

**2007-CDOS-ESS-001-0403**

**ELECTION SYSTEMS  
& SOFTWARE**

**PROJECT  
OVERVIEW**

**COPY**

**2007-CDOS-ESS-001-0403  
PROJECT OVERVIEW BINDER “A.2”**

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# **2007-CDOS-ESS-001-0403 PROJECT OVERVIEW BINDER “A.2”**

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**INTRODUCTION**



## **Introduction**

On April 3, 2007, Election Systems and Software (ESS) approached the Colorado Secretary of State's Office with an application to certify a voting system. The application was accepted by the Voting Systems Certification Program Testing Board (Testing Board). The system was assigned certification number: 2007-CDOS-ESS-001-0403.

The voting system is known by its federal certification name as "Unity 3.0.1.1" Federal certification is to the 2002VSS standards, and was obtained on August 31<sup>st</sup>, 2006 (NA SED#: N-2-02-22-22-007).

The testing board proceeded to evaluate the ESS voting system during the time period of April 3<sup>rd</sup> – December 1<sup>st</sup>. All findings are documented within the binders A.2 – 31, as well as addendum binders : 13.1, 14.1, 16.1, 18.1, 19.1, 21.1, 22.1, 25.2, 27.1.

The Project Overview Binders (Binders "A.2 – D") provides an overview of the findings of the project, and the following additional information:

- Introduction
- System Components
- Recommendation to the Secretary of State
- Restrictions on the use of the voting system suggested by the Testing Board
- Conditions to the Recommendation suggested by the Testing Board
- Additional Comments by the Testing Board
- Independent Audit Reports
- Miscellaneous Correspondence of importance

During the process of certifying the system, the Testing Board adhered to the procedures outlined by the Voting System Program procedures document. The certification process was led by Jerome Lovato, with Tim Bishop and Michael Chadwell providing the primary cross evaluation. Additional cross check and documentation verification was conducted by Danny Casias with coordination by the Program Manager – John Gardner with assistance from Michael Chadwell as necessary.

The testing board evaluated the voting system in accordance with the requirements set forth in Secretary of State Rule 45, as well as applicable elements contained within the laws of the Help America Vote Act, Colorado Revised Statute, multiple sections of Title 1, and Secretary of State Rules as appropriate. All testing results and output which includes extensive video documentation of the evaluation process have been archived and well preserved in accordance with the Voting Systems Program procedures document.

Through the evaluation, the testing board identified a variety of deficiencies within the system which include functionality, security, auditability and documentation requirements. The following sections will address these deficiencies as either a restriction for use (preventing recommendation by the testing board), or a condition for use (allowing the system to be recommended provided conditional elements are adhered to). Restrictions are identified in a one-to-one value. One identified restriction = one failure on the Detail

Test Summary. Conditional elements represent a one-to-many value. The execution of a single condition placed on the use of the system in many cases will address multiple failures as the testing board often experienced failures that exhibited a “daisy chain” effect. One high level failure would trigger many follow up test scenarios. Refer to the comments section of this binder for additional comments on this topic.



## Detailed Test Summary

The testing board executed the testing process for the ES&S Voting System in the manner prescribed by Rule 45, and the detailed procedures document provided on the Voting Systems Certification Program website (<http://www.elections.colorado.gov/DDefault.aspx?tid=501>).

The outcome of the process involved over 700 functional test evaluations, 3500 detailed line items for document review, and over 90 supplemental tests comprising the sections for application review, demonstration and work on completing the trusted build. The documentation comprised of this test work is evident in over 50 binders generated by the testing board, a multitude of boxes containing evidence generated from devices, ballots, reports, and other findings. In addition to this evidence, over 200 DVD records exist documenting the process of the testing board.

Below is the summary report of test status generated by the testing board regarding the ES&S Voting System evaluation:

ESS						
	# Requirements	# Passed	# Failed	Binder Status		% Passed
Phase I - Application	22	20	2	signed		90.91%
Phase II - Doc. Review	3524	2008	1516	signed		56.98%
Phase III - Demo	54	54	0	signed		100.00%
Phase III - Trusted Build	20	12	8	signed		60.00%
Phase III - Functional Test (overall)	699	356	343		100.00%	50.93%
Security	139	88	51			63.31%
System Process	340	148	192			43.53%
Election (pre, ED and post)	220	120	100			54.55%
Independent Audit	1674	1674		Review of Test Board work.		100.00%
Phase IV - Certification Doc.	n/a	n/a		n/a		
Phase V - Qualification Report	n/a	n/a		n/a		

**Requirements Status for Colorado Certification of ES&S Voting System**

Section Category	Binder #	Category	Sec	Total # of Tests to complete	Status:	DRE	PCOS	CCOS	EMS	Remaining to complete
<b>Section "A" - Pre Testing</b>	1	Application	aa	22	Pass	n/a	n/a	n/a	19	0
					Pass Conditional	n/a	n/a	n/a	1	
					Suspend	n/a	n/a	n/a		
					Fail	n/a	n/a	n/a	2	
					Not applicable	n/a	n/a	n/a		
	2-6	Documentation Review	ab	3524	Pass	54	46	42	35	0
					Pass Conditional					
					Suspend					
					Fail	451	398	341	326	
					Not applicable	376	437	498	520	
	7	Demonstration	ac	54	Pass	14	13	13	14	0
					Pass Conditional					
					Suspend					
					Fail					
					Not applicable					
	8	Trusted Build	ad	20	Pass	2	2	2	2	0
					Pass Conditional					
					Suspend					
					Fail	2	2	2	2	
					Not applicable	1	1	1	1	
9-12	Source Code Review	ae	0	Not applicable	n/a	n/a	n/a	n/a	0	

**Requirements Status for Colorado Certification of ES&S Voting System**

Section Category	Binder #	Category	Sec	Total # of Tests to complete	Status:	DRE	PCOS	CCOS	EMS	Remaining to complete
<b>Section "B" - Security Testing</b>	13	System Access	ba	36	Pass	4	2		2	0
					Pass Conditional	1				
					Suspend					
					Fail	1	4	5	13	
					Not applicable	1	1	1	1	
	14	Operating System Security	bb	20	Pass				2	0
					Pass Conditional					
					Suspend					
					Fail					
					Not applicable	9			9	
	15	Database Security	bc	24	Not applicable	6	6	6	6	0
	16	Removable Media	bd	13	Pass	1	1		1	0
					Pass Conditional				1	
					Suspend					
					Fail				1	
					Not applicable	2	2	2	2	
	17	Networking and Telecommunications	be	46	Pass	1	2	2	3	0
					Pass Conditional			1	2	
					Suspend					
					Fail	9	7	4	7	
Not applicable					2	2	3	1		



**Requirements Status for Colorado Certification of ES&S Voting System**

Section Category	Binder #	Category	Sec	Total # of Tests to complete	Status:	DRE	PCOS	CCOS	EMS	Remaining to complete
<b>Section "C" - System Testing</b>	18	System	ca	47	Pass	7	1		6	0
					Pass Conditional					
					Suspend					
					Fail	2	7		22	
					Not applicable				2	
	18	System (central count)	cb	11	Pass	n/a	n/a	1	n/a	0
					Pass Conditional	n/a	n/a		n/a	
					Suspend	n/a	n/a		n/a	
					Fail	n/a	n/a	10	n/a	
					Not applicable	n/a	n/a		n/a	
	19-20	Ballot Process	cc	153	Pass	20	12	12	12	0
					Pass Conditional					
					Suspend					
					Fail	3	31	24	19	
					Not applicable	2	3	10	5	
	21	Performance	cd	24	Pass	1			4	0
					Pass Conditional					
					Suspend					
					Fail	7	5	5	2	
					Not applicable					
	21	DRE Processing	ce	24	Pass	17	n/a	n/a	n/a	0
					Pass Conditional		n/a	n/a	n/a	
					Suspend		n/a	n/a	n/a	
					Fail	1	n/a	n/a	n/a	
Not applicable					6	n/a	n/a	n/a		
22	Audits	cf	29	Pass	7	1	2	3	0	
				Pass Conditional						
				Suspend						
				Fail		6	5	5		
				Not applicable						
22	Reports	cg	52	Pass	6				0	
				Pass Conditional						
				Suspend						
				Fail	3	13	11	11		
				Not applicable	4	1	1	2		

Requirements Status for Colorado Certification of ES&S Voting System										
Section Category	Binder #	Category	Sec	Total # of Tests to complete	Status:	DRE	PCOS	CCOS	EMS	Remaining to complete
Section "D" - Election Day Tests	23	Hardware Diagnostics Testing	da	8	Pass	1				0
					Pass Conditional					
					Suspend					
					Fail	1	1	1		
					Not applicable		1	1	2	
	23	Voting	db	65	Pass	13	2	2		0
					Pass Conditional					
					Suspend					
					Fail		18	19	6	
					Not applicable	4			1	
	24	Multi-Page Ballots	dc	6	Pass					0
					Pass Conditional					
					Suspend					
					Fail		2	1	1	
	24	Multiple Languages	dd	4	Pass					0
					Pass Conditional					
					Suspend					
					Fail	1	1	1	1	
	24	Provisional	de	25	Pass	3	1			0
					Pass Conditional					
					Suspend					
					Fail	1	4	5	5	
					Not applicable	3	1	1	1	
	25	V-VPAT	df	28	Pass	20	n/a	n/a	n/a	0
					Pass Conditional	2	n/a	n/a	n/a	
					Suspend		n/a	n/a	n/a	
					Fail	5	n/a	n/a	n/a	
					Not applicable	1	n/a	n/a	n/a	
25	Accessibility	dg	41	Pass	27	n/a	n/a	n/a	0	
				Pass Conditional		n/a	n/a	n/a		
				Suspend		n/a	n/a	n/a		
				Fail	13	n/a	n/a	n/a		
				Not applicable	1	n/a	n/a	n/a		
26	Closing Polls	dh	30	Pass	10	14	n/a	n/a	0	
				Pass Conditional			n/a	n/a		
				Suspend			n/a	n/a		
				Fail	5	1	n/a	n/a		
				Not applicable			n/a	n/a		

Requirements Status for Colorado Certification of ES&S Voting System										
Section Category	Binder #	Category	Sec	Total # of Tests to complete	Status:	DRE	PCOS	CCOS	EMS	Remaining to complete
Section "E" - Post Election	27	Post Election Audit	ea	4	Pass	1				0
					Pass Conditional					
					Suspend					
					Fail		1	1	1	
					Not applicable					
	27	Recount	eb	8	Pass		1	2		0
					Pass Conditional					
					Suspend					
					Fail	1	1	1	1	
					Not applicable	1				
	27	Recount (central count)	ec	1	Pass	n/a	n/a	1	n/a	0
					Pass Conditional	n/a	n/a		n/a	
					Suspend	n/a	n/a		n/a	
					Fail	n/a	n/a		n/a	
					Not applicable	n/a	n/a		n/a	



**Archive Storage Boxes for the ES&S Voting System Certification Process:**





**Original Binders documenting the ES&S Voting System Certification Process (original binders moved to archive storage upon completion of process):**



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**COMPONENTS**



### Components

As submitted on April 3, 2007, the following components comprise the requested voting system package from ESS:

Component Name	System Function	Version Number
Unity	Software Application – includes only the following modules:	3.0.1.1:
	Audit Manager	7.3.0.0
	Election Data Manager	7.4.4.0
	ESS Image Manager	7.4.2.0
	iVotronic Image Manager	2.0.1.0
	Optech Image Manager	4.0.0.0
	Hardware Programming Manager	5.2.4.0
	Election Reporting Manager	7.1.2.1
M100	Precinct Optical Scanner	5.2.1.0
M650	Central Count Optical Scanner	2.1.0.0 (Green Light Only)
iVotronic ADA w/ 3-button	Direct Record Electronic Device	9.1.6.2
iVotronic non-ADA	Direct Record Electronic Device	9.1.6.2

The Unity 3.0.1.1 system originally included modules for Data Acquisition Manager, Ballot on Demand, and software and hardware components for the Automark system. These components were requested to be removed from the voting system by ESS representatives. The request to remove Data Acquisition Manager and Ballot on Demand can found in the correspondence section of Project Overview Binder “B” dated October 30, 2007, and the request to remove the Automark system can found in the correspondence section of Project Overview Binder “C” dated November 8, 2007.

Photographs and additional details on each component can be found under test # AA6-P1-605.

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**RECOMMENDATION**



## Recommendation Overview

The approach of the testing board regarding a recommendation is absolute. Any one item outstanding in the **Restrictions** section of the binder (no “conditional use” option discoverable by the testing board) will trigger a “N” value on the **Recommendation** table.

Therefore, for quick understanding of the overall outstanding deficiencies with the system, and to provide a summary of reasons for the “Y” or “N” value in the **Recommendation** table.

The following table provides a high level summary statement of findings by the testing board. These items constitute a summary of the findings in the **Restrictions** section of the project overview binder.

Component (details in the components section)	Recommended to be Certified?	Reason
Software (Unity)	No	<ul style="list-style-type: none"> <li>• Failure to prove Federal testing was conducted</li> <li>• Failure to provide required State documentation</li> <li>• Failure to prevent and detect normal operator changes within system.</li> <li>• Failure to detect election programming changes and errors.</li> <li>• Inability to determine if tabulation software works correctly.</li> </ul>
Precinct Scanner (M100)	No	<ul style="list-style-type: none"> <li>• Failure to prove Federal testing was conducted</li> <li>• Failure to provide required State documentation</li> <li>• Failure to prevent and detect normal operator changes within system.</li> <li>• Failure to accurately process folded ballots.</li> <li>• Failure to process ballots with more than one page.</li> <li>• Inability to determine if device works correctly.</li> <li>• Failure to operate at documented performance levels.</li> </ul>
Central Count Scanner (M650)	No	<ul style="list-style-type: none"> <li>• Failure to prove Federal testing was conducted</li> <li>• Failure to provide required State documentation</li> <li>• Failure to prevent and detect normal operator changes within system.</li> <li>• Failure to accurately process folded ballots.</li> <li>• Failure to process ballots with more than one page.</li> <li>• Inability to determine if device works correctly.</li> <li>• Failure to operate at documented performance levels.</li> </ul>



DRE (ivotronic)	No	<ul style="list-style-type: none"><li>• Failure to prove Federal testing was conducted</li><li>• Failure to provide required State Documentation</li><li>• Failure to provide privacy and protection of votes.</li><li>• Failure to provide voters opportunity to review ballot and make changes prior to voting.</li><li>• Failure to prevent and detect normal operator changes within system.</li><li>• Failure to limit wireless capabilities</li><li>• Paper Record not accessible to blind voters.</li><li>• Failure to meet state requirements for Accessibility</li></ul>
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## ES&S Recommendation for voting system application:

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### Binary Assessment (with conditionals)

<u>Component</u>	<u>Version</u>	<u>Accuracy</u>	<u>Security</u>	<u>Accessibility</u>	<u>Compliance</u>	<u>Testing Board Recommendation</u>
UNITY	3.0.1.1	N	N <sup>3</sup>	N/A	N <sup>1,2</sup>	N
M650	2.1.0.0	N	N <sup>3</sup>	N	N <sup>1,2</sup>	N
M100	5.2.1.0	N	N <sup>3</sup>	N	N <sup>1,2</sup>	N
iVOTRONIC	9.1.6.2	N	N <sup>3</sup>	N	N <sup>1,2</sup>	N

<sup>1</sup> Colorado Revised Statutes Title 1, Article 5, Section 6 (1-5-608.5) prohibits allowing certification of voting equipment by the Secretary of State if it has not been successfully qualified by a recognized ITA. Additionally, Rule 45.5.1.3 requires voting systems to be compliant with federal requirements.

<sup>2</sup> Missing/insufficient state documentation pursuant to Colorado Secretary of State Rule 45.

<sup>3</sup> Despite listing a multitude of procedural workarounds, the inability for the testing board to complete many of the tests makes it impossible to indicate a "Y" value for security of the ES&S System.

### Definitions:

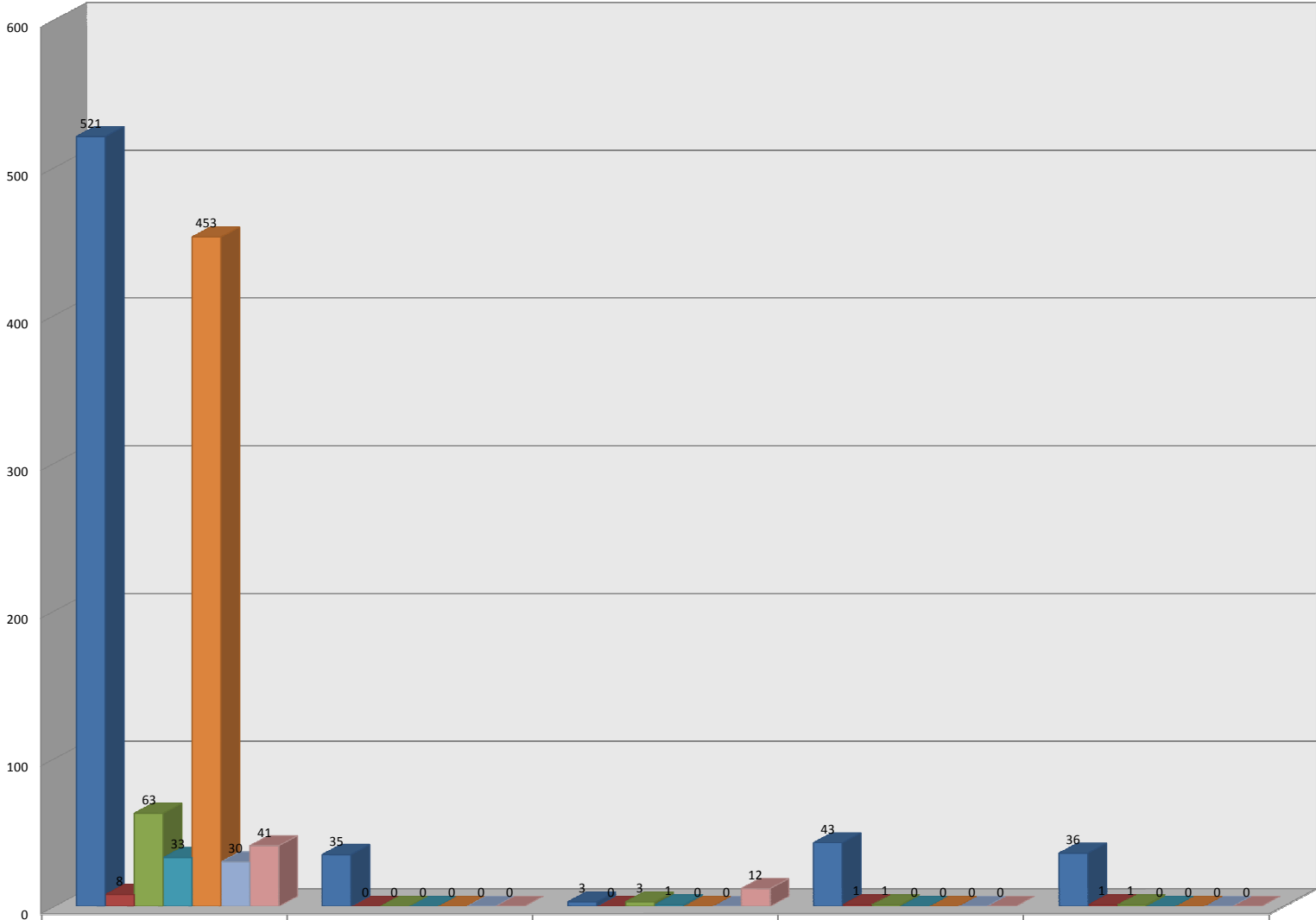
**Accuracy** – correctly reading, displaying, tabulating and reporting votes. (Functional, or Performance)

**Security** – vote data is protected and maintains integrity throughout system processing. (Audit, Security or Telecommunications)

**Accessibility** – voter system have requisite usability and reliability. (Functional, Accessibility, or Physical Design)

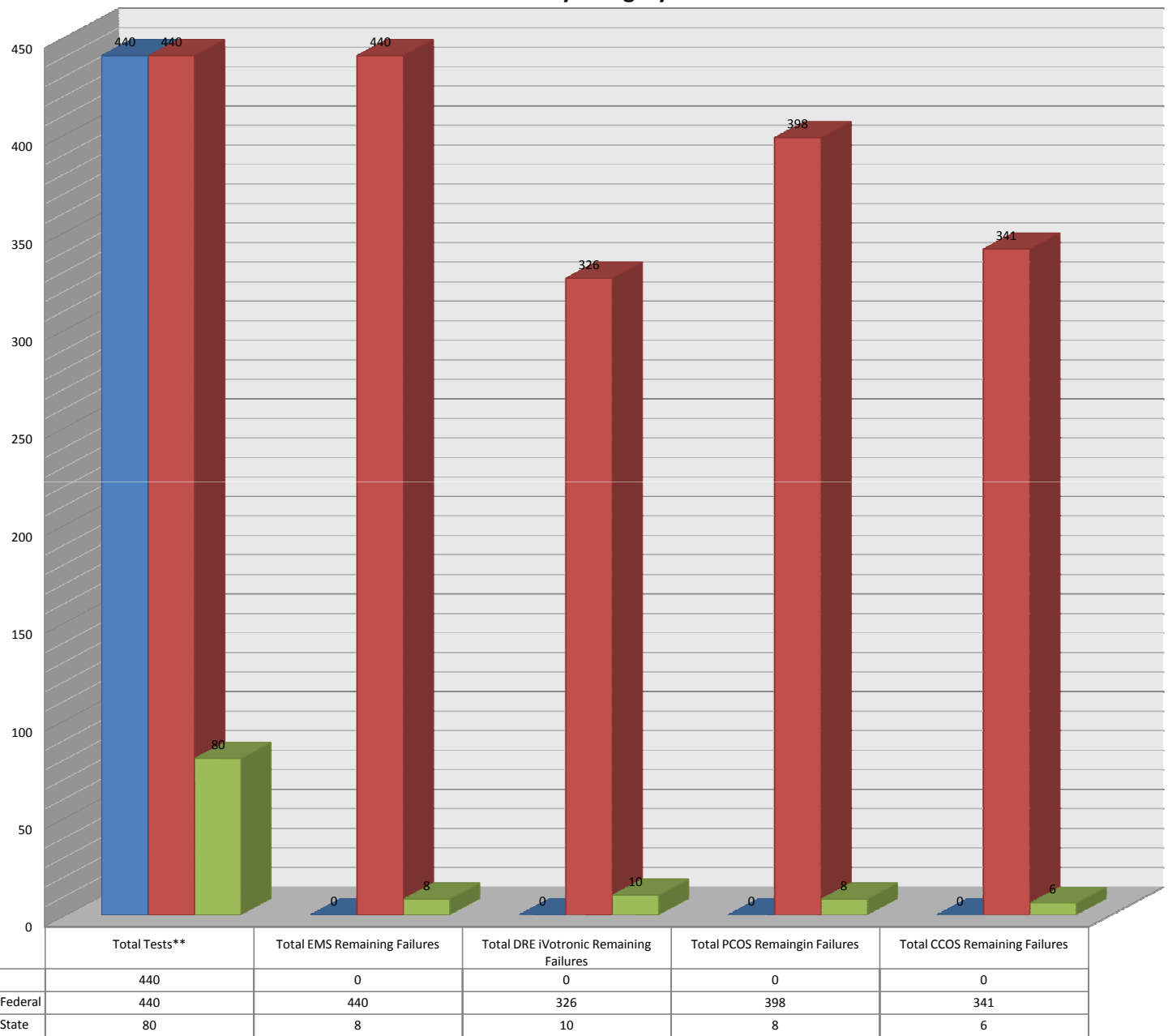
**Compliance** – system conforms to federal requirements for certification and/or documentation. (Documentation)

### ES&S Outstanding Functional Test Failures



	Total Tests	Total EMS Remaining Failures	Total iVotronic Remaining Failures	Total PCOS Remaining Failures	Total CCOS Remaining Failures
Functional Requirements	521	35	3	43	36
Performance Levels	8	0	0	1	1
Physical design	63	0	3	1	1
Audit Capacity	33	0	1	0	0
Security	453	0	0	0	0
Telecommunications	30	0	0	0	0
Accessibility	41	0	12	0	0

**ESS Documentation Failure Status by Category**



\* Incorrectly tested means the ITA either reported that a required item was not tested, or a required item was tested incorrectly for the device type.

\*\* Total tests has N/A items removed for chart scale.

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**RESTRICTIONS**



The Testing Board has identified the following items as deficient in the voting system, requiring restriction for use of the voting system components based on the review and testing of the voting system for compliance with state requirements:

**Software Restrictions:**

**Unity 3.0.1.1**

**1) Functional Requirements**

Testing board was unable to complete testing in many areas due to incorrect programming of ballots provided by vendor with no resolution. Many functional items contain an undeterminable outcome.

