

PRO V&V



**COMMONWEALTH OF PENNSYLVANIA
TEST REPORT
FOR
RE-EXAMINATION OF
IVOTRONIC TOUCH SCREEN VOTING SYSTEM
VERSION 9.1.4.1
AND UNITY SOFTWARE
VERSION 3.0.1.0**

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1.0 INTRODUCTION

1.1 Scope

A re-examination of the iVotronic Touch Screen Voting System, Version 9.1.4.1, and Unity Software, Version 3.0.1.0, (hereafter referred to as “iVotronic Voting System”) was performed per the direction of the Secretary of the Commonwealth, acting through the Pennsylvania Department of State, Bureau of Commissions, Elections and Legislation. This Test Report documents the procedures followed, the results obtained, and the conclusions drawn from that re-examination.

1.2 Objective

The objective of the re-examination was to examine the iVotronic Voting System, previously certified for use in the Commonwealth of Pennsylvania on April 7, 2006, to determine whether the system remains compliant with the requirements of Article XI-A of the Pennsylvania Election Code, sections 1101-A to 1122-A, 25 P.S. §§ 3031.1 – 3031.22, and to document compliance through the execution of single thread test cases where applicable.

1.3 References

The documents listed below were utilized in the development of this Test Report:

- Article XI-A of the Pennsylvania Election Code, sections 1101-A to 1122-A, 25 P.S. §§ 3031.1 – 3031.22
- Federal Election Commission 2002 Voting Systems Standards
- Help America Vote Act (HAVA) of 2002, Public Law 107-252, 42 U.S.C. § 15301 *et seq.*
- ES&S Secure Voting System Overview, Version 3.0.1.0, August 18, 2006
- Pro V&V Test Protocol for Re-Examination of iVotronic Touch Screen Voting System Version 9.1.4.1 and Unity Software Version 3.0.1.0 (attached as Appendix A to this Test Report)

1.4 Terms and Abbreviations

Term	Abbreviation	Definition
Americans with Disabilities Act	ADA	Americans with Disabilities Act of 1990 is a law enacted by the United States Congress to prohibit discrimination based on disability.
Commercial Off-The-Shelf	COTS	Commercial, readily available hardware or software.
Direct Recording Electronic	DRE	An electronic voting system that utilizes electronic components for the functions of ballot presentation, vote capture, vote recording and tabulation which are logically and physically integrated into a single unit.

Term	Abbreviation	Definition
Election Management System	EMS	Set of processing functions and databases within a voting system that defines, develops and maintains election databases, performs election definitions and setup functions, formats ballots, counts votes, consolidates and reports results, and maintains audit trails.
Federal Election Commission	FEC	Commission created in 1975 to regulate the campaign finance legislation in the United States.
Independent Testing Authority	ITA	Independent testing organizations accredited by the National Association of State Election Directors (NASD) to perform voting system qualification testing.
Technical Data Package	TDP	Manufacturer's documentation related to the voting system required to be submitted with the system as a precondition for certification.
Federal Election Commission 2002 Voting System Standards	VSS	Voluntary guidelines published by the FEC, the second iteration of national level voting system standards.

2.0 SYSTEM OVERVIEW AND IDENTIFICATION

The iVotronic Voting System is a DRE Voting System that operates both at election headquarters for administrative purposes and absentee ballots and at the polling location for traditional, curbside, and challenged voting. The iVotronic Voting System consists of:

- Voter and supervisor terminals with touch screen interfaces;
- Supervisor and voter Personalized Electronic Ballots (PEBs) used to activate the iVotronic, open polls, load ballots onto the iVotronic and collect all votes from each terminal at the end of Election Day; and
- A communications pack used to transmit results and print polling place results reports.

There are two distinct iVotronic terminals and PEBs. Supervisor terminals and PEBs are red and Voter terminals and PEBs are blue.

During an election, poll workers either activate ballots for voters using a PEB or provide a PEB to the voter to activate his or her own terminal. In the Poll Worker Activated System, poll workers use supervisor PEBs to load voter terminals with the appropriate voter ballot. The supervisor PEBs contain all of the ballots required by the polling location. When a voter is ready to begin voting, a poll worker inserts a supervisor PEB into the iVotronic to load a ballot for the voter. After the ballot loads, the official removes the supervisor PEB and steps aside so that the voter can make selections and cast the ballot privately. In the Voter Activated System, the poll worker uses a supervisor terminal to load a blue voter PEB with the appropriate ballot. The official gives the voter PEB to the voter, who inserts it into a voter terminal. The voter casts the ballot and returns the PEB to the poll worker. After a voter has used a PEB, the PEB will not activate any terminal until a poll worker reloads it with another ballot.

Additionally, the Compact Flash Multi-Card Reader/Writer can be used to copy election data to multiple compact flash cards for the iVotronic terminal and to read audit data files from multiple compact flash cards to a central directory.

2.1 Software

The software listed in Table 2.1 was used during the examination of the iVotronic Voting System. Table 2.1 provides the component name, software/firmware version and a SHA-1 Hash, if calculated, during the re-examination.

Table 2.1 Software

Component Name	Version	Unique Identifier (digital signature or hash value)
iVotronic	9.1.4.1	f6a8d4570988e2d159398503144e64d48f0cc69f(SHA-1)
Unity (subcomponents listed below)	3.0.1.0	Not Calculated
EDM	7.4.4.0	Not Calculated
ESSIM	7.4.2.0	Not Calculated
HPM	5.2.4.0	Not Calculated
IVIM	2.0.1.0	Not Calculated
DAM	6.0.0.0	Not Calculated
ERM	7.1.2.0	Not Calculated
Audit Manager	7.3.0.0	Not Calculated

2.2 Hardware

Table 2.2 provides hardware component name, model number, and the serial number for the units that were examined.

Table 2.2 Hardware

Component Name	Model Number	Serial Number
PEB	N/A	0230763
		0230780
		0231702
		0231947
		0208129
		0232374
		0231934
		0231705
Initialization PEB	N/A	0230764
Clear and Test PEB	N/A	0230773
Communication Pack	N/A	01000144
		03001538
		06003819
iVotronic	HW 1.1	51343359
		5104426-C
		5106168-C

2.3 Peripherals

Table 2.3 provides the peripheral components used during the re-examination.

Table 2.3 Peripherals

Part Name	Model Number	Description
Compact Flash Memory Cards	N/A	Eight Compact Flash memory cards used by the iVotronic units.
Voter Booths	N/A	Three voter booths used as voting stations.
Desktop Printer	Oki Data B431 dn	COTS Printer to print EMS reports

2.4 Test Support Equipment/Materials

The test materials listed in Table 2.4 were used during the re-examination.

Table 2.4 Test Materials

Part Name	Quantity	Description
Communication Pack paper rolls	Various	Paper rolls used by the Communication Pack to print reports.
8 1/2" x 11" paper	Various	EMS report paper
USB Thumbdrive	1	Sandisk USB 2.0 Cruzer 8 GB used to transport test data.

3.0 TEST PROCESS

3.1 Background

The iVotronic Voting System was certified for use in the Commonwealth of Pennsylvania on April 7, 2006, after an examination was conducted pursuant to the Pennsylvania Election Code. The iVotronic Voting System has been in use by Pennsylvania counties since its initial certification. Pursuant to section 1105-A of the Pennsylvania Election Code, 25 P.S. § 3031.5, a group of Pennsylvania voters formally requested that the Secretary conduct a re-examination of the iVotronic Voting System. The Secretary granted the request. Pro V&V, Inc. was contracted to develop test protocols and conduct the re-examination testing to ascertain whether the certified electronic voting system complies with the requirements set forth in the Pennsylvania Election Code.

3.2 General Information

The re-examination of the iVotronic Voting System was performed by Jack Cobb of Pro V&V, Inc. (the "Examiner"), per the direction of the Secretary of the Commonwealth, acting through the Pennsylvania Department of State, Bureau of Commissions, Elections and Legislation. The re-examination commenced on February 29, 2012 at the Commonwealth Keystone Building, Hearing Room 1, 400 North Street, Harrisburg, Pennsylvania. The re-examination lasted approximately eight hours.

3.3 Test Approach

To achieve the objective of this re-examination, the Examiner separated the requirements of Article XI-A of the Pennsylvania Election Code, sections 1101-A to 1122-A, 25 P.S. §§ 3031.1 – 3031.22, into four main areas of test execution: (1) Review; (2) Targeted Functionality; (3) System Integration; and (4) Penetration Analysis. The “Review” testing consisted of analyzing ITA and other third-party reports for specific tests that satisfied the requirements of the Pennsylvania Election Code and verifying that the iVotronic Voting System met those requirements. The “Targeted Functionality” testing sought to ascertain whether the iVotronic Voting System met all of the requirements of the Pennsylvania Election Code that could be met by execution of a single thread test case. The “System Integration” testing sought to ascertain whether the iVotronic Voting System met all of the requirements of the Pennsylvania Election Code that could be met by the execution of an entire election. General and closed-primary election definitions were devised and run for the pre-voting, voting, and post-voting functions of the voting system. The “Penetration Analysis” testing sought to ascertain whether the iVotronic Voting System met all of the requirements of the Pennsylvania Election Code that could be met by analyzing security procedures and impoundment of ballots. Precinct tabulation devices were installed for delivery to the precinct, and analysis of the security procedures performed. Appendix A (“As Run Test Protocol”) contains the details of the test protocol performed on the iVotronic Voting System.

4.0 TEST FINDINGS AND RECOMMENDATIONS

The iVotronic Voting System, listed in Section 2.0 of this report, was subjected to the tests summarized in the following paragraphs.

4.1 Review

A review of the ITA reports listed on page 91 of Appendix A was conducted to determine compliance with the following sections of the Pennsylvania Election Code:

- 25 P.S. § 3031.5(a), requiring that a DRE “ha[ve] been examined and approved by a federally recognized independent testing authority” and that it “meet any voting system performance and test standards established by the Federal Government;”
- 25 P.S. § 3031.7(11), requiring that a DRE be “suitably designed for the purpose used, ... constructed in a neat and workmanlike manner of durable material of good quality, ... safely and efficiently useable in the conduct of elections and, with respect to the counting of ballots cast at each district, ... suitably designed and equipped to be capable of absolute accuracy, which accuracy shall be demonstrated to the Secretary of the Commonwealth;”
- 25 P.S. § 3031.7(13), requiring that a DRE, “when properly operated, records correctly and computes and tabulates accurately every valid vote registered;”
- 25 P.S. § 3031.7(14), requiring that a DRE be “safely transportable;” and
- 25 P.S. § 3031.7(15), requiring that a DRE be “so constructed that a voter may readily learn the method of operating it.”

Summary Findings: The test reports submitted by ES&S satisfied the requirements set forth in 25 P.S. § 3031.5(a). The iVotronic Voting System was examined and approved by an ITA as meeting the applicable performance and test standards. *See Election Systems & Software ES&S*

Unity 3.0.1.0 Voting System Hardware & Software ITA Qualification Report, Rev 03, dated March 9, 2006.

The design requirements of Sections 3031.7(11) and (13) of the Pennsylvania Election Code were met by the documented Product Safety Test in the submitted ITA reports. *See* page 92 of Appendix A. Although the submitted reports did not contain specific data for an Accuracy Test to satisfy the accuracy requirement for Section 3031.7(11) and Section 3031.7(13), a test to meet the Accuracy Requirements of the FEC 2002 VSS must be performed to receive a NASED Certification. As a result, it can be determined that the iVotronic Voting System met the requirement of this Accuracy Test during the federal testing campaign. As part of the re-examination, the Examiner analyzed all the results from every test conducted during the NASED Certification test campaign; these were deemed accurate.

Section 3031.7(14) of the Pennsylvania Election Code was met by the combination of documented Hardware Non-Operating Environmental Tests which included: bench handling, vibration, low temperature, high temperature, and humidity. These components tests were designed to test the storage of precinct tabulation devices between elections, as well as transportation between the storage facility and the polling place. Although the test data was not provided directly in the report submitted, the ITA referenced two hardware reports as the basis for acceptance in the federal test campaign. *See* ITA Report Election Systems & Software ES&S Unity 3.0.1.0 Voting System Hardware & Software ITA Qualification Report Incorporating Audit Manager, Election Data Manager, ES&S Ballot Image Manager, iVotronic Image Manager, Optech Image Manager, Hardware Programming Manager, Data Acquisition Manager, Election Reporting Manager, Real-Time Audit Log Printer, Compact Flash Multi-Card Reader/Writer, iVotronic, M100, and M650, Rev 3 Dated March 9, 2006 (citing Section 5.5 of SysTest Report for NASED # N-2-02-22-22-004 (2002)).

The manufacturer did not provide a Summative Usability Report to meet the requirements set forth in 25 P.S. § 3031.7(15). The Examiner, however, did not encounter any issues performing the method of operation for standard voting sessions or ADA voting sessions during execution of the re-examination. Additionally, Department of State staff members were used to input voting data for the system integration area of testing. No operational issues were reported.

By review of the above stated documents, and the certification to the FEC 2002 VSS of the iVotronic Voting System, I conclude the iVotronic Voting System meets these requirements of the Pennsylvania Election Code.

4.2 Targeted Functionality

As set forth in the Test Protocols published before the re-examination, nine test cases were designed to determine compliance with the requirements of 25 P.S. § 3031.7(1), (2), (3), (4), (5), (7), (10) and (16). The Examiner conducted each of these tests, with necessary modifications as discussed below. The following is a list of the individual test cases and a summary of the results and observations for each test case.

Test Case Identifier: 01 – 1107-A(1), 25 P.S. § 3031.7(1) Voter Secrecy (Regular Voter):

This test case was designed to test for compliance with 25 P.S. § 3031.7(1), requiring that a DRE “provides for voting in absolute secrecy and prevents any person from seeing or knowing for whom any voter, except one who has received or is receiving assistance as prescribed by law, has voted or is voting.” This test case required observation of voter input from a distance that is

considered public space for a DRE in the standard voting position. Three different observation positions were used to observe what, if any, voter inputs could be seen.

Summary Findings: During the execution of this test case, the observer did report being able to see parts of the ballot and voter inputs. The observer could not see the actual selections. Any jurisdiction using the iVotronic Voting System should follow Directive 4 of “Directive Concerning the Use, Implementation and Operation of Electronic Voting Systems by the County Board of Elections,” dated April 28, 2009, and issued by the Secretary of the Commonwealth. In my opinion, the iVotronic Voting System, if setup per Directive 4, can provide for secrecy so that no person can see whom any voter has voted for, thus meeting the requirement of the Pennsylvania Election Code.

Test Case Identifier: 01 – 1107-A(1), 25 P.S. § 3031.7(1) Voter Secrecy (ADA Voter):

This test case was designed to determine whether audible and visual voter input from a distance that is considered public space for a DRE in the ADA position could be observed by a third-party. Before test execution, it was determined that the examination room’s size and acoustics were invalid for the audio portion of the test (only visual observations were recorded).

Summary Findings: During the execution of this test case, the observer did report being able to see parts of the ballot and voter inputs. It should be noted however, that this test was conducted while the iVotronic Voting System was activated for a standard voting session for the purposes of the observations. In an actual ADA voting session the LCD display is not active. Any jurisdiction using the iVotronic Voting System should follow Directive 4 of “Directive Concerning the Use, Implementation and Operation of Electronic Voting Systems by the County Board of Elections,” dated April 28, 2009, and issued by the Secretary of the Commonwealth. In my opinion, the iVotronic Voting System, if setup per Directive 4, can provide for secrecy so that no person can see whom any ADA voter has voted for, thus meeting the requirement of the Pennsylvania Election Code.

Test Case Identifier: 02 – 1107-A(2), 25 P.S. § 3031.7(2) Selection of Candidates and Questions by Voter (Regular/ADA):

This test case was designed to test for compliance with 25 P.S. § 3031.7(2), requiring that a DRE “provides facilities for voting for such candidates as may be nominated and upon such questions as may be submitted.” This test case ensures a vote for a candidate for “1 of 1,” “N of M,” and “Question” contests could be recorded and reported as input for a standard voting session and an ADA voting session.

Summary Findings: No issues or anomalies were noted during the execution of this test case. The iVotronic Voting System successfully recorded and reported votes for “1 of 1,” “N of M,” and “Question” contests for both a standard voting session and an ADA voting session. The actual results obtained during execution met the expected results. *See* page 67 of Appendix A. The objective criteria for evaluation were analyzed, and the system met the criteria. Therefore, I conclude that the iVotronic Voting System meets the requirements of Section 3031.7(2) of the Pennsylvania Election Code.

Test Case Identifier: 03 – 1107-A(3), 25 P.S. § 3031.7(3) Straight-Party and Pennsylvania Method:

This test case was designed to test for compliance with 25 P.S. § 3031.7(3), which requires that a DRE allow a voter to perform straight-party voting according to the “Pennsylvania Method.” This test case was designed to ensure that a straight-party selection and the Pennsylvania Method of straight-party voting could be recorded and reported as input for a standard voting session and an ADA voting session.

Summary Findings: No issues or anomalies were noted during the execution of this test case. During the execution of this test case, the iVotronic Voting System successfully recorded and reported straight-party votes and demonstrated the Pennsylvania Method of straight-party voting for both a standard voting session and an ADA voting session. The actual results obtained during execution met the expected results. *See* page 69 of Appendix A. The objective criteria for evaluation were analyzed, and the system met the criteria. Therefore, I conclude that the iVotronic Voting System meets the requirements of Section 3031.7(3) of the Pennsylvania Election Code.

Test Case Identifier: 04 – 1107-A(4), 25 P.S. § 3031.7(4) Straight-Party and Write-In:

This test case was designed to test for compliance with 25 P.S. § 3031.7(4), which requires that a DRE permit a voter to vote for a candidate of his or her choice through a straight-party or write-in voting. This test case ensures that both a straight-party and write-in selection could be recorded and reported as input for a standard voting session and an ADA voting session.

Summary Findings: No issues or anomalies were noted during the execution of this test case. During the execution of this test case, the iVotronic Voting System successfully recorded and reported straight-party and write-in votes for both a standard voting session and an ADA voting session. The actual results obtained during execution met the expected results. *See* page 73 of Appendix A. The objective criteria for evaluation were analyzed, and the system met the criteria. Therefore, I conclude the iVotronic Voting System meets the requirements of Section 3031.7(4) of the Pennsylvania Election Code.

Test Case Identifier: 05 – 1107-A(5), 25 P.S. § 3031.7(5) Selection of Candidate and Write-in:

This test case was designed to test for compliance with 25 P.S. § 3031.7(5), which requires that a DRE permit a voter to vote for any candidate or write-in a candidate. This test case ensures that a candidate and write-in selection could be recorded and reported as input for a standard voting session and an ADA voting session.

Summary Findings: No issues or anomalies were noted during the execution of this test case. During the execution of this test case the iVotronic Voting System successfully recorded and reported candidate selections and write-in votes for both a standard voting session and an ADA voting session. The actual results obtained during execution met the expected results. *See* page 76 of Appendix A. The objective criteria for evaluation were analyzed, and the system met the criteria. Therefore, I conclude the iVotronic Voting System meets the requirements of Section 3031.7(5) of the Pennsylvania Election Code.

Test Case Identifier: 07 – 1107-A(7), 25 P.S. § 3031.7(7) Attempt to Over Vote Contests and Questions (Regular/ADA):

This test case was designed to test for compliance with 25 P.S. § 3031.7(7), which requires that a DRE prevent a voter from over voting. This test case ensures that a voter could not over vote for a contest or question during a standard voting session and an ADA voting session.

Summary Findings: The iVotronic Voting System successfully prohibited a voter from selecting more than the number of allowable selections, including write-in votes, for both a standard voting session and an ADA voting session. During the execution of this test case an anomaly occurred while executing the ADA portion of the test. A loud static sound was emitted from the headphones after a long pause by the Examiner causing the Examiner to remove the headphones. When the Examiner resumed activity, the audio prompts continued without any issue. The manufacturer researched this issue and found the audio file that was prompted by inactivity was in the wrong format. When the system attempted to play the file, the audio could not be read and static was produced. The unreadable audio file did not affect the system's ability to record a voter's selections. No other issues or anomalies were noted during the execution of this test case. All other results met the expected results. *See* page 79 of Appendix A. The objective criteria for evaluation were analyzed, and the system met the criteria. Therefore, I conclude the iVotronic Voting System meets the requirements of Section 3031.7(7) of the Pennsylvania Election Code.

Test Case Identifier: 10 – 1107-A(10), 25 P.S. § 3031.7(10) Ballot Review and Change (Regular/ADA):

This test case was designed to test for compliance with 25 P.S. § 3031.7(10), which requires that a DRE allow for ballot review and change before casting the ballot. This test case ensures that a voter can review a voted ballot and make changes before casting the ballot and have a cast ballot computed during a standard voting session and an ADA voting session.

Summary Findings: No issues or anomalies were noted during the execution of this test case. During the execution of this test case, the iVotronic Voting System provided a voter with a review screen and allowed for the voter to return to either the beginning of the ballot or an individual contest to make changes to his or her selections before casting the ballot for both a standard voting session and an ADA voting session. The actual results obtained during execution met the expected results. *See* page 82 of Appendix A. The objective criteria for evaluation were analyzed, and the system met the criteria. Therefore, I conclude the iVotronic Voting System meets the requirements of Section 3031.7(10) of the Pennsylvania Election Code.

Test Case Identifier: 16 – 1107-A(16), 25 P.S. § 3031.7(16) Public Counter, No Re-opening of Polls, Media Security with Tamper Proof Locks and Zero Proof and Tally Reports:

This test case was designed to test for compliance with 25 P.S. § 3031.7(16), which requires that a DRE have a public counter, have the ability to lock after the polls are closed, provide for voter secrecy, prohibit over votes, and print zero proof and results reports. This test case verifies the display of a public counter. It also ensures that the device provides (a) a lock to prevent tabulation after the polls are closed and to prevent re-opening of the polls, (b) tamper evident locks and seals, and (c) zero proof and results reports.

Summary Findings: No issues or anomalies were noted during the execution of this test case. During the execution of this test case the iVotronic Voting System provided a public counter that incremented with each cast vote; provided the ability to be locked after the polls were closed;

precluded the re-opening of the polls after the polls were closed; provided design features that allow tamper evident locks and seals to be placed on the device (*see* photographs in Section 4.4); and provided zero proof and results reports. The actual results obtained during execution met the expected results. *See* page 85 of Appendix A. The objective criteria for evaluation were analyzed, and the system met the criteria. Therefore, I conclude the iVotronic Voting System meets the requirements of Section 3031.7(16) of the Pennsylvania Election Code.

During the re-examination, the manufacturer demonstrated a software feature that locked the device so no further voting could take place after the polls had closed. This feature is logged in the audit logs for both the locking and unlocking of the device. This feature does not provide an obvious visual indication, like a tamper evident lock does, that indicates the device remains sealed and votes could not be input after the close of polls. The audit logs would have to be reviewed in order to determine if additional votes had been input after the close of polls. Therefore, I recommend this feature not be used in place of the tamper evident locks to secure the device after the close of polls.

