through eleven.

Fixed-Form, Paper Braille Versions of the Smarter Balanced Summative Assessments

For the 2015–16 administration, ETS will print the fixed-form braille versions provided by Summative Assessments for all grades and content areas as a print-ready PDF. ETS will brand

⁴ Although operational during the life of the contract, ETS assumes that the California Alternate Assessments for ELA and mathematics and the CAPA for Science will not require braille and large print versions since the proposed assessment design is primarily an examiner-led test delivery. CAST, CAA for Science, and CSA will be online administrations only; the braille, large print, and other accessibility features for these assessments will be supported via the TDS and will be implemented within a timeframe that is appropriate for each assessment, which may extend beyond the terms of this contract.

the braille versions with CAASPP-specific covers. There will be no other revisions made to the Smarter Balanced braille versions.

Beginning with the 2016–17 administration, ETS will provide computer-based braille versions of the Smarter Balanced Summative Assessment that are fixed form versions for delivery through the TDS. LEAs may opt to administer the computer-based fixed form braille version to a student instead of administering the CAT and performance task. To accompany the computer-based fixed form braille versions, ETS also will provide LEAs with hard copies of the embossed graphics packages. The graphics packages provide item information such as pictures or other stimuli that may be difficult to braille via a braille reader or embosser during testing.

Large-Print Versions of the CST/CMA Science and STS RLA Tests

Large-print versions for this contract will be based on existing large print versions of the previously administered assessments. Like the braille versions, ETS assumes that there will be some level of updates and edits to the existing large print materials.

If revisions are needed to the existing CST for Science, CMA for Science, or STS for RLA large print versions, ETS test developers will identify those items that require special attention from the staff responsible for producing the large print forms. The large print version will be produced in a font format that is equivalent to 20-point Arial.

Large-Print Versions of the Smarter Balanced Summative Assessments

ETS assumes that Smarter Balanced will not provide a large print version of the Smarter Balanced tests. ETS will produce large print versions that meet the standard state requirements that approximate 14-point font through photo enlargement. ETS will indicate which items cannot be used for scoring because of art or graphics that may be affected by enlargement, and about the spacing of materials that affects performance on items.

ETS will print the large print test forms on 11" x 17" paper. The large print test forms will follow the pagination of the standard-size test book.

Distribution of Printed Braille and Large Print Testing Materials

For the 2015–16 and 2016–17 administrations, ETS will package printed test forms into kits that are ready for distribution to the LEAs on the same schedule as the standard version of the tests. LEAs will use ETS's system to order braille and large print kits, just as they do for the standard test materials.

Braille kits will include:

- braille test booklet
- operational test booklet
- braille response document
- operational response booklet
- directions for administering, transcribing, and returning braille tests
- boxes and envelopes, along with pre-paid return shipping labels, included in the shipment of all materials to the LEAs

Large print kits will include:

- large print test booklet
- booklet directions for administering, transcribing, and returning large print tests
- boxes and envelopes, along with pre-paid return shipping labels, included in the shipment of all materials to the LEAs

ETS will discuss the proposed plans in the project planning meeting, and ETS will make any adjustments to existing procedures or plans for development of accommodated materials.

Scoring of Braille and Large Print Testing Materials

Student responses for the CST/CMA science (2015–16 administration) will be marked on a paper-pencil answer document and will be returned to the ETS scoring center for processing.

Student responses for the STS RLA tests (2015–16 and 2016–17 administrations) will be marked on a paper-pencil answer document and will be returned to the ETS scoring center for processing. For the 2017-18 administration, ETS will provide LEAs with printed braille and large-print STS test materials for students whose IEPs specify the use of these materials. LEAs who use the braille or large print paper STS tests will be responsible for entering the student responses directly into the STS Online Pilot test delivery system in order for the student responses to be scored and reported.

ETS assumes that the Smarter Balanced paper-pencil Summative Assessments will be available by August 1 annually from Smarter Balanced. Refer to Task 7 for additional information on the production of the braille and large print Smarter Balanced forms.

5.2. Unlisted Resources (previously referred to as “Individualized Aids”)

All of the universal tools, designated supports, and accommodations currently required by California are supported. That said, ETS also understands that new technology and accessibility features will become available in the future.

To support this, ETS’s secure test delivery system will include a feature by which LEA CAASPP coordinators could request the use of unlisted resources. Using TOMS, the LEA CAASPP coordinator can select a request button while viewing a student profile. The request would automatically generate a request form linked to that student and would include all required information including:

- LEA name, County-District-School (CDS) code, and mailing address
- LEA CAASPP coordinator’s name and contact information
- the LEA or site testing window, test, and grade
- the Statewide Student Identifier (SSID) for the student for which the accessibility is requested

The LEA CAASPP coordinator would then provide information on the unlisted resource(s) being requested and description of student need(s) that would be addressed by the individualized aid.

If the CDE would like to expand the ability to request unlisted resources to others, for example the test administrator, ETS can configure the user roles to allow for this at no additional cost to the CDE.

Annually at the end of each administration, ETS will provide a summary to the CDE of the unlisted resources requested and the CDE's decisions made for each request.

TASK 6: Assessment Development

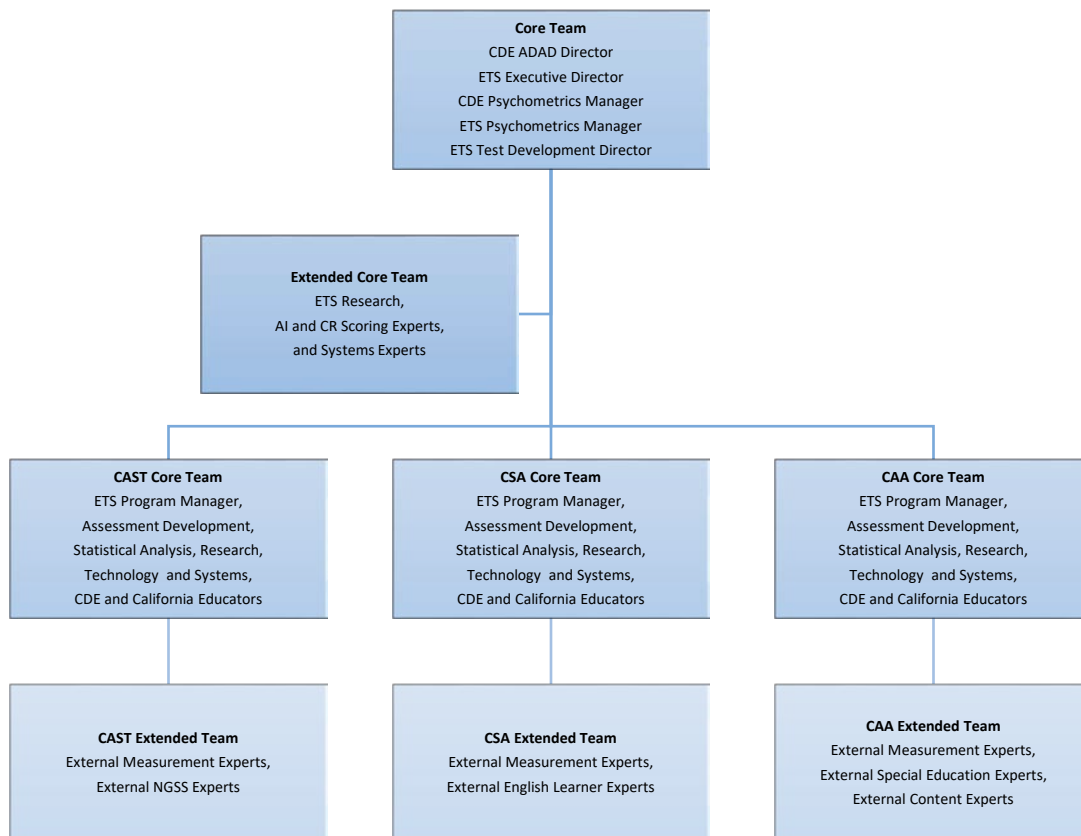
ETS will provide a design plan that provides flexibility based on SBE direction and in collaboration with the CDE. Design and item development through forms construction is performed by ETS Assessment Development with guidance from the lead Psychometrician.

6.1. Assessment Design

For the new assessments, ETS will establish test design teams that include representatives from ETS internal areas of Assessment Development, Statistical Analysis, Program Management, and Information Technology, as well as representatives from ETS's test delivery partner, AIR.

ETS will work with the CDE to engage the appropriate national and state-specific experts to participate in these test design teams. Figure 4 provides an overview of ETS's test design team structure.

Figure 4. Test Design Team Structure



Once the SBE has approved the design plan for each assessment, ETS will begin the test design process with two steps foundational to the evidence-centered design (ECD) process:

- identification (based on the CDE's guidance) of the specific uses of student scores and the claims that the CDE wishes to make based upon those scores
- creation of detailed descriptions of the learning domains to be covered in the assessment

California Science Tests (CAST) and California Alternate Assessments for Science (CAA for Science)

For planning purposes, ETS assumes that the test development activities for the CAST and CAA for Science focus on the assessments required to meet federal accountability. CAST and CAA for Science will be based on the California Next Generation Science Standards (CA NGSS) adopted by the SBE in 2013.

ETS will work with the CDE to develop a high-level test design for the new CAST that includes stakeholder input. ETS anticipates that the CDE will request SBE approval of the high-level test design for CAST during the March 2016 Board meeting. The high-level test design will include the timeline for the CAST pilot and field test activities that are described in this SOW.

ETS and the CDE also will collaborate with stakeholders to develop the conceptual design for the CAA for Science. ETS anticipates that the CDE will request SBE approval of the CAA for Science conceptual design during the July 2016 Board Meeting. The conceptual design will include the timeline for the CAA for Science pilot test activities that are described in this SOW.

ETS will work with the CDE to develop new CAST assessments in grades five, eight, and once in high school, to be determined through stakeholder input and approved by the CDE and the SBE. Development activities for the CAA for Science are described with the California Alternate Assessment activities within this task. The CAA for Science will be in the same grades as CAST: grades five, eight, and once in high school. ETS will work closely with the CDE to develop the CAST and CAA for Science to best meet the state's vision. Other sources of appropriate items may be considered to create the necessary pool for test development and other resources.

A high-level timeline of CAST and CAA for Science development activities for the duration this contract is shown in Table 3 below.

Table 3. High-level Test Development Timeline for CAST and CAA for Science

Administration Year	CAST Activities	CAA for Science Activities
2015–16	<ul style="list-style-type: none"> • Draft test design with the CDE and other stakeholders • Receive approval from the SBE for high-level test design • Develop draft blueprints • Develop General ALDs • Develop sufficient items for each grade to include on <ul style="list-style-type: none"> ○ Pilot Test ○ Training Test 	<ul style="list-style-type: none"> • Draft test design with the CDE and other stakeholders • Receive approval from the SBE for high-level test design • Develop one training test sample embedded performance task • Develop census pilot test – Year 1 items <ul style="list-style-type: none"> ○ one embedded performance task for grades 5 and 8, and high school
2016–17	<ul style="list-style-type: none"> • Administer census pilot test • Write initial item/task specifications • Develop sufficient number of items for field test • Conduct rangefinding of pilot test CR items • Complete pilot test CR scoring • Update training test with revisions from stakeholders <ul style="list-style-type: none"> ○ Add accessibility supports • Conduct pilot test data review • Conduct review of items developed for field test • Produce pilot test technical report 	<ul style="list-style-type: none"> • Administer census pilot test • Write initial item/task specifications • Develop census pilot – Year 2 items <ul style="list-style-type: none"> ○ Sufficient number of embedded PTs for field test by grades 5, 8, and high school to administer a minimum of 3 embedded PTs for each grade (i.e., grades 5, 8, and once in high school) • Develop two training test samples embedded performance task for each grade (i.e., 5, 8, and high school) • Conduct pilot test – Year 2 item review • Produce pilot test summary report
2017–18	<ul style="list-style-type: none"> • Finalize blueprints for SBE approval • Finalize General (Policy) ALDs for SBE approval • Develop and add additional items when appropriate to create a training test in grades five, eight, and high school • Administer census field test • Conduct cognitive labs • Conduct field test data review • Complete field test CR scoring • Review and revise test blueprint, if necessary • Produce field test technical report 	<ul style="list-style-type: none"> • Finalize blueprints for SBE approval, including Core Content Connectors • Finalize General (Policy) ALDs for SBE approval (ETS to fill an advisory role to the CDE for this task, similar to the process used for CAA ELA and mathematics) • Administer census Year 2 Pilot • Conduct pilot test – Year 2 data review • Produce pilot test – Year 2 technical report

The CAST will consist of a census pilot test in 2016–17 and a census field test in 2017–18. For the pilot test, ETS will administer 30 discrete items for grade five, 36 discrete items for grade eight, 36 discrete items for high school, and three performance tasks one for each grade (i.e., grades five, eight, and high school). For the field test, ETS will develop a sufficient number of discrete items and performance tasks per grade based upon the draft blueprint, as directed by

the CDE, to build the pool for a multi-stage adaptive test within the first two operational years. A blueprint and general ALDs will be drafted for the CDE review and will be presented to the SBE in fall 2017 for approval. (Content-specific ALDs and standard setting are not included in this scope of work.)

The final set of items to be administered in the field test will be based on the SBE-approved blueprint. If the SBE-approved blueprint differs from the draft blueprints used during the item development process for CAST, ETS will assess the impact of the changes to the test development activities and field test. ETS will provide recommended actions to the CDE in order to address the changes. This blueprint impact analysis also applies to the blueprints for CAA for Science. If approved blueprints are different from the draft blueprints, ETS and the CDE will collaborate to reach a mutually agreed upon solution for field testing the CAST or the CAA for Science.

In order to develop items for CAST, ETS will develop task models. ETS defines “task model” as a set of documents to guide item developers and reviewers on approaches to item development, alignment to performance expectations, and characteristics of the components of the performance expectations (i.e., Science and Engineering Practices [SEPs], Disciplinary Core Ideas [DCIs], Cross Cutting Concepts [CCCs]) and will provide documentation of the test development process for peer review. The draft task models will be written in 2016–17, and revisions and refinements to the task models are expected as data and feedback from the pilot test is gathered.

The CAA for Science will be developed as an “embedded performance task” design that permits closer integration of assessment with classroom instruction. ETS will develop sufficient numbers of items that will result in an item bank to cover the SBE-approved blueprint. To address test security concerns due to the embedded design, ETS will take into consideration an item refresh rate that will maintain a robust operational item bank. Two census pilots will be administered:

- For Pilot Year 1 in the 2016–17 administration, ETS will develop a sufficient bank of items to yield a target of three tasks for pilot testing: one each for grade five, grade eight, and high school.
- For Pilot Year 2 in the 2017–18 administration, ETS will develop a sufficient bank of items to yield a target of nine tasks for pilot testing: three each for grade five, grade eight, and high school.
- In addition to developing tasks for pilot testing, ETS will develop a sufficient number of items to yield a target of six additional tasks for training purposes: two each for grade five, grade eight, and high school.

ETS will develop CAA for Science blueprints in collaboration with the CDE and within a mutually agreed-upon timeline. Formal field testing, content-specific ALD development, scoring, and reporting are not included in this scope of work. ETS will advise the CDE in the development of general ALDs for CAA for Science using the same process as for the CAA for ELA and mathematics ALD development.

California Alternate Assessments for ELA and Mathematics

Per EC Section 60640(b)(3), the CAA is limited to the same grades and subject areas assessed by the Smarter Balanced Summative Assessments (i.e., ELA and mathematics in grades three through eight, inclusive, and grade eleven). ETS will incorporate the ECD test development process with a high-level test design focused on the principles of universal design for learning.

Using these concepts to guide test design and item development will allow ETS to create an assessment that is accessible to the widest range of students—and the resulting test scores will accurately reflect the claims of the assessment.

ETS proposes an innovative design that could evolve towards a pre-equated adaptive assessment at each grade, from three through eight and grade eleven. For ELA and mathematics this design will need to evolve from an initial post-equated two-stage adaptive assessment in the 2015–16 and 2016–17 administrations to potentially a pre-equated two-stage assessment in the 2017–18 administration. Post-equating involves the scoring of tests after the administration is complete and all test data is received, and is necessary if prior statistics are unavailable for items. Starting with the 2017–18 administration, scoring can be conducted earlier using “pre-equated” test forms, and results will be reported on the same timeline as other CAASPP assessments. ETS will work with the CDE and with California stakeholders to determine if this proposed design meets the state’s needs.

The core elements of the CAA for ELA and mathematics include:

- test design and item development to allow for students at all achievement levels, from essential understanding to CCC, to show what they know and can do
- incorporating student background characteristics into assessment design and analysis
- accessible and flexible delivery of assessment tasks that allow for diversity of student communication, attention, and sensory needs to show what they know and can do

Working with the CDE, ETS will identify a plan for a two-stage adaptive test design for CAA ELA and mathematics that meets core psychometric requirements and is reasonable in test length and cost.

The ETS item development plan will support the exploration of acquiring and incorporating item banks such as National Center and State Collaborative (NCSC) as those item banks become available to California. This will offer California comparable measurement precision with reduced testing time compared to the 2015 NCSC test design. ETS anticipates receiving the NCSC items in FY 2016–17. ETS, in consultation with the CDE, will review the available NCSC items in both ELA and mathematics and will select items that are a good fit for adaptation and use for CAA for ELA and mathematics. ETS will incorporate the items into the item bank for possible use in future CAA for ELA and mathematics test administrations. In the 2017–18 administration, ETS will modify NCSC items consistent with CAA item style guide and begin field testing NCSC-derived items by embedding these items into the operational forms. These modified NCSC-derived items will require item statistics prior to the items being used on pre-equated operational forms.

Incorporate Student Background Characteristics into Assessment Design and Analysis

Recent advances in alternate assessment design recognize the value of using data on student background characteristics to:

- evaluate the fairness of assessments for different groups of students
- document the validity of the assessment based on external criteria
- route students to appropriate test difficulty
- inform standard setting

ETS will work with the CDE to target a specific area of potential use for student background characteristics to investigate.

An efficient way of collecting background information is through the use of a short student inventory that teachers can complete during a student's first year of testing, with a shorter version for subsequent years. One example of this is the NCSC Learner Characteristic Inventory (LCI): <http://www.ncscpartners.org/media/default/pdfs/lci-project-report-08-21-12.pdf>. California teachers who completed the NCSC pilot tests completed the LCI, which allowed for deeper analysis of pilot test and field test data. In addition, ETS can use the NCSC LCI along with the NCSC Student Response Check (SRC) to route students in an adaptive assessment, or to determine test stopping rules for students who are unable to respond to test items due to their current functional levels.

ETS will work with the CDE to adapt the LCI or develop a similar inventory for California, called the Survey of Student Characteristics (SSC), that allows administration to either students or teachers to describe a student's abilities relevant to the constructs that the test measures. Another possible flexibility is to use teacher ratings to inform "stopping rules" (e.g., using teacher ratings in conjunction with a screening assessment to identify students without a foundational level of communicative competency).

Finally, ETS will work with the CDE to include one question (per content area) to allow teachers to rate student abilities in relation to applicable achievement-level descriptors (ALDs) (for example, the Performance Level Descriptors [PLDs] likely available from NCSC for ELA and mathematics and new CAA for Science PLDs) that summarize the grade- and content-specific knowledge and skills expected of students at different levels of proficiency. This additional question would simply ask the teacher to identify the level of proficiency that most closely matches the level of proficiency that the student demonstrates in the classroom. What would emerge is a grouping of students by achievement levels based in part on the recommendations of teachers who have the most knowledge of and experience with the students. Then, once ETS receives each student's test score information, ETS will have a clear relationship between item and test performance and student ability levels. ETS may apply a contrasting-groups analysis to these data to recommend preliminary or tentative cut scores—the minimum test score needed to enter a proficiency level.

After completing analyses of first-year data from administering the SSC, ETS will work with the CDE to determine whether future operational use of the SSC is appropriate. In addition, ETS will present overall SSC findings to the CDE in a format that best meets the CDE's needs.

Accessible and Flexible Delivery

The third core element of an alternate assessment is accessible and flexible delivery of test content. Students with significant cognitive disabilities use a wide diversity of expressive/receptive communication modes. For example some students use various augmentative and alternative communication (AAC) systems, while others may respond verbally, through sign language, or through gestures, verbalizations, or facial expressions. To accommodate this diversity, ETS will use an online delivery platform along with individualized administration that allows for print-on-demand paper or tactile delivery and scribe/reader facilitated administrations for students for whom these accommodations are appropriate.

California Spanish Assessment

In 2015–16, ETS will work with the CDE to develop a careful and collaborative design process that includes national advisors and stakeholder input. ETS will work with the CDE to develop a

high-level test design for the new California Spanish Assessment (CSA). The CSA will assess reading, writing, and listening in Spanish, and will be aligned with the California Common Core State Standards en Español, which will include linguistic augmentations specific to the Spanish language. It is anticipated that the high-level test design will be recommended for SBE action in September 2016.

The final set of items to be administered in the field test will be based on the SBE-approved blueprint. If the SBE-approved blueprint differs from the draft blueprints used during the item development process for CSA, ETS will assess the impact of the changes to the test development activities and field test. ETS will provide recommended actions to the CDE in order to address the changes. If approved blueprints are different from the draft blueprints, ETS and the CDE will collaborate to reach a mutually agreed upon solution for field testing the CSA. A high-level timeline of CSA development activities during the duration of this contract is shown in Table 4 below.

Table 4. High-Level Test Development Timeline for CSA

School Year	Activities
2015–16	<ul style="list-style-type: none"> • Draft high-level test design • Consult with national advisors and stakeholders on the test design of the CSA
2016–17	<ul style="list-style-type: none"> • Finalize high-level test design for SBE approval • Develop Pilot Test passages and items • Conduct item writer training • Review Pilot Test passages and items with educators • Draft, finalize, and receive approval of Pilot Test plan • Develop draft test blueprints and General ALDs • Conduct blueprint review meeting with educators • Develop Field Test passages and items • Conduct item writer training • Review Field Test passages and items with educators • Deliver Pilot Test Technical Report Outline
2017–18	<ul style="list-style-type: none"> • Administer Pilot Test • Conduct cognitive labs • Deliver Pilot Test technical report • Draft, finalize, and receive approval of Field Test plan • Finalize test blueprints and General ALDs for SBE approval • Deliver Field Test Technical Report Outline
2018-19 (through Dec. 31, 2018)	<ul style="list-style-type: none"> • Build test forms for the operational test • Develop content-specific ALDs • Administer Field Test • Conduct Field Test Data Review • Produce Field Test technical report • Finalize operational test forms

The purpose of the CSA will be to measure a student's competency in Spanish language arts in grades three through eight and high school for the purpose of:

- providing student-level data in Spanish competency
- providing aggregate data that may be used for evaluating the implementation of Spanish language arts programs at the local level
- providing a high school measure suitable to be used, in part, for the State Seal of Biliteracy

The targeted test-taking population of the CSA will consist of:

- students receiving instruction in Spanish in California
- students seeking a measure that recognizes their Spanish-specific reading, writing, and listening skills

ETS will use a test development process similar to that used for Smarter Balanced. While the complexity of the items are similar, the CSA is not a translation or adaptation of the Smarter Balanced ELA test.

Process for Working with the CDE and its Stakeholders in Designing and Developing Test Designs

ETS will implement the following plan to help California design forward-looking yet practical assessments for CAST, CAA for Science, and CSA. ETS understands that the state will undergo a thorough process by which the State Superintendent of Public Instruction (SSPI) will provide assessment recommendations to the SBE and legislature for consideration. Test development activities for CAST, CAA for Science, and CSA will commence upon direction by the CDE. The work will proceed in the following stages as described in Table 5.

Table 5. Summary of Process for Designing and Developing California Assessments

Process Step	Associated Tasks	Deliverables to the CDE for Review and Approval
Step 1: Create a Draft High-Level Design Document for the CDE's Consideration	<ul style="list-style-type: none"> convene ETS and external subject matter experts develop draft claims and propose evidence to support those claims identify items, tasks, stimuli, passages, and simulations to provide evidence determine test format 	Draft High-Level Design Document
Step 2: Review Initial Draft of High-Level Design Document	<ul style="list-style-type: none"> stakeholders meet throughout the state 	High-Level Design
Step 3: Produce Detailed Task and Test Specification Documents	<ul style="list-style-type: none"> draft test blueprints develop specifications for items and tasks develop specifications for test forms draft initial achievement-level descriptors (ALDs) draft plan for producing operational results of assessment 	Detailed Specifications Documents (i.e., pilot test plan, field test plan) Draft test blueprints
Step 4: Conduct Reviews of Detailed Item and Test Specifications and ALDs	<ul style="list-style-type: none"> review with the CDE staff conduct stakeholder outreach 	Revised Documents
Step 5: Finalize Design and Specifications Documents	<ul style="list-style-type: none"> finalize documents based on input collected in Step 4 	Final Documents.

6.2. Item and Task Development

All items that ETS develops will meet the technical criteria established in the American Educational Research Association (AERA), the American Psychological Association (APA), and the National Council on Measurement in Education (NCME) Standards for Educational and Psychological Testing.

ETS Item and Task Development Processes

In Table 6, ETS describes the standard item and task development processes, which ETS will use for the CAASPP System. Note that ETS discusses both standard processes for more traditional items, as well as the robust processes ETS uses for the development of more complex items types (e.g., interactive and scenario-based tasks).

Table 6. Summary of Process for Item and Task Development for California Assessments

Process Step	Associated Tasks	Deliverables to the CDE for Review and Approval	Assessments for which the Process Step is Applicable
Step 1: Review Existing Item Pools	Existing items will be evaluated and placed into one of the following categories: <ul style="list-style-type: none"> item aligns with the test specifications and can be used in the assessment as is 	Analysis Report	CSA

Process Step	Associated Tasks	Deliverables to the CDE for Review and Approval	Assessments for which the Process Step is Applicable
	<ul style="list-style-type: none"> item can be used in the assessment with modification item cannot be used in the assessment 		
Step 2: Create and Submit Annual Development Plans	<ul style="list-style-type: none"> detailed development targets by content classification, item type and grade identification of all deliverables, including items, rationales, rubrics, stimuli, copyright permission, etc. definition of metadata that will be associated with all items and tasks description of major review steps a detailed schedule for the development process 	Item Development Plan	CAA for ELA CAA for Mathematics CAA for Science CAST CSA
Step 3: Recruit and Train Item Writers	<ul style="list-style-type: none"> selection and training of item writers item writing assignments 	Item Writing Workshop Plan	CAA for ELA CAA for Mathematics CAA for Science CAST CSA
Step 4: Creation of Items and Tasks	<ul style="list-style-type: none"> draft quality items ranging from the simpler to the most complex and innovative develop associated metadata establishing item alignments to the framework targets utilize Agile Development 	Deliverable in Step 6	CAA for ELA CAA for Mathematics CAA for Science CAST CSA
Step 5: Internal Reviews at ETS	<ul style="list-style-type: none"> three internal content reviews an internal editorial review an internal bias and sensitivity review 	Deliverable in Step 6	CAA for ELA CAA for Mathematics CAA for Science CAST CSA
Step 6: Submission of Items and Tasks to CDE and CDE Review	<ul style="list-style-type: none"> performance task development technology-enhanced item development 	Draft Items and Tasks	CAA for ELA

Process Step	Associated Tasks	Deliverables to the CDE for Review and Approval	Assessments for which the Process Step is Applicable
	<ul style="list-style-type: none"> traditional item development 		CAA for Mathematics CAA for Science CAST CSA
Step 7: External reviews with content and bias and sensitivity review groups	<ul style="list-style-type: none"> recruit external reviewers prepare the necessary materials facilitate review record results 	Meeting Summary Report	CAA for ELA CAA for Mathematics CAA for Science CAST CSA
Step 8: Alternate Test Formats	<ul style="list-style-type: none"> follow American Printing House for the Blind (APH) and ETS guidelines for refreshable braille 		CAST CSA

Step 1: Review Existing Item Pools

Once ETS has completed test designs, ETS will review any relevant existing items or passages in the California pools for appropriateness for the tests. ETS understands that it is not sufficient that an item can be “classified” according to a standard. For example, for CAST, items must truly measure the core ideas, practices, and cross-cutting concepts of CA NGSS, and must fit the new assessment specifications. For CAST, a review of the items used to assess the previous science standards was conducted in 2015. In agreement with the CDE, very few items from the science items in California’s Standardized Testing and Reporting (STAR) item bank could be used to assess the new CA NGSS.

Step 2: Create and Submit Annual Development Plans

After completing the review of the existing pools (where appropriate), ETS will complete a plan for item and task development for each new assessment.

Since CAA for ELA and mathematics administration will be an operational assessment beginning with the 2015–16 administration, the initial development plan will be constructed to allow for operational field testing in 2015–16 and 2016–17 to augment the item bank, followed by embedded field testing to maintain the bank in 2017–18 administration. ETS will submit the initial item development plans for alternate ELA and mathematics by December 2015, and the schedules for Steps 3 through 8 will be based on a December 2015 approval date by the CDE.

For planning purposes for CAST and CAA for Science, the plan will be constructed to allow for pilot testing in the 2016–17 school year. For CAA for Science, pilot testing will extend to a

second year in 2017–18. For the CSA, the plan will be constructed to allow for pilot testing in fall of the 2017–18 administration year. ETS understands that the development plans and schedules for Steps 3 through 8 below will be dependent on SBE approval and directions provided by the CDE to ETS on the assessments to be developed for these areas.

Step 3: Recruit and Train Item Writers

To achieve a strong representation of educators from California in the item development process, ETS with the guidance of the CDE will recruit California educators. When each new development cycle begins, ETS will conduct in-person and virtual item writing workshops that provide an overview of the subject framework, subject-specific guidelines, item writing techniques, factors that influence item difficulty, criteria for selecting stimulus materials, accessibility considerations, determination of appropriate item types to target specific measurement goals, translatability considerations, and bias/sensitivity guidelines.

ETS will give item writers assignments that include item target attributes. Assignments will include additional desired item attributes such as difficulty level, assessment goals, use of specific stimuli including media elements, accessibility guidelines, and tools and simulations. Outside item writers will sign and submit standard confidentiality agreement forms and will submit draft items to ETS electronically using appropriate security measures.

Step 4: Creation of Items and Tasks

Central to the development of items are the standards for which the CDE wants to collect evidence of student understanding. For many standards, the selection of passages and stimuli is a key component to ensuring items and tasks are aligned to the standards. For example, the CCSS for ELA place an emphasis on text complexity as the major differentiator of standards across the grades, and the CCSS for mathematics and the CA NGSS emphasize the application and generalization of knowledge and skills in a variety of settings.

Similarly, the creation of items involves more than the item content. Part of the ETS item development process includes the development of rationales (e.g., for incorrect answer options in selected response items) and scoring information and/or rubrics (e.g., for constructed-response items).

Agile Software Development

ETS will ensure that traditional items (e.g., selected response, technology-enabled items, and constructed-response items) are created to measure accurately specific content and to provide meaningful information based on student responses. ETS also has processes in place for developing more innovative items and tasks that may be required to address performance expectations in CAST, the CSA, and the CAAs.

An Agile Software Development approach will be used for the development of all technology-based performance tasks under this proposal, as used by ETS on NAEP science development for NCES performance tasks. Agile Software Development involves iterative stages of development with clear targets for the development goals and functionality at each stage of the development. Each stage is informed by data collection procedures and review commentary that improves the quality and usability of the final product, so that the critical investments that are needed for sophisticated and complex measurement tasks can be made appropriately at each stage shown below.

Task Outline Agreement Review. For science performance tasks, the task concept involves an outline with key elements that will be incorporated into the tasks, including standard item development characteristics such as framework targets and overall formats, but also performance-specific elements such as the inquiry question to be addressed and the independent and dependent variables to be included.

Alpha Draft Task Agreement Review. The next stage of review by the CDE will be of a programmed version of the task called the “alpha” build, with final text and all item content in place and mockups of graphics, animation, and functionality.

Certification Review. This is a Keep-or-Drop review by the CDE. During this review, the performance tasks are reviewed for their fidelity to the final text agreed upon at the Alpha draft task build text (see above) and for the final functionality as agreed in the Alpha draft task build functionality mockup.

Step 5: Internal Reviews at ETS

ETS has well-established procedures for reviewing all items to ensure they meet California’s expectations. Throughout this multi-step item review process, ETS assessment specialists continuously evaluate the match of the items to the standards, the appropriateness of the items to the population being assessed, the importance of the information being assessed, and the implications for instruction. Another key aspect of item reviews is ensuring conformity with California Test Item Specifications and the California Style Guide. If an item is deemed to be unrelated to the content standards, to not be age appropriate, or to provide inappropriate models for instruction, it is revised or eliminated.

Step 6: Submission of Items and Tasks to the CDE and CDE Review

ETS is committed to providing the CDE sufficient time to review and approve all content materials prior to assessment review panels. For performance task development, ETS proposes a schedule where the CDE’s review of traditional items coincides with the Alpha Draft Task Agreement Review of Performance Tasks. The CDE’s review of Technology-Enhanced items will follow an approach similar to selected response and constructed-response items. All items and tasks for each development cycle will be submitted to the CDE for review.

Step 7: External Reviews with Content and Bias/Sensitivity Review Groups

ETS will present its plan for the CDE review followed by field review of the items and associated scoring rubrics. All assessment items are to be reviewed upon the completion of item editing. Each item must be reviewed by a Content and Bias/Sensitivity Review Group in each content area to confirm that the item is of high quality, that it has accurate content alignment for that content area, that it measures the skill in a sound manner, that it does not unfairly advantage/disadvantage any student, and that it is not offensive to students, parents, or the public.

ETS Will Prepare the Necessary Materials and Facilitate Review

For each meeting, ETS will prepare and provide all required review materials. ETS facilitators will record all external reviewer input in master item books, with a location to mark the reviewer’s judgment of “Accept as is,” “Accept with edits,” or “Reject.” At the conclusion of each meeting, ETS and the CDE representatives will discuss issues or discrepancies in notes or group recommendations. For performance tasks, see the review criteria recording for each

stage of review described above (Accept/Decline followed by revise to Accept for Outline and Alpha Build reviews; Keep/Drop for Certification review stage).

Recruitment of Content and Bias/Sensitivity Reviewers

ETS will seek applications from California educators by e-mailing the application form and process to LEAs. Applicants are vetted by ETS content staff to ensure minimum qualifications; criteria include degree in the appropriate field and teaching experience in the subject assessed. Those applicants who are qualified based on these criteria are forwarded to the CDE, and the CDE makes final selections from the pool of qualified applicants.

Role of External Reviewers

Content reviewers are convened to validate the content appropriateness of all items, passages, and scenario-based tasks prior to inclusion in the bank. ETS facilitators meet with content reviewers (either in person, or in a moderated online review) to discuss each item. Content reviewers consider the following questions as they review assessment materials:

1. Is the content of the item accurate?
2. Is the item correctly aligned to the standard?
3. Is the item an appropriate measure of student ability?

Based on these questions, the reviewer may decide to accept, revise, or reject an item, passage, or task from the bank. All items must complete this review prior to selection for use.

Bias/Sensitivity reviews are conducted to ensure that the content of assessment materials are free of any information or subject matter that may favor one group of students over another (criteria for group differences include gender, race/ethnicity, urban/rural, and socioeconomic status), or that may be disturbing or provoke an emotional response that could affect student performance. In committee recruitment, ETS recommends seeking teacher representatives reflecting the broad diversity of the state's population to ensure that many perspectives are represented in committee deliberations. Bias and sensitivity reviews are conducted by the Content Reviewers during the Content Review Meetings. ETS will provide facilitators with special training in facilitating bias and sensitivity reviews. Bias/Sensitivity review groups are asked to consider the following questions as they review assessment materials:

1. Does the item, passage, or task contain information that may favor one group over another?
2. Does the item, passage, or task contain information that may be disturbing, controversial, or provoke an emotional response among some test takers?

If the answer to either question is yes, the reviewers will be asked to consider whether the item, passage, or task is an appropriate measure of student ability for the given standard. Based on discussion around this last question, the reviewers may recommend edits to the item, or may recommend it be rejected.

Finally, the reviewers will evaluate the set of items as a whole to determine whether the items, passages, and tasks are representative of the gender, racial/ethnic, socioeconomic, and urban/rural makeup of the state.

Following the Meetings. At the conclusion of each meeting, ETS and the CDE representatives will discuss issues or discrepancies in notes or reviewer recommendations. For performance tasks, see the review criteria recording for each stage of review described above (Accept/Decline followed by revise to Accept for Outline and Alpha Build reviews; Keep/Drop for

Certification review stage). ETS will provide summary results from the review meetings, including the total number of items accepted as is, the number of items with revision, and the number of items rejected.

Preparation for external alignment evaluation. As described in Task 1, ETS understands that the CDE will contract with an independent evaluator to conduct alignment evaluation studies for CAST, CAA for Science, and the CSA. ETS is familiar with various alignment methods (e.g., Baron, Tannenbaum and Bailey, 2013; Herman, Webb, & Zuiga, 2007; Webb, Herman & Webb, 2007) and will provide the necessary data and test materials to the CDE for this work.

Step 8: Alternate Test Formats

ETS recognizes that some students will require alternate test formats to access test content, even with the focus on universal design and accessible testing platforms. All alternate testing formats will be developed by a specialized unit within ETS's Assessment Development division, called the Alternate Test Formats (ATF) group, which is devoted to the development of alternate test forms. ETS assessment specialists work closely with the ATF group throughout the process to establish content validity in the adaptations. The Alternate Test Format group collaborates with approved braille vendors to produce embossed braille materials. ETS has experience working with several braille vendors, including but not limited to National Braille Press, Associated Services for the Blind, Region IV, Clovernook, and GH Braille. In addition, the ATF group works with assessment specialists to review Accessible Portable Item Protocol (APIP) tagging of items. APIP tagging standardizes the process for embedding accessibility features for test accommodations, including braille, audio forms, and language accommodations.

6.2.A. Pilot Testing

As part of the annual development plans described in Task 6.1 above for CAST, CAA for Science, and the CSA, , ETS will develop piloting plans with the CDE that best suit the advancement of the CAASPP System, including administration of pilot testing of CAST and CAA for Science as census administrations, and as a sample administration for the CSA, for all eligible students in the state and the associated collection of test completion information for all students. In this process, ETS researchers will share measurement advances with the CDE. A pilot testing plan will be provided for each assessment developed.

In general for planning purposes, ETS assumes that a pilot test plan will describe the following:

- Purpose of the pilot and base criteria for evaluating pilot results
- Process by which relevant test administrator observations and student comments can be collected from post-test administration questionnaires
- Preparation, review, and production process for all materials for pilot testing, whether the materials are computer-based or paper
- Sampling plan and proposed sample size, or census testing
- Pilot test administration directions
- Proposed schedule of tasks, deliverables, and pilot test activities (including data review and rangefinding)
- Planned analysis and pilot test report

- Conduct small-scale cognitive labs (or similar research-based studies) and report (CAST and CSA)
- Communication and training plan to LEAs

ETS will collaborate with the CDE to finalize each pilot test plan and to schedule the pilot administrations in order to minimize disruption to instructional activities and to avoid conflicts with accountability assessment administrations.

ETS will conduct cognitive labs or similar research based studies for the CSA concurrent with the fall 2017 pilot. The goal of the CSA cognitive lab study is to collect in-depth information about the students' interaction with the technology-enhanced items and testing platform. The findings of the study will provide information regarding how students interact with technology-enhanced items in Spanish.

ETS will complete cognitive labs for CAST as one of the special studies conducted under Task 9. The goal of the CAST cognitive labs is to investigate accessibility with certain item types and interactions. The findings of the study will be used to inform future item development to increase accessibility.

6.2.B. Field Testing

ETS understands that the CDE expects the administration of a stand-alone field test for CAST (census field test) and the CSA (sample field test). For CAA for science, census pilot testing will extend for a second year. ETS also understands the expectation of every eligible student to take part in these field tests, which is similar to the successful model that the CDE utilized in 2014 for the Smarter Balanced field test.

As part of the annual development plans described in Task 6.1 above for CAST and CSA, ETS will develop field testing plans with the CDE that best suit the advancement of the CAASPP System. In this process, ETS researchers will share measurement advances with the CDE. A field test plan will be provided for each assessment developed.

In general for planning purposes, ETS assumes that a field test plan will describe the following:

- Purpose of the field test and base criteria for evaluating field test results
- Process by which relevant test administrator observations and student comments can be collected from post-test administration questionnaires
- Preparation, review, and production process for all materials for field testing, whether the materials are computer-based or paper-pencil
- Sampling plan and proposed sample size
- Field test administration directions
- Proposed schedule of tasks, deliverables, and field test activities
- Scoring, including rangefinding, activities
- Planned analysis and field test report
- Communication and training plan to LEAs

ETS will collaborate with the CDE to finalize each field test plan and to schedule the field test administrations in order to minimize disruption to instructional activities and to avoid conflicts with accountability assessment administrations.

Smarter Balanced

AIR's TDS supports embedded field-testing of newly developed Smarter Balanced items. ETS has assumed that all items will be provided by Smarter Balanced. ETS anticipates that the 2015–16 administration will include five to eight additional items in the computer-based tests only. ETS has not included costs for the development, scoring, or analyses of these field test items. Smarter Balanced will develop, score, and analyze the Smarter Balanced field test items. If Smarter Balanced uses a field test design that requires different blueprints, scoring models, or other work that is not part of the existing operational test administration process, ETS will provide the CDE with an analysis of the impact to scope, schedule, and resources.

Beginning with the 2016–17 administration, Smarter Balanced intends to field test performance tasks as an embedded field test within the standard administration of the Smarter Balanced Summative Assessments. Students will be randomly selected to take the embedded performance task field test, while other students will take the operational performance tasks. ETS will be responsible for identifying crisis papers and reporting any identified crisis papers to the student's LEA immediately using the established notification process described in Task 8. Smarter Balanced will score student responses to the embedded performance tasks field test. This embedded performance task field test design will require that ETS create a blueprint and scoring models that are different from the operational test design. ETS also assumes that Smarter Balanced will return Writing Extended Response (WER) scores from the embedded performance task field test once they have completed scoring. If existing funds are available, ETS will implement the embedded performance task field test design beginning with the 2016–17 administration and assumes that the same field test design will be used for the 2017–18 administration. Additional information about activities related to the Smarter Balanced embedded performance task field test are included in Tasks 7 and 8.

6.2.C. Forms Construction

ETS will employ the Item Banking Information System (IBIS) platform for test construction activities. ETS will work hand-in-hand with the CDE during the test construction process. Additional details of the forms constructions requirements will be included in the annual development plans. ETS will acquire the CDE's approval before the test specifications and blueprints are finalized and before any item pool or form moves forward in the process.

6.3. Standard Setting (excluding Smarter Balanced assessments)

ETS will meet the needs of the CDE by providing a sound and defensible standard setting process. ETS will collaborate with the CDE, and as appropriate with the TAG, to provide the necessary plans and materials for approval. ETS understands the needs of the CDE regarding achievement-level descriptors (ALDs) and standard setting, and will deliver reports in a timely manner to gain input from the CDE and the California public prior to SBE approval.

Beginning with this SOW amendment, ETS will conduct the following standard setting activities for the new CAASPP assessments:

- Develop grade and content ALDs and conduct standard setting for CAA for ELA and mathematics

- Develop general ALDs for CAST, CAA for Science, and the CSA

Based on the SBE-approved high-level test designs for CAST and CAA for Science, the development of the grade- and content-specific ALDs as well as the standard setting activities will occur in a phase outside of the terms of this contract

Table 7 below provides a high-level timeline of the activities related to standard setting, pending SBE approval of the test designs for each assessment.

Table 7. High-Level Timeline of Standard Setting Activities by Assessment

Program	General ALDs	Grade & Content Specific ALDs	Standard Setting
CAA ELA & Math	2014–15—developed by CDE prior to this contract	December 2016	August 2016
CAA for Science	2016–17	Not applicable	Not applicable
CAST	2016–17	Not applicable	Not applicable
CSA	2017-18	July 2018	Not applicable

Development of Achievement-Level Descriptors

ETS will propose and implement a process to develop the ALDs for each assessment on a timeline that is appropriate to the approved test designs for each assessment and that will allow review and revision by the CDE and SBE staff as needed. For CAA for ELA and mathematics, ETS will produce final approved grade- and content-specific ALDs for use in final form development and for use at the standard setting workshops.

For CAA for ELA and mathematics, ETS will facilitate ALD workshops, panel meetings of California educators, parents/guardians, and community representatives prior to the standard setting workshops. The panels will identify and discuss the knowledge and skills required of students in each grade and subject area for each level. The majority of participants will be teachers currently teaching the population of students taking the assessment, currently licensed in the subject and grades, and with five or more years of teaching experience. Teachers will have practice working with the California standards. Prior to the ALD workshop, participants will be provided with a pre-workshop assignment on the California standards, which will prepare them for the activities of the workshop. The ALD workshops will occur as soon as the blueprints are approved. Final blueprints and standards are essential elements of the ALD process.

For CAST, ETS will develop general ALDs with California educators during workshops in 2016–17. For CAA for Science, ETS will advise the CDE in the development or adoption of general ALDs for CAA for Science using the same process as that used for the CAA for ELA and mathematics ALD development. For the CSA, ETS will develop content-specific ALDs, which will be reviewed by California educators and stakeholders. Grade- and content-specific ALDs for CAST and CAA for Science will not be developed as part of this contract.

With CDE approval, ETS used the NCSC ALDs as the starting point for the CAA for ELA and mathematics prior to the start of this contract. ETS will develop the grade- and content-specific ALD work in workshops in Sacramento to be approved by the CDE.

For all ALD work, ETS staff with content knowledge and distance-based facilitation experience will conduct all training and facilitation. Prior to the start of each ALD workshop, ETS will conduct a walkthrough with the CDE of each of the ALD plans in Sacramento, California.

ETS understands the challenges associated with recruiting from this specialized pool of educators and will include utilizing contact lists of known California educators from this population to establish necessary representation. ETS proposes, for costing purposes, a four-panel workshop for the CSA, which will include two or three grades in each grade-based panel, including four representatives at each grade, and parent/guardian and community representatives. ETS anticipates a three-day workshop for each ALD workshop conducted for the CSA. The resulting ALD documents will be edited and a draft provided to the CDE for review prior to preparing a final document for SBE review.