<b>Rule</b>	<b>Text</b>
1-5-407(9)	If a referred measure, including but not limited to a measure referred by the school board of a multicounty school district or the board of directors of a multicounty special district to the registered electors of the school district or special district, is referred to registered electors of multiple counties, the alphabetical, numerical, or alphanumeric designation used to identify the measure shall be identical on each ballot that includes the measure.
1-5-408(4)	The designated election official shall not print, in connection with any name, any title or degree designating the business or profession of the candidate.
1-5-611 45.6.2.3.14	(1) No nonpunch card electronic voting system shall be purchased, leased, or used unless it fulfills the following requirements: (c) It rejects any vote for an office or on a ballot issue if the number of votes exceeds the number the elector is entitled to cast. (d) It permits each elector, other than at a primary election, to vote for the candidates of one or more parties and for unaffiliated candidates. (e) It prevents the elector from voting for the same candidates more than once for the same office; (i) In a presidential election, permits each elector to vote by a single operation for all presidential electors of a pair of candidates for president and vice president.
1-5-615	(1) No electronic or electromechanical voting system shall be certified by the secretary of state unless such system: (b) Permits each elector to vote for all offices for which the elector is lawfully entitled to vote and no others, to vote for as many candidates for an office as the elector is entitled to vote for, and to vote for or against any ballot question or ballot issue on which the elector is entitled to vote. (f) Does not record a vote for any office, ballot question, or ballot issue that is overvoted on a ballot cast by an elector. (g) For electronic and electromechanical voting systems using ballot cards, accepts an overvoted or undervoted ballot if the elector chooses to cast the ballot, but it does not record a vote for any office, ballot question, or ballot issue that has been

### Unity 3.0.1.1

#### Functional Requirements continued

This only applies to the  
Coordinated Election.

#### Rule

#### Text

overvoted.

(k) Provides a method for write-in voting.

(l) Counts votes correctly.

(m) Can tabulate the total number of votes for each candidate for each office and the total number of votes for and against each ballot question and ballot issue for the polling place.

10.1

The text of all ballot issues that are subject to Article X, Section 20 shall be printed in all capital letters. The names of all candidates and all other ballot issues and questions shall be printed in upper and lower case.

27.2

Multiple Page Ballots. In any election where a multiple page printed ballot is used, a voter must vote and return all pages of the ballot at the same time. Any voter who has returned at least one page of a multiple page printed ballot will be considered to have voted. Any additional page returned at a later time shall not be counted but shall be appropriately marked, set aside, and preserved as other election materials in accordance with section 1-7-802, C.R.S.

45.5.2.1.2

The Voting system shall provide for appropriately authorized operators to:

(b) setup and prepare ballots for an election.

(c) lock and unlock system to prevent or allow changes to ballot design.

(f) conduct an election and meet additional requirements as identified in this section for procedures for voting, auditing information, inventory control, counting ballots, opening and closing polls, recounts, reporting, and accumulating results as required herein;

(g) conduct the post election audit as required herein.

(h) preserve the system for future election use.

This only applies to the  
Coordinated Election.

45.5.2.1.5

The voting system shall provide for the tabulation of votes cast in split precincts where all voters residing in one precinct are not voting the same ballot style.

45.5.2.1.10

The voting system application shall ensure that an election setup may not be changed once ballots are printed and/or election media devices are downloaded for votes to be conducted without proper authorization and acknowledgement by the application administrative account. The application and database audit transaction logs shall accurately reflect the name of the system operator making the change(s), the date and time of the change(s), and the "old" and "new" values of the change(s).

This only applies to the  
Coordinated Election.

45.6.2.3.3

Each voting system shall be tested and examined by conducting at least three mock elections which shall include voting scenarios that exist within a primary election, a coordinated election, and a recall election.

This only applies to the  
Coordinated Election.

45.6.2.3.5

Election scenarios shall feature at least 10 districts (or district types), comprised of at least 20 precincts that will result in a minimum of 5 unique ballot styles or combinations as indicated in the instructions to providers.

## Unity 3.0.1.1

### Functional Requirements continued

This only applies to the Coordinated Election.

Because of multiple failures during the counting of ballots due to programming and hardware errors, the Testing Board is unable to determine if ballots are invalid for testing, or due to the nature of the machine.

This only applies to the Coordinated Election.

This only applies to the Coordinated Election.

## 2) Documentation Requirements

Insufficient federal certification compliance/documentation, i.e. 2002 VSS requirements matrix.

## Rule

45.6.2.3.6

45.6.2.3.13

45.6.2.3.14

45.6.2.3.15

45.5.1.1

1-5-601.5

## Text

The voting system provider is required to produce ballots in quantities identified below for each of the two elections. Enough ballots need to be created to conduct the testing of the voting system as defined in this rule. One complete set of ballots will be tested in each of the applicable counter types (or groups):

(a) Poll Place or Vote Center - ballots are flat – no score marks.

(b) Early Voting – ballots are flat – no score marks.

(c) Absentee – ballots are scored and folded to fit in standard Colorado Absentee Mailing Envelopes.

(d) Provisional – ballots are flat- no score marks.

Ballots shall include candidates to represent the maximum number of political parties in the State of Colorado, and shall accommodate all qualified political parties and political organizations.

Ballots shall include the following minimum race situations to simulate and test “real world” situations in the State of Colorado:

(d) In a general election, allow a voter to vote for any candidate for any office, in the number of positions allowed for the office, and to select any measure on the ballot that the candidate is allowed to vote in, regardless of party.

(g) Ability to contain a ballot question or issue of at least 200 words.

(45.6.2.2.1) Demonstrate the ability for a user to generate and maintain a maximum of 10 different counting methods – the minimum is three and they are Absentee, Polling Place (or vote center) and Provisional – most counties shall have early voting as well as this.

Demonstrate the ability for a user to generate and maintain a maximum of 500 remote voting locations each with the ability to contain one or multiple precincts, which does not affect the other counter groups and how many precincts they are able to maintain.

Demonstrate the ability for a user to generate and maintain the definitions and descriptions of precincts and precinct splits (or sub-precincts) that are contained within a jurisdiction. The database shall allow for a maximum of 2000 precincts, and each precinct has the potential for 50 splits within the precinct.

All voting systems shall meet the voting systems standards pursuant to section 1-5-601.5, C.R.S., and Secretary of State Rule 37.3.

**Compliance with federal requirements.** All voting systems and voting equipment offered for sale on or after May 28, 2004, shall meet the voting systems standards that were promulgated in 2002 by the federal election commission and that may thereafter be promulgated by the federal election assistance commission. Subject to section 1 5-608.2, nothing in this section shall be construed to require any political subdivision to replace a voting system that is in use prior to May 28, 2004.



### Unity 3.0.1.1

#### Documentation Requirements continued

Rule	Text
45.5.2.3.18	The approach to design shall be unrestricted, and it may incorporate any form or variant of technology that is capable of meeting the requirements of this rule, and other attributes specified herein. The frequency of voting system malfunctions and maintenance requirements shall be reduced to the lowest level consistent with cost constraints. Applicants are required to meet or exceed MIL-HDBK-454; "Standard General As Amended 10/2/07 Page 119 Requirements for Electronic Equipment" that is hereby adopted and incorporated by reference, as a guide in the selection and application of materials and parts only as is relevant to this section.
45.5.2.4.1	In addition to other documentation requirements in this rule, the voting system provider shall provide the following documents: (e) A list of minimum services needed for successful, secure and hardened operation of all components of voting system.
45.5.2.4.2	All VSTL qualification reports, test logs, and technical data packages shall be evaluated to determine if the voting system meets the requirements of this rule and have completed the applicable federal certification requirements at the time of State testing. Failure to provide such documentation of independent testing will result in the voting system application being rejected. (a) The voting system provider shall execute and submit any necessary releases for the applicable VSTL and/or EAC to discuss any and all procedures and findings relevant to the voting system submitted for certification with the Secretary of State's office. The voting system provider shall provide a copy of the same to the Secretary of State's office.
45.5.2.5.2	The voting systems shall include detailed documentation as to the level, location, and programming of audit trail information throughout the system. The audit information shall apply to: (a) Operating Systems (workstation, server, and/or DRE); (d) Election Result Consolidation and Reporting.
45.5.2.6.1	(d) The voting system shall meet the following requirements for operating system security: (iv) The voting system provider shall provide documentation containing a list of minimum services and executables that are required to run the voting system application;

## Precinct Count Scanner Restrictions:

### **M100 - 5.2.1.0**

#### **1) Functional Requirements**

Testing board was unable to complete testing due to incorrect programming of ballots provided by vendor with no resolution.

### **Rule**

1-5-611  
45.6.2.3.14

### **Text**

(1) No non-punch card electronic voting system shall be purchased, leased, or used unless it fulfills the following requirements:

(b) It permits each elector to write in the names of eligible candidates not appearing on the printed ballot, to vote for as many candidates for an office as there are vacancies for which the elector is entitled to vote, and to vote for or against any ballot issue upon which the elector is entitled to vote.

(c) It rejects any vote for an office or on a ballot issue if the number of votes exceeds the number the elector is entitled to cast.

(d) It permits each elector, other than at a primary election, to vote for the candidates of one or more parties and for unaffiliated candidates.

(i) In a presidential election, permits each elector to vote by a single operation for all presidential electors of a pair of candidates for president and vice president.

1-5-615

(1) No electronic or electromechanical voting system shall be certified by the secretary of state unless such system:

(b) Permits each elector to vote for all offices for which the elector is lawfully entitled to vote and no others, to vote for as many candidates for an office as the elector is entitled to vote for, and to vote for or against any ballot question or ballot issue on which the elector is entitled to vote.

(c) Permits each elector to verify his or her votes privately and independently before the ballot is cast.

(e) If the elector overvotes:

(I) Notifies the elector before the ballot is cast that the elector has overvoted.

(II) Notifies the elector before the vote is cast that an overvote for any office, ballot question, or ballot issue will not be counted.

(III) Gives the elector the opportunity to correct the ballot before the ballot is cast.

(f) Does not record a vote for any office, ballot question, or ballot issue that is overvoted on a ballot cast by an elector.

(g) For electronic and electromechanical voting systems using ballot cards, accepts an overvoted or undervoted ballot if the elector chooses to cast the ballot, but it does not record a vote for any office, ballot question, or ballot issue that has been overvoted.

(k) Provides a method for write-in voting.

(l) Counts votes correctly.

(m) Can tabulate the total number of votes for each candidate for each office and the total number of votes for and against each ballot question and ballot issue for the polling place.

<b>M100 - 5.2.1.0</b>	<b>Rule</b>	<b>Text</b>
<b>Functional Requirements continued</b>	1-7-508	(2) Votes cast for an office to be filled or a ballot question or ballot issue to be decided shall not be counted if a voter marks more names than there are persons to be elected to an office or if for any reason it is impossible to determine the elector's choice of candidate or vote concerning the ballot question or ballot issue. A defective or an incomplete mark on any ballot in a proper place shall be counted if no other mark is on the ballot indicating an intention to vote for some other candidate or ballot question or ballot issue.
This only applies to the Coordinated Election.	10.1	The text of all ballot issues that are subject to Article X, Section 20 shall be printed in all capital letters. The names of all candidates and all other ballot issues and questions shall be printed in upper and lower case.
This only applies to the Coordinated Election.	27.2	Multiple Page Ballots. In any election where a multiple page printed ballot is used, a voter must vote and return all pages of the ballot at the same time. Any voter who has returned at least one page of a multiple page printed ballot will be considered to have voted. Any additional page returned at a later time shall not be counted but shall be appropriately marked, set aside, and preserved as other election materials in accordance with section 1-7-802, C.R.S.
This only applies to the Coordinated Election.	27.4.1	Precinct Optical Scan Procedures (a) Voters whose ballots are rejected or sorted by the precinct counter as a blank or overvoted ballot shall be given the opportunity to correct their ballot.
This only applies to the Coordinated Election.	37.1.2	Voting systems (including optical scanning voting systems or direct recording electronic systems) certified by the secretary of state and acquired, purchased or leased by counties pursuant to state law shall: (b) provide the voter with the opportunity (in a private and independent manner) to change the ballot or correct any error before the ballot is cast and counted (including the opportunity to correct the error through the issuance of a replacement ballot if the voter was otherwise unable to change the ballot or correct any error). (c) if the voter selects votes for more than one candidate for a single office: (i) notify the voter that the voter has selected more than 1 candidate for a single office on the ballot; (ii) notify the voter before the ballot is cast and counted of the effect of casting multiple votes for the office; and (iii) provide the voter with the opportunity to correct the ballot before the ballot is cast and counted.
This only applies to the Coordinated Election.	45.5.2.1.5	The voting system shall provide for the tabulation of votes cast in split precincts where all voters residing in one precinct are not voting the same ballot style.
This only applies to the Coordinated Election.	45.5.2.1.6	The voting system shall provide for the tabulation of votes cast in combined precincts at remote sites, where more than one precinct is voting at the same location, on either the same ballot style or a different ballot style.

## **M100 - 5.2.1.0**

### **Functional Requirements continued**

This only applies to the  
Coordinated Election.

Because of multiple failures during  
the counting of ballots due to  
programming and hardware errors,  
the Testing Board is unable to  
determine if ballots are invalid for  
testing, or due to the nature of the  
machine.

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machine.

### **Rule**

45.6.2.3.3

45.6.2.3.6

45.6.2.3.7

45.6.2.3.9

### **Text**

Each voting system shall be tested and examined by  
conducting at least three mock elections which shall include  
voting scenarios that exist within a primary election, a  
coordinated election, and a recall election.

The voting system provider is required to produce ballots in  
quantities identified below for each of the two elections.  
Enough ballots need to be created to conduct the testing of the  
voting system as defined in this rule. One complete set of  
ballots will be tested in each of the applicable counter types (or  
groups):

(a) Poll Place or Vote Center - ballots are flat – no score  
marks.

(b) Early Voting – ballots are flat – no score marks.

(c) Absentee – ballots are scored and folded to fit in standard  
Colorado Absentee Mailing Envelopes.

(d) Provisional – ballots are flat- no score marks.

All ballots provided shall be blank with no marks on them.  
The following combinations of ballots are required:

(a) Four separate decks of ballots shall be provided consisting  
of 25 ballots for each precinct/precinct split generated for each  
election that are flat (1500 minimum combined). At least one  
deck shall have the General Election data, and at least one  
shall have the Primary election data as indicated in the  
instructions for voting system providers;

(b) Four separate decks of ballots shall be provided consisting  
of 25 ballots for each precinct/precinct split generated for each  
election that are folded (1500 minimum combined). At least  
one deck shall have the General Election data, and at least one  
shall have the Primary election data as indicated in the  
instructions for voting system providers;

(d) One separate deck of ballots consisting of 200 ballots of  
any single precinct from the Coordinated election shall be  
provided that contains a two page ballot (races on four faces).

The testing board shall mark a minimum of 300 ballots with  
marking devices of various color, weight, and consistency to  
determine accurate counting with a variety of marking devices.

## M100 - 5.2.1.0

### Functional Requirements continued

This only applies to the Coordinated Election.

Because of multiple failures during the counting of ballots due to programming and hardware errors, the Testing Board is unable to determine if ballots are invalid for testing, or due to the nature of the machine.

This only applies to the Coordinated Election.

Ballot handling errors: misfeeds (<= 1 per 5000) and corrective action reporting. Device tested outside of acceptable criteria.

### 2) Performance Levels

This only applies to the Coordinated Election.

## Rule

45.6.2.3.10

45.6.2.3.13

45.6.2.3.14

45.6.2.3.15  
45.6.2.2.1

45.5.2.2.2

## Text

Ballots shall be cast and counted in all applicable counter types (or counter groups) as necessary based on the parts included in the voting system. These are at a minimum:

(a) Poll Place (or Vote Center), Absentee, Provisional, and Early Voting. Ballots may be run through components 10 or more times depending on components and counter group being tested to achieve a minimum number of ballots cast as follows for each group: Polling Place / OS 1500.

(c) Poll Place (or Vote Center), Absentee, Provisional, and Early Voting. Ballots may be run through components 10 or more times depending on components and counter group being tested to achieve a minimum number of ballots cast as follows for each group: Vote Center/ OS 5000.

(e) Poll Place (or Vote Center), Absentee, Provisional, and Early Voting. Ballots may be run through components 10 or more times depending on components and counter group being tested to achieve a minimum number of ballots cast as follows for each group: Early Voting / OS 5000.

(h) Poll Place (or Vote Center), Absentee, Provisional, and Early Voting. Ballots may be run through components 10 or more times depending on components and counter group being tested to achieve a minimum number of ballots cast as follows for each group: Provisional 5,000.

Ballots shall include candidates to represent the maximum number of political parties in the State of Colorado, and shall accommodate all qualified political parties and political organizations.

Ballots shall include the following minimum race situations to simulate and test “real world” situations in the State of Colorado:

(d) In a general election, allow a voter to vote for any candidate for any office, in the number of positions allowed for the office, and to select any measure on the ballot that the candidate is allowed to vote in, regardless of party.

(g) Ability to contain a ballot question or issue of at least 200 words.

Test all ballot reading functions – are they accurate and reliable as described in the requirement - how do scanner(s) responds to smudges, folds, etc; response to valid and invalid or absence of marks.

The system shall stop and inform operator of ballot handling errors such as misfeeds, damaged ballot, and multiple feeds. Also, give corrective measures to remove the ballot, sort is as unreadable (out stack) and gives a way to restart or recount the uncounted ballots. (Mis-feeds =< 1 per 5,000).

The voting system shall meet the following minimum requirements for casting ballots. Speed requirements are based on a printed double sided complete 18” ballot with a minimum of 20 contests:

(a) Optical Scan Ballots at voting location(s) = 100 ballots per hour.

## M100 - 5.2.1.0

### 3) Physical and Design Characteristics

Testing board was unable to complete testing due to incorrect programming of ballots provided by vendor, and hardware errors on device with no resolution.

### 2) Documentation Requirements

Insufficient federal certification compliance/documentation, i.e. 2002 VSS requirements matrix.

Missing proof of federal testing to evaluate this.

## Rule

1-5-611

45.5.1.1

1-5-601.5

45.5.1.2

45.5.2.2.3

45.5.2.3.2

## Text

(1) No nonpunch card electronic voting system shall be purchased, leased, or used unless it fulfills the following requirements:

(f) If the system uses a voting device:

(I) It is suitably designed, of durable construction, and capable of being used safely, efficiently, and accurately in the conduct of elections and the tabulation of votes.

All voting systems shall meet the voting systems standards pursuant to section 1-5-601.5, C.R.S., and Secretary of State Rule 37.3.

**Compliance with federal requirements.** All voting systems and voting equipment offered for sale on or after May 28, 2004, shall meet the voting systems standards that were promulgated in 2002 by the federal election commission and that may thereafter be promulgated by the federal election assistance commission. Subject to section 1-5-608.2, nothing in this section shall be construed to require any political subdivision to replace a voting system that is in use prior to May 28, 2004.

All voting system software, hardware, and firmware shall meet all requirements of federal law that address accessibility for the voter interface of the voting system. These laws include, but are not necessarily limited to, (a) the Help America Vote Act

The voting system provider shall publish and specify processing standards for each component of the voting system as part of the documentation required for certification.

The voting system shall meet the following environmental controls allowing for storage and operation in the following physical ranges:

(a) Operating – Max. 95 Degrees Fahrenheit; Min 50 Degrees Fahrenheit, with max. humidity of 90%, normal or minimum operating humidity of 15%.

(b) Non-Operating – Max. 140 Degrees Fahrenheit; Min. 4 Degrees Fahrenheit. Non-operating humidity ranges from 5% to 90% for various intervals throughout the day.

The material supplied by the voting system provider shall include a statement of all requirements and restrictions regarding environmental protection, electrical service, telecommunications service, and any other facility or resource required for the installation, operation, and storage of the voting system.

## **M100 - 5.2.1.0**

### **Documentation Requirements continued**

<b>Rule</b>	<b>Text</b>
45.5.2.3.18	The approach to design shall be unrestricted, and it may incorporate any form or variant of technology that is capable of meeting the requirements of this rule, and other attributes specified herein. The frequency of voting system malfunctions and maintenance requirements shall be reduced to the lowest level consistent with cost constraints. Applicants are required to meet or exceed MIL-HDBK-454; "Standard General As Amended 10/2/07 Page 119 Requirements for Electronic Equipment" that is hereby adopted and incorporated by reference, as a guide in the selection and application of materials and parts only as is relevant to this section.
45.5.2.4.2	All VSTL qualification reports, test logs, and technical data packages shall be evaluated to determine if the voting system meets the requirements of this rule and have completed the applicable federal certification requirements at the time of State testing. Failure to provide such documentation of independent testing will result in the voting system application being rejected. (a) The voting system provider shall execute and submit any necessary releases for the applicable VSTL and/or EAC to discuss any and all procedures and findings relevant to the voting system submitted for certification with the Secretary of State's office. The voting system provider shall provide a copy of the same to the Secretary of State's office.
45.5.2.6.2	The voting system provider shall provide documentation detailing voting system security in the areas listed below. The system shall contain documented configurations, properties and procedures to prevent, detect and log changes to system capabilities for: (i) Preventing access to vote data, including individual votes and vote totals, to unauthorized individuals.

## Central Count Scanner Restrictions:

### **M650 - 2.1.0.0**

#### **1) Functional Requirements**

Testing board was unable to complete testing in many areas due to incorrect programming of ballots provided by vendor with no resolution. Many functional items contain an undeterminable outcome.

This only applies to the Coordinated Election.

### **Rule**

1-5-409

### **Text**

Single cross mark for party slate not permitted. Each office in every election shall be voted upon separately, and no emblem, device, or political party designation shall be used on the official ballot at any election by which an eligible elector may vote for more than one office by placing a single cross mark on the ballot or by writing in the name of any political party or political organization.

1-5-611  
45.6.2.3.14

- (1) No nonpunch card electronic voting system shall be purchased, leased, or used unless it fulfills the following requirements:
- (b) It permits each elector to write in the names of eligible candidates not appearing on the printed ballot, to vote for as many candidates for an office as there are vacancies for which the elector is entitled to vote, and to vote for or against any ballot issue upon which the elector is entitled to vote.
- (c) It rejects any vote for an office or on a ballot issue if the number of votes exceeds the number the elector is entitled to cast.
- (d) It permits each elector, other than at a primary election, to vote for the candidates of one or more parties and for unaffiliated candidates.
- (k) Provides a method for write-in voting.

1-5-615  
45.6.2.3.14

- (1) No electronic or electromechanical voting system shall be certified by the secretary of state unless such system:
- (b) Permits each elector to vote for all offices for which the elector is lawfully entitled to vote and no others, to vote for as many candidates for an office as the elector is entitled to vote for, and to vote for or against any ballot question or ballot issue on which the elector is entitled to vote.
- (e) If the elector overvotes:
  - (II) If the elector overvotes it notifies the elector before the vote is cast that an overvote for any office, ballot question, or ballot issue will not be counted.
  - (III) If the elector overvotes it gives the elector the opportunity to correct the ballot before the ballot is cast.
- (f) Does not record a vote for any office, ballot question, or ballot issue that is overvoted on a ballot cast by an elector.
- (g) For electronic and electromechanical voting systems using ballot cards, accepts an overvoted or undervoted ballot if the elector chooses to cast the ballot, but it does not record a vote for any office, ballot question, or ballot issue that has been overvoted.
- (i) In a presidential election, permits each elector to vote by a single operation for all presidential electors of a pair of candidates for president and vice president.
- (l) Counts votes correctly.
- (m) Can tabulate the total number of votes for each candidate for each office and the total number of votes for and against



## M650 - 2.1.0.0

### Functional Requirements continued

This only applies to the  
Coordinated Election.

This only applies to the  
Coordinated Election.

Because of multiple failures during  
the counting of ballots due to  
programming and hardware errors,  
the Testing Board is unable to  
determine if ballots are invalid for  
testing, or due to the nature of the  
machine.

## Rule

1-7-508

10.1

27.2

27.4.2

45.5.2.1.5

45.6.2.3.3

45.6.2.3.6

## Text

each ballot question and ballot issue for the polling place.

(2) Votes cast for an office to be filled or a ballot question or ballot issue to be decided shall not be counted if a voter marks more names than there are persons to be elected to an office or if for any reason it is impossible to determine the elector's choice of candidate or vote concerning the ballot question or ballot issue. A defective or an incomplete mark on any ballot in a proper place shall be counted if no other mark is on the ballot indicating an intention to vote for some other candidate or ballot question or ballot issue.