4.3 System Integration Testing

System Integration Testing was performed to test proprietary hardware, software and peripherals, as well as COTS materials configured as a precinct count system. This test meets many of the requirements of the Pennsylvania Election Code that were previously verified in the Targeted Functionality area of testing, but was designed to specifically meet the following sections and requirements:

- 25 P.S. § 3031.1, defining "electronic voting system" to be a "system in which one or more voting devices are used to permit the registering or recording of votes and in which such votes are computed and tabulated by automatic tabulating equipment. The system shall provide for a permanent physical record of each vote cast;"
- 25 P.S. § 3031.7(4), requiring that a DRE "permits each voter, at other than primary elections, to vote a ticket selected from the nominees of any and all political parties, from the nominees of any and all political bodies, and from any persons whose names are not in nomination and do not appear upon the official ballot;"
- 25 P.S. § 3031.7(6), requiring that a DRE "permits each voter to vote for as many persons for any office as he is entitled to vote for and to vote for or against any question upon which he is entitled to vote and precludes each voter from voting or from having his vote tabulated for any candidate, or upon any question, for whom or upon which he is not entitled to vote;"
- 25 P.S. § 3031.7(8), requiring that a DRE "precludes each voter from voting or from having his vote tabulated more than once for any candidate for the same office or upon any question, except in districts and for offices where cumulative voting is authorized by law;"
- 25 P.S. § 3031.7(9), requiring that a DRE "permits each voter at a primary election to vote only for the candidates seeking nomination by a political party in which such voter is registered and enrolled, and for any candidate for nonpartisan nomination, and for any question upon which he is entitled to vote;" and
- 25 P.S. § 3031.17, requiring that the "county board of elections, as part of the computation and canvass of returns, shall conduct a statistical recount of a random sample of ballots after each election using manual, mechanical or electronic devices of a type different than those used for the specific election. The sample shall include at least

two (2) per centum of the votes cast or two thousand (2,000) votes whichever is the lesser.”

Two election definitions, a general and closed primary election, were devised to test and measure specific input devices, voting patterns and results. Pre-voting reports were generated, consisting of a ballot proof report, precinct summary report, and election summary report. The polls were opened, and precinct tabulator zero proof reports were generated. The Examiner and Department of State staff members attempted to input a complex voting pattern consisting of distinct combinations of vote selection as documented in the Test Protocol (*See Appendix A Election Definitions*). The polls were closed, and results reports were generated including cast vote records and ballot images. The voted data was then transferred to the election management system (EMS), and election summary reports, precinct summary reports, and ballot images were printed. At the conclusion of the test, the Examiner conducted a statistical recount of at least 10% of the votes cast using the cast vote records and ballot images. The procedure for conducting the statistical recount was to use the documented voting pattern and compare it to the cast vote records and ballot images. The procedure identified each ballot by the distinct voting pattern that was input. The Examiner also generated a backup of the EMS database and retained a copy with the other test data.

Summary Findings: No issues or anomalies were noted during the execution of this test case. The iVotronic Voting System successfully completed both the general and closed primary election. The actual results obtained during execution met the expected results. The objective criteria for evaluation were analyzed, and the system met the criteria. Therefore, I conclude the iVotronic Voting System meets the requirements of Sections 3031.1 and 3031.17 of the Pennsylvania Election Code in that the system generated a permanent physical record in the format of the cast vote record and ballot images that were used to conduct a statistical recount. The iVotronic Voting System also complies with Sections 3031.7(4) and (9) in that test voters in the primary election were only able to vote for their party and the system rejected attempts to vote for non-party candidates. The iVotronic Voting System meets the requirements for Sections 3031.7(6) and (8) in that the test voters cast votes on different ballot styles for candidates and questions and the iVotronic Voting System precluded test voters from over voting.

4.4 Penetration Analysis

A penetration analysis was performed to verify compliance with 25 P.S. § 3031.7(12), which requires that a DRE “provides acceptable ballot security procedures and impoundment of ballots to prevent tampering with or substitution of any ballots or ballot cards.”

The precinct tabulation devices were configured for delivery to a polling place from a warehouse; this included all seals and locks recommended by the manufacturer. The Examiner inspected the device for the ability to tamper with the transportation case and the device inside the case. The inspection examined the ports, the outer case, and memory devices from the aspect of the device as delivered to the polling place and configured for voting. The Examiner also examined both the precinct device and the EMS for password management of administrative functions and ensured the system counter cannot be reset by unauthorized persons. The Examiner photographed the configuration and analyzed the configuration for possible vulnerabilities. Photographs 1.1 through 1.4 indicate locks and seals on the precinct tabulation devices.



Photograph 1.1 Lock on the bottom of the iVotronic Transportation Case



Photograph 1.2 Seal over the PEB Port



Photograph 1.3 Lock on Serial Port and Compact Flash



Photograph 1.4 Lock over Serial Port and Compact Flash

Summary Findings: During the conducting of this analysis, the iVotronic Voting System provided acceptable ballot security procedures and impoundment of ballots to prevent tampering with or substitution of any ballots or ballot cards. It also provided acceptable password management and restriction of access to administrative functions. Therefore, I conclude the

iVotronic Voting System meets the requirements of Section 3031.7(12) of the Pennsylvania Election Code.

During the execution of the test, it was noticed that the lock placed over the serial port and compact flash memory did not prevent the possibility of access to the compact flash. The Examiner was able to expose the edge of the compact flash memory card seen in Photograph 1.3. During the examination, the compact flash card was not accessed, but this could be a possible vulnerability since the compact flash card possibly could be removed and replaced without the lock being removed. The Examiner recommends a different type of lock preferably one that is rigid, better installation of the lock provided or a tamper resistant seal be placed over the compact flash card itself to ensure no tampering with the compact flash card goes without notice.

5.0 CERTIFICATION FOR USE

The iVotronic Voting System, certified for use in the Commonwealth of Pennsylvania and presented for re-examination, meets the requirements of Article XI-A of the Pennsylvania Election Code, sections 1101-A to 1122-A, 25 P.S. §§ 3031.1 – 3031.22. As the Examiner, I recommend the voting system documented in Section 2.0 of this report remain certified for use in the Commonwealth of Pennsylvania.

APPENDIX A – AS RUN TEST PROTOCOL



COMMONWEALTH OF PENNSYLVANIA
TEST PROTOCOL
FOR
RE-EXAMINATION OF
IVOTRONIC TOUCH SCREEN VOTING SYSTEM
VERSION 9.1.4.1
AND UNITY SOFTWARE
VERSION 3.0.1.0

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1.0 INTRODUCTION

The primary purpose of the re-examination is to confirm that the iVotronic touch screen voting system version 9.1.4.1 and Unity software version 3.0.1.0 meets the requirements of Article XI-A of the Pennsylvania Election Code, sections 1101-A to 1122-A, 25 P.S. §§ 3031.1 – 3031.22. This re-examination is being performed per the direction of the Secretary of the Commonwealth, acting through the Pennsylvania Department of State, Bureau of Commissions, Elections and Legislation. This re-examination will commence on February 29, 2012 at the following location:

Commonwealth Keystone Building
Hearing Room 1
400 North Street
Harrisburg, Pennsylvania

The daily duration of this re-examination will be from 9:00 A.M. until 5:00 P.M. Eastern Standard Time unless a representative of the Secretary of the Commonwealth requests an extension, suspension, or a halt in testing.

1.0 References

The documents listed below were used in the development of the Test Protocol.

- Article XI-A of the Pennsylvania Election Code, sections 1101-A to 1122-A, 25 P.S. §§ 3031.1 – 3031.22
- Federal Election Commission 2002 Voting Systems Standards
- Help America Vote Act (HAVA) of 2002, Public Law 107-252, 42 U.S.C. § 15301 *et seq.*
- ES&S Secure Voting System Overview, Version 3.0.1.0, August 18, 2006

1.1 Terms and Abbreviation

This subsection lists terms and abbreviations relevant to this re-examination

“ADA” – Americans with Disabilities Act

“COTS” – Commercial Off-The-Shelf

“DAM” – ES&S Data Acquisition Manager

“Department” – Pennsylvania Department of State

“DRE” – Direct Recording Electronic

“EAC” – Election Assistance Commission

“EDM” – ES&S Election Data Manager

“EMS” – Election Management System

“ESSIM” – ES&S Image Manger

“Examiner” – The examiner appointed by the Secretary of the Commonwealth to conduct the re-examination

“FEC” – Federal Election Commission

“HPM” – ES&S Hardware Programming Manager

“ITA” – Independent Testing Authority

“IVIM” – ES&S iVotronic Image Manager

“PA” – The Commonwealth of Pennsylvania

“Pennsylvania Election Code” - Article XI-A of the Pennsylvania Election Code, sections 1101-A to 1122-A, 25 P.S. §§ 3031.1 – 3031.22

“Secretary” – The Secretary of the Commonwealth

“TDP” – Technical Data Package

“VSS” – Federal Election Commission 2002 Voting System Standards

“VVSG” – Election Assistance Commission 2005 Voluntary Voting System Guidelines

1.2 Background

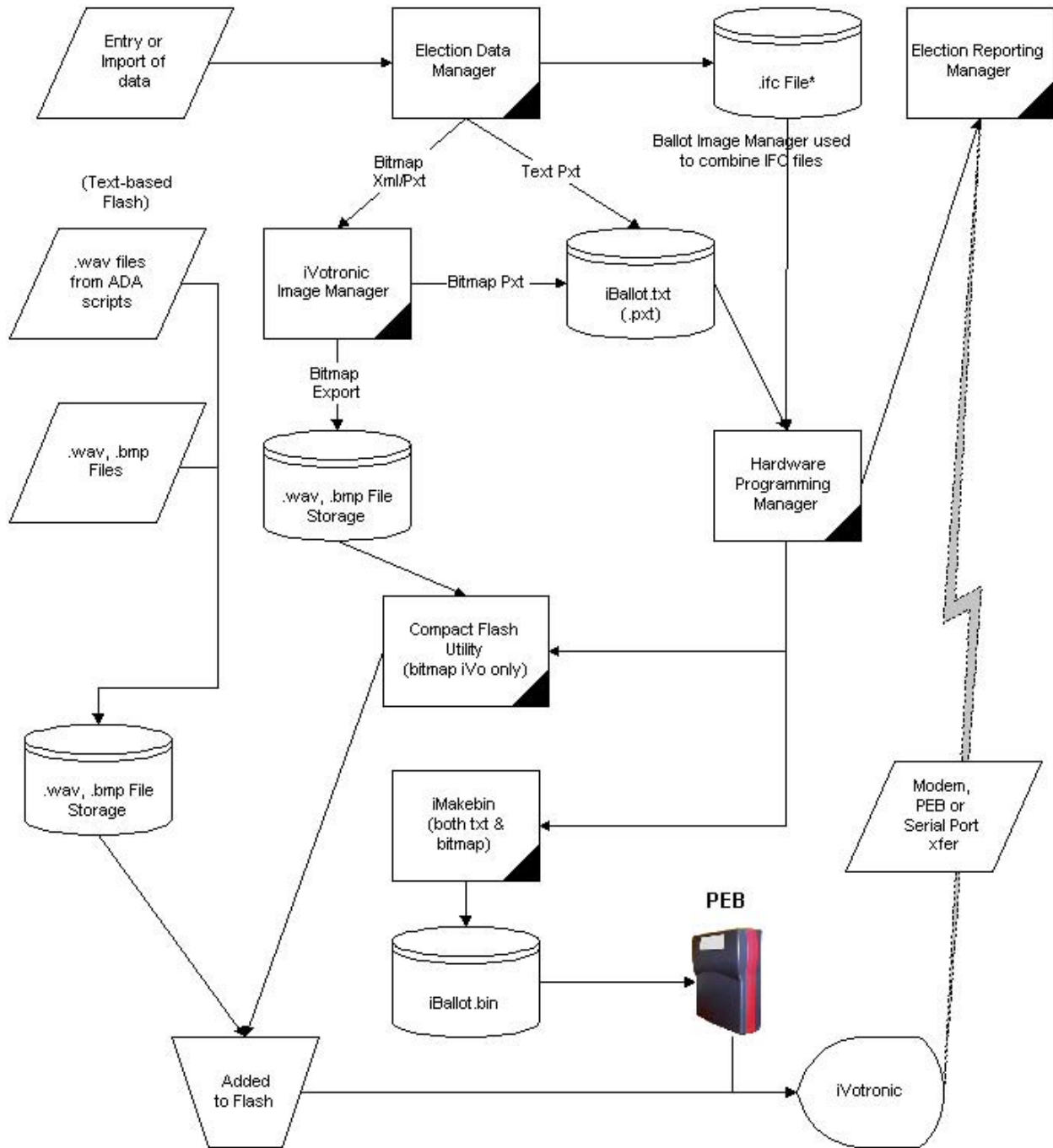
The iVotronic touch screen voting system version 9.1.4.1 and Unity software version 3.0.1.0 were certified for use in the Commonwealth of Pennsylvania on April 7, 2006 after an examination conducted pursuant to the Pennsylvania Election Code. The iVotronic touch screen voting system has been in use by Pennsylvania counties since its initial certification. Pursuant to section 1105-A of the Pennsylvania Election Code, 25 P.S. § 3031.5, a group of Pennsylvania voters formally requested that the Secretary conduct a re-examination of the iVotronic touch screen voting system version 9.1.4.1 and Unity software version 3.0.1.0. The Secretary granted the request.

The Test Protocol was developed to ascertain whether the certified electronic voting system complies with the requirements set forth in the Pennsylvania Election Code.

2.0 TEST ITEMS

This section contains detailed descriptions of the items tested during the re-examination, including all software, hardware, and peripherals, both proprietary and COTS, and any test support equipment or materials necessary for test performance. The following diagram illustrates the iVotronic touch screen voting system version 9.1.4.1 and Unity software version 3.0.1.0 requirements.

Figure 2.1 System Overview Diagram



2.1 Software

This subsection contains a listing of the software and firmware being evaluated.

Table 2.1 Software

Component Name	Version	Unique Identifier (digital signature or hash value)
iVotronic	9.1.4.1	TBD
EDM	7.4.4.0	TBD
ESSIM	7.4.2.0	TBD
HPM	5.2.4.0	TBD
IVIM	2.0.1.0	TBD
DAM	6.0.0.0	TBD
ERM	7.1.2.0	TBD
Audit Manager	7.3.0.0	TBD

2.2 Hardware

This subsection contains a listing of the hardware being evaluated.

Table 2.2 Hardware

Component Name	Model Number	Revision Number	Description
iVotronic	HW 1.1	N/A	DRE

2.3 Peripherals

This subsection contains detailed descriptions of optional equipment used by the system being evaluated.

Table 2.3 Peripherals

Part Name	Model Number	Revision Number	Description
Supervisor PEB	N/A	N/A	Proprietary ballot activation device
Voter PEB	N/A	N/A	Proprietary ballot activation device
Communication Packs	N/A	N/A	PC card memory device used for storing and transporting election information, cast vote records, and audit data.
Desktop Printer	Oki Data B431 dn	N/A	COTS Printer to print EMS reports

2.4 Test Support Equipment/Materials

This subsection contains detailed descriptions of the test support equipment and materials needed to perform the required testing.

The Examiner will provide a tape measure (to be used in Test Case 1), Test Execution Logs, and a digital camera for test documentation. The re-examination will be video recorded by the Department.

The voting system manufacturer must provide an EMS system currently certified for use in Pennsylvania loaded with the closed primary and general-election definitions (Appendix A). These election definitions are the ballot configurations that will be used throughout the re-examination. The manufacturer is responsible for providing the Department and the Examiner with technical staff to support the re-examination. The manufacturer must provide three precinct-tabulation devices for each voting system being examined. The manufacturer must be prepared to load the firmware for each precinct tabulation device. The Department will also require manufacturer to configure the precinct tabulation devices as they would be in the precinct on Election Day, including seals and locks. The manufacturer must be prepared to print pre-election reports, precinct results reports, audit logs, and post-election reports.

3.0 TEST MATERIALS

This section contains a detailed description of all materials made available to Examiner for the re-examination.

3.1 Technical Data Package

This subsection lists all manufacturer provided documentation that is relevant to the system being tested.

Table 3.1 Documentation

Document Name	Revision	Issue Date
Unity Data Flow Process	N/A	N/A
Unity Overview Table	N/A	N/A
Secure Voting System Overview	3.0.1.0	08/18/2006
Software Specifications (iVotronic)	9.0.0.0	7/30/2004
Limitations of Unity 3.0.1.0 System	N/A	N/A
Product Overview Election Data Manager	1.0	09/2004
Product Overview Ballot Image Manager	1.0	09/2004
Product Overview iVotronic Image Manager	1.0	09/2004
Product Overview Hardware Programming Manager	1.0	09/2004
Product Overview Data Acquisition Manager	1.0	09/2004
Product Overview Election Reporting Manager	1.0	09/2004
Product Overview iVotronic	N/A	N/A
Product Overview iVotronic Real Time Audit Log	N/A	N/A
Product Overview Model 100	N/A	N/A
Product Overview Model 650	N/A	N/A
Product Overview AutoMARK Voter Assist Terminal	N/A	N/A
iVotronic Voting System Operator's Manual	9.1	08/12/2005
Unity Election Data Manager User's Guide	7.4	08/14/2005
Unity Election Reporting Manager	7.1.2.0	09/16/2005
Unity Ballot Image Manager User's Guide	7.4	08/15/2005
Unity Hardware Programming Manager User's Guide	5.2	02/16/2006
Unity Ballot Image Manager iVotronic Image Manager User's Guide	2.0	08/04/2005
iVotronic Voting System Maintenance Manual	9.1	

3.2 Third Party Test Reports

This subsection lists the reports provided by third party entities that are relevant to the system being evaluated and the test engagement.

Table 3.2 Third Party Test Reports

Report Title	Description	Revision	Issue Date
EMC Qualification Test Report Election Systems and Software Voting System, iVotronic Report Number 060130-1007	Hardware electrical tests performed by Criterion Technology	N/A	03/06/2006
Elections Systems & Software ES&S Unity 3.0.1.0 Voting System Hardware & Software ITA Qualification Report	ITA Qualification Test Report by SysTest labs	03	03/09/2006
Election Systems & Software ES&S Unity 3.0 Voting System Hardware & Software ITA Qualification Report	ITA Qualification Test Report by SysTest labs	03	10/26/2005

3.3 Previous Test Results

This subsection describes the results of any previous testing performed by the Department that are relevant to the re-examination and the system being evaluated.

Table 3.3 Previous Test Results

Report Title	Description	Revision	Issue Date
Election Systems and Software, Inc. Direct Recording Electronic Products: iVotronic Touchscreen Voting System and Unity Software	PA Examination	N/A	12/2005
Election Systems and Software, Inc. Direct Recording Electronic Products: iVotronic 9.1.4.1 and Unity 3.0.1.0	PA Examination	N/A	04/2006

4.0 TEST SPECIFICATIONS

This section contains a detailed description of the procedures to be followed during test setup and preparation.

The re-examination of the voting system will occur in an environmentally controlled room. The room will be configured such that the Department, the Examiner, and the voting system manufacturer have their own independent work areas. The public will be allowed to observe the examination, but may not comment or interact with either the employees of the Department, the Examiner, or the voting system manufacturer, at any time. The manufacturer will be allotted time and space to stage the voting system prior to the re-examination. This time and space will be determined between the Department and the manufacturer in advance of the examination date. Once the manufacturer informs the Department that the voting system is properly set up, the Examiner will provide the manufacturer with the firmware/software for the precinct tabulation device, submitted to the Department from the trusted source. The manufacturer will load the firmware/software on to the required media for installation onto the precinct tabulation device and install the firmware/software onto the precinct tabulation device before commencement of the

re-examination. Once each precinct tabulation device is loaded with the firmware/software, the manufacturer will not be allowed access to the internal components of the devices without the consent of the Department or the Examiner. If the re-examination is suspended, the precinct tabulation devices will be secured in a manner to ensure control of the test environment. If, at any point, the Department or the Examiner determines that the control of the test environment has been compromised, all firmware/software will be reloaded on the precinct tabulation devices.

The voting system manufacturer shall set up the precinct tabulation devices as they would be in the precinct on Election Day, minus the locks and seals. The locks and seals will be installed and evaluated at a later time in the re-examination.

The Examiner will maintain photographic and written documentation of the re-examination. This will include, but is not limited to, photographs of the firmware/software installation, test execution notes and observations, photographs of the test setup, and collection of test data. The Department will video record the re-examination.

5.0 TEST PROCEDURES

This section contains a detailed description of the test sequence, test procedures and expected results.

The test cases for this re-examination are contained in Appendix B of this Test Protocol. All steps of the tests cases contain an expected result to provide objective pass/fail criteria. There are no dependencies for execution of the test cases. The test cases have been divided into four main areas for execution: (1) Review; (2) Targeted Functionality; (3) System Integration; and (4) Penetration Analysis. -The Review area of this re-examination will not be performed on-site during the set dates of the re-examination. The Review area of testing includes documentation review of third-party reports and review of the manufacturer's TDP. All other areas of testing will be performed on-site during the re-examination. The test sequence for this re-examination will be as follows:

Review:

- 1107-A(11), 25 P.S. § 3031.7(11) Suitably Designed, Constructed in Workmanlike Manner of Durable Material, Safely and Efficiently Useable, Capable of Absolute Accuracy
- 1107-A(13), 25 P.S. § 3031.7(13) Record Correctly, Computes and Tabulates Accurately
- 1107-A(14), 25 P.S. § 3031.7(14) Safely Transportable
- 1107-A(15), 25 P.S. § 3031.7(15) Voter May Readily Learn to Operate

Targeted Functionality Test Cases:

- Test Case Identifier: 01 – 1107-A(1), 25 P.S. § 3031.7(1) Voter Secrecy (Regular Voter)
- Test Case Identifier: 01 – 1107-A(1), 25 P.S. § 3031.7(1) Voter Secrecy (ADA Voter)
- Test Case Identifier: 02 – 1107-A(2), 25 P.S. § 3031.7(2) Selection of Candidates and Questions by Voter (Regular/ADA)
- Test Case Identifier: 03 – 1107-A(3), 25 P.S. § 3031.7(3) Straight Party and Pennsylvania Method

- Test Case Identifier: 04 – 1107-A(4), 25 P.S. § 3031.7(4) Straight Party and Write-In
- Test Case Identifier: 05 – 1107-A(5), 25 P.S. § 3031.7(5) Selection of Candidate and Write-in
- Test Case Identifier: 07 – 1107-A(7), 25 P.S. § 3031.7(7) Attempt to Over Vote Contests and Questions (Regular/ADA)
- Test Case Identifier: 10 – 1107-A(10), 25 P.S. § 3031.7(10) Ballot Review and Change (Regular/ADA)
- Test Case Identifier: 16 – 1107-A(16), 25 P.S. § 3031.7(16) Public Counter, No Reopening of Polls, Media Security with Tamper Proof Locks and Zero Proof and Tally Reports

System Integration Test Cases:

- Test Case Identifier: 04, 06, 08, 09, Permanent Physical Record, and Statistical Sample – 1107-A(4), 25 P.S. § 3031.7(4) Enables Voting for Legal Combinations; 1107-A(6), 25 P.S. § 3031.7(6) Permits Voting for as Many Candidates as Entitled, Permits Voting For or Against Questions, Precludes Voting for Unauthorized Candidates or Questions; 1107-A(8), 25 P.S. § 3031.7(8) Precludes Multiple Voting and Tabulating Multiple Votes; 1107-A(9), 25 P.S. § 3031.7(9) Permits Voter at Primary to Vote Only for Candidates in Party of Registration, Any Candidate for Nonpartisan Nomination, and For Any Entitled Question; 1101-A, 25 P.S. § 3031.1 Provides for Permanent Physical Record of Each Vote Cast; and 1117-A, 25 P.S. § 3031.17 Statistical Sample

Penetration Analysis Test Cases:

- Test Case Identifier: 12 – 1107-A(12), 25 P.S. § 3031.7(12) Acceptable Ballot Security Procedures and Impoundment of Ballots

6.0 TEST DATA

This section contains a detailed description of the test election definitions and ballot logic being exercised.