ETS will recruit a similar configuration of panelists for the CAA ELA and mathematics ALD meetings; however, ETS anticipates that teachers on the CAA ELA and mathematics panels will have experience teaching both ELA and mathematics, which allows for more flexibility in recruiting and assignment. Representatives will participate in the grade-band and content area for which they have experience. Each panel will work in a small group to review grade- and content-specific NCSC ALDs, alternate assessment blueprints, and additional materials such as exemplar items. All available panelists will review all grades in their content area to finalize the CAA ELA and mathematics ALDs. ETS will provide this final document to the CDE for review and approval prior to presentation to the SBE for approval. Sample panel configurations for ALD workshops are included as Table 8, Table 9, and Table 10 below.

Table 8. Sample Panel Configuration for CSA ALD Workshops

Grades	Number of Panelists
3–4	10
5–6	10
7–high school	14
Total	34

Table 9. Sample Panel Configuration for CAA for ELA and Mathematics ALD Workshops

Grades	Number of Panelists (ELA)	Number of Panelists (mathematics)
3–4	10	10
5–6	10	10
7–8, 11	14	14
Total	34	34

Table 10. Sample Panel Configuration for CAST and CAA for Science ALD Workshops

Grades	CAST Number of Panelists	CAA for Science Number of Panelists
5	10	10

8	10	10
high school	10	10
Total	30	30

Standard Setting Methods

Standard setting activities for the CSA, CAST, and CAA for Science will take place outside of the current contract. Standard setting activities for CAA for ELA and mathematics are described below.

ETS proposes to use the bookmark method (Karantonis & Sireci, 2006; Lewis, Mitzel, & Green, 1996; Zieky, Perie, & Livingston, 2008; Tannenbaum & Cho, 2014) for the CAA for ELA and mathematics. ETS used this method to set standards for the STAR CMA and STS assessments, and it is appropriate given the test design and psychometric calibration and scaling method.

Panel Composition

The standard setting workshop participants will include state-nominated educators as well as parent/guardian and community representatives. The composition of the panels will be primarily teachers with at least five years of experience working with students aligned with the assessments, and who are familiar with the state-approved content standards appropriate to the assessment. The goal in recruiting is to select a group of educators, representative of the demographics in California, within each subject area and grade level. ETS will work with the CDE to select and finalize each standard setting panel. ETS anticipates a three-day face-to-face workshop; and the results from the workshop will include documentation of the panel composition. Sample panel configurations for standard setting workshops are included as Table 11 below.

**Table 11. Sample Panel Configuration for CAA for ELA and Mathematics
Standard Setting Workshops**

Grades	Number of Panelists (ELA)	Number of Panelists (mathematics)
3–4	10	10
5–6	10	10
7–8, 11	10	10
Total	30	30

Bookmark Method

ETS welcomes the opportunity to discuss with the CDE and the TAG the types of standard setting methods most appropriate for each assessment type. Because of the appropriateness of the Bookmark method, and its use in the standard setting procedures for the California STS in recent years (e.g., ETS 2009; ETS 2010; ETS 2011), ETS proposes the Bookmark method for standard setting of the CAA for ELA and mathematics .

Standard Setting Process

Prior to the panel meeting, panelists will receive a pre-workshop assignment to familiarize them with the CCC Standards and the ALDs for the subject and grade for which they have been recruited. Once assembled at the workshop, panelists undergo a general session overview and training.

After the panelists indicate that they understand the process, they make their first round of independent standard setting judgments. Panelists will complete the bookmark task three times over three rounds. Between rounds, discussions and feedback take place both at the table-level and the room-level, allowing panelists ample time and information for reflection. Panelists also receive their individual judgments. Between the second and third rounds the panelists will also discuss impact data — the percentage of students, based on the current administration of this assessment, who would be classified at each performance level, if the panel's cut-score recommendations were to be accepted at that point. Panelists may, but are not required, to make changes to their individual judgments at each round.

The bookmark study can occur after the tests have been administered and test scores are available, Item Response Theory (IRT) analyses are completed, and materials have been prepared for the panel meetings. ETS anticipates each panel meeting requiring three (3) business days, and ETS will run four panels concurrently for each subject area.

ETS will provide the CDE with the formal standard setting plan for review six (6) weeks prior to the workshop, and will include a draft of the materials to be used in standard setting, an annotated agenda of the three-day workshop, and the review of the plan and materials in the overall project schedule, allowing adequate time for review, discussion, and revisions.

Assessment Score Data in Standard Setting

ETS recognizes the need for careful attention to training and evaluation of panelists' understanding of both appropriate use and limitations of data in the judgment process. ETS proposes to discuss with the CDE and the TAG regarding inclusion of external data as part of the feedback to the panel.

Technical Report

ETS will provide the CDE and the TAGs with a complete report of the standard setting process, panelists' recommendations, evaluations, and other relevant data. The report will meet the Every Student Succeeds Act (ESSA) peer review requirements (United State Department of Education 2007). In addition, the CDE may require an executive summary report, in order to meet time-sensitive deadlines. ETS will provide a brief report, oriented toward audiences such as the SBE. Because there are multiple score users, with differing backgrounds and needs, clear communication of score meaning must be deliberate. ETS will be happy to collaborate with the CDE to create useful score interpretive materials for multiple stakeholders.

Schedule for Standard Setting

ETS understands the need to hold the standard setting workshops for the CAA for ELA and mathematics as soon as data are available after the operational launch in spring 2015–16. For standard setting workshops proposed, there are important milestones. ETS acknowledges the need for clear communication and planning in order to be successful in these tasks.

Logistics

ETS will provide the CDE with recommendations for site locations which will accommodate each workshop. Once panel participants and locations have been approved, accommodations will include lodging and meals for panelists and meeting space. ETS will arrange for substitute teacher reimbursement and will cover the costs of lodging and meetings, in accordance with the current CDE guidelines.

6.4. Test Administration System Familiarization

ETS offers several opportunities for students and test administrators to become familiar with the test delivery system (including TOMS and TDS). ETS also provides multiple training opportunities to support the LEA CAASPP coordinator, the LEA technology coordinator, and other designated staff as they prepare the infrastructure used for the test administration process.

CAASPP Test Administration Portal

ETS will provide access to the test administration components with the broadest range of users in mind. The site itself provides a one-stop shop for access to all things CAASPP including access to the TDS, training videos, test administration manuals, and live Webcasts, among other things. A user can quickly go to a certain section or test administration tool and ETS designed the links to be interlaced yet intuitive.

Practice and Training Tests

The ETS Team will provide practice and training tests for the summative assessments administered in this contract as mutually agreed upon by ETS and the CDE as listed in Table 12 Planned Timeline for the Release of the Practice and Training, by Assessment. The agreed-upon timeline will include the ETS activities to update training tests with revisions from stakeholders, add accessibility supports consistent with the type of test (i.e., pilot, field, operational), and add additional items when feasible to create a training test in grades five, eight, and high school for CAST and CAA for Science.

Training tests include small set of sample test questions that allow students and test administrators to learn how to interact with the different items types, available accessibility features, and test administration instructions. Training tests are not grade-specific nor are they available as full-length tests. Practice tests generally mirror a full-length test and include the breadth of item types that a student may see on the assessment. Like the training tests, practice tests include the available accessibility features and test delivery functionality. Unlike the training tests, student responses to the practice test can be scored using the available scoring rubrics.

Practice tests and training tests will be available for the Smarter Balanced Summative Assessments and the Alternate Assessments in ELA and mathematics beginning with the 2015–16 administration. Training tests will be available for CAST, CAA for Science, and the CSA at the earliest possible opportunity as agreed upon between the CDE and ETS. Training tests will be updated annually with new functionality such as new item types and new accessibility features. Errors would be fixed as soon as possible. ETS will develop CAST and CAA for Science training tests for grades five, eight, and high school. Practice tests for CAST, CAA for Science, and the CSA will be produced after the first operational year of each program, which occur outside of the scope of this contract. Table 12 includes the proposed timeline for the release of the practice and training tests by assessment.

Table 12. Planned Timeline for the Release of the Practice and Training Tests, by Assessment

Assessment	Planned Availability of the Training Test	Planned Availability of the Practice Test
Smarter Balanced Summative Assessments for ELA and Mathematics	2015–16 2016–17 2017–18	2015–16 2016–17 2017–18
CAA for ELA and Mathematics	2015–16 2016–17 2017–18	2016–17 2017–18
CAST	2016–17 2017–18	Not applicable
CAA for Science	2016–17 2017–18	Not applicable
CSA	2017–18	Not applicable

For subsequent school years prior to their release on September 1 and November 1, respectively, the ETS Team will ensure that the practice and training tests are updated to reflect current tools and item types. For the Smarter Balanced assessments, ETS will work with Smarter Balanced to obtain access to the latest practice and training test materials. For the CAA for ELA and mathematics, ETS will ensure that assessment development and AIR staff have provided the latest updates to the practice and training tests before they are made available.

The practice and training tests will be accessed via a Web browser using a guest login or through the secure browser. ETS will provide training materials and resources, such as classroom activities and scoring rubrics, on the CAASPP Portal. The practice and training tests will be available for each grade, or grade band, and content area being tested and will include functionality for all approved universal tools, designated supports, and accommodations.

Training for LEA CAASPP Coordinators and LEA Technology Coordinators

ETS's training plan begins in September for each administration when ETS proposes to conduct a training session to introduce the test administration setup process. At this session, ETS will review the required testing windows for each type of assessment and provide guidelines and considerations for scheduling the testing. ETS also will provide detailed information on system requirements, including minimum requirements for hardware, software, and bandwidth.

ETS will conduct Webcasts and in-person workshops as outlined in the CDE-approved annual training plan and release training videos and manuals throughout the school year and leading up to the start of the summative test administration window.

6.5. Sample Questions (excluding Smarter Balanced assessments)

ETS will work with the CDE to release and make available to stakeholders a subset of the CDE-owned operational test items (i.e., CAAs for ELA and mathematics) using an online item viewing application as approved by the CDE. The item viewing application must allow the user to select content through filtering (e.g., grade, subject, item types, item ID, etc.), view, and interact with an item as a student would view and interact with the item during a test administration.

To accommodate the approved three-year operational rollout plan for CAA for ELA and mathematics, ETS anticipates development of sample test questions for CAA for ELA and mathematics after the 2017–18 administration. Smarter Balanced sample items are available through the Smarter Balanced Web site. ETS will include a link to the Smarter Balanced Web Site on the Sample Questions site to make it easy for users to locate. Based on the approved test designs, the earliest opportunity for sample questions for CAST, CAA for Science, and the CSA will be outside the terms of this contract.

Preparation

During the 2017–18 administration, ETS will identify and propose applications that will meet the CDE goals for the Sample Questions as a special study in Task 9.6. The ETS proposal will include a plan for carrying out a feasibility study of the application selected by the CDE. The feasibility study of the selected application will include, but are not limited to, the following activities:

- Understand and map out the processes by which the Sample Questions are imported into the application and reviewed for quality control purposes.
- Understand and document the data changes needed to provide the metadata for each item.
- Identify and document the supporting information (e.g., rationale, scoring rubrics) and the process by which the Samples Questions are reviewed by educators.
- Develop a high-level project plan (schedule) that the CDE can include as part of requirements when the Sample Questions will be released.

ETS will provide a report at the end of the Sample Questions feasibility special study that includes a summary of the feasibility study process, the outcomes from the study, and recommendations for next steps.

Procedure

For each assessment and grade level, ETS assessment specialists will work with the CDE content experts to select and release an annual sample questions equaling ten percent of the items appearing on the prior year's test form.

1. ETS assessment specialists will select ten percent of the core items from each administration for each grade and subject area of the CDE-owned alternate ELA and mathematics items for release annually.
2. ETS assessment specialists will select and review each set of items for release to confirm that each set of Sample Questions is representative of the broad content, difficulty, and overall blueprint distribution of standards measured by items on the operational tests.
3. After the initial selection of the Sample Questions, ETS assessment specialists will establish that items undergo careful review following a thorough content and editorial review process.
4. After the content and editorial review process, ETS will submit the selected Sample Questions to the CDE for review and approval. Ultimately, the CDE will have the final authority to accept or reject any items selected for release. Historically this has been a

collaborative process, with ETS assessment specialists working in cooperation with CDE counterparts to review, revise, and finalize Sample Questions selections.

5. Once the CDE confirms the Sample Questions selections, ETS assessment specialists will prepare the Sample Questions and other necessary materials for review and approval by a California content review panel. The CDE will review the input from the content review panel and make the final determination of acceptance.
6. Upon finalization of the Sample Questions, ETS will update the item status in the item bank to indicate the item as released. This will make the item unavailable for selection in the future.
7. After the CDE makes final determination of acceptance of sample questions, ETS using an online item viewing application as approved by the CDE will display the sample questions.

Selection Criteria for Sample Questions

To confirm strong representation of the breadth and depth of the skills and concepts addressed by the items on each assessment, ETS assessment specialists will use the following criteria to select the Sample Questions:

- variety of item types, which may include selected-response items, constructed-response items, technology-enhanced items, and performance tasks
- statistical reliability of the item based on most recent administration
- range of item difficulty and complexity
- items that exemplify the level of knowledge and skills students are expected to demonstrate to meet expectations at each performance level
- adequate representation of standard and blueprint distribution
- representation of the various components of the standards
- representation of a variety of ways each standard can be assessed

In the event there is a problem securing permission for a passage or stimulus during the Sample Questions selection process, ETS will work with the CDE to find a solution which may include providing only the citations, rather than the complete text, for copyrighted material along with the associated items or replacing those Sample Questions related to materials for which permissions are not granted.

Communication Plan for Sample Questions

ETS will create a communication plan to increase and support parent, student, and teacher understanding of the CAASPP System; ETS will collaborate with the CDE to select a subset of the Sample Questions, exemplars, that represent the concepts and skills students performing at the different proficiency levels are expected to demonstrate at each grade level assessed.

6.6. Analysis of Test Results

Following each field test form, ETS will perform classical item, IRT, and test analyses. Classical item analyses involve computing a set of statistics for every item in each form of the test. Each statistic provides key information about the quality of each item from an empirical perspective. This is also a quality control step to verify answer keys. ETS uses this information for item reviews, test construction, test revisions, technical reports, and other psychometric analyses and documentation.

After receiving all of the student response data, implementing scoring rules, checking the data files and applying agreed-upon valid case criteria rules to the data, the next step will include a classical item analysis. This analysis evaluates item difficulty, item discrimination, and student raw score performance of selected response (SR) items and hand-scored constructed-response (CR) items. These analyses help identify any items that might not have performed as expected.

ETS will conduct and provide the following:

- Item difficulty (p-values)
- Item-total correlation (SR and CR items)
- Proportion of students choosing each response option (SR items)
- Percentage of students omitting an item (SR and CR items)
- Score point distribution (CR items)

In addition to the classical analyses described previously, ETS will carefully review each item for differential item functioning. In addition to providing classical item statistics for each field test, ETS will provide IRT parameter estimates for all items. The specific IRT model selected will be based on collaboration between the CDE and ETS. In addition, ETS will work with the CDE in investigating the feasibility of creating a vertical scale for both the CSA and the CAA for ELA and mathematics.

In addition to the item statistics ETS will estimate the reliability of each of the field test versions and use these estimates to advise the CDE concerning the estimated numbers of items that need to be administered to reach various levels of reliability. ETS will also examine additional data collected relevant to computer-based testing with innovative item types. Since California has expressed interest in moving towards an adaptive test, ETS will also evaluate the characteristics of the item pool to determine whether it was large enough in terms of range of difficulties, discriminations, and content covered without introducing exposure issues. In addition, ETS shall evaluate other characteristics of items and item performance that need to be analyzed (e.g., how long student spend on the items, the time it takes for the items to render, the time it take the system to present a new item, item utilization rates, accuracy of CAT engine in building aligned assessments for every student).

Following each field test, ETS will deliver a report within eight (8) weeks of the completion of the field testing.

As part of the test development process, ETS will work with California educators during item review meetings to verify item alignment to content standards. This review informs task selection for final forms of the newly developed assessments. If the CDE commissions an alignment study of the new assessments to be conducted by an independent evaluator, ETS will

provide support to the CDE and its contractor as described in Task 1, provided that the support does not require changes to the contracted activities.

6.7. Item Banks

6.7.A. California Item Bank

ETS currently provides and maintains the electronic item bank for several of the California paper-pencil assessments, including the California High School Exit Examination (CAHSEE), CSTs, CMA, California Alternate Performance Assessment (CAPA), STS, and the California English Language Development Test (CELDT). While the California item bank is not used to produce the CST, CMA, CAPA, and STS forms, the CAHSEE or CELDT program may be using the California item bank for its forms construction process.

The consolidated item bank will house all CST, CMA, CAPA, STS, CAHSEE, and CELDT items and associated statistics by assessment. While ETS will retain ownership of its proprietary software, the CDE will own and copyright both the item bank and the customized version of the item bank. The enhanced item banking software will support the full functionality that is described below.

ETS will provide updated versions of the item bank to the CDE on an ongoing basis. ETS will work with the CDE to determine the optimum process if a change in databases is desired.

6.7.B. ETS IBIS

The items that will be developed for the new assessments will include a variety of item types such as technology-enhanced items, graphing, and technology-enhanced simulations. The structure of the California item bank cannot handle these new item types. In order to provide the CDE with a data warehouse for the new CAASPP assessments, ETS will use its proprietary item banking system, IBIS, during the development and reviews of the new CAASPP assessments. To facilitate the item development and review process, ETS may also use AIR's proprietary Item Tracking System (AIR ITS) during phases of the test development process. ETS does not include activities to provide customization of IBIS or AIR ITS.

Using IBIS, CDE staff and approved California item reviewers will have direct access to the item bank through a secure Web-based interface. User authentication, controlled by ETS-managed credentials, secures access through the interface. To establish the complete security of all data moving across the Internet, ETS implements a 128-bit secure socket layer (SSL) encryption.

Controlled Access. ETS will grant the CDE staff and California item reviewers with access to IBIS consistent with their roles in the item development process. These reviewers will be able to comment on items during steps in the workflow process customized for CAASPP. ETS will establish access policies with California and manage the granting of access for appropriate staff and educators.

IBIS will hold searchable, sortable, and printable data (e.g., item cards) and properties, including, but not limited to:

- unique identification number (UIN) for item components (e.g., question, stimulus, graphics, animations, sound files)
- UIN links between all item components
- titles for stimuli (e.g., passage, scenario, scene)

- all and any alignment attributes (e.g., test family, item type, subject, grade, strand, substrand, standard, benchmark, cognitive level)
- properties (keys, distractor rationales, item type, stimulus type [e.g., passage genre, scenario vs. simulation]), stimulus graphic indicator (yes/no), passage word count, Lexile, rubrics
- source documentation, copyright permissions information, and related documentation (e.g., contract) for science scenarios, reading passages, graphics, and items, if applicable
- item images (item as it appeared during administration) including functional animations or simulations
- blind/visual impairment review notes
- item development and administration status
- administration history for the life of the item, scenario, or passage for non-Smarter Balanced items
- performance data (e.g., p-value, pbis correlation, IRT parameters, tertiles, differential item functioning [DIF])

System Flexibility and Interoperability. The CDE will have the ability to customize features of IBIS for CAASPP development. This activity will involve meetings to determine the most desirable means for configuring the item bank and user interface. ETS will use the QTI standard as the basis for building the XML formats of items with capability for APIP standard tagging. QTI enables routine exports to most third-party online platforms including the AIR online platform. APIP tagging standardizes the process for embedding accessibility features for test accommodations, including braille, audio forms, and language accommodations.

Smarter Balanced Assessments. ETS plans to import the metadata and scoring information for Smarter Balanced items into IBIS to accomplish the following: (1) access to CR items in the scoring system; (2) scoring of the paper forms; and (3) psychometric analyses. ETS will receive an annual feed of items and metadata from Smarter Balanced in interoperable QTI format.

Item Bank Export. IBIS uses the QTI standard as the basis for building the XML formats for items, data, and metadata. This feature will confirm a smooth transition at the end of the contract period. ETS employs industry standard formats and routinely has handed off data feeds of items, test packets, data, and metadata to numerous partner organizations. As a comprehensive item database, IBIS includes all reading passages, artwork, stems, distractors, form identifiers, item keys, rationales, and scoring rubrics. IBIS may be supplemented by the AIR ITS during certain phases of the test development process to manage simulations and certain item types. Copyright permissions records are also housed in IBIS, and using the dynamic reporting functions in IBIS, a report containing copyright permissions and expiration dates can be generated for the CDE.

6.8. Activities in Support of Future Assessment Development

ETS understands that California law includes provisions for expanding the CAASPP System to include assessments in areas such as history/social sciences, technology, and the arts, as well

as new end-of-course tests in science, ELA, and mathematics. ETS further understands that these assessments would be based on SSPI recommendations made no later than March 1, 2016, and will require SBE approval, legislative action, and funding. Therefore, no specific plans or budget for work on any additional assessments has been included in this SOW.

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TASK 7: Test Administration

ETS offers the CDE a comprehensive computer-based CAASPP Assessment Delivery System that allows LEAs to manage and administer all CAASPP assessments. While fewer California assessments are paper-pencil, ETS will deliver an efficient and secure paper-pencil test for students for whom these assessments are most appropriate. The CAASPP Assessment Delivery System includes both the Test Operations Management System (TOMS) and AIR's test delivery system. These key components integrate together to produce, deliver, and administer both computer-based and paper-pencil assessments. Table 13 provides an overview of the test administration distribution plans.

Table 13. Distribution Plans for the CAASPP Summative Assessments

Assessment	Online	Paper	Paper Accommodations
Smarter Balanced	✓	✓	Braille, Large Print, Spanish-Mathematics
CST, CMA, CAPA Science*		✓ (2015–16)	Braille and Large Print for CST and CMA Science
STS RLA*	✓ (2017–18)	✓ (2015–16 and 2016–17)	Braille and Large Print
California Alternate Assessments for ELA and Mathematics	✓		
CAST Census Pilot and Census Field Tests**	✓ (2016–17 and 2017–18)		
CAA for Science Census Pilot Tests**	✓ (2016–17 and 2017–18)		
CSA Pilot and Field Test	✓ (2017–18)		

* CST: California Standardized Test; CMA: California Modified Assessment; CAPA: California Alternate Performance Assessment; STS RLA: Standards-based Test in Spanish for Reading/Language Arts

**A census pilot test and census field test means that all eligible students will be expected to take the assessment.

For planning purposes, ETS used the information from Table 14 provided by the CDE.

Table 14. Estimated CAASPP Test Takers

Current Assessments in State Law				
Assessment	Subject	Grade	School Year(s)	Estimated Test Takers
Smarter Balanced Summative	ELA and Mathematics	3–8, 11	2015–16 2016–17 2017–18	3,200,000 3,200,000 3,200,000
CSTs and CMA	Science	5, 8, 10	2015–16	1,380,000
CAPA	Science	5, 8, 10	2015–16	15,000
STS	Reading/ language arts	2–11	2015–16 2016–17 2017–18	45,000 45,000 10,000
Successor Assessments in State Law				
Alternate Assessment	ELA and Mathematics	3–8, 11	2015–16 2016–17 2017–18	39,000 39,000 39,000
CAST	Science	5, 8, and high school (grades 10, 11, or 12)	Pilot: 2016–17 Field Test: 2017–18	1,395,000
CAA for Science	Science	5, 8, and high school (grades 10, 11, or 12)	Pilot: 2016–17 Pilot: 2017–18	20,000
CSA	Reading/ language arts	3–8 and high school	Pilot: Fall 2017–18 Field Test: (Fall) 2018-19	15,000

7.1. CAASPP Test Administration Requirements

ETS will create manuals, user guides, and other supporting materials so that the LEAs have the information they need to effectively and efficiently administer the CAASPP System.

7.1.A. Manuals

ETS will produce high-quality manuals that will give California the exact information needed in ways that are accurate and efficient. To increase the efficiency of communications between the LEAs and schools during the test administration, and to assure that tests are administered in a consistent manner, ETS will review with the CDE all CAASPP System documentation and update the materials based on the needs of the CDE and LEA CAASPP coordinators, revised academic standards, and other requirements. In addition, ETS will analyze information collected as part of data-driven improvement activities. ETS will solicit feedback specifically from the LEA Advisory Group to confirm the manuals and other ancillary materials meet the needs of the field.

General Specifications for Developing Manuals. ETS will use the previous administration's manuals as the starting point for the current administration. Prior to the development and production of a manual, ETS will provide the CDE with a list of recommended revisions including those from the data-driven improvement process. When appropriate, ETS will also make recommendations to re-conceptualize existing manuals for increased usability, create new or additional manuals, or even retire existing manuals.

ETS will develop a manual release plan for CDE's approval with sufficient time for the thorough review and approval of the manuals prior to posting or publishing. In addition, ETS will implement a process by which an ETS editor will conduct inter-manual consistency checks so that there is consistent tone, language, and directions between the manuals. The production schedule for each manual will follow the CDE approval requirements.

Posting Manuals to <http://www.caaspp.org/>. For the 2015–16 administration, ETS will print all manuals. ETS will convert all manuals to PDF and/or HTML files. The PDFs will include the appropriate accessibility tagging that meets or exceeds the CDE Web requirements. ETS will post only non-secure materials or materials edited to remove secure sections.
<http://www.caaspp.org/>

Based on feedback from the LEA Advisory Group, ETS will propose recommendations to the CDE for ways to make information about the test administration process more accessible.

ETS will post all final approved manuals to <http://www.caaspp.org/> based on the timeline agreed upon by the CDE and ETS for the given administration. ETS anticipates that there may be changes or updates to policy or administration procedures that may impact the manuals. During the initial planning phase of each manual, ETS will propose processes and contingencies. In the event that a policy or administrative change is required after ETS publishes a manual, ETS will work with the CDE to determine which contingencies ETS should consider and what impact the contingencies have to LEA activities and the overall program schedule, if any.

Printing Quality Control Procedures. For the 2015-16 administration, ETS will provide printed copies of the Test Administration Manual and the Post-Test Guide. Upon approval of the final draft by the CDE, the manuals will go through printing quality control procedures, which require that a printing quality control specialist be on-site through all stages of production to confirm the quality of all products. The general process requires all print vendors perform a quality check on all materials produced at all stages of print manufacturing. These quality checks occur at the prepress, press, bindery, and packaging/shipping stages. ETS will use a required quality control checklist to verify the vendors' adherence to quality procedures. Beginning with the 2016–17 administration, ETS will deliver all manuals as electronic files through <https://www.caaspp.org/> or, for secure manuals, through TOMS. To accommodate updates to policies and as new CAASPP assessments become available, ETS will reallocate the resources originally designated for printing quality control procedures toward additional manuals mutually agreed upon by the CDE and ETS and toward multiple approved updates of existing manuals throughout an administration.

Test Administration Manual (TAM)

The Online TAM will include instructions for all available online assessments including the Smarter Balanced Summative Assessments, CAA for ELA and mathematics, CAA for science (beginning 2016–17), CAST (beginning 2016–17), and CSA (beginning 2017–18). ETS will make sure that California-specific revisions still adhere to the Smarter Balanced test administration procedures and policies where appropriate. ETS may develop a separate Online TAM for CAA

for Science if the CDE and ETS mutually agree that a separate Online TAM is necessary for the successful administration of the assessment.

Separate TAMs will cover the existing paper-pencil assessments. These TAMs will be coordinated and consolidated whenever possible to confirm ease-of-use in the field. The manuals' interior font size will be 11 points or larger and will be printed with black ink.

In addition to posting the final PDF of each TAM to <http://www.caaspp.org/> by November 1 of each year, ETS will release sections of each TAM onto the Web portal as they are approved. ETS will submit a timeline for CDE approval that includes the planned release schedule for each section. The proposed TAM release schedule will prioritize the needs of the LEAs to prepare for testing. For each TAM produced for the 2015-16 administration, ETS will provide one copy for the LEA CAASPP coordinator and one copy for each CAASPP test site coordinator. ETS will deliver all printed copies to the LEA CAASPP coordinators, who will be responsible for distribution to their schools. Additional TAMs are available for order through CalTAC at no additional cost to the LEA or the CDE. ETS will confirm that the final PDF version of the appropriate TAM is available for training sessions. Beginning with the 2016-17 administration, the TAM will be posted to <https://www.caaspp.org> as an electronic PDF.

LEA CAASPP Test Coordinator Manual (LEA TCM)

With the CDE's approval, ETS will replace the LEA TCM with the Test Operations Management System (TOMS) Pre-Administration Guide for CAASPP Testing and additional topic-specific guides and manuals.

CAASPP Test Site Coordinator Manual (SCM)

With CDE approval, ETS will replace the SCM with the Test Operations Management System (TOMS) Pre-Administration Guide for CAASPP Testing and additional topic-specific guides and manuals.

Topic-Specific Guides and Manuals

Beginning with the 2016-17 administration, the CDE and ETS will develop topic-specific guides and manuals to assist LEA and school staff with preparations and administration of CAASPP. Topic-specific manuals may include, but are not limited to, the:

- Interim Assessment User Guide;
- Completion Status User Guide and Roster Management for CAASPP Testing;
- Accessibility Guide for CAASPP Testing;
- Security Incidents and Appeals Procedure Guide; and
- Educational Testing Service Data Manager (EDM) User Guide for CAASPP (when approved for release by the CDE).

Directions for Administration (DFA) for CAAs and STS RLA

To complete the set of role-specific CAASPP coordination and administration manuals, ETS will develop Directions for Administration (DFAs) for the CAAs (all years being administered) and the STS RLA. ETS will develop a 2017-18 STS RLA DFA, in a format approved by the CDE, for

the Smarter Balance Open-Source Components and will collaborate with Smarter Balanced, as necessary. In compliance with the CDE requirements, these DFAs will include:

- an overview of the CAASPP System, and the various test management, registration, and delivery systems
- LEA CAASPP coordinator responsibilities
- LEA responsibility and activity checklist
- CAASPP test site coordinator responsibility and activity checklist
- test administrator responsibility and activity checklist
- appropriate processes for handling accessibility and accommodations for both computer-based and paper-pencil tests
- appropriate measures for protecting test security and confidentiality at the LEA level
- estimated test duration charts for planning purposes, and suggestions for LEA-level test scheduling
- appropriate processes for including special populations of students in testing
- important dates leading up to, during, and after the testing window(s)
- how to handle student absences and other unique testing situations (e.g., testing of homebound students, students moving into and/or out of the LEA during the testing window, etc.)
- how to report irregularities/security breaches
- how to determine whether an appeal is necessary
- toll-free telephone number and e-mail for CalTAC Help Desk support

Technical Specifications and Configuration Guide for CAASPP Testing (formerly referred to as the Technology Services Coordinator's Manual)

ETS will develop a manual for use by LEA- and site-level technology coordinators, a crucial role now that California administers a majority of tests online. This guide is a compilation of the Secure Browser Installation Manual, the Technical Specifications for Online Testing Manual, and the System Requirements Manual from previous administrations.

Test Operations Management System (TOMS) Pre-Administration Guide for CAASPP Testing (formerly referred to as the CAASPP Test Management System Manual)

ETS also produces documentation that shows procedures for using TOMS, the CAASPP Assessment Delivery System component that allows authorized users to configure testing for students, order materials, submit test setting files, and complete other tasks. ETS will develop and release this documentation as a single manual covering all system functionalities. ETS will release the guide annually by November 1 and will update the guide throughout the

administration cycle as additional functionality and pre-administration activities become available.

CAASPP Post-Test Guides

ETS will develop a CAASPP Post-Test Guide each year that will provide a single reference document for all reporting-related information, for all users. The manual will provide an overview of the assessments, a description and guide to both online reporting tools and paper reports, and guidelines for interpreting reports. Also, ETS will include clear standards for interpreting the intended use of the test scores. ETS will develop these standards as part of the psychometric review of the test items and forms. ETS will clearly delimit the addressed population and describe the constructs that the assessments should measure. The goal of this manual will be to guide all CAASPP reporting stakeholders in understanding the scores provided, what they represent, and how they can use them to improve curricular programs in the schools.

ETS will post the Post-Test Guide to <http://www.caaspp.org/> by at least ten (10) business days prior to the first Post-Test Workshops. For the 2015–16 administration, ETS will deliver one printed copy to each LEA CAASPP coordinator at least one month prior to the beginning of student summative testing each year. Additional printed copies are available for order from CalTAC at no additional cost to the LEA or the CDE.

7.2. Paper-Pencil Administrations

There are existing CAASPP tests that are available only as paper-pencil assessments. In addition, not all students in California will be able to test on a computer. Therefore, ETS will offer an efficient and secure process for providing a paper-pencil assessment for students who require this mode of testing. ETS will manage and provide the paper-delivered tests from ETS's Ewing, New Jersey, location, where ETS owns publishing, distribution, and scoring facilities. Currently, ETS is using these capabilities and facilities to deliver the printed materials for the 2015 CAASPP administration, and ETS will use these same capabilities and facilities in future CAASPP administrations.

ETS will produce:

- non-scannable test booklets with separate scannable answer documents for CST/CMA/CAPA for Science Assessments in grades five, eight, and ten (2015–16 administration), and STS for RLA in grades four through eleven (2015–16 and 2016–17 administrations)
- scannable test booklets for the STS for RLA booklets for grades two and three (2015–16 and 2016–17 administrations)
- non-scannable test booklets with a scannable response booklet for the paper-pencil versions of the Smarter Balanced Summative Assessments in grades three through eight and grade eleven
- secure directions for administration (that include assessment items) the CAAs for ELA and mathematics in grades three through eight and grade eleven (beginning with the 2015–16 administration) and for CAA for science in grades five, eight, and high school (beginning with the 2016–17 administration)

- non-scannable test booklets for the braille and large print versions of all paper-pencil CAASPP assessments
- non-scannable test booklets for the Spanish version of the Smarter Balanced mathematics assessments in grades three through eight and grade eleven (2015–16 and 2016–17 administrations)

ETS will provide the CDE with final documents for the CDE's review and approval following the certification process.

With the CDE's input, ETS will develop a detailed project plan to track the completion of the sequence of tasks and will incorporate the detailed project plan into the master project plan. ETS will put each document through the same rigorous process of review, proofreading, accuracy checking, CDE approval, document tracking and version control, and quality inspection that are used with all secure test materials.

7.2.A.1. Paper Test Booklets and Answer Documents

ETS will develop and print secure non-scannable test booklets and scannable answer documents for the CAASPP paper-pencil tests. In producing these versions, ETS will establish that all content and formatting within the test booklets and answer documents maintains consistency with the CAASPP test materials in the 2015 administration. ETS will discuss any changes in format or content for the non-Smarter Balanced paper-pencil assessments with the CDE for the CDE's approval prior to implementation. For the Smarter Balanced paper-pencil assessments, ETS assumes that Smarter Balanced will provide print-ready PDFs that may be used for the CAASPP administration.

Test booklets will have adequate space for student identification and demographic information, as well as space for the placement of a student barcode label. Barcodes, along with the human-readable number, will appear on the front and back covers of each test booklet, to maintain test security. Estimated print quantities for the paper-pencil test materials is included in Table 15.

Table 15. Estimated Print Quantities* for Paper-Pencil Test Booklets, Answer Documents, Response Booklets, and School and Grade Identification Sheets

Document	Document Type	Estimated 2015–16 Print Quantity	Estimated 2016–17 Print Quantity	Estimated 2017–18 Print Quantity**
CST Science Grade 5 Test Booklet	Non-scannable	536,000	0	0
CST Science Grade 8 Test Booklet	Non-scannable	541,000	0	0
CST Science Grade 10 Test Booklet	Non-scannable	555,000	0	0
CMA Science Grade 5 Test Booklet	Non-scannable	35,000	0	0
CMA Science Grade 8 Test Booklet	Non-scannable	31,000	0	0
CMA Science Grade 10 Test Booklet	Non-scannable	20,000	0	0
CST/CMA Answer Document—Grade 5, 8, & 10	Scannable	1,718,000	0	0

Document	Document Type	Estimated 2015–16 Print Quantity	Estimated 2016–17 Print Quantity	Estimated 2017–18 Print Quantity**
CAPA For Science Examiner's Manual	Non-scannable	7,500	0	0
CAPA For Science Answer Document	Scannable	15,000	0	0
STS RLA Grade 2 Test Booklet	Scannable	17,000	17,000	0
STS RLA Grade 3 Test Booklet	Scannable	17,000	17,000	0
STS RLA Grade 4 Test Booklet	Non-scannable	11,000	11,000	0
STS RLA Grade 5 Test Booklet	Non-scannable	7,000	7,000	0
STS RLA Grade 6 Test Booklet	Non-scannable	5,000	5,000	0
STS RLA Grade 7 Test Booklet	Non-scannable	3,000	3,000	0
STS RLA Grade 8 Test Booklet	Non-scannable	3,000	3,000	0
STS RLA Grade 9 Test Booklet	Non-scannable	2,000	2,000	0
STS RLA Grade 10 Test Booklet	Non-scannable	2,000	2,000	0
STS RLA Grade 11 Test Booklet	Non-scannable	2,000	2,000	0
STS RLA Grade Answer Document — Grades 4–11	Scannable	35,000	35,000	0
Smarter Balanced ELA Grade 3 Test Booklet	Non-scannable	45,700	45,700	1,000
Smarter Balanced Mathematics Grade 3 Test Booklet	Non-scannable	45,700	45,700	1,000
Smarter Balanced ELA Grade 3 Response Booklet	Scannable	45,700	45,700	1,000
Smarter Balanced Mathematics Grade 3 Response Booklet	Scannable	45,700	45,700	1,000
Smarter Balanced ELA Grade 4 Test Booklet	Non-scannable	45,700	45,700	1,000
Smarter Balanced Mathematics Grade 4 Test Booklet	Non-scannable	45,700	45,700	1,000
Smarter Balanced ELA Grade 4 Response Booklet	Scannable	45,700	45,700	1,000
Smarter Balanced Mathematics Grade 4 Response Booklet	Scannable	45,700	45,700	1,000
Smarter Balanced ELA Grade 5 Test Booklet	Non-scannable	45,700	45,700	1,000
Smarter Balanced Mathematics Grade 5 Test Booklet	Non-scannable	45,700	45,700	1,000
Smarter Balanced ELA Grade 5 Response Booklet	Scannable	45,700	45,700	1,000
Smarter Balanced Mathematics Grade 5 Response Booklet	Scannable	45,700	45,700	1,000
Smarter Balanced ELA Grade 6 Test Booklet	Non-scannable	45,700	45,700	1,000

Document	Document Type	Estimated 2015–16 Print Quantity	Estimated 2016–17 Print Quantity	Estimated 2017–18 Print Quantity**
Smarter Balanced Mathematics Grade 6 Test Booklet	Non-scannable	45,700	45,700	1,000
Smarter Balanced ELA Grade 6 Response Booklet	Scannable	45,700	45,700	1,000
Smarter Balanced Mathematics Grade 6 Response Booklet	Scannable	45,700	45,700	1,000
Smarter Balanced ELA Grade 7 Test Booklet	Non-scannable	45,700	45,700	1,000
Smarter Balanced Mathematics Grade 7 Test Booklet	Non-scannable	45,700	45,700	1,000
Smarter Balanced ELA Grade 7 Response Booklet	Scannable	45,700	45,700	1,000
Smarter Balanced Mathematics Grade 7 Response Booklet	Scannable	45,700	45,700	1,000
Smarter Balanced ELA Grade 8 Test Booklet	Non-scannable	45,700	45,700	1,000
Smarter Balanced Mathematics Grade 8 Test Booklet	Non-scannable	45,700	45,700	1,000
Smarter Balanced ELA Grade 8 Response Booklet	Scannable	45,700	45,700	1,000
Smarter Balanced Mathematics Grade 8 Response Booklet	Scannable	45,700	45,700	1,000
Smarter Balanced ELA Grade 11 Test Booklet	Non-scannable	45,700	45,700	1,000
Smarter Balanced Mathematics Grade 11 Test Booklet	Non-scannable	45,700	45,700	1,000
Smarter Balanced ELA Grade 11 Response Booklet	Scannable	45,700	45,700	1,000
Smarter Balanced Mathematics Grade 11 Response Booklet	Scannable	45,700	45,700	1,000
Alternate Assessment For ELA and Mathematics Secure Directions for Administration — Grades 3–8 and 11***	Non-scannable	4,000	4,000	4,000
School And Grade ID Sheet (SGID)	Scannable	570,000	570,000	0

*The estimated print quantities include the estimated test taker count as indicated in RFS Addendum 1, Table 3.1, plus the estimated overage materials included in the LEA shipments, the materials needed to support the special versions, and the estimated materials for ETS inventory to fulfill supplemental orders requested by LEAs.

**The estimated print quantities for the Smarter Balanced paper-pencil assessments for the 2017–18 administration are to support the continued administration of the braille and large print and minimal regular versions.

***The administration of the alternate assessments do not require test booklets and answer documents. Test questions are included in the secure Directions for Administration and test administrators will enter student responses into the TDS.

Test booklets, whether printed or other acceptable format, will contain the following information on their covers as approved by the CDE:

- form identification
- content area
- administration date
- security warning
- copyright information on the inside front cover
- CDE logo and CAASPP logo on the front cover

ETS is prepared to customize the information on the cover annually. ETS will design answer books to provide:

- space for scannable, pre-printed student barcode labels; or information can be printed if the LEA opted to receive pre-ID'd materials as an ancillary service (for 2015–16 and 2016–17)
- space for students to write and grid-in information specified above, such as name, grade level, and gender
- space for test administrators to indicate special testing conditions or student test settings used during testing

Each test booklet page printed by ETS will contain a unique scannable identifier on each page. This identifier will aid in locating any pages separated from the books. Each California test booklet printed by ETS will also have a six-digit sequential number, known as a litho code, which are used in the distribution and collection process and for the CDE edit checks. Each page will identify the session number and form designation for ease of viewing during test monitoring.

Each test booklet printed by ETS will contain a barcode, which ETS will scan before sending the test booklets to schools and LEAs. ETS will scan these barcodes again once those schools and LEAs return the test booklets. This will occur immediately upon receipt at the ETS facility following the return of paper test materials. ETS will document scanned data into both the inventory and a closed-loop tracking system. This system will track inventory and determine, by school and LEA, any missing test booklets or secure test materials.

After the last pick-up, ETS will provide an initial missing secure materials report. This report will include a complete accounting of all materials, identifying the school, LEA, content area, form identifier, quantity of test booklets sent, quantity of test booklets returned, and the number of missing materials. ETS will also provide a separate summary for each LEA and confer with the contracted courier service provider to obtain details about the delivery of returned shipments. ETS will update the report and inform California and each LEA of subsequent returns.

7.2.A.2. Special Versions (Braille and Large-Print)

ETS will estimate the print quantities of the CST/CMA for science (2015–16) and the STS RLA (2015–16 and 2016–17) braille and large print test books based on usage from previous administrations and take into account any other factors that could influence volumes. For the

2017–18 administration, ETS will utilize existing braille and large print STS RLA test materials (for English learners only) from the 2016–17 administration. ETS will provide instructions to test administrators on how to enter the student responses in the Smarter Balanced Open-Source test delivery system. ETS will base the quantities of the Smarter Balanced braille and large print test books on orders provided by LEAs through TOMS by December 1 annually.

Procedures for Producing Braille Versions of the Tests

ETS production staff will develop and produce braille versions of each assessment for each test administration window. Materials will include a page for transcriber's notes and a special symbols page, as well as a special Instructions for Use document for administering the braille tests. ETS will provide detailed instructions and examiner directions to support the test for the braille versions. They will reflect any special instructions for test administration specific to the braille version of the assessment.

Procedures for Producing Large-Print Versions of the Tests

ETS will provide the large print booklets—in black ink—and related materials for each test administration. ETS will produce these booklets by submitting the document copy to the printer on electronic media. Before producing the camera copy, ETS will electronically enlarge the type size. It is important to do this, rather than enlarging the copy via a photocopier, to yield documents with sharp and distinct images that are vital to visually impaired students.

ETS will present pages in portrait format and spiral bind the booklets so that the pages will lie flat when fully opened. For the modification of graphics for the large print booklets, ETS will remove any background shading or screens during the composition process. Such shading or screens could hinder a student's ability to interpret and respond to the item. ETS proposes reproducing any graphics that the developer purposely drew to scale at the same size and will only modify items from the original size that are solely represented by color or contrast.

The directions for administration specific to the large print edition will be similar to those used for the regular print, operational version of the test.

Students will respond directly in the special version test booklets or response booklets, and test administrators will transcribe their responses into the test delivery system.

7.2.A.3. Paper-Pencil Test Administration

ETS has detailed plans in place for the printing, packing and packaging, shipping, and retrieval and processing of the 2015 CAASPP test administration materials, and ETS will continue using the same processes, refining elements to improve efficiencies and to address any policy or programmatic changes required for a given administration.

Printing and Packaging

ETS will print and package assessment materials according to the requirements of the RFS. The shrink-wrap, overage, and packaging specifications will support the goal of efficient handling by the CAASPP test site coordinators, also allowing ETS to effectively bundle the necessary quantities of test materials.

ETS proposes the following baseline packaging assumptions:

- ETS will provide test booklets in packages of five.

- Test books will be spiraled for assessments with multiple test versions with the package to help facilitate equal distribution of forms across the student population.
- ETS will provide accommodated versions of the test booklets in individual packages with accompanying materials.
- ETS will individually package manuals and ancillary materials to meet the CDE's requirements.
- Secure materials will be in shrink-wrapped packages that will have an affixed barcode indicating the items contained within the package.

ETS will ship all paper-pencil test materials—CST/CMA/CAPA Science, STS RLA, Smarter Balanced, and Alternate Assessments—for a test administration window at one time. If the LEA ordered pre-ID labels, then ETS will also package the labels at the same time that the test materials are shipped. ETS will package all materials for each school and ship those packages to the appropriate LEA. Because many LEAs have multitrack calendars that require testing in more than one test administration window, it will be necessary to make more than one shipment to some LEAs.

ETS will develop and maintain the materials list for each administration, as ETS does for the CAASPP 2015 administration. This list is a requirements document that specifies anticipated page counts, order quantities, distribution quantities, and processing quantities for each item type by year. ETS will provide the list to the CDE upon request.

ETS will use distribution rules to calculate material quantities and overages. ETS's costs assume ten percent overage for every school testing, as well as a five percent overage for every LEA based on the LEA's total order for each grade.

Shipping

ETS will meet the CDE's timelines and requirements, producing detailed packing lists for each order and tracking sheets for test administrators. For barcode-tracked materials, ETS will produce shipping lists that itemize each piece of the shipment and individual boxes. ETS will provide electronic flat text files of the security barcodes at the time of shipping for the CDE and each LEA.

ETS will package boxes by assessment and grade for each test site and send them to the LEA, and ETS will clearly label the contents of each shipment. ETS ships all test materials, bearing the return address of ETS's test materials processing center, by a secure courier.