The text of all ballot issues that are subject to Article X, Section 20 shall be printed in all capital letters. The names of all candidates and all other ballot issues and questions shall be printed in upper and lower case.

Multiple Page Ballots. In any election where a multiple page printed ballot is used, a voter must vote and return all pages of the ballot at the same time. Any voter who has returned at least one page of a multiple page printed ballot will be considered to have voted. Any additional page returned at a later time shall not be counted but shall be appropriately marked, set aside, and preserved as other election materials in accordance with section 1-7-802, C.R.S.

(b) Sequence of Resolution Procedures for Central Count Optical Scan Procedures are  
(2) Official ballots shall be processed through the optical scanner, with sorted overvotes, blank ballots, and write-in ballots viewed and resolved by the resolution board. Only ballots sorted by the machine shall be subject to review by the resolution board. If there are no legally qualified write-in candidates, the write-in sort option shall not be utilized. The number of each duplicated ballot shall be entered on the resolution board log sheet.

The voting system shall provide for the tabulation of votes cast in split precincts where all voters residing in one precinct are not voting the same ballot style.

Each voting system shall be tested and examined by conducting at least three mock elections which shall include voting scenarios that exist within a primary election, a coordinated election, and a recall election.

The voting system provider is required to produce ballots in quantities identified below for each of the two elections. Enough ballots need to be created to conduct the testing of the voting system as defined in this rule. One complete set of ballots will be tested in each of the applicable counter types (or groups):  
(a) Poll Place or Vote Center - ballots are flat – no score marks.  
(b) Early Voting – ballots are flat – no score marks.  
(c) Absentee – ballots are scored and folded to fit in standard Colorado Absentee Mailing Envelopes.  
(d) Provisional – ballots are flat- no score marks.

## M650 - 2.1.0.0

### Functional Requirements continued

Because of multiple failures during the counting of ballots due to programming and hardware errors, the Testing Board is unable to determine if ballots are invalid for testing, or due to the nature of the machine.

This only applies to the Coordinated Election.

Because of multiple failures during the counting of ballots due to programming and hardware errors, the Testing Board is unable to determine if ballots are invalid for testing, or due to the nature of the machine.

### Rule

45.6.2.3.7

45.6.2.3.9

45.6.2.3.10

45.6.2.3.13

### Text

All ballots provided shall be blank with no marks on them. The following combinations of ballots are required:

- (a) Four separate decks of ballots shall be provided consisting of 25 ballots for each precinct/precinct split generated for each election that are flat (1500 minimum combined). At least one deck shall have the General Election data, and at least one shall have the Primary election data as indicated in the instructions for voting system providers;
- (b) Four separate decks of ballots shall be provided consisting of 25 ballots for each precinct/precinct split generated for each election that are folded (1500 minimum combined). At least one deck shall have the General Election data, and at least one shall have the Primary election data as indicated in the instructions for voting system providers;
- (d) One separate deck of ballots consisting of 200 ballots of any single precinct from the Coordinated election shall be provided that contains a two page ballot (races on four faces).

The testing board shall mark a minimum of 300 ballots with marking devices of various color, weight, and consistency to determine accurate counting with a variety of marking devices.

Ballots shall be cast and counted in all applicable counter types (or counter groups) as necessary based on the parts included in the voting system. These are at a minimum:

- (c) Poll Place (or Vote Center), Absentee, Provisional, and Early Voting. Ballots may be run through components 10 or more times depending on components and counter group being tested to achieve a minimum number of ballots cast as follows for each group: Vote Center/ OS 5000.
- (e) Poll Place (or Vote Center), Absentee, Provisional, and Early Voting. Ballots may be run through components 10 or more times depending on components and counter group being tested to achieve a minimum number of ballots cast as follows for each group: Early Voting / OS 5000.
- (g) Poll Place (or Vote Center), Absentee, Provisional, and Early Voting. Ballots may be run through components 10 or more times depending on components and counter group being tested to achieve a minimum number of ballots cast as follows for each group: Absentee 10,000.
- (h) Poll Place (or Vote Center), Absentee, Provisional, and Early Voting. Ballots may be run through components 10 or more times depending on components and counter group being tested to achieve a minimum number of ballots cast as follows for each group: Provisional 5,000.

Ballots shall include candidates to represent the maximum number of political parties in the State of Colorado, and shall accommodate all qualified political parties and political organizations.

## M650 - 2.1.0.0

### Functional Requirements continued

	Rule	Text
	45.6.2.3.14	Ballots shall include the following minimum race situations to simulate and test “real world” situations in the State of Colorado: (d) In a general election, allow a voter to vote for any candidate for any office, in the number of positions allowed for the office, and to select any measure on the ballot that the candidate is allowed to vote in, regardless of party. (g) Ability to contain a ballot question or issue of at least 200 words.
Ballot handling errors: misfeeds (<= 1 per 5000) and corrective action reporting. Device tested outside of acceptable criteria.	45.6.2.3.15 45.6.2.2.1	Test all ballot reading functions – are they accurate and reliable as described in the requirement - how do scanner(s) responds to smudges, folds, etc; response to valid and invalid or absence of marks. The system shall stop and inform operator of ballot handling errors such as misfeeds, damaged ballot, and multiple feeds. Also, give corrective measures to remove the ballot, sort is as unreadable (out stack) and gives a way to restart or recount the uncounted ballots. (Mis-feeds =< 1 per 5,000).
<b>2) Performance Levels</b> Device tested outside of acceptable criteria.	45.5.2.2.2	The voting system shall meet the following minimum requirements for casting ballots. Speed requirements are based on a printed double sided complete 18” ballot with a minimum of 20 contests: (a) Optical Scan Ballots at voting location(s) = 100 ballots per hour.
<b>3) Physical and Design Characteristics</b> Testing board was unable to complete testing due to incorrect programming of ballots provided by vendor, and hardware errors on device with no resolution.	1-5-611	(1) No nonpunch card electronic voting system shall be purchased, leased, or used unless it fulfills the following requirements: (f) If the system uses a voting device: (I) It is suitably designed, of durable construction, and capable of being used safely, efficiently, and accurately in the conduct of elections and the tabulation of votes.
<b>4) Documentation Requirements</b> Insufficient federal certification compliance/documentation, i.e. 2002 VSS requirements matrix.	45.5.1.1 1-5-601.5	All voting systems shall meet the voting systems standards pursuant to section 1-5-601.5, C.R.S., and Secretary of State Rule 37.3. <b>Compliance with federal requirements.</b> All voting systems and voting equipment offered for sale on or after May 28, 2004, shall meet the voting systems standards that were promulgated in 2002 by the federal election commission and that may thereafter be promulgated by the federal election assistance commission. Subject to section 1 5-608.2, nothing in this section shall be construed to require any political subdivision to replace a voting system that is in use prior to May 28, 2004.
	45.5.1.2	All voting system software, hardware, and firmware shall meet all requirements of federal law that address accessibility for the voter interface of the voting system. These laws include, but are not necessarily limited to, (a) the Help America Vote Act
	45.5.2.2.3	The voting system provider shall publish and specify processing standards for each component of the voting system as part of the documentation required for certification.

## **M650 - 2.1.0.0**

### **Documentation Requirements continued**

<b>Rule</b>	<b>Text</b>
45.5.2.3.2	<p>The voting system shall meet the following environmental controls allowing for storage and operation in the following physical ranges:</p> <p>(a) Operating – Max. 95 Degrees Fahrenheit; Min 50 Degrees Fahrenheit, with max. humidity of 90%, normal or minimum operating humidity of 15%.</p> <p>(b) Non-Operating – Max. 140 Degrees Fahrenheit; Min. 4 Degrees Fahrenheit. Non-operating humidity ranges from 5% to 90% for various intervals throughout the day.</p> <p>The material supplied by the voting system provider shall include a statement of all requirements and restrictions regarding environmental protection, electrical service, telecommunications service, and any other facility or resource required for the installation, operation, and storage of the voting system.</p>
45.5.2.3.18	<p>The approach to design shall be unrestricted, and it may incorporate any form or variant of technology that is capable of meeting the requirements of this rule, and other attributes specified herein. The frequency of voting system malfunctions and maintenance requirements shall be reduced to the lowest level consistent with cost constraints. Applicants are required to meet or exceed MIL-HDBK-454; "Standard General As Amended 10/2/07 Page 119 Requirements for Electronic Equipment" that is hereby adopted and incorporated by reference, as a guide in the selection and application of materials and parts only as is relevant to this section.</p>
45.5.2.4.2	<p>All VSTL qualification reports, test logs, and technical data packages shall be evaluated to determine if the voting system meets the requirements of this rule and have completed the applicable federal certification requirements at the time of State testing. Failure to provide such documentation of independent testing will result in the voting system application being rejected.</p> <p>(a) The voting system provider shall execute and submit any necessary releases for the applicable VSTL and/or EAC to discuss any and all procedures and findings relevant to the voting system submitted for certification with the Secretary of State's office. The voting system provider shall provide a copy of the same to the Secretary of State's office.</p>

## **DRE Restrictions:**

### **iVotronic ADA (3-Button) and Non-ADA 9.1.6.4**

#### **1) Functional Requirements**

<b>Rule</b>	<b>Text</b>
45.5.2.9.12	The V-VPAT printer shall print at a font size no less than ten (10) points for ease of readability. Any protective covering intended to be transparent shall be in such condition that it can be made transparent by ordinary cleaning of its exposed surface.
45.5.2.9.20	The V-VPAT shall allow a voter to spoil his or her paper record no more than two (2) times. Upon spoiling, the voter shall be able to modify and verify selections on the DRE without having to reselect all of his or her choices.
45.5.2.9.21	Before the voter causes a third and final record to be printed, the voter shall be presented with a warning notice that the selections made on screen shall be final and the voter shall see and verify a printout of his or her vote, but shall not be given additional opportunities to change their vote.

#### **2) Physical and Design Characteristics**

45.5.2.3.14	The voting system shall contain a control subsystem that consists of the physical devices and software that accomplish and validate the following operations: (a) Voting system Preparation - The control subsystem shall encompass the hardware and software required to prepare remote location voting devices and memory devices for election use. Remote site preparation includes all operations necessary to install ballot displays, software, and memory devices in each voting device. The control subsystem shall be designed in such a manner as to facilitate the automated validation of ballot and software installation and to detect errors arising from their incorrect selection or improper installation.
45.5.2.3.15	The voting system shall have a high level of integration between the ballot layout subsystem and the vote tabulation subsystem. This integration shall permit and facilitate the automatic transfer of all ballot setup information from the automated ballot layout module to the single ballot tabulation system that will be used in a fully integrated manner for DRE, optical scan, and any other voting devices included in the voting system.
45.5.2.3.21	The voting system shall provide capabilities to enforce confidentiality of voters' ballot choices. (a) All optical scan devices, associated ballot boxes and V-VPAT storage devices shall provide physical locks and procedures to prevent disclosure of voters' confidential ballot choices during and after the vote casting operation.

Vote data is visible during paper changing events on V-VPAT.

**iVotronic ADA (3-Button) and Non-ADA 9.1.6.4**

**3) Documentation Requirements**

Insufficient federal certification compliance/documentation, i.e. 2002 VSS requirements matrix.

<b>Rule</b>	<b>Text</b>
45.5.1.1	All voting systems shall meet the voting systems standards pursuant to section 1-5-601.5, C.R.S., and Secretary of State Rule 37.3.
1-5-601.5	<b>Compliance with federal requirements.</b> All voting systems and voting equipment offered for sale on or after May 28, 2004, shall meet the voting systems standards that were promulgated in 2002 by the federal election commission and that may thereafter be promulgated by the federal election assistance commission. Subject to section 1 5-608.2, nothing in this section shall be construed to require any political subdivision to replace a voting system that is in use prior to May 28, 2004.
45.5.1.2	All voting system software, hardware, and firmware shall meet all requirements of federal law that address accessibility for the voter interface of the voting system. These laws include, but are not necessarily limited to, (a) the Help America Vote Act, (b) the Americans with Disabilities Act, and (c) the Federal Rehabilitation Act. The voting system provider shall acknowledge explicitly that their proposed software, hardware, and firmware are all in compliance with the relevant accessibility portions of these laws.
45.5.2.2.3	The voting system provider shall publish and specify processing standards for each component of the voting system as part of the documentation required for certification.
45.5.2.3.2	The voting system shall meet the following environmental controls allowing for storage and operation in the following physical ranges: (a) Operating – Max. 95 Degrees Fahrenheit; Min 50 Degrees Fahrenheit, with max. humidity of 90%, normal or minimum operating humidity of 15%. (b) Non-Operating – Max. 140 Degrees Fahrenheit; Min. 4 Degrees Fahrenheit. Non-operating humidity ranges from 5% to 90% for various intervals throughout the day. The material supplied by the voting system provider shall include a statement of all requirements and restrictions regarding environmental protection, electrical service, telecommunications service, and any other facility or resource required for the installation, operation, and storage of the voting system.
45.5.2.3.13	All DRE voting devices shall use touch screen technology or other technology providing visual ballot display and election. The voting system provider shall provide documentation concerning the use of touch screen or other display and selection technology, including but not limited to: (b) Technical documentation describing the nature and sensitivity of any other technology used to display and select offices, candidates, or issues; (c) Any mean time between failure (MTBF) data collected on the vote recording devices; and

**iVotronic ADA (3-Button) and  
Non-ADA 9.1.6.4**

**Documentation Requirements  
continued**

**4) Audit Capacity**

**Rule**

**Text**

45.5.2.3.18

The approach to design shall be unrestricted, and it may incorporate any form or variant of technology that is capable of meeting the requirements of this rule, and other attributes specified herein. The frequency of voting system malfunctions and maintenance requirements shall be reduced to the lowest level consistent with cost constraints. Applicants are required to meet or exceed MIL-HDBK-454; "Standard General As Amended 10/2/07 Page 119 Requirements for Electronic Equipment" that is hereby adopted and incorporated by reference, as a guide in the selection and application of materials and parts only as is relevant to this section.

45.5.2.3.22

The voting system and all associated components shall have an estimated useful life of at least eight (8) years. Voting system provider shall provide documentation of the basis for the estimate.

45.5.2.4.2

All VSTL qualification reports, test logs, and technical data packages shall be evaluated to determine if the voting system meets the requirements of this rule and have completed the applicable federal certification requirements at the time of State testing. Failure to provide such documentation of independent testing will result in the voting system application being rejected.

(a) The voting system provider shall execute and submit any necessary releases for the applicable VSTL and/or EAC to discuss any and all procedures and findings relevant to the voting system submitted for certification with the Secretary of State's office. The voting system provider shall provide a copy of the same to the Secretary of State's office.

37.1.4

The voting systems described in the foregoing paragraphs shall produce a record with an audit capacity for such system.

(b) The voting system shall provide the voter with an opportunity to change the ballot or correct any error before the permanent paper record is produced.

**iVotronic ADA (3-Button) and  
Non-ADA 9.1.6.4**

**5) Accessibility**

<b>Rule</b>	<b>Text</b>
1-5-704 35.1.5 35.1.7	<p>(1) Notwithstanding any other provision of this article, each voting system certified by the secretary of state for use in local, state, and federal elections shall have the capability to accept accessible voter interface devices in the voting system configuration to allow the voting system to meet the following minimum standards:</p> <p>(d) Devices providing audio and visual access shall be able to work both separately and simultaneously.</p> <p>(f) Any voting system that requires any visual perception shall allow the font size as it appears to the voter to be set from a minimum of fourteen points to a maximum of twenty-four points before the voting system is delivered to the polling place. A san-serif font of 18 points will allow the most universal access.</p> <p>(m) Voting booths shall have voting controls at a minimum height of thirty-six inches above the finished floor with a minimum knee clearance of twenty-seven inches high, thirty inches wide, and nineteen inches deep, or the accessible voter interface devices shall be designed so as to allow their use on top of a table to meet such requirements. Tabletop installations shall ensure adequate privacy.</p>
34.5	<p>If a political subdivision acquires a new voting system, the system must be accessible to persons with physical, cultural/educational, mental/cognitive disabilities and provide the voter in a manner that provides the same opportunity for access and participation (including privacy and independence) as for other voters.</p>
35.1.15	<p>If a forward approach by a person in a wheelchair to a voting system is necessary, the maximum high-forward reach allowed shall be 48 inches (1220 mm) and the minimum low-forward reach shall be 15 inches (380 mm). If the high-forward reach is over an obstruction, reach and clearances shall be as shown in the Figure 1., or otherwise in accordance with the Americans with Disabilities Act Accessibility Guidelines for Buildings and Facilities (“ADAAG”), as written at the time the system is certified for use in the state of Colorado;</p>
35.1.17	<p>The highest operable part of controls, dispensers, receptacles, and other operable equipment shall be placed within at least one of the reach ranges outlined in paragraphs (15) and (16) of this subsection.</p>
37.1.4	<p>The voting systems described in the foregoing paragraphs shall produce a record with an audit capacity for such system.</p> <p>(d) The paper record shall be accessible for individuals with disabilities including non-visual accessibility for the blind and visually impaired, in a manner that provides the same opportunity for access and participation (including privacy and independence) as for other voters.</p>



**iVotronic ADA (3-Button) and  
Non-ADA 9.1.6.4**

**Accessibility continued**

<b>Rule</b>	<b>Text</b>
45.5.2.8.1	Specific minimum accessibility requirements include those specified in section §1-5-704 C.R.S., Secretary of State Rule 34, Rule 35 and the following: (b) Audio ballots shall meet the following standards: (ii) The audio system shall allow voters to control within reasonable limits, the rate of speech.
45.5.2.8.2	Documentation of the accessibility of the voting system shall include the following items at a minimum: (c) Technology used by the voting system that prevents headset/headphone interference with hearing aids; (g) Various methods of voting to ensure access by persons with multiple disabilities; (i) Method for adjusting color settings, screen contrasts, and screen angles/tilt if the system uses a display screen.
45.5.2.9.10	The V-VPAT device shall be designed to allow every voter to review, and accept or reject his/her paper record in as private and independent manner as possible for both disabled and nondisabled voters.

**2007-CDOS-ESS-001-0403  
PROJECT OVERVIEW BINDER “A.2”**

**CONDITIONS**



**Conditions for Use**

The Testing Board recommends the Secretary of State adopt the following conditions for use of the voting system. These conditions are required to be in place should the Secretary approve for certification any or all of the items indicated in the **COMPONENTS** section. Being that many conditions address the security, auditability and availability of the system component, the testing board would firmly reject any option which removes, replaces or diminishes the conditional requirement and still allow the system to be used and recommended for certification. Any "Y" value in the recommendation table would change to a "N" value with any change to the conditions.

**Global Conditions (applies to all components):**

- 1) Modem and other telecommunication devices may not be used on any subsystem component - system provider was unable to meet or provide prerequisite FIPS 140/180 certifications.
- 2) Provisional ballots must be processed separately from non-conditional ballots - system subcomponents are unable to functionally differentiate and correctly process to Colorado specific requirements.
- 3) Coordination of Escrow Setup - Upon Certification, voting system manufacturer must coordinate the Escrow of the TRUSTED BUILD software with SOS escrow, or third party escrow service as required by Rule 11 prior to use in Colorado.
- 4) Abstract Report generation - abstracts used for State reporting must come from Unity Software, or other external solution, rather than from the specific device.
- 5) Trusted Build Verification
  - a) The system components do not allow for proper verification of trusted build software. Any breach of custody and/or other security incidents will require the rebuild of the component with the state trusted build software. This requirement applies to all voting devices, firmware and software components of the system.
  - b) Counties shall ensure that hardware, software and firmware purchased for use of the system matches the specifications of VSTL/EAC and/or State Certified and trusted versions, not to the version presented in the vendor documentation.
- 6) Counties using the voting system shall testify through their security plan submission that the voting system is used only on a closed network.
- 7) Due to known system failures, the vendor did not submit any information to the testing board for testing alternative language requirements. Use of this voting system will be limited to counties that are not required to provide alternative languages to voters under Secretary of State Rule 45.5.2.3.4.
- 8) The voting system does not have the means to process multi-paged ballots. Counties must take this into consideration when programming and designing ballot layouts to accommodate the requirements in C.R.S. 1-5-704 within the limitations of the system.

## **Software Conditions (Unity 3.0.1.1):**

### 1) System/database/network security hardening.

a) Because the voting system operates in a non-restricted system configuration containing open file system access to locate, copy, open and overwrite without detection, election vote content database files outside of election management system application by third-party tools, counties will be required to modify their physical environmental conditions. If the system is approved for certification, counties shall submit plans for approval to the Secretary of State's office on overcoming these conditions through county environmental and/or procedural changes where possible.

b) In addition to physical environmental changes, counties shall create a second (or backup) copy of the Unity database that is created immediately after the point of memory card downloads. The backup copy shall be stored on closed CD Media and documented as matching the master database. This process shall be observed by two election staff members. Chain of custody documents shall be generated for the media, and the media shall be sealed with at least two tamper evident seals and stored in a sealed or lockable transfer case that is stored in a limited access area. AFTER the close of polls, the designated election official shall load the sealed copy of the database onto the server and proceed with uploading memory cards after documenting the loading of the backup master database onto the system. After loading the sealed database copy, the county shall re-secure the database with seals (updating necessary logs) in the limited access location.

c) Additionally, to overcome deficiencies in security and auditing of the system, the county will be required to perform increased Election Night and Post Election Audits for this system. All post-election audit data shall process a hand count of paper ballots which shall match the totals report from the specific device, as well as the totals for the Unity/ERM database. Counties shall prepare for this event with one of two methods:

Option #1 – Prepare for the upload of memory cartridges/components as normal. Print necessary zero report. Upon uploading each individual memory card, print a summary report showing the change in totals from the upload of the memory card. Label the report to match the name/number of the memory card uploaded. Continue to upload memory cards and print totals reports to match. When auditing a specific device, use the difference between the report totals for the memory card selected for the audit and the totals from the immediately preceding memory card report to calculate vote totals generated by the Unity/ERM software.

When memory cards are delivered to the county for upload, the machine generated report shall be delivered for inspection as well. On election night, when the summary report indicated above is created, the difference totals (delta report) are immediately compared to the totals from the report generated by the device at the polling place. If the reports match, the public is ensured that the totals from the polling place match the totals from the county server. If the totals are different, the county is to report the situation (on election night) to the Secretary of State for audit, security and remedy procedures.

During the post election audit process, the totals of the paper record for the specific device are to be hand counted and verified against the electronic record for the device. The canvass board shall report the verification of three totals to match – the paper record of the device, the totals of the

electronic vote on the device, and the totals in the Unity/ERM server; OR

Option #2 – Prepare for the upload of memory cartridges by creating one master default database (containing all memory cards/cartridges). Create individual databases to contain values (upload data) for each separate memory card (or in some instances by batch of ballots – see condition #4b under Central Count devices. Upload memory card/cartridges into master database, and into the specific database created for that memory card (two separate uploads). This process must happen on Election Night and with observation by at least two people. Election summary reports shall be printed from each individual database and manually added together. The totals from the individual databases must match the master database before proceeding. Upon verification that the master and individual databases match, the county can then use the individual reports to conduct a hand count of the paper ballot (or paper record) generated by the device to show that the GEMS totals match. The verification of the separate upload databases verify that the database totals match the field totals on each memory card device, as was designed after the point of Logic and Accuracy testing took place.

2) Ballot-On-Demand restriction.

No provision for ballot reconciliation. This will require counties to have an extra supply of preprinted ballots on hand.

3) Audit Trail Information:

a) Counties will be required to produce certain reports identified in C.R.S. 1-7-509 using an external process which will include at a minimum exporting result from the Unity/ERM software for processing by other methods.

b) Operators of the system shall also be required to maintain logs indicating use of the report printing functions of the software, and detailed information to changes of the system including hardware changes which shall include: insert removable media, remove removable media, modify system hardware drivers, modify system physical hardware, and any other system property changes made by either judges or other trusted staff. Logs shall be maintained physically in a file outside or separate from the database, which is NOT accessible for review and/or modification by user/operator accounts on the system, but that is readily accessible to election officials or other interested party.

4) Performance Deficiencies.

Due to failures in performance, counties shall allow extra time for downloads and uploads of memory card devices. This may impact programming, testing and use of the system on election night. Counties shall ensure trusted staff is properly trained on this issue and accommodating the allowable time required for programming memory devices.

5) Provisional Ballots.

The software is not capable of processing provisional ballots internally to accept federal and state only questions. A procedure outside of the voting system will be required. Additionally, the abstracts and reports created by the software do not meet the requirements of rule 41.6.3(g) and users of the system will be required to generate an abstract outside of the voting system.