The election definitions being used for this re-examination are provided in Appendix A of this Test Protocol. A predefined set of election parameters are included in the election definitions. Both the general election and the closed primary election definitions provide the voting variations, geographic subdivisions, parties, supported languages and test voting pattern with results being tested. The only languages required for this re-examination are English and Spanish. The Department provided the Spanish translation. Each test voting pattern provides the input method and device. For all Write-In selections, the name will be input as “John Doe.” For multiple Write-In selections, the name will be appended with the character “I” for the number of Write-In selections (*i.e.*, “John Doe I,” “John Doe II,” “John Doe III,” and “John Doe IIII” in a “Vote for Four” contest with four write-ins).

6.1 Data Recording

This subsection contains a detailed description of the procedures to be followed during test execution and data collection.

All test data produced during this re-examination is the property of the Department. The output test data will be collected and stored in an appropriate manner as to allow for data analysis. Actual results from executed tests will be recorded in real-time in Test Execution Logs.

6.2 Data Evaluation

The Examiner will evaluate all test results against the expected results set forth in the test cases provided in Appendix B. The acceptable range for system performance and the expected results is derived from the test designers experience and expertise. If an expected result is not achieved, an evaluation will be performed as to “why” the test or test step did not produce the expected results. This evaluation will consider test error, invalid expectations, and system performance. Failure to achieve the expected results does not constitute a test failure. A test failure only occurs when the “Criteria for Evaluation of Test Results,” as set forth in the test cases, are not achieved for a specific test.

APPENDIX A
ELECTION DEFINITIONS

Election Definition: Pennsylvania Certification Closed Primary Election

Primary Election Description:

A closed primary election for 2 parties in 3 precincts. This election contains 35 contests compiled into 6 ballot styles. Each ballot style contains 15 contests. The voting variations supported in a primary election by the Commonwealth of Pennsylvania are defined in this election. The voting variations are as follows:

- Partisan contest
- Non-Partisan
- Primary Presidential delegation nominations
- Write-In voting
- N of M Contest
- Cross-Party Filed Candidates

This closed primary election was designed to functionally test the handling of multiple ballot styles across geographical subdivisions, support for two languages, and support for common primary specific voting variations.

Configuration:

EMS computer loaded with software certified for use in Pennsylvania to create the following configuration:

Name: Pennsylvania Certification Closed Primary Election

Voting Devices: 1 machine for each precinct

Precincts: Precinct 1, Precinct 2, Precinct 3

Parties: Republican, Democrat

Languages: English, Spanish

Totals Contests: 35

Contests as follows:

Precinct 1 REP	Precinct 2 REP	Precinct 3 REP	Precinct 1 DEM	Precinct 2 DEM	Precinct 3 DEM
President of the United States Vote for One James Collins Alexander P. Bicket Carol Koethen Write-In			President of the United States Vote for One Barry Josey Calvin Marino Write-In		
United States Senator Vote for One Bob Ford <i>Allegheny County</i> Colby Lincoln <i>Delaware County</i> Write-In			United States Senator Vote for One Oscar Draper <i>Cumberland County</i> Carter McGaw <i>Philadelphia County</i> Write-In		
Representative in Congress 5th District Vote for One Ben Baker <i>Allegheny County</i>		Representative in Congress 10th District Vote for One Cheryl Simon	Representative in Congress 5th District Vote for One Barbara Barret Hicks <i>Montgomery County</i>		Representative in Congress 10th District Vote for One William Sullivan

Write-In	York County Lois Koss Erie County Write-In	Clinton Testo Centre County Write-In	Butler County Write-In
Governor Vote for One Dean Lindsey <i>Allegheny County</i> Don Etter <i>Allegheny County</i> Joe Carlton <i>Washington County</i> Edwin Lewis <i>Lancaster County</i> Samuel Lawton <i>Bucks County</i> Write-In		Governor Vote for One Charles Jasen <i>Montgomery County</i> Shirley Henning <i>Luzerne County</i> Write-In	
Lieutenant Governor Vote for One Scott Montes <i>Berks County</i> Saul Currier <i>Lehigh County</i> Arnold Krill <i>Lycoming County</i> Write-In		Lieutenant Governor Vote for One Sherman R. Bucher <i>Philadelphia County</i> Richard V. Suits <i>Cambria County</i> Tabathia Song <i>Allegheny County</i> Kenneth Interlicchio <i>Philadelphia County</i> Write-In	
Representative in the General Assembly 83rd District Vote for One Harry Rider <i>Cascade</i> Robert Tyrell <i>McNett</i> Write-In	Representative in the General Assembly 84th District Vote for One Peter Valle <i>Muncy</i> Write-In	Representative in the General Assembly 83rd District Vote for One R. J. Abbott <i>Shrewsbury</i> Peter F. Saxton <i>Willamsport</i> Write-In	Representative in the General Assembly 84th District Vote for One Neil Carey <i>Lewis</i> Saul Currier <i>Eldred</i> Write-In
Delegate to the National Convention –5th District Vote for Not More Than Three Gloria Dillion Heather Heidelbaugh Herbert Devine George A. Fisk Doris Shiddles Andre Ninia Brian Getz Chad Snow Diane Rubin		Delegate to the National Convention –5th District Electing 2 Males and 2 Females Vote Not More Than Four Vincent Seymour <i>(M) Committed to Barry Josey</i> Toni Hamilton <i>(F) Committed to Calvin Marino</i> Sam Patel <i>(M) Committed to Barry Josey</i>	

<p>Elizabeth Piazza</p> <p>Write-In Write-In Write-In</p>	<p>Robert Rocco (M) Committed to Calvin Marino</p> <p>Renee Cohn Jubelrier (F) Committed to Calvin Marino</p> <p>Morton Steele (M) Committed to Calvin Marino</p> <p>Mary Burke (F) Committed to Barry Josey</p> <p>Nyda E. Hambin (F) Committed to Barry Josey</p> <p>Write-In Write-In Write-In Write-In</p>
<p>Judge of the Superior Court Vote for One</p> <p>Richard Maxian <i>Philadelphia County</i></p> <p>Marjorie Hall <i>Delaware County</i></p> <p>Robert L. Linkey <i>Bucks County</i></p> <p>Write-In</p>	<p>Judge of the Superior Court Vote for One</p> <p>Linda Gapp <i>Cumberland County</i></p> <p>Patricia Smallmon <i>Allegheny County</i></p> <p>Write-In</p>
<p>Judge of the Commonwealth Court Vote for One</p> <p>Chris Carpenter <i>Montgomery County</i></p> <p>Write-In</p>	<p>Judge of the Commonwealth Court Vote for One</p> <p>Eugene Ruff <i>Washington County</i></p> <p>Lewis Tese <i>Luzerne County</i></p> <p>Write-In</p>
<p>Judge of the Court of Common Pleas Vote for Not More Than Two</p> <p>Mary L. Daniel <i>Armstrong</i></p> <p>John Roy <i>Clinton</i></p> <p>Jack "Duke" Brodisky <i>McNett</i></p> <p>Jon Young <i>Muncy</i></p> <p>Vic Stabile <i>Gamble</i></p> <p>Write-In</p> <p>Write-In</p>	<p>Judge of the Court of Common Pleas Vote for Not More Than Two</p> <p>Joanne Shollzert <i>Williamsport</i></p> <p>Kerry Jones <i>Williamsport</i></p> <p>Steven Miller <i>Lewis</i></p> <p>Shirley Henning <i>Mill Creek</i></p> <p>Write-In</p> <p>Write-In</p>
County Chief Executive	County Chief Executive

Four Year Term Vote for One			Four Year Term Vote for One		
Norman Powers <i>Williamsport</i>			Micheal Santarcangelo <i>Fairfield</i>		
Sandra Reilly <i>McNett</i>			Charles Place <i>Gamble</i>		
Write-In			Write-In		
School Director Region 6 Four Year Term Vote for Not More Than Two			School Director Region 6 Four Year Term Vote for Not More Than Two		
Gerald Danson			Douglas Stone		
Greg Ortiz			Gerald Danson		
Shlomo Archibald			Greg Ortiz		
Delores DeVan			Shlomo Archibald		
Write-In			Delores DeVan		
Write-In			Write-In		
Commissioner Seat 1 Four Year Term Vote for One			Commissioner Seat 2 Four Year Term Vote for One		Commissioner Seat 3 Four Year Term Vote for One
Stephen Harrick			Steve West		William Malicki
Write-In			Write-In		Gary Klemann
					Write-In
Referendum A Bond Issue					
To promote and assure the preservation and improvement of essential rail passenger and freight services to the inhabitants of the state, shall section two of chapter one hundred eighteen of the laws of nineteen hundred seventy-four, authorizing the creation of a state debt in the amount of two hundred fifty million dollars for capital facilities be approved?					
Yes					
No					

Spanish

Distrito electoral 1 REP	Distrito electoral 2 REP	Distrito electoral 3 REP	Distrito electoral 1 DEM	Distrito electoral 2 DEM	Distrito electoral 3 DEM
Presidente de los Estados Unidos Vote por uno			Presidente de los Estados Unidos Vote por uno		
James Collins			Barry Josey		
Alexander P. Bicket			Calvin Marino		
Carol Koethen			Por escrito		

Por escrito			
Senador de los Estados Unidos Vote por uno Bob Ford <i>Condado de Allegheny</i> Colby Lincoln <i>Condado de Delaware</i> Por escrito		Senador de los Estados Unidos Vote por uno Oscar Draper <i>Condado de Cumberland</i> Carter McGaw <i>Condado de Filadelfia</i> Por escrito	
Representante en el Congreso 5° Distrito Vote por uno Ben Baker <i>Condado de Allegheny</i> Por escrito	Representante en el Congreso 10.º Distrito Vote por uno Cheryl Simon <i>Condado de York</i> Lois Koss <i>Condado de Erie</i> Por escrito	Representante en el Congreso 5° Distrito Vote por uno Barbara Barret Hicks <i>Condado de Montgomery</i> Clinton Testo <i>Condado Centre</i> Por escrito	Representante en el Congreso 10.º Distrito Vote por uno William Sullivan <i>Condado de Butler</i> Por escrito
Gobernador Vote por uno Dean Lindsey <i>Condado de Allegheny</i> Don Etter <i>Condado de Allegheny</i> Joe Carlton <i>Condado de Washington</i> Edwin Lewis <i>Condado de Lancaster</i> Samuel Lawton <i>Condado de Bucks.</i> Por escrito		Gobernador Vote por uno Charles Jasen <i>Condado de Montgomery</i> Shirley Henning <i>Condado de Luzerne</i> Por escrito	
Vicegoberador Vote por uno Scott Montes <i>Condado de Berks</i> Saul Currier <i>Condado de Lehigh</i> Arnold Krill <i>Condado de Lycoming</i> Por escrito		Vicegoberador Vote por uno Sherman R. Bucher <i>Condado de Filadelfia</i> Richard V. Suits <i>Condado de Cambria</i> Tabathia Song <i>Condado de Allegheny</i> Kenneth Interlicchio <i>Condado de Filadelfia</i> Por escrito	
Representante en la Asamblea General 83.º Distrito Vote por uno	Representante en la Asamblea General 84.º Distrito	Representante en la Asamblea General 83.º Distrito Vote por uno	Representante en la Asamblea General 84.º Distrito Vote por uno

Harry Rider <i>Cascade</i> Robert Tyrell <i>McNett</i> Por escrito	Vote por uno Peter Valle <i>Muncy</i> Por escrito	R. J. Abbott <i>Shrewsbury</i> Peter F. Saxton <i>Willamsport</i> Por escrito	Neil Carey <i>Lewis</i> Saul Currier <i>Eldred</i> Por escrito
Delegado a la convención nacional – 5.º Distrito No vote por no más de tres Gloria Dillion Heather Heidelbaugh Herbert Devine George A. Fisk Doris Shiddles Andre Ninia Brian Getz Chad Snow Diane Rubin Elizabeth Piazza Write-In Write-In Write-In		Delegado a la convención nacional – 5.º Distrito Elija 2 damas y 2 caballeros No vote por más de cuatro Vincent Seymour <i>(H) Committed to Barry Josey</i> Toni Hamilton <i>(M) Committed to Calvin Marino</i> Sam Patel <i>(H) Committed to Barry Josey</i> Robert Rocco <i>(H) Committed to Calvin Marino</i> Renee Cohn Jubelrier <i>(M) Committed to Calvin Marino</i> Morton Steele <i>(H) Committed to Calvin Marino</i> Mary Burke <i>(M) Committed to Barry Josey</i> Nyda E. Hambin <i>(M) Committed to Barry Josey</i> Write-In Write-In Write-In Write-In	
Juez de la corte suprema Vote por uno Richard Maxian <i>Condado de Filadelfia</i> Marjorie Hall <i>Condado de Delaware</i> Robert L. Linkey <i>Condado de Bucks.</i> Write-In		Juez de la corte suprema Vote por uno Linda Gapp <i>Condado de Cumberland</i> Patricia Smallmon <i>Condado de Allegheny</i> Write-In	
Juez de la corte del estado Vote por uno Chris Carpenter <i>Condado de Montgomery</i> Write-In		Juez de la corte del estado Vote por uno Eugene Ruff <i>Condado de Washington</i> Lewis Tese <i>Condado de Luzerne</i> Write-In	
Juez de la corte de primeras instancias		Juez de la corte de primeras instancias	

Vote por no más de dos			No vote por más de dos		
Mary L. Daniel <i>Armstrong</i> John Roy <i>Clinton</i> Jack "Duke" Brodisky <i>McNett</i> Jon Young <i>Muncy</i> Vic Stabile <i>Gamble</i> Por escrito Por escrito			Joanne Shollzert <i>Williamsport</i> Kerry Jones <i>Williamsport</i> Steven Miller <i>Lewis</i> Shirley Henning <i>Mill Creek</i> Por escrito Por escrito		
Jefe principal del condado Término de cuatro años Vote por uno Norman Powers <i>Williamsport</i> Sandra Reilly <i>McNett</i> Por escrito			Jefe principal del condado Término de cuatro años Vote por uno Micheal Santarcangelo <i>Fairfield</i> Charles Place <i>Gamble</i> Por escrito		
Director de la escuela Región 6 Término de cuatro años No vote por más de dos Gerald Danson Greg Ortiz Shlomo Archibald Delores DeVan Por escrito Por escrito			Director de la escuela Región 6 Término de cuatro años No vote por más de dos Douglas Stone Gerald Danson Greg Ortiz Shlomo Archibald Delores DeVan Por escrito Por escrito		
Comisionado Puesto 1 Término de cuatro años Vote por uno Stephen Harrick Por escrito	Comisionado Puesto 2 Término de cuatro años Vote por uno Steve West Por escrito	Comisionado Puesto 3 Término de cuatro años Vote por uno William Malicki Gary Klemann Por escrito	Comisionado Puesto 1 Término de cuatro años Vote por uno George Fisk Por escrito	Comisionado Puesto 2 Término de cuatro años Vote por uno Tetty Rogiers Por escrito	Comisionado Puesto 3 Término de cuatro años Vote por uno Arnold Wells Por escrito
Referéndum a nivel estatal Asunto del bono					

Para promover y asegurar la preservación y mejoramiento del pasajero férreo esencial y servicios de carga para los habitantes del estado, ¿se debe aprobar la sección dos del capítulo ciento dieciocho de las leyes de mil novecientos sesenticuatro, autorizando la creación de una deuda estatal en la cantidad de doscientos cincuenta millones de dólares para instalaciones de capital?

Sí

No

Voting Pattern:

Precinct 1 REP	B 1	B 2	B 3	B 4	B 5	B 6	B 7	B 8	B 9	B 10
President of the United States										
James Collins	X				X	X		X		X
Alexander P. Bicket		X					X			
Carol Koethen			X						X	
Write-In				X						
United States Senator										
Bob Ford			X				X		X	
Colby Lincoln	X	X		X	X			X		X
Write-In						X				
Representative in Congress 5th District										
Ben Baker	X	X	X	X	U		X	X	X	X
Write-In						X				
Governor										
Dean Lindsey				X			X			
Don Etter			X		X					
Joe Carlton	X					X			X	X
Edwin Lewis		X								
Samuel Lawton								X		
Write-In										
Lieutenant Governor										
Scott Montes					X					X
Saul Currier				X					X	
Arnold Krill	X		X			X	X	X		
Write-In		X								
Representative in the General Assembly 83rd District										
Harry Rider	X	X		X		X		X	X	
Robert Tyrell			X				X			X
Write-In					X					
Presidential Nomination Delegation										
Gloria Dillion	X	X		X		X		X	X	X
Heather Heidelbaugh		X			X					X
Herbert Devine		X	X	X			X	X	X	X
George A. Fisk	X				X					
Doris Shiddles			X						X	
Andre Ninia								X		
Brian Getz	X		X	X						
Chad Snow							X			
Diane Rubin							X			
Elizabeth Piazza					X					
Write-In						X				
Write-In						X				
Write-In										
Judge of the Superior Court										
Richard Maxian					X		X		U	
Marjorie Hall		X				X				
Robert L. Linkey	X			X				X		X
Write-In			X							
Judge of the Commonwealth Court										

Chris Carpenter	X	X	X	X	X	U	X	X	X	X
Write-In										
Judge of the Court of Common Pleas										
Mary L. Daniel	X	X		X		X		X	X	X
John Roy		X						U		
Jack "Duke" Brodsky	X		X	X	X		X		X	X
Jon Young			X				U			
Vic Stabile					X					
Write-In						X				
Write-In										
County Chief Executive										
Norman Powers	X		X	X		X	X	X		X
Sandra Reilly		X			X				X	
Write-In										
School Director Region 6										
Gerald Danson	X		X	X		X		X		
Greg Ortiz	X				X		X			X
Shlomo Archibald		X	X	X	X		X	X	X	X
Delores DeVan		X				X			X	
Write-In										
Write-In										
Commissioner Seat 1										
Stephen Harrick	U	X	X	X	X		X	X	X	X
Write-In						X				
Referendum A										
Yes	U		X	X	X		X	X		X
No		X				X			X	

Precinct 1 DEM	B 1	B 2	B 3	B 4	B 5	B 6	B 7	B 8	B 9	B 10
President of the United States										
Barry Josey	X	U				X				
Calvin Marino			X	X	X			X	X	X
Write-In							X			
United States Senator										
Oscar Draper	X		X	X	X	X		X		X
Carter McGaw		X					X		X	
Write-In										
Representative in Congress 5th District										
Barbara Barret Hicks	X	X	X		X		X		X	
Clinton Testo				X				X		X
Write-In						X				
Governor										
Charles Jasen	X		X	X	X		X			
Shirley Henning		X				X		X	X	
Write-In										X
Lieutenant Governor										
Sherman R. Bucher				X						
Richard V. Suits							X			
Tabathia Song	X								X	
Kenneth Interlicchio		X	X		X	X		X		
Write-In										X
Representative in the General Assembly 83rd District										
R. J. Abbott	X	X		X		X		X		U
Peter F. Saxton			X		X				X	
Write-In							X			
Presidential Nomination Delegation										
Vincent Seymour			U		X		X		X	
Toni Hamilton	X	X	U	X		X		X		
Sam Patel			U		X		X		X	

Robert Rocco	X	X	U	X	U	X		X		
Renee Cohn Jubelrier	X	X		X	U	X		X		
Morton Steele	X	U		X		X		X		
Mary Burke							X		X	
Nyda E. Hambin							X			
Write-In									X	X
Write-In										X
Write-In										X
Write-In										X
Judge of the Superior Court										
Linda Gapp				X				X		
Patricia Smallmon	X	X	X		X	X			X	X
Write-In							X			
Judge of the Commonwealth Court										
Eugene Ruff			X	X		X	X	X	X	
Lewis Tese	X	X			X					X
Write-In										
Judge of the Court of Common Pleas										
Joanne Shollzert	X		X	X	X	X		X		X
Kerry Jones	X	X		X	X		X	X	X	
Steven Miller		X				X			X	
Shirley Henning			X				X			
Write-In										X
Write-In										
County Chief Executive										
Micheal Santarcangelo	X		X	X	X		X	X	X	
Charles Place		X				X				X
Write-In										
School Director Region 6										
Douglas Stone		X		X					X	
Gerald Danson	X		X	X			X	X	X	X
Greg Ortiz		X			X					X
Shlomo Archibald	X		X		X	X	X			
Delores DeVan						X		X		
Write-In										
Write-In										
Commissioner Seat 1										
George Fisk	X	X	X	X	X	X	X	X	X	X
Write-In										
Referendum A										
Yes	X		X	X	X		X	U		
No		X				X			X	X
Precinct 2 REP										
	B 1	B 2	B 3	B 4	B 5	B 6	B 7	B 8	B 9	B 10
President of the United States										
James Collins	X	X			X		X		X	
Alexander P. Bicket			X			X				
Carol Koethen				X				X		
Write-In										X
United States Senator										
Bob Ford		X						X		X
Colby Lincoln	X		X		X	X	X		X	
Write-In				X						
Representative in Congress 5th District										
Ben Baker	X	U	U		X		X	X	X	X
Write-In				X		X				
Governor										
Dean Lindsey				X			X			
Don Etter			X		X					
Joe Carlton	X					X			X	X
Edwin Lewis		X								

Samuel Lawton								X		
Write-In										
Lieutenant Governor										
Scott Montes	X							X		
Saul Currier		X					X			X
Arnold Krill			X	X	X				X	
Write-In						X				
Representative in the General Assembly 83rd District										
Harry Rider	X	X	X		X	X		X		X
Robert Tyrell				X			X		X	
Write-In										
Presidential Nomination Delegation										
Gloria Dillion	X	X	X				X	X		X
Heather Heidelbaugh	X		X							X
Herbert Devine	X			X	X		X	U		X
George A. Fisk		X						U		
Doris Shiddles		X			X					
Andre Ninia			X							
Brian Getz				X	X					
Chad Snow				X		X				
Diane Rubin						X			X	
Elizabeth Piazza						X	X			
Write-In									X	
Write-In									X	
Write-In										
Judge of the Superior Court										
Richard Maxian				X						X
Marjorie Hall		X				X				
Robert L. Linkey	X		X		X		X	X	X	
Write-In										
Judge of the Commonwealth Court										
Chris Carpenter	X	U	X	X	X	X	X	X	X	X
Write-In										
Judge of the Court of Common Pleas										
Mary L. Daniel		X	X	X		X	X	X	X	
John Roy	X	X							X	X
Jack "Duke" Brodisky	X		X		X	X		X		X
Jon Young				X						
Vic Stabile					X		X			
Write-In										
Write-In										
County Chief Executive										
Norman Powers	X				X	X		X	X	
Sandra Reilly		X	X	X			X			X
Write-In										
School Director Region 6										
Gerald Danson	U	X		X	X			X	X	X
Greg Ortiz	U	X	X			X		X	X	
Shlomo Archibald			X	X	X					X
Delores DeVan						X				
Write-In							X			
Write-In							U			
Commissioner Seat 2										
Steve West	X		X	X	X	X	X	X	U	X
Write-In		X								
Referendum A										
Yes	U		X	X	X	X	X	X	U	
No		X								X
Precinct 2 DEM										
	B 1	B 2	B 3	B 4	B 5	B 6	B 7	B 8	B 9	B 10
President of the United States										