Box 1 of each LEA- or county-office shipment will include:

- return freight kits for scorable and non-scorable materials
- directions for inventorying the materials and for notifying CalTAC of any missing materials or shortages
- a set of packing lists for all school shipments within the LEA or county office
- a packing list for the LEA or county overage materials listed in the order in which they are packed
- a pallet detail report for those shipments that include two or more pallets

Box 1 of each school shipment will include:

- return freight kits for scorable and non-scorable materials
- a packing list with materials listed in the order in which they are packed
- pre-ID student labels

ETS will numerically label the boxes to correspond with the packing list (i.e., Box 1 of 20, Box 2 of 20, Box 20 of 20), so as to make materials for a particular assessment and grade level identifiable upon receipt at the test site.

Box Specifications. ETS will use specifications for box construction so that the boxes used for shipping test materials are extremely sturdy and durable. ETS will use double-walled, reusable boxes to both withstand the rigors of handling by the carriers during distribution to LEAs, and to protect the test materials shipped back to ETS for processing.

LEAs receive many shipments of materials during the school year. Although ETS will label the boxes with program information, it is critical that the LEA CAASPP coordinator be able to locate Box 1 of each shipment as soon as possible, as Box 1 contains the packing list and other important information needed to facilitate handling. For that reason, ETS will mark Box 1 so that it is easily recognizable to LEAs.

Special Services to LEAs. Where possible, ETS will provide the following fee-based special services to LEAs:

- accommodations for special LEA requested arrangements and space
- pallet jack or other equipment necessary for LEAs without a dock or proper equipment
- alternate carrier arrangements at the request of the LEA

ETS will provide the CDE with a proposed price list for review and approval. The price list will include all special services and other fee-based ancillary services (e.g., rescoring of constructed-response test questions) available to LEAs.

ETS will use TOMS to capture requests for proper delivery (e.g., no dock, need assistance). If there are any questions about special services in the enrollment order, CalTAC will follow up with the LEA CAASPP coordinator before ETS ships test materials for that LEA.

Additional Orders. When LEAs need additional materials, ETS will process requests for additional materials as long as there are not delays with shipments to other LEAs. Having the additional orders fulfilled using the main packaging and distribution system will allow ETS to consistently and effectively respond to requests for additional materials to LEAs within two (2) business days of notification.

Packaging and Distribution System. ETS will utilize a state-of-the-art Packaging and Distribution system, which uses barcode-identified packaging components. Barcodes will identify item type, boxes, orders, pallets, and shipments.

ETS will establish a high level of quality through such steps as applying unique shipping labels for each package associated with a school's order. Each package will have a tracking number associated with it. ETS will load this order and shipment tracking information into TOMS, where LEA CAASPP coordinators placed their orders. Since TOMS contains e-mail addresses tied to

each order's school and LEA hierarchy, the system-generated e-mails will go to LEA CAASPP coordinators upon shipment of their order. Information on their order is available for LEA personnel to view and track in the system.

All materials for the test administration will arrive in schools no earlier than ten (10) business days and no later than five (5) business days prior to the start of testing. ETS will use closed-loop tracking to make sure that ETS sends the correct materials ordered, and that the school or LEA receives and accounts for those materials.

Collection and Processing

LEAs must return scorable and non-scorable materials within five (5) business days after the last day for each test administration period. ETS project management will closely monitor the return of materials and will notify the Help Desk, CalTAC, of any LEAs that have not returned their materials. CalTAC will contact the LEA CAASPP coordinators and work with them to facilitate the return of the test materials. ETS will work onsite with LEAs, collaborating with County Offices of Education, to verify the return of materials in a timely manner.

In the packaging process, ETS will include freight return kits for scorable and non-scorable materials for use by the LEA CAASPP and scorable materials. The label will also contain bar-coded information identifying the school and LEA. When CAASPP test site coordinators pack their materials for return to the LEA, they are required to apply the appropriate labels and number the cartons (e.g., 1 of 2, 2 of 2). Upon receipt of the materials at the LEA, the LEA CAASPP coordinator is required to complete the "total shipment from this LEA" information on the label.

The use of the color-coded labels streamlines the return process. LEAs will deliver all scorable and non-scorable materials to ETS's scanning and scoring facilities in Ewing, New Jersey.

Processing of Returned Materials. Upon receipt of the test materials, ETS will utilize a precise inventory and test processing system in conjunction with quality assurance procedures to maintain an up-to-date accounting of all the testing materials within ETS facilities.

As ETS receives test materials, personnel remove the materials from the shipping cartons and carefully examine each shipment for a number of conditions, including physical damage, shipping errors, and omissions.

As materials are batched for scanning, personnel also conduct a visual inspection to compare the number of students recorded on the school and grade identification (SGID) sheet to the number of answer documents in the stack.

ETS's image scanning process provides the ability to capture security information electronically and to perform the following tasks:

- compare the scorable material quantities reported on the header sheets to the actual documents scored
- follow up on any missing shipments or quantities appearing to be less than expected with a telephone call by ETS's Program Management Team to the school LEA

CalTAC staff will contact the LEA for further resolution.

ETS will check in all secure materials by scanning the barcode label on each of the returned cartons. ETS will then count and return the materials in each box to the original box for storage.

ETS will compare the quantity of test booklets that received, including the scanned counts of STS grades two and three scorable documents, and compare that to the quantity that are assigned and sent to each LEA and school.

Notifying LEAs of Discrepancies in the Quantities of Secure Materials. ETS will send reports detailing secure materials received back from the LEAs or schools to CalTAC, who will follow-up with LEAs. ETS will provide the CDE with an electronic file showing the final resolutions of discrepancies no later than September 20 of each year. The format of the file will be similar to the file format used in the 2014 administration.

Procedures for the Secure Destruction of Secure Materials. After secure materials (including test booklets and examiner's manuals) are processed, ETS will return them to their original boxes for storage and palletize and place them in ETS's secure warehouse facilities. Once all resolution is complete, ETS will request approval from the CDE to securely destroy the materials. ETS will request approval from the CDE on October 31 annually following the administration to securely destroy test materials.

7.3. Computer-Based Assessments

AIR's test delivery system will be used as part of a continued offering for CAASPP. This system has the proven operational capabilities need to deliver the full range of assessments.

AIR-Proprietary Test Delivery System

ETS and its subcontractor, AIR, will host and support the AIR-proprietary TDS for the administration of all online California-specific and Smarter Balanced assessments (summative and interim) for California.

As described in Task 5.1, ETS intends to work with Smarter Balanced and the CDE to implement new system features such as updated embedded calculators or illustrated glossaries. As new features become available, ETS will review the technology or feature and make recommendations to the CDE the potential systems and program impact. If the CDE requests that the technology or feature be implemented under the current contract, the CDE, in consultation with the SBE, may make material amendments to the contract that do not increase the contract cost. Contract amendments that increase contract costs may only be made with the approval of the CDE, the SBE, and the Department of Finance.

A summary of the existing system features:

- Provides advanced security protocols and techniques to protect both test content and student data.
- Provides educators with a robust set of tools to manage and monitor testing. The system displays each student's progress through the test. Additionally, intuitive, user-friendly icons indicate each student's testing status. Customized student grouping rules can be applied to easily help manage student data.
- Uses current industry-recognized standards (Standard Interchange Format [SIF], Information Management System [IMS], etc.).
- Is flexible to accommodate the varying technological capabilities that exist in state school LEAs.

- Accommodates virtual networks and/or thin client environments and supports administration within a secure wireless environment on tablets or other mobile devices.
- Includes a rich set of tools to enhance the student's computerized-testing experience.
- Tools are highly customizable and can be configured for each computerized test and test taker as set by the testing procedures and PMP.
- Provides a workflow that makes pre-registration for specific online testing sessions unnecessary.
- Shows online testing metrics, by assessment and state/LEA/school, immediately upon inquiry. Daily completion status reports summarized across state and by LEA are available.

The TDS is a purely Internet-based system that supports operating systems and Internet browsers longer than their original manufacturers. This covers almost all the computers currently found in schools. While inside schools, there can be technology schools, technology is advancing rapidly outside. ETS will not only keep up with those advances across all technology proposed for CAASPP, but will leverage them to make test content more meaningful and accessible. Therefore, ETS needs to confirm that their system always has forward browser compatibility with the latest operating systems, including iOS®, Androids, and Chromebook™ devices, as well as assistive technology devices.

Table 16 below describes the secure browser support policy for new operating system releases. Table 17 describes the Web browser support policy for new releases.

Table 16. Secure Browser Support Policy for Operating Systems

Release of Third-Party Software	Compatibility	Description
Currently supported operating systems	90 days after release	AIR intends to support a new version of a currently supported operating system within 90 days of official release.
Google ChromeOS	presumptive support	AIR does not block new versions from accessing the site.

Table 17. Web Browser Support Policy

Release of Third-Party Software	Compatibility	Description
Apple Safari and Microsoft Internet Explorer browsers	90 days after release	AIR does block new versions of these browsers from accessing the site until they are tested and all issues are resolved.
Google Chrome	presumptive support	AIR does not block new versions of these browsers from accessing the site.

Table 18 below provides a list of supported operating systems and recommended specifications as of the submission of this SOW. ETS will update this list annually as part of the Smarter Balanced Implementation Readiness Package described in Task 3. ETS will provide the CDE with advance notice when a secure browser update will be released. AIR will continue to work closely with the major operating system vendors to ensure that the secure browsers will work on any new operating system updates. The latest table of supported operating systems and minimum system requirements can be found on <https://www.caaspp.org/>.

Table 18. Supported Operating Systems and Minimum Requirements, as of March 30, 2015

(Note: The latest information will be posted to <http://www.caaspp.org/>)

Operating System	Supported Devices	Secure Browser	Related Requirements*
Desktop			
Windows XP (Service Pack 3), Vista, 7, 8.0, and 8.1 Server 2003, and 2008	Desktops/Laptops	Windows Secure Browser 7.2	Disable fast user switching. Server 2003 and 2008 are supported when using a thin client.
Mac OS X 10.5 (Power PC)	Desktops/Laptops	Mac Secure Browser 5.6	Disable fast user switching and Launchpad.
Mac OS X 10.5 (Intel)	Desktops/Laptops	Mac Secure Browser 6.5	Disable fast user switching and Launchpad.
Mac OS X 10.6 – 10.10	Desktops/Laptops	Mac Secure Browser 7.2	Disable Spaces (10.7 – 10.10).
Linux Fedora 16 –20 openSUSE 13.1 Red Hat Enterprise 6.5 Ubuntu (LTS) 10.04, 12.04, and 14.04	Desktops/Laptops	Linux Secure Browser 6.5	Install required libraries. Install Festival and SoX. Install Verdana TrueType font.
Mobile			
iOS 6.0 – 8.1	iPad 2 iPad 3 4th Generation (Retina Display) iPad Air	AIRSecureTest Mobile Secure Browser	Enable Guided Access. (Note: Single App Mode is not the same as Guided Access.)
Android 4.0.4 – 4.4	Google Nexus 10 Motorola Xoom Samsung Galaxy Note (10.1) Samsung Galaxy Tab (10.1) LearnPad Quarto	AIRSecureTest Mobile Secure Browser	Enable the secure browser keyboard.
Chrome OS 31 – 40	Chromebooks	AIRSecureTest Kiosk Application	Chromebooks must be in kiosk mode.
Windows 8.0, and 8.1	AIR supports any tablet running Windows 8.0 and 8.1 Pro. However, AIR has done extensive testing only on Surface Pro, Asus Transformer, and Dell Venue.	Windows Secure Browser 7.2	Disable fast user switching.

Note: The CAASPP end-of-support date for operating systems will be consistent with the Smarter Balanced end-of-support plan (www.smarterbalanced.org).

The CAASPP Assessment Delivery System contains a series of integrated modules that appear to users as a single, integrated system. Once logged in, users can navigate the various components of the system securely. The CAASPP Assessment Delivery system has four components: TOMS, the test delivery system, the quality monitor system, and participation reports. Table 19 provides an overview of each component.

Table 19. Summary of Assessment Delivery Components

System	Description
Test Operations Management System (TOMS)	TOMS is responsible for: <ul style="list-style-type: none"> • student registration • gathering of demographic data • materials ordering
Test Delivery System Test Administrator Interface	The test delivery system's test administrator interface provides the interface through which test administrators establish and monitor testing sessions and authenticate student users. The student interface is the testing system as it appears to the student, on which students take tests. The test delivery system delivers tests to students, records responses, and forwards data to downstream systems. Available for all CAASPP computer-based tests beginning with the 2015-16 administration.
Quality Monitor System	The quality monitor system receives the data, verifies the validity of the test administered and the item-level scores assigned, and gathers statistical data for ongoing quality reports. Data are then provided to ETS for test-level scoring and reporting.
Completion Status	The online reporting system for participation reports provides a secure interface to participation data and associated demographic information. Available for all CAASPP computer-based tests beginning with the 2015-16 administration.

System Description and Capabilities

To administer tests, the test delivery system needs information about students and test administrators, including authentication information. TOMS gathers data from LEAs, schools, or the state, and transfers those data to AIR's roster tracking system, a flexible database system shared by the test delivery system and the AIR reporting systems utilized for completion status. The roster tracking system will house TOMS-provided data provided about the educational networks in California, such as which schools are in which LEAs, which teachers are in which schools, and which students are in which classrooms.

After the test delivery system administers the test to a student, the system passes the resulting data to the quality monitor system. The quality monitor system rescores tests, checks that the tests meet the blueprint, captures statistics on items, and runs a host of extensive quality checks. The quality monitor system also runs a suite of analyses designed to detect cheating, which ETS can make accessible to psychometric personnel at any time. The entire quality checking process occurs in milliseconds. The system then transfers item-level score data to ETS for test-level scoring and population within the electronic reporting systems. In the rare

- training and certification of LEA-based trainers in the scoring of student responses to constructed-response and performance-task items, using workshops, Webinars, and supportive ancillary documents and materials
- training and materials to guide accurate interpretations of scores and support effective use of interim assessment results to improve instruction
- a method for reporting scores to the Smarter Balanced data warehouse for reporting purposes

As part of this contract, ETS and its subcontractor, AIR, will provide services that will incorporate access to the Interim Assessments via single sign-on functionality through TOMS. Access to the Interim Assessments will be available year round beginning in August 2015. ETS will update the interim assessments by September annually with materials provided by Smarter Balanced. ETS will work with the CDE to develop appropriate roles for administration of summative and interim assessments that limit access as appropriate.

The Interim Assessments will share the same servers as the Summative Assessment. It is estimated that approximately 6.3 million students in kindergarten through grade twelve will have access to the Interim Assessments. This estimate includes the students in grades three through eight and grade eleven who also will have access to the Summative Assessments. ETS and AIR will host a server infrastructure with sufficient bandwidth, hardware, and software to provide the Smarter Balanced assessments and tools to up to approximately 6.3 million students.

Training Educators in the Scoring of Student Responses to CR Items

As part of the plan to improve educators' access to interim assessments—and to train them to effectively use them—ETS will use its expertise and provide opportunities for educators to learn how to accurately and reliably score student responses to constructed response and performance task items. Educators training is described in Task 2. ETS will provide training at eight sessions per administration and will add two sessions per administration if scheduling and resources allows. The additional sessions must be located within the original eight sessions.

Reporting Interim Assessment Scores to Smarter Balanced Data Warehouse

Following the administration of an interim assessment, ETS will securely transfer student demographic information and interim assessment test results to the Smarter Balanced Data Warehouse for prompt reporting via the Smarter Balanced Reporting System. If Smarter Balanced implements a federated process for user authorizations, ETS will work with Smarter Balanced to allow for single sign on access to the Smarter Balanced Reporting System to make it seamless for educators to use all components.

7.3.A.2. Appeals for Computer-Based Assessments

The test delivery system provides an online method by which LEA CAASPP coordinators may submit an appeal for a computer-based assessment. The system handles all of the current appeals types and conditions required by the CDE and Smarter Balanced. ETS will confirm with the appeals types and conditions for each administration during the Orientation and Annual Planning Meetings.

A team of trained ETS representatives, in conjunction with the CDE, will be responsible for monitoring the appeals queue via the online appeals system. Monitoring and processing of the outstanding appeals will take place throughout the day, Monday through Friday, during the test

administration period. The designated team will review each request and approve or deny the appeal based upon the requirements documented for each type of appeal. Based on experiences from the 2014 Smarter Balanced Field Test and preparations for the 2015 CAASPP administration, a recommended decision tree is included in Table 20. The decision tree indicates who is handling the request and describes each type of request, reasons for the request, and results of an approved request.

Table 20. 2015–16 Online Appeals: Types and Conditions

APPEALS HANDLED BY THE CDE		
Type of Appeal	Reasons for Appeal	Results of Approved Appeal
Invalidate a Test	<ul style="list-style-type: none"> Test security breach Test administered inconsistently with the TAM Student deliberately did not attempt to respond appropriately to items 	Invalidated tests WILL be scored.
Restore a Test that has been Reset	<ul style="list-style-type: none"> A test was inadvertently or inappropriately reset 	A test that has been reset in error can be restored to its previous status and restarted where the student left off .
Grace Period Extension	<ul style="list-style-type: none"> Loss of Internet access 	Allows the student to review previously answered questions upon logging back in to the test following expiration of the pause rule period.
APPEALS HANDLED BY THE ETS		
Type of Appeal	Reasons for Appeal	Results of Approved Appeal
Reset a Test	<ul style="list-style-type: none"> Student started test without the designated supports or accommodations in his or her individualized education program or Section 504 plan Correct test was not available Incorrect test originally opened 	Resetting a student's test removes that test from the system and enables the student to start a new test from the beginning .
Reopen a Test	<ul style="list-style-type: none"> Student became ill and the test expired Technological difficulty resulted in expiration of the test Unanticipated excused absence or school closure resulted in expiration of test(s) 	<p>Reopening a test allows a student to access a test that has already been expired or submitted:</p> <ul style="list-style-type: none"> Expired – Test opens where student left off; student can review items in the current segment, but cannot return to previous segments Submitted – Test opens at the last page of the test; student can review items in the current segment, but cannot return to previous segments

The above chart is for the 2015–16 test administration. ETS will work with the CDE on a mutually agreeable process for handling appeals authorized by 5 CCR Section 860, review this information annually with the CDE, and include it as part of the Security Incidents and Appeals Procedure Guide.

After ETS enters and reviews an appeal within the system, the LEA will receive a status of the appeal, whether it has been approved or denied. The LEA can review reasons for denying an appeal in the appeals database.

ETS will report weekly on the status of all appeals, whether they be approved, rejected, or outstanding appeals that are still in the queue to be processed. ETS will be prepared to report daily or on demand as needed by the CDE.

ETS will maintain a log of appeals that includes at least the following data elements:

- Date of appeal
- Name of LEA
- Type of Appeal
- Appeal Decision

7.4. Contracting with LEAs for STS for Dual Immersion-Programs

STS is currently available via the process agreed to by CDE and ETS. The STS is optionally available for students enrolled in a dual-language immersion program and who are either non-limited English proficient or re-designated fluent English proficient (the STS for Non-ELs in Dual-immersion Programs). ETS will enter into agreements with LEA's that are interested in this service.

Non- EL students in dual-immersion programs may take the STS for RLA and/or the STS for mathematics for which they meet the grade-level or end-of-course (EOC) eligibility requirements. However, because ETS will not report results for the STS for non-ELs, students do not have to take both content-area tests.

ETS has a process in place to allow these students to take a previous version of the STS at a minimal cost to the LEA. This cost is uniform across the state and is designed to recoup the marginal cost of the assessment.

LEAs will be able to download and/or order printed copies of these tests via a secure Web site. Prior to accessing the Web site, the LEA must sign and return a license and administration agreement that covers all security and privacy requirements.

ETS documents materials regarding test administration and instructions for scoring in detail, and makes these materials available to the LEA for download or in a printed format.

ETS will include the fees for these STS services as part of the CAASPP Ancillary Services Price List for the CDE's review and approval.

Once it is determined which of the Smarter Balanced Open-Source components will be utilized for the 2017-18 STS project, those components will also be available to Dual-Immersion non-ELs at no cost to the LEA. Any component that is not covered by Smarter Balanced Open Source may necessitate an agreement between ETS and the LEA following the process used in the prior years of the contract.

TASK 8: Scoring and Analysis

ETS will work with the CDE to lay out and document the scoring procedures. After scoring is complete, ETS will follow existing quality assurance processes to confirm and validate the results. Finally, ETS will perform a series of tests, which will include processing sample data through an end-to-end sequence, to verify accuracy.

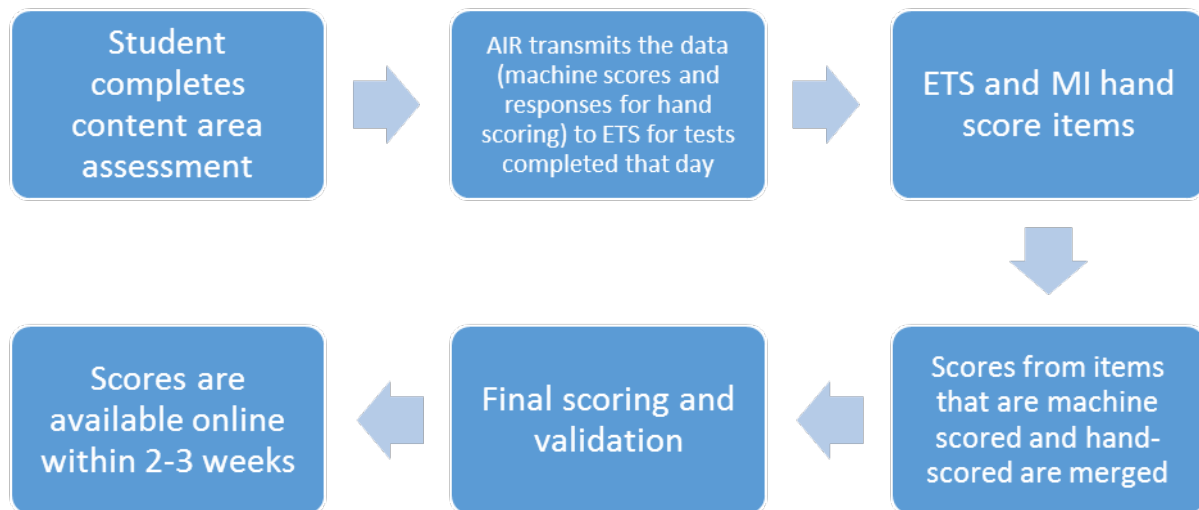
8.1. Scoring

ETS will take an integrated approach to planning and accurately scoring the assessments using Smarter Balanced- and California-required methodologies and procedures. ETS will work with the CDE to lay out and document these scoring procedures and will follow the quality assurance process to confirm and validate the results. Finally, ETS will perform a series of tests, which will include processing sample data through an end-to-end sequence that verifies accuracy.

Scoring Process Flowcharts

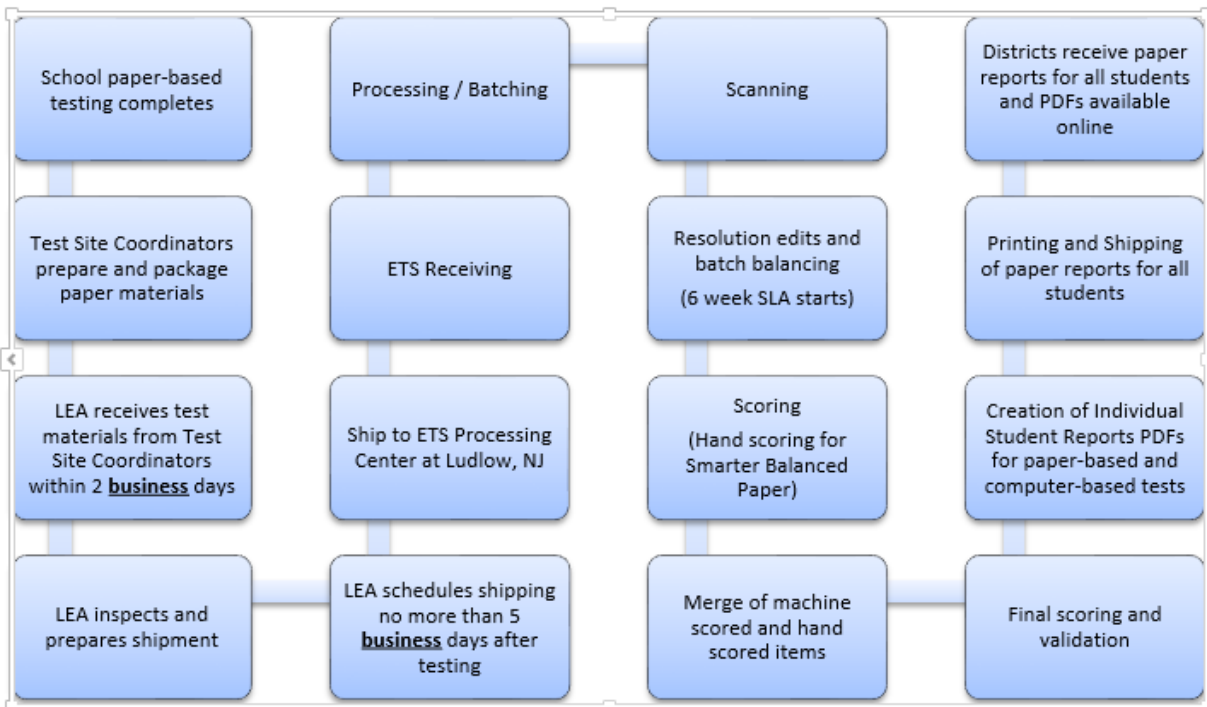
For computer-based assessments, ETS will deliver test results two to three weeks after a student completes testing in a given content area. Figure 6 below illustrates the process ETS will use for scoring computer-based CAASPP assessments. Information about the reporting requirements and timelines are included in Task 9, Table 23 and Table 24.

Figure 6. Computer-based Test Delivery—Scoring and Reporting Flow



For all paper-pencil tests, ETS will deliver test results within six (6) weeks after receiving the materials to confirm complete and accurate processing. Figure 7 below illustrates the process ETS will use for scoring paper-pencil CAASPP assessments.

Figure 7. Paper-pencil Test Delivery—Scoring and Reporting Flow



Rescore Requests

Request for a rescore will be provided to LEAs following a CDE-approved procedure for requesting the rescoring of an individual student's responses or a set of classroom-level responses. ETS will provide results of any such rescoring to the requesting LEA within 30 business days of receipt of the request. In the case that the rescore indicates any anomalies, ETS will verify the correct scores and reissue affected score reports. In such an event, there will be no charge to the LEA. ETS will also conduct CDE rescore requests at no charge to the CDE. If any such CDE-requested rescoring requires updating and/or distribution of new data and score reports, there will be no charge to the CDE or to the CAASPP contract.

8.1.A. Methods of Scoring

ETS will utilize all necessary scoring methods for each of the following item types:

- Selected-response Item Scoring.** For CAT, the AIR test delivery system will administer, score, and subsequently pass items through the CAT algorithm to determine which item to administer next. The system scores machine-scored items automatically in real-time. ETS will house student results in the ETS-maintained database of record. This private and secure state-specific database will contain CAASPP student results and assessment registration information.

- **Technology-enhanced Item Scoring.** Technology-enhanced items (TEIs) offer an advantage over traditional selected-response items. TEIs more closely simulate what students do in the classroom and the real world, as students can actually create their own responses rather than choosing from four preselected responses. Although scoring such items presents new challenges, ETS has significant experience and demonstrated competence in this area.
- **Constructed Response Item Scoring.** Constructed-response items require students to provide written responses, from simple fill-in-the-blank items with comprehensive lists of possible answers to full essay responses. Scoring approaches for these items generally fall into three categories:
 - **Deterministic Scoring.** This includes machine-scored items, basic TEIs (e.g., matching items, hot spots), or simple fill-in-the-blank items with comprehensive lists of possible answers.
 - **Human-scored Responses.** As the name suggests, these items involve constructs that require human scoring.
 - **AI Scoring.** ETS has developed rater engines that make it possible to automatically score more complex constructed-response items — such as items that ETS can score by matching a mathematical function (e.g., plot a line, use an equation), or longer constructed-response items that move beyond simple fill-in-the-blank types — that expand the possibilities for constructed-response items. AI scoring often requires some level of human scoring in order to train the scoring engine and validate the scores.

8.1.A.1. Deterministic or Machine-Scoring

ETS's system will maintain each unique scoring key used to score the programs. All Smarter Balanced machine-scored items will be rendered into ETS's systems.

ETS will score the multiple-choice, gridded responses, and computer-scored technology-enhanced items using the production keys or scoring rules.

8.1.A.2. Performance Task and Constructed-Response Scoring

ETS will score performance task and constructed-response student responses (including mathematics responses in Spanish) to maximize validity and reliability while incorporating efficiencies wherever possible. Table 21 represents the division of labor between ETS and MI.

Table 21. Performance Task and Constructed-Response Scoring of Summative Assessments, by Content Area and Grade

	Smarter Balanced Summative Assessments– ELA	Smarter Balanced Summative Assessments– Mathematics	CAST	CSA*	CAAs for ELA and Mathematics**	CAAs for and Science
Grade 3	ETS	MI	-	*	**	-
Grade 4	ETS	MI	-	*	**	-
Grade 5	ETS	MI	ETS	*	**	Test Examiner
Grade 6	MI	ETS	-	*	**	-
Grade 7	MI	ETS	-	*	**	-
Grade 8	MI	ETS	ETS	*	**	Test Examiner
Grade 9	-	-	-	*	-	-
Grade 10	-	-	ETS		-	Test Examiner
Grade 11	ETS	ETS			**	
Grade 12	-	-			-	

* The CSA High Level Test Design approved by the SBE in September 2016 does not include human scoring of performance tasks, although ETS will develop constructed response items, scoring rubrics, and training materials for future use.

** The CAA for ELA and mathematics do not include human scoring of constructed-response items.

By design, student responses to the Smarter Balanced Interim Assessment performance task and constructed response items will be scored locally as determined by each LEA for their needs. Task 8.1.B provides additional information about the Smarter Balanced Interim Assessment Scoring activities.

The procedures ETS proposes for California include:

- careful recruiting of raters utilizing ETS best practice hiring process
- extensive training of all levels of scoring leadership, not only on the prompts, rubrics, and related scoring material but on how best to monitor the quality of the scoring
- rigorous training of the raters in appropriately applying the rubric for each prompt type, following the generic sample responses that exemplify the quality required for each score point so that every prompt is scored on the same general criteria
- requiring new raters to demonstrate their accuracy by passing a “certification” test before being assigned to score a specific assessment and then by passing a shorter, more focused “calibration” test before each new prompt type
- using scoring leaders to read behind and monitor raters; scoring leaders have the option of evaluating responses a rater previously scored, with or without the knowledge of the score he or she gave (i.e., “informed” versus “blind” back rating)

- using the scoring system's live operational data to identify (and, for scoring leaders, then counsel) raters who are reading at unusually slow or fast rates
- using content scoring leaders to monitor the scoring leaders and their virtual teams
- including pre-scored validity responses (sometimes called monitor papers) within each rater's set of assigned responses in order to evaluate ongoing accuracy while scoring
- regularly analyzing inter-rater reliability (IRR) statistics to verify that raters are scoring consistently (the scoring system produces real-time IRR and validity response scoring statistics)

Using Hand Scoring of CAASPP Constructed Response Items for Teacher Professional Development

ETS remains committed to maximizing the involvement of California teachers in scoring student responses to CAASPP items and in increasing the professional development opportunities to the greatest extent possible. ETS will follow best practices as recommended by Smarter Balanced and CDE (for non-Smarter Balanced CAASPP assessments) for using scoring as a professional development tool for teachers in California.

ETS will involve teachers in five types of large-scale scoring activities: (1) Smarter Balanced Interim Assessment Scoring Workshops, (2) Summer Scoring Workshops, (3) Range-Finding Meetings, (4) Constructed Response Scoring Modules, and (5) Live Operational Scoring.

To encourage teacher involvement with these professional development opportunities, ETS will provide reimbursement to any California teacher or to the teacher's LEA for their participation:

- If a California teacher's school is not in session when he or she participates in the workshop, ETS will provide a stipend of \$150 per day to the California teacher for each day he or she attends the workshop. The teacher will not receive the stipend if his or her school is in session when the teacher attends the workshop.
- If a California teacher's school is in session when he or she attends the workshop, ETS will provide substitute teacher reimbursement of \$150 per day to the California educator's LEA for each day that the educator is not working at his or her LEA due to participation in the workshop. The LEA will receive the substitute teacher reimbursement only if the teacher's school is in session when the teacher attends the workshop.

Smarter Balanced Interim Assessment Scoring Workshops will train teachers in the effective and consistent use of scoring rubrics and materials so that they may accurately score their students' interim assessments.

These workshops, detailed in Table 1 in Task 2, will include:

- training that will increase teacher effectiveness in teaching and evaluating writing
- feedback to teachers that will support improvement in student performance
- online posting of videotapes of these workshops or, upon approval by the CDE, providing other materials in lieu of the videos, such as a facilitator's guide, that support local training conducted by LEAs

- support for the recruitment and training of California teachers to score Smarter Balanced Summative Assessments
- pre-scored constructed-response samples in the scoring training sessions
- preparation of workshop participants for the certification test required for CAASPP Smarter Balanced summative raters
- access to the scoring system with the opportunity to take an online certification test
- opportunities for teachers not qualified for the summative scoring

Summer Scoring Workshops will provide training on the scoring of released operational items from both the summative and interim administrations from the previous year.

These workshops will include:

- live training materials that raters use for operational scoring
- student responses from the summative and interim administrations for certified teachers
- items and responses from the pool of AI-scored responses that receive additional human back-reads
- opportunity for teachers to rate responses using the same systems and processes used for operational scoring

Range-Finding Meetings for CAST will take place after the pilot and field tests for any items that require rubric scoring. Range-finding meetings for the CSA will take place after the field test in fall 2018 for any items that require rubric scoring. The grade-specific committees will include teachers, LEA/school curriculum staff, LEA/school administrators, and higher education staff as specified by the CDE. These range-finding meetings will provide input into score ranges for each item, scoring rationales, and identify anchor sets with exemplar responses.

Constructed Response Scoring Modules will work with the Beginning Teacher Support and Assessment (BTSA) Induction to engage preliminary credentialed teachers in a job-embedded formative assessment delivery system of support and professional growth. ETS will suggest opportunities to include modules on constructed response scoring in these locally implemented programs with the goal of improving classroom practice. With this professional development, beginning teachers will be able to hand score both interim and summative performance tasks, and engage in the system of assessments to improve teaching and learning. ETS will reach out to interested BTSA providers to gauge their interest.

Live Operational Scoring will provide current California teachers, to the maximum extent possible, the option to engage in operational scoring of CAASPP ELA and mathematics student responses. To achieve this, ETS will employ the following strategies:

- a. **Operational Scoring Workshops** will be available to California teachers who have applied and have been accepted for the operational pool. ETS will hold scoring workshops on alternating weeks beginning in mid-February, or in a timeline approved by the CDE, for the purposes of training and certifying

California teachers in a face-to-face setting or other CDE-approved mode of delivery. Teachers who qualify during these workshops will score for the remainder of the workshop and will be certified to score via a distributed model at the end of the workshop. Refer to Task 2, Table 1, for additional information about the workshops.

b. **Recruitment Tactics to Maximize California Teacher Involvement.** In order to encourage California teachers to participate in distributed scoring, ETS proposes the following:

- reach out to a collection of educator stakeholders, for assistance
- offer teachers professional development or continuing education credit – ETS will explore the possibility with the appropriate state offices to offer continuing education credits to teachers
- offer California teachers priority processing over other raters and provide them with their own link through the CDE and California teachers associations Web sites
 - Priority processing means that, as applications come in to the scoring centers, applications from California teachers will be placed at the very front of the queue, guaranteeing them priority in the training, certification, and hiring process.
- reach out to Teacher Education Programs throughout the State to target pre-service teachers
 - ETS will suggest criteria or possible pilot programs for consideration of the CDE and SBE to expand the pool of potential raters beyond the current requirement of a bachelor's degree.
- Beginning Teacher Support and Assessment (BTSA) Induction. In addition to providing the modules described above, ETS will propose to BTSA providers that they include information regarding the CR scoring opportunities and perhaps a link to the application site.

c. Rates:

▪ Hourly:

At the time of hiring, all reviewers are expected to make a reasonable commitment to participate in summative scoring, as defined annually by the CDE and SBE staff.

- The hourly rate for scoring in the program is \$13 an hour.
- The hourly rate for scoring by certified California educators is \$20 per hour, retroactive to the time of hiring. ETS will work with the CDE to operationalize the process and will submit the process for review and approval by the CDE and SBE staff.

▪ **Operational Scoring Workshops:**

- Travel expenses for attendance at an operational scoring workshop. California educators or their LEAs also may receive reimbursement of \$150 per day for their attendance during the workshop as described at the beginning of this hand scoring section.
- California teachers who qualify to score after the workshop will receive \$20 an hour for any scoring they provide after the workshop. (Note: A California teacher does not have to attend an Operational Scoring Workshop in order to qualify and be hired as a CAASPP rater.)

Scoring Preparation and Execution for California

Rater Recruitment

ETS will recruit and hire the necessary number of qualified raters to meet the scoring timelines. A qualified rater must meet the following eligibility requirements: (1) has, at minimum, an undergraduate degree from an accredited college or university; (2) is preferably a practicing or former teacher; (3) resides in the continental United States, Alaska, or Hawaii; and (4) is eligible to work in the United States. ETS will require verification of rater credentials including college degrees or other qualifications as determined in cooperation with the CDE and SBE staff. ETS will specifically recruit California teachers and educators and plan to hire as many qualified applicants from California as possible. In addition, recruitment outreach will include prior raters who are currently scoring or have successfully scored responses for one or more large-scale constructed-response programs.

ETS will appoint a team of highly experienced human resources professionals to recruit and achieve the CDE's stated program requirements. This dedicated team will be responsible for vetting and hiring the required number of qualified raters and leaders to meet the volumes specified by Smarter Balanced, as well as the volumes required to score the pilot and field test items for CAST and the field test items for the CSA. The purpose of scoring the CAST pilot and field test items and the CSA field test items is to develop scoring rubrics and, when appropriate, scoring models that will contribute to the development of operational scoring data.

Organizational Scoring Structure

The organizational structure for CAASPP will encompass:

- **Content scoring leaders.** These team members have overall responsibility for one or more assessments, working under the supervision of ETS's assessment development content experts. Working across the leadership team for their domain, such as the ELA Upper Level grades, the content scoring leader will escalate non-routine issues (e.g., test security cases), review the performance of the group scoring leaders, and oversee the quality and progress of the scoring, working closely with assessment developers, scoring experts, and human resources professionals.

- **Group scoring leaders.** These team members provide key leadership and feedback to scoring leaders, carefully monitoring the overall quality and progress of the scoring. They score complex, non-routine responses and resolve any content-related issues raised by leaders.
- **Scoring leaders.** Scoring leaders' primary duties will include monitoring and reporting on a team of raters. Leaders back-read their teams throughout the scoring process, offering feedback and resolving selected non-routine responses.
- **Raters.** Based on their given availability, ETS schedules these members to calibrate and then score assigned responses.

During rater recruitment, ETS evaluates, trains, and tests raters to determine their ability to read responses and score to the required accuracy level. If an applicant meets all of the specifications, then ETS will certify him or her as a rater.

Scoring Plan

Number of Responses for Human and AI Scoring

ETS will use specific assumptions regarding the number of items and the scoring mode for each item. Based on information provided on <http://www.smarterapp.org> regarding the type of student response elicited, and the potential of items to provide quality professional development, ETS will base scoring solutions on the following assumptions regarding the number of items that can be AI scored. ETS will work with the CDE to adjust inclusion of additional items for AI scoring to reflect their potential and appropriately include more human scoring by California teachers. In all cases, AI scoring will only be applied to items that meet the most rigorous technical specifications for scoring that equal or exceed standards for human raters.

ETS will only expand AI scoring beyond the 2014-15 levels in accordance with the following criteria and with prior approval of the CDE.

1. ETS will target for AI scoring only those constructed response (CR) items that are designed to elicit a specific correct answer from students. These items require test-takers to enter a single word, phrase, sentence, number, or set of numbers and are technical and repetitive. They typically take students 1-5 minutes and do not require complex scoring rubrics. These are items that are not particularly useful or appropriate for trained educators and professional development.
2. ETS will target for Teacher Scoring and Professional Development Extended Response (ER) items that are designed to elicit more complex and elaborate student responses. These items allow students to demonstrate the use of complex thinking skills that are consistent with evidence-based conclusions for interpreting information and developing explanations. These items typically take students 5-20 minutes to complete and require multi-level scoring rubrics. These item types are much more suitable for scoring by human scorers and for focused professional development.⁵
3. ETS will only expand AI scoring to any identified ER items after engaging input from teacher stakeholder groups to determine the best item types to use for professional development and teacher scoring.

⁵ Perie, M. (2014). University of Kansas. *Report prepared March 27, 2014 for the Smarter Balanced Assessment Consortium*. Unpublished manuscript.

Development of Scoring Training Materials for New Assessments

Following range finding, the scoring team will create the various sets needed to train, qualify, and monitor raters for the CAST pilot and field tests.

ETS will include a set of decision (i.e., anchor) papers, which will be identified during range finding, that represent the fine lines at the top and bottom of each score descriptor on the rubric. ETS will select these responses based on their scoring “difficulty” (e.g., is the response a high 2 or a low 3?).

Training

The Scoring Trainers will use Smarter Balanced training materials for each grade level and train by item type to develop a strong foundation to score a variety of items within the type for which they qualify. ETS will leverage the Smarter Balanced-based infrastructure in place to allow for ongoing trainings as ETS brings on raters to handle any fluctuations in scoring demands. ETS will complete scoring on a rolling basis and return the results within the window specified.

ETS will train the raters to evaluate types of items within a specific grade and content area. By focusing on a specific type of response, the rater will develop specialization in understanding and applying the nuances of the rubric criteria for the item type. This internalization of the rubric by type will allow raters to apply the general scoring criteria to multiple items accurately. For performance tasks, when scoring criteria for performance tasks within a family is generalizable across the performance task type, raters will train across all performance tasks in the type as a unit. ETS anticipates that the training and qualifying sets from Smarter Balanced will consist of items and responses most representative of the type that ETS will score. Scoring trainers will use the latest Smarter Balanced training materials to help the raters learn to apply the criteria illustrated in the Scoring Guide, confirm the raters become familiar with the process of scoring student responses, and assess the raters’ understanding of the scoring criteria before they can begin live scoring.

ETS will employ flexible and secure online training interfaces for the rater training in the scoring sites and with distributive scoring activities. ETS will use the online training interfaces to allow ETS to lead interactive training sessions that emulate the best characteristics of face-to-face training. Using these same systems, the CDE will be able to actively monitor all hand-scoring training and scoring activities without travel.

ETS raters will utilize the identification of condition codes, unusual prompt treatment, and Alert situations (e.g., child-in-danger); as well as other particular types of responses that they should forward to the Scoring Leaders during live scoring.

Qualification. Each member of the ETS scoring staff will qualify for scoring student responses based on established California standards following a rigorous training process. ETS will maintain a consistent level of scoring quality throughout the scoring effort. ETS will submit documentation of all training processes and results to the CDE at the conclusion of scoring.

Scoring Systems

The ETS online distributed scoring platform contains the key features, functionality, and related benefits that California needs for effective high-quality scoring.

To satisfy California’s need for rapid scoring turnaround, ETS will use this platform to:

- use selected criteria to prioritize the scoring of responses in queue

- stratify response scoring, based on the alignment of student and rater demographic data, to reduce potential scoring bias
- randomly distribute responses
- reconfigure pre-set scoring rules in a prioritized order, when necessary, to achieve scoring deadlines

Quality Control

ETS will utilize a variety of procedures for controlling rating quality along with the monitoring of the raters.

These procedures include:

- **Rigorous training of the scoring leadership.** Content scoring leaders, group scoring leaders, and scoring leaders will receive training respectively on their assigned grade level(s) and prompt types prior to the annual scoring period. In subsequent years, top leadership will conduct refresher sessions.
- **Extensive training of raters.** Raters will go through a training period where they learn to appropriately apply the rubric for each prompt, following the Smarter Balanced- provided and the CDE-developed benchmark sample responses that exemplify the quality required for each score point. ETS online scoring platforms will support rater training with a full-service menu of training options, including orientation materials, program-specific information, training on how to use the platform, and interactive training that includes practice scoring for both potential and qualified raters.

Rater Reliability

ETS will conduct 10 percent second reads for all hand scored responses without adjudication. The second read will be used as a quality assurance measure to validate the consistency of the scoring and measure the accuracy of the scoring.

ETS's scoring systems will capture and report the quality monitoring data that are available to scoring supervisors. These data include: the number and percent of exact matches for each rater; the number and percent of adjacent scores. ETS will confer with the CDE to outline requirements for rater reliability reports so that ETS can provide this information with the necessary level of detail. MI will transfer the quality data from its system to ETS on a daily basis for consolidation of reporting.

The scoring specifications will include the requirement to maintain an average inter-rater reliability of 70 percent or higher. When ETS identifies an item that falls below this threshold, ETS will notify the CDE and make a recommendation for the CDE to consider.

ETS considers scores captured within the distributed scoring systems to be raw scores. ETS exports these scores, once acceptable according to the California rules, to the final scoring and reporting system, which will report the scores on appropriate scale for each prompt.

Questionable Content and Confidentiality

ETS will implement a formal process for informing the CDE when student responses reflect a possible dangerous situation for the student or for others. For possible dangerous situations, scoring project management and staff will employ a set of Alert procedures to notify the CDE of

responses indicating endangerment, abuse, or psychological and/or emotional difficulties. If a rater identifies a response, which may require an Alert, then he or she flags or notes that response as a possible Alert and transfers the image to the scoring manager. Scoring leadership will then decide if they need to forward the response to the CDE for further review and action.

ETS will provide an SFTP site to send the alerted student's response in a unique file with student identification information to the CDE. ETS will attach a detailed description of the unusual situation to the student response. ETS will make any other adjustments to the process based on CDE-specific requirements. ETS will communicate weekly—or more often, if required—with updates on posted alert papers to CDE jurisdiction through e-mail.

ETS will investigate the use of an automated system to flag responses that may require an Alert and will present recommendations to the CDE. If the CDE decides to implement an automated system, ETS will work with the CDE to develop and implement processes to review the alerts and notify LEAs as appropriate.