6) Election Database Creation and testing.

a) The system was unable to be fully tested with all testing board requirements for ballot layouts as required. Therefore, additional testing will be required by counties for both electronic and paper ballots to ensure all voting positions are working as designed prior to each election. This shall include

ordering a complete set of at least 5 ballots of each style that contain the prescribed design for that election. County officials shall mark each possible position for each race on the ballots. All ballots shall be tested internally prior to the public logic and accuracy test. The goal of the pretest is to ensure that all available positions are counting when marked correctly.

b) Counties are to ensure that ballots are designed and created according to state requirements. The system does not prevent a “backflow” of data changes, nor do system logs accurately represent changes made within the system, and the effect of the changes. Counties using the system shall be required to maintain a written log/audit of changes made to any component of the system after the point when ballots are ordered and/or when any memory cards are created/burned – whichever is earlier.

### **Precinct Count Scanner Conditions (M100):**

1) Intrusion seals for protection of Trusted Build firmware.

Device has no provision of Trusted Build verification once installed. Counties will be required to maintain constant seals on voting device memory slot, back panel, and other entry points as indicated by the Secretary of State.

2) Ballot processing.

Only Primary and Recall election ballots shall be processed. The testing board was unable to successfully process ballots from the coordinated election. Therefore, the device may not be used for this election type, or any election requiring ballots longer than 11."

3) External Battery backup (UPS) devices required.

Insufficient internal power reserves to sustain minimum 3 hour continuous operation. Counties shall purchase and use an external power supply that meets or exceeds the vendors' recommendation for the component.

4) Device security accessibility.

a) Device level administrative functions requiring access involving the use of keys, memory cards, and passwords must be restricted to single person entry with detailed logs.

b) County use of voting system will require use of Unity Software to modify the “administrator” password on the voting devices.

5) Ballot/Race conditions simulation.

Additional County testing shall be required to accommodate ballots with conditions from each election. This shall include ordering a complete set of at least 5 ballots of each style that contain the prescribed design for that election. County officials shall mark each possible position for each race on the ballots. All ballots shall be tested internally prior to the public logic and accuracy test. The goal of the pretest is to ensure that all available positions are counting when marked correctly.

6) Audit trail information:

a) Operators of the system shall also be required to maintain logs indicating use of the administrator functions of the device by either judges or other trusted staff.

b) Counties will be required to produce certain reports identified in C.R.S. 1-7-509 using an external process which will include at a minimum exporting result from the Unity software for processing by

other methods.

c) Judges shall be required to include device serial number on all reports regarding use of the device. Additionally, the county shall include the device serial number on applicable reports from the device.

d) Counties will be required to perform additional post election audit functions for the device to accommodate for security deficiencies. In an effort to increase confidence in the recording of votes by the device, the post-election audit shall include the verification of the hand count of paper ballots to match the totals generated from the Unity/ERM software as indicated in Software condition #1c.

7) Voting Secrecy.

Insufficient privacy of ballot was detected using secrecy sleeve. Election administrators must ensure that the system secrecy sleeve (from ESS) is used for ballots with only one column. For ballots with more than one column, the counties shall create a secrecy sleeve to accommodate the deficiency and submit design form to Secretary of State for approval.

### **Central Count Scanner Conditions (M650):**

1) Intrusion seals for protection of Trusted Build firmware.

Device has no provision of Trusted Build verification once installed. Counties will be required to maintain constant seals on voting device memory slot, back panel, and other entry points as indicated by the Secretary of State.

2) Ballot processing.

Only Primary and Recall election ballots shall be processed. The testing board was unable to successfully process ballots from the coordinated election. Therefore, the device may not be used for this election type, or any election requiring ballots longer than 11."

3) External Battery backup (UPS) devices required.

Insufficient internal power reserves to sustain minimum 3 hour continuous operation. Counties shall purchase and use an external power supply that meets or exceeds the vendors' recommendation for the component.

4) Audit trail information:

a) Judges shall be required to include device serial number on all reports regarding use of the device. Additionally, the county shall include the device serial number on applicable reports from the device.

b) Counties will be required to produce certain reports identified in C.R.S. 1-7-509 using an external process which will include at a minimum exporting result from the Unity software for processing by other methods.

c) Batches must be saved to zip disk. Save must take place after each batch.

b) Counties will be required to perform additional post election audit functions for the device to accommodate for security deficiencies. In an effort to increase confidence in the recording of votes by the device, the post-election audit shall include a hand count of at least the following amounts of ballots:

Considering the closest race in the election, if the difference between the top two candidates for the race is:

10% or greater, then hand count 60 ballots for every 10,000 cast;  
9.00% - 9.99%, then hand count 65 ballots for every 10,000 cast;  
8.00% - 8.99%, then hand count 70 ballots for every 10,000 cast;  
7.00% - 7.99%, then hand count 80 ballots for every 10,000 cast;  
6.00% - 6.99%, then hand count 95 ballots for every 10,000 cast;  
5.00% - 5.99%, then hand count 115 ballots for every 10,000 cast;  
4.00% - 4.99%, then hand count 140 ballots for every 10,000 cast;  
3.00% - 3.99%, then hand count 185 ballots for every 10,000 cast;  
2.00% - 2.99%, then hand count 275 ballots for every 10,000 cast;  
1.00% - 1.99%, then hand count 550 ballots for every 10,000 cast;  
0.01% - 0.99%, then hand count 1200 ballots for every 10,000 cast.

The verification of the hand count of paper ballots shall match the totals generated from the Unity/ERM software as indicated in Software condition #1c. Counties shall load only the master database from the secured storage location for processing the post election audit ballots as indicated in Software Condition #1b. Counties shall prepare database and batches of ballots prior to scanning into system (for election results) to accurately generate reports in batch sizes as necessary for the audit. If the county or system is not capable of accommodating the requirement of batch size after the outcome of the election is revealed, the highest percentage of ballots shall be used for the audit process.

5) Ballot/Race conditions simulation.

Additional County testing shall be required to accommodate ballots with conditions listed. This shall include ordering a complete set of at least 5 ballots of each style that contain the prescribed design for that election. County officials shall mark each possible position for each race on the ballots. All ballots shall be tested internally prior to the public logic and accuracy test. The goal of the pretest is to ensure that all available positions are counting when marked correctly.

6) Device Security Accessibility.

Device level administrative functions requiring access involving the use of keys, memory cards, and passwords must be restricted to single person entry with detailed logs.

## **DRE Conditions (iVotronic):**

1) External Battery backup (UPS) devices required.

Insufficient internal power reserves to sustain minimum 3 hour continuous operation. Counties shall purchase and use an external power supply that meets or exceeds the vendors' recommendation for the component.

2) Intrusion seals for protection of Trusted Build firmware.

- a) Device has no provision of Trusted Build verification once installed. Counties will be required to maintain constant seals on voting device memory slot, back panel, and other entry points as indicated by the Secretary of State.
- b) Election official shall go into Unity software and change passwords for the iVotronic.

3) Ballot/Race conditions simulation.

Additional County testing shall be required to accommodate ballots with conditions listed. This shall include ordering a complete set of at least 5 ballots of each style that contain the prescribed design for that election. County officials shall mark each possible position for each race on the ballots. All ballots shall be tested internally prior to the public logic and accuracy test. The goal of the pretest is to ensure that all



available positions are counting when marked correctly. All ballots in this detail shall be "marked" using the DRE device as applicable for similar testing.

4) V-VPAT paper record shall be handled per Rule 11.6.

Prescribed paper record is of the thermal type and requires special storage conditions to avoid legibility degradation.

5) Audit trail information:

a) Counties will be required to produce certain reports identified in C.R.S. 1-7-509 using an external process which will include at a minimum exporting result from the Unity software for processing by other methods.

b) Operators of the system shall also be required to maintain logs indicating use of the administrator functions of the device by either judges or other trusted staff.

6) V-VPAT Security.

a) The V-VPAT device provides no assurance that it cannot accommodate other devices, and/or the device is a standard communication port. This connection between the V-VPAT printer and the DRE unit shall be secured with tamper evident seals with proper chain of custody documentation to prevent and detect tampering.

b) Only the 9" screen shall be used when using this system. The vote data can be viewed by election judges when the paper is changed when the 4.5" screen is used.

c) The lock on the V-VPAT must be sealed with a tamper-evident seal.

d) Only firmware that is loaded during the Trusted Build shall be allowed on the V-VPAT device.

7) Accessible operation.

a) Due to the inability for the voter to pause and resume the audio text, election judges shall provide instructions specific to this fact to the voters and operations for repeating the text if text was missed, which shall include details on navigating forward and backwards through the system prompts.

b) A headset with an adjustable volume, which meets the State of Colorado specifications, must be provided.

8) Device Security Accessibility.

a) Device level administrative functions requiring access involving the use of keys, memory cards, and passwords must be restricted to single person entry with detailed logs.

b) Devices deployed in Colorado shall require the disabling of the PEB activation port due to security concerns discovered through functional testing. A common magnet (example = money clip) can cause a series of attacks and unauthorized control of the device.

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**COMMENTS**



## **Test Board Comments**

The testing board has unveiled a known reality that no computer system is perfect. Additionally, we have discovered and documented that no system can currently meet the requirements of Rule 45 as applied in its strictest sense. Where possible, the testing board attempted to overcome these deficiencies in the form of “conditions for use” of the system – procedural workarounds.

The testing board recognizes that the conditions created are in essence a “last resort” workaround to accommodate requirements that do not meet specific sections of Colorado Revised Statutes 1-5-615. The preference of the testing board would be to have the specific deficiencies addressed with a system solution as required. Given the ability to mitigate deficiencies with procedural workarounds (C.R.S. 1-5-621), the testing board presents conditional use scenarios in the “**Conditions**” section that are directly tied to the recommendation status. Being that many workarounds address the security, auditability and availability of the system component, the testing board would firmly reject any option which removes, replaces or diminishes the conditional requirement and still allow the system to be used and recommended for certification. Any “Y” value in the **Recommendation** table would change to a “N” value with any change to the conditions.

These conditional procedures rely heavily on proper execution by county administrators and/or election judges. While we have faith that these dedicated workers will attempt to perform their duties to the best of their abilities, a majority of the conditions involve a human element which may or may not produce the acceptable outcome. This single factor alone causes concern that a security issue may not be resolvable in a post-election scenario.

Finally, it is of value to point out that the conditions that address security specific events are only addressing the attack scenario of a change in vote totals (refer to Cyber Security Report). The essence of the workaround in this case is to ensure that the vote totals calculated electronically are a match to the paper records. This requires absolute assurance that all paper records exist and are auditable for a successful outcome and high confidence in the report of votes by any given county.

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PROJECT OVERVIEW BINDER “A.2”**

**AUDIT REPORTS**

**STATE OF COLORADO**  
**Department of State**

1700 Broadway, Suite 270  
Denver, CO 80290

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**Mike Coffman**  
**Secretary of State**

**Holly Lowder**  
**Director, Elections**

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The Testing Board delivered the project in the form of electronic files to Glenn Newkirk of InfoSENTRY Services, Inc. for review under the independent audit process. The results of the audit are included herein and attached as part of this section.

Although the auditor specifically stated that no additional action and/or update to the report was necessary, the testing board responded to the audit findings as follows:

Findings 1, 2, 7, 8, and 9 – no additional actions necessary by testing board.

Finding 3 and 5 – independent reproducibility.

The auditor provided helpful detail to the testing board regarding the ability for independent review of the process and evaluation of the system. To address specific concerns, the testing board specifically addressed video records to address a few incorrect-labeling instances, and provide index records for the compilation of video records. Additionally, specific details were added to the document review binders to provide more specifics on documents that may have been used including page numbers where possible.

The testing board supports the findings that the compilation of written, photo and video records are necessary in the independent reproduction.

Finding 4 – Photo quality and reproduction.

Based on auditor comments, the reproduction process did not provide a clear copy of photographs as identified in the original document set. While the testing board provided an electronic copy of all photographs, the specific mapping of photographs to test numbers was not included. The testing board will work on recreating the electronic evidence to provide test number names to electronic files used for photographs. In the interim, the original master record contains clear original printed photographs.

Finding 6 – Proper number of signature.

The auditor indicated instances of pages missing the required number of signatures. The testing board has evaluated and remedied the problem. Updated test records are located in addendum binders. The instances of missing signatures applied to less than 5 test records.

Additionally, where possible the test board responded to each of the “flagged” items provided by InfoSentry in Attachment 1 of the audit report. Evidence of items that were corrected or modified can be found in the addendum binders of the certification process.



**Audit of the Colorado Secretary of State's Tests of  
Election Systems and Software, Inc. Voting Systems**

*For*

**The Colorado Secretary of State's Elections Division**

*By*

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## Introduction

The State of Colorado has developed a program to examine and certify voting systems for use in the State's counties. The Colorado Secretary of State has put in place a detailed examination procedure in which staff members of his office have begun examinations of precinct-count optical scan (PCOS), central-count optical scan (CCOS), ballot marking, and direct recording electronic (DRE) voting systems and corresponding data transfer and election management systems.

The Secretary has placed detailed descriptions and discussions of the examination and certification program on his office's website at <http://www.elections.colorado.gov>.

As part of the program, the Secretary's office has contracted with independent auditors to review, evaluate, and audit the procedures and outcomes of the examination and certification process. InfoSENTRY Services Inc., an independent technology consulting firm based in Raleigh, North Carolina, was one of the firms selected to serve as voting system test auditor. It assigns certified information technology professionals as key members on all of its project teams.

M. Glenn Newkirk, President of InfoSENTRY Services, Inc., conducted the audit for the firm. Mr. Newkirk has conducted voting systems examinations and audits on most major manufacturers' voting equipment throughout the United States. Mr. Newkirk is a Certified Business Continuity Professional, Certified Software Project Manager, and Certified Business Resilience Auditor.

As part of the audit, the Testing Board provided InfoSENTRY with the following documentation and materials.

1. The complete documentation generated for each voting system (31 binders), presented in both paper<sup>1</sup> and electronic form;
2. Index of all tests conducted during certification;
3. Electronic copies of template databases and complete (populated) databases used by the testing board;
4. Any and all supplemental documentation provided by the voting system vendors;
5. Copies of all applicable video footage recorded during the certification process;
6. Copies of photographic evidence created during the tests;
7. The procedures document used by the Secretary of State for testing;
8. Copies of Secretary of State Election Rule 45, other applicable Secretary of State Elections Rules, and Title 1 of the Colorado Revised Statutes.

The Secretary of State's Office required the auditors to provide the following audit statements in the audit reports:

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<sup>1</sup> InfoSENTRY chose not to receive the paper forms of all of the test results.



- a. Summary statement(s) for each system, highlighting any issues or inconsistencies with the testing board's evaluation;
- b. Specific statements on any failures of the testing board to comply with its stated objectives;
- c. Specific statements on any items that the independent auditors request the testing board to re-examine;
- d. Any additional reports or statements the independent auditors feel necessary to produce as a result of their review.

The findings and recommendations in this document pertain to the auditor's review of examinations performed on voting systems submitted by Election Systems and Software, Inc. ("ES&S").

## **Certification Test Basis and Authority**

The Colorado Secretary of State developed its test standards and procedures pursuant to COLORADO SECRETARY OF STATE 8 CCR 1505-1 ELECTION RULES.

Specifically, the materials relating to voting systems standards and procedures for certification are in "Rule 45. Rules Concerning Voting System Standards for Certification.'

Subsequently, the Department of State staff developed a test plan to guide the specific application of the certification standards and procedures to systems submitted by each vendor.

## **Audit Basis and Authority**

An audit must have a basis against which the auditor can proceed. The Secretary of State established the basis for conducting this audit from the language in COLORADO SECRETARY OF STATE 8 CCR 1505-1 ELECTION RULES. Specifically, there is the following language in Rule 45.1.16:

"Test Log" means documentation of certification testing and processes which is independently reproducible to recreate all test scenarios conducted by the testing board. The log may include documentation such as: photographs, written notes, video and/or audio recorded notes.

This rule, when combined with the previously fully stated technical and operational standards for certification, provides a sufficient basis on which to conduct an audit. A key phrase in Rule 45.1.16 is "independently reproducible." The key question is whether a person or group operating independently from the testing authority and the objects of the test can follow the Testing Board's processes and scenarios and reasonably produce the same evidentiary trail and conclusions as the testing board.

It is this basis against which this audit proceeded.

## Audit Scope and Plan

The scope of this audit was the set of tests applied to the voting systems submitted by ES&S to the Colorado Secretary of State for certification. ES&S submitted the following voting systems and voting systems components for certification:

- ❑ UNITY 7.1.2.1 (Election Management System)
- ❑ M650 2.1.0.0 (Central Count Optical Scan)
- ❑ M100 5.2.1.0 (Precinct County Optical Scan)
- ❑ iVOTRONIC 9.1.6.2 (DRE)
- ❑ AUTOMARK 1.2.18 (Ballot Marking Device, Voter Assist Terminal)

InfoSENTRY developed the following plan with which to conduct the audit.

1. Review the documentary, video, and photographic evidence for the test process and the individual test.
2. Request additional materials as required.
3. Interview the Testing Board members to discuss specific audit concerns and concerns of the Testing Board.
4. Prepare the Audit Report.

## Materials Reviewed

Attachment 1 contains a list of the documents, videos, photographs, and other materials that InfoSENTRY reviewed during the audit. Given the substantial volume of materials, in particular the 200+ DVDs containing videos of beginning-to-end test sessions, it was not possible to review 100% of all of the materials. Most DVDs contained at least an hour of video materials, while others contained several hours of video shooting. Instead, InfoSENTRY reviewed the materials as required to meet the mandate of the audit.

The following table contains a brief description of the nature of our review of each audited document.

<b>For completeness:</b> InfoSENTRY reviewed the document to validate that it was usable, complete, and contained all of the materials that it purported to contain.
<b>Reference:</b> InfoSENTRY reviewed only a specific portion of the document or video to ascertain a specific piece of information.
<b>Partial:</b> InfoSENTRY reviewed portions of the material, but did not review the document in its entirety.
<b>In Entirety:</b> InfoSENTRY entry reviewed the material in its entirety.

After reviewing substantially all of the materials, the audit proceeded to the next phase—an interview with the Testing Board.

## **Testing Board Interview**

InfoSENTRY conducted a telephone interview with four (4) members of the Secretary of State's Testing Board. The interview covered both specific items of the ES&S tests as well as discussions of the general test process.

InfoSENTRY chose not to receive the overall preliminary outcome and recommendations of the Testing Board for the individual voting systems and modules until after concluding the documentation review and the Testing Board interview. The purpose of this choice was to avoid having any potential overall knowledge bias introduced into the review of the documentation and individual tests.

## **Audit Findings**

**FINDING 01: The Department of State Testing Board operated in material compliance with the specified Colorado rules and procedures in development and application of its test plan for voting systems offered by ES&S.**

In reviewing the documentation, video records, and photographic materials provided by the Testing Board, we found clear evidence to indicate that the Colorado Department of State (CDOS) had adhered to the properly adopted rules and procedures for test structure, test documentation, and test reports.

The Department of State staff conducted public demonstrations of the ES&S systems under examination as required. The public demonstration covered points determined to be necessary by the Colorado Department of State's voting systems program staff members. The CDOS Testing Board monitored the demonstrations as required and produced appropriate documentary and video material from the demonstrations.

The Testing Board prepared a "trusted build" of the voting systems software in several sessions that spanned several days. However, creation of the trusted build required the vendor to provide additional documentation and to provide additional security assurances that all of the software provided to Colorado was, in fact, the software that the Federal testing authorities had examined previously. In the end, the Testing Board created testable "trusted builds."

The Testing Board's primary deviations from its original test plan came as a result of (1) missing or incomplete information, (2) incomplete configuration or programming of test objects, (3) improperly configured paper ballots for use with optical scanning devices, and (4) equipment malfunctions, particularly of the M650, that prevented completion of test scenarios and scripts.

Nonetheless, the Testing Board developed sufficient procedures and operations to see that it continued tests until all available time for testing expired.

**FINDING 02: The combined documentary materials and videos provide "chain-of-custody" evidence that the examiners were examining what they were supposed to be examining.**

The Testing Board maintained documentary materials and videos according to industry-standard procedures to assure an adequate "chain-of-custody" for test evidence. Both

the documents themselves and videotapes reflect due diligence and caution in document preparation and handling.

These activities extended to the use of appropriately applied tamper-evident seals on voting equipment and on test materials provided to the auditors. The videotapes and photographs provide clearly visible indications of the use of tamper-evident seals during all test phases. Both the test plan and documentation provided by the Testing Board indicate a controlled use of check-in and check-out procedures for test documentation and other controlled-access materials.

**FINDING 03: The Testing Board produced test results that are independently reproducible, though it will be difficult for third-parties who are not familiar with voting systems technology and ES&S voting systems to carry out those tests.**

There are really two separate questions involved with this finding. First, could the Testing Board reproduce its own results following the same test plans and scripts? The answer to that question is "yes." The bases for this conclusion are (1) our observations of the videotapes and reviews of the documentation and (2) our interviews with the Testing Board members. Early in the testing cycle, the testers became thoroughly familiar with the operations of the systems. They would be able to use their initial test scenarios and scripts to reproduce the test, assuming that the vendor supplied all of the required documentation, coded the elections correctly, and printed sufficient ballots.

The second question is "Could someone not thoroughly familiar with voting systems technology, in general, and with the ES&S voting systems presented for inspection produce the same results?" The answer to that question is "yes, but with substantial difficulty." A third-party examiner who was unfamiliar with voting systems technology and with the specific ES&S system under consideration would face a substantial learning curve in order to carry out the examination. In fact, the third-parties would require full training that ES&S would normally provide officials and technicians in election offices in order to carry out the testing. Such third-party examiners would also require a substantial amount of time to carry out those examinations, probably well in excess of the amount of time required by the CDOS Testing Board to complete the tests.

A third-party examiner almost certainly would require use of the Testing Board's test documentation, test videos, and test photographs from this round of testing in order to replicate some of the tests. However, because all of those materials are part of the test record, that is not an unacceptable barrier to reproducing the tests and their results.

**FINDING 04: The audit found very few of the evidentiary photographs to be of such a quality that they were not useful for reviewing the examination.**

There were very few instances in which the test photographs were not readily viewable. They were sometimes only difficult to see and in other instances they were not viewable at all.

Attachment 1 contains listings of photographs that were not usable in the audit. However, because of the very large number of photographs and the abundance of other documentary and video data, the inability to use only several photographs did not affect in any material way our ability to complete the audit.

**FINDING 05: The audit found several instances in which the Testing Board did not provide clear "flash cards" identifying clearly the tests on the videos.**

The Testing Board generally did a thorough job of identifying the machines under examination on most of the videos. However, as noted in audit comments in Attachment 1, there were some instances in which it was difficult to determine which machines were being covered by the videos. The auditor's notes in Attachment 1 point to only minor instances in which the Testing Board will need to examine and replace video DVDs that are apparently mislabeled.

There are no remedial steps necessary on the ES&S tests covered by this audit. These problems with video "flash card" identifiers did not materially hinder our ability to judge the results of the tests because there was a sufficient amount of other photographic and documentary data upon which to base our audit findings.

**FINDING 06: The audit found very few instances in which written tests did not have the mandatory three signatures from Testing Board members or the test documentation was incomplete.**

The test procedures called for three co-signatures on each written test result. The audit found a very small number of test documents that had only two of the required signatures. There was an even smaller number of instances in which we were not able to find a piece of documentation in its proper location in the binders. These problems did not materially impair our ability to judge the results of the tests.

The auditor's notes sections in Attachment 1 contain specific instances in which we noted missing signatures and documentation pages out of order. We note here that given the tremendous volume of test documents, the test documentation set was complete and well organized.

**FINDING 07: The Testing Board's primary limitations in fully achieving its stated objectives were (1) lack of complete documentation and test materials provided by ES&S, (2) scanning equipment malfunctions, and (3) improperly coded systems and ballots.**

The test documentation is replete with instances in which testers noted missing or incomplete documentation. There are instances in which the vendor had not provided a sufficient number of test ballots. Optical scanning devices malfunctioned repeatedly. Vendor-supplied election programming and ballot coding for certain types of ballots caused substantial delays.

If (1) all of the documentation and accurate printed ballots had been forthcoming at the beginning of the test cycle, (2) the scanning equipment had operated properly without having to receive occasional technical maintenance by the vendor, and (3) the ballots and systems had been accurately coded, the Testing Board most likely could have completed the tests in the planned time frame.

The Testing Board could have chosen an approach of simply terminating the testing very early in the cycle when it became clear that the vendor did not have all of the documentation and test objects ready. However, the Testing Board's choice was to continue as much of the testing as possible, while requesting the needed documentation, resources, and support to undertake other tests. The test videos display

instances in which Testing Board members discuss these and other options when they confronted the various problems noted in this audit.

The Testing Board did a professional job of conducting tests when materials and systems were ready for testing, in spite of these problems.

