The State of Texas

MEMORANDUM

TO: Keith Ingram, Director of Elections, Secretary of State's Office

FROM: Christina Worrell Adkins, Staff Attorney, Elections Division Legal Section

DATE: July 10, 2014

RE: Election System and Software Voting Systems Examination

On June 9-10, 2014, Election Systems & Software ("ES&S") presented for examination Unity 3.4.1.0 on currently certified voting system components as well as two new additional pieces of equipment. Their application for examination consisted of an upgraded version of the Unity 3.0.1.1 which was previously certified for use in Texas Elections on March 3, 2008, along with the DS200 Precinct Tabulator, and the DS850 Central Count Tabulator.

Pursuant to Texas Administrative Code §81.60, ES&S submitted their application for state certification, Forms 100 and 101, the Unity 3.4.1.0 Technical Data Package, authorization letters, and a copy of all firmware/software and source codes sent directly from NTS, a nationally accredited voting system test laboratory. Examiners were given a copy of the application and testing materials for review prior to the two-day in-person examination that occurred on June 9 and 10, 2014.

Examination

On Day 1 of the examination, the technical examiners, Stephen Berger, Tom Watson and James Sneeringer, were present to observe and verify the installation of the vendor's software. I was present for observation purposes, but did not participate in the installation portion of the exam. In addition to observing the installation of the software, the technical examiners also verified version numbers of the software and component parts.

After the installation was completed, I received assistance from Secretary of State Staff Attorney Yahitza Nunez with testing the AutoMARK Voter Assist Terminal ("AutoMARK") for compliance with state and federal accessibility guidelines. The AutoMARK was previously certified for use in Texas elections and is designed as a ballot marking device for optical scan ballots. The technical examiners that were present were also given the opportunity to observe and interact with the AutoMARK during the accessibility testing. After reviewing and testing the

AutoMARK's tactile, audio, and visual imput devices and approaches to marking and casting a ballot, we determined that the AutoMARK met the accessibility guidelines dictated by both federal and state law.

On Day 2 of the examination, all examiners were present. The vendor presented an overview of the changes that were made to the Unity System as well as an explanation of their new equipment. Examiners were then given the opportunity to test each piece of equipment with a pre-marked "test deck" of ballots to ensure that the equipment performed the tasks required under state law and accurately tabulated the ballots cast. The pre-marked test deck was marked and hand tallied by staff from the Secretary of State's office on ballots provided by the vendor. The vendor was not previously made aware of how the ballots would be marked. Voted ballots were tabulated through the M100 (precinct ballot counter), DS200 (precinct ballot counter), M650 (central tabulator), and DS850 (central tabulator). The tabulation reports from the M100, DS200, M650, and DS850 all matched the hand counted tally from the pre-marked test deck.

Over the course of the two-day in-person examination, and in the review of the materials that were contained in the vendor's application, there was no evidence that the Unity System 3.4.1.0 along with the DS200 and DS800 failed to comply with the Voting System Standards outlined in Sections 122.001, 122.032, 122.033, and 122.0331 of the Texas Election Code or the rules outlined in Chapter 81, Subchapter C of the Texas Administrative Code. However, there were several issues that warrant additional consideration.

ISSUES

1. **Continuous feed printer for real time audit logs with M100 and DS200.**

Under §81.62 of the Texas Administrative Code, any central accumulator that is certified for use in Texas must have a continuous feed printer dedicated to a real-time audit log. Additionally, the Texas Administrative Code further dictates under §81.52(h), that a precinct ballot counter that is to be used during early voting by personal appearance, must have a continuous feed audit log printer attached to it throughout the early voting period.

During the examination, ES&S indicated that they were not aware of the requirement for a precinct ballot counter to contain a continuous feed audit log printer when used during early voting or as a central tabulator. ES&S indicated that neither piece of equipment has the ability in its current condition, to meet this requirement. Therefore, neither the M100 nor the DS200 were tested for use in an early voting scenario or for use as central tabulators.

2. **Merger of Unity 3.4.1.0 with Unity 3.0.1.1**

During the vendor presentation, ES&S indicated that they envisioned entities that currently use Unity 3.0.1.1. would be able to upgrade part of their system components and would then be using Unity 3.0.1.1 in conjunction with Unity 3.4.1.0. However, ES&S did not bring any components with Unity 3.0.1.1 to demonstrate how the merger of the two systems would take place. They verbally indicated that programming and tabulation for each system would occur separately, and then one would be subsequently imported to the other system to allow for a complete tabulation report. In a subsequent discussion with the examiners and the vendor, the examiners identified

the potential for security and technical problems that could not be evaluated without a demonstration of this merged system.

CONCLUSIONS

Overall, Unity 3.4.1.0, the DS200, and the DS800 met the requirements prescribed by the Texas Election Code, and the Texas Administrative Code that pertain to voting system certification. Therefore, I recommend certification of the aforementioned system with the following conditions.

1. The M100 and the DS200 should be approved for use as precinct ballot counters on election day **only**. As the M100 and DS200 do not have the capability to support a continuous feed audit log printer at this time, it should be clear in the certification that they are not certified for use during the early voting period or for use as a central tabulator. Any subsequent change or modification to the equipment that would allow for this type of use would require additional review by the Secretary of State.

2. Unity 3.4.1.0 should be approved for use as a stand-alone system. As the vendor was unable to demonstrate the merger capabilities of Unity 3.4.1.0 with Unity 3.0.1.1, the two systems should not be used in conjunction with each other. In order for both systems to be certified for use together, there would need to be an additional review of this merger process by the Secretary of State.