Barry Josey	X	X		X		X		X		X
Calvin Marino			X		X		X			
Write-In									X	
United States Senator										
Oscar Draper	X		X	X			X			X
Carter McGaw		X			X			X		
Write-In					X				X	
Representative in Congress 5th District										
Barbara Barret Hicks			X	X	X		X	X	X	X
Clinton Testo		X				X				
Write-In	X									
Governor										
Charles Jasen	X	X	X		X				X	
Shirley Henning				X				X		X
Write-In							X			
Lieutenant Governor										
Sherman R. Bucher		X						X		
Richard V. Suits										X
Tabathia Song			X				X			
Kenneth Interlicchio	X			X	X	X			X	
Write-In										
Representative in the General Assembly 83rd District										
R. J. Abbott	X	X		X	X	X		X	X	
Peter F. Saxton			X				X			X
Write-In										
Presidential Nomination Delegation										
Vincent Seymour		X		X		X		X		
Toni Hamilton	X		X		X	X	X		X	X
Sam Patel		X		X		X		X		X
Robert Rocco	X		X		X	X	X	U	X	X
Renee Cohn Jubelrier	X		X		X		X	U	X	X
Morton Steele	X		X		X		X		X	
Mary Burke		X		X						
Nyda E. Hambin		X		X						
Write-In										
Write-In										
Write-In										
Write-In										
Judge of the Superior Court										
Linda Gapp		X				X		X		
Patricia Smallmon	X		X		X		X		X	X
Write-In										
Judge of the Commonwealth Court										
Eugene Ruff	X	X		X	X		X	X	X	
Lewis Tese			X			X				X
Write-In										
Judge of the Court of Common Pleas										
Joanne Shollzert	X	X	X		X	X		X	X	X
Kerry Jones	X	X		X	X	U	X		X	
Steven Miller			X				X			X
Shirley Henning				X				X		
Write-In										
Write-In										
County Chief Executive										
Micheal Santarcangelo	X		X		X	X	X		X	
Charles Place		X		X				X		X
Write-In										
School Director Region 6										
Douglas Stone		X					U		X	
Gerald Danson		X		X		X	U	X	X	X
Greg Ortiz	X		X							X

Shlomo Archibald			X	X		X		X		
Delores DeVan	X				X					
Write-In					X					
Write-In										
Commissioner Seat 2										
Tetty Rogiers	X	X	X	X	U	X	X	X	X	X
Write-In										
Referendum A										
Yes	X	X	U	X	U		U	X	X	
No						X				X

Precinct 3 REP	B 1	B 2	B 3	B 4	B 5	B 6	B 7	B 8	B 9	B 10
President of the United States										
James Collins	X	X		U		X		X		X
Alexander P. Bicket					X		X			
Carol Koethen			X						X	
Write-In										
United States Senator										
Bob Ford	U					X			X	
Colby Lincoln		X		X	X		X	X		X
Write-In			X							
Representative in Congress 10th District										
Cheryl Simon		X		X					X	
Lois Koss	X		X		X	X	X	X		X
Write-In										
Governor										
Dean Lindsey				X			X			
Don Etter			X		X					
Joe Carlton	X					X			X	X
Edwin Lewis		X								
Samuel Lawton								X		
Write-In										
Lieutenant Governor										
Scott Montes	X		X			X		X		
Saul Currier				X						X
Arnold Krill		X			X		X		X	
Write-In										
Representative in the General Assembly 84th District										
Peter Valle	X	X	X	X	U	X	X		X	X
Write-In								X		
Presidential Nomination Delegation										
Gloria Dillion	X				X	U	X			
Heather Heidelbaugh	X					U		X	X	
Herbert Devine	X				X	U	X			
George A. Fisk		X			X		X			X
Doris Shiddles		X								
Andre Ninia		X		X				X		
Brian Getz			X					X		X
Chad Snow			X	X					X	X
Diane Rubin			X							
Elizabeth Piazza				X						
Write-In									X	
Write-In										
Write-In										
Judge of the Superior Court										
Richard Maxian			X				X			X
Marjorie Hall					X			X		
Robert L. Linkey	X	X		X		X			X	
Write-In										
Judge of the Commonwealth Court										
Chris Carpenter	U	X	X		X	X	X	X	U	X

Write-In				X						
Judge of the Court of Common Pleas										
Mary L. Daniel		U	X	X	X		X	X	X	X
John Roy		U		X					X	
Jack "Duke" Brodisky	X		X		X	X		X		X
Jon Young						X				
Vic Stabile							X			
Write-In	X									
Write-In										
County Chief Executive										
Norman Powers	X		X	X		X	X		X	
Sandra Reilly		X			X			X		X
Write-In										
School Director Region 6										
Gerald Danson		X	X			X		X		X
Greg Ortiz			X	X				X	X	
Shlomo Archibald	X	X		X	X	X	X		X	X
Delores DeVan	X				X		X			
Write-In										
Write-In										
Commissioner Seat 3										
William Malicki	X	X	X		X		X	X	X	X
Gary Klemann				X		X				
Write-In										
Referendum A										
Yes	X		X		X	X		X	X	
No		X		X			X			X

Precinct 3 DEM	B 1	B 2	B 3	B 4	B 5	B 6	B 7	B 8	B 9	B 10
President of the United States										
Barry Josey				X		X		X		
Calvin Marino	X		X		X		X		X	X
Write-In		X								
United States Senator										
Oscar Draper		X		X	X	X		X	X	
Carter McGaw	X		X				X			X
Write-In										
Representative in Congress 10th District										
William Sullivan	X	X	X	X	X	X	X	U	X	X
Write-In										
Governor										
Charles Jasen	X		U	X	X		X		X	
Shirley Henning		X				X				X
Write-In								X		
Lieutenant Governor										
Sherman R. Bucher		X	X		X			X		
Richard V. Suits										X
Tabathia Song							X			
Kenneth Interlicchio	X			X		X			X	
Write-In										
Representative in the General Assembly 84th District										
Neil Carey	X	X		X		X	X	X		X
Saul Currier			X		X				X	
Write-In										
Presidential Nomination Delegation										
Vincent Seymour			U		X		X		X	
Toni Hamilton	X	X	U	X		X		X		
Sam Patel			U		X		X		X	
Robert Rocco	X	X	U	X	U	X		X		
Renee Cohn	X	X		X	U	X		X		

Jubelrier										
Morton Steele	X	U		X		X		X		
Mary Burke							X		X	
Nyda E. Hambin							X			
Write-In									X	X
Write-In										X
Write-In										X
Write-In										X
Judge of the Superior Court										
Linda Gapp			X			X		X		
Patricia Smallmon	X	X		X	X		X		X	X
Write-In										
Judge of the Commonwealth Court										
Eugene Ruff	X	X		X		X		X	X	
Lewis Tese			X		X			X		X
Write-In										
Judge of the Court of Common Pleas										
Joanne Shollzert		X	X		X	X		X	X	
Kerry Jones			X		X	U		X		
Steven Miller		X						X		X
Shirley Henning				X						X
Write-In	X									
Write-In	X									
County Chief Executive										
Micheal Santarcangelo	X		X	X		X	X		X	X
Charles Place					X			X		
Write-In		X								
School Director Region 6										
Douglas Stone	X		X					X		
Gerald Danson		X	X	X	X	X				X
Greg Ortiz	X			X					X	
Shlomo Archibald		X			X		X	X	X	X
Delores DeVan						X	X			
Write-In										
Write-In										
Commissioner Seat 3										
Arnold Wells	X	X	X	X	X	X	X		X	X
Write-In								X		
Referendum A										
Yes	X		X		X		X		X	
No		X		X		X		X		X

Test Results:

Precinct 1 REP

President of the United States

James Collins	5
Alexander P. Bicket	2
Carol Koethen	2
Write-In	1
Undervotes	0

United States Senator

Bob Ford	3
Colby Lincoln	6
Write-In	1
Undervotes	0

Representative in Congress 5th District

Ben Baker	8
Write-In	1
Undervotes	1

Governor

Dean Lindsey	2
Don Etter	2
Joe Carlton	4
Edwin Lewis	1
Samuel Lawton	1
Write-In	0
Undervotes	0

Lieutenant Governor

Scott Montes	2
Saul Currier	2
Arnold Krill	5
Write-In	1
Undervotes	0

Representative in the General Assembly 83rd District

Harry Rider	6
Robert Tyrell	3
Write-In	1
Undervotes	0

Presidential Nomination Delegation

Gloria Dillion	7
Heather Heidelbaugh	3
Herbert Devine	7
George A. Fisk	2
Doris Shiddles	2
Andre Ninia	1
Brian Getz	3
Chad Snow	1
Diane Rubin	1
Elizabeth Piazza	1
Write-In	2
Undervotes	0

Judge of the Superior Court

Richard Maxian	2
Marjorie Hall	2
Robert L. Linkey	4
Write-In	1
Undervotes	1

Judge of the Commonwealth Court

Chris Carpenter	9
Write-In	0
Undervotes	1

Judge of the Court of Common Pleas

Mary L. Daniel	7
John Roy	1
Jack "Duke" Brodisky	7
Jon Young	1
Vic Stabile	1
Write-In	1
Undervotes	2

County Chief Executive

Norman Powers	7
Sandra Reilly	3
Write-In	0
Undervotes	0

School Director Region 6	
Gerald Danson	5
Greg Ortiz	4
Shlomo Archibald	8
Delores DeVan	3
Write-In	0
Undervotes	0
Commissioner Seat 1	
Stephen Harrick	8
Write-In	1
Undervotes	1
Referendum A	
Yes	6
No	3
Undervote	1
Precinct 1 DEM	
President of the United States	
Barry Josey	2
Calvin Marino	6
Write-In	1
Undervotes	1
United States Senator	
Oscar Draper	7
Carter McGaw	3
Write-In	0
Undervotes	0
Representative in Congress 5th District	
Barbara Barret Hicks	6
Clinton Testo	3
Write-In	1
Undervotes	0
Governor	
Charles Jasen	5
Shirley Henning	4
Write-In	1
Undervotes	0
Lieutenant Governor	
Sherman R. Bucher	1
Richard V. Suits	1
Tabathia Song	2
Kenneth Interlicchio	5
Write-In	1
Undervotes	0
Representative in the General Assembly 83rd District	
R. J. Abbott	5
Peter F. Saxton	3
Write-In	1
Undervotes	1
Presidential Nomination Delegation	
Vincent Seymour	3
Toni Hamilton	5
Sam Patel	3
Robert Rocco	5
Renee Cohn Jubelrier	5
Morton Steele	4
Mary Burke	2
Nyda E. Hambin	1
Write-In	5
Undervotes	7

Judge of the Superior Court	
Linda Gapp	2
Patricia Smallmon	7
Write-In	1
Undervotes	0
Judge of the Commonwealth Court	
Eugene Ruff	6
Lewis Tese	4
Write-In	0
Undervotes	0
Judge of the Court of Common Pleas	
Joanne Shollzert	7
Kerry Jones	7
Steven Miller	3
Shirley Henning	2
Write-In	1
Undervotes	0
County Chief Executive	
Micheal Santarcangelo	7
Charles Place	3
Write-In	0
Undervotes	0
School Director Region 6	
Douglas Stone	3
Gerald Danson	7
Greg Ortiz	3
Shlomo Archibald	5
Delores DeVan	2
Write-In	0
Undervotes	0
Commissioner Seat 1	
George Fisk	10
Write-In	0
Undervotes	0
Referendum A	
Yes	5
No	4
Undervote	1
Precinct 2 REP	
President of the United States	
James Collins	5
Alexander P. Bicket	2
Carol Koethen	2
Write-In	1
Undervotes	0
United States Senator	
Bob Ford	3
Colby Lincoln	6
Write-In	1
Undervotes	0
Representative in Congress 5th District	
Ben Baker	6
Write-In	2
Undervotes	2

Governor

Dean Lindsey	2
Don Etter	2
Joe Carlton	4
Edwin Lewis	1
Samuel Lawton	1
Write-In	0
Undervotes	0

Lieutenant Governor

Scott Montes	2
Saul Currier	3
Arnold Krill	4
Write-In	1
Undervotes	0

Representative in the General Assembly 83rd District

Harry Rider	7
Robert Tyrell	3
Write-In	0
Undervotes	0

Presidential Nomination Delegation

Gloria Dillion	6
Heather Heidelbaugh	3
Herbert Devine	5
George A. Fisk	1
Doris Shiddles	2
Andre Ninia	1
Brian Getz	2
Chad Snow	2
Diane Rubin	2
Elizabeth Piazza	2
Write-In	2
Undervotes	2

Judge of the Superior Court

Richard Maxian	2
Marjorie Hall	2
Robert L. Linkey	6
Write-In	0
Undervotes	0

Judge of the Commonwealth Court

Chris Carpenter	9
Write-In	0
Undervotes	1

Judge of the Court of Common Pleas

Mary L. Daniel	7
John Roy	4
Jack "Duke" Brodisky	6
Jon Young	1
Vic Stabile	2
Write-In	0
Undervotes	0

County Chief Executive

Norman Powers	5
Sandra Reilly	5
Write-In	0
Undervotes	0

School Director Region 6

Gerald Danson	6
Greg Ortiz	5
Shlomo Archibald	4
Delores DeVan	1
Write-In	1
Undervotes	3

Commissioner Seat 2	
Steve West	8
Write-In	1
Undervotes	1
Referendum A	
Yes	6
No	2
Undervote	2
Precinct 2 DEM	
President of the United States	
Barry Josey	6
Calvin Marino	3
Write-In	1
Undervotes	0
United States Senator	
Oscar Draper	5
Carter McGaw	3
Write-In	2
Undervotes	0
Representative in Congress 5th District	
Barbara Barret Hicks	7
Clinton Testo	2
Write-In	1
Undervotes	0
Governor	
Charles Jasen	6
Shirley Henning	3
Write-In	1
Undervotes	0
Lieutenant Governor	
Sherman R. Bucher	2
Richard V. Suits	1
Tabathia Song	2
Kenneth Interlicchio	5
Write-In	0
Undervotes	0
Representative in the General Assembly 83rd District	
R. J. Abbott	7
Peter F. Saxton	3
Write-In	0
Undervotes	0
Presidential Nomination Delegation	
Vincent Seymour	4
Toni Hamilton	7
Sam Patel	5
Robert Rocco	7
Renee Cohn Jubelrier	6
Morton Steele	5
Mary Burke	2
Nyda E. Hambin	2
Write-In	0
Undervotes	2
Judge of the Superior Court	
Linda Gapp	3
Patricia Smallmon	7
Write-In	0
Undervotes	0

Judge of the Commonwealth Court	
Eugene Ruff	7
Lewis Tese	3
Write-In	0
Undervotes	0
Judge of the Court of Common Pleas	
Joanne Shollzert	8
Kerry Jones	6
Steven Miller	3
Shirley Henning	2
Write-In	0
Undervotes	1
County Chief Executive	
Micheal Santarcangelo	6
Charles Place	4
Write-In	0
Undervotes	0
School Director Region 6	
Douglas Stone	2
Gerald Danson	6
Greg Ortiz	3
Shlomo Archibald	4
Delores DeVan	2
Write-In	1
Undervotes	2
Commissioner Seat 2	
Tetty Rogiers	9
Write-In	0
Undervotes	1
Referendum A	
Yes	5
No	2
Undervote	3
Precinct 3 REP	
President of the United States	
James Collins	5
Alexander P. Bicket	2
Carol Koethen	2
Write-In	0
Undervotes	1
United States Senator	
Bob Ford	2
Colby Lincoln	6
Write-In	1
Undervotes	1
Representative in Congress 10th District	
Cheryl Simon	3
Lois Koss	7
Write-In	0
Undervotes	0
Governor	
Dean Lindsey	2
Don Etter	2
Joe Carlton	4
Edwin Lewis	1
Samuel Lawton	1
Write-In	0
Undervotes	0

Lieutenant Governor

Scott Montes	4
Saul Currier	2
Arnold Krill	4
Write-In	0
Undervotes	0

Representative in the General Assembly 84rd District

Peter Valle	8
Write-In	1
Undervotes	1

Presidential Nomination Delegation

Gloria Dillion	3
Heather Heidelbaugh	3
Herbert Devine	3
George A. Fisk	4
Doris Shiddles	1
Andre Ninia	3
Brian Getz	3
Chad Snow	4
Diane Rubin	1
Elizabeth Piazza	1
Write-In	1
Undervotes	3

Judge of the Superior Court

Richard Maxian	3
Marjorie Hall	2
Robert L. Linkey	5
Write-In	0
Undervotes	0

Judge of the Commonwealth Court

Chris Carpenter	7
Write-In	1
Undervotes	2

Judge of the Court of Common Pleas

Mary L. Daniel	7
John Roy	2
Jack "Duke" Brodisky	6
Jon Young	1
Vic Stabile	1
Write-In	1
Undervotes	2

County Chief Executive

Norman Powers	6
Sandra Reilly	4
Write-In	0
Undervotes	0

School Director Region 6

Gerald Danson	5
Greg Ortiz	4
Shlomo Archibald	8
Delores DeVan	3
Write-In	0
Undervotes	0

Commissioner Seat 3

William Malicki	8
Gary Klemann	2
Write-In	0
Undervotes	0

Referendum A	
Yes	6
No	4
Undervote	0
Precinct 3 DEM	
President of the United States	
Barry Josey	3
Calvin Marino	6
Write-In	1
Undervotes	0
United States Senator	
Oscar Draper	6
Carter McGaw	4
Write-In	0
Undervotes	0
Representative in Congress 10th District	
William Sullivan	9
Write-In	0
Undervotes	1
Governor	
Charles Jasen	5
Shirley Henning	3
Write-In	1
Undervotes	1
Lieutenant Governor	
Sherman R. Bucher	4
Richard V. Suits	1
Tabathia Song	1
Kenneth Interlicchio	4
Write-In	0
Undervotes	0
Representative in the General Assembly 84rd District	
Neil Carey	7
Saul Currier	3
Write-In	0
Undervotes	0
Presidential Nomination Delegation	
Vincent Seymour	3
Toni Hamilton	5
Sam Patel	3
Robert Rocco	5
Renee Cohn Jubelrier	5
Morton Steele	4
Mary Burke	2
Nyda E. Hambin	1
Write-In	5
Undervotes	7
Judge of the Superior Court	
Linda Gapp	3
Patricia Smallmon	7
Write-In	0
Undervotes	0
Judge of the Commonwealth Court	
Eugene Ruff	6
Lewis Tese	4
Write-In	0
Undervotes	0

Judge of the Court of Common Pleas	
Joanne Shollzert	6
Kerry Jones	5
Steven Miller	4
Shirley Henning	2
Write-In	2
Undervotes	1
County Chief Executive	
Micheal Santarcangelo	7
Charles Place	2
Write-In	1
Undervotes	0
School Director Region 6	
Douglas Stone	3
Gerald Danson	6
Greg Ortiz	3
Shlomo Archibald	6
Delores DeVan	2
Write-In	0
Undervotes	0
Commissioner Seat 3	
Arnold Wells	9
Write-In	1
Undervotes	0
Referendum A	
Yes	5
No	5
Undervote	0
Precinct 3 Non Partisan	
Referendum A	
Yes	2
No	2
Undervote	1
Cumulative Totals REP:	
President of the United States	
James Collins	15
Alexander P. Bicket	6
Carol Koethen	6
Write-In	2
Undervote	1
United States Senator	
Bob Ford	8
Colby Lincoln	18
Write-In	3
Undervote	1
Representative in Congress 5th District	
Ben Baker	14
Write-In	3
Undervote	3
Representative in Congress 10th District	
Cheryl Simon	3
Lois Koss	7
Write-In	0
Undervote	0

Governor

Dean Lindsey	6
Don Etter	6
Joe Carlton	12
Edwin Lewis	3
Samuel Lawton	3
Write-In	0
Undervotes	0

Lieutenant Governor

Scott Montes	8
Saul Currier	7
Arnold Krill	13
Write-In	2
Undervotes	0

Representative in the General Assembly 83rd District

Harry Rider	13
Robert Tyrell	6
Write-In	1
Undervotes	0

Representative in the General Assembly 84rd District

Peter Valle	8
Write-In	1
Undervotes	1

Presidential Nomination Delegation

Gloria Dillion	16
Heather Heidelbaugh	9
Herbert Devine	15
George A. Fisk	7
Doris Shiddles	5
Andre Ninia	5
Brian Getz	8
Chad Snow	7
Diane Rubin	4
Elizabeth Piazza	4
Write-In	5
Undervotes	5

Judge of the Superior Court

Richard Maxian	7
Marjorie Hall	6
Robert L. Linkey	15
Write-In	1
Undervotes	1

Judge of the Commonwealth Court

Chris Carpenter	25
Write-In	1
Undervotes	4

Judge of the Court of Common Pleas

Mary L. Daniel	21
John Roy	7
Jack "Duke" Brodisky	19
Jon Young	3
Vic Stabile	4
Write-In	2
Undervotes	4

County Chief Executive

Norman Powers	18
Sandra Reilly	12
Write-In	0
Undervotes	0

School Director Region 6	
Gerald Danson	16
Greg Ortiz	13
Shlomo Archibald	20
Delores DeVan	7
Write-In	1
Undervotes	3
Commissioner Seat 1 REP	
Stephen Harrick	8
Write-In	1
Undervotes	1
Commissioner Seat 2 REP	
Steve West	8
Write-In	1
Undervotes	1
Commissioner Seat 3 REP	
William Malicki	8
Gary Klemann	2
Write-In	0
Undervotes	0
Referendum A REP	
Yes	18
No	9
Undervote	3
Cumulative Totals DEM:	
President of the United States	
Barry Josey	11
Calvin Marino	15
Write-In	3
Undervotes	1
United States Senator	
Oscar Draper	18
Carter McGaw	10
Write-In	2
Undervotes	0
Representative in Congress 5th District	
Barbara Barret Hicks	13
Clinton Testo	5
Write-In	2
Undervotes	0
Representative in Congress 10th District	
William Sullivan	9
Write-In	0
Undervotes	1
Governor	
Charles Jasen	16
Shirley Henning	10
Write-In	3
Undervotes	1
Lieutenant Governor	
Sherman R. Bucher	7
Richard V. Suits	3
Tabathia Song	5
Kenneth Interlicchio	14
Write-In	1
Undervotes	0

Representative in the General Assembly 83rd District

R. J. Abbott	12
Peter F. Saxton	6
Write-In	1
Undervotes	1

Representative in the General Assembly 84rd District

Neil Carey	7
Saul Currier	3
Write-In	0
Undervotes	0

Presidential Nomination Delegation

Vincent Seymour	10
Toni Hamilton	17
Sam Patel	11
Robert Rocco	17
Renee Cohn Jubelrier	16
Morton Steele	13
Mary Burke	6
Nyda E. Hambin	4
Write-In	10
Undervotes	16

Judge of the Superior Court

Linda Gapp	8
Patricia Smallmon	21
Write-In	1
Undervotes	0

Judge of the Commonwealth Court

Eugene Ruff	19
Lewis Tese	11
Write-In	0
Undervotes	0

Judge of the Court of Common Pleas

Joanne Shollzert	21
Kerry Jones	18
Steven Miller	10
Shirley Henning	6
Write-In	3
Undervotes	2

County Chief Executive

Micheal Santarcangelo	20
Charles Place	9
Write-In	1
Undervotes	0

School Director Region 6

Douglas Stone	8
Gerald Danson	19
Greg Ortiz	9
Shlomo Archibald	15
Delores DeVan	6
Write-In	1
Undervotes	2

Commissioner Seat 1 DEM

George Fisk	10
Write-In	0
Undervotes	0

Commissioner Seat 2 DEM

Tetty Rogiers	9
Write-In	0
Undervotes	1

Commissioner Seat 3 DEM	
Arnold Wells	9
Write-In	1
Undervotes	0
Referendum A DEM	
Yes	15
No	11
Undervote	4
Cumulative Totals Non Partisan:	
Referendum A	
Yes	33
No	20
Undervote	7

Election Definition: Pennsylvania Certification General Election

General Election Description:

A general election combining presidential year contests, non-presidential year contests, and municipal contests into a single election held in 3 precincts one of which is a split precinct on the “Representative in the General Assembly” contests. This election contains 21 contests compiled into 4 ballot styles (excluding language styles). 15 of the contests are in all ballot styles. The other 6 are split between at least 2 of the precincts with a maximum of 21 different contests spread across the 3 precincts. All voting variations supported by the Commonwealth of Pennsylvania are defined in this election. The voting variations are as follows:

- Partisan contest
- Non-Partisan contest
- N of M contest
- Referendum contest
- Retention Contest
- Straight Party voting
- Write-In voting
- Split Precinct
- Cross-Party Nominated

This general election was designed to functionally test the handling of multiple ballot styles across geographical subdivisions, support for English and Spanish languages, support for all Pennsylvania voting variations, and audio support for English and Spanish.