**FINDING 08: The audit finds no need to re-examine the systems in order to accept the Testing Board's preliminary findings.**

InfoSENTRY was able to use the combination of documentary materials, videos, and photographs to analyze each set of tests and test findings. The audit finds that there is sufficient evidence in the case of each voting system to support the Testing Board's preliminary findings and recommendations.

It is likely that the vendor will request a re-examination of those units and systems to which the Testing Board gave a failing recommendation. It is very important that the vendor provide complete and accurate documentation, sufficient and accurately prepared paper ballots, accurately programmed elections, and accurately coded ballots at the beginning of any re-test effort. We suggest that the vendor spend time on site at the beginning of the re-test cycle in order to carry out a full inventory of documentation, test objects, and other test materials prior to the Testing Board getting under way with the tests. If the full complement of documentation, test objects, and other test materials are not in place at the beginning of the test, we recommend that the Testing Board not begin its test efforts.

**FINDING 09: The audit requires no additional materials or reports from the Testing Board in order to accept the Tests Board's preliminary findings.**

InfoSENTRY requires no additional materials, reports, or clarifications from the Testing Board in order to understand and accept the Testing Board's preliminary findings. We have had our questions answered concerning specific records and tests.

## Audit Conclusions

InfoSENTRY provides the following conclusions for the voting systems presented for examination and certification by ES&S.

- ❑ UNITY 7.1.2.1 (Election Management System). InfoSENTRY concurs with the Testing Board's preliminary recommendation.
- ❑ M650 2.1.0.0 (Central Count Optical Scan). InfoSENTRY concurs with the Testing Board's preliminary recommendation.
- ❑ M100 5.2.1.0 (Precinct County Optical Scan). InfoSENTRY concurs with the Testing Board's preliminary recommendation.
- ❑ iVOTRONIC 9.1.6.2 (DRE). InfoSENTRY concurs with the Testing Board's preliminary recommendation.
- ❑ AUTOMARK 1.2.18 (Ballot Marking Device, Voter Assist Terminal). InfoSENTRY concurs with the Testing Board's preliminary recommendation.

## Attachment 1: Materials Examined and Audit Comments





# Election Systems and Software Voting System Certification Audit: List of Documentation Reviewed and Audit Comments

Document Title	Document Type	Document Autho	Document date	Review type
Binder 01: Application.	Test Documentation	CDOS	25-Sep-07	In entirety
<b>Auditor notes:</b>  <p>Contains materials from binder 01. The test AA6-P1-607 carries an initial outcome of "Suspend" and a final outcome of "Fail." The test notes indicate that the Testing Board requested and received multiple submissions of required documentation sets. However, the Testing Board notes also indicate that the vendor did not supply all of the required documentation, ultimately causing the Testing Board to issue the "Fail" outcome for this test.</p> <p>The above note applies also to test AA6-P1-617.</p> <p>An 07 April 2007 letter from CDOS to ESS (on page 30 of DVD) indicates that CDOS agreed to advance the documentation set to Phase II review. This step came with a notice that CDOS was taking the action even though the documentation submission was incomplete. At this stage, CDOS could have chosen an alternative approach or terminating the examination until the vendor submitted a complete documentation set.</p>				



Document Title	Document Type	Document Autho	Document date	Review type
Binder 02: Documentation Review.	Test Documentation	CDOS	26-Sep-07	For completeness
<b>Auditor notes:</b> Contains materials from binder 2-6. The Testing Board completed the review against all submitted documents for Test AB6-P2-1 (security documentation). After over 5 months waiting for submission of the required documents, the Testing Board terminated the test and assigned a "Fail" outcome to all 6 submitted test objects.				
				<p>The Testing Board indicated "Fail" outcomes for the AutoMARK VAT in tests AB6-P2-57 and AB6-P2-58. AB6-P2-57 deals with tabulating and registering votes. The AutoMARK does not tabulate votes, although arguably it does "register" the fact that the device has processed a ballot. It is arguable that the Testing Board should have assigned an "NA" outcome rather than a "F." AB6-P2-58 deals with ballot counting logic and activities. The AutoMARK has no "ballot counting logic" other than a capability to register the number of ballots that run through it. Arguably, the Testing Board should have assigned an "NA" to this AutoMARK documentation review as well.</p>
				<p>In Tests AB6-P2-74 through -78, the Testing Board assigned an outcome of "Fail." Those tests expect documentation concerning "voting equipment that tabulates ballots." The AutoMARK does not tabulate ballots. Arguably, the Testing Board could have assigned an "NA" outcome instead of an "F" outcome. However, it is reasonable that the vendor should have provided the required ITA documentation to affirm how the AutoMARK functions and that it does not have any tabulation function.</p>
				<p>In general, Colorado's requirement for receipt of the ITA reports applies to all of the documentation, technical, and functional requirements for all of the systems and equipment. The ITA reports help establish what the systems do and what they do not do.</p>
				<p>The vast majority of documentation review tests in this binder reflected an inability to proceed because the vendor had not provided the documents for the review. The Colorado Department of State would have been well within testing guidelines and standard practices to terminate each individual test far earlier in the process. However, they gave the vendor ample opportunity to comply, but the outcome remained the same. As of mid-September, the vendor had not provided the required documentation. The CDOS properly issued "Fail" outcomes in the appropriate situations. It became a matter of a "Fail" outcome by default. It is not really possible to test an object or item that you do not have.</p>
				<p>The attached correspondence regarding the lack of required documentation and the exchanges between the SOS/CDOS staff and the vendor's representative provides a clear trail of the documentation that the vendor did not provide during the test window.</p>
				<p>Given that most of the anomalous situations discussed above relate to the AutoMARK, we suggest that there is no necessary action required by the Testing Board. It would assist in the clarity of the decisions if the Testing Board provided a written memorandum to support their outcome decisions in the cases noted above.</p>

Document Title	Document Type	Document Autho	Document date	Review type
Binder 03: Documentation Review.	Test Documentation	CDOS	26-Sep-07	In entirety
<b>Auditor notes:</b>	<i>Contains material from Binder 2-6. The vast majority of tests in this binder fell into two categories. The first category included tests that were "Not Applicable" before 12/2007. The second category included tests whose outcomes were "Fail" because of a lack of required documentation (largely ITA reports) from the vendor. The results on these tests mirrored many of those in Binder 01.</i>			
	<i>Attachments contain correspondence between CDOS and the vendor regarding difficulties assuring properly printed test ballots, RTAL paper, and M100 paper in sufficient quantities for testing. There are also several exchanges regarding problems with the M650 CCOS device.</i>			
	<i>No actions required for the Testing Board.</i>			
Binder 04: Documentation Review.	Test Documentation	CDOS	26-Sep-07	In entirety
<b>Auditor notes:</b>	<i>Contains Binder 2-6. This binder also contains many tests whose outcomes were listed as "Fail" because of missing or unclear documentation, most notably ITA reports. There are repeated email communications among CDOS testers regarding the difficulty in establishing a clear line of traceability between version numbers in the documentation submitted and the systems referenced for testing. There is a relatively smaller number of tests appropriately scored as "NA" until 12/2007.</i>			

Document Title	Document Type	Document Autho	Document date	Review type
Binder 05: Documentation Review.	Test Documentation	CDOS	26-Sep-07	In entirety
<b>Auditor notes:</b>	<p>Many tests received a "Fail" outcome because the vendor did not provide the required ITA reports. Numerous other tests received a "Not Applicable" outcome because the requirement does not exist until 12/2007.</p> <p>On the documentation review test AB6-P2-584, the Testing Board, which deals with vendors developing and documenting procedures to ensure that protection against macro viruses, worms, Trojan horses, and logic bombs is maintained in a current status, the Testing Board assigned an outcome of "N/A" to both the iVo with RTAL and the M650. The remaining test objects received an "F" outcome because of a failure to deliver the required documentation. It will not be intuitive to most readers why these devices should be excepted from this requirement. While we all might have knowledge about these devices that would lead us to conclude that their particular characteristics insulate them from the listed security threats, it still should be incumbent on the same set of ITA documentation to ensure the protection is "maintained" in both their current and future forms. RECOMMENDED ACTION: The Testing Board should either provide a clearer written justification for assigning the outcome of "N/A" to these test objects or should revise the outcome to "F" if the vendor did not provide the ITA reports in these cases.</p> <p>On Test AB6-P2-626, the Testing Board assigned the outcome of "N/A" to the M650, instead of assigning "F" because of failure to provide an ITA report. It is our understanding that some jurisdictions have attempted to transmit data over CLOSED (non-public) networks from multiple M650s to servers running Unity for purposes of rapid vote accumulation--as opposed to sneaker-net transmissions by means of the Zip drives. While this kind of transmission is not necessarily over the "public" network discussed in the requirement, it would involve data transmission over a presumably closed network to a server that could be connected to a public network. The Testing Board should confirm from the vendor if there is any configuration of the M650 that can support this type of data communications. RECOMMENDED ACTION: If so, the Testing Board should change the test outcome to "F" until it receives the ITA report and confirms whether any Colorado county purchases an M650 that has any communications capability built in. This same comment applies to other data communications requirements concerning the M650 and the AutoMARK.</p>			
<p>Note the attached memoranda regarding the summaries of pass/fail rates of various devices.</p>				
Binder 06a: Document Review.	Test Documentation	CDOS	26-Sep-07	In entirety
<b>Auditor notes:</b>	<p>This binder contains 2-6.</p>			
Binder 06b: Document Review.	Test Documentation	CDOS	28-Nov-07	In entirety
<b>Auditor notes:</b>	<p>The binder contains information on the status of tests, provided to the vendor from the CDOS.</p>			
Binder 07: Demonstrations.	Test Documentation	CDOS	26-Sep-07	In entirety
<b>Auditor notes:</b>	<p>The binder contains appropriately documented and signed tests concerning vendor demonstrations of the devices.</p>			
Binder 08a: Trusted Build.	Test Documentation	CDOS	26-Sep-07	In entirety
<b>Auditor notes:</b>	<p>The binder contains appropriately structured and documented records of trusted build activities.</p>			

Document Title	Document Type	Document Autho	Document date	Review type
Binder 08b: Trusted Build.	Test Documentation	CDOS	26-Sep-07	In entirety
<b>Auditor notes:</b>	<i>The binder contains appropriately structured and documented records of trusted build activities.</i>			
Binder 08c: Trusted Build.	Test Documentation	CDOS	26-Sep-07	For completeness
<b>Auditor notes:</b>	<i>The binder contains appropriately structured and documented records of trusted build activities.</i>			
Binder 09: Source Code Review.	Test Documentation	CDOS	26-Sep-07	In entirety
<b>Auditor notes:</b>	<i>The binder contains a document affirming that tests AE1-P3-101 through AE2-P3-221 are not subject to certification testing prior to 31 March 2008.</i>			
Binder 10: Source Code Review.	Test Documentation	CDOS	26-Sep-07	In entirety
<b>Auditor notes:</b>	<i>The binder contains a document affirming that tests AE2-P3-222 through AE3-P3-348 are not subject to certification testing prior to 31 March 2008.</i>			
Binder 11: Source Code Review.	Test Documentation	CDOS	26-Sep-07	In entirety
<b>Auditor notes:</b>	<i>The binder contains a document affirming that tests AE3-P3-349 through AE4-P3-475 are not subject to certification testing prior to 31 March 2008.</i>			
Binder 12: Source Code Review.	Test Documentation	CDOS	26-Sep-07	In entirety
<b>Auditor notes:</b>	<i>The binder contains a document affirming that tests AE4-P3-476 through AE7-P3-784 are not subject to certification testing prior to 31 March 2008.</i>			
Binder 13: System Access.	Test Documentation	CDOS	26-Sep-07	In entirety
<b>Auditor notes:</b>	<i>The binder contains appropriate and appropriately signed documentation of system access functions.</i>			
Binder 14: Operating System Security.	Test Documentation	CDOS	26-Sep-07	In entirety
<b>Auditor notes:</b>	<i>The binder contains documentation regarding tests that are not applicable until 2008.</i>			
Binder 15: Database Security.	Test Documentation	CDOS	26-Sep-07	In entirety
<b>Auditor notes:</b>	<i>The binder contains documentation regarding tests that are not applicable until 2008.</i>			
Binder 16: Removable Media.	Test Documentation	CDOS	26-Sep-07	For completeness
<b>Auditor notes:</b>	<i>The binder contains appropriately documented tests regarding removable media requirements. A number of the tests are appropriately evaluated as not applicable.</i>			

Document Title	Document Type	Document Autho	Document date	Review type
Binder 17: Networking and Telecommunications.	Test Documentation	CDOS	26-Sep-07	For completeness
<b>Auditor notes:</b>	<i>There are instances here where failure of a pre-requisite test cause the de facto failure of the subsequent tests. This situation is both a common and a commonly misunderstood condition in testing. There were instances in which the vendor failed to make the necessary equipment available to complete the test. The documentation indicates that the CDOS undertook reasonable efforts to obtain the proper equipment from the vendor.</i>			
	<i>Test BE7-P3-703 does not have all three signatures from the Testing Board. RECOMMENDED ACTION: The Testing Board should examine the test documentation to assure that it has been appropriately signed after examination and approval by all three members.</i>			
Binder 18a: System System.	Test Documentation	CDOS	26-Sep-07	In entirety
<b>Auditor notes:</b>	<i>The binder contains appropriately conducted and documented tests and test results.</i>			
Binder 18b: System System.	Test Documentation	CDOS	27-Sep-07	For completeness
<b>Auditor notes:</b>	<i>The binder contains appropriately documented tests and test results for the AutoMARK and M650.</i>			
Binder 19a: Ballot Process.	Test Documentation	CDOS	27-Sep-07	In entirety
<b>Auditor notes:</b>	<i>The binder contains results primarily of iVo DRE testing.</i>			
	<i>The notes and comments page for Test CC1-P3-105 is missing one of the three signatures. We recommend that the Testing Board review the test documents to assure that, after proper review, all of the required signatures are in place. This action is not directly material to the validity of this particular test and its results.</i>			
Binder 19b: Ballot Process.	Test Documentation	CDOS	27-Sep-07	In entirety
<b>Auditor notes:</b>	<i>The binder contains tests for the M100. Some test failures resulted from the lack of reference to appropriate function and operation in the vendor documentation. Other failure outcomes occurred when testers encountered such a number of problems that the "clock ran out" on the test process.</i>			
Binder 19c: Ballot Process.	Test Documentation	CDOS	27-Sep-07	For completeness
<b>Auditor notes:</b>	<i>The binder contains tests for the M100 and the M650. Some failure outcomes occurred when testers encountered such a number of problems that the "clock ran out" on the test process. These tests, like most technical test situations, have time limits.</i>			
Binder 19d: Ballot Process.	Test Documentation	CDOS	27-Sep-07	For completeness
<b>Auditor notes:</b>	<i>The binder contains test for the M650. Some failure outcomes occurred when testers encountered such a number of problems that the "clock ran out" on the test process. There were also noted instances in which the vendor did not provide the necessary test objects for use in the tests.</i>			
Binder 20a: Ballot Process.	Test Documentation	CDOS	27-Sep-07	In entirety
<b>Auditor notes:</b>	<i>This binder contains results from Unity tests. The test outcomes reflect, as in other tests, an inability to complete the testing because of problems faced in predecessor tests. The binder contains ample copies of vendor documentation references, screen shots, and report samples.</i>			

Document Title	Document Type	Document Autho	Document date	Review type
Binder 20b: Ballot Process.	Test Documentation	CDOS	27-Sep-07	In entirety
<b>Auditor notes:</b> <i>The binder contains AutoMARK tests. The test documentation indicates that in some instance, the sizeable number of errors prevented completion of entire test cycles. Some of the problems occurred because of improperly prepared test paper ballots provided by the vendor.</i>				
Binder 21a: Performance-DRE.	Test Documentation	CDOS	17-Sep-07	In entirety
<b>Auditor notes:</b> <i>The binder contains appropriately documented tests and test results for the iVo DRE, the M100 scanner, the M650 optical scanner, Unity, and AutoMARK. The tests focus on the ability to operate during times of power interruptions.</i>				
Binder 21b: Performance-DRE.	Test Documentation	CDOS	27-Sep-07	In entirety
<b>Auditor notes:</b> <i>This binder contains results of iVo DRE tests. The test and test results documentation are well ordered and contain ample photographic supporting materials, as have previous test binders.</i>				
Binder 21c: Performance-DRE.	Test Documentation	CDOS	27-Sep-07	In entirety
<b>Auditor notes:</b> <i>This binder contains tests for the AutoMARK. The Testing Board assessed a "Fail" outcome for test CE7-P3-701, noting among other things that "there was no way to verify that the ballot was not marked with an overvote." It was our understanding from other AutoMARK tests that a voter could re-insert a marked ballot into the device and have the device provide an audio re-cap of what was marked on the ballot. If an overvote had somehow been marked, it is possible that the error would be read back to the voter. We have never verified that specific capability. However, this question does not materially affect the outcome of this test because of other errors noted by the Testing Board. No action required.</i>				
<i>The Test Board noted in numerous tests that vendor errors in programming ballots and various issues with the paper ballots provided to the Testing Board by the vendor resulted in the assignment of "Fail" outcomes.</i>				
Binder 22a: Audits.	Test Documentation	CDOS	27-Sep-07	In entirety
<b>Auditor notes:</b> <i>This binder contains appropriately documented and organized tests and test results for the iVo, the M100, M650, Unity, and AutoMARK.</i>				
Binder 22b: Audits.	Test Documentation	CDOS	27-Sep-07	In entirety
<b>Auditor notes:</b> <i>The binder contains appropriately documented and organized tests and test results for the iVo and the M100. In some instances, the Testing Board could not complete tests on the M100 because of problems processing the test ballots.</i>				
Binder 22c: Audits.	Test Documentation	CDOS	27-Sep-07	In entirety
<b>Auditor notes:</b> <i>The binder contains appropriately documented and organized tests for the M650, Unity, and AutoMARK. Errors in processing ballots on the M650 prevented the Testing Board from determining if the system met some test requirements. Because of errors in the voting devices' ability to scan and tabulate ballots, the Testing Board was not able to verify the ability of Unity to receive and tally election results. The test requirements for the AutoMARK were generally not applicable because of its operation as a ballot marking device as opposed to a ballot tabulator.</i>				

Document Title	Document Type	Document Autho	Document date	Review type
Binder 23a: Hardware Diagnostics.	Test Documentation	CDOS	27-Sep-07	In entirety
<b>Auditor notes:</b>	<i>This binder contains appropriately documented and collected tests and test results for the iVo, M100, M650, Unity, and AutoMARK.</i>			
Binder 23b: Hardware Diagnostics.	Test Documentation	CDOS	27-Sep-07	In entirety
<b>Auditor notes:</b>	<i>This binder contains appropriately documented and collected tests for the iVo DRE. There were not the requisite three signatures from the Testing Board on Test DB1-P3-104. While this condition does not affect the material outcome of the test, the Testing Board should, after proper review, complete the signatures on this and other tests.</i>			
Binder 23c: Hardware Diagnostics.	Test Documentation	CDOS	27-Sep-07	In entirety
<b>Auditor notes:</b>	<i>The binder contains appropriately documented and organized tests for the M100. The Testing Board noted that the "level and nature of errors" on reading the coordinated ballots prevented full testing and evaluation.</i>			
Binder 23d: Hardware Diagnostics.	Test Documentation	CDOS	27-Sep-07	For completeness
<b>Auditor notes:</b>	<i>This binder contains appropriately documented and collected tests and test results for the M650 optical scan voting device. Substantial problems prevented complete processing and testing of the coordinated ballots.</i>			
Binder 23e: Hardware Diagnostics.	Test Documentation	CDOS	27-Sep-07	For completeness
<b>Auditor notes:</b>	<i>This binder contains appropriately documented and organized tests and test results for the M650 optical scanner, Unity, and the AutoMARK. Many M650, Unity and AutoMARK tests received a "Fail" outcome because of an inadequate supply of the appropriate, usable ballots for testing. Other M650 tests received a "Fail" outcome because of device performance problems.</i>			
Binder 24: Multipage Ballots.	Test Documentation	CDOS	27-Sep-07	In entirety
<b>Auditor notes:</b>	<i>This binder contains appropriately documented and organized tests and test results for the iVo, M100, M650, Unity, and AutoMARK. Testing on the optical scan devices was hampered by incorrect Unity programming. Ballot programming and coding problems continue.</i>			
Binder 25a: VPAT.	Test Documentation	CDOS	27-Sep-07	In entirety
<b>Auditor notes:</b>	<i>The binder contains appropriately documented and organized tests and test results for the iVo VPAT operation.</i>			
Binder 25b: VPAT.	Test Documentation	CDOS	27-Sep-07	In entirety
<b>Auditor notes:</b>	<i>This binder contains appropriately documented and organized tests and test results for the AutoMARK. The VPAT tests are generally not applicable because the device does not tabulate votes.</i>			
Binder 25c: VPAT.	Test Documentation	CDOS	27-Sep-07	In entirety
<b>Auditor notes:</b>	<i>This binder contains appropriately documented and collected tests and test results for the iVo.</i>			

Document Title	Document Type	Document Autho	Document date	Review type
Binder 25d: VPAT.	Test Documentation	CDOS	27-Sep-07	In entirety
<b>Auditor notes:</b>	<i>The binder contains appropriately documented and organized tests and test results for the AutoMARK.</i>			
Binder 26: Closing Polls.	Test Documentation	DOS	27-Sep-07	In entirety
<b>Auditor notes:</b>	<i>This binder contains appropriately documented and organized tests and test results for the iVo, M100, and AutoMARK. Generally, the tests for closing the polls with the AutoMARK are not applicable because the device does not function as a ballot tabulator.</i>			
Binder 27: Post Closing Audit.	Test Documentation	CDOS	27-Sep-07	In entirety
<b>Auditor notes:</b>	<i>This binder contains appropriately documented and organized tests and test results for the iVo, M100, M650, Unity, and AutoMARK.</i>			
Binder 28: Video Documentation Log.	Test Documentation	CDOS	27-Sep-07	In entirety
<b>Auditor notes:</b>	<i>The binder contains a log of the cameras and tests used by CDOS in its ESS tests.</i>			
Binder 29: Safe Documentation Log.	Test Documentation	CDOS	27-Sep-07	In entirety
<b>Auditor notes:</b>	<i>This binder contains the access logs to the CDOS safe that contains the documentary, photographic, and video records of CDOS testing.</i>			
Binder 30: Other Notes.	Test Documentation	CDOS	27-Sep-07	In entirety
<b>Auditor notes:</b>	<i>This binder contains assorted test notes, letters, emails, and after action reviews of testing operations.</i>			
Binder 31: Additional Photos.	Test Documentation	CDOS	27-Sep-07	In entirety
<b>Auditor notes:</b>	<i>As the name implies, this binder contains scores of additional testing photos taken during the ESS test.</i>			
Box 1: Video Copy of V-VPAT Printout Bag # 0726-ESS-O-04 Test # DB3-P3-307/DB2-P3-206.	DVD Video	CDOS	20-Sep-07	For completeness
<b>Auditor notes:</b>	<i>Some of the videotaped paper feeds appear upside down on camera. No action required.</i>			
Box 1: Video Copy of V-VPAT Printout Bag # 0809-ESS-O-13 pt. 1 Test # DB1-P3-101.	DVD Video	CDOS	13-Sep-07	For completeness
<b>Auditor notes:</b>	<i>Videos indicate a proper numbering and handling of evidence bags.</i>			
Box 1: Video Copy of V-VPAT Printout Bag # 0809-ESS-O-13 pt. 2 Test # DB1-P3-101.	DVD Video	CDOS	13-Sep-07	For completeness
<b>Auditor notes:</b>	<i>We found no internal flashcard on this video. However, it is clearly a continuation of the V-VPAT documentation of the previous DVD labeled "Pt. 1." Some of the video footage is shot from an upside down camera angle. No action required.</i>			



Document Title	Document Type	Document Autho	Document date	Review type
Box 1: Video Copy of V-VPAT Printout Bag # 0809-ESS-O-13 Test # DB1-P3-101.	DVD Video	CDOS	14-Sep-07	For completeness
<b>Auditor notes:</b>				
Box 1: Video Copy of V-VPAT Printout Bag # 0809-ESS-O-14 pt. 1 Test # DB1-P3-101.	DVD Video	CDOS	13-Sep-07	For completeness
<b>Auditor notes:</b> Some of the video footage is shot from an upside down camera angle. No action required.				
Box 1: Video Copy of V-VPAT Printout Bag # 0809-ESS-O-14 pt. 2 Test # DB1-P3-101.	DVD Video	CDOS	13-Sep-07	For completeness
<b>Auditor notes:</b> Some of the video footage is shot from an upside down camera angle. No action required.				
Box 2: Video Copy of V-VPAT Printout Bag # 0809-ESS-O-15 Test # DB1-P3-101.	DVD Video	CDOS	14-Sep-07	For completeness
<b>Auditor notes:</b> Some of the video footage is shot from an upside down camera angle. No action required.				
Box 2: Video Copy of V-VPAT Printout Bag # 0817-ESS-O-21 pt.1 Test # DB1-P3-101.	DVD Video	CDOS	18-Sep-07	For completeness
<b>Auditor notes:</b> We did not see internal flashcards for Pt. 1 or Pt. 2 of this video. The Testing Board should review both of these two DVD and provide a document, possibly for inclusion on the DVDs, affirming (1) if the tapes are indeed Parts 1 and 2 of the Bag noted on the DVD label and (2) the correct dates of generation of the test tapes.				
Box 2: Video Copy of V-VPAT Printout Bag # 0817-ESS-O-21 pt.2 Test # DB1-P3-101.	DVD Video	CDOS	18-Sep-07	For completeness
<b>Auditor notes:</b>				
Box 2: Video Copy of V-VPAT Printout Bag # 0817-ESS-O-23 Test # DB1-P3-101.	DVD Video	CDOS	17-Aug-07	For completeness
<b>Auditor notes:</b>				
Box 2: Video Copy of V-VPAT Printout Bag # 0818-ESS-O-19 Test # DB1-P3-101.	DVD Video	CDOS	18-Sep-07	For completeness
<b>Auditor notes:</b> Some of the video footage is shot from an upside down camera angle. No action required.				
Box 2: Video Copy of V-VPAT Printout Bag # 0818-ESS-O-20 Test # DB1-P3-101.	DVD Video	CDOS	18-Aug-07	For completeness
<b>Auditor notes:</b> Some of the video footage is shot from an upside down camera angle. No action required.				