Condition Codes

ETS will assign student responses a score or a condition code according to the final set of scoring specifications developed in conjunction with the CDE. Smarter Balanced already has assigned a set of condition codes that ETS proposes to use with approval of the CDE. ETS will assign scores as requested by the CDE and include scores of zero in the computed statistics.

ETS will verify blank responses for either the multiple-choice or constructed-response items as a routine step in the scoring process. Additionally, ETS will visually check returned paper materials for any separate papers that many contain student written responses.

Reporting

ETS's online scoring system provides on-demand reports on scoring activities. The CDE will be able to view both aggregate scoring statistics for the entire pool of raters as well as individual raters in real-time.

The scoring system offers many data elements, such as:

- total number of responses for responses read
- hourly rate of responses read
- mean score awarded overall
- percentage of scores awarded at each score point
- number and percentage of exact scores
- number and percentage of adjacent scores
- number and percentage of non-adjacent scores
- number and percentage of responses deferred
- rater performance statistics

- rater productivity metrics

Scoring Student Responses with Artificial Intelligence (AI)

ETS will deliver AI scoring technologies that meet the demand for student reports and scoring data that is not only fast and efficient, but that also meets the rigorous standards of validity and reliability necessary for large-scale state assessments. ETS will follow the same considerations for teacher scoring and professional development as outlined in the Scoring Plan.

The scope for both the Smarter Balanced and CAST components includes the following:

- initial AI scoring model building and evaluation for CR items or PTs
- operational deployment of AI scoring models for CR items or PTs
- periodic operational quality control for monitoring AI scoring model performance for CR items or PTs
- development of an annual client memorandum that document AI model development, deployment, and performance

Timeline for Model Building, Evaluation, and Deployment

For Smarter Balanced items, ETS will utilize AI scoring and incorporate both ETS and MI engines for scoring in a complementary fashion.

For CAST items, ETS will complete the development of an initial item pool in the first year of development (see Task 6.1). A pilot test will be in the spring of 2017 and a field test in the spring of 2018. Once the data from the field test become available in the summer of 2018, ETS will conduct AI-scoring model building and evaluation during the second half of 2018.

ETS will use a broad range of evaluation criteria during model development, which consider statistical performance criteria as well as construct-representation considerations, to compare the performance of candidate models.

ETS will conduct ongoing quality-control (QC) efforts to monitor the performance of the AI scoring models during deployment. Therefore, if the structure of the student (sub-) populations and their associated performance characteristics change significantly, ETS will be able to detect and recalibrate the scoring models in time for future administrations.

Long-term Partnership Model

ETS will consult with the CDE in the longer-term development and deployment of novel AI models. ETS will utilize existing and emerging capabilities to produce statistically reliable, substantively defensible, and practically useful automated scores for an increasing number of items over the years.

8.1.B. Smarter Balanced Interim Assessment Scoring

ETS will deliver the interim assessments through the same test delivery system as the summative assessments. ETS will meet all of the mandatory requirements in the same way as is done in the summative assessment.

This system will provide the same features available on the summative assessments, assuming that Smarter Balanced provides the same content supports (e.g., alternate language glossaries) that it will provide for the operational summative assessment.

The test delivery system has an automated routing feature that sends items that require human scoring to a designated scoring system. Local scoring occurs through the Interim Assessment Hand Scoring System (IAHSS), which routes student responses to performance items back to the local test administrator for scoring or further routing.

Local Scoring

The test delivery system will make student performance responses available for local scoring of interim assessments. The teacher scoring system allows teachers to score any performance items requiring hand-scoring administered as part of the interim assessments, including extended responses and writing essays. Hand-scoring via the Interim Assessment Hand Scoring System (IAHSS) differs significantly from the hand-scoring procedures described for the summative assessments. First, the summative assessment procedures route student responses randomly to trained professional raters. Second, they typically require additional read behind requirements. Third, those procedures typically route validation papers through the scoring queue to monitor scoring behavior.

Student responses for performance task items on the interim assessments will flow into the IAHSS in real-time after a student completes and submits an online test. Scoring rubrics, exemplar responses, and anchor papers for each item will be accessible in the IAHSS by the teacher. In the event the teacher needs to transfer his or her queue, the teacher or a higher-level authority (e.g., a principal) is able to assign student responses to other raters.

Once teachers submit performance scores to the IAHSS, student test records will be uploaded to AIR's test integration system, where they will be processed in real-time. Uploads from the IAHSS to the test integration system will be regularly scheduled, within 24 hours after performance scores are submitted. The test integration system merges human scores with machine scores and sends the complete test result through the Quality Monitor (QM) system for final test scoring. Results then transfer to ETS for routing to the Smarter Balanced reporting system. The Database of Record (DoR) maintains the authoritative record of tests administered and completed.

Training Local Raters to Score Interim Assessments

ETS will provide training materials that will guide teachers through the process, including accessing the IAHSS, retrieving student responses for scoring, training and refreshing on scoring rubrics and exemplar responses, and entering scores into the system for reporting.

Teachers will be able to train to use the IAHSS using a combination of training materials:

- a detailed user guide on the IAHSS that includes screenshots and step-by-step instructions on how to use the IAHSS, how to complete critical tasks in the IAHSS, and how to address common issues encountered in the system
- training and certification of LEA-based trainers in the scoring of student's responses to constructed-response and performance task items

User Guide for IAHS

The purpose of the user guide for the IAHS is to train users on the system functionality. ETS will work closely with the CDE to confirm that the user guide clearly explains all relevant functions. The user guide will be available in PDF format for users to retrieve from a designated location on <http://www.caaspp.org/>.

Scoring Training

In addition to the user guide, ETS will develop a training presentation for teachers and schools to learn how to score students' responses.

Additional Training

ETS will consult with the CDE to design and implement additional training for teacher scoring. Task 2 provides additional information on the training and supports for the interim assessments. Should additional training for teacher scoring be identified beyond what has been agreed to in this Scope of Work, ETS will provide a cost estimate to the CDE.

8.1.C. Cumulative Scores

ETS's enterprise scoring platform will coordinate all scoring. The scoring platform will integrate both objective item scores and constructed-response item ratings to produce final cumulative score data, which can be scaled or converted as needed. Custom quality control processes, will be based on the Statistical Analysis System® (SAS), verify that score data meet ETS data quality requirements.

Student Database of Record

ETS will maintain a student Oracle database that houses all student biographical, demographic, and assessment results. The database will be of sufficient size and scope to accommodate the entire California suite of assessment programs. Information associated with each student has a database relationship to the LEA, school, and teacher/class codes as ETS collects the data during the operational chain of events.

Statewide Student Identification Number (SSID). ETS assumes that the CDE-issued SSID number provided in CALPADS will serve as the unique student identifier. ETS will maintain the SSID for all records produced throughout the life of the contract. ETS will provide the CDE with a list of SSIDs that require resolution (e.g., duplicate SSIDs for different students, incomplete or missing SSIDs, retired SSIDs, etc.).

For the 2017–18 STS online administration, ETS will work with Smarter Balanced to identify STS test takers and to ensure that the student demographic data from the approved demographic data snapshot are used in the reporting process.

8.2. Analysis of Test Results

ETS will use commercially available software for all statistical analyses. In particular, ETS will use the SAS to develop an open-source solution to support item analyses and differential item functioning (DIF) analyses, scoring, and any statistical and psychometric analysis for technical reports, research studies, and any data analysis based on the CDE's requests. For item response theory (IRT) calibration, ETS will use a commercially available version of PARSCALE

or an equivalent version (e.g., FLEXMIRT); and, if needed, ETS will use STUIRT for equating and scaling.

Final scores. The test delivery system will deliver the Smarter Balanced- and newly developed computer-based assessments. The ETS scoring system will create a record for each test taker. For each test response submission, the system will receive all machine-scored item scores and hold them in the record along with the number of constructed responses pending hand scoring. When the system receives constructed response scores, it will update the student record. Once both adaptive and performance task test response submissions are received and all expected constructed response scores are received, final scoring is invoked and all required test scores (i.e., overall and claims) are calculated. ETS will base all scaled scores produced on the maximum likelihood estimation (MLE) approach. Once all required scores are calculated, ETS will send the scored test record to the quality validation system. Once this is complete, ETS's Statistical Analysis Group will receive a data extract to verify the scoring. ETS will sign off on the release of scores into downstream systems.

For the paper-pencil assessments, ETS will use ETS systems for scoring and other psychometric analysis. As with computer-based assessments, once scoring and validation is complete, ETS's Statistical Analysis Group will analyze scores and release them for downstream reporting.

Routine procedures. ETS will perform data cleaning, item analyses, DIF for newly developed assessments, IRT calibration for newly developed assessments, and scaling and equating for newly developed assessments prior to producing scoring tables. For each of these steps in the process, two psychometricians and two data analysts will independently review the results using a psychometric procedure checklist. For newly developed forms that require scaling and equating, ETS will conduct a final executive review after the psychometric and data analysis team has verified the analyses. This final review will involve the psychometric director and senior psychometric advisors who have extensive operational and theoretical psychometric experience. They will provide an independent evaluation of the psychometric analyses and determine whether all results are technically defensible. After securing final approval in the executive review, ETS will share results with the CDE for final approval before producing the scoring tables. ETS will thoroughly review these scoring tables as a quality step before passing them on to downstream systems for scoring and reporting.

Audit procedures. ETS will use both the ETS internal audit process and detailed documentation of each assessment to evaluate the assessments and assessment system. ETS performs an audit of its testing programs at least once every three years, and ETS will report the audit results of the tests in the CAASPP to the CDE. The ETS Office of Corporate Quality Assurance (OCQA) will be responsible for conducting these audits.

Performance tracking. For each assessment, regardless of whether or not there is new test development, ETS will track performance over time, focusing specifically over the years on scaled score means, scaled score standard deviations, and percentage of students meeting each performance level both for the overall population as well as for each subgroup. In addition, within each year, in the event of an administration of multiple test forms within a grade level, ETS will evaluate whether the scores and psychometric properties (e.g. reliability) were comparable. In instances where unusual performance patterns appear, ETS will communicate these issues with the CDE and provide recommendations for resolving them.

New assessments. For assessments with new test development, ETS will develop psychometric criteria to support new test form construction based on results from field test

studies or information from well-established item pools. Specifically, ETS will establish target test characteristic curves, targeted difficulty, and targeted discrimination levels in order to achieve parallel forms. In terms of the psychometric process, ETS will document all psychometric characteristics of all test forms developed. Particularly, ETS will document test form difficulty (based on IRT), characteristics of the populations when the form was created and scaled (e.g., demographics, average test performance, percentage of examinees at each performance level), linking coefficients used to scale new test to base scale, and final conversion tables. ETS will compare the documentation associated with the newly developed test forms against documentation from prior versions of a particular assessment to evaluate the coherence of all forms constructed. If any new form created deviates from historical psychometric characteristics, then ETS will perform additional analyses to identify potential causes. ETS will share the results of such analyses with the CDE.

Technical report. ETS will develop a technical report, summarizing the entire end-to-end process, to provide the technical evidence of the quality and overall performance of each assessment. The key components of the assessment include test design, test development and form assembly, test administration, scoring and reporting, calibration, equating and scaling, standard setting, scoring reliability and validity, quality control procedures, and historical comparisons and special studies.

ETS will readily provide further data analyses in order to confirm the validity of test scores, federal peer review, programmatic review, program evaluation, or any additional inquiries regarding the operation of the CAASPP System.

8.2.A. Item Analysis

Smarter Balanced Assessments

The Smarter Balanced Consortium will analyze the Smarter Balanced Assessments. ETS will fully cooperate with the development of appropriate reports, and ETS psychometricians will document relevant technical information to provide the CDE with additional information and analyses, as necessary, for the maintenance of the Smarter Balanced ELA and mathematics assessments.

Continuing CAASPP Assessments

CAASPP involves the administration of linear forms of current paper-pencil assessments. For each item on these forms, ETS will provide the following information:

- the proportion of examinees selecting the correct response
- the IRT difficulty parameter (b)
- point-biserial and biserial correlation coefficients used to measure item discrimination
- the test characteristic curve
- the IRT item fit classification for each item
- plots of item difficulties (as measured by the b parameter) estimated in prior administrations, and the b parameter estimated in the current population
- raw score to scale score conversion tables with frequencies and the associated conditional standard errors of measurement for each raw score

New Assessments

After ETS receives all of the student response data for the new assessments, implements scoring rules, checks the data files, and applies agreed-upon valid case criteria rules to the data, ETS will conduct item analyses. The item analyses compute important statistics for every item of the test. The statistics provide key information about the quality of each item from an empirical perspective.

ETS will perform this analysis to evaluate item difficulty, item discrimination, and student raw score performance of selected response (SR) items and hand-scored constructed response (CR) items. These analyses help identify any items that might not have performed as expected.

Summary Analyses

ETS will provide the CDE with summary analyses at the end of each test administration. The purpose of the summary analyses is to provide the CDE with a preliminary summary of the statewide test results. Typical summary analyses include percent at proficient or above, mean scale scores, and comparisons to selected LEAs. By May annually, ETS will work with the CDE to agree upon the summary analyses that will be provided.

8.2.B. Summary Analysis

ETS will produce analyses that provide summary evidence of test score accuracy and validity. Both during and after completion of the item analyses, ETS will conduct analyses specific to summarizing the performance of the students taking each assessment and the psychometric qualities of each assessment.

The CAASPP System includes both online and paper-pencil assessments, as well as both linear assessments and computer-adaptive assessments. For all assessments, ETS will provide distributions of tests scores by grade and subgroup within grade, descriptive statistics concerning test scores, and where applicable, descriptive statistics for performance task scores and subscores where possible. In addition, for each assessment, ETS will provide the test characteristic curve, the overall test score reliability, overall and conditional standard errors of measurement, and, where applicable, decision accuracy and decision consistency estimates. At the item level, ETS will summarize item difficulty and item discrimination measures for both CR and SR item types. For online assessments, ETS will also provide the distribution of the time to complete the assessment, as well as descriptive statistics summarizing the time to complete the assessment. For tests that may have variable-length assessments, ETS will provide the distribution of the number of items administered, as well as descriptive statistics summarizing the number of items administered to each student. For CR items, ETS will summarize reader reliability information and provide information concerning the degree of relationship among CR items and, where applicable, the relationship between CR and SR scores.

Continuing CAASPP Paper-Pencil Summative Assessments

As part of the CAASPP System, ETS will administer current paper-pencil assessments for the CAPA for Science, CST for Science, and CMA for Science for the 2015–16 administration only. ETS will conduct analyses for the populations of students who take each form at both the item and the test level, and will summarize them in the technical reports.

For the population of students who take selected-response tests, ETS will first conduct an item analysis estimating the percentage correct and the biserial and point biserial correlations. For CR test items, ETS will first conduct item analyses estimating the average item scores and the polyserial correlations, and ETS will examine the frequency distribution for each item. ETS will

review items flagged for extreme difficulty or low item discrimination for inclusion in scoring. Because ETS will not develop new items to support the existing tests, there will be no need to perform DIF analyses or item model fit, as the items have already undergone review. At the test level, ETS will determine the overall internal consistency reliability of the test and the overall standard error of measurement, and ETS will provide conditional standard errors of measurement. In addition, ETS will also examine the internal consistency reliability estimates for various subgroups of the student population. ETS will also provide decision classification information for score classifications.

For all intact forms without any edits or replacement of items, ETS will apply the conversion tables from the previous administration to the current administration. If new or edited items are used or removed as the result of an item security breach, then ETS will generate conversion tables using the true-score equating through the Rasch model. The item parameters used for true-score equating are post-equated item parameters from the intact forms for the unchanged items and the post-equated item parameters from the most recent administration for the replacement or edited items.

Summary analyses will include overall distributions of test scores, as well as distributions by grade level and by subgroups. These tables will group students by demographic characteristics such as gender, ethnicity, English-language fluency, need for special education services, and economic status. For each demographic group, the tables will show the number of valid cases, scale score means, standard deviations, minimums, maximums, and the percentages of students in each performance level.

STS RLA

ETS will administer the STS RLA through the term of the contract. The 2015–16 and 2016–17 STS administrations will use paper-pencil test materials. The 2017–18 STS administration will be an online administration using the Smarter Balanced open-source components as feasible and approved by the CDE. ETS will use the 2017–18 STS data received from Smarter Balanced as is. ETS will conduct analyses for the populations of students who take each form at both the item and the test level, and will summarize them in the CDE technical reports.

Smarter Balanced

ETS assumes that the CDE will rely on the analyses conducted by Smarter Balanced for the Smarter Balanced Summative Assessments and no additional activities will be planned for the analysis of Smarter Balanced data except for the purposes of special studies approved by the CDE.

New Non-Smarter Balanced Online Summative Assessments

If the new online CAASPP assessments are linear forms, ETS will utilize a multi-stage adaptive testing (MST) model (or an item-level adaptive), or begin with a linear assessment and morph to an MST model (or item-level adaptive).

Regardless of whether ETS implements a linear test, item-level adaptive, or MST, ETS will provide distributions of test scores by grade and subgroup within grade and descriptive statistics concerning test scores. These tables will group students by demographic characteristics such as gender, ethnicity, English-language fluency, need for special education services, and economic status. For each demographic group, the tables will show the number of valid cases, scale score means, standard deviations, minimums, maximums, and the percentages of students in each performance level.

ETS will provide the test characteristic curve, the overall test score reliability, and overall and conditional standard errors of measurement (CSEM). At the item level, ETS will summarize item difficulty and item discrimination measures for both CR and SR item types. The estimation procedures used for statistics such as CSEM will depend on whether the assessment uses a linear, item-level adaptive or a MST design. ETS will also provide the distribution of the time to complete the assessment, as well as descriptive statistics summarizing the time to complete the assessment. If the assessments follow the MST model and the results have variable-length assessment, ETS will provide the distribution of the number of items administered, as well as descriptive statistics summarizing the number of items administered to each student. For SR items, ETS will summarize reader reliability information and provide information concerning the degree of relationship among CR items. For an MST, ETS would provide routing rates, ranges of scores for each route, and IRT parameter levels by each route.

ETS will conduct DIF analyses as part of the item development process in which the items are identified as potentially biased in the item bank and not ready for operational use.

If ETS uses an MST, ETS will conduct extensive monitoring and quality control analyses. ETS will concentrate on the characteristics of the MST panels developed to measure whether earlier panels obtained similar measurement outcomes and whether ETS should adjust to the initial assembly configuration implemented to optimize the routing rates.

8.2.C. Replication of Analyses

ETS will work with the CDE and the external evaluator to determine the format and the layout of the student-level data files. Also, ETS will have psychometricians, data analysts, assessment developers, and IT professionals available to answer questions on the statistical and content properties of the items as well as any technical questions concerning the data structure.

The student data for replication will provide all student demographic information, including level of student support or accommodation. ETS will provide all test level scores, including raw scores, cluster scores claim level scores, and all scaled scores. The student-level data file will also contain all item responses for SR items, all scores for performance task items, and all associated item identifications. In addition, ETS will provide the latency between items and the time to answer each item.

ETS will supply the CDE and the external evaluator with the entire vector of student-level information for each student, including identification of any accommodations the student used. If there is any information that the CDE believes is not necessary in the replication of item statistics and test characteristics, ETS will create and send an abridged file to the CDE and the external evaluator. In addition, should the CDE require additional documentation to assist in replications, then ETS will provide any supplemental information needed.

Smarter Balanced Interim Assessment Analyses

When final claim and test level scores are available, ETS will receive the interim assessment results for both the Interim Comprehensive Assessments (ICAs) and the Interim Assessment Blocks (IABs). When the last LEA completes summative testing, ETS will produce a complete electronic file containing interim assessment information for all those who took an interim assessment. This file will contain student identifiers, student test scores on the interim (not reported to the CDE) and summative assessments, school information, testing dates, and student demographics. As a result, ETS will be able to provide the CDE with a comprehensive report documenting the usage of the computer-based interim assessments.

The report will include:

- overall utilization rates by grade and subject
- overall utilization rates by subject and grade by LEA and school
- tables providing interim assessment usage over the course of the school year

These tables will also include summary statistics on how many times students took each assessment.

TASK 9: Reporting

ETS will deliver a full range of reports and reporting formats that the CDE requires for the CAASPP System, which will include merging results from both paper-pencil formats and computer-based tests. ETS will provide reports in both formats and ETS will confirm security, confidentiality, and ease of use for CDE-approved users. ETS will utilize the AIR Online Reporting System (ORS) to report secure student test results for each of the operational summative assessments — Smarter Balanced and CAA for ELA and mathematics — and will have the flexibility of reporting secure student test results, if available, for CAST, CAA for Science, and CSA. ORS is the same system that was used for the 2015 CAASPP administration. ETS will continue to improve the reporting system annually based on user feedback from the previous administration. ETS also will utilize the Smarter Balanced open source reporting system to report student test results for the Smarter Balanced Interim Assessments. Table 22 provides a high-level timeline for reporting test results by assessment.

Table 22. High-level Timeline for Reporting Test Results, by Assessment

Assessment	2015–16 Administration	2016–17 Administration	2017–18 Administration
Smarter Balanced	✓	✓	✓
CST, CMA, CAPA Science*	✓		
STS RLA*	✓	✓	✓
CAA for ELA and Mathematics	✓	✓	✓
CAST			
CAA for Science			
CSA			

9.1. Reporting to Local Educational Agencies

ETS will implement the comprehensive and secure ORS for interactive reporting to allow users to create customized reports to display data at the LEA, school, and student level.

ETS will deliver reports in both PDF and Microsoft Excel (CSV) formats for convenience and flexibility in printing and sharing. ETS will send documents to e-mail addresses as determined by the LEA CAASPP Coordinator or the CDE.

ETS will consult with the CDE on the expansion of these reports to support additional summative, interim, and formative reporting needs. Initially the system will report test results only for the Smarter Balanced and non-Smarter Balanced Summative Assessments. Reports for the interim assessments will occur through the Smarter Balanced Data Warehouse.

Requirements for Reporting to LEAs

ETS will follow the reporting requirements as outlined in EC Section 60643. ETS's system for reporting results to LEAs will include the following features:

- integration of student demographic data from CALPADS with student test results from the assessments

- real-time online completion reports for students taking the computer-based summative assessments, with completion reports available at the school and LEA level
- online student rosters with test results by grade level for each school and LEA, where the LEA may print or download student rosters locally through the reporting system
- online individual student results for all CAASPP assessments that the LEA may print or download locally
- provide additional student results, such as scores for the WER dimensions, in ORS

Table 23 below describes the test results provided to LEAs by type of report, test, timeframe, and mode of delivery for each of the operational summative assessments. For clarity, the operational summative assessments to be delivered within the terms of this contract include Smarter Balanced Summative Assessments for ELA and mathematics, CAA for ELA and mathematics, CST/CMA/CAPA Sciences (for 2015–16), and STS RLA. The timeframes provided in Table 23 will be in effect after ETS receives the CDE approval to release reports.

Table 23. CAASPP Test Results Provided to LEAs — Operational Summative Assessments Only

Type of Report	Tests/Content	When	Who
The individual student results for a content area	Computer-based assessments (both Smarter Balanced and non-Smarter Balanced)	Two to three (2-3) weeks after the student has completed all components of the assessment for that content area and scores are merged	LEA and Site Coordinators, teachers have access through ORS
Individual student results	CAASPP paper-pencil tests (e.g., CST/CMA/CAPA Science for 2015–16 and STS RLA for 2015–16 and 2016–17)	Within six (6) weeks after the scoring center receives a complete, clean set of answer documents for processing and scoring	LEA and Site Coordinators, teachers have access through ORS
Individual student results	Smarter Balanced paper-pencil assessments	Within six (6) weeks after the scoring center receives a complete, clean set of answer documents for processing and scoring and after receipt of the Smarter Balanced score keys and conversion tables	LEA and Site Coordinators, teachers have access through ORS
Online aggregate reports of test results	All assessment result summaries by subgroups	Aggregate results for a school or LEA will be available once individual test results are posted after validation. Aggregate calculations will be refreshed nightly. This includes target aggregate reports for online summative Smarter Balanced ELA and mathematics assessments.	LEA and Site Coordinators, teachers have access through ORS

Type of Report	Tests/Content	When	Who
LEA-created roster-based aggregate reports, based on the data available and as the CDE allows	All assessments	Aggregate results for a school or LEA will be available once individual student test results are posted. Authorized users have ability to create rosters to view aggregate results based on data available.	LEA and Site Coordinators, teachers have access through ORS
Student Score Reports (SSRs) in electronic format, online individual student results for all CAASPP assessments that the LEA may print or download locally	Computer-based assessments (both Smarter Balanced and non-Smarter Balanced)	Within four (4) weeks after the student has completed all components of the assessment for the last content area	LEA and Site Coordinators have access through TOMS
Paper SSR	All assessments	Provided to the LEA once the test administration reaches 90% of the student test results scored for that testing window. Additional student score report shipments will be sent for the balance of SSRs after the end of the statewide CAASPP test administration window as defined in the most current testing regulations. The CDE has the opportunity to review and approve printing and shipping paper SSRs to LEAs that fail to reach the 90% threshold.	LEAs will receive two (2) copies of each SSR
LEA Student Data (Downloadable) File	All assessments	Available to all LEAs regardless of testing or scoring completion status on a schedule agreed upon by the CDE and ETS. The schedule will be developed to coordinate with the CDE data delivery dates to allow LEAs to compare their data file against Public Web Reporting results prior to its release by the CDE.	LEA and Site Coordinators have access through TOMS

Type of Report	Tests/Content	When	Who
ETS Data Manager	All assessments through a dynamic, interactive data tool that offers the ability to access data through pre-developed report templates and an environment for the creation of custom reports	Starting in a timeframe as approved by the CDE	CDE and LEA users, if approved by the CDE
WER dimension scores	Smarter Balanced ELA	As approved by the CDE	Authorized user access through ORS

Individual Student Score Reports (SSR) in Paper Format Delivered to LEAs

- The SSR, also previously referred to as the Individual Student Reports (ISRs), will include test results of all operational CAASPP assessments that a student took.
- The student's SSR will include operational test results from all assessments on a single SSR. For the grade eleven SSR, ETS assumes that the SSR is a single-page report with dynamic text options and the student test results printed on one side with CAASPP and EAP information printed on the other side.
- ETS will provide an option for an SSR for the non-STS assessments to be reproduced in Spanish if an LEA marks in TOMS that the student comes from a Spanish-speaking home. Spanish and English SSRs for the non-STS assessments will be provided in both an electronic downloadable format in TOMS and a printed version. When the Spanish indicator is set in TOMS, the LEA will receive two SSRs: the LEA receives the Spanish version and the school receives the English version. The Spanish SSRs are packaged and shipped following the packaging specifications. STS SSRs will continue to be provided in Spanish only.
- In addition, to help parents/guardians understand the SSR, ETS will develop and post printable PDFs of the Understanding the CAASPP SSR guide. The guide will describe the key elements of the SSR and will be available for each grade of similar content and messaging. For example, one version of the guide is provided for grades five and eight as students in these grades are registered for the same content (i.e., ELA, mathematics, and science) assessments. ETS will deliver one version in English and one Spanish translation for posting to the CDE Web site. .

LEAs will log into the reporting system through the CAASPP Assessment Delivery System, which employs a single sign-on solution.

Online Reporting System

LEA Access to the Online Reporting System

Similar to the security protocol for TOMS and the test delivery system components, LEAs will access the reporting features based on the level of access in their roles. The hierarchy operates so that a user has access to reports for his or her role level and all levels below.

- CDE-assigned staff can view the test result reports within the state, if approved by the CDE contract monitor.
- An LEA user can view test result reports within his or her LEA drill-downs to school- and student-level reports.
- Authorized users (e.g., school administrators, educators) can view test result reports within their school.

California users will have access to ORS 24 hours a day, seven days a week, except during CDE-approved system downtime as described in Task 3. After completing scoring procedures for summative assessments, ETS's systems will provide data for static and dynamic reports in the timeframe described in Table 23 above.

Pilot Student Score Reports

ETS will pilot the electronic student score reports for LEA use. This will allow LEAs a new capability that allows them to opt-in to electronic student score reporting.

LEAs opting for electronic student score reporting would no longer receive printed SSRs. The electronic student score report should include all the same content of the SSRs. ETS will collaborate with vendors that the LEAs utilize for providing access to the electronic student score reports for parents. The purpose of the collaboration with the vendors is to ensure the electronic student score report is provided in a consumable format that is consistent with responsive design.

Report Types

Based on the Smarter Balanced reporting requirements for mathematics and ELA, the summative reports will contain information outlining student knowledge and skills as well as achievement levels aligned to the assessment-specific claims as defined by Smarter Balanced and as adopted and adapted by the California State Board of Education (SBE). These reports define and present test scores for users in multiple ways. The online reports offer drill-down functionality — from the overall claim to the content claim — at the LEA, school, and student levels. The individual student report outlines student performance on the Smarter Balanced Summative Assessments in a static version supported by extensive text.

For the non-Smarter Balanced computer-based assessments that will be operational during the initial contract period (i.e., alternate assessments for ELA and mathematics), the summative reports will contain information outlining student knowledge and skills as well as SBE-adopted achievement levels. ETS's reporting system is capable of expanding to include new CAASPP computer-based assessments as they are implemented.

ETS's interactive reporting suite will produce customized reports showing preliminary individual and group-level results for online assessments. These reports are real-time and cumulative, and provide student listings with relevant score measures.

ETS's reporting solution provides static reports. Static reports include average scale score, percentage in each achievement level, percent at each claim achievement category, and performance on each assessment target based on user permissions.

By default, the filtering variables will align with CDE-outlined student demographic variables while taking into account the Smarter Balanced requirements. ETS will provide

recommendations to the CDE for configuring ORS for CAASPP. Configurable features include access rules, features that can be turned off or on or modified, availability of data fields, and customized labeling of elements of the online reports.

Additional Information about Report Distribution

Electronic Test Results

The results for the Smarter Balanced Summative Assessments, CAA for ELA and Mathematics, CST/CMA/CAPA Sciences (for the 2015-16 administration), and STS RLA will be provided as electronic data files in TOMS.

All Interim reports will be available via the Smarter Balanced Reporting System. ETS will deliver the data files daily during business days to Smarter Balanced so that the results are included in the Smarter Balanced Data Warehouse and Reporting systems. If the capability to process the data files in real-time (i.e., as each student completes the exam) is available from Smarter Balanced, ETS will determine the feasibility of delivering the data files to Smarter Balanced in real-time. The interim assessment data files will be provided in a CDE-approved format and will include the item- and student-level response information for each student who took an interim assessment. This information will be used in future online reporting features that allow the display of student responses to California educators. The interim assessment data files will also include student demographic information as approved by the CDE and student-level achievement results. LEAs will be able to access the Smarter Balanced Reporting System for interim assessment results by logging into the Smarter Balanced Administration and Registration Tools (ART) Web interface.

ETS will deliver California's Smarter Balanced Summative Assessment data to the Smarter Balanced Data Warehouse on a schedule agreed upon by the CDE and ETS. The data will be in the format specified by Smarter Balanced.

Paper SSRs

Test results provided on the SSR will include scale scores, performance levels, and, where available, performance by claim or reporting cluster.

For ease of handling by the LEAs, the SSR will be printed on a single sheet of 8.5 x 11 inches paper. The student address will be on the left side of the report to accommodate the use of left-windowed envelopes by LEAs. For the 2015–16 administration, a POSTNET barcode will appear above the student address; the barcode will allow LEAs to qualify for lower postage rates and take advantage of faster, more efficient mail processing.

ETS will provide two color copies of each student's SSR to the student's LEA. One copy will be packaged for the LEA and the second copy will be packaged for the school. The SSRs will be provided to the LEA as specified in the CDE-approved reporting specifications. As described above, ETS will begin shipping the printed SSRs to an LEA when the LEA's administration reaches 90 percent scored, which may occur while the LEAs test administration window is still open or after it closes. Color schemes will be chosen so that the LEA report can be easily photocopied as a black-and-white copy.

Additional information on the test results may be available on the online reporting system. ETS will propose SSR formats and additional online information for the CDE's consideration and approval.

Printing

When ETS prints SSRs, ETS will:

- print each page as original, thus producing easy-to-read reports that do not smudge
- utilize a sophisticated report collation process combined with high-speed laser printing technologies to print all report types in continuous print streams

Packaging

Each shipment of reports for schools and LEAs will include a specific letter enclosed with the package describing what they are receiving in their shipment. All reports will be assembled by grade, school, and LEA. School sets of reports will be assembled and shipped to the LEA for distribution to schools.

The following packaging processes will be employed to provide LEAs with clearly organized shipments:

- All reports will be assembled and placed in report folders. One color of folder will be used for LEA reports; another color will be used for school reports.
- Electronic packing slip files will be available for LEAs to download in the Reports section in TOMS, which includes the list of students by school that are included in the printed SSR shipment. For those LEAs that test grade levels in multiple testing administration windows, ETS will provide a packing slip file for each test administration window.
- Reports will be boxed and labeled by school, with the boxes for all schools within each LEA shipped to the LEA CAASPP Coordinator for distribution. The LEA reports will be boxed separately. If the SSRs being mailed to the LEA are a lower volume, the reports will be packaged and shipped in envelopes.
- Enclosed in each shipment of reports will be a letter describing what the LEA is receiving in the shipment.
- A pallet map will be included with each report shipment for LEAs that receive more than one pallet of reports.
- Prior to shipment, quality control specialists will perform a final quality check of reports and check for complete units of work, correct assembly, and the correct use of mailing labels.

Delivery

ETS and its subcontractors will work with the CDE to design reports and reporting systems that provide accurate results to all stakeholders in a timely manner.

ETS will distribute all paper reports so that LEAs receive them according to the approved timeline described in Table 23. For those LEAs that test grade levels in multiple testing windows/ administrations, they will receive SSRs as processing and scoring reaches 90 percent for each test administration. For example, an LEA has three separate test administration windows to accommodate the instructional calendars for groups of schools and academic programs. Scoring for test administration window 1 is at 95 percent, window 2 is at 75 percent, and window 3 is at 90 percent. The SSRs for windows 1 and 3 will have shipped to the LEA

because scoring has reached 90 percent or more for each window. The SSRs for window 2 will not ship until scoring has reached 90 percent, which may occur before or after their test administration window closes.

Each box of the LEA shipment will be white, and Box 1 contains the letter explaining what is included in the shipment. The white LEA boxes will make it easy for the LEA CAASPP Coordinator to distinguish his or her boxes from the school brown boxes in the shipment.

Trained shipping personnel will determine the most reliable and rapid means of delivering each shipment of reports. Each LEA's reports will be entered in the shipping manifest system as they are shipped. ETS's barcode technology, combined with distribution partners' (e.g., United Parcel Service) tracking systems, will allow ETS to provide instant updates about the location and status of report packages should any problems arise. Upon receipt of reports at the LEA, LEA personnel signatures will be required to provide for secure delivery.

ETS will track where an LEA is at a given point in the reporting process and will provide the following status information to the CDE during the weekly management meetings: Reports printed, Reports shipped, and LEA complete.

Correcting SSR Errors Due to Changes to the Data

A number of factors may cause data to change and require SSRs to be regenerated. Examples of factors include, but are not limited to, the following:

- An operational item was identified to be excluded from scoring after reporting occurred.
- SSIDs were corrected for students who tested using the incorrect SSIDs provided by the test administrator. The SSID issue was reported after the tests results were reported.
- An appeal was completed after the SSR was generated.
- A student whose incomplete tests were processed because his or her original LEA's test window closed moved to an LEA where the test window was still open.

As part of the reporting specifications, ETS will work with the CDE to develop the business rules, deadlines, triggers (e.g., timing, LEA errors, triggers to rescore versus reprint) to handle corrections to SSRs. If the cause of the change is due to LEA error, ETS will offer ancillary fee-based services paid by the LEA for the printing of revised SSRs.

In any such event, ETS staff will take the following steps:

- initially analyze the situation
- inform the CDE immediately
- further analyze the impact of the error
- discuss solution options with the CDE and with Smarter Balanced for the Smarter Balanced tests as needed
- deliver an expedient resolution that best mitigates program risk

The revised reports will be clearly identified with the appropriate revision date.

Correcting Demographic and Special Testing Conditions Data

Since CALPADS is the source of record for student demographic data, LEAs will be instructed to make demographic data corrections in CALPADS. The corrected demographic data will be uploaded to the online reporting system through the process established and described in Test Administration.

LEAs will be instructed to use TOMS to make corrections to special testing conditions information and other test-specific data that may be correctable, such as parent exemptions or accommodations used by the student.

All corrections should be submitted by the LEA on or before the end of its test administration window. There will be no cost to LEAs for making either demographic data corrections or changes to other testing condition information that may be correctable. If the LEA makes corrections in CALPADS after the end of its test administration window, the corrections will not be reflected in the LEA's aggregate data in the public Web reporting site and student reports. CALPADS data changes will be reflected in ORS.

Rescore Requests for Paper-Pencil Tests and for Responses That Were Hand Scored

ETS will establish a process by which an LEA may request that a student's test be rescored as a fee-based ancillary service paid by the LEA. ETS will provide a price list for ancillary services to the CDE for review and approval. Rescore requests will be restricted to the paper-pencil tests that have bearing on federal or state accountability and to responses to Smarter Balanced Summative Assessments that were hand scored. Rescoring will not be available for the CAPA Science (administered in 2015-16) and the CAAs, since the student responses are entered by the examiner; or for the STS RLA tests, since these tests are not part of accountability.

ETS scoring experts will review each original student response in question along with the original score assigned. For responses that were hand scored by human raters, the original score assigned to the student response will be reviewed in close comparison to the original anchor papers used in training. If ETS's scoring experts determine that the original score assigned was incorrect, a new score will be issued.

ETS will work with the CDE to establish criteria by which LEAs may request rescoring and to determine the fee for rescore requests.

9.2. Reporting to the CDE—Public Reporting Web Site

ETS will design and develop, utilizing responsive Web design, an updated CAASPP results reporting Web site that the CDE can host. Development will follow ETS software development standards, as described in Task 3, while also adhering to the CDE Web Application Development Standards and the CDE Web Standards. ETS's design staff will consult with the CDE to document detailed requirements for aggregation of the data per EC Section 60641, as well as display of the data in the Web reporting site. ETS will supply installation documentation and functional requirements to the CDE. Table 24 shows the results that will appear on this Web site.

Table 24. CAASPP Test Results Provided to the Public

Type of Report	Tests	Content	When
Web site hosted by the CDE	Smarter Balanced summative and non-Smarter Balanced online summative assessments	Aggregate results at school, grade, LEA, county, and state levels and will allow for selection of further breakdowns based on the required demographic data (e.g. race, English language proficiency, gender, ethnicity) identified by the CDE. The application will also allow for comparison of multiple schools or LEAs and will incorporate a data-visualization design approach.	August annually, to be determined by CDE
Web site hosted by the CDE	CAASPP paper-pencil tests (e.g., CST/CMA/CAPA Science for 2015-16 and STS RLA for 2015-16 and 2016-17) Note: CAAs, CAST, and CSA will not offer paper-pencil tests, as indicated in the SBE-approved high-level test design.	Aggregate results at school, grade, LEA, county, and state levels and will allow for selection of further breakdowns based on the required demographic data (e.g. race, English language proficiency, gender, ethnicity) identified by the CDE.	August annually, to be determined by the CDE

ETS will deliver the CAASPP reporting data to the CDE in coordination with the calculation for federal and state accountability programs.

ETS will protect the platform or application itself by user authentication during the “LEA preview period” prior to being publicly available.

ETS will put in place quality controls of the application and the data displayed. Also, ETS will test software developed by ETS for quality and performance, and the CDE will also have user acceptance signoff. ETS’s Data Quality group (DQS) and statistical analysis department will review aggregate data files for accuracy. Additionally, ETS will install data files into ETS’s user acceptance testing environment to confirm that ETS completes the data load without error. ETS will turn over data files and application code to the CDE per an agreed-upon schedule.

To protect student privacy, the Web reporting site will implement the CDE-required suppression rules. ETS will use an asterisk or similar mark to suppress data where someone could ascertain a student’s identity. For example, if a grade includes 10 or fewer students with valid test scores, an asterisk or similar notation will appear in the reporting rows to indicate that the data were suppressed. Additional suppression rules will be applied at the subgroup level to prevent a user of the public Web reporting site from gathering ethnicity, gender, disability, or other reporting subgroup data for any group of 10 or fewer students.

To speed delivery of Web pages during times of peak demand or when the site is performing suboptimally, ETS will support static versions of all the Web pages. Since the Web reporting site will reside on the CDE servers, the CDE will monitor Web site performance. ETS will provide technical support to the CDE Technology Services Division as needed to optimize the Web reporting site.

Requirements for the Reporting Web Site

ETS will work with the CDE and the SBE on the timeline for the delivery of the Reporting Web site. For planning purposes, ETS will assume that the CDE will publicly release statewide test results in late summer, annually. To accomplish this, only those test materials that are received by the scoring center as of a specific date agreed upon by the CDE and ETS will be included in the state's initial release.

ETS will work with the CDE to comply with the CDE's Web standards. The CDE will continue to host the Reporting Web site.

The design of the Reporting Web site will be data driven so the user can efficiently select particular parameters to see the desired reporting of results. The design will be scalable to accommodate additional servers. The database will use MS-SQL Server technology. While there are many combinations of summary reports that will be accessible, the summary data will be pre-calculated. While this may limit the dynamic nature of the site, it will prevent inappropriate summaries that could lead to inappropriate interpretation of results by users.

The software application behind the Reporting Web site will allow the site administrator to load new iterations of data into the database and to generate new research files based on the refreshed data. As the data are refreshed, notes added by the CDE from the previous iteration will be preserved.

Summaries by counties, LEAs, schools, and the state will be provided. The site will support all CAASPP assessments — Smarter Balanced Summative Assessments, the CSTs (2015–16), CMA (2015–16), CAPA (2015–16), and STS.

Student Privacy

ETS will deliver the Reporting Web site in accordance with these requirements:

- use of an asterisk to suppress data where a student's identity could be ascertained
- reporting of all performance levels and a combined achievement level that totals the sum of the achievement levels as determined by the CDE
- allowance for the selective inclusion of either all available achievement levels or the combined achievement level on Web pages

Delivery of Aggregate Summary Data Files That Are Synchronous with the Delivery of the Student Data Files

The Web site will provide for aggregate summary data files that are synchronous with the delivery of the statewide student data files. These aggregate summary data files include aggregations by schools, LEAs, counties, and the state. Independent charters are represented as separate LEAs within a county. The summaries will also be compiled by individual assessment and by grade within each assessment. They will include statistical data for the various assessments reflecting achievement levels or CAPA levels (for 2015-16 results). These

data will include the number of test takers, the average scale score, and derived scores as appropriate.

Requirements for the Aggregate Summary Data

ETS will deliver report pages and research files that include aggregate summary data. The summary data and the Web site will support the reporting by claim. ETS will work with the CDE to define this new requirement more precisely in order to optimize value to the CAASPP Assessment Delivery System constituencies.

Summary Data

ETS will work with the CDE annually to determine the subgroup categories to be supported by the Reporting Web site.

ETS will include the ethnicity by economic status data in the CAASPP Summary Data submitted to the CDE for Web reporting purposes. For Web reporting purposes, the ethnicity subgroups will include: African American or Black, American Indian or Alaskan Native, Asian, Filipino, Hispanic or Latino, Pacific Islander, and White. Economic Status analysis will include Economically Disadvantaged and Not Economically Disadvantaged. ETS will work with the CDE to incorporate changes annually to the required subgroup reporting categories.

Research Files

The Web reporting application supports the following research file requirements:

- state-level research file that contains all county, LEA, and school results for all demographic subgroups
- state-level research file that contains all county, LEA, and school results for the “all students” demographic subgroup
- state-level-only research file that contains results for all demographic subgroups
- limited research files that contain all data for selected counties, LEAs, and schools
- research files containing all assessment data
- a research file containing all reporting claim results data
- suppression of results where the reported group totals 10 or fewer students or where the number of student reports in any individual cell may allow identification of an individual student
- compressed (zipped) research files formatted as fixed-length ASCII and comma-delimited (including column names) files
- an Access 2003 (or a more recent version of Access) database shell that can be used to import comma-delimited research files along with all instructions for use of the database shell
- a load utility that will facilitate the easy importation of comma-delimited research files into the database shell

Administrative Functionality

ETS will incorporate extensive administrative functionality into the Internet design to include:

- **Notes.** These allow for the inclusion of “notes” that may be dynamically added to any selected report page. For example, notes may be added to one or all schools in an LEA and to one or all of the subgroups. Notes must be capable of being retained when report data are updated.
- **Embargo Reports.** These allow for the selected exclusion of Internet report pages. For example, all reporting claim reports may be excluded, or a report page may be embargoed for subgroup reports at the school level while the combined proficiency report (i.e., combined total of proficient and above students) is accessible. In addition, all state reports are embargoed until the site is opened to the public.
- **Research File Generation.** This allows for the generation of new research files when new aggregate data are loaded to the site. Which files are generated and the sequence of that generation must be part of the research-file generation function.

CDE Web Delivery Requirements

The key to successful deliveries of the Web reporting application and data files is to plan for preliminary iterations. This strategy allows the CDE data management staff to be involved in early review of the site and the data. By delivering early, issues are identified and remedied earlier, before the critical public deadlines.

Annually, ETS will propose a timeline for site development and data deliverables for the CDE approval.

9.3. Data Files

ETS will maintain a student database to house all student demographic data and assessment results. This database will accommodate millions of records of the size and scope of the CAASPP System. Information associated with each student has a database relationship to the LEA, school, and grade codes as data are collected during the operational chain of events. Integral to this database is the maintenance of a student identification system, which confirms that each student is uniquely identified within the test delivery system so all assessment information can easily be associated with that student. ETS assumes that the CDE-issued SSID number provided in CALPADS will serve as the unique student identifier. ETS will maintain the SSID for all records produced throughout the life of the incumbent contract.

ETS recognizes that CALPADS is the state database of record for managing and maintaining the longitudinal student data. The scoring capabilities and procedures described in Task 8 outline ETS’s robust process for both scannable answer documents and assessments delivered online. ETS’s scoring process will utilize the SSID number to provide the linkage information that maps directly to the database. Whether a student uses a pre-ID label or a pre-printed answer document, receives a unique login user ID and password, or takes multiple modes of assessments — each of the delivery modes will direct the resulting data for that student to a central repository for scoring and reporting.

ETS will deliver student data files and corresponding aggregate files on the delivery schedule agreed upon with the CDE. ETS recognizes that delivery dates will be dependent on the requirements for the state and federal accountability programs.

ETS will prepare the data in a format that the CDE can access. Due to the large numbers of records produced for CAASPP annually, ETS will deliver fixed record-length data files. ETS will consult with the CDE to determine if data delivery in a different format (e.g., XML file or delimited file) is necessary.

