The State of Texas

David Whitley
Secretary of State

MEMORANDUM

TO: Keith Ingram, Director of Elections, Texas Secretary of State

FROM: Chuck Pinney, Staff Attorney, Elections Division, Texas Secretary of State

DATE: February 16, 2019

RE: Dominion Voting Systems – Democracy Suite 5.5 Voting System Examination

In accordance with my appointment by the Texas Secretary of State as a voting system examiner under Tex. Elec. Code §122.067, I present my report on the voting system examination which took place on January 16-17, 2019, in the offices of the Texas Secretary of State at the James E. Rudder Building, 1019 Brazos, Austin, Texas 78701.

On January 16-17, 2019, the examiners appointed by the Texas Secretary of State and the Texas Attorney General examined Democracy Suite 5.5, a voting system that was presented by Dominion Voting Systems, Inc. for certification in Texas. According to the revised Form 100 that was provided to the office of the Texas Secretary of State during the examination, the equipment, software, and components that were considered for certification are the following:

Component	Version	Previous Texas Certification Date
EMS – Election Management System	5.5.12.1	None
ADJ – Adjudication	5.5.8.1	None
ICC – ImageCast Central	5.5.3.0002	None
ICX – ImageCast X BMD (Ballot Marking Device)	5.5.10.25	None
ICX – ImageCast X DRE w/ VVPAT (Direct Recording Electronic w/ Voter Verified Paper Audit Trail)	5.5.10.25	None
ICP – ImageCast Precinct	5.5.3.0002	None
ICX – ImageCast X BMD Classic 15"	5.5.10.25	None
ICX – ImageCast X BMD Classic 21"	5.5.10.25	None

For the reasons outlined below, I am unable to recommend that this system be certified by the Texas Secretary of State under Tex. Elec. Code §§122.031 and 122.039.

Background

Dominion Voting Systems previously sought certification in Texas for the Assure 1.3 Voting System in August of 2012. That certification was denied in March 2013.

The present voting system, Democracy Suite 5.5, was certified by the U.S. Election Assistance Commission ("EAC") on September 14, 2018.

Summary of the Examination

The bulk of the examination of Democracy Suite 5.5 took place on January 16-17, 2019. However, throughout the course of the examination, several complications occurred which made it challenging to properly assess the voting system provided by the vendor and which caused delays in the examination process.

First, although the agenda provided to the vendor indicated that the majority of the first day of the examination would involve the installation of the software and firmware for the equipment from a trusted build of the software provided by the EAC, the vendor arrived with all firmware and software already installed on all of the equipment. The vendor was instructed to remove all software before the examination could begin, so that the examiners could verify that the version of the software being examined was the same version that had been previously certified by the EAC.

Second, at the time of the examination, Dominion was unable to prepare the ImageCast X BMD Classic devices for the accessibility testing phase. As a result, the accessibility testing did not take place until the following week on January 23, 2019.

Third, the vendor had to revise portions of their documentation and provide current versions of their EAC reports on multiple occasions throughout the exam. The current version of the Form 100 was revised multiple times during the course of the examination to include all equipment that the vendor sought certification for and to correct mistakes on the reported version numbers for multiple pieces of equipment.

Other errors occurred throughout the set-up and installation process. While none of those errors individually would be a basis for a recommendation to deny certification, as a whole the frequency of those errors raises substantial questions about the quality of the system and whether a county with low technical knowledge would be able to effectively implement this equipment without experiencing numerous and substantial errors that may impact the efficiency of the election process.

Analysis

The standards for a voting system in Texas are outlined in Texas Election Code Chapter 122. Specifically, the system may only be certified for use in Texas if it satisfies each of an enumerated list of requirements contained in Texas Election Code §122.001. Because the system does not satisfy each of those requirements, I would recommend against certification of this system.

Several issues occurred during the exam that support this conclusion, including:

- The ICP precinct scanner / ballot box system presents some issues relating to ballot secrecy. First, when a paper jam occurs while scanning a ballot, the only way to clear that paper jam is to break the seals, detach the ICP scanner, and physically remove the ballot. During this process, a poll worker would be able to see the voter's choices. Second, the emergency ballot slot on the ballot box is a punch-out slot that cannot be resealed once it is open. This may result in unauthorized access to those ballots and would require a new ballot box each time the emergency slot is used.