Document Title	Document Type	Document Autho	Document date	Review type
Box 3: Video Copy of V-VPAT Printout Bag # 0822-ESS-O-26 Test # DB1-P3-101.	DVD Video	CDOS	22-Aug-07	For completeness
<b>Auditor notes:</b>				
Box 3: Video Copy of V-VPAT Printout Bag # 0824-ESS-O-29 Test # DB2-P3-204.	DVD Video	CDOS	24-Aug-07	For completeness
<b>Auditor notes:</b> Some of the video footage is shot from an upside down camera angle. No action required.				
Box 3: Video Copy of V-VPAT Printout Bag # 0828-ESS-O-31 Test # DB1-P3-101.	DVD Video	CDOS	28-Aug-07	For completeness
<b>Auditor notes:</b> Some of the video footage is shot from an upside down camera angle. No action required.				
Box 3: Video Copy of V-VPAT Printout Bag # 0828-ESS-O-32 Test # DB1-P3-101.	DVD Video	CDOS	28-Aug-07	For completeness
<b>Auditor notes:</b> An internal video flashcard refers to 0828-ESS-O-31 instead of 0828-ESS-O-32. The Testing Board should prepare a memo affirming the Bag # of the evidence on this DVD and on the previous DVD--or correct the DVD label, which also referred to "-31." Also, some of the video angles are upside down on this DVD.				
Box 3: Video Copy of V-VPAT Printout Bag # 0828-ESS-O-32 Test # DB1-P3-101.	DVD Video	CDOS	28-Aug-07	For completeness
<b>Auditor notes:</b> We were unable to open and view this video in Windows MediaPlayer or RealPlayer. We attempted to use it on a standard home DVD player with no success.				
Box 4: Video Copy of V-VPAT Printout Bag # 0828-ESS-O-33 Test # DB1-P3-101.	DVD Video	CDOS	28-Aug-07	For completeness
<b>Auditor notes:</b> We were unable to open and view this video in Windows MediaPlayer or RealPlayer. We attempted to use it on a standard home DVD player with no success.				
Box 4: Video Copy of V-VPAT Printout Bag # 0828-ESS-O-34 pt. 1 Test # DB1-P3-101.	DVD Video	CDOS	28-Aug-07	For completeness
<b>Auditor notes:</b> We were unable to open and view this video in Windows MediaPlayer or RealPlayer. We attempted to use it on a standard home DVD player with no success.				
Box 4: Video Copy of V-VPAT Printout Bag # 0828-ESS-O-34 pt. 2 Test # DB1-P3-101.	DVD Video	CDOS	28-Aug-07	For completeness
<b>Auditor notes:</b>				
Box 4: Video Copy of V-VPAT Printout Bag # 0906-ESS-O-40 pt. 2 Test # DB1-P3-101.	DVD Video	CDOS	28-Aug-07	For completeness
<b>Auditor notes:</b>				

Document Title	Document Type	Document Autho	Document date	Review type
Box 4: Video Copy of V-VPAT Printout Bag # 0906-ESS-O-47 Test # DB1-P3-101.	DVD Video	CDOS	28-Aug-07	For completeness
<b>Auditor notes:</b>				
Election System Software AutoMARK DB7 P3 701 08-30-07:Copy ESS 074 1 of 4.	DVD Video	CDOS	30-Aug-07	For completeness
<b>Auditor notes:</b>				
Election System Software AutoMARK DB7 P3 701 08-30-07:Copy ESS 074 2 of 4.	DVD Video	CDOS	30-Aug-07	For completeness
<b>Auditor notes:</b>				
<i>We did not see an internal video flashcard for this DVD. However, it contained video of AutoMARK testing and was clearly a continuation of the Copy ESS 074 1 of 4 video. No action required.</i>				
Election System Software AutoMARK DB7 P3 701 08-30-07:Copy ESS 074 3 of 4.	DVD Video	CDOS	30-Aug-07	For completeness
<b>Auditor notes:</b>				
Election System Software AutoMARK DB7 P3 710 09-04-2007: Copy ESS 081 1 of 1.	DVD Video	CDOS	04-Sep-07	For completeness
<b>Auditor notes:</b>				
Election System Software AutoMARK DB7 P3 710 09-05-2007: Copy ESS 084 1 of 2.	DVD Video	CDOS	05-Sep-07	For completeness
<b>Auditor notes:</b>				
Election System Software AutoMARK DB7 P3 710 09-05-2007: Copy ESS 084 2 of 2.	DVD Video	CDOS	05-Sep-07	For completeness
<b>Auditor notes:</b>				
<i>We did not see an internal video flashcard for this DVD. However, it contained video of AutoMARK testing and was clearly a continuation of the Copy ESS 084 1 of 2 video. No action required.</i>				
Election System Software AutoMARK DG7 P3 739 09-06-2007: Copy ESS 085 1 of 4.	DVD Video	CDOS	06-Sep-07	For completeness
<b>Auditor notes:</b>				
Election System Software AutoMARK DG7 P3 739 09-06-2007: Copy ESS 085 2 of 4.	DVD Video	CDOS	06-Sep-07	For completeness
<b>Auditor notes:</b>				
<i>Note the use of appropriate tamper-evident seal on AutoMARK.</i>				
Election System Software Ballot Marking 07-20-2007: Copy ESS 030.	DVD Video	CDOS	20-Jul-07	For completeness
<b>Auditor notes:</b>				

Document Title	Document Type	Document Autho	Document date	Review type
Election System Software Ballot Marking 07-20-2007: Copy ESS 031.	DVD Video	CDOS	20-Jul-07	For completeness
<b>Auditor notes:</b>				
Election System Software Ballot Marking 07-20-2007: Copy ESS 033.	DVD Video	CDOS	20-Jul-07	For completeness
<b>Auditor notes:</b>				
<i>While the date on the label is 07-20-2007, it is not clear from the video's initial flashcard what is the date of the test. We did not see any other date reference on the video.</i>				
Election System Software Ballot Marking 07-20-2007: Copy ESS 034.	DVD Video	CDOS	20-Jul-07	For completeness
<b>Auditor notes:</b>				
Election System Software Ballot Marking 07-23-2007: Copy ESS 032.	DVD Video	CDOS	23-Jul-07	For completeness
<b>Auditor notes:</b>				
Election System Software Ballot Marking 07-23-2007: Copy ESS 035.	DVD Video	CDOS	23-Jul-07	For completeness
<b>Auditor notes:</b>				
Election System Software Central Count O.S. 07-19-2007: Copy ESS 028.	DVD Video	CDOS	19-Jul-07	For completeness
<b>Auditor notes:</b>				
Election System Software Central Count O.S. 07-23-2007: Copy ESS 036.	DVD Video	CDOS	23-Jul-07	Partial
<b>Auditor notes:</b>				
<i>The DVD label indicates only that the test is for a central count optical scan. However, the internal video flashcard indicates the test number is DB3-P3-303. Also, the camera focuses solely on tests of an M100.</i>				
Election System Software Central Count O.S. 08-21-2007: Copy ESS 057 1 of 1. DVD Video	DVD Video	CDOS	21-Aug-07	For completeness
<b>Auditor notes:</b>				
Election System Software Central Count O.S. DB3 P3 305 08-13-2007:Copy ESS 043 1 of 4.	DVD Video	CDOS	13-Aug-07	For completeness
<b>Auditor notes:</b>				
<i>A flashcard reading "Diebold Precinct O.S. DB2 P3 201 11 August 2007" also appears on this DVD (video chapter MOV0FE)--with a verbal comment that the particular flashcard is the wrong one. No action required.</i>				
Election System Software Central Count O.S. DB3 P3 305 08-13-2007:Copy ESS 043 2 of 4.	DVD Video	CDOS	13-Aug-07	For completeness
<b>Auditor notes:</b>				

Document Title	Document Type	Document Autho	Document date	Review type
Election System Software Central Count O.S. DB3 P3 305 08-13-2007: Copy ESS 043 3 of 4.	DVD Video	CDOS	13-Aug-07	For completeness
<b>Auditor notes:</b> <i>M100 testing.</i>				
Election System Software Central Count O.S. DB3 P3 305 08-13-2007: Copy ESS 043 4 of 4.	DVD Video	CDOS	13-Aug-07	For completeness
<b>Auditor notes:</b>				
Election System Software Central Count O.S. DB3 P3 307 07-19-2007: Copy ESS 029.	DVD Video	CDOS	19-Jul-07	For completeness
<b>Auditor notes:</b>				
Election System Software Central Count O.S. DB3 P3 307 08-09-2007: Copy ESS 056 1 of 5.	DVD Video	CDOS	08-Aug-07	For completeness
<b>Auditor notes:</b>				
Election System Software Central Count O.S. DB3 P3 307 08-09-2007: Copy ESS 056 2 of 5.	DVD Video	CDOS	09-Aug-07	For completeness
<b>Auditor notes:</b>				
Election System Software Central Count O.S. DB3 P3 307 08-09-2007: Copy ESS 056 3 of 5.	DVD Video	CDOS	09-Aug-07	For completeness
<b>Auditor notes:</b> <i>We saw no internal video flashcard. However, the test is a continuation of the previous video in the series, which was of an M650. No action required.</i>				
Election System Software Central Count O.S. DB3 P3 307 08-09-2007: Copy ESS 056 4 of 5.	DVD Video	CDOS	09-Aug-07	For completeness
<b>Auditor notes:</b> <i>Shows continuing efforts to have the M650 perform.</i>				
Election System Software Central Count O.S. DB3 P3 307 08-09-2007: Copy ESS 056 5 of 5.	DVD Video	CDOS	09-Aug-07	For completeness
<b>Auditor notes:</b>				
Election System Software Central Count O.S. DB3 P3 307 08-18-2007: Copy ESS 054 1 of 4.	DVD Video	CDOS	18-Aug-07	For completeness
<b>Auditor notes:</b> <i>The internal video flash card has the date 08-17-2007. However, the Test Director states the date as 08-18-2007, which agrees with the DVD label. Tests match. No action required.</i>				

Document Title	Document Type	Document Autho	Document date	Review type
Election System Software Central Count O.S. DB3 P3 307 08-18-2007: Copy ESS 054 2 of 4.	DVD Video	CDOS	18-Aug-07	For completeness
<b>Auditor notes:</b> <i>We saw no internal video flashcard. However, the test is a continuation of the previous video in the series, which was of an M650. No action required.</i>				
Election System Software Central Count O.S. DB3 P3 307 08-18-2007: Copy ESS 054 3 of 4.	DVD Video	CDOS	18-Aug-07	For completeness
<b>Auditor notes:</b> <i>We saw no internal video flashcard. However, the test is a continuation of the previous video in the series, which was of an M650. No action required.</i>				
Election System Software Central Count O.S. DB3 P3 307 08-18-2007: Copy ESS 054 4 of 4.	DVD Video	CDOS	18-Aug-07	For completeness
<b>Auditor notes:</b> <i>We saw no internal video flashcard. However, the test is a continuation of the previous video in the series, which was of an M650. No action required.</i>				
Election System Software Central Count O.S. DB3 P3 307 08-18-2007: Copy ESS 061 1 of 4.	DVD Video	CDOS	18-Aug-07	For completeness
<b>Auditor notes:</b> <i>The internal flashcard read 08-17-2007. However, the voiceover correctly stated the date as Saturday 08-18-2007.</i>				
Election System Software Central Count O.S. DB3 P3 307 08-18-2007: Copy ESS 061 2 of 4.	DVD Video	CDOS	18-Aug-08	For completeness
<b>Auditor notes:</b> <i>We saw no internal video flashcard. However, the test is a continuation of the previous video in the series, which was of an M650. No action required.</i>				
Election System Software Central Count O.S. DB3 P3 307 08-18-2007: Copy ESS 061 3 of 4.	DVD Video	CDOS	18-Aug-07	For completeness
<b>Auditor notes:</b> <i>We saw no internal video flashcard. However, the test is a continuation of the previous video in the series, which was of an M650. No action required.</i>				
Election System Software Central Count O.S. DB3 P3 307 08-18-2007: Copy ESS 061 4 of 4.	DVD Video	CDOS	18-Aug-07	For completeness
<b>Auditor notes:</b> <i>We saw no internal video flashcard. However, the test is a continuation of the previous video in the series, which was of an M650. No action required.</i>				
Election System Software Central Count O.S. DB3 P3 307 08-20-2007: Copy ESS 062 1 of 3.	DVD Video	CDOS	20-Aug-07	For completeness
<b>Auditor notes:</b>				
Election System Software Central Count O.S. DB3 P3 307 08-20-2007: Copy ESS 062 2 of 3.	DVD Video	CDOS	20-Aug-07	For completeness
<b>Auditor notes:</b>				

Document Title	Document Type	Document Autho	Document date	Review type
Election System Software Central Count O.S. DB3 P3 307 08-20-2007: Copy ESS 062 3 of 3.	DVD Video	CDOS	20-Aug-07	For completeness
<b>Auditor notes:</b>				
Election System Software Central Count O.S. DB3 P3 307 08-23-2007: Copy ESS 070 1 of 6.	DVD Video	CDOS	23-Aug-07	For completeness
<b>Auditor notes:</b> The date on the internal video flashcard is 8-17-2007, not the date listed on the DVD label. On the second DVD title, the internal flashcard is for DRE testing, with an identifier of DB1 P3 101. On this second DVD title, the date is 8-17-2007 and a tester verbally expresses the same date. The internal flashcard for the third DVD title reflects the same test identifier (for Central Count O.S.) as on the DVD label, with a date of 8-17-2007. The fourth DVD title (MOV139) is not viewable. The Testing Board should examine this DVD in order to provide an accurate DVD label of the video and test contents.				
Election System Software Central Count O.S. DB3 P3 307 08-23-2007: Copy ESS 070 2 of 6.	DVD Video	CDOS	23-Aug-07	For completeness
<b>Auditor notes:</b> As with Copy 1 of 6, the date on the internal video flashcard is for 8-17-2007, not in agreement with the DVD label.				
Election System Software Central Count O.S. DB3 P3 307 08-23-2007: Copy ESS 070 3 of 6.	DVD Video	CDOS	23-Aug-07	For completeness
<b>Auditor notes:</b> We did not see an internal video flashcard for this DVD. However, it contained video of M650 Central Count O.S. testing and was clearly a continuation of the Copy ESS 070 2 of 6 video. No action required.				
Election System Software Central Count O.S. DB3 P3 307 08-23-2007: Copy ESS 070 4 of 6.	DVD Video	CDOS	23-Aug-07	For completeness
<b>Auditor notes:</b> We did not see an internal video flashcard for this DVD. However, it contained video of M650 Central Count O.S. testing and was clearly a continuation of the Copy ESS 070 3 of 6 video. No action required.				
Election System Software Central Count O.S. DB3 P3 307 08-23-2007: Copy ESS 070 5 of 6.	DVD Video	CDOS	23-Aug-07	For completeness
<b>Auditor notes:</b> We did not see an internal video flashcard for this DVD. However, it contained video of M650 Central Count O.S. testing and was clearly a continuation of the Copy ESS 070 4 of 6 video. No action required.				
Election System Software Central Count O.S. DB3 P3 307 08-23-2007: Copy ESS 070 6 of 6.	DVD Video	CDOS	23-Aug-07	For completeness
<b>Auditor notes:</b> We did not see an internal video flashcard for this DVD. However, it contained video of M650 Central Count O.S. testing and was clearly a continuation of the Copy ESS 070 5 of 6 video. No action required.				
Election System Software Central/Precinct Count O.S. DB3 P3 307/DB2 P3 203 08-02-2007: Copy ESS 046 1 of 6.	DVD Video	CDOS	02-Aug-07	For completeness
<b>Auditor notes:</b> Note the attempt here to induce error in the system to test both the system's response and the accuracy of the documentation--in video's second title.				

Document Title	Document Type	Document Autho	Document date	Review type
Election System Software Central/Precinct Count O.S. DB3 P3 307/DB2 P3 203 08-02-2007: Copy ESS 046 2 of 6.	DVD Video	CDOS	02-Aug-07	For completeness
<b>Auditor notes:</b> M100 testing.				
Election System Software Central/Precinct Count O.S. DB3 P3 307/DB2 P3 203 08-02-2007: Copy ESS 046 3 of 6.	DVD Video	CDOS	02-Aug-07	For completeness
<b>Auditor notes:</b>				
Election System Software Central/Precinct Count O.S. DB3 P3 307/DB2 P3 203 08-02-2007: Copy ESS 046 4 of 6.	DVD Video	CDOS	02-Aug-07	For completeness
<b>Auditor notes:</b> We saw no internal video flashcard. However, the test is a continuation of the previous video in the series, which was of an M100. No action required.				
Election System Software Central/Precinct Count O.S. DB3 P3 307/DB2 P3 203 08-02-2007: Copy ESS 046 5 of 6.	DVD Video	CDOS	02-Aug-07	For completeness
<b>Auditor notes:</b> We saw no internal video flashcard. However, the test is a continuation of the previous video in the series, which was of an M100. No action required.				
Election System Software Central/Precinct Count O.S. DB3 P3 307/DB2 P3 203 08-02-2007: Copy ESS 046 6 of 6.	DVD Video	CDOS	02-Aug-07	For completeness
<b>Auditor notes:</b> We saw no internal video flashcard. However, the test is a continuation of the previous video in the series, which was of an M100. No action required.				
Election System Software Central/Precinct Count O.S. DB3 P3 307/DB2 P3 206 07-30-2007: Copy ESS 047 2 of 6.	DVD Video	CDOS	30-Jul-07	For completeness
<b>Auditor notes:</b> M100 testing.				
Election System Software Central/Precinct Count O.S. DB3 P3 307/DB2 P3 206 07-30-2007: Copy ESS 047 3 of 6.	DVD Video	CDOS	30-Jul-07	For completeness
<b>Auditor notes:</b> We saw no internal video flashcard. However, the test is a continuation of the previous video in the series, which was of an M100. No action required.				
Election System Software Central/Precinct Count O.S. DB3 P3 307/DB2 P3 206 08-03-2007: Copy ESS 044 1 of 7.	DVD Video	CDOS	03-Aug-07	For completeness
<b>Auditor notes:</b> M100 testing only.				
Election System Software Central/Precinct Count O.S. DB3 P3 307/DB2 P3 206 08-03-2007: Copy ESS 044 2 of 7.	DVD Video	CDOS	03-Aug-07	For completeness
<b>Auditor notes:</b> M100 testing only.				



Document Title	Document Type	Document Autho	Document date	Review type
Election System Software Central/Precinct Count O.S. DB3 P3 307/DB2 P3 206 08-03-2007: Copy ESS 044 3 of 7.	DVD Video	CDOS	03-Aug-07	For completeness
<b>Auditor notes:</b>				
Election System Software Central/Precinct Count O.S. DB3 P3 307/DB2 P3 206 08-03-2007: Copy ESS 044 4 of 7.	DVD Video	CDOS	03-Aug-07	For completeness
<b>Auditor notes:</b> <i>M100 testing.</i>				
Election System Software Central/Precinct Count O.S. DB3 P3 307/DB2 P3 206 08-03-2007: Copy ESS 044 5 of 7.	DVD Video	CDOS	03-Aug-07	For completeness
<b>Auditor notes:</b>				
Election System Software Central/Precinct Count O.S. DB3 P3 307/DB2 P3 206 08-03-2007: Copy ESS 044 6 of 7.	DVD Video	CDOS	03-Aug-07	For completeness
<b>Auditor notes:</b> <i>M100 testing only. We saw no internal video flashcard. No action required.</i>				
Election System Software Central/Precinct Count O.S. DB3 P3 307/DB2 P3 206 08-03-2007: Copy ESS 044 7 of 7.	DVD Video	CDOS	03-Aug-07	For completeness
<b>Auditor notes:</b> <i>There is no internal video flashcard.</i>				
Election System Software DRE DB1 P3 101 08-06-2007: Copy ESS 040 1 of 5.	DVD Video	CDOS	06-Aug-07	For completeness
<b>Auditor notes:</b>				
Election System Software DRE DB1 P3 101 08-06-2007: Copy ESS 040 2 of 5.	DVD Video	CDOS	06-Aug-07	For completeness
<b>Auditor notes:</b>				
Election System Software DRE DB1 P3 101 08-06-2007: Copy ESS 040 3 of 5.	DVD Video	CDOS	08-Aug-07	For completeness
<b>Auditor notes:</b>				
Election System Software DRE DB1 P3 101 08-06-2007: Copy ESS 040 4 of 5.	DVD Video	CDOS	06-Aug-07	For completeness
<b>Auditor notes:</b> <i>We found no indication of an internal video flashcard. However, the video is a continuation of ESS 040 3 of 5 and covers the appropriate DVD test. No action required.</i>				
Election System Software DRE DB1 P3 101 08-06-2007: Copy ESS 040 5 of 5.	DVD Video	CDOS	06-Aug-07	For completeness
<b>Auditor notes:</b> <i>We found no indication of an internal video flashcard. However, the video is a continuation of ESS 040 4 of 5 and covers the appropriate DVD test. No action required.</i>				

Document Title	Document Type	Document Autho	Document date	Review type
Election System Software DRE DB1 P3 101 08-07-2007: Copy ESS 053 1 of 6.	DVD Video	CDOS	07-Aug-07	For completeness
<b>Auditor notes:</b>				
Election System Software DRE DB1 P3 101 08-07-2007: Copy ESS 053 2 of 6.	DVD Video	CDOS	07-Aug-07	For completeness
<b>Auditor notes:</b>				
Election System Software DRE DB1 P3 101 08-07-2007: Copy ESS 053 3 of 6.	DVD Video	CDOS	07-Aug-07	For completeness
<b>Auditor notes:</b>				
Election System Software DRE DB1 P3 101 08-07-2007: Copy ESS 053 4 of 6.	DVD Video	CDOS	07-Aug-07	For completeness
<b>Auditor notes:</b>				
Election System Software DRE DB1 P3 101 08-07-2007: Copy ESS 053 5 of 6.	DVD Video	CDOS	07-Aug-07	For completeness
<b>Auditor notes:</b>				
<i>The time sequences on the internal video flashcards for this test appear to be out of order. (The 5th video for this day's test had a 7:40am time notation, meaning that either the time was wrongly noted or the test had been going on since 12:01 am.) This situation might cause some confusion to a casual reviewer. It does not negate the contents of the material on the video. However, it means that in order to obtain material from the videos for this test series, it is likely that a person will need to view all six of the videos in the series. No action required.</i>				
Election System Software DRE DB1 P3 101 08-07-2007: Copy ESS 053 6 of 6.	DVD Video	CDOS	07-Aug-07	For completeness
<b>Auditor notes:</b>				
<i>We saw no internal video flashcard. However, the test is a continuation of the previous video in the series, which was of an iVo. No action required.</i>				
Election System Software DRE DB1 P3 101 08-08-2007: Copy ESS 055 1 of 5.	DVD Video	CDOS	08-Aug-07	For completeness
<b>Auditor notes:</b>				
Election System Software DRE DB1 P3 101 08-08-2007: Copy ESS 055 2 of 5.	DVD Video	CDOS	08-Aug-07	For completeness
<b>Auditor notes:</b>				
Election System Software DRE DB1 P3 101 08-08-2007: Copy ESS 055 3 of 5.	DVD Video	CDOS	08-Aug-07	For completeness
<b>Auditor notes:</b>				
Election System Software DRE DB1 P3 101 08-08-2007: Copy ESS 055 4 of 5.	DVD Video	CDOS	08-Aug-07	For completeness
<b>Auditor notes:</b>				
<i>We saw no internal video flashcard. However, the test is a continuation of the previous video in the series, which was of an iVo. No action required.</i>				