ETS will deliver student data files in two formats:

- a layout with item response data and demographic information
- a file that contains all student data available

ETS's systems will maintain two types of files for CAASPP: a complete student response file for each CAASPP test administration, and a history file for all students who have participated in CAASPP testing. ETS will maintain a cumulative repository of individual test results for all students who have participated in CAASPP testing. The history file will include student-identification and performance data, as specified by the CDE, as well as other information necessary for merging with files of any other test administration in which the student participated. The CAASPP history will allow the tracking of previous test administrations for individual students. The history file will maintain compatibility with files developed under previous contracts and with files developed by contractors awarded contracts under the terms of this SOW.

9.4. Secure File Transfer System

Due to the confidential nature of test results, ETS uses secure file transfer protocol (SFTP) and encryption for all student data files. SFTP offers an efficient mechanism for transferring large-scale data. In addition, ETS uses .ZIP archive file format technology to reduce the disk space requirements on all files. This method applies to all data file transfers.

ETS supports most secure transfer protocols, including Web-service-based technologies, to exchange data with clients and file-based transfers using Tumbleweed® Communications Corp., a provider of security solutions. This enables ETS to effectively manage and protect business-critical Internet communications. These processes allow simplified data exchanges with secure and easy-to-use architecture, which provides management of files and large documents over the Internet. One standard, easy-to-use mechanism is an SFTP.

As a part of implementation, ETS will establish an SFTP service that will manage SFTP transfers to a directory structure between ETS and the CDE. Gatekeepers, generally one in California and one at ETS, will determine access privileges. The ETS gatekeeper will be responsible for approving all users for access.

ETS will provide all interfaces with the most stringent security considerations in mind, including interfaces for data encryption at rest and in transit for databases that store test items and student data. Encryption at rest primarily applies to any data files that reside on a server that uses the SFTP waiting to be retrieved. ETS integrates best security practices, including system-to-system authentication and authorization, in ETS's solution design. These practices meet the FIPS PUB 140-2 issued by the NIST. All CAASPP data will remain within the continental United States, as the CDE requires.

9.5. Technical Report

ETS will consult with the CDE and recommend suggestions in organization, style, and specificity that would improve the readability and overall usefulness of technical reports. Furthermore, ETS will partner with the CDE to determine what standard elements of the technical report overlap with the elements supplied by Smarter Balanced and need not be a part of the reports for CAASPP. ETS will confirm that generated reports include what is necessary for the CDE and the corresponding Technical Advisory Committees in producing the final versions of the technical reports.

ETS will produce a technical report for each administered summative assessment, including pilot or field test assessments. Table 25 below lists the planned technical reports for each administration.

Table 25. Planned CAASPP Technical Report for Summative Assessments by Administration

	2015–16 Administration	2016–17 Administration	2017–18 Administration
Smarter Balanced for ELA and Mathematics	✓	✓	✓
CST for Science	✓	Not Applicable	Not Applicable
CMA for Science	✓	Not Applicable	Not Applicable
CAPA for Science	✓	Not Applicable	Not Applicable
STS RLA	✓	✓	✓
CAA for ELA and Mathematics	✓	✓	✓
CAST	Not Applicable	✓ for the Pilot Test	✓ for the Field Test
CAA for Science	Not Applicable	✓ for the Pilot Test	✓ for the Pilot Test
CSA	Not Applicable	Not Applicable	✓ for the Pilot Test (Fall 2017) ✓ for the Field Test (Fall 2018)

For the Smarter Balanced technical report, unless critically important to the narrative, ETS will not duplicate requirements already supplied by the Smarter Balanced Assessment Consortium.

ETS will deliver drafts of the technical manuals annually by November 1 or within the schedule mutually agreed to by the CDE and ETS that takes into account the availability of the data for analysis and at the end of the contract. The following bullets outline the proposed organization of the technical reports. ETS will work with the CDE to determine any additional chapters or analyses as needed.

- **Executive Summary.** This summary section can stand alone for public distribution, and ETS will write it for an informed lay audience (e.g., school principals). It will highlight key findings from each chapter of the technical report.

- **Chapter 1. Introduction.** This chapter provides an introduction to the technical manual, gives the purposes of the assessment, and describes the uses of the assessment information.
- **Chapter 2. Overview of the Assessment.** This chapter describes the item formats and item specifications, as well as test assembly, test administration, scoring, and an equating overview.
- **Chapter 3. Item Development.** This chapter describes the procedures followed during item development. For the Smarter Balanced assessments, only a very brief overview of the process will be included, as ETS expects that the Smarter Balanced consortium will include a thorough discussion in its report.
- **Chapter 4. Test Assembly.** This chapter provides a description of the content being measured and detailed descriptions of how the content is being measured (i.e., test blueprints). This chapter provides a rationale for how blueprints were constructed and the construct being measured. For the Smarter Balanced assessments, only a very brief overview of the process will be included.
- **Chapter 5. Test Administration.** This chapter details the processes involved in the actual administration with emphasis on efforts made to confirm standardization of the tests. It also details procedures to confirm test security.
- **Chapter 6. Performance Standards.** This section will overview the cutpoint validation and the standard-setting methodologies and describe the process conducted to establish cut scores for the assessments based on their first operational administration. For the Smarter Balanced assessments, this section will link to the report supplied by the Smarter Balanced consortium.
- **Chapter 7. Scoring.** This chapter provides information on the scoring processes and describes the types of scores and score reports produced at the end of each administration. The section will include scale score distribution tables and demographic summaries, as well as summary reports of how the automated scoring systems performed.
- **Chapter 8. Psychometric Analyses.** This chapter provides detailed information on the psychometric analyses of the operational test data. It presents and describes the results of the item and test analyses, differential item functioning results, calibration and scaling process, linking and equating methods, and deriving scale scores. It includes explanations for all statistical procedures implemented during the psychometric analyses; interpretations of the data and the analyses; and IRT analyses, standard errors of measurement, and reliability estimates (including for subgroups). For the Smarter Balanced assessments, ETS will base the statistics only on students from California.
- **Chapter 9. Quality Control Procedures.** This chapter describes quality control procedures of various aspects of the testing process — from control of item development, to scoring procedures and psychometric processes, to score reporting.
- **Chapter 10. Historical Results.** This chapter provides yearly results for each assessment, at both the item and test levels. ETS will maintain longitudinal results in this chapter.

ETS will provide the CDE sufficient time to review each technical report and verify the accuracy of analyses. ETS will provide at least twenty (20) business days for the CDE to review the first drafts and ten (10) business days for the CDE to review the revised draft. ETS scheduled five (5) business days for the CDE review of the final draft.

ETS will deliver five bound copies of each final technical report. In addition, ETS will deliver electronic formats of each technical report—in Microsoft Word, PDF, and HTML—that will meet the CDE's Web accessibility requirements, and ETS will deliver the tables included in the technical reports as Microsoft Excel files.

9.6. Other Analyses or Reports

ETS will partner with the CDE and SBE staff/liaisons to identify and expand on research questions and develop instruments for the CDE's approval. ETS will make recommendations for all data collection instruments, such as interview protocols, observation protocols, surveys, and cognitive labs. ETS will then deliver the instruments within the test delivery system in order to link responses to student performance and student demographic data from CALPADS.

Studies to be considered include, but are not limited to:

- analytic research on the impact of AI scoring at the sub-group level to determine if any group is disadvantaged by the new technology
- statistical analysis of the necessary N size and aggregation of sub-claim score for assessments at the LEA level
- efficacy or impact of extended response items types as a tool to provide professional development in both summative scoring modality and various interim scoring situations
- effect(s) of any universal tools, designated supports, and/or accommodations used by students (particularly students with disabilities and English learners) on the CAA
- simulations for three growth models that California is considering for its academic accountability system
- cognitive lab or similar qualitative study for CAA for Science
- other studies, such as validity studies for CAST and CSA and the Sample Questions Site Feasibility Study (see Task 6.5), as approved by the CDE that help inform item and test design plans

Once each year during the term of the contract with the CDE, ETS will propose additional studies and analyses to support the validity of the CAASPP System, evaluate new initiatives, or address relevant policy issues. ETS will recommend additional studies either proactively or upon request. ETS will work with the CDE to support the technical quality of the CAASPP System, which includes validity, reliability, fairness and accessibility, and comparability.

A global view of the process would be that ETS and the CDE and SBE staff and liaisons would meet at least once a year to discuss special studies. Should the CDE request any special studies, ETS will meet with researchers who have specific expertise in the study area requested. ETS would present the research study plans, along with a statement of cost, to the CDE. Together, the CDE, SBE staff and liaisons, and ETS staff would discuss the specific plans and make necessary modifications before agreeing on final costs. All special studies and

research will adhere to the requirements outlined in Appendix B, Reporting Expectations for Special Studies and Research Projects.

Appendix A—Sample Program Schedule

The program schedule is a living document. The program schedule included in this appendix is a sample for planning purposes only. ETS will present a revised schedule to the CDE prior to the Orientation Meeting. ETS will present a proposed schedule each year prior to the Annual Planning Meeting. At a minimum, the agreed upon schedule will be reviewed with the CDE during the Weekly Management Meetings, and more often as determined by the needs of the program.

ID	Task Name	Duration	Start	Finish	Resource Names
1	Contract Begins	0 days	Wed 7/1/15	Wed 7/1/15	
2	Administration Year One (July 2015 - December 2016)	897 days	Wed 7/1/15	Fri 12/28/18	
3	Begin administration year one	0 days	Wed 7/1/15	Wed 7/1/15	
4	Project Management	277 days	Wed 7/1/15	Fri 8/5/16	
5	Project Management Begins	0 days	Wed 7/1/15	Wed 7/1/15	
6	Orientation Meeting	14 days	Wed 7/1/15	Tue 7/21/15	
7	Conduct internal ETS planning meeting	1 day	Wed 7/1/15	Wed 7/1/15	ETS, AIR, MI
8	Schedule and prepare/ship materials for orientation meeting	5 days	Wed 7/1/15	Wed 7/8/15	ETS
9	Conduct orientation meeting	2 days	Mon 7/13/15	Tue 7/14/15	MI, CDE, ETS, AIR
10	Prepare meeting minutes/participant list and deliver to CDE	5 days	Wed 7/15/15	Tue 7/21/15	ETS
11	Program Meetings	252 days	Wed 7/1/15	Thu 6/30/16	
12	Conduct weekly internal status meetings	252 days	Wed 7/1/15	Thu 6/30/16	ETS
13	Conduct weekly CDE management meetings	252 days	Wed 7/1/15	Thu 6/30/16	CDE, AIR, MI, ETS
14	Conduct weekly CDE technical meeting	252 days	Wed 7/1/15	Thu 6/30/16	CDE, AIR, MI, ETS
15	State Board Meetings	252 days	Wed 7/1/15	Thu 6/30/16	
16	Attend State Board meetings	252 days	Wed 7/1/15	Thu 6/30/16	CDE, ETS
17	Technical Advisory Group (TAG) Meetings	252 days	Wed 7/1/15	Thu 6/30/16	
18	Work with the CDE to develop TAG agendas	252 days	Wed 7/1/15	Thu 6/30/16	CDE, ETS
19	Attend TAG meetings	252 days	Wed 7/1/15	Thu 6/30/16	CDE, ETS
20	Monthly Progress Reports	252 days	Wed 7/1/15	Thu 6/30/16	
21	Deliver monthly progress reports to CDE	252 days	Wed 7/1/15	Thu 6/30/16	ETS
22	Project Management Plan (PMP) & Project Definitions Document	80 days	Wed 7/1/15	Thu 10/22/15	
23	Project Management Plan for Overall CAASPP Activities	70 days	Wed 7/1/15	Thu 10/8/15	
24	Establish project SharePoint site	1 day	Thu 7/9/15	Thu 7/9/15	ETS
25	Complete Work Breakdown Structure	10 days	Wed 7/1/15	Wed 7/15/15	ETS
26	Develop draft project management plan for overall CAASPP activities	30 days	Wed 7/1/15	Wed 8/12/15	ETS
27	CDE reviews project management plan for overall CAASPP activities	20 days	Thu 8/13/15	Thu 9/10/15	CDE
28	Finalize project management plan for overall CAASPP activities	20 days	Fri 9/11/15	Thu 10/8/15	ETS
29	Project Definitions Document for the Assessment Delivery System	70 days	Wed 7/1/15	Thu 10/8/15	
30	Develop draft project management plan for the Assessment Delivery System	30 days	Wed 7/1/15	Wed 8/12/15	ETS, AIR

ID	Task Name	Duration	Start	Finish	Resource Names
31	CDE reviews project management plan for the Assessment Delivery System	20 days	Thu 8/13/15	Thu 9/10/15	CDE
32	Finalize project management plan for the Assessment Delivery System	20 days	Fri 9/11/15	Thu 10/8/15	ETS, AIR
33	Integrated Comprehensive Work Plan & Project Schedule	10 days	Fri 10/9/15	Thu 10/22/15	
34	CDE reviews comprehensive integrated project schedule	10 days	Fri 10/9/15	Thu 10/22/15	CDE
35	CDE project schedule review complete	0 days	Thu 10/22/15	Thu 10/22/15	CDE
36	Test Security	277 days	Wed 7/1/15	Fri 8/5/16	
37	Update the Test Security Plan for the 2016 administration	7 days	Wed 7/1/15	Fri 7/10/15	ETS
38	Deliver the Test Security Plan to CDE for review	1 day	Mon 7/13/15	Mon 7/13/15	ETS
39	CDE reviews the Test Security Plan	10 days	Tue 7/14/15	Mon 7/27/15	CDE
40	Apply CDE edits to the Test Security Plan	3 days	Tue 7/28/15	Thu 7/30/15	ETS
41	CDE 2nd review of the Test Security Plan	5 days	Fri 7/31/15	Thu 8/6/15	CDE
42	Apply updates and deliver the final Test Security Plan to CDE for approval	3 days	Fri 8/7/15	Tue 8/11/15	ETS
43	Monitor social media sites for test security breaches	252 days	Wed 7/1/15	Thu 6/30/16	ETS
44	Perform on-site security audit visits	125 days	Wed 2/3/16	Fri 7/29/16	ETS
45	Investigate test security breaches as needed	125 days	Wed 2/3/16	Fri 7/29/16	ETS
46	Deliver audit reports to CDE	125 days	Wed 2/10/16	Fri 8/5/16	ETS
47	Data Driven Improvement	237 days	Wed 7/1/15	Thu 6/9/16	
48	Pre-Testing Data Collection	77 days	Fri 10/23/15	Wed 2/17/16	
49	Pre-Test Survey	77 days	Fri 10/23/15	Wed 2/17/16	
50	Develop Pre-Test Survey	20 days	Fri 10/23/15	Thu 11/19/15	ETS
51	CDE reviews Pre-Test Survey	10 days	Fri 11/20/15	Mon 12/7/15	CDE
52	Revise Pre-Test Survey	3 days	Tue 12/8/15	Thu 12/10/15	ETS
53	CDE send review of Pre-Test Survey	5 days	Fri 12/11/15	Thu 12/17/15	CDE
54	Apply updates and deliver final Pre-Test Survey to CDE for approval	3 days	Fri 12/18/15	Tue 12/22/15	ETS
55	Administer Pre-Test Survey	20 days	Mon 1/4/16	Mon 2/1/16	ETS
56	Analyze survey results	10 days	Tue 2/2/16	Tue 2/16/16	ETS
57	Deliver survey results & recommended program improvements to CDE	1 day	Wed 2/17/16	Wed 2/17/16	ETS
58	Post-Testing Data Collection	237 days	Wed 7/1/15	Thu 6/9/16	
59	Post-Test Survey	67 days	Tue 3/8/16	Thu 6/9/16	
60	Develop Post-Test Survey	20 days	Tue 3/8/16	Mon 4/4/16	ETS
61	CDE reviews Post-Test Survey	10 days	Tue 4/5/16	Mon 4/18/16	CDE
62	Revise Post-Test Survey	3 days	Tue 4/19/16	Thu 4/21/16	ETS
63	CDE 2nd review of Post-Test Survey	5 days	Fri 4/22/16	Thu 4/28/16	CDE
64	Apply updates and deliver final Post-Test Survey to CDE for approval	3 days	Fri 4/29/16	Tue 5/3/16	ETS
65	Administer Post-Test Survey	20 days	Wed 5/11/16	Wed 6/8/16	ETS
66	Deliver survey results & recommended program improvements to CDE	1 day	Thu 6/9/16	Thu 6/9/16	ETS
67	Post-Test Focus Groups for Administrators	60 days	Wed 7/1/15	Thu 9/24/15	
68	Prepare materials for Post-Test Focus Groups	9 days	Wed 7/1/15	Tue 7/14/15	ETS
69	Conduct Sacramento focus group	2 days	Wed 7/15/15	Thu 7/16/15	ETS

ID	Task Name	Duration	Start	Finish	Resource Names
70	Conduct Southern CA focus group	2 days	Tue 7/28/15	Wed 7/29/15	ETS
71	Compile results and recommended program improvements to CDE	40 days	Thu 7/30/15	Thu 9/24/15	ETS
72	Test Coordinator Advisory Group	162 days	Tue 8/18/15	Mon 4/11/16	
73	1 Prepare materials for Test Coordinator Advisory Group	20 days	Tue 8/18/15	Tue 9/15/15	ETS
74	Conduct September Advisory Group 1	1 day	Wed 9/16/15	Wed 9/16/15	ETS
75	Compile results and recommended program improvements to CDE	40 days	Thu 9/17/15	Wed 11/11/15	ETS
76	2 Prepare materials for Test Coordinator Advisory Group	20 days	Thu 1/14/16	Thu 2/11/16	ETS
77	Conduct February Advisory Group 2	1 day	Fri 2/12/16	Fri 2/12/16	ETS
78	Compile results and recommended program improvements to CDE	40 days	Tue 2/16/16	Mon 4/11/16	ETS
79	caaspp.org User Focus Group	62 days	Mon 8/24/15	Wed 11/18/15	
80	Prepare materials for caaspp.org Focus Groups	20 days	Mon 8/24/15	Mon 9/21/15	ETS
81	Conduct caaspp.org User Focus Group	2 days	Tue 9/22/15	Wed 9/23/15	ETS
82	Compile results and recommended program improvements to CDE	40 days	Thu 9/24/15	Wed 11/18/15	ETS
83	Project Management Complete	0 days	Fri 8/5/16	Fri 8/5/16	
84	Training & LEA Support	252 days	Wed 7/1/15	Thu 6/30/16	
85	Training & LEA Support Begins	0 days	Wed 7/1/15	Wed 7/1/15	
86	CalTAC	252 days	Wed 7/1/15	Thu 6/30/16	
87	Train CalTAC staff on the CAASPP Program	10 days	Wed 7/1/15	Wed 7/15/15	ETS
88	Establish help desk technical phone, Web chat, and e-mail support	10 days	Wed 7/1/15	Wed 7/15/15	ETS
89	Perform technology support site visits as needed	242 days	Thu 7/16/15	Thu 6/30/16	ETS
90	LEA CAASPP Coordinator Designation Forms & Security Agreements	64 days	Wed 7/1/15	Wed 9/30/15	
91	Collect LEA CAASPP coordinator designation forms and security agreements	50 days	Wed 7/1/15	Thu 9/10/15	ETS
92	Input updates into the LEA CAASPP coordinator database	43 days	Thu 7/30/15	Tue 9/29/15	ETS
93	Provide CDE access to the CAASPP coordinator database	1 day	Wed 9/30/15	Wed 9/30/15	ETS
94	LEA Technology Readiness	91 days	Thu 7/30/15	Tue 12/8/15	
95	Develop technology readiness information collection methodologies	30 days	Thu 7/30/15	Thu 9/10/15	ETS
96	Collect technology readiness information from LEAs	40 days	Fri 9/11/15	Thu 11/5/15	ETS
97	Conduct outreach campaign to non-responsive LEAs	20 days	Fri 11/6/15	Mon 12/7/15	ETS
98	Present readiness results to CDE	1 day	Tue 12/8/15	Tue 12/8/15	ETS
99	Summative Assessment Test Administration Training Manuals	216 days	Wed 7/1/15	Tue 5/10/16	
100	Smarter Balanced Test Administration Manual (TAM)	111 days	Wed 7/1/15	Tue 12/8/15	
101	TAM available from Smarter Balanced	0 days	Wed 7/1/15	Wed 7/1/15	Smarter Balanced
102	Adapt Smarter Balanced TAM for California	15 days	Fri 9/11/15	Thu 10/1/15	ETS
103	CDE reviews Smarter Balanced TAM	10 days	Fri 10/2/15	Thu 10/15/15	CDE
104	Apply CDE edits to Smarter Balanced TAM	3 days	Fri 10/16/15	Tue 10/20/15	ETS
105	CDE 2nd review of Smarter Balanced TAM	5 days	Wed 10/21/15	Tue 10/27/15	CDE
106	Apply updates and deliver final Smarter Balanced TAM to CDE for approval	3 days	Wed 10/28/15	Fri 10/30/15	ETS

ID	Task Name	Duration	Start	Finish	Resource Names
107	Post Smarter Balanced TAM to caaspp.org	1 day	Mon 11/2/15	Mon 11/2/15	ETS
108	Print Smarter Balanced TAM	20 days	Mon 11/2/15	Tue 12/1/15	ETS
109	Distribute Smarter Balanced TAM to LEAs	5 days	Wed 12/2/15	Tue 12/8/15	ETS
110	Alternate Assessment Test Administration Manual (TAM)	72 days	Thu 8/13/15	Mon 11/23/15	
111	Develop Alternate Assessment TAM	25 days	Thu 8/13/15	Thu 9/17/15	ETS
112	CDE reviews Alternate Assessment TAM	10 days	Fri 9/18/15	Thu 10/1/15	CDE
113	Apply CDE edits to Alternate Assessment TAM	3 days	Fri 10/2/15	Tue 10/6/15	ETS
114	CDE 2nd review of Alternate Assessment TAM	5 days	Wed 10/7/15	Tue 10/13/15	CDE
115	Apply updates and deliver final Alternate Assessment TAM to CDE for approval	3 days	Wed 10/14/15	Fri 10/16/15	ETS
116	Post Alternate Assessment TAM to caaspp.org	1 day	Mon 10/19/15	Mon 10/19/15	ETS
117	Print Alternate Assessment TAM	20 days	Tue 10/20/15	Mon 11/16/15	ETS
118	Distribute Alternate Assessment TAM to LEAs	5 days	Tue 11/17/15	Mon 11/23/15	ETS
119	CST, CMA, CAPA Science, STS Paper/Pencil TAM	56 days	Thu 8/6/15	Fri 10/23/15	
120	Develop CST, CMA, CAPA Science, & STS Paper/Pencil TAM	10 days	Thu 8/6/15	Wed 8/19/15	ETS
121	CDE reviews CST, CMA, CAPA Science, & STS Paper/Pencil TAM	10 days	Thu 8/20/15	Wed 9/2/15	CDE
122	Apply CDE edits to CST, CMA, CAPA Science, & STS Paper/Pencil TAM	3 days	Thu 9/3/15	Tue 9/8/15	ETS
123	CDE 2nd review of CST, CMA, CAPA Science, & STS Paper/Pencil TAM	5 days	Wed 9/9/15	Tue 9/15/15	CDE
124	Apply updates and deliver final CST, CMA, CAPA Science, & STS Paper/Pencil TAM to CDE for approval	3 days	Wed 9/16/15	Fri 9/18/15	ETS
125	Post CST, CMA, CAPA Science, & STS Paper/Pencil TAM to caaspp.org	1 day	Mon 9/21/15	Mon 9/21/15	ETS
126	Print CST, CMA, CAPA Science, & STS Paper/Pencil TAM	20 days	Mon 9/21/15	Fri 10/16/15	ETS
127	Distribute CST, CMA, CAPA Science, & STS Paper/Pencil TAM to LEAs	5 days	Mon 10/19/15	Fri 10/23/15	ETS
128	LEA CAASPP Test Coordinators Manual (LEA TCM)	47 days	Wed 10/28/15	Thu 1/7/16	
129	Develop LEA TCM	25 days	Wed 10/28/15	Thu 12/3/15	ETS
130	CDE reviews LEA TCM	10 days	Fri 12/4/15	Thu 12/17/15	CDE
131	Apply CDE edits to LEA TCM	3 days	Fri 12/18/15	Tue 12/22/15	ETS
132	CDE 2nd review of LEA TCM	5 days	Wed 12/23/15	Thu 12/31/15	CDE
133	Apply updates and deliver final LEA TCM to CDE for approval	3 days	Mon 1/4/16	Wed 1/6/16	ETS
134	Post LEA TCM to caaspp.org	1 day	Thu 1/7/16	Thu 1/7/16	ETS
135	Test Site Coordinators Manual (SCM)	47 days	Wed 10/28/15	Thu 1/7/16	
136	Develop SCM	25 days	Wed 10/28/15	Thu 12/3/15	ETS
137	CDE reviews SCM	10 days	Fri 12/4/15	Thu 12/17/15	CDE
138	Apply CDE edits to SCM	3 days	Fri 12/18/15	Tue 12/22/15	ETS
139	CDE 2nd review of SCM	5 days	Wed 12/23/15	Thu 12/31/15	CDE
140	Apply updates and deliver final SCM to CDE for approval	3 days	Mon 1/4/16	Wed 1/6/16	ETS
141	Post SCM to caaspp.org	1 day	Thu 1/7/16	Thu 1/7/16	ETS

ID	Task Name	Duration	Start	Finish	Resource Names
142	Test Examiners Manual (TEM)	47 days	Wed 11/4/15	Thu 1/14/16	
143	Develop TEM	25 days	Wed 11/4/15	Thu 12/10/15	ETS
144	CDE reviews TEM	10 days	Fri 12/11/15	Mon 12/28/15	CDE
145	Apply CDE edits to TEM	3 days	Tue 12/29/15	Thu 12/31/15	ETS
146	CDE 2nd review of TEM	5 days	Mon 1/4/16	Fri 1/8/16	CDE
147	Apply updates and deliver final TEM to CDE for approval	3 days	Mon 1/11/16	Wed 1/13/16	ETS
148	Post TEM to caaspp.org	1 day	Thu 1/14/16	Thu 1/14/16	ETS
149	Technology Services Coordinators Manual (TSCM)	47 days	Wed 11/4/15	Thu 1/14/16	
150	Develop TSCM	25 days	Wed 11/4/15	Thu 12/10/15	ETS
151	CDE reviews TSCM	10 days	Fri 12/11/15	Mon 12/28/15	CDE
152	Apply CDE edits to TSCM	3 days	Tue 12/29/15	Thu 12/31/15	ETS
153	CDE 2nd review of TSCM	5 days	Mon 1/4/16	Fri 1/8/16	CDE
154	Apply updates and deliver final TSCM to CDE for approval	3 days	Mon 1/11/16	Wed 1/13/16	ETS
155	Post TSCM to caaspp.org	1 day	Thu 1/14/16	Thu 1/14/16	ETS
156	CAASPP Test Operations Management System (TOMS) Manual	47 days	Thu 8/13/15	Mon 10/19/15	
157	Develop TOMS manual	25 days	Thu 8/13/15	Thu 9/17/15	ETS
158	CDE reviews TOMS manual	10 days	Fri 9/18/15	Thu 10/1/15	CDE
159	Apply CDE edits to TOMS manual	3 days	Fri 10/2/15	Tue 10/6/15	ETS
160	CDE 2nd review of TOMS manual	5 days	Wed 10/7/15	Tue 10/13/15	CDE
161	Apply updates and deliver final TOMS manual to CDE for approval	3 days	Wed 10/14/15	Fri 10/16/15	ETS
162	Post TOMS manual to caaspp.org	1 day	Mon 10/19/15	Mon 10/19/15	ETS
163	STS for Dual Immersion Students Manual	47 days	Fri 9/11/15	Mon 11/16/15	
164	Develop STS manual	25 days	Fri 9/11/15	Thu 10/15/15	ETS
165	CDE reviews STS manual	10 days	Fri 10/16/15	Thu 10/29/15	CDE
166	Apply CDE edits to STS manual	3 days	Fri 10/30/15	Tue 11/3/15	ETS
167	CDE 2nd review of STS manual	5 days	Wed 11/4/15	Tue 11/10/15	CDE
168	Apply updates and deliver final STS manual to CDE for approval	3 days	Wed 11/11/15	Fri 11/13/15	ETS
169	Post STS manual to caaspp.org	1 day	Mon 11/16/15	Mon 11/16/15	ETS
170	Test Administrator Quick Start Guide	47 days	Fri 9/25/15	Wed 12/2/15	
171	Develop STS manual	25 days	Fri 9/25/15	Thu 10/29/15	ETS
172	CDE reviews STS manual	10 days	Fri 10/30/15	Thu 11/12/15	CDE
173	Apply CDE edits to STS manual	3 days	Fri 11/13/15	Tue 11/17/15	ETS
174	CDE 2nd review of STS manual	5 days	Wed 11/18/15	Tue 11/24/15	CDE
175	Apply updates and deliver final STS manual to CDE for approval	3 days	Wed 11/25/15	Tue 12/1/15	ETS
176	Post STS manual to caaspp.org	1 day	Wed 12/2/15	Wed 12/2/15	ETS
177	Online Reporting Guide	52 days	Tue 12/22/15	Wed 3/9/16	
178	Develop Online Reporting Guide manual	30 days	Tue 12/22/15	Fri 2/5/16	ETS
179	CDE reviews Online Reporting Guide manual	10 days	Mon 2/8/16	Mon 2/22/16	CDE

ID	Task Name	Duration	Start	Finish	Resource Names
180	Apply CDE edits to Online Reporting Guide manual	3 days	Tue 2/23/16	Thu 2/25/16	ETS
181	CDE 2nd review of Online Reporting Guide manual	5 days	Fri 2/26/16	Thu 3/3/16	CDE
182	Apply updates and deliver final Online Reporting Guide manual to CDE for approval	3 days	Fri 3/4/16	Tue 3/8/16	ETS
183	Post Online Reporting Guide to caaspp.org	1 day	Wed 3/9/16	Wed 3/9/16	ETS
184	CAASPP Post-Test Guide	76 days	Mon 1/25/16	Tue 5/10/16	
185	Develop Post-Test Guide	30 days	Mon 1/25/16	Mon 3/7/16	ETS
186	CDE reviews Post-Test Guide	10 days	Tue 3/8/16	Mon 3/21/16	CDE
187	Apply CDE edits to Post-Test Guide	3 days	Tue 3/22/16	Thu 3/24/16	ETS
188	CDE 2nd review of Post-Test Guide	5 days	Fri 3/25/16	Thu 3/31/16	CDE
189	Apply updates and deliver final Post-Test Guide to CDE for approval	3 days	Fri 4/1/16	Tue 4/5/16	ETS
190	Post Post-Test Guide to caaspp.org	1 day	Wed 4/6/16	Wed 4/6/16	ETS
191	Print Post-Test Guide	20 days	Wed 4/6/16	Tue 5/3/16	ETS
192	Distribute Post-Test Guide to LEAs	5 days	Wed 5/4/16	Tue 5/10/16	ETS
193	Training Webcasts and Workshops	193 days	Wed 8/19/15	Wed 5/25/16	
194	Training Webcasts	188 days	Wed 8/19/15	Wed 5/18/16	
195	Present and archive Using the Digital Library Webcast	1 day	Wed 8/19/15	Wed 8/19/15	ETS
196	Present and archive Using Interim Assessments Webcast	1 day	Wed 9/9/15	Wed 9/9/15	ETS
197	Present and archive Preparing CALPADS Data for Testing Webcast	1 day	Wed 9/16/15	Wed 9/16/15	ETS
198	Present and archive Test Operations Management System (TOMS) Training Webcast	1 day	Wed 9/23/15	Wed 9/23/15	ETS
199	Present and archive Preparing Technology for Online Testing Webcast	1 day	Wed 10/14/15	Wed 10/14/15	ETS
200	Present and archive Accessibility and Accommodations Webcast	1 day	Wed 10/21/15	Wed 10/21/15	ETS
201	Present and archive Using the Online Practice Tests and Training Tests Webcast	1 day	Wed 11/18/15	Wed 11/18/15	ETS
202	Present and archive Pre-Test Webcast	1 day	Tue 1/12/16	Tue 1/12/16	ETS, AIR
203	Present and archive Alternate Assessment training Webcast	1 day	Wed 1/13/16	Wed 1/13/16	ETS
204	Present and archive Test Security LEA Training Webcast	1 day	Wed 1/20/16	Wed 1/20/16	ETS
205	Present and archive Post-Test Webcast	1 day	Wed 5/18/16	Wed 5/18/16	ETS
206	Regional Training Workshops	178 days	Thu 9/10/15	Wed 5/25/16	
207	Present regional Digital Library and Interim workshops	5 days	Thu 9/10/15	Wed 9/16/15	ETS
208	Present regional Pre-Test Workshops	22 days	Wed 1/13/16	Fri 2/12/16	ETS, AIR
209	Present regional Post-Test Workshops	5 days	Thu 5/19/16	Wed 5/25/16	ETS
210	Interim CR Scoring Training	101 days	Tue 10/13/15	Thu 3/10/16	
211	Receive CR scoring methodology and procedures from Smarter Balanced	1 day	Tue 10/13/15	Tue 10/13/15	Smarter Balanced
212	Produce workshop slides and e-mail announcement	20 days	Thu 1/21/16	Thu 2/18/16	ETS
213	Deliver summative and interim CR scoring training workshops	15 days	Fri 2/19/16	Thu 3/10/16	ETS
214	Training & LEA Support Complete	0 days	Thu 6/30/16	Thu 6/30/16	
215	Test Development	392 days	Wed 7/1/15	Fri 1/20/17	
216	Test Development Begins	0 days	Wed 7/1/15	Wed 7/1/15	
217	NGSS and Primary Language Design	121 days	Wed 7/1/15	Tue 12/22/15	

ID	Task Name	Duration	Start	Finish	Resource Names
218	Create a draft high level design document & submit to CDE	40 days	Wed 7/1/15	Wed 8/26/15	ETS
219	CDE reviews initial draft of high level design document	10 days	Thu 8/27/15	Thu 9/10/15	CDE
220	Produce detailed tasks and test specification documents	40 days	Fri 9/11/15	Thu 11/5/15	ETS
221	Conduct review of detailed item and test specifications and ALDs with stakeholders	1 day	Fri 11/20/15	Fri 11/20/15	ETS, CDE
222	Finalize design and specifications documents	20 days	Mon 11/23/15	Tue 12/22/15	ETS
223	Alternate Assessment ELA/Mathematics Design	71 days	Wed 7/1/15	Fri 10/9/15	
224	Create a draft high level design document & submit to CDE	10 days	Wed 7/1/15	Wed 7/15/15	ETS
225	CDE reviews initial draft of high level design document	10 days	Thu 7/16/15	Wed 7/29/15	CDE
226	Produce detailed tasks and test specification documents	30 days	Thu 7/30/15	Thu 9/10/15	CDE
227	Conduct review of detailed item and test specifications and ALDs with stakeholders	1 day	Fri 9/11/15	Fri 9/11/15	ETS, CDE
228	Finalize design and specifications documents	20 days	Mon 9/14/15	Fri 10/9/15	ETS
229	Alternate Assessment ELA/Math	52 days	Mon 10/12/15	Mon 12/28/15	
230	Develop draft blueprints	5 days	Mon 10/12/15	Fri 10/16/15	ETS
231	CDE reviews Alternate Assessment ELA/Mathematics draft blueprints	10 days	Mon 10/19/15	Fri 10/30/15	CDE
232	External committee blueprint review meeting	2 days	Mon 11/2/15	Tue 11/3/15	External Committee, CDE, ETS
233	CDE reviews and approves blueprints	5 days	Wed 11/4/15	Tue 11/10/15	CDE
234	Develop Alternate Assessment ELA/Mathematics Assessment items	13 days	Wed 11/11/15	Tue 12/1/15	ETS
235	CDE reviews new Alternate Assessment ELA/Mathematics items	10 days	Wed 12/2/15	Tue 12/15/15	CDE
236	External committee item review meetings	2 days	Wed 12/16/15	Thu 12/17/15	External Committee, CDE, ETS
237	CDE reviews and approves new items	5 days	Fri 12/18/15	Mon 12/28/15	CDE
238	Primary Language	309 days	Mon 9/28/15	Mon 12/19/16	
239	Review existing passages	40 days	Mon 9/28/15	Fri 11/20/15	ETS
240	Create a development plan	10 days	Mon 11/23/15	Tue 12/8/15	ETS
241	CDE reviews and approves development plan	15 days	Wed 12/9/15	Thu 12/31/15	CDE
242	Conduct Item Writer Training workshop	2 days	Mon 1/4/16	Tue 1/5/16	ETS
243	Develop Primary Language Assessment items	60 days	Wed 1/6/16	Thu 3/31/16	ETS
244	CDE reviews new Primary Language items	10 days	Fri 4/1/16	Thu 4/14/16	CDE
245	ETS revises Primary Language items	40 days	Fri 4/15/16	Fri 6/10/16	ETS
246	External committee item review meetings	2 days	Mon 6/13/16	Tue 6/14/16	External Committee, CDE, ETS
247	CDE reviews and approves new items	5 days	Wed 6/15/16	Tue 6/21/16	CDE
248	Finalize items and develop pilot test forms	40 days	Wed 6/22/16	Wed 8/17/16	ETS
249	Prepare for online test delivery	85 days	Thu 8/18/16	Mon 12/19/16	ETS
250	NGSS Science (Including Alt NGSS)	296 days	Mon 11/16/15	Fri 1/20/17	

ID	Task Name	Duration	Start	Finish	Resource Names
251	Conduct additional stakeholder meetings	5 days	Mon 11/16/15	Fri 11/20/15	ETS
252	Finalize development plan	5 days	Mon 11/23/15	Tue 12/1/15	ETS
253	CDE reviews and approves development plan	15 days	Wed 12/2/15	Tue 12/22/15	CDE
254	Task outline agreement review	5 days	Wed 12/23/15	Thu 12/31/15	ETS, CDE
255	Finalize, review, and approve blueprints in collaboration with CDE partners	15 days	Mon 1/4/16	Mon 1/25/16	ETS, CDE
256	External committee blueprint review meeting	2 days	Tue 1/26/16	Wed 1/27/16	External Committee, CDE, ETS
257	CDE approves blueprints	5 days	Thu 1/28/16	Wed 2/3/16	CDE
258	Develop NGSS Science items	65 days	Thu 2/4/16	Thu 5/5/16	ETS
259	CDE reviews new NGSS discreet items and alpha draft task agreement	10 days	Fri 5/6/16	Thu 5/19/16	CDE
260	External committee item review meetings	3 days	Mon 5/23/16	Wed 5/25/16	External Committee, CDE, ETS
261	Task certification review, finalize items, and develop pilot test forms	100 days	Thu 5/26/16	Mon 10/17/16	ETS
262	Prepare for online test delivery	65 days	Tue 10/18/16	Fri 1/20/17	ETS
263	Test Development Complete	0 days	Fri 1/20/17	Fri 1/20/17	
264	Operational Test Administration	769 days	Wed 7/1/15	Tue 7/3/18	
265	Operational Test Administration Begins	0 days	Wed 7/1/15	Wed 7/1/15	
266	CAASPP Assessments	510 days	Wed 7/1/15	Wed 7/5/17	
267	Testing Systems	151 days	Wed 7/1/15	Mon 2/8/16	
268	Minimum System Requirements Document	20 days	Wed 7/1/15	Wed 7/29/15	
269	Develop Minimum System Requirements Document	5 days	Wed 7/1/15	Wed 7/8/15	ETS
270	CDE reviews and approves Minimum System Requirements Document	15 days	Thu 7/9/15	Wed 7/29/15	CDE
271	System Configurations	20 days	Wed 7/1/15	Wed 7/29/15	
272	Develop list of system configurations	5 days	Wed 7/1/15	Wed 7/8/15	ETS
273	CDE reviews and approves system configurations	15 days	Thu 7/9/15	Wed 7/29/15	CDE
274	Item Transfer	40 days	Fri 11/13/15	Thu 1/14/16	
275	Receive Interim items from Smarter Balanced	1 day	Fri 11/13/15	Fri 11/13/15	Smarter Balanced
276	Import Interim field test items from Smarter Balanced	10 days	Mon 11/16/15	Tue 12/1/15	ETS
277	Receive Summative pools from Smarter Balanced	1 day	Wed 12/30/15	Wed 12/30/15	Smarter Balanced
278	Import items from Smarter Balanced and embed new field test items into testing system	10 days	Thu 12/31/15	Thu 1/14/16	ETS
279	Test Operations Management System (TOMS)	76 days	Wed 7/1/15	Fri 10/16/15	
280	CDE confirms CALPADS information and list of designated supports/accommodations	1 day	Wed 7/1/15	Wed 7/1/15	CDE
281	Confirm business requirements for pre-test delivery reporting and application enhancements	1 day	Thu 7/2/15	Thu 7/2/15	ETS
282	Update CALPADS import function	20 days	Thu 7/2/15	Thu 7/30/15	ETS
283	CDE Develop and deliver TOMS implementation plan to	5 days	Mon 7/6/15	Fri 7/10/15	ETS
284	CDE reviews TOMS implementation plan	10 days	Mon 7/13/15	Fri 7/24/15	CDE
285	Incorporate CDE recommendations to TOMS implementation plan	3 days	Mon 7/27/15	Wed 7/29/15	ETS

ID	Task Name	Duration	Start	Finish	Resource Names
286	CDE approves TOMS implementation plan	5 days	Thu 7/30/15	Wed 8/5/15	CDE
287	Configure TOMS enhancements for the 2016 CAASPP administration	15 days	Thu 8/6/15	Wed 8/26/15	ETS
288	Begin daily updates of LEA and school user contact information	1 day	Thu 8/27/15	Thu 8/27/15	ETS
289	Functional testing	10 days	Thu 8/27/15	Thu 9/10/15	ETS
290	Dev-2-Dev Testing	5 days	Fri 9/11/15	Thu 9/17/15	ETS
291	Integration testing	10 days	Fri 9/18/15	Thu 10/1/15	ETS
292	Load testing	10 days	Fri 9/18/15	Thu 10/1/15	ETS
293	CDE UAT of TOMS enhancements	5 days	Fri 10/2/15	Thu 10/8/15	CDE
294	Apply fixes to TOMS enhancements	5 days	Fri 10/9/15	Thu 10/15/15	ETS
295	Deploy enhancements to TOMS	1 day	Fri 10/16/15	Fri 10/16/15	ETS
296	CA ISAAP Tool	21 days	Thu 8/6/15	Thu 9/3/15	
297	Gather business requirements for CA ISAAP tool enhancements	5 days	Thu 8/6/15	Wed 8/12/15	ETS
298	Configure CA ISAAP tool for the 2016 administration	5 days	Thu 8/13/15	Wed 8/19/15	ETS
299	CDE UAT of CA ISAAP Tool	5 days	Thu 8/20/15	Wed 8/26/15	CDE
300	Apply fixes to CA ISAPP	5 days	Thu 8/27/15	Wed 9/2/15	ETS
301	Deploy CA ISAAP Tool	1 day	Thu 9/3/15	Thu 9/3/15	ETS
302	Test Delivery System (TDS)	150 days	Thu 7/2/15	Mon 2/8/16	
303	Update Secure Browsers	25 days	Fri 9/25/15	Thu 10/29/15	AIR
304	Gather business requirements for application enhancements	10 days	Thu 7/2/15	Thu 7/16/15	ETS, AIR
305	Configure TDS for the 2016 CAASPP administration	40 days	Thu 7/30/15	Thu 9/24/15	AIR
306	TDS Testing for Interim Assessments	62 days	Fri 9/25/15	Wed 12/23/15	
307	Functional testing	10 days	Fri 9/25/15	Thu 10/8/15	AIR, ETS
308	Dev-2-Dev Testing	5 days	Fri 10/9/15	Thu 10/15/15	ETS, AIR
309	Integration testing	5 days	Fri 10/16/15	Thu 10/22/15	ETS, AIR
310	Load testing	5 days	Fri 10/23/15	Thu 10/29/15	ETS, AIR
311	CDE UAT	10 days	Fri 10/16/15	Thu 10/29/15	CDE
312	End-to-End (E2E) Testing	15 days	Wed 12/2/15	Tue 12/22/15	ETS, AIR
313	Deploy TDS for Interim Assessments including Teacher Hand Scoring	1 day	Wed 12/23/15	Wed 12/23/15	AIR
314	TDS Testing for Summative Assessments	41 days	Tue 12/8/15	Mon 2/8/16	
315	Functional testing	10 days	Tue 12/8/15	Mon 12/21/15	AIR, ETS
316	Dev-2-Dev Testing	5 days	Tue 12/22/15	Wed 12/30/15	ETS, AIR
317	Integration testing	5 days	Fri 1/15/16	Fri 1/22/16	ETS, AIR
318	Load testing	5 days	Mon 1/25/16	Fri 1/29/16	ETS, AIR
319	CDE UAT	10 days	Thu 12/31/15	Thu 1/14/16	CDE
320	End-to-End (E2E) Testing	15 days	Fri 1/15/16	Fri 2/5/16	ETS, AIR
321	Deploy TDS for Summative Assessments including Online Reporting System and Participation Reports	1 day	Mon 2/8/16	Mon 2/8/16	AIR
322	Formative Digital Library	116 days	Fri 9/11/15	Tue 3/1/16	
323	Provide access to Digital Library	116 days	Fri 9/11/15	Tue 3/1/16	ETS