Configuration:

EMS computer loaded with software certified for use in Pennsylvania to create the following configuration:

Name: Pennsylvania Certification General Election

Voting Devices: 1 machine for each precinct

Precincts: Precinct 1, Precinct 2 split into 2a and 2b, Precinct 3

Parties: Republican, Democratic, Green, Libertarian

Languages: English, Spanish

Totals Contests: 21

Contests as follows:

Precinct 1	Precinct 2a	Precinct 2b	Precinct 3
Straight Party			
Republican			
Democratic			
Green			
Libertarian			
President/Vice President of the United States			
Vote for the Candidate of One Party for President and Vice President or insert the names of candidates			
James Collins			
Arthur Remus			

<p><i>Republican</i></p> <p>Calvin Marino Keith Satterwhite <i>Democratic</i></p> <p>John P. Defazio Louis Denn <i>Green</i></p> <p>June Perkins David Heroux <i>Libertarian</i></p> <p>Write-In</p>	
<p align="center">United States Senator Vote for One</p> <p>Colby Lincoln <i>Republican</i></p> <p>Oscar Draper <i>Democratic</i></p> <p>Eric Sheely <i>Libertarian</i></p> <p>Write-In</p>	
<p align="center">Representative in Congress 5th District Vote for One</p> <p>Ben Baker <i>Republican</i></p> <p>Barbara Barrett Hicks <i>Democratic</i></p> <p>Write-In</p>	<p align="center">Representative in Congress 10th District Vote for One</p> <p>Lois Koss <i>Republican</i></p> <p>William Sullivan <i>Democratic</i></p> <p>Write-In</p>
<p align="center">Governor/Lieutenant Governor Vote for the Candidate of One Party for Governor and Lieutenant Governor</p> <p>Joe Carlton Arnold Krill <i>Republican</i></p> <p>Charles Jasen Kenneth Interlicchio <i>Democratic</i></p> <p>Robert Marsh Theodore Kopp <i>Green</i></p> <p>Write-In</p>	
<p align="center">Representative in the General Assembly 83rd District Vote for One</p> <p>Harry Rider <i>Republican</i></p> <p>R. J. Abbott <i>Democratic</i></p>	<p align="center">Representative in the General Assembly 84th District Vote for One</p> <p>Peter Valle <i>Republican</i></p> <p>Neil Carey <i>Democratic</i></p>

Derek Carlson <i>Libertarian</i> Write-In	Write-In
<p align="center">Judge of the Superior Court Vote for One</p> Robert L. Linkey <i>Republican</i> Patricia Smallmon <i>Democratic</i> Write-In	
<p align="center">Judge of the Commonwealth Court Vote for One</p> Chris Carpenter <i>Republican</i> Eugene Ruff <i>Democratic</i> Write-In	
<p align="center">Judge of the Court of Common Pleas Vote for Not More Than Two</p> Mary L. Daniel <i>Republican</i> Jack "Duke" Brodisky <i>Republican</i> Joanne Schollzert <i>Democratic</i> Kerry Jones <i>Democratic</i> Write-In Write-In	
<p align="center">County Chief Executive Four Year Term Vote for One</p> Norman Powers <i>Republican</i> Micheal Santarcangelo <i>Democratic</i> Write-In	
<p align="center">County Controller Four Year Term Vote for One</p> Paul M Bertel-Lincoln	

<p style="text-align: center;"><i>Republican</i></p> <p>Donna Berke <i>Democratic</i></p> <p>Write-In</p>		
<p style="text-align: center;">District Attorney Four Year Term Vote for One</p> <p>Franklin Margo <i>Republican</i></p> <p>Donald Hensley <i>Democratic</i></p> <p>Write-In</p>		
<p style="text-align: center;">School Director Region 6 Four Year Term Vote for Not More Than Two</p> <p>Gerald Danson <i>Republican/Democratic</i></p> <p>Shlomo Archibald <i>Republican/Democratic</i></p> <p>Write-In</p> <p>Write-In</p>		
<p style="text-align: center;">Commissioner Seat 1 Four Year Term Vote for One</p> <p>Stephen Harrick <i>Republican</i></p> <p>George Fisk <i>Democratic</i></p> <p>Write-In</p>	<p style="text-align: center;">Commissioner Seat 2 Four Year Term Vote for One</p> <p>Steve West <i>Republican</i></p> <p>Tetty Rogiers <i>Democratic</i></p> <p>Write-In</p>	<p style="text-align: center;">Commissioner Seat 3 Four Year Term Vote for One</p> <p>William Malicki <i>Republican</i></p> <p>Arnold Wells <i>Democratic</i></p> <p>Write-In</p>
<p style="text-align: center;">Statewide Referendum Water and Sewer Improvements Bond Referendum</p> <p>Do you favor the incurring of indebtedness by the Commonwealth of \$400,000,000 for grants and loans to municipalities and public utilities for the cost of all labor, materials, necessary operational machinery and equipment, lands, property, rights and easements, plans and specifications, surveys, estimates of costs and revenues, prefeasibility studies, engineering and legal services and all other expenses necessary or incident to the acquisition, construction, improvement, expansion, extension, repair or rehabilitation of all or part of the drinking water system, storm water, nonpoint source projects, nutrient credits and wastewater treatment system projects?</p> <p>Yes</p> <p>No</p>		
<p style="text-align: center;">Retention of Tony Grzanich</p> <p>Shall Tony Grzanich be retained for an additional term as Justice of the Supreme Court of the Commonwealth of Pennsylvania?</p> <p>Yes</p>		

No			
Retention of Debbie Marks			
Shall Debbie Marks be retained for an additional term as Justice of the Supreme Court of the Commonwealth of Pennsylvania?			
Yes			
No			

Spanish

Distrito electoral 1	Distrito electoral 2a	Distrito electoral 2b	Distrito electoral 3
Partido íntegro			
<div>Republicano</div> <div>Demócrata</div> <div>Verde</div> <div>Libertario</div>			
Presidente/Vicepresidente de los Estados Unidos			
Vote para el candidato de un partido para presidente y vicepresidente o inserte los nombres de los candidatos			
<div>James Collins Arthur Remus <i>Republicano</i></div> <div>Calvin Marino Keith Satterwhite <i>Demócrata</i></div> <div>John P. Defazio Louis Denn <i>Verde</i></div> <div>June Perkins David Heroux <i>Libertario</i></div> <div>Por escrito</div>			
Senador de los Estados Unidos			
Vote por uno			
<div>Colby Lincoln <i>Republicano</i></div> <div>Oscar Draper <i>Demócrata</i></div> <div>Eric Sheely <i>Libertario</i></div> <div>Por escrito</div>			
Representante en el Congreso		Representante en el Congreso	
5° Distrito		10.º Distrito	
Vote por uno		Vote por uno	
Ben Baker			

<i>Republicano</i> Barbara Barret Hicks <i>Demócrata</i> Por escrito		Lois Koss <i>Republicano</i> William Sullivan <i>Demócrata</i> Por escrito
<p align="center">Gobernador/vicegobernador</p> <p align="center">Vote para el candidato de un partido para gobernador y vicegobernador</p> Joe Carlton Arnold Krill <i>Republicano</i> Charles Jasen Kenneth Interlicchio <i>Demócrata</i> Robert Marsh Theodore Kopp <i>Verde</i> Por escrito		
<p align="center">Representante en la Asamblea General 83.º Distrito Vote por uno</p> Harry Rider <i>Republicano</i> R. J. Abbott <i>Demócrata</i> Derek Carlson <i>Libertario</i> Por escrito	<p align="center">Representante en la Asamblea General 84.º Distrito Vote por uno</p> Peter Valle <i>Republicano</i> Neil Carey <i>Demócrata</i> Por escrito	
<p align="center">Juez de la corte suprema Vote por uno</p> Robert L. Linkey <i>Republicano</i> Patricia Smallmon <i>Demócrata</i> Por escrito		
<p align="center">Juez de la corte del estado Vote por uno</p> Chris Carpenter <i>Republicano</i> Eugene Ruff <i>Demócrata</i> Por escrito		
<p align="center">Juez de la corte de primeras instancias No vote por más de dos </p>		

<p>Mary L. Daniel <i>Republicano</i></p> <p>Jack "Duke" Brodisky <i>Republicano</i></p> <p>Joanne Schollzert <i>Demócrata</i></p> <p>Kerry Jones <i>Demócrata</i></p> <p>Por escrito</p> <p>Por escrito</p>
<p>Jefe principal del condado Término de cuatro años Vote por uno</p> <p>Norman Powers <i>Republicano</i></p> <p>Micheal Santarcangelo <i>Demócrata</i></p> <p>Por escrito</p>
<p>Contralor del condado Término de cuatro años Vote por uno</p> <p>Paul M Bertel-Lincoln <i>Republicano</i></p> <p>Donna Berke <i>Demócrata</i></p> <p>Por escrito</p>
<p>Procurador del distrito Término de cuatro años Vote por uno</p> <p>Franklin Margo <i>Republicano</i></p> <p>Donald Hensley <i>Demócrata</i></p> <p>Por escrito</p>
<p>Director de la escuela Región 6 Término de cuatro años No vote por más de dos</p> <p>Gerald Danson <i>Republicano/Demócrata</i></p> <p>Shlomo Archibald <i>Republicano/Demócrata</i></p> <p>Por escrito</p>

Por escrito																			
Comisionado Puesto 1 Término de cuatro años Vote por uno					Comisionado Puesto 2 Término de cuatro años Vote por uno					Comisionado Puesto 3 Término de cuatro años Vote por uno									
Stephen Harrick <i>Republicano</i>					Steve West <i>Republicano</i>					William Malicki <i>Republicano</i>									
George Fisk <i>Demócrata</i>					Tetty Rogiers <i>Demócrata</i>					Arnold Wells <i>Demócrata</i>									
Por escrito					Por escrito					Por escrito									

Referendum a nivel estatal
Referéndum de bono de mejoramientos de agua y drenaje

¿Está usted a favor de incurrir un endeudamiento por el Estado de \$400,000,000 por subvenciones y prestamos a municipalidades y servicios públicos por el costo de toda la mano de obra, materiales, maquinaria operacional necesaria y equipo, tierras, propiedad, derechos y servidumbres, planos y especificación, encuestas, calculo de costos e ingresos, estudios de previabilidad, servicios de legales y de ingeniería y todos los gastos necesarios o incidente a la adquisición, construcción, mejora, expansión, extensión, reparación o rehabilitación de todo o parte del sistema de agua potable, agua pluviales, proyectos de recurso sin punto, créditos de nutrientes y proyectos de sistemas de tratamiento de aguas negras?

Sí

No

Retención de Tony Grzanich

¿Debe Tony Grzanich ser retenido por un término adicional como magistrado de la corte suprema del Estado de Pennsylvania?

Sí

No

Retención de Debbie Marks

¿Debe Debbie Marks ser retenida por un término adicional como magistrada de la corte suprema del Estado de Pennsylvania?

Sí

No

Voting Pattern:

Ballots will be voted and cast with the following pattern. Ballots 10 and 18 will be input using the ADA audio capability. Ballots 5 and 10 in Precinct 1 and Ballot 10 in Precinct 3 will exercise the Pennsylvania Method for straight party.

The following test pattern will be input for the given precinct:

Precinct 1	B 1	B 2	B 3	B 4	B 5	B 6	B 7	B 8	B 9	B 10	B 11	B 12	B 13	B 14	B 15	B 16	B 17	B 18	B 19	B 20
Straight Party																				
Republican	X		X		P	U			U		U	U	U			U	U	U	U	U
Democratic		X		X						P										
Green																				
Libertarian								X							X					
President/Vice President of the United States																				
James Collins						X			X		X	X					X			U
Arthur Remus																				

Calvin Marino								X						X	X		X		X				
Keith Satterwhite																							
John P. Defazio																							
Louis Denn																							
June Perkins								X								X							
David Heroux																							
Write-In																						X	
United States Senator																							
Colby Lincoln								X						X			X						
Oscar Draper								X			X	X		X	X		X	X	X				
Eric Sheely								X															
Write-In									X														X
Representative in Congress 5th District																							
Ben Baker								X	X				U		X	X		X		X	X		
Barbara Barrett Hicks										X		X		X					X				
Write-In									X								X						
Governor/Lieutenant Governor																							
Joe Carlton									X	X		X	X		X	X		X	X				X
Arnold Krill																							
Charles Jasen								X						X			X				X		
Kenneth Interlicchio																							
Robert Marsh																							
Theodore Kopp																							
Write-In								X															
Representative in the General Assembly 83rd District																							
Harry Rider														X	X			X	X				X
R. J. Abbott								X		X				X							X		
Derek Carlson										X						X							
Write-In									X			X					X						
Judge of the Superior Court																							
Robert L. Linkey								X		X			U			X			X				
Patricia Smallmon									X		X			X	X		X	X		X	X		
Write-In																							X
Judge of the Commonwealth Court																							
Chris Carpenter									X	X		X			X		X						
Eugene Ruff								X	X					X			X		X	X			
Write-In														X							X	X	
Judge of the Court of Common Pleas																							
Mary L. Daniel								X					X	X	X				X	X	X	X	
Jack "Duke" Brodisky								X	X				X	X		X					X	X	
Joanne Schollzert									X	X					X		X	X	X	X			
Kerry Jones									X	X					X	X	X						
Write-In										X	P												
Write-In											U												
County Chief Executive																							
Norman Powers								X	X				X		U	X		X					
Micheal Santarcangelo										X	X		X			X		X		X			
Write-in																					X	X	
County Controller																							
Paul M Bertel-Lincoln								U			X			X	X	X			X	U			
Donna Berke									X				X				X				X	X	
Write-In										X							X						
District Attorney																							
Franklin Margo								X			X			X		X		X	X				
Donald Hensley									X				X			X		X			X		
Write-In									X				X										X
School Director Region 6																							
Gerald Danson								X	X		X		X	X	X	X	X	U			X	X	
Shlomo Archibald								X	X	X			X	X	X	X	U	U			X	X	
Write-In										X	X			X	X					X			
Write-In																				U			
Commissioner Seat 1																							

Stephen Harrick								X	X	X	X	X	X	X	X	X	X	X	X	X
George Fisk								X				X				X		X		
Write-in																			X	
Statewide Referendum																				
Yes				X	U	X						X		X	X	X	U			
No	X	X						X	X	X	X	X	X		X			X	X	X
Retention of Tony Grzanich																				
Yes	X	X			X	X		X	X		X	X	X		X			U	X	
No			X	X				X		X				X		X	X			X
Retention of Debbie Marks																				
Yes		X		X	X	X			X	X	X	X				X	U	U		X
No	X		X					X	X						X	X				X
Precinct 2a	B 1	B 2	B 3	B 4	B 5	B 6	B 7	B 8	B 9	B 10	B 11	B 12	B 13	B 14	B 15	B 16	B 17	B 18	B 19	B 20
Straight Party																				
Republican	X	X	X		U	U	U		U	P	U	U	U	U		U	U	U	U	U
Democratic				X																
Green																				
Libertarian								X							X					
President/Vice President of the United States																				
James Collins					X	X	X				X	X				X	X	X	X	
Arthur Remus																				
Calvin Marino									X				X	X						
Keith Satterwhite																				
John P. Defazio																				
Louis Denn																				
June Perkins								X							X					
David Heroux																				
Write-In																				X
United States Senator																				
Colby Lincoln					X		X				X	X		X			X	X		X
Oscar Draper						X			X				X						X	
Eric Sheely								X							X					
Write-In																X				
Representative in Congress 5 th District																				
Ben Baker					X	X	X		X		X			X	U	X	X	X		
Barbara Barrett Hicks								X				X							X	X
Write-In													X							
Governor/Lieutenant Governor																				
Joe Carlton					X		X	X	X			X			U	X	X		X	X
Arnold Krill																				
Charles Jasen						X					X		X					X		
Kenneth Interlicchio																				
Robert Marsh																				
Theodore Kopp																				
Write-In														X						
Representative in the General Assembly 83 rd District																				
Harry Rider					X	X			X				X			X	X			X
R. J. Abbott							X				X	X	X					X	X	
Derek Carlson								X							X					
Write-In																				
Judge of the Superior Court																				
Robert L. Linkey						U	X		X			X	X	X				X	X	X
Patricia Smallmon					X						X				X	X	X			
Write-In								X												
Judge of the Commonwealth Court																				
Chris Carpenter					X	X	X		X		X	X		X		X		U	X	
Eugene Ruff								X					X				X			X
Write-In															X					
Judge of the Court of Common Pleas																				
Mary L. Daniel					X	X	X	X		X			X	X	X			X	X	
Jack "Duke"					X	X			X		U		X		X	X				

Brodisky																					
Joanne Schollzert								X		X	P							X	X	X	
Kerry Jones									X		P				X			X		X	
Write-In													X		X						
Write-In													X					X			
County Chief Executive																					
Norman Powers						X		X	X	X			U	X				X	X	X	X
Micheal Santarcangelo							X					X				X	X				
Write-in															X						
County Controller																					
Paul M Bertel-Lincoln						X	X		X			X			X	U	X		X		U
Donna Berke								X		X			X	X				X		X	
Write-In																					
District Attorney																					
Franklin Margo							X	X				X			X		X				
Donald Hensley						X			X	X			X	X				X	X	X	X
Write-In																X					
School Director Region 6																					
Gerald Danson						X	X	X	X	X		X	X	U		X	X	X		X	X
Shlomo Archibald						X	X	X	X			X	X	U		X	U		X	X	X
Write-In										X					X			X	X		
Write-In															X						
Commissioner Seat 2																					
Steve West						U		X		X		X	X			X		X	X		
Tetty Rogiers							U		X					X			X			X	X
Write-in															X						
Statewide Referendum																					
Yes						U	X	X				U	X					X		X	X
No		X	X	X	X				X	X	X			X	X	X	X		X		
Retention of Tony Grzanich																					
Yes		X	X	X	X		X	X	X	X	X	U		X	X	X	X		U	X	X
No						X							X					X			
Retention of Debbie Marks																					
Yes		X	X	U	X		X	X	X		X	X	X	X		X	X	X	X	X	
No						X				X					X						X

Precinct 2b	B 1	B 2	B 3	B 4	B 5	B 6	B 7	B 8	B 9	B 10	B 11	B 12	B 13	B 14	B 15	B 16	B 17	B 18	B 19	B 20
Straight Party																				
Republican		X			U	U	U	U	U		U			U		U		U	U	U
Democratic	X		X	X						P										
Green												X			X		X			
Libertarian													X							
President/Vice President of the United States																				
James Collins					X	X		X	X		X			X			X		X	X
Arthur Remus																				
Calvin Marino							X									X		X		
Keith Satterwhite																				
John P. Defazio												X			X					
Louis Denn																				
June Perkins													X							
David Heroux														X						
Write-In																				
United States Senator																				
Colby Lincoln					X	X		X	X		X	X		X		U	X		X	X
Oscar Draper							X											X		
Eric Sheely													X							
Write-In															X					
Representative in Congress 5 th District																				
Ben Baker					X	X	X		X				U		X		X		X	X
Barbara Barrett Hicks								X			X			X		X		X		X
Write-In												X								

Governor/Lieutenant Governor																				
Joe Carlton					X		X		X					X				X	X	X
Arnold Krill						X		X			X					X				
Charles Jasen																				
Kenneth Interlicchio																				
Robert Marsh											X			X			X			
Theodore Kopp																				
Write-In													X							
Representative in the General Assembly 84 th District																				
Peter Valle					X	X		X	X		X				X	X	X		X	
Neil Carey							X					X	X					X		X
Write-In														X						
Judge of the Superior Court																				
Robert L. Linkey					X		X	X			X	X	X		X	X	X	X		
Patricia Smallmon						X			X					X						X
Write-In																			X	
Judge of the Commonwealth Court																				
Chris Carpenter						X		X	X		X		X			X	X	U		X
Eugene Ruff							X					X		X					X	
Write-In					X										X					
Judge of the Court of Common Pleas																				
Mary L. Daniel					X	X	X	X			X			U		X	X	X		
Jack "Duke" Brodsky					X	X			X			X		U		X	X			
Joanne Schollzert							X		X									X	X	X
Kerry Jones								X							X				X	X
Write-In											X	X	X		U					
Write-In												X								
County Chief Executive																				
Norman Powers					X	X		X	X			X			X	X	U		X	X
Micheal Santarcangelo							X				X		X	X						
Write-in																		X		
County Controller																				
Paul M Bertel-Lincoln					U		X	X	X			X	X		X	X		X	X	X
Donna Berke						X					X			X			X			
Write-In																				
District Attorney																				
Franklin Margo											X			X			X			
Donald Hensley					X	X	X	X	X			X	X		X	X		X	X	X
Write-In																				
School Director Region 6																				
Gerald Danson					X	X	X	X			X	X	U	X	X	X		X	X	X
Shlomo Archibald					X	X		X	X		X	X	U	X	X	X	X	X	X	X
Write-In							X		X								U			
Write-In																				
Commissioner Seat 2																				
Steve West					X	X		X	X		X	X	X		X	X	X	X	X	
Tetty Rogiers							X													X
Write-in													X							
Statewide Referendum																				
Yes	X	X			X		X	X	X		X	X	X							
No			X	X		X		X		X				X	X	X	X	X	X	X
Retention of Tony Grzanich																				
Yes	X	X		X	X	X		X	X	X		U	X		X	X	X		X	X
No			X				X				X			X				X		
Retention of Debbie Marks																				
Yes		X	X	X		U			X	X	X	X	X		X	X		X	X	
No	X				X		X	X							X			X		
Precinct 3																				
	B 1	B 2	B 3	B 4	B 5	B 6	B 7	B 8	B 9	B 10	B 11	B 12	B 13	B 14	B 15	B 16	B 17	B 18	B 19	B 20
Straight Party																				
Republican	X	X	X	X	U	U		U	U		U	U	U		U		U	U		U