Document Title	Document Type	Document Autho	Document date	Review type
Election System Software DRE DB1 P3 101 08-08-2007: Copy ESS 055 5 of 5	DVD Video	CDOS	08-Aug-07	For completeness
<b>Auditor notes:</b> We saw no internal video flashcard. However, the test is a continuation of the previous video in the series, which was of an iVo. No action required.				
Election System Software DRE DB1 P3 101 08-14-2007: Copy ESS 039 1 of 3.	DVD Video	CDOS	14-Aug-07	For completeness
<b>Auditor notes:</b> Note the appropriate display and use of tamper-evident seals on the test equipment.				
Election System Software DRE DB1 P3 101 08-14-2007: Copy ESS 039 2 of 3.	DVD Video	CDOS	14-Aug-07	For completeness
<b>Auditor notes:</b>				
Election System Software DRE DB1 P3 101 08-14-2007: Copy ESS 039 3 of 3.	DVD Video	CDOS	14-Aug-07	For completeness
<b>Auditor notes:</b>				
Election System Software DRE DB1 P3 101 08-14-2007: Copy ESS 058 1 of 6.	DVD Video	CDOS	14-Aug-07	For completeness
<b>Auditor notes:</b>				
Election System Software DRE DB1 P3 101 08-14-2007: Copy ESS 058 2 of 6.	DVD Video	CDOS	14-Aug-07	For completeness
<b>Auditor notes:</b>				
Election System Software DRE DB1 P3 101 08-14-2007: Copy ESS 058 3 of 6.	DVD Video	CDOS	14-Aug-07	For completeness
<b>Auditor notes:</b> We saw no internal video flashcard. However, the test is a continuation of the previous video in the series, which was of an iVo. No action required.				
Election System Software DRE DB1 P3 101 08-14-2007: Copy ESS 058 4 of 6.	DVD Video	CDOS	14-Aug-07	For completeness
<b>Auditor notes:</b>				
Election System Software DRE DB1 P3 101 08-14-2007: Copy ESS 058 5 of 6.	DVD Video	CDOS	14-Aug-07	For completeness
<b>Auditor notes:</b> We saw no internal video flashcard. However, the test is a continuation of the previous video in the series, which was of an iVo. No action required.				
Election System Software DRE DB1 P3 101 08-14-2007: Copy ESS 058 6 of 6.	DVD Video	CDOS	14-Aug-07	For completeness
<b>Auditor notes:</b> We saw no internal video flashcard. However, the test is a continuation of the previous video in the series, which was of an iVo. No action required.				
Election System Software DRE DB1 P3 101 08-15-2007: Copy ESS 042 1 of 5.	DVD Video	CDOS	15-Aug-07	For completeness
<b>Auditor notes:</b>				

Document Title	Document Type	Document Autho	Document date	Review type
Election System Software DRE DB1 P3 101 08-15-2007: Copy ESS 042 2 of 5.	DVD Video	CDOS	15-Aug-07	For completeness
<b>Auditor notes:</b>				
Election System Software DRE DB1 P3 101 08-15-2007: Copy ESS 042 3 of 5.	DVD Video	CDOS	15-Aug-07	For completeness
<b>Auditor notes:</b>				
Election System Software DRE DB1 P3 101 08-15-2007: Copy ESS 042 4 of 5.	DVD Video	CDOS	15-Aug-07	For completeness
<b>Auditor notes:</b>				
Election System Software DRE DB1 P3 101 08-15-2007: Copy ESS 042 5 of 5.	DVD Video	CDOS	15-Aug-07	For completeness
<b>Auditor notes:</b>				
Election System Software DRE DB1 P3 101 08-15-2007: Copy ESS 059 1 of 6.	DVD Video	CDOS	15-Aug-07	For completeness
<b>Auditor notes:</b>				
Election System Software DRE DB1 P3 101 08-15-2007: Copy ESS 059 2 of 6.	DVD Video	CDOS	15-Aug-07	For completeness
<b>Auditor notes:</b>				
Election System Software DRE DB1 P3 101 08-15-2007: Copy ESS 059 3 of 6.	DVD Video	CDOS	15-Aug-07	For completeness
<b>Auditor notes:</b>				
Election System Software DRE DB1 P3 101 08-15-2007: Copy ESS 059 4 of 6.	DVD Video	CDOS	15-Aug-07	For completeness
<b>Auditor notes:</b>				
Election System Software DRE DB1 P3 101 08-15-2007: Copy ESS 059 5 of 6.	DVD Video	CDOS	15-Aug-07	For completeness
<b>Auditor notes:</b>				
Election System Software DRE DB1 P3 101 08-15-2007: Copy ESS 059 6 of 6.	DVD Video	CDOS	15-Aug-07	For completeness
<b>Auditor notes:</b>				
Election System Software DRE DB1 P3 101 08-15-2007: Copy ESS 059 6 of 6.	DVD Video	CDOS	15-Aug-07	For completeness
<b>Auditor notes:</b>				
Election System Software DRE DB1 P3 101 08-16-2007: Copy ESS 051 1 of 3.	DVD Video	CDOS	16-Aug-07	For completeness
<b>Auditor notes:</b>				

Document Title	Document Type	Document Autho	Document date	Review type
Election System Software DRE DB1 P3 101 08-16-2007: Copy ESS 051 2 of 3.	DVD Video	CDOS	16-Aug-07	For completeness
<b>Auditor notes:</b> <i>We saw no internal video flashcard. However, the test is a continuation of the previous video in the series, which was of an iVo. No action required.</i>				
Election System Software DRE DB1 P3 101 08-16-2007: Copy ESS 051 3 of 3.	DVD Video	CDOS	16-Aug-07	For completeness
<b>Auditor notes:</b>				
Election System Software DRE DB1 P3 101 08-16-2007: Copy ESS 060 1 of 6.	DVD Video	CDOS	16-Aug-07	For completeness
<b>Auditor notes:</b>				
Election System Software DRE DB1 P3 101 08-16-2007: Copy ESS 060 2 of 6.	DVD Video	CDOS	16-Aug-07	For completeness
<b>Auditor notes:</b> <i>We saw no internal video flashcard. However, the test is a continuation of the previous video in the series, which was of an iVo. No action required.</i>				
Election System Software DRE DB1 P3 101 08-16-2007: Copy ESS 060 3 of 6.	DVD Video	CDOS	16-Aug-07	For completeness
<b>Auditor notes:</b> <i>We were unable to load and view the two MP2 files on this DVD with either Windows Media Player or RealPlayer. We will require a replacement DVD in order to examine its contents.</i>				
Election System Software DRE DB1 P3 101 08-16-2007: Copy ESS 060 4 of 6.	DVD Video	CDOS	16-Aug-07	For completeness
<b>Auditor notes:</b>				
Election System Software DRE DB1 P3 101 08-16-2007: Copy ESS 060 5 of 6.	DVD Video	CDOS	16-Aug-07	For completeness
<b>Auditor notes:</b> <i>We saw no internal video flashcard. However, the test is a continuation of the previous video in the series, which was of an iVo. No action required.</i>				
Election System Software DRE DB1 P3 101 08-16-2007: Copy ESS 060 6 of 6.	DVD Video	CDOS	16-Aug-07	For completeness
<b>Auditor notes:</b> <i>We saw no internal video flashcard. However, the test is a continuation of the previous video in the series, which was of an iVo. No action required.</i>				
Election System Software DRE DB1 P3 101 08-17-2007: Copy ESS 052 1 of 3.	DVD Video	CDOS	17-Aug-07	For completeness
<b>Auditor notes:</b> <i>We did not view an internal video flashcard on this first DVD in a series of three. However, the second video in the series, which follows this one, has the correct flash card for the series. No action required.</i>				
Election System Software DRE DB1 P3 101 08-17-2007: Copy ESS 052 2 of 3.	DVD Video	CDOS	17-Aug-07	For completeness
<b>Auditor notes:</b>				

Document Title	Document Type	Document Autho	Document date	Review type
Election System Software DRE DB1 P3 101 08-17-2007: Copy ESS 052 3 of 3.	DVD Video	CDOS	17-Aug-07	For completeness
<b>Auditor notes:</b> We saw no internal video flashcard. However, the test is a continuation of the previous video in the series, which was of an iVo. No action required.				
Election System Software DRE DB1 P3 101 08-21-2007: COPY ESS 063 1 of 5.	DVD Video	CDOS	21-Aug-07	For completeness
<b>Auditor notes:</b> Note again the proper use of tamper-evident seals on the test equipment.				
Election System Software DRE DB1 P3 101 08-21-2007: COPY ESS 063 2 of 5.	DVD Video	CDOS	21-Aug-07	For completeness
<b>Auditor notes:</b>				
Election System Software DRE DB1 P3 101 08-21-2007: COPY ESS 063 3 of 5.	DVD Video	CDOS	21-Aug-07	For completeness
<b>Auditor notes:</b>				
Election System Software DRE DB1 P3 101 08-21-2007: COPY ESS 063 4 of 5.	DVD Video	CDOS	21-Aug-07	For completeness
<b>Auditor notes:</b> We saw no internal video flashcard. However, the test is a continuation of the previous video in the series, which was of an iVo. No action required.				
Election System Software DRE DB1 P3 101 08-21-2007: COPY ESS 063 5 of 5.	DVD Video	CDOS	21-Aug-07	For completeness
<b>Auditor notes:</b> We saw no internal video flashcard. However, the test is a continuation of the previous video in the series, which was of an iVo. No action required.				
Election System Software DRE DB1 P3 101 08-22-2007: COPY ESS 061 1 of 2.	DVD Video	CDOS	22-Aug-07	For completeness
<b>Auditor notes:</b>				
Election System Software DRE DB1 P3 101 08-22-2007: COPY ESS 061 2 of 2.	DVD Video	CDOS	22-Aug-07	For completeness
<b>Auditor notes:</b>				
Election System Software DRE DB1 P3 101 08-23-2007: Copy ESS 066 1 of 3.	DVD Video	CDOS	23-Aug-07	For completeness
<b>Auditor notes:</b>				
Election System Software DRE DB1 P3 101 08-23-2007: Copy ESS 066 2 of 3.	DVD Video	CDOS	23-Aug-07	For completeness
<b>Auditor notes:</b> We saw no internal video flashcard. However, the test is a continuation of the previous video in the series, which was of an iVo. No action required.				
Election System Software DRE DB1 P3 101 08-23-2007: Copy ESS 066 3 of 3.	DVD Video	CDOS	23-Aug-07	For completeness
<b>Auditor notes:</b> We saw no internal video flashcard. However, the test is a continuation of the previous video in the series, which was of an iVo. No action required.				

Document Title	Document Type	Document Autho	Document date	Review type
Election System Software DRE DB1 P3 101 08-24-2007: Copy ESS 068 2 of 3.	DVD Video	CDOS	24-Aug-07	Partial
<b>Auditor notes:</b> <i>The DVD label on Copy 2 of 3 refers to DRE testing, although the label on Copy 1 of 3 refers to Precinct O.S. testing. We did not see an internal video flashcard, nor did we hear verbal identification of the test under way. However, the video's testing activity focuses on an iVo. It is clear that this testing activity is a continuation of the testing on Copy 1 of 3. However, the Testing Board should clarify the apparent labeling error on Copy 1 of 3 in order to assure that this DVD is a continuation of testing activity from that preceding DVD.</i>				
Election System Software DRE DB1 P3 101 08-24-2007: Copy ESS 068 3 of 3.	DVD Video	CDOS	24-Aug-07	Partial
<b>Auditor notes:</b> <i>The DVD label refers to DRE. The internal flash card refers to precinct optical scan. However, the DVD focuses on iVo DRE testing and is a continuation of activity from Copy 2 of 3. The Testing Board should clarify whether the material on this DVD is for iVo testing solely. If the Testing Board is using the results from an iVo DRE to validate the results from O.S. ballots, that situation must show clearly in the test documentation.</i>				
Election System Software DRE DB1 P3 101 08-24-2007: Copy ESS 069 1 of 2.	DVD Video	CDOS	24-Aug-07	For completeness
<b>Auditor notes:</b>				
Election System Software DRE DB1 P3 101 08-24-2007: Copy ESS 069 2 of 2.	DVD Video	CDOS	24-Aug-07	For completeness
<b>Auditor notes:</b> <i>We saw no internal video flashcard. However, the test is a continuation of the previous video in the series, which was of an iVo. No action required.</i>				
Election System Software DRE DB1 P3 101 08-27-2007: Copy ESS 071 1 of 4.	DVD Video	CDOS	27-Aug-07	For completeness
<b>Auditor notes:</b>				
Election System Software DRE DB1 P3 101 08-27-2007: Copy ESS 071 2 of 4.	DVD Video	CDOS	27-Aug-07	For completeness
<b>Auditor notes:</b> <i>We did not see an internal video flashcard for this DVD. However, it contained video of iVo DRE testing and was clearly a continuation of the Copy ESS 071 1 of 4 video. No action required.</i>				
Election System Software DRE DB1 P3 101 08-27-2007: Copy ESS 071 3 of 4.	DVD Video	CDOS	27-Aug-07	For completeness
<b>Auditor notes:</b> <i>We did not see an internal video flashcard for this DVD. However, it contained video of iVo DRE testing and was clearly a continuation of the Copy ESS 071 2 of 4 video. No action required.</i>				
Election System Software DRE DB1 P3 101 08-27-2007: Copy ESS 071 4 of 4.	DVD Video	CDOS	27-Aug-07	For completeness
<b>Auditor notes:</b> <i>We did not see an internal video flashcard for this DVD. However, it contained video of iVo DRE testing and was clearly a continuation of the Copy ESS 071 3 of 4 video. No action required.</i>				
Election System Software DRE DB1 P3 101 08-27-2007: Copy ESS 073 1 of 5.	DVD Video	CDOS	27-Aug-07	For completeness
<b>Auditor notes:</b>				

Document Title	Document Type	Document Autho	Document date	Review type
Election System Software DRE DB1 P3 101 08-27-2007: Copy ESS 073 2 of 5.	DVD Video	CDOS	27-Aug-07	For completeness
<b>Auditor notes:</b> <i>We did not see an internal video flashcard for this DVD. However, it contained video of iVo DRE testing and was clearly a continuation of the Copy ESS 073 1 of 5 video. No action required.</i>				
Election System Software DRE DB1 P3 101 08-27-2007: Copy ESS 073 3 of 5.	DVD Video	CDOS	27-Aug-07	For completeness
<b>Auditor notes:</b>				
Election System Software DRE DB1 P3 101 08-27-2007: Copy ESS 073 4 of 5.	DVD Video	CDOS	27-Aug-07	For completeness
<b>Auditor notes:</b> <i>We did not see an internal video flashcard for this DVD. However, it contained video of iVo DRE testing and was clearly a continuation of the Copy ESS 073 3 of 5 video. No action required.</i>				
Election System Software DRE DB1 P3 101 08-27-2007: Copy ESS 073 5 of 5.	DVD Video	CDOS	27-Nov-07	For completeness
<b>Auditor notes:</b>				
Election System Software DRE DB1 P3 101 08-28-2007: Copy ESS 076 1 of 5.	DVD Video	CDOS	28-Aug-07	For completeness
<b>Auditor notes:</b>				
Election System Software DRE DB1 P3 101 08-28-2007: Copy ESS 076 2 of 5.	DVD Video	CDOS	28-Aug-07	For completeness
<b>Auditor notes:</b> <i>We did not see an internal video flashcard for this DVD. However, it contained video of DRE testing and was clearly a continuation of the Copy ESS 076 1 of 5 video. No action required.</i>				
Election System Software DRE DB1 P3 101 08-28-2007: Copy ESS 076 3 of 5.	DVD Video	CDOS	28-Aug-07	For completeness
<b>Auditor notes:</b> <i>We did not see an internal video flashcard for this DVD. However, it contained video of DRE testing and was clearly a continuation of the Copy ESS 076 2 of 5 video. No action required.</i>				
Election System Software DRE DB1 P3 101 08-28-2007: Copy ESS 076 4 of 5.	DVD Video	CDOS	28-Aug-07	For completeness
<b>Auditor notes:</b> <i>We did not see an internal video flashcard for this DVD. However, it contained video of DRE testing and was clearly a continuation of the Copy ESS 076 3 of 5 video. No action required.</i>				
Election System Software DRE DB1 P3 101 08-28-2007: Copy ESS 076 5 of 5.	DVD Video	CDOS	28-Aug-07	For completeness
<b>Auditor notes:</b> <i>We did not see an internal video flashcard for this DVD. However, it contained video of DRE testing and was clearly a continuation of the Copy ESS 076 4 of 5 video. No action required.</i>				
Election System Software DRE DB1 P3 101 08-30-2007: Copy ESS 075 1 of 1.	DVD Video	CDOS	30-Aug-07	For completeness
<b>Auditor notes:</b>				



Document Title	Document Type	Document Autho	Document date	Review type
Election System Software DRE DB1 P3 101 08-30-2007: Copy ESS 078 1 of 1.	DVD Video	CDOS	30-Aug-07	Partial
<b>Auditor notes:</b> The DVD label cites test identifier DB1 P3 101. However, the internal video flashcard contains test identifier DG1 P3 101. In light of this lack of internal and external agreement, the Testing Board should issue a written addendum to the video specifying the correct test identifier.				
Election System Software DRE DB1 P3 101 09-04-2007: Copy ESS 079 1 of 3.	DVD Video	CDOS	04-Sep-07	For completeness
<b>Auditor notes:</b>				
Election System Software DRE DB1 P3 101 09-04-2007: Copy ESS 079 2 of 3.	DVD Video	CDOS	04-Sep-07	For completeness
<b>Auditor notes:</b> We did not see an internal video flashcard for this DVD. However, it contained video of DRE testing and was clearly a continuation of the Copy ESS 079 1 of 3 video. No action required.				
Election System Software DRE DB1 P3 101 09-04-2007: Copy ESS 079 3 of 3.	DVD Video	CDOS	04-Sep-07	For completeness
<b>Auditor notes:</b> We did not see an internal video flashcard for this DVD. However, it contained video of DRE testing and was clearly a continuation of the Copy ESS 079 2 of 3 video. No action required.				
Election System Software DRE DB1 P3 101 09-04-2007: Copy ESS 080 2 of 4.	DVD Video	CDOS	04-Sep-07	For completeness
<b>Auditor notes:</b> We did not see an internal video flashcard for this DVD. However, it contained video of DRE testing and was clearly a continuation of the Copy ESS 080 1 of 4 video. No action required.				
Election System Software DRE DB1 P3 101 09-04-2007: Copy ESS 080 3 of 4.	DVD Video	CDOS	04-Sep-07	For completeness
<b>Auditor notes:</b> We did not see an internal video flashcard for this DVD. However, it contained video of DRE testing and was clearly a continuation of the Copy ESS 080 2 of 4 video. No action required.				
Election System Software DRE DB1 P3 101 09-04-2007: Copy ESS 080 4 of 4.	DVD Video	CDOS	04-Sep-07	For completeness
<b>Auditor notes:</b>				
Election System Software DRE DB1 P3 101 09-05-2007: Copy ESS 082 1 of 4.	DVD Video	CDOS	05-Sep-07	For completeness
<b>Auditor notes:</b>				
Election System Software DRE DB1 P3 101 09-05-2007: Copy ESS 082 2 of 4.	DVD Video	CDOS	05-Sep-07	For completeness
<b>Auditor notes:</b> We did not see an internal video flashcard for this DVD. However, it contained video of DRE testing and was clearly a continuation of the Copy ESS 082 1 of 4 video. No action required.				
Election System Software DRE DB1 P3 101 09-05-2007: Copy ESS 082 3 of 4.	DVD Video	CDOS	05-Sep-07	For completeness
<b>Auditor notes:</b>				

Document Title	Document Type	Document Autho	Document date	Review type
Election System Software DRE DB1 P3 101 09-05-2007: Copy ESS 082 4 of 4.	DVD Video	CDOS	05-Sep-07	For completeness
<b>Auditor notes:</b>				
Election System Software DRE DB1 P3 101 09-05-2007: Copy ESS 083 1 of 4.	DVD Video	CDOS	05-Sep-07	For completeness
<b>Auditor notes:</b>				
Election System Software DRE DB1 P3 101 09-05-2007: Copy ESS 083 2 of 4.	DVD Video	CDOS	05-Sep-07	For completeness
<b>Auditor notes:</b>				
Election System Software DRE DB1 P3 101 09-05-2007: Copy ESS 083 3 of 4.	DVD Video	CDOS	05-Sep-07	For completeness
<b>Auditor notes:</b>				
Election System Software DRE DB1 P3 101 09-05-2007: Copy ESS 083 4 of 4.	DVD Video	CDOS	05-Sep-07	For completeness
<b>Auditor notes:</b>				
Election System Software DRE DB1 P3 101 09-06-2007: Copy ESS 085 3 of 4.	DVD Video	CDOS	06-Sep-07	For completeness
<b>Auditor notes:</b>				
Election System Software DRE DG1 P3 101/DB1 P3 101 09-04-2007: Copy ESS 080 1 of 4.	DVD Video	CDOS	04-Sep-07	For completeness
<b>Auditor notes:</b>				
Election System Software DRE DG1 P3 139 09-06-2007: Copy ESS 085 4 of 4.	DVD Video	CDOS	06-Sep-07	For completeness
<b>Auditor notes:</b>				
Election System Software DRE Functional Testing 09-06-2007: Copy ESS 086 1 of 1.	DVD Video	CDOS	06-Sep-07	For completeness
<b>Auditor notes:</b>				
Election System Software Functional Testing Optical Scanner 08-08-2007: Copy ESS 045 1 of 5.	DVD Video	CDOS	08-Aug-07	For completeness
<b>Auditor notes:</b>				
Election System Software Functional Testing Optical Scanner 08-08-2007: Copy ESS 045 2 of 5.	DVD Video	CDOS	08-Aug-07	For completeness
<b>Auditor notes:</b>				
<i>We saw no internal video flashcard. However, the test is a continuation of the first video in the series, which was of an M650. No action required.</i>				

Document Title	Document Type	Document Autho	Document date	Review type
Election System Software Functional Testing Optical Scanner 08-08-2007: Copy ESS 045 3 of 5.	DVD Video	CDOS	08-Aug-07	For completeness
<b>Auditor notes:</b> <i>We saw no internal video flashcard. However, the test is a continuation of the previous video in the series, which was of an M650. No action required.</i>				
Election System Software Functional Testing Optical Scanner 08-08-2007: Copy ESS 045 4 of 5.	DVD Video	CDOS	08-Aug-07	For completeness
<b>Auditor notes:</b> <i>We saw no internal video flashcard. However, the test is a continuation of the previous video in the series, which was of an M650. No action required. We also note that on this video and previous videos of this test, testers opened the back of the M650 to look inside. No action required.</i>				
Election System Software Functional Testing Optical Scanner 08-08-2007: Copy ESS 045 5 of 5.	DVD Video	CDOS	08-Aug-07	For completeness
<b>Auditor notes:</b>				
Election System Software Precinct Count O.S. 08-22-2007: Copy ESS 065 1 of 4.	DVD Video	CDOS	22-Aug-07	For completeness
<b>Auditor notes:</b>				
Election System Software Precinct Count O.S. 08-22-2007: Copy ESS 065 2 of 4.	DVD Video	CDOS	22-Aug-07	For completeness
<b>Auditor notes:</b>				
Election System Software Precinct Count O.S. 08-22-2007: Copy ESS 065 3 of 4.	DVD Video	CDOS	22-Aug-07	For completeness
<b>Auditor notes:</b> <i>An internal flash card identifies a specific test of CD2 P3 205.</i>				
Election System Software Precinct Count O.S. CD2 P3 205 08-22-2007: Copy ESS 065 4 of 4.	DVD Video	CDOS	22-Aug-07	For completeness
<b>Auditor notes:</b>				
Election System Software Precinct Count O.S. CD2 P3 205 08-23-2007: Copy ESS 067 1 of 4.	DVD Video	CDOS	23-Aug-07	For completeness
<b>Auditor notes:</b>				
Election System Software Precinct Count O.S. CD2 P3 205 08-23-2007: Copy ESS 067 2 of 4.	DVD Video	CDOS	23-Aug-07	For completeness
<b>Auditor notes:</b> <i>We saw no internal video flashcard. However, the test is a continuation of the previous video in the series, which was of an M100. No action required.</i>				