ID	Task Name	Duration	Start	Finish	Resource Names
324	Interim Assessment Registration, Test Content, and Ancillaries	170 days	Wed 7/1/15	Mon 3/7/16	
325	Current Interim Assessments available	0 days	Wed 7/1/15	Wed 7/1/15	Smarter Balanced
326	Update enrollment/test administration information	50 days	Fri 9/25/15	Mon 12/7/15	ETS
327	New enhanced test packages available from Smarter Balanced	0 days	Fri 2/5/16	Fri 2/5/16	Smarter Balanced
328	Process new test packages	20 days	Fri 2/5/16	Fri 3/4/16	AIR
329	Updated Interim Comprehensive Assessment (summative clone) (ICA) launched	1 day	Mon 3/7/16	Mon 3/7/16	AIR
330	Updated Interim Assessment Blocks (IAB) launched	1 day	Mon 3/7/16	Mon 3/7/16	AIR
331	Configure Smarter Balanced System User Guide for CA	40 days	Wed 7/1/15	Wed 8/26/15	ETS, AIR
332	Configure Smarter Balanced Scoring Guide for CA	40 days	Wed 7/1/15	Wed 8/26/15	ETS, AIR
333	Configure Smarter Balanced System Infrastructure Guide for CA	40 days	Wed 7/1/15	Wed 8/26/15	ETS, AIR
334	Configure Smarter Balanced System Training Workbook for CA	40 days	Wed 7/1/15	Wed 8/26/15	ETS, AIR
335	Interim Assessment Reporting	101 days	Tue 2/9/16	Thu 6/30/16	
336	Deliver Interim Results to Smarter Balanced	101 days	Tue 2/9/16	Thu 6/30/16	ETS, AIR
337	Summative Computer Based Assessments	165 days	Tue 11/17/15	Fri 7/15/16	
338	Summative content packages available for CAT	0 days	Tue 11/17/15	Tue 11/17/15	Smarter Balanced
339	Summative content packages available for PT	0 days	Tue 12/1/15	Tue 12/1/15	Smarter Balanced
340	Summative test packages available for CAT and PT	0 days	Mon 1/11/16	Mon 1/11/16	Smarter Balanced
341	Import and QC test packages	20 days	Mon 1/11/16	Mon 2/8/16	ETS
342	Update enrollment/test administration information	20 days	Tue 1/12/16	Tue 2/9/16	ETS
343	Administer summative assessments (Smarter Balanced ELA/Math, ELA/Mathematics Alternate)	90 days	Thu 3/10/16	Fri 7/15/16	ETS
344	Summative Paper/Pencil Testing	418 days	Tue 11/10/15	Wed 7/5/17	
345	Reprint CST/CMA/CAPA Science & STS paper test	30 days	Tue 11/10/15	Wed 12/23/15	ETS
346	Receive material orders	15 days	Mon 11/16/15	Tue 12/8/15	ETS
347	Receive paper-based tests from Smarter Balanced	1 day	Mon 12/5/16	Mon 12/5/16	Smarter Balanced
348	Add covers	10 days	Tue 12/6/16	Mon 12/19/16	ETS
349	Print all summative operational paper tests	30 days	Tue 12/20/16	Wed 2/1/17	ETS
350	Distribute paper tests as needed	88 days	Thu 2/16/17	Mon 6/19/17	ETS
351	Receive paper tests	75 days	Thu 3/17/16	Thu 6/30/16	ETS
352	Scan paper tests	76 days	Thu 3/17/16	Fri 7/1/16	ETS
353	Conduct resolutions on paper tests	90 days	Thu 3/17/16	Fri 7/22/16	ETS
354	Special Versions	150 days	Tue 12/6/16	Wed 7/5/17	
355	Produce large print & braille	40 days	Tue 12/6/16	Wed 2/1/17	ETS
356	Deliver large print and braille as requested	100 days	Thu 2/16/17	Wed 7/5/17	ETS
357	Scoring	90 days	Thu 3/24/16	Fri 7/29/16	
358	Summative Computer Based Assessments	90 days	Thu 3/24/16	Fri 7/29/16	
359	Hand and AI scoring occurs	90 days	Thu 3/24/16	Fri 7/29/16	ETS, MI
360	Perform scoring QC	90 days	Thu 3/24/16	Fri 7/29/16	ETS
361	Final scoring occurs	90 days	Thu 3/24/16	Fri 7/29/16	ETS

ID	Task Name	Duration	Start	Finish	Resource Names
362	Psychometric Analysis	18 days	Thu 5/19/16	Tue 6/14/16	
363	Conduct Item Analysis of CAASPP Summative assessments	16 days	Thu 5/19/16	Fri 6/10/16	ETS
364	Item Analysis Files delivered to CDE	1 day	Mon 6/13/16	Mon 6/13/16	ETS
365	Facilitate Alternate Assessment Data Review meeting	1 day	Tue 6/14/16	Tue 6/14/16	ETS
366	Standard Setting for Alternate Assessment ELA/Math	4 days	Tue 7/12/16	Fri 7/15/16	
367	Conduct Standard Setting for Alternate Assessment ELA/Math	4 days	Tue 7/12/16	Fri 7/15/16	ETS, CDE
368	Reporting	724 days	Thu 9/3/15	Tue 7/3/18	
369	Summative Assessment	724 days	Thu 9/3/15	Tue 7/3/18	
370	Delivery of Data Files to CDE and Smarter Balanced	117 days	Thu 3/24/16	Wed 9/7/16	
371	Prepare student data files	90 days	Thu 3/24/16	Fri 7/29/16	ETS
372	Post initial student data files to SFTP site for CDE and Smarter Balanced Data Warehouse	1 day	Mon 8/1/16	Mon 8/1/16	ETS
373	Post final data files to SFTP site for CDE and Smarter Balanced Data Warehouse	1 day	Wed 9/7/16	Wed 9/7/16	ETS
374	Online Reporting Systems	724 days	Thu 9/3/15	Tue 7/3/18	
375	Online Reporting Systems Setup	37 days	Thu 9/3/15	Mon 10/26/15	
376	systems Gather specifications for AIR online reporting	5 days	Thu 9/3/15	Thu 9/10/15	ETS
377	CDE reviews online reporting system specifications	10 days	Fri 9/11/15	Thu 9/24/15	CDE
378	Configure online reporting systems	20 days	Fri 9/25/15	Thu 10/22/15	ETS, AIR
379	Demonstrate online reporting systems to CDE	1 day	Fri 10/23/15	Fri 10/23/15	ETS, AIR
380	Deploy online reporting system	1 day	Mon 10/26/15	Mon 10/26/15	ETS, AIR
381	Student Level Reporting	627 days	Wed 1/27/16	Tue 7/3/18	
382	Provide final individual scores within 4 weeks of student online test completion	90 days	Wed 2/28/18	Tue 7/3/18	ETS, AIR
383	Launch ISR availability within online reporting system	1 day	Wed 1/27/16	Wed 1/27/16	ETS, AIR
384	School Level Reporting	1 day	Fri 4/8/16	Fri 4/8/16	
385	Launch school level reporting functionality	1 day	Fri 4/8/16	Fri 4/8/16	ETS, AIR
386	LEA Level Reporting	1 day	Mon 4/25/16	Mon 4/25/16	
387	Launch LEA level reporting functionality	1 day	Mon 4/25/16	Mon 4/25/16	ETS, AIR
388	State Level Reporting	188 days	Fri 10/23/15	Mon 7/25/16	
389	State Aggregate Reporting Web site	188 days	Fri 10/23/15	Mon 7/25/16	
390	Develop business requirements	45 days	Fri 10/23/15	Wed 12/30/15	ETS
391	CDE provides text for site	1 day	Tue 3/29/16	Tue 3/29/16	CDE
392	Construct Web reporting site	30 days	Wed 3/30/16	Tue 5/10/16	ETS
393	CDE UAT of Web Reporting Site	10 days	Wed 5/11/16	Tue 5/24/16	CDE
394	CDE provides feedback on changes needed	10 days	Wed 5/25/16	Wed 6/8/16	CDE
395	Apply changes	5 days	Thu 6/9/16	Wed 6/15/16	ETS
396	CDE 2nd UAT	5 days	Thu 6/16/16	Wed 6/22/16	CDE
397	Finalize site with CDE updates	5 days	Thu 6/23/16	Wed 6/29/16	ETS
398	Deploy state-level reporting Web site	1 day	Mon 7/25/16	Mon 7/25/16	ETS
399	Individual Student Report	172 days	Fri 11/20/15	Fri 7/29/16	

ID	Task Name	Duration	Start	Finish	Resource Names
400	Develop individual student report	40 days	Fri 11/20/15	Fri 1/22/16	ETS
401	CDE reviews individual student report	10 days	Mon 1/25/16	Fri 2/5/16	CDE
402	Update individual student report	3 days	Mon 2/8/16	Wed 2/10/16	ETS
403	CDE 2nd review of individual student report	5 days	Thu 2/11/16	Thu 2/18/16	CDE
404	Apply updates & submit to CDE for approval	3 days	Fri 2/19/16	Tue 2/23/16	ETS
405	Provide electronic student roster reports to LEAs	20 days	Fri 7/1/16	Fri 7/29/16	ETS
406	Print and ship Individual Student Reports (ISR) to LEAs	20 days	Fri 7/1/16	Fri 7/29/16	ETS
407	Rescore Process	120 days	Thu 3/24/16	Mon 9/12/16	
408	LEAs request rescoring	90 days	Thu 3/24/16	Fri 7/29/16	LEAs
409	Provide rescore results	90 days	Thu 5/5/16	Mon 9/12/16	ETS
410	Invoicing for rescoring occurs	10 days	Thu 5/12/16	Wed 5/25/16	ETS
411	Interpretive Guides	31 days	Tue 3/22/16	Tue 5/3/16	
412	Produce interpretive guides	30 days	Tue 3/22/16	Mon 5/2/16	ETS
413	Post interpretive guides	1 day	Tue 5/3/16	Tue 5/3/16	ETS
414	Technical Report	61 days	Thu 9/8/16	Mon 12/5/16	
415	Develop Technical Report	40 days	Thu 9/8/16	Wed 11/2/16	ETS
416	CDE reviews Technical Report and returns edits to ETS	10 days	Thu 11/3/16	Wed 11/16/16	CDE
417	ETS applies edits and delivers final Technical Report to CDE	3 days	Thu 11/17/16	Mon 11/21/16	ETS
418	CDE 2nd review of Technical Report	5 days	Tue 11/22/16	Wed 11/30/16	CDE
419	Apply updates and deliver Technical Report to CDE for approval	3 days	Thu 12/1/16	Mon 12/5/16	ETS
420	Operational Test Administration Complete	0 days	Tue 7/3/18	Tue 7/3/18	
421	Year one Complete	0 days	Fri 12/28/18	Fri 12/28/18	
422	Administration Year Two (July 2016 - December 2017)	523 days	Thu 6/23/16	Tue 7/3/18	
423	Begin administration year two	0 days	Fri 7/1/16	Fri 7/1/16	
424	Project Management	283 days	Thu 6/23/16	Tue 8/1/17	
425	Project Management Begins	0 days	Fri 7/1/16	Fri 7/1/16	
426	Annual Planning Meetings	35 days	Thu 6/23/16	Thu 8/11/16	
427	Schedule and prepare/ship materials for annual planning meeting	3 days	Thu 6/23/16	Mon 6/27/16	ETS
428	Conduct annual planning meeting	3 days	Tue 7/5/16	Thu 7/7/16	CDE, AIR, MI, ETS
429	Update project documentation and management plan	15 days	Fri 7/8/16	Thu 7/28/16	ETS
430	Prepare meeting minutes/participant list and deliver to CDE	10 days	Fri 7/29/16	Thu 8/11/16	ETS
431	Program Meetings	255 days	Fri 7/1/16	Fri 6/30/17	
432	Conduct weekly internal status meetings	255 days	Fri 7/1/16	Fri 6/30/17	ETS
433	Conduct weekly CDE management meetings	255 days	Fri 7/1/16	Fri 6/30/17	CDE, AIR, MI, ETS
434	Conduct weekly CDE technical meeting	255 days	Fri 7/1/16	Fri 6/30/17	CDE, AIR, MI, ETS
435	State Board Meetings	255 days	Fri 7/1/16	Fri 6/30/17	
436	Attend State Board meetings	255 days	Fri 7/1/16	Fri 6/30/17	CDE, ETS
437	Technical Advisory Group (TAG) Meetings	255 days	Fri 7/1/16	Fri 6/30/17	
438	Work with the CDE to develop TAG agendas	255 days	Fri 7/1/16	Fri 6/30/17	CDE, ETS

ID	Task Name	Duration	Start	Finish	Resource Names
439	Attend TAG meetings	255 days	Fri 7/1/16	Fri 6/30/17	CDE, ETS
440	Monthly Progress Reports	255 days	Fri 7/1/16	Fri 6/30/17	
441	Deliver monthly progress reports to CDE	255 days	Fri 7/1/16	Fri 6/30/17	ETS
442	Project Management Plan (PMP) & Project Definitions Document	80 days	Fri 7/1/16	Mon 10/24/16	
443	Project Management Plan for Overall CAASPP Activities	70 days	Fri 7/1/16	Mon 10/10/16	
444	Update Work Breakdown Structure as needed	10 days	Fri 7/8/16	Thu 7/21/16	ETS
445	Update project management plan for overall CAASPP activities as needed	30 days	Fri 7/1/16	Fri 8/12/16	ETS
446	CDE reviews project management plan for overall CAASPP activities	20 days	Mon 8/15/16	Mon 9/12/16	CDE
447	Finalize updates to the project management plan for overall CAASPP activities	20 days	Tue 9/13/16	Mon 10/10/16	ETS
448	Project Definitions Document for the Assessment Delivery System	70 days	Fri 7/1/16	Mon 10/10/16	
449	Develop draft project management plan for the Assessment Delivery System	30 days	Fri 7/1/16	Fri 8/12/16	ETS, AIR
450	CDE reviews project management plan for the Assessment Delivery System	20 days	Mon 8/15/16	Mon 9/12/16	CDE
451	Finalize project management plan for the Assessment Delivery System	20 days	Tue 9/13/16	Mon 10/10/16	ETS, AIR
452	Integrated Comprehensive Work plan & Project Schedule	10 days	Tue 10/11/16	Mon 10/24/16	
453	CDE reviews comprehensive integrated project schedule	10 days	Tue 10/11/16	Mon 10/24/16	CDE
454	CDE project schedule review complete	0 days	Mon 10/24/16	Mon 10/24/16	CDE
455	Test Security	277 days	Fri 7/1/16	Tue 8/1/17	
456	Update the Test Security Plan for the 2017 administration	3 days	Fri 7/1/16	Wed 7/6/16	ETS
457	Deliver the Test Security Plan to CDE for review	1 day	Thu 7/7/16	Thu 7/7/16	ETS
458	CDE reviews the Test Security Plan	10 days	Fri 7/8/16	Thu 7/21/16	CDE
459	Apply CDE edits to the Test Security Plan	3 days	Fri 7/22/16	Tue 7/26/16	ETS
460	CDE 2nd review of the Test Security Plan	5 days	Wed 7/27/16	Tue 8/2/16	CDE
461	Apply updates and deliver the final Test Security Plan to CDE for approval	3 days	Wed 8/3/16	Fri 8/5/16	ETS
462	Monitor social media sites for test security breaches	255 days	Fri 7/1/16	Fri 6/30/17	ETS
463	Perform on-site security audit visits	125 days	Wed 2/1/17	Tue 7/25/17	ETS
464	Investigate test security breaches as needed	125 days	Wed 2/1/17	Tue 7/25/17	ETS
465	Deliver audit reports to CDE	125 days	Wed 2/8/17	Tue 8/1/17	ETS
466	Data Driven Improvement	237 days	Fri 7/1/16	Tue 6/6/17	
467	Pre-Testing Data Collection	77 days	Tue 10/25/16	Tue 2/14/17	
468	Pre-Test Survey	77 days	Tue 10/25/16	Tue 2/14/17	
469	Develop Pre-Test Survey	20 days	Tue 10/25/16	Mon 11/21/16	ETS
470	CDE reviews Pre-Test Survey	10 days	Tue 11/22/16	Wed 12/7/16	CDE
471	Revise Pre-Test Survey	3 days	Thu 12/8/16	Mon 12/12/16	ETS
472	CDE 2nd review of Pre-Test Survey	5 days	Tue 12/13/16	Mon 12/19/16	CDE
473	Apply updates and deliver final Pre-Test Survey to CDE for approval	3 days	Tue 12/20/16	Thu 12/22/16	ETS
474	Administer Pre-Test Survey	20 days	Tue 1/3/17	Mon 1/30/17	ETS

ID	Task Name	Duration	Start	Finish	Resource Names
475	Analyze survey results	10 days	Tue 1/31/17	Mon 2/13/17	ETS
476	Deliver survey results & recommended program improvements to CDE	1 day	Tue 2/14/17	Tue 2/14/17	ETS
477	Post-Testing Data Collection	237 days	Fri 7/1/16	Tue 6/6/17	
478	Post-Test Survey	67 days	Mon 3/6/17	Tue 6/6/17	
479	Develop Post-Test Survey	20 days	Mon 3/6/17	Fri 3/31/17	ETS
480	CDE reviews Post-Test Survey	10 days	Mon 4/3/17	Fri 4/14/17	CDE
481	Revise Post-Test Survey	3 days	Mon 4/17/17	Wed 4/19/17	ETS
482	CDE 2nd review of Post-Test Survey	5 days	Thu 4/20/17	Wed 4/26/17	CDE
483	Apply updates and deliver final Post-Test Survey to CDE for approval	3 days	Thu 4/27/17	Mon 5/1/17	ETS
484	Administer Post-Test Survey	20 days	Tue 5/9/17	Mon 6/5/17	ETS
485	Deliver survey results & recommended program improvements to CDE	1 day	Tue 6/6/17	Tue 6/6/17	ETS
486	Post-Test Focus Groups for Administrators	60 days	Fri 7/1/16	Mon 9/26/16	
487	Prepare materials for Post-Test focus groups	9 days	Fri 7/1/16	Thu 7/14/16	ETS
488	Conduct Sacramento focus group	2 days	Fri 7/15/16	Mon 7/18/16	ETS
489	Conduct Southern CA focus group	2 days	Thu 7/28/16	Fri 7/29/16	ETS
490	Compile results and recommended program improvements to CDE	40 days	Mon 8/1/16	Mon 9/26/16	ETS
491	Test Coordinator Advisory Group	162 days	Thu 8/18/16	Fri 4/7/17	
492	1 Prepare materials for Test Coordinator Advisory Group	20 days	Thu 8/18/16	Thu 9/15/16	ETS
493	Conduct September Advisory Group 1	1 day	Fri 9/16/16	Fri 9/16/16	ETS
494	Compile results and recommended program improvements to CDE	40 days	Mon 9/19/16	Fri 11/11/16	ETS
495	2 Prepare materials for Test Coordinator Advisory Group	20 days	Fri 1/13/17	Thu 2/9/17	ETS
496	Conduct February Advisory Group 2	1 day	Fri 2/10/17	Fri 2/10/17	ETS
497	Compile results and recommended program improvements to CDE	40 days	Mon 2/13/17	Fri 4/7/17	ETS
498	caaspp.org User Focus Group	62 days	Wed 8/24/16	Fri 11/18/16	
499	Prepare materials for caaspp.org focus groups	20 days	Wed 8/24/16	Wed 9/21/16	ETS
500	Conduct caaspp.org User focus group	2 days	Thu 9/22/16	Fri 9/23/16	ETS
501	Compile results and recommended program improvements to CDE	40 days	Mon 9/26/16	Fri 11/18/16	ETS
502	Project Management Complete	0 days	Tue 8/1/17	Tue 8/1/17	
503	Training & LEA Support	252 days	Fri 7/1/16	Tue 6/27/17	
504	Training & LEA Support Begins	0 days	Fri 7/1/16	Fri 7/1/16	
505	CalTAC	252 days	Fri 7/1/16	Tue 6/27/17	
506	Train CalTAC staff on the CAASPP Program	10 days	Fri 7/1/16	Fri 7/15/16	ETS
507	Establish help desk technical phone, Web chat, and e-mail support	10 days	Fri 7/1/16	Fri 7/15/16	ETS
508	Perform technology support site visits as needed	242 days	Mon 7/18/16	Tue 6/27/17	ETS
509	LEA CAASPP Coordinator Designation Forms & Security Agreements	64 days	Fri 7/1/16	Fri 9/30/16	
510	Collect LEA CAASPP coordinator designation forms and security agreements	50 days	Fri 7/1/16	Mon 9/12/16	ETS
511	Input updates into the LEA CAASPP coordinator database	43 days	Mon 8/1/16	Thu 9/29/16	ETS
512	Provide CDE access to the CAASPP coordinator database	1 day	Fri 9/30/16	Fri 9/30/16	ETS

ID	Task Name	Duration	Start	Finish	Resource Names
513	LEA Technology Readiness	91 days	Mon 8/1/16	Thu 12/8/16	
514	Develop technology readiness information collection methodologies	30 days	Mon 8/1/16	Mon 9/12/16	ETS
515	Collect technology readiness information from LEAs	40 days	Tue 9/13/16	Mon 11/7/16	ETS
516	Conduct outreach campaign to non-responsive LEAs	20 days	Tue 11/8/16	Wed 12/7/16	ETS
517	Present readiness results to CDE	1 day	Thu 12/8/16	Thu 12/8/16	ETS
518	Summative Assessment Test Administration Training Manuals	216 days	Fri 7/1/16	Mon 5/8/17	
519	Smarter Balanced Test Administration Manual (TAM)	111 days	Fri 7/1/16	Thu 12/8/16	
520	TAM available from Smarter Balanced	0 days	Fri 7/1/16	Fri 7/1/16	Smarter Balanced
521	Adapt Smarter Balanced TAM for California	15 days	Tue 9/13/16	Mon 10/3/16	ETS
522	CDE reviews Smarter Balanced TAM	10 days	Tue 10/4/16	Mon 10/17/16	CDE
523	Apply CDE edits to Smarter Balanced TAM	3 days	Tue 10/18/16	Thu 10/20/16	ETS
524	CDE 2nd review of Smarter Balanced TAM	5 days	Fri 10/21/16	Thu 10/27/16	CDE
525	Apply updates and deliver final Smarter Balanced TAM to CDE for approval	3 days	Fri 10/28/16	Tue 11/1/16	ETS
526	Post Smarter Balanced TAM to caaspp.org	1 day	Wed 11/2/16	Wed 11/2/16	ETS
527	Print Smarter Balanced TAM	20 days	Wed 11/2/16	Thu 12/1/16	ETS
528	Distribute Smarter Balanced TAM to LEAs	5 days	Fri 12/2/16	Thu 12/8/16	ETS
529	Alternate Assessment Test Administration Manual (TAM)	72 days	Mon 8/15/16	Wed 11/23/16	
530	Develop Alternate Assessment TAM	25 days	Mon 8/15/16	Mon 9/19/16	ETS
531	CDE reviews Alternate Assessment TAM	10 days	Tue 9/20/16	Mon 10/3/16	CDE
532	Apply CDE edits to Alternate Assessment TAM	3 days	Tue 10/4/16	Thu 10/6/16	ETS
533	CDE 2nd review of Alternate Assessment TAM	5 days	Fri 10/7/16	Thu 10/13/16	CDE
534	Apply updates and deliver final Alternate Assessment TAM to CDE for approval	3 days	Fri 10/14/16	Tue 10/18/16	ETS
535	Post Alternate Assessment TAM to caaspp.org	1 day	Wed 10/19/16	Wed 10/19/16	ETS
536	Print Alternate Assessment TAM	20 days	Thu 10/20/16	Wed 11/16/16	ETS
537	Distribute Alternate Assessment TAM to LEAs	5 days	Thu 11/17/16	Wed 11/23/16	ETS
538	CST, CMA, CAPA Science, STS Paper/Pencil TAM	56 days	Mon 8/8/16	Tue 10/25/16	
539	Develop CST, CMA, CAPA Science, & STS Paper/Pencil TAM	10 days	Mon 8/8/16	Fri 8/19/16	ETS
540	CDE reviews CST, CMA, CAPA Science, & STS Paper/Pencil TAM	10 days	Mon 8/22/16	Fri 9/2/16	CDE
541	Apply CDE edits to CST, CMA, CAPA Science, & STS Paper/Pencil TAM	3 days	Tue 9/6/16	Thu 9/8/16	ETS
542	CDE 2nd review of CST, CMA, CAPA Science, & STS Paper/Pencil TAM	5 days	Fri 9/9/16	Thu 9/15/16	CDE
543	Apply updates and deliver final CST, CMA, CAPA Science, & STS Paper/Pencil TAM to CDE for approval	3 days	Fri 9/16/16	Tue 9/20/16	ETS
544	Post CST, CMA, CAPA Science, & STS Paper/Pencil TAM to caaspp.org	1 day	Wed 9/21/16	Wed 9/21/16	ETS
545	Print CST, CMA, CAPA Science, & STS Paper/Pencil TAM	20 days	Wed 9/21/16	Tue 10/18/16	ETS
546	Distribute CST, CMA, CAPA Science, & STS Paper/Pencil TAM to LEAs	5 days	Wed 10/19/16	Tue 10/25/16	ETS
547	LEA CAASPP Test Coordinators Manual (LEA TCM)	47 days	Fri 10/28/16	Fri 1/6/17	
548	Develop LEA TCM	25 days	Fri 10/28/16	Mon 12/5/16	ETS

ID	Task Name	Duration	Start	Finish	Resource Names
549	CDE reviews LEA TCM	10 days	Tue 12/6/16	Mon 12/19/16	CDE
550	Apply CDE edits to LEA TCM	3 days	Tue 12/20/16	Thu 12/22/16	ETS
551	CDE 2nd review of LEA TCM	5 days	Tue 12/27/16	Mon 1/2/17	CDE
552	Apply updates and deliver final LEA TCM to CDE for approval	3 days	Tue 1/3/17	Thu 1/5/17	ETS
553	Post LEA TCM to caaspp.org	1 day	Fri 1/6/17	Fri 1/6/17	ETS
554	Test Site Coordinators Manual (SCM)	47 days	Fri 10/28/16	Fri 1/6/17	
555	Develop SCM	25 days	Fri 10/28/16	Mon 12/5/16	ETS
556	CDE reviews SCM	10 days	Tue 12/6/16	Mon 12/19/16	CDE
557	Apply CDE edits to SCM	3 days	Tue 12/20/16	Thu 12/22/16	ETS
558	CDE 2nd review of SCM	5 days	Tue 12/27/16	Mon 1/2/17	CDE
559	Apply updates and deliver final SCM to CDE for approval	3 days	Tue 1/3/17	Thu 1/5/17	ETS
560	Post SCM to caaspp.org	1 day	Fri 1/6/17	Fri 1/6/17	ETS
561	Test Examiners Manual (TEM)	47 days	Fri 11/4/16	Fri 1/13/17	
562	Develop TEM	25 days	Fri 11/4/16	Mon 12/12/16	ETS
563	CDE reviews TEM	10 days	Tue 12/13/16	Wed 12/28/16	CDE
564	Apply CDE edits to TEM	3 days	Thu 12/29/16	Mon 1/2/17	ETS
565	CDE 2nd review of TEM	5 days	Tue 1/3/17	Mon 1/9/17	CDE
566	Apply updates and deliver final TEM to CDE for approval	3 days	Tue 1/10/17	Thu 1/12/17	ETS
567	Post TEM to caaspp.org	1 day	Fri 1/13/17	Fri 1/13/17	ETS
568	Technology Services Coordinators Manual (TSCM)	47 days	Fri 11/4/16	Fri 1/13/17	
569	Develop TSCM	25 days	Fri 11/4/16	Mon 12/12/16	ETS
570	CDE reviews TSCM	10 days	Tue 12/13/16	Wed 12/28/16	CDE
571	Apply CDE edits to TSCM	3 days	Thu 12/29/16	Mon 1/2/17	ETS
572	CDE 2nd review of TSCM	5 days	Tue 1/3/17	Mon 1/9/17	CDE
573	Apply updates and deliver final TSCM to CDE for approval	3 days	Tue 1/10/17	Thu 1/12/17	ETS
574	Post TSCM to caaspp.org	1 day	Fri 1/13/17	Fri 1/13/17	ETS
575	CAASPP Test Operations Management System (TOMS) Manual	47 days	Mon 8/15/16	Wed 10/19/16	
576	Develop TOMS manual	25 days	Mon 8/15/16	Mon 9/19/16	ETS
577	CDE reviews TOMS manual	10 days	Tue 9/20/16	Mon 10/3/16	CDE
578	Apply CDE edits to TOMS manual	3 days	Tue 10/4/16	Thu 10/6/16	ETS
579	CDE 2nd review of TOMS manual	5 days	Fri 10/7/16	Thu 10/13/16	CDE
580	Apply updates and deliver final TOMS manual to CDE for approval	3 days	Fri 10/14/16	Tue 10/18/16	ETS
581	Post TOMS manual to caaspp.org	1 day	Wed 10/19/16	Wed 10/19/16	ETS
582	STS for Dual Immersion Students Manual	47 days	Tue 9/13/16	Wed 11/16/16	
583	Develop STS manual	25 days	Tue 9/13/16	Mon 10/17/16	ETS
584	CDE reviews STS manual	10 days	Tue 10/18/16	Mon 10/31/16	CDE
585	Apply CDE edits to STS manual	3 days	Tue 11/1/16	Thu 11/3/16	ETS

ID	Task Name	Duration	Start	Finish	Resource Names
586	CDE 2nd review of STS manual	5 days	Fri 11/4/16	Thu 11/10/16	CDE
587	Apply updates and deliver final STS manual to CDE for approval	3 days	Fri 11/11/16	Tue 11/15/16	ETS
588	Post STS manual to caaspp.org	1 day	Wed 11/16/16	Wed 11/16/16	ETS
589	Test Administrator Quick Start Guide	47 days	Tue 9/27/16	Fri 12/2/16	
590	Develop STS manual	25 days	Tue 9/27/16	Mon 10/31/16	ETS
591	CDE reviews STS manual	10 days	Tue 11/1/16	Mon 11/14/16	CDE
592	Apply CDE edits to STS manual	3 days	Tue 11/15/16	Thu 11/17/16	ETS
593	CDE 2nd review of STS manual	5 days	Fri 11/18/16	Mon 11/28/16	CDE
594	Apply updates and deliver final STS manual to CDE for approval	3 days	Tue 11/29/16	Thu 12/1/16	ETS
595	Post STS manual to caaspp.org	1 day	Fri 12/2/16	Fri 12/2/16	ETS
596	Online Reporting Guide	52 days	Thu 12/22/16	Tue 3/7/17	
597	Develop Online Reporting Guide	30 days	Thu 12/22/16	Fri 2/3/17	ETS
598	CDE reviews Online Reporting Guide	10 days	Mon 2/6/17	Fri 2/17/17	CDE
599	Apply CDE edits to Online Reporting Guide	3 days	Mon 2/20/17	Wed 2/22/17	ETS
600	CDE 2nd review of Online Reporting Guide	5 days	Thu 2/23/17	Wed 3/1/17	CDE
601	Apply updates and deliver final Online Reporting Guide to CDE for approval	3 days	Thu 3/2/17	Mon 3/6/17	ETS
602	Post Online Reporting Guide to caaspp.org	1 day	Tue 3/7/17	Tue 3/7/17	ETS
603	CAASPP Post-Test Guide	76 days	Mon 1/23/17	Mon 5/8/17	
604	Develop Post-Test Guide	30 days	Mon 1/23/17	Fri 3/3/17	ETS
605	CDE reviews Post-Test Guide	10 days	Mon 3/6/17	Fri 3/17/17	CDE
606	Apply CDE edits to Post-Test Guide	3 days	Mon 3/20/17	Wed 3/22/17	ETS
607	CDE 2nd review of Post-Test Guide	5 days	Thu 3/23/17	Wed 3/29/17	CDE
608	Apply updates and deliver final Post-Test Guide to CDE for approval	3 days	Thu 3/30/17	Mon 4/3/17	ETS
609	Post Post-Test Guide to caaspp.org	1 day	Tue 4/4/17	Tue 4/4/17	ETS
610	Print Post-Test Guide	20 days	Tue 4/4/17	Mon 5/1/17	ETS
611	Distribute Post-Test Guide to LEAs	5 days	Tue 5/2/17	Mon 5/8/17	ETS
612	Training Webcasts and Workshops	193 days	Fri 8/19/16	Tue 5/23/17	
613	Training Webcasts	188 days	Fri 8/19/16	Tue 5/16/17	
614	Present and archive Using the Digital Library Webcast	1 day	Fri 8/19/16	Fri 8/19/16	ETS
615	Present and archive Using Interim Assessments Webcast	1 day	Fri 9/9/16	Fri 9/9/16	ETS
616	Present and archive Preparing CALPADS Data for Testing Webcast	1 day	Fri 9/16/16	Fri 9/16/16	ETS
617	Present and archive Test Operations Management System (TOMS) Training Webcast	1 day	Fri 9/23/16	Fri 9/23/16	ETS
618	Present and archive Preparing Technology for Online Testing Webcast	1 day	Fri 10/14/16	Fri 10/14/16	ETS
619	Present and archive Accessibility and Accommodations Webcast	1 day	Fri 10/21/16	Fri 10/21/16	ETS
620	Present and archive Using the Online Practice Tests and Training Tests Webcast	1 day	Fri 11/18/16	Fri 11/18/16	ETS
621	Present and archive Pre-Test Webcast	1 day	Wed 1/11/17	Wed 1/11/17	ETS, AIR
622	Present and archive Alternate Assessment training Webcast	1 day	Thu 1/12/17	Thu 1/12/17	ETS

ID	Task Name	Duration	Start	Finish	Resource Names
623	Present and archive Test Security LEA Training Webcast	1 day	Wed 1/18/17	Wed 1/18/17	ETS
624	Present and archive Post-Test Webcast	1 day	Tue 5/16/17	Tue 5/16/17	ETS
625	Regional Training Workshops	178 days	Mon 9/12/16	Tue 5/23/17	
626	Present regional Digital Library and Interim workshops	5 days	Mon 9/12/16	Fri 9/16/16	ETS
627	Present regional Pre-Test Workshops	22 days	Mon 1/16/17	Tue 2/14/17	ETS, AIR
628	Present regional Post-Test Workshops	5 days	Wed 5/17/17	Tue 5/23/17	ETS
629	Interim CR Scoring Training	101 days	Thu 10/13/16	Wed 3/8/17	
630	Receive CR scoring methodology and procedures from Smarter Balanced	1 day	Thu 10/13/16	Thu 10/13/16	Smarter Balanced
631	Produce workshop slides and e-mail announcement	20 days	Thu 1/19/17	Wed 2/15/17	ETS
632	Deliver summative and interim CR scoring training workshops	15 days	Thu 2/16/17	Wed 3/8/17	ETS
633	Training & LEA Support Complete	0 days	Tue 6/27/17	Tue 6/27/17	
634	Test Development	402 days	Fri 7/1/16	Tue 1/23/18	
635	Begin Test Development	0 days	Fri 7/1/16	Fri 7/1/16	
636	Primary Language Pilot Test	93 days	Mon 2/6/17	Wed 6/14/17	
637	Administer Primary Language Pilot Test	30 days	Mon 2/6/17	Fri 3/17/17	ETS
638	Conduct range finding external committee meeting	2 days	Mon 4/17/17	Tue 4/18/17	ETS, CDE, External Committee
639	CDE approves training scoring sets	10 days	Wed 4/19/17	Tue 5/2/17	CDE
640	Perform analysis on pilot test data	20 days	Wed 4/26/17	Tue 5/23/17	ETS
641	CDE reviews pilot test data	10 days	Wed 5/24/17	Tue 6/6/17	CDE
642	Conduct data review external committee meeting	1 day	Wed 6/7/17	Wed 6/7/17	ETS, CDE, External Committee
643	CDE approval of data review results	5 days	Thu 6/8/17	Wed 6/14/17	CDE
644	NGSS Pilot Test (Including Alt NGSS)	73 days	Mon 2/6/17	Wed 5/17/17	
645	Administer NGSS Pilot Test	30 days	Mon 2/6/17	Fri 3/17/17	ETS
646	Conduct range finding external committee meeting	2 days	Mon 4/17/17	Tue 4/18/17	ETS, CDE, External Committee
647	Perform analysis on pilot test data	20 days	Wed 4/19/17	Tue 5/16/17	ETS
648	Conduct data review external committee meeting	1 day	Wed 5/17/17	Wed 5/17/17	ETS, CDE, External Committee
649	Alternate Assessment ELA/Mathematics Embedded Field Test Item Development	43 days	Fri 7/1/16	Wed 8/31/16	
650	Develop Alternate Assessment ELA/Mathematics Assessment items	26 days	Fri 7/1/16	Mon 8/8/16	ETS
651	CDE reviews new items	10 days	Tue 8/9/16	Mon 8/22/16	CDE
652	External committee item review meetings	2 days	Tue 8/23/16	Wed 8/24/16	ETS, CDE, External Committee
653	CDE approves new items	5 days	Thu 8/25/16	Wed 8/31/16	CDE
654	Primary Language Standalone Census Field Test Preparation	284 days	Tue 12/20/16	Tue 1/23/18	
655	Revise Primary Language Assessment items as needed	81 days	Tue 12/20/16	Thu 4/13/17	ETS
656	CDE reviews new Primary Language items	15 days	Fri 4/14/17	Thu 5/4/17	CDE
657	Update items based on CDE review	3 days	Fri 5/5/17	Tue 5/9/17	ETS
658	CDE approves new items	5 days	Wed 5/10/17	Tue 5/16/17	CDE
659	Finalize items and develop field test forms	83 days	Wed 5/17/17	Fri 9/8/17	ETS

ID	Task Name	Duration	Start	Finish	Resource Names
660	CDE reviews field test forms	18 days	Mon 9/11/17	Wed 10/4/17	CDE
661	External committee field test forms review meeting	2 days	Thu 10/5/17	Fri 10/6/17	ETS, CDE, External Committee
662	CDE approves field test forms	5 days	Mon 10/9/17	Fri 10/13/17	CDE
663	Prepare for online test delivery	72 days	Mon 10/16/17	Tue 1/23/18	ETS
664	NGSS Science (Including Alt NGSS) Standalone Census Field Test Preparation	320 days	Tue 9/27/16	Fri 12/22/17	
665	Revise NGSS Science items as needed	152 days	Tue 9/27/16	Tue 5/2/17	ETS
666	External committee item review meetings	3 days	Wed 5/3/17	Fri 5/5/17	External Committee, CDE, ETS
667	Develop pilot test forms & CDE review/approval	100 days	Mon 5/8/17	Fri 9/22/17	ETS, CDE
668	Prepare for online test delivery	65 days	Mon 9/25/17	Fri 12/22/17	ETS
669	Test Development Complete	0 days	Tue 1/23/18	Tue 1/23/18	
670	Operational Test Administration	517 days	Fri 7/1/16	Tue 7/3/18	
671	Operational Test Administration Begins	0 days	Fri 7/1/16	Fri 7/1/16	
672	CAASPP Assessments	270 days	Fri 7/1/16	Fri 7/21/17	
673	Testing Systems	156 days	Fri 7/1/16	Mon 2/13/17	
674	Minimum System Requirements Document	20 days	Fri 7/1/16	Fri 7/29/16	
675	Develop Minimum System Requirements Document	5 days	Fri 7/1/16	Fri 7/8/16	ETS
676	CDE reviews and approves Minimum System Requirements Document	15 days	Mon 7/11/16	Fri 7/29/16	CDE
677	System Configurations	20 days	Fri 7/1/16	Fri 7/29/16	
678	Develop list of system configurations	5 days	Fri 7/1/16	Fri 7/8/16	ETS
679	CDE reviews and approves system configurations	15 days	Mon 7/11/16	Fri 7/29/16	CDE
680	Item Transfer	11 days	Fri 7/1/16	Mon 7/18/16	
681	Receive Interim items from Smarter Balanced	1 day	Fri 7/1/16	Fri 7/1/16	Smarter Balanced
682	Import Interim field test items from Smarter Balanced	10 days	Tue 7/5/16	Mon 7/18/16	ETS
683	Receive Summative pools from Smarter Balanced	1 day	Fri 7/1/16	Fri 7/1/16	Smarter Balanced
684	Import items from Smarter Balanced and embed new field test items into testing system	10 days	Tue 7/5/16	Mon 7/18/16	ETS
685	Test Operations Management System (TOMS)	71 days	Fri 7/1/16	Tue 10/11/16	
686	CDE confirms CALPADS information and list of designated supports/accommodations	1 day	Fri 7/1/16	Fri 7/1/16	CDE
687	Confirm business requirements for pre-test delivery reporting and application enhancements	1 day	Tue 7/5/16	Tue 7/5/16	ETS
688	Update CALPADS import function	20 days	Tue 7/5/16	Mon 8/1/16	ETS
689	Configure TOMS enhancements for the 2017 CAASPP administration	15 days	Mon 8/1/16	Fri 8/19/16	ETS
690	Begin daily updates of LEA and school user contact information	1 day	Mon 8/22/16	Mon 8/22/16	ETS
691	Functional testing	10 days	Mon 8/22/16	Fri 9/2/16	ETS
692	Dev-2-Dev Testing	5 days	Tue 9/6/16	Mon 9/12/16	ETS
693	Integration testing	10 days	Tue 9/13/16	Mon 9/26/16	ETS
694	Load testing	10 days	Tue 9/13/16	Mon 9/26/16	ETS
695	CDE UAT of TOMS enhancements	5 days	Tue 9/27/16	Mon 10/3/16	CDE
696	Apply fixes to TOMS enhancements	5 days	Tue 10/4/16	Mon 10/10/16	ETS

ID	Task Name	Duration	Start	Finish	Resource Names
697	Deploy enhancements to TOMS	1 day	Tue 10/11/16	Tue 10/11/16	ETS
698	CA ISAAP Tool	49 days	Wed 7/6/16	Tue 9/13/16	
699	Gather business requirements for CA ISAAP tool enhancements	20 days	Wed 7/6/16	Tue 8/2/16	ETS
700	Configure CA ISAAP tool for the 2017 administration	5 days	Mon 8/22/16	Fri 8/26/16	ETS
701	CDE UAT of CA ISAAP Tool	5 days	Mon 8/29/16	Fri 9/2/16	CDE
702	Apply fixes to CA ISAPP	5 days	Tue 9/6/16	Mon 9/12/16	ETS
703	Deploy CA ISAAP Tool	1 day	Tue 9/13/16	Tue 9/13/16	ETS
704	Test Delivery System (TDS)	121 days	Mon 8/22/16	Mon 2/13/17	
705	Update Secure Browsers	25 days	Tue 9/27/16	Mon 10/31/16	AIR
706	Gather business requirements for application enhancements	10 days	Mon 8/22/16	Fri 9/2/16	ETS, AIR
707	Configure TDS for the 2017 CAASPP administration	40 days	Tue 9/6/16	Mon 10/31/16	AIR
708	TDS Testing for Interim Assessments	41 days	Tue 11/1/16	Mon 1/2/17	
709	Functional testing	10 days	Tue 11/1/16	Mon 11/14/16	AIR, ETS
710	Dev-2-Dev Testing	5 days	Tue 11/15/16	Mon 11/21/16	ETS, AIR
711	Integration testing	5 days	Tue 11/22/16	Wed 11/30/16	ETS, AIR
712	Load testing	5 days	Thu 12/1/16	Wed 12/7/16	ETS, AIR
713	CDE UAT	10 days	Tue 11/22/16	Wed 12/7/16	CDE
714	End-to-End (E2E) Testing	15 days	Thu 12/8/16	Fri 12/30/16	ETS, AIR
715	Deploy TDS for Interim Assessments including Teacher Hand Scoring	1 day	Mon 1/2/17	Mon 1/2/17	AIR
716	TDS Testing for Summative Assessments	41 days	Thu 12/15/16	Mon 2/13/17	
717	Functional testing	10 days	Thu 12/15/16	Fri 12/30/16	AIR, ETS
718	Dev-2-Dev Testing	5 days	Mon 1/2/17	Fri 1/6/17	ETS, AIR
719	Integration testing	5 days	Mon 1/9/17	Fri 1/13/17	ETS, AIR
720	Load testing	5 days	Mon 1/16/17	Fri 1/20/17	ETS, AIR
721	CDE UAT	10 days	Mon 1/9/17	Fri 1/20/17	CDE
722	End-to-End (E2E) Testing	15 days	Mon 1/23/17	Fri 2/10/17	ETS, AIR
723	Deploy TDS for Summative Assessments including Online Reporting System and Participation Reports	1 day	Mon 2/13/17	Mon 2/13/17	AIR
724	Formative Digital Library	116 days	Tue 9/13/16	Mon 2/27/17	
725	Provide access to Digital Library	116 days	Tue 9/13/16	Mon 2/27/17	ETS
726	Interim Assessment Registration, Test Content, and Ancillaries	171 days	Fri 7/1/16	Mon 3/6/17	
727	Current Interim Assessments available	0 days	Fri 7/1/16	Fri 7/1/16	Smarter Balanced
728	Update enrollment/test administration information	50 days	Tue 9/27/16	Wed 12/7/16	ETS
729	New enhanced test packages available from Smarter Balanced	0 days	Mon 2/6/17	Mon 2/6/17	Smarter Balanced
730	Process new test packages	20 days	Mon 2/6/17	Fri 3/3/17	AIR
731	Updated Interim Comprehensive Assessment (summative clone) (ICA) launched	1 day	Mon 3/6/17	Mon 3/6/17	AIR
732	Updated Interim Assessment Blocks (IAB) launched	1 day	Mon 3/6/17	Mon 3/6/17	AIR
733	Configure Smarter Balanced System User Guide for CA	40 days	Fri 7/1/16	Fri 8/26/16	ETS, AIR
734	Configure Smarter Balanced Scoring Guide for CA	40 days	Fri 7/1/16	Fri 8/26/16	ETS, AIR