Democratic										P									
Green													X			X			
Libertarian							X											X	
President/Vice President of the United States																			
James Collins						X			X	X			X	X		X		X	X
Arthur Remus																			
Calvin Marino							X				X								
Keith Satterwhite																			
John P. Defazio													X			X			
Louis Denn																			
June Perkins							X												X
David Heroux																			
Write-In																			
United States Senator																			
Colby Lincoln							X		X			X	X	X	X		X		X
Oscar Draper						X				X							X		
Eric Sheely							X											X	
Write-In																			
Representative in Congress 10th District																			
Lois Koss						X		X	X	X		X	X		X		U	X	X
William Sullivan							X					X				X			
Write-In													X						
Governor/Lieutenant Governor																			
Joe Carlton						X	X		X			X			X		X		X
Arnold Krill																			
Charles Jasen							X				X						X		X
Kenneth Interlicchio																			
Robert Marsh													X		X				
Theodore Kopp																			
Write-In								X				X							
Representative in the General Assembly 84th District																			
Peter Valle						X		X	X	X		X	X		X		U	X	
Neil Carey							X					X		X		X			X
Write-In																			X
Judge of the Superior Court																			
Robert L. Linkey						X	X		X			X	X		X		X	X	X
Patricia Smallmon								X		X					X				X
Write-In												X							
Judge of the Commonwealth Court																			
Chris Carpenter						X			X			X		X	X		X	X	X
Eugene Ruff							X	X		X				X			X		
Write-In												X							
Judge of the Court of Common Pleas																			
Mary L. Daniel						X								U	X	X		X	X
Jack "Duke" Brodsky						X	X	X	X				X	X	U	X	X		X
Joanne Schollzert							X	X		X	X		U					X	
Kerry Jones								X	X		X							X	
Write-In										P		X	X						
Write-In										U									
County Chief Executive																			
Norman Powers							X		X	X		X	X	X	X		X		X
Micheal Santarcangelo						X		X				X		X			X		X
Write-in																			
County Controller																			
Paul M Bertel-Lincoln						U		U	X	X		X			X	X	X		X
Donna Berke							X					X		X				X	
Write-In												X							
District Attorney																			
Franklin Margo								X			X			U			X		X
Donald Hensley						X	X		X	X		X			X	X		X	
Write-In												X							
School Director Region 6																			
Gerald Danson						X	X	X	X	X		X		X	X	U	X	X	X

Shlomo Archibald					X	X	X	X	X		X	X	X	X	U	X		X	X	X
Write-In											X						X			
Write-In																				
Commissioner Seat 3																				
William Malicki						X	X	X				X	X		X		X	U	X	
Arnold Wells					X				X					X		X				X
Write-in											X									
Statewide Referendum																				
Yes	X				X			X		U		X			X				U	X
No		X	X	X		X	X		X		X		X	X		X	X	X		
Retention of Tony Grzanich																				
Yes	X	X	X		X	X		X		X	X	X		X	X		X		X	X
No				X			X	X				X			X			X		
Retention of Debbie Marks																				
Yes		X		X		X		X		X	X	X							X	X
No	X		X		X		X		X					X	X	X	X	X		

Test Results:

Precinct 1:

Straight Party

Republican	3
Democratic	3
Green	0
Libertarian	2
Undervote	12

President/Vice President of the United States

James Collins	
Arthur Remus	8
Calvin Marino	
Keith Satterwhite	8
John P. Defazio	
Louis Denn	0
June Perkins	
David Heroux	2
Write-In	1
Undervote	1

United States Senator

Colby Lincoln	6
Oscar Draper	11
Eric Sheely	1
Write-In	2
Undervote	0

Representative in Congress District 5

Ben Baker	10
Barbara Barrett-Hicks	7
Write-In	2
Undervote	1

Governor/Lieutenant Governor

Joe Carlton	
Arnold Krill	12
Charles Jasen	
Kenneth Interlicchio	7
Robert Marsh	
Theodore Kopp	0
Write-In	1
Undervote	0

Representative in the General Assembly District 83

Harry Rider	8
R.J. Abbott	7
Derek Carlson	2

Write-In	3
Undervote	0
Judge of Superior Court	
Robert L. Linkey	7
Patricia Smallmon	11
Write-In	1
Undervote	1
Judge of the Commonwealth Court	
Chris Carpenter	8
Eugene Ruff	9
Write-In	3
Undervote	0
Judge of the Court of Common Pleas	
Mary L. Daniel	11
Jack "Duke" Brodisky	10
Joanne Scholzert	9
Kerry jones	7
Write-In	2
Undervote	1
County Chief Executive	
Norman Powers	8
Micheal Santarcangelo	9
Write-In	2
Undervote	1
County Controller	
Paul M. Bertel-Lincoln	8
Donna Berke	8
Write-In	2
Undervote	2
District Attorney	
Franklin Margo	9
Donald Hensley	8
Write-In	3
Undervote	0
School Director Region 6	
Gerald Danson	15
Shlomo Archibald	14
Write-In	7
Undervote	4
Commissioner Seat 1	
Stephen Harrick	13
George Fisk	6
Write-In	1
Undervote	0
Statewide Referendum	
Yes	6
No	12
Undervote	2
Retention of Tony Grzanich	
Yes	11
No	8
Undervote	1
Retention of Debbie Marks	
Yes	11
No	7
Undervote	2
Precinct 2a:	

Straight Party

Republican	4
Democratic	1
Green	0
Libertarian	2
Undervote	13

President/Vice President of the United States

James Collins	
Arthur Remus	13
Calvin Marino	
Keith Satterwhite	4
John P. Defazio	
Louis Denn	0
June Perkins	
David Heroux	2
Write-In	1
Undervote	0

United States Senator

Colby Lincoln	12
Oscar Draper	5
Eric Sheely	2
Write-In	1
Undervote	0

Representative in Congress District 5

Ben Baker	13
Barbara Barrett-Hicks	5
Write-In	1
Undervote	1

Governor/Lieutenant Governor

Joe Carlton	
Arnold Krill	13
Charles Jasen	
Kenneth Interlicchio	5
Robert Marsh	
Theodore Kopp	0
Write-In	1
Undervote	1

Representative in the General Assembly District 83

Harry Rider	11
R.J. Abbott	7
Derek Carlson	2
Write-In	0
Undervote	0

Judge of Superior Court

Robert L. Linkey	12
Patricia Smallmon	6
Write-In	1
Undervote	1

Judge of the Commonwealth Court

Chris Carpenter	13
Eugene Ruff	5
Write-In	1
Undervote	1

Judge of the Court of Common Pleas

Mary L. Daniel	13
Jack "Duke" Brodisky	9
Joanne Scholzert	7
Kerry Jones	6
Write-In	4
Undervote	1

County Chief Executive

Norman Powers	13
Micheal Santarcangelo	5
Write-In	1
Undervote	1
County Controller	
Paul M. Bertel-Lincoln	11
Donna Berke	7
Write-In	0
Undervote	2
District Attorney	
Franklin Margo	9
Donald Hensley	10
Write-In	1
Undervote	0
School Director Region 6	
Gerald Danson	17
Shlomo Archibald	15
Write-In	5
Undervote	3
Commissioner Seat 2	
Steve West	11
Tetty Rogiers	6
Write-In	1
Undervote	2
Statewide Referendum	
Yes	6
No	12
Undervote	2
Retention of Tony Grzanich	
Yes	15
No	3
Undervote	2
Retention of Debbie Marks	
Yes	15
No	4
Undervote	1
Precinct 2b:	
Straight Party	
Republican	1
Democratic	4
Green	3
Libertarian	1
Undervote	11
President/Vice President of the United States	
James Collins	
Arthur Remus	10
Calvin Marino	
Keith Satterwhite	7
John P. Defazio	
Louis Denn	2
June Perkins	
David Heroux	1
Write-In	0
Undervote	0
United States Senator	
Colby Lincoln	11
Oscar Draper	6
Eric Sheely	1

Write-In	1
Undervote	1
Representative in Congress District 5	
Ben Baker	8
Barbara Barrett-Hicks	10
Write-In	1
Undervote	1
Governor/Lieutenant Governor	
Joe Carlton	
Arnold Krill	8
Charles Jasen	
Kenneth Interlicchio	8
Robert Marsh	
Theodore Kopp	3
Write-In	1
Undervote	0
Representative in the General Assembly District 84	
Peter Valle	10
Neil Carey	9
Write-In	1
Undervote	0
Judge of Superior Court	
Robert L. Linkey	11
Patricia Smallmon	8
Write-In	1
Undervote	0
Judge of the Commonwealth Court	
Chris Carpenter	9
Eugene Ruff	8
Write-In	2
Undervote	1
Judge of the Court of Common Pleas	
Mary L. Daniel	9
Jack "Duke" Brodisky	7
Joanne Scholzert	9
Kerry Jones	8
Write-In	4
Undervote	3
County Chief Executive	
Norman Powers	10
Micheal Santarcangelo	8
Write-In	1
Undervote	1
County Controller	
Paul M. Bertel-Lincoln	11
Donna Berke	8
Write-In	0
Undervote	1
District Attorney	
Franklin Margo	4
Donald Hensley	16
Write-In	0
Undervote	0
School Director Region 6	
Gerald Danson	17
Shlomo Archibald	18
Write-In	2
Undervote	3
Commissioner Seat 2	

Steve West	13
Tetty Rogiers	6
Write-In	1
Undervote	0
Statewide Referendum	
Yes	9
No	11
Undervote	0
Retention of Tony Grzanich	
Yes	14
No	5
Undervote	1
Retention of Debbie Marks	
Yes	13
No	6
Undervote	1
Precinct 3:	
Straight Party	
Republican	4
Democratic	1
Green	2
Libertarian	2
Undervote	11
President/Vice President of the United States	
James Collins	
Arthur Remus	13
Calvin Marino	
Keith Satterwhite	3
John P. Defazio	
Louis Denn	2
June Perkins	
David Heroux	2
Write-In	0
Undervote	0
United States Senator	
Colby Lincoln	13
Oscar Draper	5
Eric Sheely	2
Write-In	0
Undervote	0
Representative in Congress District 10	
Lois Koss	14
William Sullivan	4
Write-In	1
Undervote	1
Governor/Lieutenant Governor	
Joe Carlton	
Arnold Krill	11
Charles Jasen	
Kenneth Interlicchio	5
Robert Marsh	
Theodore Kopp	2
Write-In	2
Undervote	0
Representative in the General Assembly District 84	
Peter Valle	12
Neil Carey	6
Write-In	1
Undervote	1

Judge of Superior Court	
Robert L. Linkey	14
Patricia Smallmon	5
Write-In	1
Undervote	0
Judge of the Commonwealth Court	
Chris Carpenter	13
Eugene Ruff	6
Write-In	1
Undervote	0
Judge of the Court of Common Pleas	
Mary L. Daniel	9
Jack "Duke" Brodisky	14
Joanne Scholzert	6
Kerry jones	4
Write-In	3
Undervote	4
County Chief Executive	
Norman Powers	13
Micheal Santarcangelo	7
Write-In	0
Undervote	0
County Controller	
Paul M. Bertel-Lincoln	12
Donna Berke	5
Write-In	1
Undervote	2
District Attorney	
Franklin Margo	9
Donald Hensley	9
Write-In	1
Undervote	1
School Director Region 6	
Gerald Danson	17
Shlomo Archibald	18
Write-In	2
Undervote	3
Commissioner Seat 3	
William Malicki	12
Arnold Wells	6
Write-In	1
Undervote	1
Statewide Referendum	
Yes	6
No	12
Undervote	2
Retention of Tony Grzanich	
Yes	14
No	6
Undervote	0
Retention of Debbie Marks	
Yes	10
No	10
Undervote	0
Cumulative Totals:	
Straight Party	
Republican	12

Democratic	9
Green	5
Libertarian	7
Undervote	47

President/Vice President of the United States

James Collins	
Arthur Remus	44
Calvin Marino	
Keith Satterwhite	22
John P. Defazio	
Louis Denn	4
June Perkins	
David Heroux	7
Write-In	2
Undervote	1

United States Senator

Colby Lincoln	42
Oscar Draper	27
Eric Sheely	6
Write-In	4
Undervote	1

Representative in Congress District 5

Ben Baker	31
Barbara Barrett-Hicks	22
Write-In	4
Undervote	3

Representative in Congress District 10

Lois Koss	14
William Sullivan	4
Write-In	1
Undervote	1

Governor/Lieutenant Governor

Joe Carlton	
Arnold Krill	44
Charles Jasen	
Kenneth Interlicchio	25
Robert Marsh	
Theodore Kopp	5
Write-In	5
Undervote	1

Representative in the General Assembly District 83

Harry Rider	19
R.J. Abbott	14
Derek Carlson	4
Write-In	3
Undervote	0

Representative in the General Assembly District 84

Peter Valle	22
Neil Carey	15
Write-In	2
Undervote	1

Judge of Superior Court

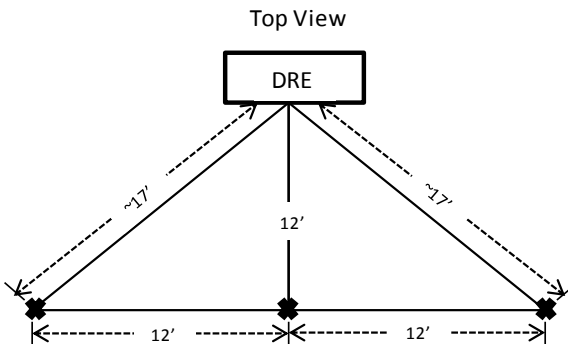
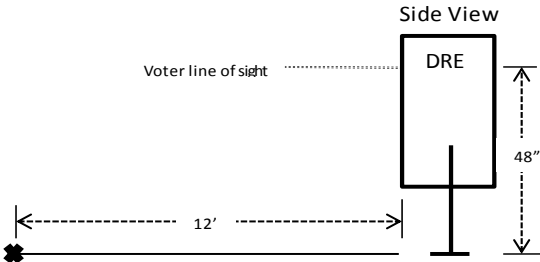
Robert L. Linkey	44
Patricia Smallmon	30
Write-In	4
Undervote	2

Judge of the Commonwealth Court

Chris Carpenter	43
Eugene Ruff	28
Write-In	7
Undervote	2

Judge of the Court of Common Pleas	
Mary L.Daniel	42
Jack “Duke” Brodisky	40
Joanne Scholzert	31
Kerry jones	25
Write-In	13
Undervote	9
County Chief Executive	
Norman Powers	44
Micheal Santarcangelo	29
Write-In	4
Undervote	3
County Controller	
Paul M. Bertel-Lincoln	42
Donna Berke	28
Write-In	3
Undervote	7
District Attorney	
Franklin Margo	31
Donald Hensley	43
Write-In	5
Undervote	1
School Director Region 6	
Gerald Danson	66
Shlomo Archibald	65
Write-In	16
Undervote	13
Commissioner Seat 1	
Stephen Harrick	13
George Fisk	6
Write-In	1
Undervote	0
Commissioner Seat 2	
Steve West	24
Tetty Rogiers	12
Write-In	2
Undervote	2
Commissioner Seat 3	
William Malicki	12
Arnold Wells	6
Write-In	1
Undervote	1
Statewide Referendum	
Yes	27
No	47
Undervote	6
Retention of Tony Grzanich	
Yes	54
No	22
Undervote	4
Retention of Debbie Marks	
Yes	49
No	27
Undervote	4

APPENDIX B - TEST CASES

Test Case Identifier: 01 – 25 P.S. § 3031.7(1) Voter Secrecy (ADA Voter)	
PA ST 25 P.S. § 3031.7 Requirement:	<i>(1) Provides for voting in absolute secrecy and prevents any person from seeing or knowing for whom any voter, except one who has received or is receiving assistance as prescribed by law, has voted or is voting.</i>
Test Objective: To determine if a voters selections input using an ADA device can be observed during the act of voting, or once a vote has been cast.	Test Configuration: Precinct tabulation device configured as described for normal election day operation by Pennsylvania procedures and or the device manufacturer for an ADA voter. A marker is placed 12 feet (measured from the lowest point of the devices voting surface to the floor) directly behind the center of the voting device. From that marker, another marker is placed 12 feet to the right side and the left side. The side distance observation points should be approximately 17 feet. See Step 1000 for a layout diagram. The ADA voter will be positioned in the center of the tabulation device with a site line of 4 feet. See Step 1001.
Test Equipment:	Standard 15+ foot tape measure
Special Procedural Requirements:	Two roles are required for this test case. An ADA Voter role and an observer role. The ADA voter will be positioned with a line of site at 48 inches. The observation must be made by an individual between the heights 68 inches and 71 inches.
Assumptions:	An election is loaded on the device and the polls are open, ready for voting.
Step	Description
1000	<p>Layout Diagram:</p>  <p>Verify all measurements.</p> <p><i>Expected:</i> Center measurement is 12 feet and the side distance observation points are approximately 17 feet.</p> <p><i>Actual:</i> Measured 12 feet.</p>
1001	<p>ADA Voter Position:</p> 

	<p>Verify all measurements.</p> <p><i>Expected:</i> Center measurement is 12 feet and the side distance observation points are approximately 17 feet with a voter line of sight at 48 inches.</p> <p><i>Actual:</i> Measured line of site at 48 inches.</p>
1010	<p>Observer Role - Activate a ballot for ADA voting.</p> <p><i>Expected:</i> Ballot is presented and vote selections can be input.</p> <p><i>Actual:</i> Ballot is presented and vote selections can be input.</p>
1020	<p>ADA Voter Role - Select the candidate corresponding to the upper most left hand position of the ballot presentation.</p> <p>Observer Role - Attempt to ascertain visually, the voters input from the right most position, the center position, and the left most position</p> <p>ADA Voters Role - Use the supplied method to advance the ballot to a cast vote state. The only selection should be the upper most left hand position. All other selections are to be under voted.</p> <p><i>Expected:</i> The Observer cannot determine the Voter's input selections.</p> <p><i>Actual:</i> Observer reported observations could be made from observation point 2 and 3.</p>
1030	<p>ADA Voter Role - Select the candidate corresponding to the upper most right hand position of the ballot presentation.</p> <p>Observer Role - Attempt to ascertain, both audibly and visually, the voters input from the right most position, the center position, and the left most position</p> <p>ADA Voters Role - Use the supplied method to advance the ballot to a cast vote state. The only selection should be the upper most right hand position. All other selections are to be under voted.</p> <p><i>Expected:</i> The Observer cannot determine the Voter's input selections.</p> <p><i>Actual:</i> Observer reported observations could be made from observation point 1 and 2.</p>
1040	<p>ADA Voter Role - Select the candidate corresponding to the lower most left hand position of the ballot presentation.</p> <p>Observer Role - Attempt to ascertain, both audibly and visually, the voters input from the right most position, the center position, and the left most position</p>

	<p>ADA Voters Role - Use the supplied method to advance the ballot to a cast vote state. The only selection should be the lower most left hand position. All other selections are to be under voted.</p> <p><i>Expected:</i> The Observer cannot determine the Voter's input selections.</p> <p><i>Actual:</i> Observer reported observations could be made from observation point 2 and 3.</p>
1050	<p>ADA Voter Role - Select the candidate corresponding to the lower most right hand position of the ballot presentation.</p> <p>Observer Role - - Attempt to ascertain, both audibly and visually, the voters input from the right most position, the center position, and the left most position</p> <p>ADA Voters Role - Use the supplied method to advance the ballot to a cast vote state. The only selection should be the lower most right hand position. All other selections are to be under voted.</p> <p><i>Expected:</i> The Observer cannot determine the Voter's input selections.</p> <p><i>Actual:</i> Observer reported observations could be made from observation point 1 and 2.</p>
<p>Criteria for Evaluation of the Test Results: The observer must not be able to determine the voter's selection from any observation position or any voter selection surface position.</p>	

Test Case Identifier: 01 – 25 P.S. § 3031.7(1) Voter Secrecy (Regular Voter)	
PA ST 25 P.S. § 3031.7 Requirement:	<i>(1) Provides for voting in absolute secrecy and prevents any person from seeing or knowing for whom any voter, except one who has received or is receiving assistance as prescribed by law, has voted or is voting.</i>
Test Objective: To determine if a voters selections can be observed during the act of voting, or once a vote has been cast.	Test Configuration: Precinct tabulation device configured as described for normal election day operation by Pennsylvania procedures and or the device manufacturer. A marker is placed 12 feet (measured from the lowest point of the devices voting surface to the floor) directly behind the center of the voting device. From that marker, another marker is placed 12 feet to the right side and the left side. The side distance observation points should be approximately 17 feet. See step 1000 for a layout diagram.
Test Equipment:	Standard 15+ foot tape measure
Special Procedural Requirements:	Two roles are required for this test case. A Voter role and an observer role. The observation must be made by an individual between the heights of 5 feet 8 inches and 5 feet 11 inches.
Assumptions:	An election is loaded on the device and the polls are open, ready for voting.
Step	Description
1000	<p>Layout Diagram:</p> <p>Verify all measurements.</p> <p><i>Expected:</i> Center measurement is 12 feet and the side distance observation points are approximately 17 feet.</p> <p><i>Actual:</i> Measured 12 feet.</p>
1010	<p>Observer Role - Activate a ballot for regular voting.</p> <p><i>Expected:</i> Ballot is presented and vote selections can be input.</p> <p><i>Actual:</i> The ballot is presented and vote selections can be input.</p>
1020	<p>Voter Role - Select the candidate in the upper most left hand position of the ballot presentation.</p> <p>Observer Role - Attempt to ascertain, both audibly and visually, the voters input from the right most position, the center position, and the left most position</p> <p>Voters Role - Use the supplied method to advance the ballot to a cast vote state. The only selection should be the upper most left hand position. All other selections are to be under voted.</p>

	<p><i>Expected:</i> The Observer cannot determine the Voter's input selections.</p> <p><i>Actual:</i> Observer reported observations could be made from observation point 2 and 3.</p>
1030	<p>Voter Role - Select the candidate in the upper most right hand position of the ballot presentation.</p> <p>Observer Role - Attempt to ascertain, both audibly and visually, the voters input from the right most position, the center position, and the left most position</p> <p>Voters Role - Use the supplied method to advance the ballot to a cast vote state. The only selection should be the upper most right hand position. All other selections are to be under voted.</p> <p><i>Expected:</i> The Observer cannot determine the Voter's input selections.</p> <p><i>Actual:</i> Observer reported observations could be made from observation point 2.</p>
1040	<p>Voter Role - Select the candidate in the lower most left hand position of the ballot presentation.</p> <p>Observer Role - Attempt to ascertain, both audibly and visually, the voters input from the right most position, the center position, and the left most position</p> <p>Voters Role - Use the supplied method to advance the ballot to a cast vote state. The only selection should be the lower most left hand position. All other selections are to be under voted.</p> <p><i>Expected:</i> The Observer cannot determine the Voter's input selections.</p> <p><i>Actual:</i> Observer reported observations could be made from observation point 2.</p>
1050	<p>Voter Role - Select the candidate in the lower most right hand position of the ballot presentation.</p> <p>Observer Role - Attempt to ascertain, both audibly and visually, the voters input from the right most position, the center position, and the left most position</p> <p>Voters Role - Use the supplied method to advance the ballot to a cast vote state. The only selection should be the lower most right hand position. All other selections are to be under voted.</p> <p><i>Expected:</i> The Observer cannot determine the Voter's input selections.</p> <p><i>Actual:</i> Observer reported observations could be made from observation point 2.</p>
<p>Criteria for Evaluation of the Test Results: The observer must not be able to determine the voter's selection from any observation position or any voter selection surface position.</p>	