Document Title	Document Type	Document Autho	Document date	Review type
Election System Software Precinct Count O.S. CD2 P3 205 08-23-2007: Copy ESS 067 3 of 4.	DVD Video	CDOS	23-Aug-07	Partial
<b>Auditor notes:</b> <i>Discussion among Testing Board members about how long to continue testing after required time--if the system is not performing as required.</i>				
Election System Software Precinct Count O.S. CD2 P3 205 08-23-2007: Copy ESS 067 4 of 4.	DVD Video	CDOS	23-Aug-07	For completeness
<b>Auditor notes:</b> <i>We saw no internal video flashcard. However, the test is a continuation of the previous video in the series, which was of an M100. No action required.</i>				
Election System Software Precinct Count O.S. DB2 P3 201 07-24-2007: Copy ESS 037 1 of 5.	DVD Video	CDOS	24-Jul-07	Partial
<b>Auditor notes:</b> <i>We had difficulties initially viewing this DVD with Windows Media Player and Real. We finally got it to read in WMP. The DVD appears to have no internal video flashcard. The Testing Board should verify that the video contains the test specified on the DVD label. Our partial review of the DVD found no verbal reference to a test machine or a test number.</i>				
Election System Software Precinct Count O.S. DB2 P3 201 07-24-2007: Copy ESS 037 2 of 5.	DVD Video	CDOS	24-Jul-07	For completeness
<b>Auditor notes:</b> <i>We found no internal video flashcard for this test to match with the video label.</i>				
Election System Software Precinct Count O.S. DB2 P3 201 07-24-2007: Copy ESS 037 3 of 5.	DVD Video	CDOS	24-Jul-07	For completeness
<b>Auditor notes:</b>				
Election System Software Precinct Count O.S. DB2 P3 201 07-24-2007: Copy ESS 037 4 of 5.	DVD Video	CDOS	24-Jul-07	For completeness
<b>Auditor notes:</b>				
Election System Software Precinct Count O.S. DB2 P3 201 07-24-2007: Copy ESS 037 5 of 5.	DVD Video	CDOS	24-Jul-07	For completeness
<b>Auditor notes:</b>				
Election System Software Precinct Count O.S. DB2 P3 201 08-06-2007: Copy ESS 050 1 of 4.	DVD Video	CDOS	06-Aug-07	For completeness
<b>Auditor notes:</b>				
Election System Software Precinct Count O.S. DB2 P3 201 08-06-2007: Copy ESS 050 2 of 4.	DVD Video	CDOS	26-Aug-07	For completeness
<b>Auditor notes:</b> <i>We saw no internal video flashcard. However, the test is a continuation of the previous video in the series, which was of an M100. No action required.</i>				

Document Title	Document Type	Document Autho	Document date	Review type
Election System Software Precinct Count O.S. DB2 P3 201 08-06-2007: Copy ESS 050 3 of 4.	DVD Video	CDOS	06-Aug-07	For completeness
<b>Auditor notes:</b> <i>We saw no internal video flashcard. However, the test is a continuation of the previous video in the series, which was of an M100. No action required.</i>				
Election System Software Precinct Count O.S. DB2 P3 201 08-06-2007: Copy ESS 050 4 of 4.	DVD Video	CDOS	06-Aug-07	For completeness
<b>Auditor notes:</b> <i>We saw no internal video flashcard. However, the test is a continuation of the previous video in the series, which was of an M100. No action required.</i>				
Election System Software Precinct Count O.S. DB2 P3 214 08-30-2007: Copy ESS 074 4 of 4.	DVD Video	CDOS	30-Aug-07	For completeness
<b>Auditor notes:</b>				
Election System Software Precinct Count O.S. DRE 09-20-2007: Copy ESS 087 1 of 2.	DVD Video	CDOS	20-Sep-07	For completeness
<b>Auditor notes:</b> <i>The tester provided a verbal test identification of CA2 P3 222.</i>				
Election System Software Precinct Count O.S./DRE 09-20-2007: Copy ESS 087 2 of 2.	DVD Video	CDOS	20-Sep-07	For completeness
<b>Auditor notes:</b> <i>The video lists identifiers for various functional tests.</i>				
Election System Software Precinct O.S. (& Central Count) DB2 P3 206 07-31-2007: Copy ESS 041 3 of 7.	DVD Video	CDOS	31-Jul-07	Partial
<b>Auditor notes:</b>				
Election System Software Precinct O.S. (& Central Count) DB2 P3 206 07-31-2007: Copy ESS 041 4 of 7.	DVD Video	CDOS	31-Jul-07	For completeness
<b>Auditor notes:</b> <i>We found no internal flash card on the video. However, the video is a clear continuation of the previous video, reflecting testing on the M100. No action required.</i>				
Election System Software Precinct O.S. CD1 P3 101 08-24-2007: Copy ESS 068 1 of 3.	DVD Video	CDOS	24-Aug-07	Partial
<b>Auditor notes:</b> <i>The DVD label refers to precinct optical scan. The internal flash card refers to precinct optical scan. However, after an initial camera shot of an M100, the remainder of the DVD focuses on iVo DRE testing. The Testing Board needs to clarify whether the material on this DVD is for iVo testing or M100 testing. If it is for both, the DVD label should reflect that condition. Also, if the Testing Board is using the results from an iVo DRE to validate or cross-reference the results from O.S. ballots, that situation must show clearly in the test documentation.</i>				

Document Title	Document Type	Document Autho	Document date	Review type
Election System Software Precinct O.S. DB2 P3 206 07-31-2007: Copy ESS 041 1 of 7.	DVD Video	CDOS	31-Jul-07	For completeness
<b>Auditor notes:</b>				
Election System Software Precinct O.S. DB2 P3 206 07-31-2007: Copy ESS 041 2 of 7.	DVD Video	CDOS	31-Jul-07	For completeness
<b>Auditor notes:</b> We found no internal flash card on the video. However, the video is a clear continuation of the previous video, reflecting testing on the M100. No action required.				
Election System Software Precinct O.S. DB2 P3 214 08-31-2007: Copy ESS 077 1 of 2.	DVD Video	CDOS	31-Aug-07	Partial
<b>Auditor notes:</b> The DVD label reads DB2 P3 214. The internal video flashcard reads DG2 P3 214 and the Testing Board member verbally identifies the test as DG2 P3 214. In light of this lack of internal and external agreement, the Testing Board should issue a written addendum to the video specifying the correct test identifier.				
Election System Software Precinct O.S. DB2 P3 214 08-31-2007: Copy ESS 077 2 of 2.	DVD Video	CDOS	31-Aug-07	Partial
<b>Auditor notes:</b> The internal video flashcard on this video identifies the test as DB2 P3 214. This flashcard matches the DVD label, unlike the situation on ESS 077 1 of 2, which has an internal flashcard reading DG2 instead of DB2. In light of this lack of consistent referential agreement on 077 1 of 2 and 077 2 of 2, the Testing Board should issue a written addendum to the video specifying the correct test identifier.				
Election System Software Precinct/Central Count O.S. 07-31-2007: Copy ESS 041 5 of 7.	DVD Video	CDOS	31-Jul-07	For completeness
<b>Auditor notes:</b> We found no internal flash card on the video. However, the video is a clear continuation of the previous video, reflecting testing on the M100. No action required.				
Election System Software Precinct/Central Count O.S. 07-31-2007: Copy ESS 041 6 of 7.	DVD Video	CDOS	31-Jul-07	For completeness
<b>Auditor notes:</b> We found no internal flash card on the video. However, the video is a clear continuation of the previous video, reflecting testing on the M100. No action required.				
Election System Software Precinct/Central Count O.S. 07-31-2007: Copy ESS 041 7 of 7.	DVD Video	CDOS	31-Jul-07	For completeness
<b>Auditor notes:</b> We found no internal flash card on the video. However, the video is a clear continuation of the previous video. No action required.				
Election System Software Precinct/Central Count O.S. DB2 P3 203/DB3 P3 307 07-27-2007: Copy ESS 049 1 of 5.	DVD Video	CDOS	27-Jul-07	For completeness
<b>Auditor notes:</b>				

Document Title	Document Type	Document Autho	Document date	Review type
Election System Software Precinct/Central Count O.S. DB2 P3 203/DB3 P3 307 07-27-2007: Copy ESS 049 2 of 5.	DVD Video	CDOS	27-Jul-07	For completeness
<b>Auditor notes:</b>				
Election System Software Precinct/Central Count O.S. DB2 P3 203/DB3 P3 307 07-27-2007: Copy ESS 049 3 of 5.	DVD Video	CDOS	27-Jul-07	For completeness
<b>Auditor notes:</b>				
Election System Software Precinct/Central Count O.S. DB2 P3 203/DB3 P3 307 07-27-2007: Copy ESS 049 4 of 5.	DVD Video	CDOS	27-Jul-07	For completeness
<b>Auditor notes:</b> We saw no internal video flashcard. However, the test is a continuation of the previous video in the series, which was of an M100. No action required.				
Election System Software Precinct/Central Count O.S. DB2 P3 203/DB3 P3 307 07-27-2007: Copy ESS 049 5 of 5.	DVD Video	CDOS	27-Jul-07	For completeness
<b>Auditor notes:</b>				
Election System Software Precinct/Central Count O.S. DB2 P3 206/DB3 P3 307 07-26-2007: Copy ESS 038 1 of 5.	DVD Video	CDOS	26-Jul-07	For completeness
<b>Auditor notes:</b>				
Election System Software Precinct/Central Count O.S. DB2 P3 206/DB3 P3 307 07-26-2007: Copy ESS 038 2 of 5.	DVD Video	CDOS	26-Jul-07	For completeness
<b>Auditor notes:</b> The label on the DVD refers to both Precinct and Central Count tests. The first internal flash card refers only to Precinct Count. Activity on the DVD shows testing for both types of VS. No action required.				
Election System Software Precinct/Central Count O.S. DB2 P3 206/DB3 P3 307 07-26-2007: Copy ESS 038 3 of 5.	DVD Video	CDOS	26-Jul-07	For completeness
<b>Auditor notes:</b> The internal video flash card refers only to Precinct Count. However, the testing on the video covers both Precinct and Central Count. No action required.				
Election System Software Precinct/Central Count O.S. DB2 P3 206/DB3 P3 307 07-26-2007: Copy ESS 038 4 of 5.	DVD Video	CDOS	26-Jul-07	For completeness
<b>Auditor notes:</b> The video shows primarily Precinct County testing action. There is no internal video flash card. However, the testing on the video appears to relate to the Precinct Count VS. No action required.				
Election System Software Precinct/Central Count O.S. DB2 P3 206/DB3 P3 307 07-26-2007: Copy ESS 038 5 of 5.	DVD Video	CDOS	26-Jul-07	For completeness
<b>Auditor notes:</b> Once again, the DVD label refers to Precinct and Central Count OS devices. The internal video flash cards list both test numbers but refer only to Precinct Count. The video activity is for Precinct Count OS. No action required.				

Document Title	Document Type	Document Autho	Document date	Review type
Election System Software Precinct/Central Count O.S. DB3 P3 307 07-30-2007: Copy ESS 047 1 of 6.	DVD Video	CDOS	20-Jul-07	For completeness
<b>Auditor notes:</b>				
Election System Software Precinct/Central Count O.S. DB3 P3 307 08-01-2007: Copy ESS 048 1 of 6.	DVD Video	CDOS	01-Aug-07	For completeness
<b>Auditor notes:</b> M100 testing				
Election System Software Precinct/Central Count O.S. DB3 P3 307 08-01-2007: Copy ESS 048 2 of 6.	DVD Video	CDOS	01-Aug-07	For completeness
<b>Auditor notes:</b> M100 testing.				
Election System Software Precinct/Central Count O.S. DB3 P3 307 08-01-2007: Copy ESS 048 3 of 6.	DVD Video	CDOS	01-Aug-07	For completeness
<b>Auditor notes:</b>				
Election System Software Precinct/Central Count O.S. DB3 P3 307 08-01-2007: Copy ESS 048 4 of 6.	DVD Video	CDOS	01-Aug-07	For completeness
<b>Auditor notes:</b> We saw no internal video flashcard. However, the test is a continuation of the previous video in the series, which was of an M100. No action required.				
Election System Software Precinct/Central Count O.S. DB3 P3 307 08-01-2007: Copy ESS 048 5 of 6.	DVD Video	CDOS	01-Aug-07	For completeness
<b>Auditor notes:</b> We saw no internal video flashcard. However, the test is a continuation of the previous video in the series, which was of an M100. No action required.				
Election System Software Precinct/Central Count O.S. DB3 P3 307 08-01-2007: Copy ESS 048 6 of 6.	DVD Video	CDOS	01-Aug-07	For completeness
<b>Auditor notes:</b> We saw no internal video flashcard. However, the test is a continuation of the previous video in the series, which was of an M100. No action required.				
Election System Software Precinct/Central Count O.S. DB3 P3 307/DB2 P3 206 07-30-2007: Copy ESS 047 4 of 6.	DVD Video	CDOS	30-Jul-07	For completeness
<b>Auditor notes:</b> We saw no internal video flashcard. However, the test is a continuation of the previous video in the series, which was of an M100. No action required.				
Election System Software Precinct/Central Count O.S. DB3 P3 307/DB2 P3 206 07-30-2007: Copy ESS 047 5 of 6	DVD Video	CDOS	30-Jul-07	For completeness
<b>Auditor notes:</b> Video shows an incident of an M100 giving off a burning odor. Testing Board opens machine searching for cause. Reported sparks inside machine.				



Document Title	Document Type	Document Autho	Document date	Review type
Election System Software Precinct/Central Count O.S. DB3 P3 307/DB2 P3 206 07-30-2007: Copy ESS 047 6 of 6	DVD Video	CDOS	30-Jul-07	For completeness
<b>Auditor notes:</b> We saw no internal video flashcard. However, the test is a continuation of the previous video in the series, which was of an M100. No action required.				
Election System Software Public Demonstration 05-25-2007: Copy ESS001.	DVD Video	CDOS	25-May-07	In entirety
<b>Auditor notes:</b> Opening slide said the demo was for the "State Board of Elections." The demonstration was of Unity 3.0.1.1 Amendment A. State in the public demo that a previous version (3.0.1.0) was NASED certified. What about the version subject of this demo? Questioned about FL issues.				
Election System Software Public Demonstration 05-25-2007: Copy ESS002.	DVD Video	CDOS	25-May-07	For completeness
<b>Auditor notes:</b>				
Election System Software Public Demonstration 05-25-2007: Copy ESS003.	DVD Video	CDOS	25-May-07	For completeness
<b>Auditor notes:</b>				
Election System Software Public Demonstration 05-25-2007: Copy ESS004.	DVD Video	CDOS	25-May-07	For completeness
<b>Auditor notes:</b>				
Election System Software Trusted Build 06-21-2007: Copy ESS 012.	DVD Video	CDOS	21-Jun-07	For completeness
<b>Auditor notes:</b> Note the date of this DVD (Copy ESS 012) is earlier than the date for Copy ESS 011. No action required.				
Election System Software Trusted Build 06-22-2007: Copy ESS 010.	DVD Video	CDOS	22-Jun-07	In entirety
<b>Auditor notes:</b> Explanations from Systest re: exceptions/discrepancies found in AutoMARK build. Testing Board uncertain of the validity or relevance of the explanations. Note lack of documentation to support Systest explanation.				
Election System Software Trusted Build 06-22-2007: Copy ESS 018.	DVD Video	CDOS	22-Jun-07	For completeness
<b>Auditor notes:</b> Note the date of this DVD (Copy ESS 018) is earlier than the date for Copy ESS 017. No action required.				
Election System Software Trusted Build 06-25-2007: Copy ESS 017.	DVD Video	CDOS	25-Jun-07	For completeness
<b>Auditor notes:</b> The beginning flashcard references test number AD4 P3 401. Note the date of this DVD (Copy ESS 017) is earlier than the date for Copy ESS 016. No action required.				
Election System Software Trusted Build 06-29-2007: Copy ESS 019.	DVD Video	CDOS	29-Jun-07	For completeness
<b>Auditor notes:</b>				

Document Title	Document Type	Document Autho	Document date	Review type
Election System Software Trusted Build 07-01-2007: Copy ESS 020.	DVD Video	CDOS	02-Jul-07	For completeness
<b>Auditor notes:</b>				
Election System Software Trusted Build 07-02-2007: Copy ESS 011.	DVD Video	CDOS	02-Jul-07	For completeness
<b>Auditor notes:</b>				
Election System Software Trusted Build 07-03-2007: Copy ESS 021.	DVD Video	CDOS	03-Jul-07	For completeness
<b>Auditor notes:</b>				
Election System Software Trusted Build 07-05-2007: Copy ESS 013.	DVD Video	CDOS	05-Jul-07	For completeness
<b>Auditor notes:</b>				
Election System Software Trusted Build 07-05-2007: Copy ESS 022.	DVD Video	CDOS	05-Jul-07	Partial
<b>Auditor notes:</b> <i>We did not see an internal flashcard for this video. Additionally, we did not see or hear direct references to the ESS Trusted Build in the video. The Testing Board should review the video and provide a companion document to the DVD affirming that the activities on the video reflect work on the ESS Trusted Build.</i>				
Election System Software Trusted Build 07-10-2007: Copy ESS 014.	DVD Video	CDOS	10-Jul-07	For completeness
<b>Auditor notes:</b>				
Election System Software Trusted Build 07-10-2007: Copy ESS 015.	DVD Video	CDOS	10-Jul-07	For completeness
<b>Auditor notes:</b> <i>The DVD label contains the date 07-10-2007. However, the internal flashcard contains the date 07-12-2007. The Testing Board should either provide a corrected DVD label date or provide a written explanation of the date discrepancy to accompany the DVD.</i>				
Election System Software Trusted Build 07-11-2007: Copy ESS 023.	DVD Video	CDOS	11-Jul-07	For completeness
<b>Auditor notes:</b>				
Election System Software Trusted Build 07-13-2007: Copy ESS 016.	DVD Video	CDOS	13-Jul-07	For completeness
<b>Auditor notes:</b>				
Election System Software Trusted Build 07-16-2007: Copy ESS 024.	DVD Video	CDOS	16-Jul-07	For completeness
<b>Auditor notes:</b>				
Election System Software Trusted Build 07-17-2007: Copy ESS 025.	DVD Video	CDOS	17-Jul-07	For completeness
<b>Auditor notes:</b>				

Document Title	Document Type	Document Autho	Document date	Review type
Election System Software Trusted Build 08-27-2007: Copy ESS 072 1 of 3.	DVD Video	CDOS	27-Aug-07	Partial
<b>Auditor notes:</b> Note appropriate use of tamper-evident seals on container with trusted build software. Note appropriate use of locks on trusted build software container. The actions demonstrate clear control over the chain of custody of the items received for the trusted build.				
Election System Software Trusted Build 08-27-2007: Copy ESS 072 2 of 3.	DVD Video	CDOS	27-Nov-07	Partial
<b>Auditor notes:</b> We did not see an internal video flashcard for this DVD. However, it contained video of the trusted build and was clearly a continuation of the Copy ESS 072 1 of 3 video. No action required.				
Election System Software Trusted Build 08-27-2007: Copy ESS 072 3 of 3.	DVD Video	CDOS	27-Aug-07	Partial
<b>Auditor notes:</b>				
Election System Software Trusted Build pt. 1 06-06-2007: Copy ESS 005.	DVD Video	CDOS	06-Jun-07	Partial
<b>Auditor notes:</b> Verified appropriate seals and seal numbers for hardware and software against manifests. Cameras show proper recording activities of seal and log information. Show proper hash comparisons for builds. Shows equipment disassembly as part of verification process. Had to pause the process to receive additional firmware files. Had to arrange to obtain ZIP equipment that did not appear to be on original hardware list. Video shows proper application of tamper-evident seals to equipment.				
Election System Software Trusted Build pt. 1 06-06-2007: Copy ESS 006.	DVD Video	CDOS	13-Nov-07	For completeness
<b>Auditor notes:</b>				
Election System Software Trusted Build pt. 2 06-06-2007: Copy ESS 007.	DVD Video	CDOS	07-Jun-07	In entirety
<b>Auditor notes:</b> Shows difficulty reconciling version numbers during AutoMARK build. Quote: "There has not been much concern with security on a ballot marking device." (AutoMARK). Had to place calls to ITA for information needed on trusted build.				
Election System Software Trusted Build pt. 2 06-06-2007: Copy ESS 008.	DVD Video	CDOS	07-Jun-07	In entirety
<b>Auditor notes:</b> Shows appropriate attachment of tamper evident seals to M100 as well as all contents from Copy ESS 008.				
Election System Software Trusted Build pt. 3 06-08-2007: Copy ESS 009.	DVD Video	CDOS	08-Jun-07	In entirety
<b>Auditor notes:</b> AutoMARK build process continued.				
Election System Software Various Functional Tests 09-21-2007: Copy ESS 088	DVD Video	CDOS	21-Sep-07	For completeness
1 of 1.				
<b>Auditor notes:</b> The video's narrative lists identifiers for various tests.				
Election System Software Trusted Build 07-18-2007: Copy ESS 026.	DVD Video	CDOS	18-Jul-07	For completeness
<b>Auditor notes:</b>				

Document Title	Document Type	Document Autho	Document date	Review type
Election System Software Trusted Build 07-18-2007: Copy ESS 027.	DVD Video	CDOS	18-Jul-07	For completeness
<b>Auditor notes:</b> <i>The internal video flashcard refers to Precinct O.S. testing instead of a trusted build video. Additionally, while the flashcard refers to a Precinct Count O.S. activity, the video's activity centers around an M650, which typically finds use as a Central Count device. The Testing Board should clarify, either on the video label or in a document to accompany the video on the DVD, what are the contents of the DVD and video.</i>				
Phase 2 Document Review.	Test Documentation	CDOS	27-Sep-07	In entirety
<b>Auditor notes:</b> <i>This document is a Systest Qualification Report for ESS dated 31 August 2006.</i>				
Photo Evidence Record ESS 07/16/07-07/20/07.	Photos	CDOS	27-Jul-07	In entirety
<b>Auditor notes:</b> <i>Jam photos and failures on 650 optical scanner.</i>				
Photo Evidence Record ESS 07/23/07-07/27/07.	Photos	CDOS	27-Jul-07	In entirety
<b>Auditor notes:</b> <i>M650 and M100 photos largely. Good quality photos.</i>				
Photo Evidence Record ESS 07/30/07-08/03/07.	Photos	CDOS	03-Aug-07	In entirety
<b>Auditor notes:</b> <i>Sundry ballots and M100 photos.</i>				
Photo Evidence Record ESS 08/06/07-08/10/07.	Photos	CDOS	10-Aug-07	In entirety
<b>Auditor notes:</b> <i>Assorted paper ballots, M100 photos, RTAL shots, iVo PEB and related shots, 650 jam.</i>				
Photo Evidence Record ESS 08/13/07-08/18/07.	Photos	CDOS	18-Aug-07	
<b>Auditor notes:</b> <i>Most photos are well organized in folders for M650, M100, iVo, and paper ballots.</i>				
Photo Evidence Record ESS 08/20/07-08/25/07.	Photos	CDOS	25-Aug-07	In entirety
<b>Auditor notes:</b> <i>iVo, M650, M100 photos.</i>				
Photo Evidence Record ESS 08/27/07-08/31/07.	Photos	CDOS	08-Sep-07	In entirety
<b>Auditor notes:</b> <i>Material well organized in folders on the disk. We have received more photos from the Testing Board on this round of testing.</i>				
Photo Evidence Record ESS 09/03/07-09/08/07. Copy 1 of 2.	Photos	CDOS	08-Sep-07	For completeness
<b>Auditor notes:</b>				
Photo Evidence Record ESS 09/03/07-09/08/07. Copy 2 of 2.	Photos	CDOS	08-Sep-07	For completeness
<b>Auditor notes:</b>				

Document Title	Document Type	Document Autho	Document date	Review type
Photo Evidence Record ESS 09/10/07-09/15/07.	Photos	CDOS	15-Sep-07	For completeness
<b>Auditor notes:</b> The following photos are not readable: 091007ess 008; 091007ess 012; 091007ess 013; 091507 ess 001; No action required.				
Photo Evidence Record ESS 09/17/07-09/24/07.	Photos	CDOS	24-Sep-07	For completeness
<b>Auditor notes:</b> The following photos are not readable: 092007ess 031; and 092007ess 032. No action required.				