ID	Task Name	Duration	Start	Finish	Resource Names
735	Configure Smarter Balanced System Infrastructure Guide for CA	40 days	Fri 7/1/16	Fri 8/26/16	ETS, AIR
736	Configure Smarter Balanced System Training Workbook for CA	40 days	Fri 7/1/16	Fri 8/26/16	ETS, AIR
737	Interim Assessment Reporting	101 days	Tue 2/14/17	Tue 7/4/17	
738	Deliver Interim Results to Smarter Balanced	101 days	Tue 2/14/17	Tue 7/4/17	ETS, AIR
739	Summative Computer Based Assessments	171 days	Mon 11/14/16	Fri 7/14/17	
740	Summative content packages available for CAT	0 days	Mon 11/14/16	Mon 11/14/16	Smarter Balanced
741	Summative content packages available for PT	0 days	Thu 12/1/16	Thu 12/1/16	Smarter Balanced
742	Summative test packages available for CAT and PT	0 days	Mon 1/9/17	Mon 1/9/17	Smarter Balanced
743	Import and QC test packages	20 days	Mon 1/9/17	Fri 2/3/17	ETS
744	Update enrollment/test administration information	20 days	Mon 1/16/17	Fri 2/10/17	ETS
745	Administer summative assessments (Smarter Balanced ELA/Math, ELA/Mathematics Alternate)	90 days	Mon 3/13/17	Fri 7/14/17	ETS
746	Summative Paper/Pencil Testing	199 days	Wed 10/12/16	Fri 7/21/17	
747	Reprint CST/CMA/CAPA Science & STS paper test	30 days	Tue 11/15/16	Fri 12/30/16	ETS
748	Receive material orders	35 days	Wed 10/12/16	Thu 12/1/16	ETS
749	Receive paper-based tests from Smarter Balanced	1 day	Mon 12/5/16	Mon 12/5/16	Smarter Balanced
750	Add covers	10 days	Tue 12/6/16	Mon 12/19/16	ETS
751	Print all summative operational paper tests	30 days	Tue 12/20/16	Wed 2/1/17	ETS
752	Distribute paper tests as needed	88 days	Thu 2/16/17	Mon 6/19/17	ETS
753	Receive paper tests	75 days	Mon 3/20/17	Fri 6/30/17	ETS
754	Scan paper tests	76 days	Mon 3/20/17	Mon 7/3/17	ETS
755	Conduct resolutions on paper tests	90 days	Mon 3/20/17	Fri 7/21/17	ETS
756	Special Versions	150 days	Tue 12/6/16	Wed 7/5/17	
757	Produce large print & braille	40 days	Tue 12/6/16	Wed 2/1/17	ETS
758	Deliver large print and braille as requested	100 days	Thu 2/16/17	Wed 7/5/17	ETS
759	Scoring	90 days	Mon 3/27/17	Fri 7/28/17	
760	Summative Computer Based Assessments	90 days	Mon 3/27/17	Fri 7/28/17	
761	Hand and AI scoring occurs	90 days	Mon 3/27/17	Fri 7/28/17	ETS, MI
762	Perform scoring QC	90 days	Mon 3/27/17	Fri 7/28/17	ETS
763	Final scoring occurs	90 days	Mon 3/27/17	Fri 7/28/17	ETS
764	Psychometric Analysis	38 days	Mon 5/22/17	Wed 7/12/17	
765	Conduct Item Analysis of CAASPP Summative assessments	16 days	Mon 5/22/17	Mon 6/12/17	ETS
766	Item Analysis Files delivered to CDE	1 day	Tue 6/13/17	Tue 6/13/17	ETS
767	Facilitate Alternate Assessment Data Review meeting	1 day	Wed 7/12/17	Wed 7/12/17	ETS
768	Reporting	472 days	Tue 9/6/16	Tue 7/3/18	
769	Summative Assessment	472 days	Tue 9/6/16	Tue 7/3/18	
770	Delivery of Data Files to CDE and Smarter Balanced	117 days	Mon 3/27/17	Tue 9/5/17	
771	Prepare student data files	90 days	Mon 3/27/17	Fri 7/28/17	ETS
772	Post initial student data files to SFTP site for CDE and Smarter Balanced Data Warehouse	1 day	Mon 7/31/17	Mon 7/31/17	ETS

ID	Task Name	Duration	Start	Finish	Resource Names
773	Post final data files to SFTP site for CDE and Smarter Balanced Data Warehouse	1 day	Tue 9/5/17	Tue 9/5/17	ETS
774	Online Reporting Systems	472 days	Tue 9/6/16	Tue 7/3/18	
775	Online Reporting Systems Setup	37 days	Tue 9/6/16	Wed 10/26/16	
776	systems Gather specifications for AIR online reporting	5 days	Tue 9/6/16	Mon 9/12/16	ETS, AIR
777	CDE reviews online reporting system specifications	10 days	Tue 9/13/16	Mon 9/26/16	CDE
778	Configure online reporting systems	20 days	Tue 9/27/16	Mon 10/24/16	ETS, AIR
779	Demonstrate online reporting systems to CDE	1 day	Tue 10/25/16	Tue 10/25/16	ETS, AIR
780	Deploy online reporting system	1 day	Wed 10/26/16	Wed 10/26/16	ETS, AIR
781	Student Level Reporting	375 days	Wed 1/25/17	Tue 7/3/18	
782	Provide final individual scores within 4 weeks of student online test completion	90 days	Wed 2/28/18	Tue 7/3/18	ETS, AIR
783	Launch ISR availability within online reporting system	1 day	Wed 1/25/17	Wed 1/25/17	ETS, AIR
784	School Level Reporting	1 day	Thu 4/13/17	Thu 4/13/17	
785	Launch school level reporting functionality	1 day	Thu 4/13/17	Thu 4/13/17	ETS, AIR
786	LEA Level Reporting	1 day	Fri 4/28/17	Fri 4/28/17	
787	Launch LEA level reporting functionality	1 day	Fri 4/28/17	Fri 4/28/17	ETS, AIR
788	State Level Reporting	188 days	Tue 10/25/16	Wed 7/19/17	
789	State Aggregate Reporting Web site	188 days	Tue 10/25/16	Wed 7/19/17	
790	Develop business requirements	45 days	Tue 10/25/16	Fri 12/30/16	ETS
791	CDE provides text for site	1 day	Mon 3/27/17	Mon 3/27/17	CDE
792	Construct Web reporting site	30 days	Tue 3/28/17	Mon 5/8/17	ETS
793	CDE UAT of Web Reporting Site	10 days	Tue 5/9/17	Mon 5/22/17	CDE
794	CDE provides feedback on changes needed	10 days	Tue 5/23/17	Mon 6/5/17	CDE
795	Apply changes	5 days	Tue 6/6/17	Mon 6/12/17	ETS
796	CDE 2nd UAT	5 days	Tue 6/13/17	Mon 6/19/17	CDE
797	Finalize site with CDE updates	5 days	Tue 6/20/17	Mon 6/26/17	ETS
798	Deploy State level reporting Web site	1 day	Wed 7/19/17	Wed 7/19/17	ETS
799	Individual Student Report	195 days	Tue 10/25/16	Fri 7/28/17	
800	Develop individual student report	40 days	Tue 10/25/16	Wed 12/21/16	ETS
801	CDE reviews individual student report	10 days	Thu 12/22/16	Fri 1/6/17	CDE
802	Update individual student report	3 days	Mon 1/9/17	Wed 1/11/17	ETS
803	CDE 2nd review of individual student report	5 days	Thu 1/12/17	Wed 1/18/17	CDE
804	Apply updates & submit to CDE for approval	3 days	Thu 1/19/17	Mon 1/23/17	ETS
805	Provide electronic student roster reports to LEAs	20 days	Mon 7/3/17	Fri 7/28/17	ETS
806	LEAs Print and ship Individual Student Reports (ISR) to	20 days	Mon 7/3/17	Fri 7/28/17	ETS
807	Rescore Process	120 days	Mon 3/27/17	Fri 9/8/17	
808	LEAs request rescoring	90 days	Mon 3/27/17	Fri 7/28/17	LEAs
809	Provide rescore results	90 days	Mon 5/8/17	Fri 9/8/17	ETS
810	Invoicing for rescoring occurs	10 days	Mon 5/15/17	Fri 5/26/17	ETS

ID	Task Name	Duration	Start	Finish	Resource Names
811	Interpretive Guides	31 days	Mon 3/20/17	Mon 5/1/17	
812	Produce interpretive guides	30 days	Mon 3/20/17	Fri 4/28/17	ETS
813	Post interpretive guides	1 day	Mon 5/1/17	Mon 5/1/17	ETS
814	Technical Report	61 days	Wed 9/6/17	Wed 11/29/17	
815	Develop Technical Report	40 days	Wed 9/6/17	Tue 10/31/17	ETS
816	CDE reviews Technical Report and returns edits to ETS	10 days	Wed 11/1/17	Tue 11/14/17	CDE
817	CDE ETS applies edits and delivers final Technical Report to	3 days	Wed 11/15/17	Fri 11/17/17	ETS
818	CDE 2nd review of Technical Report	5 days	Mon 11/20/17	Fri 11/24/17	CDE
819	Apply updates and deliver Technical Report to CDE for approval	3 days	Mon 11/27/17	Wed 11/29/17	ETS
820	Operational Test Administration Complete	0 days	Tue 7/3/18	Tue 7/3/18	
821	Year two complete	0 days	Tue 1/23/18	Tue 1/23/18	
822	Administration Year Three (July 2017 - December 2018)	397 days	Thu 6/22/17	Fri 12/28/18	
823	Begin administration year three	0 days	Mon 7/3/17	Mon 7/3/17	
824	Project Management	397 days	Thu 6/22/17	Fri 12/28/18	
825	Project Management Begins	0 days	Mon 7/3/17	Mon 7/3/17	
826	Annual Planning Meetings	35 days	Thu 6/22/17	Wed 8/9/17	
827	Schedule and prepare/ship materials for annual planning meeting	3 days	Thu 6/22/17	Mon 6/26/17	ETS
828	Conduct annual planning meeting	3 days	Mon 7/3/17	Wed 7/5/17	CDE, AIR, MI, ETS
829	Update project documentation and management plan	15 days	Thu 7/6/17	Wed 7/26/17	ETS
830	CDE Prepare meeting minutes/participant list and deliver to	10 days	Thu 7/27/17	Wed 8/9/17	ETS
831	Program Meetings	390 days	Mon 7/3/17	Fri 12/28/18	
832	Conduct weekly internal status meetings	390 days	Mon 7/3/17	Fri 12/28/18	ETS
833	Conduct weekly CDE management meetings	390 days	Mon 7/3/17	Fri 12/28/18	CDE, AIR, MI, ETS
834	Conduct weekly CDE technical meeting	390 days	Mon 7/3/17	Fri 12/28/18	CDE, AIR, MI, ETS
835	State Board Meetings	390 days	Mon 7/3/17	Fri 12/28/18	
836	Attend State Board meetings	390 days	Mon 7/3/17	Fri 12/28/18	CDE, ETS
837	Technical Advisory Group (TAG) Meetings	390 days	Mon 7/3/17	Fri 12/28/18	
838	Work with the CDE to develop TAG agendas	390 days	Mon 7/3/17	Fri 12/28/18	CDE, ETS
839	Attend TAG meetings	390 days	Mon 7/3/17	Fri 12/28/18	CDE, ETS
840	Monthly Progress Reports	390 days	Mon 7/3/17	Fri 12/28/18	
841	Deliver monthly progress reports to CDE	390 days	Mon 7/3/17	Fri 12/28/18	ETS
842	Project Management Plan (PMP) & Project Definitions Document	80 days	Mon 7/3/17	Fri 10/20/17	
843	Project Management Plan for Overall CAASPP Activities	70 days	Mon 7/3/17	Fri 10/6/17	
844	Update Work Breakdown Structure as needed	10 days	Thu 7/6/17	Wed 7/19/17	ETS
845	Update project management plan for overall CAASPP activities as needed	30 days	Mon 7/3/17	Fri 8/11/17	ETS
846	CDE reviews updates to the project management plan for overall CAASPP activities	20 days	Mon 8/14/17	Fri 9/8/17	CDE
847	Finalize updates to the project management plan for overall CAASPP activities	20 days	Mon 9/11/17	Fri 10/6/17	ETS
848	Project Definitions Document for the Assessment Delivery System	70 days	Mon 7/3/17	Fri 10/6/17	

ID	Task Name	Duration	Start	Finish	Resource Names
849	Develop draft project management plan for the Assessment Delivery System	30 days	Mon 7/3/17	Fri 8/11/17	ETS, AIR
850	CDE reviews project management plan for the Assessment Delivery System	20 days	Mon 8/14/17	Fri 9/8/17	CDE
851	Finalize project management plan for the Assessment Delivery System	20 days	Mon 9/11/17	Fri 10/6/17	ETS, AIR
852	Integrated Comprehensive Work Plan & Project Schedule	10 days	Mon 10/9/17	Fri 10/20/17	
853	CDE reviews comprehensive integrated project schedule	10 days	Mon 10/9/17	Fri 10/20/17	CDE
854	CDE project schedule review complete	0 days	Fri 10/20/17	Fri 10/20/17	CDE
855	Test Security	390 days	Mon 7/3/17	Fri 12/28/18	
856	Update the Test Security Plan for the 2018 administration	2 days	Mon 7/3/17	Tue 7/4/17	ETS
857	Deliver the Test Security Plan to CDE for review	1 day	Wed 7/5/17	Wed 7/5/17	ETS
858	CDE reviews the Test Security Plan	10 days	Thu 7/6/17	Wed 7/19/17	CDE
859	Apply CDE edits to the Test Security Plan	3 days	Thu 7/20/17	Mon 7/24/17	ETS
860	CDE 2nd review of the Test Security Plan	5 days	Tue 7/25/17	Mon 7/31/17	CDE
861	Apply updates and deliver the final Test Security Plan to CDE for approval	3 days	Tue 8/1/17	Thu 8/3/17	ETS
862	Monitor social media sites for test security breaches	390 days	Mon 7/3/17	Fri 12/28/18	ETS
863	Perform on-site security audit visits	125 days	Wed 1/24/18	Tue 7/17/18	ETS
864	Investigate test security breaches as needed	125 days	Wed 1/24/18	Tue 7/17/18	ETS
865	Deliver audit reports to CDE	125 days	Wed 1/31/18	Tue 7/24/18	ETS
866	Data Driven Improvement	237 days	Mon 7/3/17	Tue 5/29/18	
867	Pre-Testing Data Collection	77 days	Mon 10/23/17	Tue 2/6/18	
868	Pre-Test Survey	77 days	Mon 10/23/17	Tue 2/6/18	
869	Develop Pre-Test Survey	20 days	Mon 10/23/17	Fri 11/17/17	ETS
870	CDE reviews Pre-Test Survey	10 days	Mon 11/20/17	Fri 12/1/17	CDE
871	Revise Pre-Test Survey	3 days	Mon 12/4/17	Wed 12/6/17	ETS
872	CDE 2nd review of Pre-Test Survey	5 days	Thu 12/7/17	Wed 12/13/17	CDE
873	Apply updates and deliver final Pre-Test Survey to CDE for approval	3 days	Thu 12/14/17	Mon 12/18/17	ETS
874	Administer Pre-Test Survey	20 days	Tue 12/26/17	Mon 1/22/18	ETS
875	Analyze survey results	10 days	Tue 1/23/18	Mon 2/5/18	ETS
876	Deliver survey results & recommended program improvements to CDE	1 day	Tue 2/6/18	Tue 2/6/18	ETS
877	Post-Testing Data Collection	237 days	Mon 7/3/17	Tue 5/29/18	
878	Post-Test Survey	67 days	Mon 2/26/18	Tue 5/29/18	
879	Develop Post-Test Survey	20 days	Mon 2/26/18	Fri 3/23/18	ETS
880	CDE reviews Post-Test Survey	10 days	Mon 3/26/18	Fri 4/6/18	CDE
881	Revise Post-Test Survey	3 days	Mon 4/9/18	Wed 4/11/18	ETS
882	CDE 2nd review of Post-Test Survey	5 days	Thu 4/12/18	Wed 4/18/18	CDE
883	Apply updates and deliver final Post-Test Survey to CDE for approval	3 days	Thu 4/19/18	Mon 4/23/18	ETS
884	Administer Post-Test Survey	20 days	Tue 5/1/18	Mon 5/28/18	ETS
885	Deliver survey results & recommended program improvements to CDE	1 day	Tue 5/29/18	Tue 5/29/18	ETS

ID	Task Name	Duration	Start	Finish	Resource Names
886	Post-Test Focus Groups for Administrators	60 days	Mon 7/3/17	Fri 9/22/17	
887	Prepare materials for Post-Test Focus Groups	9 days	Mon 7/3/17	Thu 7/13/17	ETS
888	Conduct Sacramento focus group	2 days	Fri 7/14/17	Mon 7/17/17	ETS
889	Conduct Southern CA focus group	2 days	Thu 7/27/17	Fri 7/28/17	ETS
890	Compile results and recommended program improvements to CDE	40 days	Mon 7/31/17	Fri 9/22/17	ETS
891	Test Coordinator Advisory Group	162 days	Thu 8/17/17	Fri 3/30/18	
892	1 Prepare materials for Test Coordinator Advisory Group	20 days	Thu 8/17/17	Wed 9/13/17	ETS
893	Conduct September Advisory Group 1	1 day	Thu 9/14/17	Thu 9/14/17	ETS
894	Compile results and recommended program improvements to CDE	40 days	Fri 9/15/17	Thu 11/9/17	ETS
895	2 Prepare materials for Test Coordinator Advisory Group	20 days	Fri 1/5/18	Thu 2/1/18	ETS
896	Conduct February Advisory Group 2	1 day	Fri 2/2/18	Fri 2/2/18	ETS
897	Compile results and recommended program improvements to CDE	40 days	Mon 2/5/18	Fri 3/30/18	ETS
898	caaspp.org User Focus Group	62 days	Wed 8/23/17	Thu 11/16/17	
899	Prepare materials for caaspp.org focus groups	20 days	Wed 8/23/17	Tue 9/19/17	ETS
900	Conduct caaspp.org User focus group	2 days	Wed 9/20/17	Thu 9/21/17	ETS
901	Compile results and recommended program improvements to CDE	40 days	Fri 9/22/17	Thu 11/16/17	ETS
902	Project Management Complete	0 days	Fri 12/28/18	Fri 12/28/18	
903	Training & LEA Support	252 days	Mon 7/3/17	Tue 6/19/18	
904	Training & LEA Support Begins	0 days	Mon 7/3/17	Mon 7/3/17	
905	CalTAC	252 days	Mon 7/3/17	Tue 6/19/18	
906	Train CalTAC staff on the CAASPP Program	10 days	Mon 7/3/17	Fri 7/14/17	ETS
907	Establish help desk technical phone, Web chat, and e-mail support	10 days	Mon 7/3/17	Fri 7/14/17	ETS
908	Perform technology support site visits as needed	242 days	Mon 7/17/17	Tue 6/19/18	ETS
909	LEA CAASPP Coordinator Designation Forms & Security Agreements	64 days	Mon 7/3/17	Thu 9/28/17	
910	Collect LEA CAASPP coordinator designation forms and security agreements	50 days	Mon 7/3/17	Fri 9/8/17	ETS
911	Input updates into the LEA CAASPP coordinator database	43 days	Mon 7/31/17	Wed 9/27/17	ETS
912	Provide CDE access to the CAASPP coordinator database	1 day	Thu 9/28/17	Thu 9/28/17	ETS
913	LEA Technology Readiness	91 days	Mon 7/31/17	Mon 12/4/17	
914	Develop technology readiness information collection methodologies	30 days	Mon 7/31/17	Fri 9/8/17	ETS
915	Collect technology readiness information from LEAs	40 days	Mon 9/11/17	Fri 11/3/17	ETS
916	Conduct outreach campaign to non-responsive LEAs	20 days	Mon 11/6/17	Fri 12/1/17	ETS
917	Present readiness results to CDE	1 day	Mon 12/4/17	Mon 12/4/17	ETS
918	Summative Assessment Test Administration Training Manuals	216 days	Mon 7/3/17	Mon 4/30/18	
919	Smarter Balanced Test Administration Manual (TAM)	111 days	Mon 7/3/17	Mon 12/4/17	
920	TAM available from Smarter Balanced	0 days	Mon 7/3/17	Mon 7/3/17	Smarter Balanced
921	Adapt Smarter Balanced TAM for California	15 days	Mon 9/11/17	Fri 9/29/17	ETS
922	CDE reviews Smarter Balanced TAM	10 days	Mon 10/2/17	Fri 10/13/17	CDE
923	Apply CDE edits to Smarter Balanced TAM	3 days	Mon 10/16/17	Wed 10/18/17	ETS

ID	Task Name	Duration	Start	Finish	Resource Names
924	CDE 2nd review of Smarter Balanced TAM	5 days	Thu 10/19/17	Wed 10/25/17	CDE
925	Apply updates and deliver final Smarter Balanced TAM to CDE for approval	3 days	Thu 10/26/17	Mon 10/30/17	ETS
926	Post Smarter Balanced TAM to caaspp.org	1 day	Tue 10/31/17	Tue 10/31/17	ETS
927	Print Smarter Balanced TAM	20 days	Tue 10/31/17	Mon 11/27/17	ETS
928	Distribute Smarter Balanced TAM to LEAs	5 days	Tue 11/28/17	Mon 12/4/17	ETS
929	Alternate Assessment Test Administration Manual (TAM)	72 days	Mon 8/14/17	Tue 11/21/17	
930	Develop Alternate Assessment TAM	25 days	Mon 8/14/17	Fri 9/15/17	ETS
931	CDE reviews Alternate Assessment TAM	10 days	Mon 9/18/17	Fri 9/29/17	CDE
932	Apply CDE edits to Alternate Assessment TAM	3 days	Mon 10/2/17	Wed 10/4/17	ETS
933	CDE 2nd review of Alternate Assessment TAM	5 days	Thu 10/5/17	Wed 10/11/17	CDE
934	Apply updates and deliver final Alternate Assessment TAM to CDE for approval	3 days	Thu 10/12/17	Mon 10/16/17	ETS
935	Post Alternate Assessment TAM to caaspp.org	1 day	Tue 10/17/17	Tue 10/17/17	ETS
936	Print Alternate Assessment TAM	20 days	Wed 10/18/17	Tue 11/14/17	ETS
937	Distribute Alternate Assessment TAM to LEAs	5 days	Wed 11/15/17	Tue 11/21/17	ETS
938	LEA CAASPP Test Coordinators Manual (LEA TCM)	47 days	Thu 10/26/17	Fri 12/29/17	
939	Develop LEA TCM	25 days	Thu 10/26/17	Wed 11/29/17	ETS
940	CDE reviews LEA TCM	10 days	Thu 11/30/17	Wed 12/13/17	CDE
941	Apply CDE edits to LEA TCM	3 days	Thu 12/14/17	Mon 12/18/17	ETS
942	CDE 2nd review of LEA TCM	5 days	Tue 12/19/17	Mon 12/25/17	CDE
943	Apply updates and deliver final LEA TCM to CDE for approval	3 days	Tue 12/26/17	Thu 12/28/17	ETS
944	Post LEA TCM to caaspp.org	1 day	Fri 12/29/17	Fri 12/29/17	ETS
945	Test Site Coordinators Manual (SCM)	47 days	Thu 10/26/17	Fri 12/29/17	
946	Develop SCM	25 days	Thu 10/26/17	Wed 11/29/17	ETS
947	CDE reviews SCM	10 days	Thu 11/30/17	Wed 12/13/17	CDE
948	Apply CDE edits to SCM	3 days	Thu 12/14/17	Mon 12/18/17	ETS
949	CDE 2nd review of SCM	5 days	Tue 12/19/17	Mon 12/25/17	CDE
950	Apply updates and deliver final SCM to CDE for approval	3 days	Tue 12/26/17	Thu 12/28/17	ETS
951	Post SCM to caaspp.org	1 day	Fri 12/29/17	Fri 12/29/17	ETS
952	Test Examiners Manual (TEM)	47 days	Thu 11/2/17	Fri 1/5/18	
953	Develop TEM	25 days	Thu 11/2/17	Wed 12/6/17	ETS
954	CDE reviews TEM	10 days	Thu 12/7/17	Wed 12/20/17	CDE
955	Apply CDE edits to TEM	3 days	Thu 12/21/17	Mon 12/25/17	ETS
956	CDE 2nd review of TEM	5 days	Tue 12/26/17	Mon 1/1/18	CDE
957	Apply updates and deliver final TEM to CDE for approval	3 days	Tue 1/2/18	Thu 1/4/18	ETS
958	Post TEM to caaspp.org	1 day	Fri 1/5/18	Fri 1/5/18	ETS
959	Technology Services Coordinators Manual (TSCM)	47 days	Thu 11/2/17	Fri 1/5/18	

ID	Task Name	Duration	Start	Finish	Resource Names
960	Develop TSCM	25 days	Thu 11/2/17	Wed 12/6/17	ETS
961	CDE reviews TSCM	10 days	Thu 12/7/17	Wed 12/20/17	CDE
962	Apply CDE edits to TSCM	3 days	Thu 12/21/17	Mon 12/25/17	ETS
963	CDE 2nd review of TSCM	5 days	Tue 12/26/17	Mon 1/1/18	CDE
964	Apply updates and deliver final TSCM to CDE for approval	3 days	Tue 1/2/18	Thu 1/4/18	ETS
965	Post TSCM to caaspp.org	1 day	Fri 1/5/18	Fri 1/5/18	ETS
966	CAASPP Test Operations Management System (TOMS) Manual	47 days	Mon 8/14/17	Tue 10/17/17	
967	Develop TOMS manual	25 days	Mon 8/14/17	Fri 9/15/17	ETS
968	CDE reviews TOMS manual	10 days	Mon 9/18/17	Fri 9/29/17	CDE
969	Apply CDE edits to TOMS manual	3 days	Mon 10/2/17	Wed 10/4/17	ETS
970	CDE 2nd review of TOMS manual	5 days	Thu 10/5/17	Wed 10/11/17	CDE
971	Apply updates and deliver final TOMS manual to CDE for approval	3 days	Thu 10/12/17	Mon 10/16/17	ETS
972	Post TOMS manual to caaspp.org	1 day	Tue 10/17/17	Tue 10/17/17	ETS
973	STS for Dual Immersion Students Manual	47 days	Mon 9/11/17	Tue 11/14/17	
974	Develop STS manual	25 days	Mon 9/11/17	Fri 10/13/17	ETS
975	CDE reviews STS manual	10 days	Mon 10/16/17	Fri 10/27/17	CDE
976	Apply CDE edits to STS manual	3 days	Mon 10/30/17	Wed 11/1/17	ETS
977	CDE 2nd review of STS manual	5 days	Thu 11/2/17	Wed 11/8/17	CDE
978	Apply updates and deliver final STS manual to CDE for approval	3 days	Thu 11/9/17	Mon 11/13/17	ETS
979	Post STS manual to caaspp.org	1 day	Tue 11/14/17	Tue 11/14/17	ETS
980	Test Administrator Quick Start Guide	47 days	Mon 9/25/17	Tue 11/28/17	
981	Develop STS manual	25 days	Mon 9/25/17	Fri 10/27/17	ETS
982	CDE reviews STS manual	10 days	Mon 10/30/17	Fri 11/10/17	CDE
983	Apply CDE edits to STS manual	3 days	Mon 11/13/17	Wed 11/15/17	ETS
984	CDE 2nd review of STS manual	5 days	Thu 11/16/17	Wed 11/22/17	CDE
985	Apply updates and deliver final STS manual to CDE for approval	3 days	Thu 11/23/17	Mon 11/27/17	ETS
986	Post STS manual to caaspp.org	1 day	Tue 11/28/17	Tue 11/28/17	ETS
987	Online Reporting Guide	52 days	Mon 12/18/17	Tue 2/27/18	
988	Develop Online Reporting Guide	30 days	Mon 12/18/17	Fri 1/26/18	ETS
989	CDE reviews Online Reporting Guide	10 days	Mon 1/29/18	Fri 2/9/18	CDE
990	Apply CDE edits to Online Reporting Guide	3 days	Mon 2/12/18	Wed 2/14/18	ETS
991	CDE 2nd review of Online Reporting Guide	5 days	Thu 2/15/18	Wed 2/21/18	CDE
992	Apply updates and deliver final Online Reporting Guide to CDE for approval	3 days	Thu 2/22/18	Mon 2/26/18	ETS
993	Post Online Reporting Guide to caaspp.org	1 day	Tue 2/27/18	Tue 2/27/18	ETS
994	CAASPP Post-Test Guide	76 days	Mon 1/15/18	Mon 4/30/18	
995	Develop Post-Test Guide	30 days	Mon 1/15/18	Fri 2/23/18	ETS
996	CDE reviews Post-Test Guide	10 days	Mon 2/26/18	Fri 3/9/18	CDE

ID	Task Name	Duration	Start	Finish	Resource Names
997	Apply CDE edits to Post-Test Guide	3 days	Mon 3/12/18	Wed 3/14/18	ETS
998	CDE 2nd review of Post-Test Guide	5 days	Thu 3/15/18	Wed 3/21/18	CDE
999	Apply updates and deliver final Post-Test Guide to CDE for approval	3 days	Thu 3/22/18	Mon 3/26/18	ETS
1000	Post Post-Test Guide to caaspp.org	1 day	Tue 3/27/18	Tue 3/27/18	ETS
1001	Print Post-Test Guide	20 days	Tue 3/27/18	Mon 4/23/18	ETS
1002	Distribute Post-Test Guide to LEAs	5 days	Tue 4/24/18	Mon 4/30/18	ETS
1003	Training Webcasts and Workshops	197 days	Fri 8/18/17	Mon 5/21/18	
1004	Training Webcasts	192 days	Fri 8/18/17	Mon 5/14/18	
1005	Present and archive Using the Digital Library Webcast	1 day	Fri 8/18/17	Fri 8/18/17	ETS
1006	Present and archive Using Interim Assessments Webcast	1 day	Thu 9/7/17	Thu 9/7/17	ETS
1007	Present and archive Preparing CALPADS Data for Testing Webcast	1 day	Thu 9/14/17	Thu 9/14/17	ETS
1008	Present and archive Test Operations Management System (TOMS) Training Webcast	1 day	Thu 9/21/17	Thu 9/21/17	ETS
1009	Present and archive Preparing Technology for Online Testing Webcast	1 day	Thu 10/12/17	Thu 10/12/17	ETS
1010	Present and archive Accessibility and Accommodations Webcast	1 day	Thu 10/19/17	Thu 10/19/17	ETS
1011	Present and archive Using the Online Practice Tests and Training Tests Webcast	1 day	Thu 11/16/17	Thu 11/16/17	ETS
1012	Present and archive Pre-Test Webcast	1 day	Tue 1/9/18	Tue 1/9/18	ETS, AIR
1013	Present and archive Alternate Assessment training Webcast	1 day	Wed 1/10/18	Wed 1/10/18	ETS
1014	Present and archive Test Security LEA Training Webcast	1 day	Tue 1/16/18	Tue 1/16/18	ETS
1015	Present and archive Post-Test Webcast	1 day	Mon 5/14/18	Mon 5/14/18	ETS
1016	Regional Training Workshops	181 days	Mon 9/11/17	Mon 5/21/18	
1017	Present regional Digital Library and Interim workshops	5 days	Mon 9/11/17	Fri 9/15/17	ETS
1018	Present regional Pre-Test Workshops	22 days	Mon 1/15/18	Tue 2/13/18	ETS, AIR
1019	Present regional Post-Test Workshops	5 days	Tue 5/15/18	Mon 5/21/18	ETS
1020	Interim CR Scoring Training	101 days	Wed 10/11/17	Wed 2/28/18	
1021	Receive CR scoring methodology and procedures from Smarter Balanced	1 day	Wed 10/11/17	Wed 10/11/17	Smarter Balanced
1022	Produce workshop slides and e-mail announcement	20 days	Thu 1/11/18	Wed 2/7/18	ETS
1023	Deliver summative and interim CR scoring training workshops	15 days	Thu 2/8/18	Wed 2/28/18	ETS
1024	Training & LEA Support Complete	0 days	Tue 6/19/18	Tue 6/19/18	
1025	Test Development	392 days	Thu 6/29/17	Fri 12/28/18	
1026	Begin Test Development	0 days	Mon 7/3/17	Mon 7/3/17	
1027	Primary Language Field Test	138 days	Wed 1/24/18	Fri 8/3/18	
1028	Administer Primary Language Census Field Test	100 days	Wed 1/24/18	Tue 6/12/18	ETS
1029	Conduct range finding external committee meeting	2 days	Wed 6/27/18	Thu 6/28/18	ETS, External Committee, CDE
1030	CDE approves training scoring sets	10 days	Fri 6/29/18	Thu 7/12/18	CDE
1031	Perform analysis on field test data	20 days	Fri 6/29/18	Thu 7/26/18	ETS
1032	Conduct data review external committee meeting	1 day	Fri 7/27/18	Fri 7/27/18	External Committee, CDE, ETS

ID	Task Name	Duration	Start	Finish	Resource Names
1033	CDE approval of data review results	5 days	Mon 7/30/18	Fri 8/3/18	CDE
1034	NGSS Field Test (Including Alt NGSS)	121 days	Mon 3/12/18	Mon 8/27/18	
1035	Administer NGSS Census Field Test	80 days	Mon 3/12/18	Fri 6/29/18	ETS
1036	Conduct range finding external committee meeting	2 days	Thu 7/26/18	Fri 7/27/18	External Committee, CDE, ETS
1037	Perform analysis on field test data	20 days	Mon 7/30/18	Fri 8/24/18	ETS
1038	Conduct data review external committee meeting	1 day	Mon 8/27/18	Mon 8/27/18	External Committee, CDE, ETS
1039	Alternate Assessment ELA/Mathematics Embedded Field Test Item Development	40 days	Thu 6/29/17	Wed 8/23/17	
1040	Develop Alternate Assessment ELA/Mathematics Assessment items	23 days	Thu 6/29/17	Mon 7/31/17	ETS
1041	CDE reviews new items	10 days	Tue 8/1/17	Mon 8/14/17	CDE
1042	External committee item review meetings	2 days	Tue 8/15/17	Wed 8/16/17	External Committee, CDE, ETS
1043	CDE approves new items	5 days	Thu 8/17/17	Wed 8/23/17	CDE
1044	Primary Language Embedded Field Test Item Development	117 days	Wed 1/24/18	Thu 7/5/18	
1045	Develop Primary Language Assessment items	80 days	Wed 1/24/18	Tue 5/15/18	ETS
1046	CDE reviews new Primary Language items	10 days	Wed 5/16/18	Tue 5/29/18	CDE
1047	External committee item review meetings	2 days	Wed 5/30/18	Thu 5/31/18	External Committee, CDE, ETS
1048	CDE approves new items	5 days	Fri 6/1/18	Thu 6/7/18	CDE
1049	Finalize items	20 days	Fri 6/8/18	Thu 7/5/18	ETS
1050	Primary Language Operational Forms for the 2018 administration	47 days	Fri 6/8/18	Mon 8/13/18	
1051	Develop operational forms	30 days	Fri 6/8/18	Thu 7/19/18	ETS
1052	CDE reviews operational forms	10 days	Fri 7/20/18	Thu 8/2/18	CDE
1053	External committee forms review meeting	2 days	Fri 8/3/18	Mon 8/6/18	External Committee, CDE, ETS
1054	CDE approves operational forms	5 days	Tue 8/7/18	Mon 8/13/18	CDE
1055	NGSS Science (Including Alt NGSS) Embedded Field Test Item Development	320 days	Mon 10/9/17	Fri 12/28/18	
1056	Develop NGSS Science items	152 days	Mon 10/9/17	Tue 5/8/18	ETS
1057	External committee item review meetings	3 days	Wed 5/9/18	Fri 5/11/18	External Committee, CDE, ETS
1058	Develop pilot test forms	100 days	Mon 5/14/18	Fri 9/28/18	ETS
1059	Prepare for online test delivery	65 days	Mon 10/1/18	Fri 12/28/18	ETS
1060	Test Development Complete	0 days	Fri 12/28/18	Fri 12/28/18	
1061	Operational Test Administration	369 days	Mon 7/3/17	Thu 11/29/18	
1062	Operational Test Administration Begins	0 days	Mon 7/3/17	Mon 7/3/17	
1063	CAASPP Assessments	276 days	Mon 7/3/17	Mon 7/23/18	
1064	Testing Systems	156 days	Mon 7/3/17	Mon 2/5/18	
1065	Minimum System Requirements Document	20 days	Mon 7/3/17	Fri 7/28/17	

ID	Task Name	Duration	Start	Finish	Resource Names
1066	Develop Minimum System Requirements Document	5 days	Mon 7/3/17	Fri 7/7/17	ETS
1067	CDE reviews and approves Minimum System Requirements Document	15 days	Mon 7/10/17	Fri 7/28/17	CDE
1068	System Configurations	20 days	Mon 7/3/17	Fri 7/28/17	
1069	Develop list of system configurations	5 days	Mon 7/3/17	Fri 7/7/17	ETS
1070	CDE reviews and approves system configurations	15 days	Mon 7/10/17	Fri 7/28/17	CDE
1071	Item Transfer	45 days	Mon 11/13/17	Fri 1/12/18	
1072	Receive Interim items from Smarter Balanced	1 day	Mon 11/13/17	Mon 11/13/17	Smarter Balanced
1073	Import Interim field test items from Smarter Balanced	10 days	Tue 11/14/17	Mon 11/27/17	ETS
1074	Receive Summative pools from Smarter Balanced	1 day	Fri 12/29/17	Fri 12/29/17	Smarter Balanced
1075	Import items from Smarter Balanced and embed new field test items into testing system	10 days	Mon 1/1/18	Fri 1/12/18	ETS
1076	Test Operations Management System (TOMS)	71 days	Mon 7/3/17	Mon 10/9/17	
1077	CDE confirms CALPADS information and list of designated supports/accommodations	1 day	Mon 7/3/17	Mon 7/3/17	CDE
1078	Confirm business requirements for pre-test delivery reporting and application enhancements	1 day	Tue 7/4/17	Tue 7/4/17	ETS
1079	Update CALPADS import function	20 days	Tue 7/4/17	Mon 7/31/17	ETS
1080	Configure TOMS enhancements for the 2018 CAASPP administration	15 days	Mon 7/31/17	Fri 8/18/17	ETS
1081	Begin daily updates of LEA and school user contact information	1 day	Mon 8/21/17	Mon 8/21/17	ETS
1082	Functional testing	10 days	Mon 8/21/17	Fri 9/1/17	ETS
1083	Dev-2-Dev Testing	5 days	Mon 9/4/17	Fri 9/8/17	ETS
1084	Integration testing	10 days	Mon 9/11/17	Fri 9/22/17	ETS
1085	Load testing	10 days	Mon 9/11/17	Fri 9/22/17	ETS
1086	CDE UAT of TOMS enhancements	5 days	Mon 9/25/17	Fri 9/29/17	CDE
1087	Apply fixes to TOMS enhancements	5 days	Mon 10/2/17	Fri 10/6/17	ETS
1088	Deploy enhancements to TOMS	1 day	Mon 10/9/17	Mon 10/9/17	ETS
1089	CA ISAAP Tool	49 days	Wed 7/5/17	Mon 9/11/17	
1090	Gather business requirements for CA ISAAP tool enhancements	20 days	Wed 7/5/17	Tue 8/1/17	ETS
1091	Configure CA ISAAP tool for the 2018 administration	5 days	Mon 8/21/17	Fri 8/25/17	ETS
1092	CDE UAT of CA ISAAP Tool	5 days	Mon 8/28/17	Fri 9/1/17	CDE
1093	Apply fixes to CA ISAPP	5 days	Mon 9/4/17	Fri 9/8/17	ETS
1094	Deploy CA ISAAP Tool	1 day	Mon 9/11/17	Mon 9/11/17	ETS
1095	Test Delivery System (TDS)	121 days	Mon 8/21/17	Mon 2/5/18	
1096	Update Secure Browsers	25 days	Mon 9/25/17	Fri 10/27/17	AIR
1097	Gather business requirements for application enhancements	10 days	Mon 8/21/17	Fri 9/1/17	ETS,AIR
1098	Configure TDS for the 2018 CAASPP administration	40 days	Mon 9/4/17	Fri 10/27/17	AIR
1099	TDS Testing for Interim Assessments	41 days	Mon 10/30/17	Mon 12/25/17	
1100	Functional testing	10 days	Mon 10/30/17	Fri 11/10/17	AIR, ETS
1101	Dev-2-Dev Testing	5 days	Mon 11/13/17	Fri 11/17/17	ETS, AIR
1102	Integration testing	5 days	Mon 11/20/17	Fri 11/24/17	ETS, AIR

ID	Task Name	Duration	Start	Finish	Resource Names
1103	Load testing	5 days	Mon 11/27/17	Fri 12/1/17	ETS, AIR
1104	CDE UAT	10 days	Mon 11/20/17	Fri 12/1/17	CDE
1105	End-to-End (E2E) Testing	15 days	Mon 12/4/17	Fri 12/22/17	ETS, AIR
1106	Deploy TDS for Interim Assessments including Teacher Hand Scoring	1 day	Mon 12/25/17	Mon 12/25/17	AIR
1107	TDS Testing for Summative Assessments	41 days	Mon 12/11/17	Mon 2/5/18	
1108	Functional testing	10 days	Mon 12/11/17	Fri 12/22/17	AIR, ETS
1109	Dev-2-Dev Testing	5 days	Mon 12/25/17	Fri 12/29/17	ETS, AIR
1110	Integration testing	5 days	Mon 1/15/18	Fri 1/19/18	ETS, AIR
1111	Load testing	5 days	Mon 1/22/18	Fri 1/26/18	ETS, AIR
1112	CDE UAT	10 days	Mon 1/1/18	Fri 1/12/18	CDE
1113	End-to-End (E2E) Testing	15 days	Mon 1/15/18	Fri 2/2/18	ETS, AIR
1114	Deploy TDS for Summative Assessments including Online Reporting System and Participation Reports	1 day	Mon 2/5/18	Mon 2/5/18	AIR
1115	Formative Digital Library	116 days	Mon 9/11/17	Mon 2/19/18	
1116	Provide access to Digital Library	116 days	Mon 9/11/17	Mon 2/19/18	ETS
1117	Interim Assessment Registration, Test Content and Ancillaries	176 days	Mon 7/3/17	Mon 3/5/18	
1118	Current Interim Assessments available	0 days	Mon 7/3/17	Mon 7/3/17	Smarter Balanced
1119	Update enrollment/test administration information	50 days	Mon 9/25/17	Fri 12/1/17	ETS
1120	New enhanced test packages available from Smarter Balanced	0 days	Mon 2/5/18	Mon 2/5/18	Smarter Balanced
1121	Process new test packages	20 days	Mon 2/5/18	Fri 3/2/18	AIR
1122	Updated Interim Comprehensive Assessment (summative clone) (ICA) launched	1 day	Mon 3/5/18	Mon 3/5/18	AIR
1123	Updated Interim Assessment Blocks (IAB) launched	1 day	Mon 3/5/18	Mon 3/5/18	AIR
1124	Configure Smarter Balanced System User Guide for CA	40 days	Mon 7/3/17	Fri 8/25/17	ETS, AIR
1125	Configure Smarter Balanced Scoring Guide for CA	40 days	Mon 7/3/17	Fri 8/25/17	ETS, AIR
1126	Configure Smarter Balanced System Infrastructure Guide for CA	40 days	Mon 7/3/17	Fri 8/25/17	ETS, AIR
1127	Configure Smarter Balanced System Training Workbook for CA	40 days	Mon 7/3/17	Fri 8/25/17	ETS, AIR
1128	Interim Assessment Reporting	101 days	Tue 2/6/18	Tue 6/26/18	
1129	Deliver Interim Results to Smarter Balanced	101 days	Tue 2/6/18	Tue 6/26/18	ETS, AIR
1130	Summative Computer Based Assessments	176 days	Mon 11/13/17	Mon 7/16/18	
1131	Summative content packages available for CAT	0 days	Mon 11/13/17	Mon 11/13/17	Smarter Balanced
1132	Summative content packages available for PT	0 days	Fri 12/1/17	Fri 12/1/17	Smarter Balanced
1133	Summative test packages available for CAT and PT	0 days	Fri 1/5/18	Fri 1/5/18	Smarter Balanced
1134	Import and QC test packages	20 days	Fri 1/5/18	Thu 2/1/18	ETS
1135	Update enrollment/test administration information	20 days	Tue 1/16/18	Mon 2/12/18	ETS
1136	Administer summative assessments (Smarter Balanced ELA/Math, ELA/Mathematics Alternate)	90 days	Tue 3/13/18	Mon 7/16/18	ETS
1137	Summative Braille and Large Print Paper/Pencil Testing	205 days	Tue 10/10/17	Mon 7/23/18	
1138	Reprint CST/CMA/CAPA Science & STS paper test	30 days	Tue 11/21/17	Mon 1/1/18	ETS

ID	Task Name	Duration	Start	Finish	Resource Names
1139	Receive material orders	39 days	Tue 10/10/17	Fri 12/1/17	ETS
1140	Receive paper-based tests from Smarter Balanced	1 day	Tue 12/5/17	Tue 12/5/17	Smarter Balanced
1141	Add covers	10 days	Wed 12/6/17	Tue 12/19/17	ETS
1142	Produce braille and large print summative operational paper tests	30 days	Wed 12/20/17	Tue 1/30/18	ETS
1143	Distribute braille and large print paper tests as needed	88 days	Wed 2/14/18	Fri 6/15/18	ETS
1144	Receive braille and large print paper tests	75 days	Tue 3/20/18	Mon 7/2/18	ETS
1145	Scan braille and large print paper tests	76 days	Tue 3/20/18	Tue 7/3/18	ETS
1146	Conduct resolutions on paper tests	90 days	Tue 3/20/18	Mon 7/23/18	ETS
1147	Scoring	121 days	Tue 3/27/18	Tue 9/11/18	
1148	Summative Computer Based Assessments	90 days	Tue 3/27/18	Mon 7/30/18	
1149	Hand and AI scoring occurs	90 days	Tue 3/27/18	Mon 7/30/18	ETS, MI
1150	Perform scoring QC	90 days	Tue 3/27/18	Mon 7/30/18	ETS
1151	Final scoring occurs	90 days	Tue 3/27/18	Mon 7/30/18	ETS
1152	Psychometric Analysis	38 days	Tue 5/22/18	Thu 7/12/18	
1153	Conduct Item Analysis of CAASPP Summative assessments	16 days	Tue 5/22/18	Tue 6/12/18	ETS
1154	Item Analysis Files delivered to CDE	1 day	Wed 6/13/18	Wed 6/13/18	ETS
1155	Facilitate Alternate Assessment Data Review meeting	1 day	Thu 7/12/18	Thu 7/12/18	ETS
1156	Standard Setting for Primary Language	5 days	Wed 9/5/18	Tue 9/11/18	
1157	Conduct Primary Language Standard Setting	5 days	Wed 9/5/18	Tue 9/11/18	ETS, CDE
1158	Reporting	324 days	Mon 9/4/17	Thu 11/29/18	
1159	Summative Assessment	266 days	Mon 9/4/17	Mon 9/10/18	
1160	Delivery of Data Files to CDE and Smarter Balanced	117 days	Tue 3/27/18	Wed 9/5/18	
1161	Prepare student data files	90 days	Tue 3/27/18	Mon 7/30/18	ETS
1162	Post initial student data files to SFTP site for CDE and Smarter Balanced Data Warehouse	1 day	Tue 7/31/18	Tue 7/31/18	ETS
1163	Post final data files to SFTP site for CDE and Smarter Balanced Data Warehouse	1 day	Wed 9/5/18	Wed 9/5/18	ETS
1164	Online Reporting Systems	226 days	Mon 9/4/17	Mon 7/16/18	
1165	Online Reporting Systems Setup	37 days	Mon 9/4/17	Tue 10/24/17	
1166	systems Gather specifications for AIR online reporting	5 days	Mon 9/4/17	Fri 9/8/17	ETS, AIR
1167	CDE reviews online reporting system specifications	10 days	Mon 9/11/17	Fri 9/22/17	CDE
1168	Configure online reporting systems	20 days	Mon 9/25/17	Fri 10/20/17	ETS, AIR
1169	Demonstrate online reporting systems to CDE	1 day	Mon 10/23/17	Mon 10/23/17	ETS, AIR
1170	Deploy online reporting system	1 day	Tue 10/24/17	Tue 10/24/17	ETS, AIR
1171	Student Level Reporting	129 days	Wed 1/17/18	Mon 7/16/18	
1172	Provide final individual scores within 4 weeks of student online test completion	90 days	Tue 3/13/18	Mon 7/16/18	ETS, AIR
1173	system Launch ISR availability within online reporting	1 day	Wed 1/17/18	Wed 1/17/18	ETS, AIR
1174	School Level Reporting	1 day	Thu 4/12/18	Thu 4/12/18	
1175	Launch school level reporting functionality	1 day	Thu 4/12/18	Thu 4/12/18	ETS, AIR
1176	LEA Level Reporting	1 day	Fri 4/27/18	Fri 4/27/18	

ID	Task Name	Duration	Start	Finish	Resource Names
1177	Launch LEA level reporting functionality	1 day	Fri 4/27/18	Fri 4/27/18	ETS, AIR
1178	State Level Reporting	188 days	Mon 10/23/17	Wed 7/11/18	
1179	State Aggregate Reporting Web site	188 days	Mon 10/23/17	Wed 7/11/18	
1180	Develop business requirements	45 days	Mon 10/23/17	Fri 12/22/17	ETS
1181	CDE provides text for site	1 day	Mon 3/19/18	Mon 3/19/18	CDE
1182	Construct Web reporting site	30 days	Tue 3/20/18	Mon 4/30/18	ETS
1183	CDE UAT of Web reporting site	10 days	Tue 5/1/18	Mon 5/14/18	CDE
1184	CDE provides feedback on changes needed	10 days	Tue 5/15/18	Mon 5/28/18	CDE
1185	Apply changes	5 days	Tue 5/29/18	Mon 6/4/18	ETS
1186	CDE 2nd UAT	5 days	Tue 6/5/18	Mon 6/11/18	CDE
1187	Finalize site with CDE updates	5 days	Tue 6/12/18	Mon 6/18/18	ETS
1188	Deploy state-level reporting Web site	1 day	Wed 7/11/18	Wed 7/11/18	ETS
1189	Individual Student Report	201 days	Mon 10/23/17	Mon 7/30/18	
1190	Develop individual student report	40 days	Mon 10/23/17	Fri 12/15/17	ETS
1191	CDE reviews individual student report	10 days	Mon 12/18/17	Fri 12/29/17	CDE
1192	Update individual student report	3 days	Mon 1/1/18	Wed 1/3/18	ETS
1193	CDE 2nd review of individual student report	5 days	Thu 1/4/18	Wed 1/10/18	CDE
1194	Apply updates & submit to CDE for approval	3 days	Thu 1/11/18	Mon 1/15/18	ETS
1195	Provide electronic student roster reports to LEAs	20 days	Tue 7/3/18	Mon 7/30/18	ETS
1196	Print and ship Individual Student Reports (ISR) to LEAs	20 days	Tue 7/3/18	Mon 7/30/18	ETS
1197	Rescore Process	120 days	Tue 3/27/18	Mon 9/10/18	
1198	LEAs request rescoring	90 days	Tue 3/27/18	Mon 7/30/18	LEAs
1199	Provide rescore results	90 days	Tue 5/8/18	Mon 9/10/18	ETS
1200	Invoicing for rescoring occurs	10 days	Tue 5/15/18	Mon 5/28/18	ETS
1201	Interpretive Guides	31 days	Mon 3/12/18	Mon 4/23/18	
1202	Produce interpretive guides	30 days	Mon 3/12/18	Fri 4/20/18	ETS
1203	Post interpretive guides	1 day	Mon 4/23/18	Mon 4/23/18	ETS
1204	Technical Report	61 days	Thu 9/6/18	Thu 11/29/18	
1205	Develop Technical Report	40 days	Thu 9/6/18	Wed 10/31/18	ETS
1206	CDE reviews Technical Report and returns edits to ETS	10 days	Thu 11/1/18	Wed 11/14/18	CDE
1207	ETS applies edits and delivers final Technical Report to CDE	3 days	Thu 11/15/18	Mon 11/19/18	ETS
1208	CDE 2nd review of Technical Report	5 days	Tue 11/20/18	Mon 11/26/18	CDE
1209	Apply updates and deliver Technical Report to CDE for approval	3 days	Tue 11/27/18	Thu 11/29/18	ETS
1210	Operational Test Administration Complete	0 days	Thu 11/29/18	Thu 11/29/18	
1211	Transition contract to new testing vendor	20 days	Mon 12/3/18	Fri 12/28/18	ETS
1212	Contract Complete	0 days	Mon 12/31/18	Mon 12/31/18	

Appendix B—Reporting Expectations for Special Studies and Research Projects

Special studies and research conducted by ETS must adhere to the American Educational Research Association (AERA) Guidelines for Reporting on Empirical Social Science Research (2006). The following requirements are adapted from the guidelines and represent the basic expectations of the department for reporting results of special studies and research projects contracted for by the CDE.