- The ICX Prime DRE with VVPAT presented an issue which indicates that it is not suitable for the purpose for which it is intended. During the examination one of the examiners was able to disconnect the "pigtail" connector which linked the VVPAT printer to the DRE device. When the VVPAT device was reconnected, the DRE device presented an error message then shut itself down. The fact that an individual could easily disconnect a component of the system and disable the ballot casting device indicates that the device is not suitable for its intended purpose.

- The ICX Prime BMD also presented an issue which indicates that it is not suitable for the purpose for which it is intended. During a voting session during the accessibility testing, the printer tray somehow became dislodged without the examiner noticing. The examiner was not alerted to the issue until the end of the voting session when the ballot was cast and attempted to print. The device presented an error message that had to be cleared by the poll worker. Once that error message was cleared and the printer tray was fixed, the device returned to the start screen and all the voter's choices were lost without printing a ballot reflecting those choices.

- The UI for casting a ballot may not be fully compliant with the straight-party voting requirement. The system allows a straight-party vote to be cast, but when a voter makes a "cross-over" selection for a candidate of a different party than their straight-party selection, the straight-party selection is unselected. The candidates who had already been selected by the straight-party vote remained selected, but the straight-party vote itself had been unselected. This may cause confusion for voters who attempt to vote straight-party using this system.

- The Adjudication and EMS software components encountered several issues during the set-up and configuration process which demonstrate that they may not be suitable for the purpose for which they are intended. During the setup process, the adjudication software had to be restarted multiple times due to configuration issues with other EMS software components.

The vendor appeared to have some difficulty addressing these errors, which raises questions about whether political subdivisions with low technical expertise would be able to use the software without relying heavily on support from the vendor.

- The system does not provide an adequate solution for the non-sequential ballot numbering requirement. The system itself does not provide a means for those serial numbers to be printed during the voting process. A political subdivision could still comply with this requirement if this system were adopted, but they would have to hand-write or pre-print those serial numbers on the ballot paper and then manually arrange them in a non-sequential manner.

- The ICP precinct scanner system has a number of suitability issues. First, the scanner has a very low resolution, meaning that the scanned ballot images were very difficult to read during the adjudication process. While the scanner could count the normally tabulated votes, this presented problems when trying to identify write-in candidates, since the names were nearly illegible with a normal pen. The names were more legible when a thick Sharpie was used to write the name, but it was still a challenge to identify the write-in name. Second, the scanner was very slow in scanning ballots. While this is not a significant flaw on its own, that slow scanning speed could create additional delays at the polling place.

- The ICX ballot casting devices also presented problems during the accessibility testing portion of the exam which demonstrate that it may not be suitable as an accessible voting system. While the system provides audio instructions during an accessibility session, there are no written instructions on the screen when using the paddles or the sip-and-puff device. An individual with a hearing disability who also requires the accommodation of one of those devices would have no guidance in navigating the system.

    The paddles also function in a manner that is inconsistent with the labels on the paddles themselves. One button on the paddles is labelled "select", while the other is labelled "scroll". However, the "select" button is used to scroll through the choices, and the "scroll" button is used to select choices. This could cause significant confusion for voters using that accessibility device.

These are the more significant issues that indicate that the system does not comply with the requirements of Texas law. Other examiners have also highlighted additional technical and design issues which may present problems for voters and political subdivisions if this system were to be adopted for use in Texas elections.

The system has many positive features that would be helpful to political subdivisions if the system were certified. The use of commercial off-the-shelf products may result in lower costs for political subdivisions who adopt them. The system also provides flexibility for political subdivisions in setting up their elections, and the ballot casting devices are generally very user-friendly and easy to navigate. If the vendor were able to resolve the issues highlighted by the examiners, then future versions of this system may be suitable for use in Texas elections. However, I would recommend denying certification for the current version of Democracy Suite.

Conclusion and Recommendation

Democracy Suite 5.5 fails to meet the necessary standards for certification under Texas Election Code §122.001. Therefore, I would recommend denying certification for the current version of Democracy Suite. Future versions of that system may be certifiable if the issues encountered by the examiners can be resolved to bring the system in compliance with Texas law.