



**COMMONWEALTH OF PENNSYLVANIA**  
**TEST PROTOCOL**  
**FOR**  
**EXAMINATION OF THE**  
**ELECTION SYSTEMS & SOFTWARE (ES&S) EVS 5.0.0.0**

Prepared by: \_\_\_\_\_

A handwritten signature in black ink that reads "Jack Cobb". The signature is written over a horizontal line that extends to the right.

**Jack Cobb, Laboratory Director**

**September 10, 2013**

Pro V&V, Inc.  
700 Boulevard South, Suite 102  
Huntsville, AL 35803  
256-713-1111

**TABLE OF CONTENTS**

**1.0 INTRODUCTION.....1**

    1.1 References.....1

    1.2 Background .....1

**2.0 TEST PROCESS AND FINDINGS.....2**

**3.0 CONCLUSIONS/RECOMMENDATION.....3**

## 1.0 INTRODUCTION

An examination was performed confirm that the Election Systems and Software (ES&S) EVS 5.0.0.0 voting system met 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 examination 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 examination.

## 1.1 References

The documents listed below were used in the development of the 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.*
- Pro V&V Test Protocol for Examination of the Election Systems and Software (ES&S) EVS 5.0.0.0

## 1.2 Background

ES&S initiated the certification evaluation by a letter to the Pennsylvania Department of State on June 18, 2013. In this letter, ES&S requested certification of the EVS 5.0.0.0 as a new voting system to be certified for use in the Commonwealth of Pennsylvania. On May 16, 2013 the Election Assistance Commission (EAC) issued their Grant of Certification of the EVS 5.0.0.0, signifying successful completion of conformance testing to the 2005 *EAC Voluntary Voting System Guidelines (VVSG)*.

The EVS 5.0.0.0 voting system includes the following components:

- **ElectionWare**

ElectionWare is the Election Management System (EMS) software for defining contents, candidates and ballot formats and performing results post-processing.

- **DS200 Precinct Ballot Tabulator**

The DS200 is the precinct ballot tabulator component of the EVS 5.0.0.0 voting system.

- **ES&S AutoMARK**

The ES&S AutoMARK is a ballot marking system that supports audio, touchscreen and tactile keypad inputs for ballot marking.

- **DS850 Central Ballot Scanner**

The DS850 is the central ballot scanner component of the EVS 5.0.0.0 voting system.

- **Election Reporting Manager**

Election Reporting Manager (ERM) is the software used for results consolidation and report generation.

## **2.0 TEST PROCESS AND FINDINGS**

The examination of the previously identified voting system was performed by Mr. 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 Legislations. The examination commenced on August 26, 2013, at the Commonwealth Keystone Building, Training Room B, 400 North Street, Harrisburg, Pennsylvania.

The examination was conducted by evaluating EVS 5.0.0.0 to the published test protocol “Commonwealth of Pennsylvania Test Protocol for Examination of the Election Systems & Software (ES&S) EVS 5.0.0.0”. During the examination, the Examiner was able to successfully complete the test cases for the DS 200 and the DS850; however, an anomaly was discovered during the execution of the AutoMARK test cases. During execution of test case “03 – 25 P.S. § 3031.7(3) Straight Party and Pennsylvania Method” at step 1070 the Examiner noted a message stating the straight party selection would be removed once the selection of a candidate not in the second straight party selection was selected. When step 1080 was executed the selection of the second straight party was removed. The test was halted and an analysis was performed. This behavior was traced to a setting in ElectionWare to remove the straight party selection when the voter’s action is to vote for a different party other than the straight party selection. The Examiner determined that this functionality could be tested during the execution of the EMS test cases; therefore, the evaluation was continued.

During the execution of the EMS test cases, the setting to remove the straight party selection was deselected. The AuotMark was then loaded with the new election and a test was executed to observe the AutoMark’s behavior with this new setting. The straight party voting functionality was now changed to the “All States Method” and the “Pennsylvania Method” of straight party voting no longer functioned. The Examiner halted the evaluation and further researched the issue.

Upon further analysis, it was discovered that the setting in ElectionWare tied both the removal of the straight party selection on a crossover vote and the “Pennsylvania Method” of straight party voting together. The removal of the straight party selection will not allow for the “Pennsylvania Method” of straight party voting to be executed a second time. The Examiner informed the ES&S representative that in his opinion this functionality is a deficiency in meeting Article XI-A of the Pennsylvania Election Code, Section 25 P.S. §§ 3031.7 (3). On August 28, 2013, after consulting with their development staff, ES&S formally withdrew EVS 5.0.0.0 from consideration for “Certification for Use” in Pennsylvania.

### **3.0 CONCLUSIONS/RECOMMENDATION**

The EVS 5.0.0.0 presented for examination does not meet the requirements of Article XI-A of the Pennsylvania Election Code, Sections 1101-A to 1122-A, 25 P.S. §§ 3031.1 – 3031.22. ES&S will have to update this functionality to meet the requirements of Article XI-A of the Pennsylvania Election Code, Section 25 P.S. §§ 3031.7 (3). Since ES&S formally withdrew their request for consideration of certification for use in Pennsylvania, a full evaluation will have to be performed on the updated system.