Overall, reports on special studies and research projects must be:

1. Warranted; that is, adequate evidence should be provided to justify the results and conclusions.
2. Transparent; that is, reporting should make explicit the logic of inquiry and activities that led from the development of the initial interest, topic, problem, or research question; through the definition, collection, and analysis of data or empirical evidence; to the articulated outcomes of the study.

All reports on empirical research submitted to the CDE should include:

- A. A problem formulation that provides a clear statement of the purpose and scope of the study. It should describe the question, problem, or issue the study addresses, situate it in context, and describe the approach taken to addressing it.
- B. A review of the relevant scholarship that bears directly on the topic of the report. It should include a clear statement of the criteria used to identify and select the relevant scholarship in which the study is grounded. The rationale for the conceptual, methodological, or theoretical orientation of the study should be described and explained with relevant citations to what others have written.
- C. A specific and unambiguous description of the design — the way the sources of evidence for data collection or data identification activities selected for and organized in the investigation. Significant developments or alterations in the research questions or design should be described and a rationale for the changes presented.
- D. A complete description of the data or empirical materials that were collected, the methods used to collect the data, and the source(s) of the data or materials collected. The means of selection of the sites, groups, participants, events, or other units of study should be described.
- E. A complete description of measurement instruments used or classification systems developed to analyze the data. The description must include evidence of the meaningfulness and appropriateness of the measure or classification system for capturing important characteristics of the groups or individuals being studied. With qualitative methods in particular, classification is integral to the data analysis process.
- F. The procedures used for analysis should be precisely and transparently described from the beginning of the study through presentation of the outcomes. Descriptive and

inferential statistics should be provided for each of the statistical analyses essential to the interpretation of the results. Any considerations that arose in data collection or identified during data analysis and processing that might compromise the validity of the statistical analysis or inferences should be reported.

1. For qualitative studies, the procedures used for analysis should be precisely and transparently described from the beginning of the study through presentation of the outcomes. Analytic techniques should be described in sufficient detail to permit understanding of how the data were analyzed and the processes and assumptions underlying specific techniques. Analysis and interpretation should include information about any intended or unintended circumstances that may have significant implications for interpretation of the outcomes, limit their applicability, or compromise their validity. If coding processes are used, the description should include, as relevant, information on the backgrounds and training of the coders; inter-coder reliability or outcomes of reviews by other analysts; and, where relevant, indications of the extent to which those studied (participants) agree with the classifications.
 2. For quantitative studies, reporting should clearly state what statistical analyses were conducted and the appropriateness of the statistical tests, linking them to the logic of design and any claims or interpretations based on them. For each of the statistical results that is critical to the logic of the design and analysis, there should be included an indication of the uncertainty of the results such as a standard error or a confidence interval. When hypothesis testing is used, the test statistic and its associated significance level should be presented along with a qualitative interpretation of the meaningfulness of the results in terms of the questions the study was intended to answer.
- G. A presentation of conclusions and recommendations that (a) provide a statement of how claims and interpretations address the research problem, question, or issue underlying the research; (b) show how the conclusions connect to, support, elaborate, or challenge conclusions in earlier scholarship; and (c) emphasize the theoretical, practical, or methodological implications of the study.

Appendix C—Minimum System Requirements

The following table is included in this appendix for reference. ETS will work with the CDE, the IV&V consultant, the IPOC, and other stakeholders to determine the final minimum system requirements for each administration.

For the 2017–18 STS online administration, ETS understands that Smarter Balanced is expected to develop, manage, and operate the Smarter Balanced open-source components that are feasible and approved by the CDE. Once the open source components are determined, ETS will document the minimum system requirements in the same format as Table 26 specific to the 2017–18 STS project.

Table 26. Minimum System Requirements

#	Type	Requirement
ARC-01.01	Architecture	The contractor must provide a data dictionary that utilizes the CDE’s preferred variation for each data element collected or stored.
ARC-01.02	Architecture	The contractor must provide dataflow diagrams.
ARC-01.03	Architecture	The contractor must provide an Entity Relationship Diagram (ERD) in the format determined by the CDE.
ARC-01.04	Architecture	The contractor must provide a complete list of Test Delivery System configurations that differ from the open-source system default settings no later than December 31, 2017.
ARC-01.05	Architecture	The Assessment Delivery System must be scalable to accommodate new and modified consortium and California-specific assessments.
INT-02.00	Interface	The Assessment Delivery System must accept test packages (both Smarter Balanced and non-Smarter Balanced) in the Smarter Balanced test package format (see http://www.smarterapp.org) and accurately deliver tests and applicable tools, supports, and accommodations to students with authenticity (inclusive of the adaptive algorithm), collect responses, score responses, and deliver scores to the Data Warehouse.
INT-02.01	Interface	The Assessment Delivery System must successfully and completely process a daily electronic student registration information file, containing up to 6.5 million records, by 6 a.m. PT of the same day of the file availability. The CDE will make the student registration information file available by 2 a.m. PT, Monday through Friday. All current student registration information must be available within the Assessment Delivery System immediately after processing of the student registration information file.
INT-02.02	Interface	The Assessment Delivery System must successfully identify and process all student information changes (e.g., new, modified, deleted) contained in CALPADS electronic student registration information file.
INT-02.03	Interface	The Assessment Delivery System must be able to complete the processing of electronic data student registration information files received from CALPADS without impacting any other nightly batch processing or maintenance windows.
INT-02.04	Interface	The Assessment Delivery System must generate and deliver to the CDE daily electronic student data files (final specifications will be determined during joint requirement sessions) for CALPADS in a location designated by the CDE.

#	Type	Requirement
INT-02.05	Interface	The Assessment Delivery System must accept and process daily (Monday through Friday) Student Access Data Files from LEAs that specify accessibility tools, supports, and accommodations that the student must be provided during summative and/or interim testing, the specifications of which are to be derived during the joint requirement sessions.
INT-02.06	Interface	The Assessment Delivery System must provide students with access to the accessibility tools, supports, and accommodations specified in the Student Access Data File within 24 hours of the contractor receiving the data file from the LEA.
INT-02.07	Interface	The Assessment Delivery System must be able to accommodate annual changes to the Student Access Data File to coincide with the use of new tools, supports, and accommodations as they become available.
INT-02.08	Interface	The contractor must provide a document describing the solution's application programming interfaces and Web services.
INT-02.09	Interface	The Assessment Delivery System must be able to deliver assessments using the minimum technology standards (e.g., network connections, student devices, operating systems) established (and annually updated) by the Smarter Balanced Consortium in the Technology Strategy Framework and Testing Device Requirements.
INT-02.10	Interface	The Assessment Delivery System must not require the use of any additional software beyond the Secure Browser (e.g., use HTML5 and Javascript as the means to render items and submit responses).
INT-02.11	Interface	The Assessment Delivery System must support the use of all Smarter Balanced embedded accessibility supports (see Smarter Balanced Assessment Consortium: Usability, Accessibility, and Accommodations Guidelines for description of the Smarter Balanced supports).
INT-02.12	Interface	The Assessment Delivery System must use either the Smarter Balanced Assessment Item Packaging Format as described in the Smarter Balanced Assessment Item Format Specification or, if available, another format consistent with the Smarter Balanced Assessment Item Packaging Format.
INT-02.13	Interface	The Assessment Delivery System must support the scoring of selected-response and constructed-response items using machine scoring, hand scoring, and artificial intelligence (artificial intelligence applicable only if the contractor is using artificial intelligence scoring).
INT-02.14	Interface	The contractor must download the electronic data student registration information file, extracted from CALPADS by the CDE, once a day Monday through Friday, from a CDE-designated location.
INT-02.15	Interface	The Assessment Delivery System must successfully and completely process a daily electronic school and associated LEA information file by 6 a.m. Pacific Standard Time (PT) of the same day of the file availability. The school and associated LEA information file will be extracted from CALPADS and made available by 2 a.m. PT the same day.

#	Type	Requirement
SEC-3.00	Security	The contractor must provide security policy and governance, including: <ul style="list-style-type: none"> • information security program policies; • information security governance; • use of human-resource policy and practice security controls related to employees and contractors with potential access to sensitive information; • physical security of facilities hosting sensitive information resources; • organization's security audit policy and practice including internal audits, independent audits, the audit scope, the audit frequency, and the exposure/reporting of audit results; • contractor's system administrator roles and access levels and related controls.
SEC-03.01	Security	The Assessment Delivery System must provide hosted and delivered system access control features consistent with RFS Tables 3.3.2 and 3.3.3 that describe required user roles and permissions, including: <ul style="list-style-type: none"> • system-level access controls; • feature/function access controls; • information/data access controls; • system's incorporation of role based, group-based, and specific user-based access controls.
SEC-03.02	Security	The Assessment Delivery System must provide authentication of users using industry-standard user authentication methods. Access control features will restrict access to information that is outside the responsibility of the assigned user role when the user has numerous, different roles.
SEC-03.03	Security	The Assessment Delivery System must provide the ability to set and enforce password strength and reset policies.
SEC-03.04	Security	The Assessment Delivery System, including secondary storage, must implement strong encryption (in transit and at rest) consistent with encryption guidelines published by the National Institute of Standards and Technology (NIST), an equivalent, or better, to protect confidential information handled by the system. This information includes student registration information, student identifiable results information, test items, and other information as identified by applicable Federal, State of California, and CDE laws, regulations, or policies. Whenever feasible, cryptographic modules shall be validated to the Federal Information Processing Standard (FIPS) 140-2. In rare instances where encryption cannot be implemented, compensating control(s) or alternatives to encryption must be in place. Compensating controls and alternatives to encryption must be reviewed on a case-by-case basis and approved in writing by the state entity ISO, after a thorough risk analysis.
SEC-03.05	Security	The Assessment Delivery System must purge, dispose, and/or archive sensitive information securely.
SEC-03.06	Security	The Assessment Delivery System must employ integrity, controls such as source authentication, checksums, and message authentication methods to ensure that the secure information, such as student information, test content, answers, and scores, are unaltered and reliable.
SEC-03.07	Security	The Assessment Delivery System must provide availability controls, such as protections against denial of service attacks.
SEC-03.08	Security	The Assessment Delivery System must provide logging and audit controls available in the system to identify all user and system access of all data and functions and make the information available to the CDE Information Security Officer (ISO) on demand.
SEC-03.09	Security	The contractor must provide a security plan that follows the National Institute of Standards and Technology (NIST) Special Publication 800-15 rev 1 at http://csrc.nist.gov/publications/nistpubs/800-18-Rev1/sp800-18-Rev1-final.pdf .

#	Type	Requirement
SEC-03.10	Security	The contractor shall provide storage administration that includes the strict control and accessibility of all storage media.
SEC-03.11	Security	The contractor must ensure that all storage media is inventoried on an annual basis, or sooner as dictated by the CDE, regulatory, or other contractual agreements.
SEC-03.12	Security	The contractor must ensure all portable storage devices, including backup tapes, are encrypted using a FIPS 140-2 validated solution. (SAM 5350.1)
SEC-03.15	Security	The contractor must ensure physical media containing PII is maintained in a secure environment prior to its transfer offsite.
SEC-03.16	Security	The contractor must ensure physical media containing PII is monitored during the internal shipping process and must never be left unattended before handoff to the shipper.
SEC-03.17	Security	The contractor must ensure that physical media containing PII is shipped in locked containers with no special markings or other indications of the sensitive nature of the contents.
SEC-03.18	Security	The contractor must ensure shipping procedures include a positive acknowledgement of receipt of encrypted backup files at the destination.
SEC-03.19	Security	If a Cloud Service Provider is used as part of the Assessment Delivery System, the cloud system must be listed as a FedRAMP Compliant Cloud System (see http://cloud.cio.gov/fedramp/cloud-systems).
SEC-03.20	Security	The contractor must ensure data remains within the continental United States.
SEC-03.21	Security	If a Cloud Service Provider is used as part of the Assessment Delivery System, the data maintained by the Cloud Service Provider shall be encrypted with a FIPS 140-2 validated solution and the Contractor shall ensure that the CDE maintains possession of the encryption key.
SEC-03.22	Security	The contractor must ensure that data will not be converted into a proprietary format which will render the data non-portable.
SEC-03.23	Security	The contractor must deploy a secure browser (that supports Operating Systems as dictated by Smarter Balanced) annually in order to create a secure interface for students to access only the CAASPP summative tests without any other online-enabled utility (i.e., students may only access the exam). Refer to the Secure Browser Requirements and Specifications at http://www.smarterapp.org/specs/SecureBrowserSpecification.html .
SDP-04.00	System Development Process	The Assessment Delivery System must provide real-time progress reporting to LEA CAASPP coordinators, site coordinators, and the CDE pertaining to aggregate test administration information by LEA, school, course/grade, or content area consistent with the roles and permissions established during joint requirement sessions. The specifications of the progress reporting are to be finalized during joint requirement sessions but may include such information as number of tests scheduled (by date or session and test type), number of tests being administered, number of tests completed, and the number of scoreable tests completed.

#	Type	Requirement
SDP-04.01	System Development Process	The contractor must have an established, repeatable Unit/Functional testing process for which evidence can be given if requested. The contractor must develop System/Functional, Integration, and User Acceptance Test Plans that describe, at a minimum: <ul style="list-style-type: none"> • Roles and responsibilities • Scope • System test phases and schedule • System test approach, methodology, and tools • System test entry and exit criteria • System test pass/fail criteria • System test data and metrics • System test reporting • System test scenarios, cases, and scripts • System test defect management processes and procedures
SDP-04.02	System Development Process	The contractor must provide system test environment(s) for each system test phase, including System/Functional, Integration, and User acceptance.
SDP-04.03	System Development Process	The contractor must provide functional testing, including test environment(s), test data, and test to requirements/feature coverage.
SDP-04.04	System Development Process	The Assessment Delivery System must have the ability to limit interim assessment usage (i.e., restrict interim usage) within one hour of receiving the direction from the CDE to do so.
SDP-04.05	System Development Process	The Assessment Delivery System must create unique test session IDs that ensure secure test administration.
SDP-04.06	System Development Process	The Assessment Delivery System must allow for functionality to process approved appeals (i.e., test reset, invalidation, reopen, and restore).
SDP-04.07	System Development Process	The Assessment Delivery System must allow all students to review their answers for certain sections or sets of questions before moving on to the next section or completing the exam.
SDP-04.08	System Development Process	The Assessment Delivery System must have controls to prevent a student from prematurely exiting an assessment or from being inadvertently exited from an assessment.
SDP-04.09	System Development Process	The Assessment Delivery System must default to human voice when both human and machine voice options are available as a feature of accessibility supports, tools, or accommodations.
SDP-04.10	System Development Process	The Assessment Delivery System must save student responses to selected-response items (both linked to common stimuli and not) upon selection by the student.
SDP-04.11	System Development Process	The Assessment Delivery System must save student responses to constructed-response items and technology-enhanced (e.g., drag/drop, graphing) items.
SDP-04.12	System Development Process	The Assessment Delivery System must allow test administrators to start, stop, pause, and resume a test session.

#	Type	Requirement
SDP-04.13	System Development Process	For the Smarter Balanced Interim Assessments only, the Assessment Delivery System must allow test administrators to specify a limited set (number) of questions for testing.
SDP-04.14	System Development Process	The Assessment Delivery System must allow test administrators to monitor student progress during testing, which includes but is not limited to having the ability to determine which item a student is currently working on without showing the item or student response.
SDP-04.15	System Development Process	The Assessment Delivery System must provide a user interface (accessible to user roles consistent with those established during joint requirement sessions) to activate and deactivate accessibility tools, supports, and accommodations. The activations/deactivations made via the user interface must be made prior to a student taking a test and must be immediately available to the student once he or she begins testing.
SDP-04.16	System Development Process	The Assessment Delivery System must retain previously saved student responses when a test is paused or restarted.
SDP-04.17	System Development Process	The Assessment Delivery System must save student responses and end a test session when there is no activity on the test for a specified period established during joint requirement sessions.
SDP-04.18	System Development Process	For the Smarter Balanced interim assessment only, the Assessment Delivery System must allow for out-of-level testing (i.e., administration of tests that are not consistent with the student's enrolled grade).
SDP-04.19	System Development Process	For the Smarter Balanced interim assessment only, the Assessment Delivery System must allow an unlimited number of interim tests to be administered to any one student.
SIM-05.00	System Implementation	<p>The contractor must develop a System Implementation Plan that describes how the Assessment Technology Platform will be deployed, installed, and transitioned into an operational system. The plan shall include, at a minimum:</p> <ul style="list-style-type: none"> • an overview of the hosting system; • system implementation readiness assessment methodology and schedule; • implementation schedule, including field tests and pilots; • description of the major tasks involved in the implementation; • overall resources needed to support the implementation effort, including hardware, software, facilities, materials, and personnel; • security features associated with the system when it is implemented, including security during implementation; • description of performance monitoring tools and techniques; • any site-specific implementation requirements; • description of process for validating the implementation was successful; • description of system acceptance and sign-off process.
UEP-06.00	User Experience	The Assessment Delivery System must conform to a consistent look and feel for each class of user for all components of the system, including Smarter Balanced and non-Smarter Balanced components.
UEP-06.01	User Experience	The Assessment Delivery System must display (on the workstation screen) the name of the student who is testing.
UEP-06.02	User Experience	The Assessment Technology Platform must be presented as a cohesive, single system with a single sign-on and seamless navigation. The single sign-on may be achieved by using the Smarter Balanced single sign-on or, if available, the use of a California single sign-on that can integrate with the Smarter Balanced single sign-on.

#	Type	Requirement
UEP-06.03	User Experience	The Assessment Delivery System must adhere to industry best practice user interface standards and use industry best practice user interface controls in accordance with the supported end-user devices (e.g., W3C, Microsoft).
UEP-06.04	User Experience	The Assessment Delivery System must comply with all applicable accessibility standards set forth in California Government Code Section 11135 as well as policy set forth in the CDE Web Accessibility standards located at http://www.cde.ca.gov/re/di/ws/webaccessstds.asp .
UEP-06.05	User Experience	The Assessment Delivery System must provide online, context-sensitive help for each class of user. The specific features requiring online help shall be identified during joint requirement sessions.
UEP-06.06	User Experience	The user interfaces (both administrators and students) of the Assessment Delivery System must be identical except for required deviations due to differences between Smarter Balanced and non-Smarter Balanced tests (e.g., skip item functionality would only be available on non-Smarter Balanced tests).
TAC-07.00	Technical Assistance Center	The contractor must provide Tier 1, 2, and 3 supports for technical issues as referenced in RFS Section 3.2.3.
TAC-07.01	Technical Assistance Center	The contractor must provide an escalation to Tier 2 and 3 support for unresolved Tier 1 issues consistent with RFS Section 3.2.3.
TAC-07.02	Technical Assistance Center	The contractor must provide a process for working with user-sponsored technical support organizations (i.e., LEA and the CDE information technology groups).
TAC-07.03	Technical Assistance Center	The contractor must provide system support ticket tracking, resolution, and reporting.
SRM-08.00	System Delivery Release Management	<p>The contractor must provide a System Delivery Release Management Plan that includes, at a minimum:</p> <ul style="list-style-type: none"> • scope; • roles and responsibilities; • Release Management approach and methodology; • processes and procedures for solution maintenance and upgrade as it relates to participation in, and implementation of, subsequent versions of the open-source Smarter Balanced code base, as well as proprietary modifications and independently developed components (only applicable if the Assessment Delivery System uses the Smarter Balanced open-source code); • process and procedures for communications and coordination with internal and external partners; • description of release artifacts, including release notes and reports; • inputs to Release Management; • description of release types, including maintenance and emergency releases; • processes and procedures for performing scheduled and unscheduled releases; • system outage management; • processes and procedures for performing scheduled and unscheduled releases; • release testing procedures, including regression and integration testing with CALPADS and other external partners; • production readiness procedures; • production deployment procedures; • production validation procedures; • processes and procedures for system delivery acceptance; • release rollback/back-out procedures.

#	Type	Requirement
SRM-08.01	System Delivery Release Management	The contractor must provide a process for scheduled and unscheduled releases.
SRM-08.02	System Delivery Release Management	The contractor must comply with the system delivery acceptance process as defined by the CDE for the initial, and each subsequent, system delivery release.
PER-09.00	Performance	The Assessment Delivery System must support the concurrent use by up to 500,000 users inclusive of student test takers and test administrators between the hours of 6 a.m. and 8 p.m. PT Monday through Friday.
PER-09.01	Performance	The Assessment Delivery System must provide an adequate number of concurrent Web sessions to support the number of concurrent users at any given time.
PER-09.02	Performance	The Assessment Delivery System must deliver 100% of the test questions with no more than five seconds of latency while serving a simulated peak concurrent user load as tested from a series of test devices connected to a test lab. Performance testing results will be provided to the CDE annually prior to the launch of testing in January. The performance testing results will provide details on the number of concurrent users tested and associated latency with test delivery as well as meeting all the requirements in Section 3.2.B.9.
PER-09.03	Performance	The contractor must conduct performance/load/stress testing that addresses, at a minimum, the following objectives: <ul style="list-style-type: none"> • To verify the reliability of the application under stress. • To determine application's behavior under extreme load conditions. • To discover application bugs that occurs only under high load conditions. These can include such things as synchronization issues, race conditions, and memory leaks. • To determine the application's robustness in terms of extreme load and help application administrators to determine if the application will perform sufficiently if the current load goes well above the expected maximum.
PER-09.04	Performance	The Assessment Delivery System must demonstrate performance and stress requirements compliance through rigorous performance testing prior to the opening of the summative testing window.
PER-09.05	Performance	The contractor must provide a performance, load, and stress testing environment that utilizes the same code base as the production environment and is capable of simulating peak transaction and user loads as well as data creation/storage/transfer capacities.
PER-09.06	Performance	The contractor must work with the CDE during joint requirement development sessions to define performance thresholds that include, but are not limited to, network utilization, component latency/processing time, screen refresh rates, test item delivery latency, and test answer submission latency.

#	Type	Requirement
PER-09.07	Performance	<p>The contractor must conduct performance/load/stress testing that identifies, at a minimum:</p> <ul style="list-style-type: none"> • the hardware and/or the system's configurations/communication bottlenecks and their causes; • application's response times; • application's throughput; • maximum concurrent users that application can bear in a system; • resource (e.g., CPU, RAM, network I/O, and disk I/O) utilizations that application consumes during the test; • behavior of the system under various workload types including normal load and peak load; • at what parameter levels beyond the minimum the system performance degrades below acceptable performance thresholds; • symptoms and causes of application failure under stress conditions; • weak points in the application (e.g., an increase in the number of users, amount of data, or application activity might cause an increase in stress).
PER-09.08	Performance	The contractor must instrument and monitor the production hosted and delivered system to ensure the production implementation remains compliant with performance requirements and service level agreements.
PER-09.09	Performance	The contractor must develop a Performance/Load/Stress Test Plan that confirms that the Assessment Delivery System can handle the maximum thresholds as indicated in the minimum system requirements and will produce the results of the tests when requested.
PER-09.10	Performance	The contractor must provide a process for monitoring and reporting production system performance, the specifics of which will be determined through joint requirement sessions.
PER-09.11	Performance	The contractor must provide production system health reporting capabilities that include, but are not limited to, the ability for the CDE to monitor in real-time, or through reports, the number of test takers, number of in-progress tests (interim and summative counts), number of administrative users, and other technical system health and use parameters to be determined through joint requirement sessions.
PER-09.12	Performance	The contractor must obtain a network peering agreement (or functionally similar agreement) with the K12HSN to enable efficient routing of messages.
DRC-10.00	Disaster Recovery and Business Continuity	The Assessment Delivery System must maintain an availability rate of 99.9 percent during summative testing as defined by California Education Code, and availability rate of 99 percent outside of the summative testing window, exclusive of the California school holidays, planned system release outages, and approved maintenance windows. The availability rate will be calculated between the hours of 6 a.m. and 6 p.m. PT Monday through Friday.
DRC-10.01	Disaster Recovery and Business Continuity	The Assessment Delivery System must be at a Tier 3 data center. A Tier 3 data center is defined as a facility consisting of multiple active power and cooling distribution paths; however, only one path is active. Additionally, the facility has redundant components and is concurrently maintainable providing 99.982% availability.
DRC-10.02	Disaster Recovery and Business Continuity	The Assessment Delivery System must provide sufficient information on student progress or state of the application with sufficient detail necessary for system recovery, including saving the state of partially completed answers to multi-part items.
DRC-10.03	Disaster Recovery and Business Continuity	The Assessment Delivery System must have the ability to recover from end-user device failure while minimizing the loss of information, progress, and state.

#	Type	Requirement
DRC-10.04	Disaster Recovery and Business Continuity	The Assessment Delivery System must have the ability to recover from network failure while minimizing the loss of information, progress, and state.
DRC-10.05	Disaster Recovery and Business Continuity	The Assessment Delivery System must have the ability to recover from a Web server/application server/database server failure while minimizing the loss of information, progress, and state.
DRC-10.06	Disaster Recovery and Business Continuity	The Assessment Delivery System must ensure the maintenance of test integrity during outage events that occur while test administration is in process.
DRC-10.07	Disaster Recovery and Business Continuity	The Assessment Delivery System must have robust data backup and recovery process and architecture that adhere to industry best practices.
DRC-10.08	Disaster Recovery and Business Continuity	<p>The contractor must provide a Disaster Recovery and Business Continuity Plan that provides for the Assessment Delivery System to stay functional in a disastrous state. The plan must include, at a minimum:</p> <ul style="list-style-type: none"> • Scope • Approach and methodology • Roles and responsibilities • Backup and restore strategies and policies for data, database, and code • Business continuity planning activities • Disaster recovery process, procedures, and timeframes • Ongoing testing, updates, and maintenance of the plan
DRD-11.00	Data Policy Retention and Destruction	The Assessment Delivery Component must securely store and transmit student-level data in accordance with the requirements of the SAM Section 5305.8 for highly sensitive data. Data must be accessed only by authorized personnel and securely destroyed after the termination of the contract.
DRD-11.01	Data Policy Retention and Destruction	The contractor must adhere to the Department of Education Administrative Manual (DEAM), sections 10120, 10600, and 10601 with regards to data security, retention, and destruction.
DRD-11.02	Data Policy Retention and Destruction	The contractor must adhere to EC 60607 and to the Family Educational Rights and Privacy Act (FERPA) of 1974 , Section 1232g in Part 4 of Title 20 of the Code of Federal Regulations (20 C.F.R. § 1232g) with regard to the access and destruction of PII information and/or confidential data.
MAO-12.00	Maintenance and Operation	<p>The contractor must develop a maintenance and operation plan that describes, at a minimum:</p> <ul style="list-style-type: none"> • process for system maintenance and upgrades (e.g., implementation of subsequent versions of the open-source Smarter Balanced code base; implementation of proprietary modifications and independently developed components); • process for scheduled and unscheduled releases; • process for release testing and coordination; • release notes, communications, and coordination processes.

Appendix D—Summary of Embedded Universal Tools, Designated Supports, and Accommodations Supported by the CAASPP 2015 Test Delivery System

The following table includes the full set of embedded universal tools, designated supports, and accommodations (see gray boxes) that the Assessment Delivery System (ADS) supports. ETS assumes that the Embedded Universal Tools, Designated Supports, and Accommodations will be reviewed and updated annually to be consistent with current best practices.

ETS will support the embedded tools, designated supports, and accommodations appropriate for each CAASPP assessment. ETS will provide all the accessibility supports listed in the latest testing regulations for each of the new CAASPP assessments (i.e., CAST, CAA for Science, and CSA) to support the approved test designs for each assessment. The current accessibility supports are listed on the CDE 2016–17 CA Student Assessment Accessibility Web page at <http://www.cde.ca.gov/ta/tg/ca/accesssupportitems.asp>. The latest version of the approved accessibilities and supports is available on the CDE CAASPP Web page (<http://www.cde.ca.gov/ta/tg/ca/>).

	Universal Tools	Designated Supports	Accommodations
Embedded	Breaks Calculator ¹ Digital Notepad English Dictionary ² English Glossary Expandable Passages Global Notes Highlighter Keyboard Navigation Mark for Review Mathematics Tools ³ Spell Check ⁴ Strikethrough Writing Tools ⁵ Zoom	Color Contrast Masking Text-to-Speech ⁶ Translated Test Directions ⁷ Translations (Glossary) ⁸ Translations (Stacked) ⁹ Turn off Any Universal Tools	American Sign Language ¹⁰ Braille Closed Captioning ¹¹ Streamline Text-to-Speech ¹²
Non-embedded	Breaks English Dictionary ¹³ Scratch Paper Thesaurus ¹⁴	Bilingual Dictionary ¹⁵ Color Contrast Color Overlay Magnification Read Aloud Noise Buffers Scribe ¹⁶ Separate Setting Translated Test Directions Translations (Glossary) ¹⁷	Abacus Alternate Response Options ¹⁸ Calculator ¹⁹ Multiplication Table ²⁰ Print on Demand Read Aloud Scribe Speech-to-Text

* Items shown are available for ELA and mathematics unless otherwise noted.

¹ For calculator-allowed items only

² For ELA performance task full-writes

³ Includes embedded ruler, embedded protractor

⁴ For ELA items

⁵ Includes bold, italic, underline, indent, cut, paste, spell check, bullets, undo/redo

⁶ For ELA items (not ELA reading passages) and mathematics items

⁷ For mathematics items

⁸ For mathematics items

⁹ For mathematics test

¹⁰ For ELA listening items and mathematics items

¹¹ For ELA listening items

¹² For ELA reading passages grades 6-8 and 11

¹³ For ELA performance task full-writes

¹⁴ For ELA performance task full-writes

¹⁵ For ELA performance task full-writes

¹⁶ For ELA non-writing items and mathematics items

¹⁷ For mathematics items

¹⁸ Includes adapted keyboards, large keyboards, StickyKeys, MouseKeys, FilterKeys, adapted mouse, touch screen, head wand, and switches

¹⁹ For calculator-allowed items only

²⁰ For mathematics items beginning in grade 4

Appendix E—Glossary of Terms

Term	Description
Administration Year	The administration year, in the context of this contract, refers to the period in which LEAs administer the CAASPP assessments. The statewide test administration period is August through July.
AI scoring	Artificial intelligence scoring (also may be referred to as automated scoring) AI scoring uses a scoring engine (software) to evaluate responses to tasks that require test takers to write essays, fill in the blank, write mathematics equations, or give oral responses. See Task 8.
TDS	A Test Delivery System is used by students to take computer-based assessments. AIR TDS is a proprietary system owned by the American Institutes for Research (AIR), an ETS subcontractor, for CAASPP. Authorized users use the AIR TDS to set up and manage test sessions (exclusive of 2017–18 STS). Students use the TDS for CAASPP assessments. See Tasks 3 and 8.
ALD	Achievement level descriptors. See Task 6.
Alternate Assessments	See CAA.
ART	Administration and Registration Tool ART is used for registering users in the Smarter Balanced Single Sign-On (SSO) system and students for test delivery. Authorized users use ART to access the Digital Library and the Interim Assessment student test results. See Task 2.8.
CA NGSS	Next Generation Science Standards for California (CA NGSS)

Term	Description
CAAs	<p>California Alternate Assessments (CAA)</p> <p>Content areas assessed by CAA include English-Language Arts, mathematics, and science (beginning 2016–17). The CAAs are individually administered to students who have an individualized education program that indicates the use of an alternate assessment on statewide assessments. All eligible students are required to participate in these online assessments. The CAAs for ELA and mathematics in grades three through eight and grade 11. The CAAs for Science will be administered to eligible students in grades five and eight and high school (grades 10, 11, or 12).</p> <p>Formerly referred to as the Alternate Assessments. CAA for Science replaced CAPA for Science.</p>
CALPADS	<p>California Longitudinal Pupil Achievement Data System</p> <p>A longitudinal data system owned and operated by CDE and used to maintain individual-level data including student demographics, course data, discipline, assessments, staff assignments, and other data for state and federal reporting. CALPADS is the database of record for the school and LEA organization and for student demographic data used in CAASPP. See Task 3.</p> <p>(Source: http://www.cde.ca.gov/ds/sp/cl/)</p>
CalTAC	<p>California Technical Assistance Center</p> <p>CalTAC serves as the Tier 1 help desk for LEA Testing Coordinators. See Task 2.</p>
CalTech	<p>California Office of Technology</p>
CAPA for Science	<p>California Alternate Performance Assessment for Science</p> <p>CAPA for Science was based on the previous California science content standards. The CAPA for Science is individually administered to students with severe cognitive disabilities who have an individualized education program that indicates the use of an alternate assessment on statewide assessments. All eligible students in grades five, eight, and 10 are required to participate in these online assessments. The last administration of these assessments will be the 2015-16 administration.</p>

Term	Description
CAST	<p>California Science Tests</p> <p>Based on the Next Generation Science Standards for California (CA NGSS), these tests are administered online to all students in grades five and eight and high school (grades 10, 11, or 12).</p> <p>Formerly referred to as the CA NGSS assessments.</p>
CAT	<p>Computer adaptive test</p> <p>The computer adaptive testing engine uses a student's answers to find the appropriate level of difficulty for the student to answer subsequent questions. For every claim assessed on the test, questions are available that are very easy, easy, medium, hard, and very hard. Students who are able to correctly answer more difficult questions move up the difficulty scale more quickly. Students who answer incorrectly are given easier questions and move down the difficulty scale to accommodate their learning. Strong foundational skills make a critical difference in building student confidence to answer challenging questions.</p> <p>(Source: http://www.cde.ca.gov/ta/tg/ca/sbteacherguides.asp)</p>
CBT	Computer-based tests. See Task 7.
CMA for Science	<p>California Modified Assessments for Science</p> <p>CMA for Science were based on the previous California science content standards. The CMA for Science were individually administered to students who have an individualized education program that indicates the use of an alternate assessment on statewide assessments. All eligible students in grades five, eight, and 10 were required to participate in these online assessments. The last administration of these assessments was the 2015-16 administration.</p>
Contract	Overall document that defines the scope of work, terms and conditions, and budget to support the administration and reporting of the CAASPP assessment program.
CR	<p>Constructed Response</p> <p>CR items prompt students to write a short written or numerical response. CR items may be hand scored or machine scored.</p> <p>(Source: http://www.cde.ca.gov/ta/tg/ca/sbacparentguides.asp)</p>
CSA	California Spanish Assessments

Term	Description
	<p>The CSA will assess reading, writing, and listening in Spanish, and will be aligned with the California Common Core State Standards en Español, which will include linguistic augmentations specific to the Spanish language. LEAs may voluntarily administer these tests to students in grades three through eight and grade 11.</p> <p>Formerly referred to as the primary language assessment in Spanish.</p>
CST for Science	<p>California Standards Tests for Science</p> <p>CST for Science were based on the previous California science content standards. All eligible students in grades five, eight, and 10 were required to participate in these online assessments. The last administration of these assessments was be the 2015-16 administration.</p>
Deliverable	Deliverables are specifically identified in the SOW as the product of a task or requirement. See Task 1.
DOF	California Department of Finance
ELA	English-language arts or English-language arts/literacy
FT	<p>Field test</p> <p>FTs serve as “tests of the tests,” allowing experts to gauge the accuracy and reliability of individual test items before finalizing the assessments for full-scale use. As such, no FT scores will be produced or reported.</p> <p>(Source: https://www.cde.ca.govhttp://www.cde.ca.gov/)</p>
IAHSS	Interim Assessment Hand Scoring System. See Task 8.
IEP	Individualized education program
Instructional Year	See School Year.
IPOC	Independent project oversight consultant
IV&V	Independent verification and validation consultant
LEAs	Local educational agency

Term	Description
MPP	Microsoft Project Plan
NGSS	Next General Science Standards (national version)
Open-source TDS	Open-source Test Delivery System The Smarter Balanced Assessment Consortium released the open-source TDS for public use and updates. Currently, CDE does not use the open-source TDS.
ORS	Online Reporting System ORS is a proprietary online reporting system owned by AIR, an ETS subcontractor, for CAASPP. Authorized users use ORS to access CAASPP summative assessment test results. Assessments reported in ORS include the Smarter Balanced Summative Assessments, CAAs for ELA and mathematics, STS (2015–16 and 2016–17), and CST/CMA/CAPA for Science (2015–16). See Task 8.
PBT or PPT	Paper-based tests or Paper-pencil tests. See Task 7.
Practice Test	The Practice Tests provide students with grade-specific testing experiences that are similar in structure and format to the Summative Assessments. See Task 6. (Source: http://www.cde.ca.gov/ta/tg/ca/)
Primary Language Assessment	See CSA.
PT	Performance task PTs are a complex set of tasks in which students engage to demonstrate their understanding. For example, students may be asked to conduct research and then write an argumentative essay, using sources as evidence. Or they may be asked to solve a complex problem in mathematics. PTs integrate knowledge and skills across many areas and standards. (Source: http://www.cde.ca.gov/ta/tg/ca/sbacparentguides.asp)
Public Web Reporting	The public Web reporting site provides CAASPP test results at the aggregate level. See Task 9 and http://caaspp.cde.ca.gov/ .

Term	Description
Review Item	Materials that required CDE review and approval but are not identified in the SOW as a deliverable. Examples of Review Items include, but are not limited to, e-mail communications to the LEAs, memorandums to document decisions, and presentations or white papers to document CAASPP activities. Because time is of the essence with the content of some of the Review Items, ETS and the CDE will collaborate on the agreed upon timeline for each Review Item. Therefore, a Review Item could have a shorter CDE review timeline than a Deliverable. See Task 1.
RLA	Reading/language arts
RTM	Requirements traceability matrix. See Task 3.
RTQs	Released Test Questions. See Task 6.
School Year	Also referred to as Instructional Year. The school year is defined by California Education Code “as not less than 175 days during the fiscal year and for not less than the minimum school day established by or pursuant to law” [5 CCR § 2].
SDLC	Software Development Life Cycle. The ETS SDLC process is a combination of waterfall and agile software development processes. See Task 3.
Secure Browser	The secure browser prevents students from accessing other computer or Internet applications or copying test information. All computers that will be used for testing must have the correct secure browser installed.
Selected-response items	Selected-response items prompt students to choose one or more answers. (Source: http://www.cde.ca.gov/ta/tg/ca/sbacparentguides.asp)
Smarter Balanced Digital Library (DL)	The Smarter Balanced Digital Library consists of tools and practices designed to help teachers utilize formative assessment processes for improved teaching and learning in all grades. These optional resources are available to all K–12 teachers in public schools. See Task 2.8.

Term	Description
Smarter Balanced Interim Assessments (IA)	The interim assessments are aligned with the Common Core State Standards (CCSS) for ELA and mathematics. They are specifically designed to provide meaningful information for gauging student progress throughout the year toward mastery of the skills measured by the summative assessments. The interim assessments may be administered to students in kindergarten through grade 12. These tests are administered online. See Task 2.8 and Task 8.
Smarter Balanced Summative Assessments	The Smarter Balanced Summative Assessments are comprehensive end-of-year assessments in ELA and mathematics that are aligned with the Common Core State Standards (CCSS) for ELA and mathematics and measure progress toward college and career readiness. The summative assessments are administered to students in grades three through eight and grade 11. These tests are administered online.
SOW	Scope of work
Single Sign-on	Single sign-on refers to the application or process that authorized users must use to log into one or more systems. For CAASPP, dual logins are required to access the two systems (i.e., CAASPP and Smarter Balanced) and the components with these systems. In order to administer the summative and interim assessments and access the formative assessment resources, teachers and administrators need access to both systems. See Task 3. (Source: http://www.cde.ca.gov/ta/tg/ca/)
SSR	Student Score Report The SSR presents test results in a format approved by the SBE for parents/guardians. SSRs are provided in electronic (PDF) and paper versions to LEAs, who are responsible for delivering the SSRs to their students' parents/guardians. See Task 9.
Stacked Translation	When selected as a designated support, Stacked Translation provides the assessment item in both Spanish and English directly in the Secure Browser. It is only available for the Smarter Balanced mathematics items and will be available for CAST.

Term	Description
Target Reports	<p>Target Reports are a new resource for administrators and teachers. These reports show the relative performance of groups of students on assessment targets within a claim area. The reports show how a group of students performed on a target compared to the overall performance on the test. ELA is intended to be learned as an integrated content area. Using the formative assessment process, specific evidence for each target may be collected in multiple parts of an integrated task. By reflecting on students' time-on-task and their opportunities for mastery throughout the year in each target area, teachers are able to compare the intended learning of groups of students with the evidence of learning on the Smarter Balanced assessments.</p> <p>(Source: http://www.cde.ca.gov/ta/tg/ca/sbteacherguides.asp)</p>
TEI	<p>Technology-enhanced item</p> <p>TEIs prompt students to edit text or draw an object.</p> <p>(Source: http://www.cde.ca.gov/ta/tg/ca/sbacparentguides.asp)</p>
TIS	<p>Test integration system</p> <p>The TIS is an open-source application developed by Smarter Balanced to manage test data to and from the systems maintained by Smarter Balanced. See the Smarter Balanced applications site: https://github.com/SmarterApp/TDS_TestIntegrationSystem/blob/master/README.md.</p>
TOMS	<p>Test Operations Management System</p> <p>TOMS is a proprietary system owned by ETS and is used to manage test administration settings such as test administration windows, user roles, student test registration, and test settings. TOMS also can be used to access test results. See Task 3.</p>
Training Test	<p>The Training Tests provide students with the opportunity to quickly become familiar with the software and interface features. The Training Tests are organized by grade bands (e.g., 3–5). See Task 6.</p> <p>(Source: http://www.cde.ca.gov/ta/tg/ca/)</p>
UAT	<p>User acceptance testing. See Task 3.</p>