Test Case Identifier: 02 – 25 P.S. § 3031.7(2) Selection of Candidates and Questions by Voter (Regular/ADA)	
PA ST 25 P.S. § 3031.7 Requirement:	(2) Provides facilities for voting for such candidates as may be nominated and upon such questions as may be submitted.
Test Objective: To determine if a voter has the ability to select candidates and questions.	Test Configuration: Precinct tabulation device configured as described for normal election day operation by Pennsylvania procedures and/or the device manufacturer.
Test Equipment:	None
Special Procedural Requirements:	None
Assumptions:	An election is loaded on the device and the polls are open, ready for voting.
Step	Description
1000	<p>Activate a ballot for voting</p> <p><i>Expected:</i> The ballot is presented and vote selections can be input.</p> <p><i>Actual:</i> The ballot was presented.</p>
1010	<p>Select the first candidate in the first partisan contest excluding a straight party contest.</p> <p><i>Expected:</i> The precinct tabulation device displays or provides an indication of a vote selection for the first candidate in the first partisan contest excluding a straight party contest.</p> <p><i>Actual:</i> Selection was made for James Collins.</p>
1020	<p>Use the designated method to advance the ballot to the first “N of M” contest. Select the first “N” candidates in the contest. (e.g. in a Vote for Two contest the first two candidates would be selected).</p> <p><i>Expected:</i> The precinct tabulation device advances to the first “N of M” contest. Once selected the precinct tabulation device displays or provides an indication of a vote for the first “N” candidates in the first “N of M” contest.</p> <p><i>Actual:</i> Selections were made for Mary L. Daniel and Jack “Duke” Brodisky.</p>
1030	<p>Use the designated method to advance the ballot to the first “Question” contest. Select the “Yes” option in the contest.</p> <p><i>Expected:</i> The precinct tabulation device advances to the first “Question” contest. Once selected the precinct tabulation device displays or provides an indication of a vote selection for the “Yes” option in the first “Question” contest.</p> <p><i>Actual:</i> Selection was made of “Yes”.</p>
1040	<p>Use the designated method to advance the ballot to the second “Question” contest. Select the “No” option in the contest.</p> <p><i>Expected:</i> The precinct tabulation device advances to the second “Question” contest. Once selected the precinct tabulation device displays or provides an indication of a vote selection for the “No” option in the second</p>

	<p>“Question” contest.</p> <p><i>Actual:</i> Selection was made for “No”.</p>
1050	<p>Use the designated method to advance the “Ballot Review”. Observe the “Ballot Review” to see if the above selections are displayed. Use the designated method to cast the voted selections.</p> <p><i>Expected:</i> The precinct tabulation device advances to the “Ballot Review” screen. After review and ballot is cast successfully.</p> <p><i>Actual:</i> Ballot was cast successfully for all selections.</p>
1060	<p>Repeat steps 1000- 1050 from above using an ADA input device.</p> <p><i>Expected:</i> Repeat 1000 <u> X </u> Repeat 1010 <u> X </u> Repeat 1020 <u> X </u> Repeat 1030 <u> X </u> Repeat 1040 <u> X </u> Repeat 1050 <u> X </u></p> <p><i>Actual:</i> All steps were successfully repeated was audio session.</p>
1070	<p>Close the polls and print the closed polls report tape.</p> <p><i>Expected:</i> The polls closed and a report is printed.</p> <p><i>Actual:</i> The polls closed and report printed.</p>
1080	<p>Review the closed polls report to ensure all selections input above are recorded and reported correctly.</p> <p><i>Expected:</i> The closed polls report presents the accumulated totals for the selections input above.</p> <p><i>Actual:</i> All selections were accurately reported on the results report.</p>
<p>Criteria for Evaluation of the Test Results: The intended selections input above are recorded, stored, and reported as input by the tester.</p>	

Test Case Identifier: 03 – 25 P.S. § 3031.7(3) Straight Party and Pennsylvania Method	
PA ST 25 P.S. § 3031.7 Requirements:	<i>(3) Permits each voter, at other than primary elections, to vote a straight political party ticket by one mark or act and, by one mark or act, to vote for all the candidates of one political party for presidential electors and, by one mark or act, to vote for all the candidates of one political party for every office to be voted for, and every such mark or act shall be equivalent to and shall be counted as a vote for every candidate of the political party so marked including its candidates for presidential electors, except with respect to those offices as to which the voter has registered a vote for individual candidates of the same or another political party or political body, in which case the automatic tabulating equipment shall credit the vote for that office only for the candidate individually so selected, notwithstanding the fact that the voter may not have individually voted for the full number of candidates for that office for which he was entitled to vote.</i>
Test Objective: To determine if the voting system supports straight party voting and the Pennsylvania Method.	Test Configuration: Precinct tabulation device configured as described for normal election day operation by Pennsylvania procedures and/or the device manufacturer.
Test Equipment:	None
Special Procedural Requirements:	None
Assumptions:	An election is loaded on the device and the polls are open, ready for voting.
Step	Description
1000	<p>Activate a ballot for voting.</p> <p><i>Expected:</i> The ballot is presented and vote selections can be input.</p> <p><i>Actual:</i> The ballot was presented.</p>
1010	<p>Select the option for the first party selection of the straight party.</p> <p><i>Expected:</i> The precinct tabulation device displays or provides an indication of a vote selection for the first party selection in the straight party contest.</p> <p><i>Actual:</i> Republican was selected.</p>
1020	<p>Use the designated method to advance through the ballot to each partisan contest. Observe all partisan contests for the indication of a voter selection for all partisan candidates associated with the first straight party selection.</p> <p><i>Expected:</i> The precinct tabulation device displays or provides an indication of a vote selection for all the partisan candidates in each contest associated with the first straight party selection.</p> <p><i>Actual:</i> All Republican candidates were selected.</p>
1030	<p>Use the designated method to advance through the remainder of the ballots advancing to the ballot review screen. Observe the selection in the ballot review observing only the partisan contests associated with the first straight party selections are present. Use the designated method to cast the voted ballot.</p> <p><i>Expected:</i> The precinct tabulation device displays or provides an indication of a vote selection for only the partisan contests associated with the first straight party selection. After review the ballot is cast successfully.</p>

	<p><i>Actual:</i> All republican candidates were selected and under votes for non-partisan contests.</p>
1040	<p>Activate a ballot for voting.</p> <p><i>Expected:</i> The ballot is presented and vote selections can be input.</p> <p><i>Actual:</i> The ballot was presented.</p>
1050	<p>Select the option for the second party selection of the straight party.</p> <p><i>Expected:</i> The precinct tabulation device displays or provides an indication of a vote selection for the second party in the straight party contest.</p> <p><i>Actual:</i> Democrat was selected.</p>
1060	<p>Use the designated method to advance through the ballot to each partisan contest. Observe all partisan contests for an indication of a voter selection for all partisan candidates associated with the second straight party selection.</p> <p><i>Expected:</i> The precinct tabulation device displays or provides an indication of a vote selection for all the partisan candidates in each contest associated with the second straight party selection.</p> <p><i>Actual:</i> Democratic candidates were selected.</p>
1070	<p>Use the designated method to retreat through the ballot selections to the first “N of M” contest. Select the first partisan candidate that is not the party associated with the second straight party selection. Leave the remainder of the selections under voted.</p> <p><i>Expected:</i> “N” candidates for the party of the second straight party selections should display or provide an indication of the non-selection. The selected candidate should be the only selection displayed or indicated.</p> <p><i>Actual:</i> Mary L. Daniel was selected and all other candidates were deselected.</p>
1080	<p>Use the designated method to retreat through the ballot to the “Straight Party” contest. Observe the selection for the second straight party selection.</p> <p><i>Expected:</i> The second straight party selections should be displayed or an indication given as selected.</p> <p><i>Actual:</i> Democrat was selected.</p>
1090	<p>Use the designated method to advance through the remainder of the ballot advancing to the ballot review. Review the selections in the ballot review to verify that the partisan contests associated with the second straight party selections are present with the exception of the first “N of M” contest. Use the designated method to cast the voted ballot.</p>

	<p><i>Expected:</i> The precinct tabulation device displays or indicates the selection for the partisan contests associated with the second straight party selection for all contests except the first “N of M” contest. The first “N of M” contest displays or indicates the selection of the first candidate that is not associated with the second straight party selection. After review the ballot is cast successfully.</p> <p><i>Actual:</i> The ballot review screen displayed the correct selections.</p>
1100	<p>Activate a ballot for voting.</p> <p><i>Expected:</i> The ballot is presented and vote selections can be input.</p> <p><i>Actual:</i> The ballot was displayed.</p>
1110	<p>Select the option for the first party selection of the straight party.</p> <p><i>Expected:</i> The precinct tabulation device displays or provides an indication of a vote selection for the first party in the straight party contest.</p> <p><i>Actual:</i> Republican was selected.</p>
1120	<p>Use the designated method to advance through the ballot to each partisan contest. Observe all partisan contests for an indication of a voter selection for all partisan candidates associated with the first straight party selection.</p> <p><i>Expected:</i> The precinct tabulation device displays or provides an indication of a vote selection for all the partisan candidates in each contest associated with the first straight party selection.</p> <p><i>Actual:</i> All Republican candidates were selected.</p>
1130	<p>Use the designated method to retreat through the ballot selections to the first “N of M” contest. Select the first partisan candidate that is associated with the first straight party selection. Leave this contest and the remainder of the selections under voted.</p> <p><i>Expected:</i> “N” candidates for the party of the first straight party selections should display or provide an indication of the non-selection. The selected candidate should be the only selection displayed or indicated.</p> <p><i>Actual:</i> Mary L. Daniel was selected and all other candidates were deselected.</p>
1140	<p>Use the designated method to advance through the remainder of the ballot advancing to the ballot review. Review the selections in the ballot review to verify that the partisan contests associated with the first straight party selections are present with the exception of the first “N of M” contest. Use the designated method to cast the voted ballot.</p> <p><i>Expected:</i> The precinct tabulation device displays or indicates the selection for the partisan contests associated with the first straight party selection for all contests except the first “N of M” contest. The first “N of M” contest displays or indicates the selection of the second candidate that is associated with the first straight party selection and an under vote. After review the ballot is cast successfully.</p> <p><i>Actual:</i> All selections were indicated.</p>

<p>1150</p>	<p>Repeat steps 1000- 1150 from above using an ADA input device.</p> <p><i>Expected:</i> Repeat 1000 <u> X </u> Repeat 1010 <u> X </u> Repeat 1020 <u> X </u> Repeat 1030 <u> X </u> Repeat 1040 <u> X </u> Repeat 1050 <u> X </u> Repeat 1060 <u> X </u> Repeat 1070 <u> X </u> Repeat 1080 <u> X </u> Repeat 1090 <u> X </u> Repeat 1100 <u> X </u> Repeat 1110 <u> X </u> Repeat 1120 <u> X </u> Repeat 1130 <u> X </u> Repeat 1140 <u> X </u> Repeat 1150 <u> X </u></p> <p><i>Actual:</i> All steps were successfully repeated using the audio session.</p>
<p>1160</p>	<p>Close the polls and print the closed polls report tape.</p> <p><i>Expected:</i> The polls closed and a report is printed.</p> <p><i>Actual:</i> The polls were closed and results report printed.</p>
<p>1170</p>	<p>Review the closed polls report to ensure all selections input above are recorded and reported correctly.</p> <p><i>Expected:</i> The closed polls report presents the accumulated totals for the selections input above.</p> <p><i>Actual:</i> All selections were accurately reported on the results report.</p>
<p>Criteria for Evaluation of the Test Results: The intended selections input above are recorded, stored, and reported as input by the tester. The functionality of selecting a candidate of the same party or of a different party of the straight party selection de-selects all candidates for the straight party vote.</p>	

Test Case Identifier: 04 – 25 P.S. § 3031.7(4) Straight Party and Write-In	
PA ST 25 P.S. § 3031.7 Requirements:	<i>(4) Permits each voter, at other than primary elections, to vote a ticket selected from the nominees of any and all political parties, from the nominees of any and all political bodies, and from any persons whose names are not in nomination and do not appear upon the official ballot.</i>
Test Objective: To determine if the voting system supports straight party voting and write-in.	Test Configuration: Precinct tabulation device configured as described for normal election day operation by Pennsylvania procedures and/or the device manufacturer.
Test Equipment:	None
Special Procedural Requirements:	None
Assumptions:	An election is loaded on the device and the polls are open, ready for voting.
Step	Description
1000	<p>Activate a ballot for voting</p> <p><i>Expected:</i> The ballot is presented and vote selections can be input.</p> <p><i>Actual:</i> The ballot was presented.</p>
1010	<p>Select the option for the first party selection of the straight party.</p> <p><i>Expected:</i> The precinct tabulation device displays or provides an indication of a vote selection for the first party selection in the straight party contest.</p> <p><i>Actual:</i> Republican was selected.</p>
1020	<p>Use the designated method to advance through the ballot to each partisan contest. Observe all partisan contests for a display or indication of a voter selection for all partisan candidates associated with the first straight party selection.</p> <p><i>Expected:</i> The precinct tabulation device displays or provides an indication of a vote selection for all the partisan candidates in each contest associated with the first straight party selection.</p> <p><i>Actual:</i> All Republican candidates were selected.</p>
1030	<p>Use the designated method to advance through the remainder of the ballot advancing to the ballot review screen. Observe the selection in the ballot review observing only the partisan contests associated with the first straight party selections are present. Use the designated method to cast the voted ballot.</p> <p><i>Expected:</i> The precinct tabulation device displays or provides an indication of the selection for only the partisan contests associated with the first straight party selection. After review the ballot is cast successfully.</p> <p><i>Actual:</i> The ballot review screen displayed the selections for all republican candidates and no selection for non-partisan contests.</p>

1040	<p>Activate a ballot for regular voting</p> <p><i>Expected:</i> The ballot is presented and vote selections can be input.</p> <p><i>Actual:</i> The ballot was presented.</p>
1050	<p>Select the option for the first party selection of the straight party.</p> <p><i>Expected:</i> The precinct tabulation device displays or provides an indication of a vote selection associated with the first party selection in the straight party contest.</p> <p><i>Actual:</i> Republican was selected.</p>
1060	<p>Use the designated method to advance to the first partisan contest. Select the write-in option. Input John Doe as the write-in name.</p> <p><i>Expected:</i> The precinct tabulation advances to the first partisan contest and allows the input of the "Write-In" candidate John Doe.</p> <p><i>Actual:</i> John Doe was input as a write-in candidate for President of the United States.</p>
1070	<p>Use the designated method to advance to the ballot review screen. Observe the selections associated with the first straight party selection with the exception of the first partisan contest. Use the designated method to cast the voted ballot.</p> <p><i>Expected:</i> The precinct tabulation device displays or provides an indication of a vote selection associated with the first party selection in the straight party contest with the exception of the first partisan contest which should indicate the write-in input of John Doe.</p> <p><i>Actual:</i> Republican candidates in all partisan races were selected with the exception of John Doe as a write-in for President of the United States</p>
1080	<p>Activate a ballot for regular voting</p> <p><i>Expected:</i> The ballot is presented and vote selections can be input.</p> <p><i>Actual:</i> The ballot was presented.</p>
1090	<p>Select the option for the first party selection of the straight party.</p> <p><i>Expected:</i> The precinct tabulation device displays or provides an indication of a vote selection associated with the first party selection in the straight party contest.</p> <p><i>Actual:</i> Republican was selected.</p>

1100	<p>Use the designated method to advance to the first “Question” contest. Select the “Yes” option. Attempt to over vote by selecting the “No” option. Observe the action of attempting to select the second option.</p> <p><i>Expected:</i> The precinct tabulation device displays or provides an indication of an attempt to over vote. The precinct tabulation device might disallow the selection and not display any communication.</p> <p><i>Actual:</i> The device toggled for input in a normal voting session and the candidates were deselected and selected in the accessible voting session.</p>
1110	<p>Repeat steps 1000- 1100 from above using an ADA input device.</p> <p><i>Expected:</i> Repeat 1000 <input checked="" type="checkbox"/> Repeat 1010 <input checked="" type="checkbox"/> Repeat 1020 <input checked="" type="checkbox"/> Repeat 1030 <input checked="" type="checkbox"/> Repeat 1040 <input checked="" type="checkbox"/> Repeat 1050 <input checked="" type="checkbox"/> Repeat 1060 <input checked="" type="checkbox"/> Repeat 1070 <input checked="" type="checkbox"/> Repeat 1080 <input checked="" type="checkbox"/> Repeat 1090 <input checked="" type="checkbox"/> Repeat 1100 <input checked="" type="checkbox"/></p> <p><i>Actual:</i> All steps were repeated using an audio session.</p>
1120	<p>Close the polls and print the closed polls report tape.</p> <p><i>Expected:</i> The polls closed and a report is printed.</p> <p><i>Actual:</i> The polls were closed and the results report was printed.</p>
1130	<p>Review the closed polls report to ensure all selections input above are recorded and reported correctly.</p> <p><i>Expected:</i> The closed polls report presents the accumulated totals for the selections input above.</p> <p><i>Actual:</i> All selections were accurately reported on the results report.</p>
<p>Criteria for Evaluation of the Test Results: The intended selections input above are recorded, stored, and reported as input by the tester. The functionality of selecting a write-in candidate functions with a straight party selection.</p>	

Test Case Identifier: 05 – 25 P.S. § 3031.7(5) Selection of Candidate and Write-in	
PA ST 25 P.S. § 3031.7 Requirements:	
Test Objective: To determine if the voting system supports the selection of a candidate and a write-in candidate.	Test Configuration: (5) <i>Permits each voter to vote for any person and any office for whom and for which he is lawfully entitled to vote, whether or not the name of such person appears upon the ballot as a candidate for nomination or election.</i>
Test Equipment:	None
Special Procedural Requirements:	None
Assumptions:	An election is loaded on the device and the polls are open, ready for voting.
Step	Description
1000	<p>Activate a ballot for voting.</p> <p><i>Expected:</i> The ballot is presented and vote selections can be input.</p> <p><i>Actual:</i> The ballot was presented.</p>
1010	<p>Select the option for the first candidate in the first partisan contest.</p> <p><i>Expected:</i> The precinct tabulation device displays or provides an indication of a vote selection for the first candidate selection in the first partisan contest.</p> <p><i>Actual:</i> James Collins and Arthur Remus were selected for President of the United States.</p>
1020	<p>Use the designated method to advance through the remainder of the ballot advancing to the ballot review screen. Observe the selection in the ballot review observing only the first candidate in the first partisan contest is selected. Use the designated method to cast the voted ballot.</p> <p><i>Expected:</i> The precinct tabulation device displays or provides an indication of the selection for only the first candidate selection in first partisan contests. After review the ballot is cast successfully.</p> <p><i>Actual:</i> James Collins and Arthur Remus were the only selection displayed.</p>
1030	<p>Activate a ballot for voting.</p> <p><i>Expected:</i> The ballot is presented and vote selections can be input.</p> <p><i>Actual:</i> The ballot was presented.</p>
1040	<p>Select the option for a write-in candidate in the first partisan contest. Use the designed method to input “John Doe”.</p> <p><i>Expected:</i> The precinct tabulation device displays or provides an indication of a vote selection for a write-in candidate.</p> <p><i>Actual:</i> John Doe was input for President of the United States.</p>

1050	<p>Use the designated method to advance through the remainder of the ballot advancing to the ballot review screen. Observe the selection in the ballot review observing only the write-in candidate in the first partisan contest is selected. Use the designated method to cast the voted ballot.</p> <p><i>Expected:</i> The precinct tabulation device displays or provides an indication of the selection for only the write-in candidate “John Doe” in first partisan contests. After review the ballot is cast successfully.</p> <p><i>Actual:</i> John Doe was the only selection displayed.</p>
1060	<p>Activate a ballot for voting.</p> <p><i>Expected:</i> The ballot is presented and vote selections can be input.</p> <p><i>Actual:</i> The ballot was presented.</p>
1070	<p>Select the option for a write-in candidate in the first “N of M” contest. Use the designed method to input “John Doe” for all selections. Observe any activity to preclude the same input.</p> <p><i>Expected:</i> The precinct tabulation device displays or provides an indication of a duplicate vote selection for a write-in candidate. If no indication is provided then trace the ability to adjudicate the vote through the entire system. It may require the EMS component to verify.</p> <p><i>Actual:</i> John Doe and John Doe were input. It was traced through the iVotronic Write-in Report to adjudicate the duplicate inputs successfully.</p>
1080	<p>Repeat steps 1000- 1070 from above using an ADA input device.</p> <p><i>Expected:</i> Repeat 1000 __X__ Repeat 1010 __X__ Repeat 1020 __X__ Repeat 1030 __X__ Repeat 1040 __X__ Repeat 1050 __X__ Repeat 1060 __X__ Repeat 1070 __X__</p> <p><i>Actual:</i> All steps were repeated using an audio session.</p>
1090	<p>Close the polls and print the closed polls report tape.</p> <p><i>Expected:</i> The polls closed and a report is printed.</p> <p><i>Actual:</i> The polls were closed and the results report printed.</p>

<p>1100</p>	<p>Review the closed polls report to ensure all selections input above are recorded and reported correctly.</p> <p>Expected: The closed polls report presents the accumulated totals for the selections input above.</p> <p>Actual: All selections were accurately reported on the results report.</p>
<p>Criteria for Evaluation of the Test Results: The intended selections input above are recorded, stored, and reported as input by the tester. The functionality of selecting a candidate and a write-in candidate functions.</p>	

Test Case Identifier: 07– 25 P.S. § 3031.7(7) Attempt to Over Vote Contests and Questions (Regular/ADA)	
PA ST 25 P.S. § 3031.7 Requirements:	(7) If it is of a type that registers the vote electronically, the voting system shall preclude each voter from voting for more persons for any office than he is entitled to vote for or upon any question more than once.
Test Objective: To determine if the voting device allows over voting on contests and questions	Test Configuration: Precinct tabulation device configured as described for normal election day operation by Pennsylvania procedures and/or the device manufacturer.
Equipment:	None
Special Procedural Requirements:	None
Assumptions:	An election is loaded on the device and the polls are open, ready for voting.
Step	Description
1000	<p>Activate a ballot for voting.</p> <p><i>Expected:</i> The ballot is presented and vote selections can be input.</p> <p><i>Actual:</i> The ballot was presented.</p>
1010	<p>Select the first candidate in the first partisan “1 of 1” contest excluding a straight party contest.</p> <p><i>Expected:</i> The precinct tabulation device displays or provides an indication of a vote selection for the first candidate in the first partisan “1 of 1” contest excluding a straight party contest.</p> <p><i>Actual:</i> James Collins and Arthur Remus were selected for President of the United States.</p>
1020	<p>Attempt to select the second candidate in the first partisan “1 of 1” contest ensure the contest is the same contest as voted in step 1010. Observe the action of attempting to place a second vote.</p> <p><i>Expected:</i> The precinct tabulation device displays or provides an indication of an attempt to over vote. The precinct tabulation device might disallow the selection and not display any communication.</p> <p><i>Actual:</i> Calvin Marino and Keith Satterwhite were selected. The device toggled between the selections in a normal voting session and a de-selection and selection during the accessible voting session.</p>
1030	<p>Attempt to select the write-in option. Observe the action of attempting to input a write-in.</p> <p><i>Expected:</i> The precinct tabulation device displays or provides an indication of an attempt to over vote. The precinct tabulation device might disallow the selection and not display any communication.</p> <p><i>Actual:</i> The device toggled between the selections in a normal voting session and a de-selection and selection during the accessible voting session.</p>
1040	<p>Use the designated method to advance the ballot to the first “N of M” contest. Select the first “N” candidates in the contest. (e.g. in a Vote for Two contest the first two candidates would be selected).</p> <p><i>Expected:</i> The precinct tabulation device advances to the first “N of M” contest. Once selected, the precinct tabulation device displays or provides an indication of a vote for the first “N” candidates in the first “N of M”</p>

	<p>contest.</p> <p><i>Actual:</i> Mary L. Daniel and Jack “Duke” Brodsky were selected.</p>
1050	<p>Attempt to select the “N +1” candidate in the first “N of M” contest ensure the contest is the same contest as voted in step 1030. Observe the action of attempting to place an over vote.</p> <p><i>Expected:</i> The precinct tabulation device displays or provides an indication of an attempt to over vote. The precinct tabulation device might disallow the selection and not display any communication.</p> <p><i>Actual:</i> The device displayed an indication of an attempt to overvote.</p>
1060	<p>Use the designated method to advance the ballot to the first “Question” contest. Select the “Yes” option in the contest.</p> <p><i>Expected:</i> The precinct tabulation device advances to the first “Question” contest. Once selected, the precinct tabulation device displays or provides an indication of a vote for the “Yes” option in the first “Question” contest.</p> <p><i>Actual:</i> “Yes” was selected.</p>
1070	<p>Attempt to select the “No” option in the first “Question” contest ensure the contest is the same contest as voted in step 1050. Observe the action of attempting to place an over vote.</p> <p><i>Expected:</i> The precinct tabulation device displays or provides an indication of an attempt to over vote. The precinct tabulation device might disallow the selection and not display any communication.</p> <p><i>Actual:</i> The device toggled between selections.</p>
1080	<p>Use the designated method to advance the “Ballot Review”. Observe the “Ballot Review” to see if the above selections are indicated. Use the designated method to cast the voted selections.</p> <p><i>Expected:</i> The precinct tabulation device advances to the “Ballot Review” screen. After review and ballot is cast successfully.</p> <p><i>Actual:</i> The selections were displayed correctly.</p>
1090	<p>Repeat steps 1000- 1080 from above using an ADA input device.</p> <p><i>Expected:</i> Repeat 1000 __X__ Repeat 1010 __X__ Repeat 1020 __X__ Repeat 1030 __X__ Repeat 1040 __X__ Repeat 1050 __X__ Repeat 1060 __X__ Repeat 1070 __X__ Repeat 1080 __X__</p> <p><i>Actual:</i> All steps were repeated using an audio session.</p>

<p>1100</p>	<p>Close the polls and print the closed polls report tape.</p> <p><i>Expected:</i> The polls closed and a report is printed.</p> <p><i>Actual:</i> The polls were closed and the results report printed.</p>
<p>1110</p>	<p>Review the closed polls report to ensure all selections input above are recorded and reported correctly.</p> <p><i>Expected:</i> The closed polls report presents the accumulated totals for the selections input above.</p> <p><i>Actual:</i> All selections were accurately reported on the results report.</p>
<p>Criteria for Evaluation of the Test Results: The intended selections input above are recorded, stored, and reported as input by the tester. The attempts to select more persons than the vote for and any question more than once are unsuccessful.</p>	

Test Case Identifier: 10 – 25 P.S. § 3031.7(10) Ballot Review and Change (Regular ADA)	
PA ST 25 P.S. § 3031.7 Requirements:	<p>(10) If it is of a type that registers the vote electronically, the voting system shall permit each voter to change his vote for any candidate or upon any question appearing on the official ballot up to the time that he takes the final step to register his vote and to have his vote computed.</p> <p>If it is of a type that uses paper ballots or ballot cards to register the vote and automatic tabulating equipment to compute such votes, the system shall provide that a voter who spoils his ballot may obtain another ballot; any ballot thus returned shall be immediately cancelled and at the close of the polls shall be enclosed in an envelope marked "Spoiled" which shall be sealed and returned to the county board.</p>
Test Objective: To determine if the voting device allows the voter to review the selections and change a vote selection before cast of the ballot.	Test Configuration: Precinct tabulation device configured as described for normal election day operation by Pennsylvania procedures and/or the device manufacturer.
Test Equipment:	None
Special Procedural Requirements:	None
Assumptions:	An election is loaded on the device and the polls are open, ready for voting.
Step	Description
1000	<p>Activate a ballot for voting.</p> <p><i>Expected:</i> The ballot is presented and vote selections can be input.</p> <p><i>Actual:</i> The ballot was presented.</p>
1010	<p>Select the first candidate in the first all "1 of 1" contest excluding a straight party contest, the first "N" candidates in all "N of M" contests, and select the "Yes" option in all "Question" contests.</p> <p><i>Expected:</i> The precinct tabulation device allow for the navigation and the voting inputs to be selected as described above.</p> <p><i>Actual:</i> James Collins and Arthur Remus were selected for President of the United States. Mary L. Daniel and Jack "Duke" Brodsky were selected for Court of Common Pleas and "Yes" selected in all question contests.</p>
1020	<p>Use the designated method to advance the "Ballot Review". Observe the "Ballot Review" to see if the above selections are indicated.</p> <p><i>Expected:</i> The precinct tabulation device advances to the "Ballot Review" screen. The vote selections can be verified.</p> <p><i>Actual:</i> The ballot review screen displayed the selection correctly.</p>
1030	<p>Use the designated method to retract to the first partisan "1 of 1" contest excluding the straight party contest.</p> <p><i>Expected:</i> The precinct tabulation device navigates to the first partisan "1 of 1" contest excluding the straight party contest.</p> <p><i>Actual:</i> Navigated to President of the United States.</p>

1040	<p>Deselect the first candidate selection and select the second candidate.</p> <p><i>Expected:</i> The precinct tabulation device indicates the de-selection of the first candidate and the select of the second candidate.</p> <p><i>Actual:</i> Calvin Marino and Keith Satterwhite were selected.</p>
1050	<p>Use the designated method to advance to the first “Question” contest. De-select the “Yes” option and select the “No” option.</p> <p><i>Expected:</i> The precinct tabulation device navigates to the first “Question” contest and provides an indication of the de-selection of the “Yes” option and a selection of the “No” option.</p> <p><i>Actual:</i> “No” was selected in the Statewide Referendum contest.</p>
1060	<p>Use the designated method to advance the “Ballot Review”. Observe the “Ballot Review” to see if the above selections are indicated. Use the designated method to cast the voted selections.</p> <p><i>Expected:</i> The precinct tabulation device advances to the “Ballot Review” screen. After review and ballot is cast successfully.</p> <p><i>Actual:</i> The selections were displayed correctly.</p>
1070	<p>Repeat steps 1000- 1060 from above using an ADA input device.</p> <p><i>Expected:</i> Repeat 1000 <input checked="" type="checkbox"/> Repeat 1010 <input checked="" type="checkbox"/> Repeat 1020 <input checked="" type="checkbox"/> Repeat 1030 <input checked="" type="checkbox"/> Repeat 1040 <input checked="" type="checkbox"/> Repeat 1050 <input checked="" type="checkbox"/> Repeat 1060 <input checked="" type="checkbox"/></p> <p><i>Actual:</i> All steps were repeated using an audio session.</p>
1080	<p>Close the polls and print the closed polls report tape.</p> <p><i>Expected:</i> The polls closed and a report is printed.</p> <p><i>Actual:</i> The polls were closed and the results report printed.</p>
1090	<p>Review the closed polls report to ensure all selections input above are recorded and reported correctly.</p> <p><i>Expected:</i> The closed polls report presents the accumulated totals for the selections input above.</p> <p><i>Actual:</i> All selections were accurately reported on the results report.</p>

Criteria for Evaluation of the Test Results: The intended selections input above are recorded, stored, and reported as input by the tester. The voter input can be changed by navigating through the ballot after a ballot has been reviewed.

Test Case Identifier: 16 – 25 P.S. § 3031.7(16) Public Counter, No Reopening of Polls, Media Security with Tamper Proof Locks and Zero Proof and Tally Reports.	
PA ST 25 P.S. § 3031.7 Requirements:	<p><i>(16) If the voting system is of a type which provides for the computation and tabulation of votes at the district level, the district component of the automatic tabulating equipment shall include the following mechanisms or capabilities:</i></p> <p><i>(i) A public counter, the register of which is visible from the outside of the automatic tabulating equipment component into which the ballots are entered, which shall show during any period of operation the total number of ballots entered for computation and tabulation.</i></p> <p><i>(ii) A lock, or locks, by the use of which all operation of the tabulation element of the automatic tabulating equipment is absolutely prevented immediately after the polls are closed or where the tabulation of votes is completed.</i></p> <p><i>(iii) It shall be so constructed and controlled that, during the progress of voting, it shall preclude every person from seeing or knowing the number of votes theretofore registered for any candidate or question; and it shall preclude every person from tampering with the tabulating element.</i></p> <p><i>(iv) If the number of choices recorded for any office or on any question exceeds the number for which the voter is entitled to vote, it shall reject all choices recorded on the ballot for that office or question, provided, that if used during the period of voting it may also have the capacity to indicate to a voter that he has improperly voted for more candidates for any office than he is entitled to vote for, and in such case it shall have the capacity to permit the voter to mark a new ballot or to forego his opportunity to make such correction.</i></p> <p><i>(v) It shall be equipped with an element which generates a printed record at the beginning of its operation which verifies that the tabulating elements for each candidate position and each question and the public counter are all set to zero and with an element which generates a printed record at the finish of its operation of the total number of voters whose ballots have been tabulated, the total number of votes cast for each candidate whose name appears on the ballot, and the total number of votes cast for, or against, any question appearing on the ballot.</i></p>
Test Objective: To determine if the voting device has a public counter, does not allow the reopening of the polls, and supplies a zero proof and tally report.	Test Configuration: Precinct tabulation device configured as described for normal election day operation by Pennsylvania procedures and/or the device manufacturer. This includes all security locks and seals.
Test Equipment:	None
Special Procedural Requirements:	None
Assumptions:	The election media is installed but the polls have not been opened.
Step	Description
1000	<p>Ensure media is loaded but the polls have not been opened. Use the designated method to open polls. If a response is needed to print “Zero Proof” report, select this option.</p> <p><i>Expected:</i> The precinct tabulation device opens the polls and prints a “Zero Proof” report.</p> <p><i>Actual:</i> Polls opened and zero proof report was printed.</p>
1010	<p>Activate a ballot for voting.</p> <p><i>Expected:</i> The ballot is presented and vote selections can be input.</p>

	<i>Actual:</i> The ballot was presented.
1020	<p>Use the designated method to navigate to the straight party contest. Select the first selection in the straight party contest.</p> <p><i>Expected:</i> The precinct tabulation device navigates to the first straight party contest, allows the input of the first selection, and indicates the first selection was input.</p> <p><i>Actual:</i> Republican was selected.</p>
1030	<p>Use the designated method to advance the “Ballot Review”. Observe all selections for the party associated with the selection for the first straight party selection are selected. Observe the public counter value being 0.</p> <p><i>Expected:</i> The precinct tabulation device navigates to the “Ballot Review” screen. The public counter is visible and the value is 0.</p> <p><i>Actual:</i> Selections for Republican candidates were displayed. The counters had to be observed before the ballot is presented.</p>
1040	<p>Use the designated method to cast the voted selections. Observe the acknowledgement of “successful” ballot cast if provided, and the public counter incrementing by one.</p> <p><i>Expected:</i> The precinct tabulation device successfully cast the ballot and the public counter is incremented. If the ballot was not cast successfully the test is halted.</p> <p><i>Actual:</i> The ballot was cast successfully. The incrementing of the counter had to be observed after the ballot was cast.</p>
1050	<p>Close the polls and print the closed polls report tape.</p> <p><i>Expected:</i> The polls closed and a report is printed.</p> <p><i>Actual:</i> The polls were closed and the results report printed.</p>
1060	<p>Use the designated method to attempt to reopen the polls.</p> <p><i>Expected:</i> The polls cannot be reopened.</p> <p><i>Actual:</i> The polls could not be reopened.</p>
1070	<p>Place lock on precinct tabulation device per Pennsylvania Procedures to ensure all operation of the tabulation element is prevented.</p> <p><i>Expected:</i> The precinct tabulation device can be secured so that all operation of the tabulation element is prevented.</p>

	<i>Actual:</i> The precinct tabulation device could be locked.
1070	<p>Review the closed polls report to ensure all selections input above are recorded and reported correctly.</p> <p><i>Expected:</i> The closed polls report presents the accumulated totals for the selections input above.</p> <p><i>Actual:</i> The polls were closed and the results report printed.</p>
Criteria for Evaluation of the Test Results: The intended selections input above are recorded, stored, and reported as input by the tester. The voting device is able to produce a “Zero Proof” and “Tally Report”. The voting device has a visible public counter and the counter increments correctly.	

Test Case Identifier: 04, 06, 08, 09, Permanent Physical Record, and Statistical Sample – 25 P.S. §§ 3031.7(4), (6), (8), (9); 3031.1; and 3031.17 System Integration	
PA ST 25 P.S. § 3031.7 Requirements:	<p><i>(4) Permits each voter, at other than primary elections, to vote a ticket selected from the nominees of any and all political parties, from the nominees of any and all political bodies, and from any persons whose names are not in nomination and do not appear upon the official ballot.</i></p> <p><i>(6) Permits each voter to vote for as many persons for any office as he is entitled to vote for and to vote for or against any question upon which he is entitled to vote and precludes each voter from voting or from having his vote tabulated for any candidate, or upon any question, for whom or upon which he is not entitled to vote.</i></p> <p><i>(8) Precludes each voter from voting or from having his vote tabulated more than once for any candidate for the same office or upon any question, except in districts and for offices where cumulative voting is authorized by law.</i></p> <p><i>(9) Permits each voter at a primary election to vote only for the candidates seeking nomination by a political party in which such voter is registered and enrolled, and for any candidate for nonpartisan nomination, and for any question upon which he is entitled to vote.</i></p>
PA ST 25 P.S. § 3031.1 Requirements:	<i>"ELECTRONIC VOTING SYSTEM" means a system in which one or more voting devices are used to permit the registering or recording of votes and in which such votes are computed and tabulated by automatic tabulating equipment. The system shall provide for a permanent physical record of each vote cast.</i>
PA ST 25 P.S. § 3031.17 Requirements:	<i>The county board of elections, as part of the computation and canvass of returns, shall conduct a statistical recount of a random sample of ballots after each election using manual, mechanical or electronic devices of a type different than those used for the specific election. The sample shall include at least two (2) per centum of the votes cast or two thousand (2,000) votes whichever is the lesser.</i>
Test Objective: This area of testing will focus on the system being able to perform a general and a closed primary from ballot design to reporting of results.	
Test Configuration: The system integration testing will execute a general and a primary election from ballot design through vote accumulation, consolidation and reporting. The election definitions will include all supported voting variations, languages, multiple ballot styles, and ADA voting. Two election definitions will be defined and executed according to a predefined voting pattern. All requirements tested in the targeted functionality testing will be monitored including accuracy throughout system integration testing.	
Test Method: The method for testing these requirements is defined as follows: Provide an election definition that contains multiple ballot styles based on geographical subdivision in both a general election and a closed primary and tests that each vote is counted only once. Two elections will be utilized to perform System Integration Testing: <ul style="list-style-type: none"> • PA Certification General Election • PA Certification Closed Primary Election This test will be performed by evaluating the system from the pre-voting state of loading the media and obtaining pre-voting reports through the post-voting state of accumulation of voted data and printing of post-election reports. All documented steps will be followed to perform this test.	

- Election definition and ballot layout coded prior to test
- Print pre-election report for ballot layout, precinct summary, and election summary
- Load election media
- Install election onto the precinct tabulation device
- Open polls and print zero proof report
- Vote pre-defined voting pattern
- Closed polls and print results tapes
- Print audit logs
- Perform a 10% sample according to PA procedures
- Harvest permanent physical record example
- Load election results into EMS
- Print precinct summary and election summary reports
- Collect and analyze all data

Criteria for Evaluation of the Test Results:

All intended selection input by the tester are recorded, stored and reported accurately.

Test Case Identifier: 12 – 25 P.S. § 3031.7(12) Penetration Analysis	
PA ST 25 P.S. § 3031.7 Requirements:	<i>(12) Provides acceptable ballot security procedures and impoundment of ballots to prevent tampering with or substitution of any ballots or ballot cards.</i>
Test Objective: This area of testing will focus on the current documented procedures and configuration to ensure that the physical and access secure measures provide a determined level of security. <i>Depending on the scope of this project this may be performed by a third-party expert.</i>	
Test Configuration: The voting system will be configured as would be for a polling place with all security precautions in place.	
Test Method: The method for testing these requirements is defined as follows: Test steps will be followed to evaluate the physical and access controls and procedures in place for the storage of voted ballots. This test will be performed by evaluating the system to ensure that all access areas and seals and/or locks provide adequate security from external access. The tester will: <ul style="list-style-type: none"> • check all seal and/or locks and attempt to open the system • verify that the ballot storage device is secure by attempting to insert and retrieve ballots without removing any seals and/or locks • verify that any needed supplies can be accessed by the poll worker without allowing access to the ballots or internal components of the voting system • verify that the system counter cannot be reset by any unauthorized person at any unauthorized point • exercise verification of password security management 	
Criteria for Evaluation of the Test Results: All intended access controls are in place and are sufficient.	
Comments: The manufacturer presented a software feature that allowed the device to be lock. This feature logs the locking and unlocking of voting in the audit logs.	

**Commonwealth of Pennsylvania
State Certification – Review**

List all reports provided by the manufacturer for review to meet the review requirements in the space provided below:

Document I – Election Systems & Software ES&S Unity 3.0 Voting System Hardware & Software ITA Qualification Report Changes from the ES&S Unity 2.5 Voting System ES&S Unity 3.0 Voting System Incorporating Election Data Manager, ES&S Image Manager, Data Acquisition Manager, Audit Manager, & Election Reporting Manager Real-time Audit Log Printer iVotronic M100 M650, Dated October 26, 2005

Document II – Election Systems & Software ES&S Unity 3.0.1.0 Voting System Hardware & Software ITA Qualification Report Incorporating Audit Manager, Election Data Manager, ES&S Ballot Image Manager, iVotronic Image Manager, Optech Image Manager, Hardware Programming Manager, Data Acquisition Manager, Election Reporting Manager, Real-Time Audit Log Printer, Compact Flash Multi-Card Reader/Writer, iVotronic, M100, and M650, Rev 3 Dated March 9, 2006

Document III – Electromagnetic Compatibility Verification Testing on the iVotronic Test Report No. 48489-12, Dated July 20, 2005

Document IV - EMC Qualification Test Report for Election Systems and Software Voting System, iVotronics Test Report No. 060130-1007, Dated March 6, 2006

25 P.S. § 3031.5. Examination and approval of electronic voting systems by the Secretary of the Commonwealth

(a) Any person or corporation owning, manufacturing or selling, or being interested in the manufacture or sale of, any electronic voting system, may request the Secretary of the Commonwealth to examine such system if the voting system has been examined and approved by a federally recognized independent testing authority and if it meets any voting system performance and test standards established by the Federal Government. The costs of the examination shall be paid by the person requesting the examination in an amount set by the Secretary of the Commonwealth. Any ten or more persons, being qualified registered electors of this Commonwealth, may, at any time, request the Secretary of the Commonwealth to reexamine any electronic voting system theretofore examined and approved by him. Before any reexamination, the person, persons, or corporation, requesting such reexamination, shall pay to the Treasurer of the Commonwealth a reexamination fee of four hundred fifty dollars (\$450). The Secretary of the Commonwealth may, at any time, in his discretion, reexamine any such system therefore examined and approved by him. The Secretary of the Commonwealth may issue directives or instructions for implementation of electronic voting procedures and for the operation of electronic voting systems.

ITA/ VSTL Reports

Report Title, Version and Date - Election Systems & Software ES&S Unity 3.0 Voting System Hardware & Software ITA Qualification Report Changes from the ES&S Unity 2.5 Voting System ES&S Unity 3.0 Voting System Incorporating Election Data Manager, ES&S Image Manager, Data Acquisition Manager, Audit Manager, & Election Reporting Manager Real-time Audit Log Printer iVotronic M100 M650, Dated October 26, 2005

Report Title, Version and Date – Election Systems & Software ES&S Unity 3.0.1.0 Voting System Hardware & Software ITA Qualification Report Incorporating Audit Manager, Election Data Manager, ES&S Ballot Image Manager, iVotronic Image Manager, Optech Image Manager, Hardware Programming Manager, Data Acquisition Manager, Election Reporting Manager, Real-Time Audit Log Printer, Compact Flash Multi-Card Reader/Writer, iVotronic, M100, and M650, Rev 3 Dated March 9, 2006

Report Title, Version and Date – Electromagnetic Compatibility Verification Testing on the iVotronic Test Report No. 48489-12, Dated July 20, 2005

25 P.S. § 3031.7 Requirement -

11) Is suitably designed for the purpose used, is constructed in a neat and workmanlike manner of durable material of good quality, is safely and efficiently useable in the conduct of elections and, with respect to the counting of ballots cast at each district, is suitably designed and equipped to be capable of absolute accuracy, which accuracy shall be demonstrated to the Secretary of the Commonwealth.

Review of Product Safety Test or other similar test

Report Title – Election Systems & Software ES&S Unity 3.0.1.0 Voting System Hardware & Software ITA Qualification Report Incorporating Audit Manager, Election Data Manager, ES&S Ballot Image Manager, iVotronic Image Manager, Optech Image Manager, Hardware Programming Manager, Data Acquisition Manager, Election Reporting Manager, Real-Time Audit Log Printer, Compact Flash Multi-Card Reader/Writer, iVotronic, M100, and M650, Rev 3 Dated March 9, 2006

Section - 7.3 Attachment C – Index of Attachments, Attachment H5 Summary Test Report Electrical Safety Testing to UL 60950-1 Standard of Safety for Information Technology Equipment Compact Flash Card Programmer, Dated December 16, 2005

Page(s) - 33, entire report

Paragraphs - Attachment H5 – Election-Systems...(Electrical Safety Testing), entire report

Review of Accuracy Test

Report Title – Not Available

Section – _____

Page(s) – _____

Paragraphs – _____

25 P.S. § 3031.7 Requirement -

(13) When properly operated, records correctly and computes and tabulates accurately every valid vote registered.

Review of Accuracy Test

Report Title – Not Available

Section – _____

Page(s) – _____

Paragraphs – _____

25 P.S. § 3031.7 Requirement -

(14) Is safely transportable.

Review of Hardware Environmental Tests

Report Title – Not Available

Section – _____

Page(s) – _____

Paragraphs – _____

25 P.S. § 3031.7 Requirement -

15) Is so constructed that a voter may readily learn the method of operating it.

Review of Usability Evaluation

Report Title – Not Available

Section – _____

Page(s) – _____

Paragraphs – _____