

The State of Texas



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Jane Nelson
Secretary of State

MEMORANDUM

TO: Christina Adkins, Director of Elections, Texas Secretary of State

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

DATE: July 21, 2023

RE: Hart Intercivic – Verity 2.7 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 March 1-2, 2023, in the offices of the Texas Secretary of State at the James E. Rudder Building, 1019 Brazos, Austin, Texas 78701. An additional examination of the Verity Transmit system was also conducted at the Hart Intercivic offices on July 6, 2023.

On March 1-2, 2023, the examiners appointed by the Texas Secretary of State and the Texas Attorney General examined Verity 2.7, a voting system that was presented by Hart Intercivic (“Hart”) for certification in Texas. A follow-up examination of the system was conducted on July 6, 2023. The following hardware and software components were examined at the Office of the Secretary of State:

Component	Version	Previous Texas Certification Date
Verity Data	2.7.1	04/01/2021
Verity Build	2.7.1	04/01/2021
Verity Count	2.7.1	04/01/2021
Verity Central	2.7.1	04/01/2021
Verity User Management	2.7.1	04/01/2021
Verity Election Management	2.7.1	04/01/2021
Verity Desktop	2.7.1	04/01/2021
Verity Scan	2.7.1	04/01/2021
Verity Touch Writer with Access	2.7.1	04/01/2021
Verity Controller	2.7.1	04/01/2021

Verity Touch Writer Duo	2.7.1	04/01/2021
Verity Touch Writer Duo Standalone	2.7.1	04/01/2021
Verity Transmit	2.7.1	None
Verity Transmit Receiving Station	2.7.4 ¹	None

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

Background

Hart previously received certification in Texas for the HVS voting system and previous versions of Verity. The most recent version of their software, Verity 2.5, was presented by Hart in January 2021, and was certified on April 1, 2021.

The voting system that was the subject of this examination, Verity 2.7, was certified by the U.S. Election Assistance Commission (“EAC”) on June 7, 2022.

Summary of the Examination

The examination of Verity 2.7 took place on March 1-2, 2023. A follow-up examination of the Verity Transmit system was conducted on July 6, 2023.

On March 1, 2023, the exam began with the installation of the software and firmware for Verity 2.7 off of the trusted build provided to our office from the testing lab. After completing the installation, we performed a hash validation on each piece of equipment using the procedures provided by the vendor. The examiners, assisted by staff of the Secretary of State’s Office, compared the generated hashes from each device to the trusted hashes provided to our office by the EAC. That hash validation was successful.

The examiners, assisted by staff of the Secretary of State’s Office, also conducted accessibility testing on each of the voting devices included with the system, and verified that those devices are in compliance with the accessibility requirements of Texas law.

On March 2, 2023, the vendor conducted their presentation of the system and the updates involved in the current version of Verity.

After the vendor presentation, the in-person examiners tested the equipment by voting a series of test ballots and comparing the results of those test ballots. The test election was successful and did not identify any issues. The examiners also asked questions of the vendor regarding various components of the system and the nature of the updates included in this version of the system.

¹ The examination of the Verity Transmit system also included the review of ECO 1605, which was a minor modification to the Verity Transmit system. That modification also updated the version number of the Verity Transmit Receiving Station component from 2.7.1 to 2.7.4.

An additional follow-up examination was held on July 6, 2023 to allow the examiners to inspect the Verity Transmit system, which is a component of the system that allows for the secure transmission of unofficial results on election night. That system is addressed in more detail in my analysis below. That follow-up examination was focused on testing the Transmit system to determine whether that system would allow for the secure transmission of unofficial results under the procedures prescribed by the Secretary of State's Office under Election Code 127.1231(b).

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 satisfies each of those requirements, I would recommend that this system be certified, subject to the conditions outlined below.

The Verity 2.7 system is an accurate and efficient voting system that generally performs well. The examiners raised some concerns and made some general observations about the system, which are addressed in more detail below. Those concerns do not impact the reliability, accuracy, or security of the system if proper procedures are followed, and therefore I would recommend certification of the system, subject to the conditions outlined in my conclusion below. I would recommend that the vendor make adjustments to future versions of their system based on the feedback of the examiners.

Early Voting Tapes Procedures

In the course of the examination, the examiners tested the system's procedures for generating early voting results tapes in a manner that would comply with current requirements of the Texas Election Code and Texas Administrative Code Rule 81.36. Early voting results tapes are an important mechanism to help verify the accuracy of the final tabulation, but current law outlines specific timeframes for when those tapes may be printed.

Texas Administrative Code Rule 81.36 outlines the procedures for counties with a population over 100,000 to begin counting their early voting ballots after early voting has concluded and before the polls open on election day, in accordance with Election Code 87.0241. Under the current version of Rule 81.36(i), no printed record of the vote count may be generated before the time that the polls open on election day. This would prohibit a jurisdiction from printing early voting results tapes before the time that the polls open on election day, though they are authorized to begin counting after the end of the early voting period.

The Verity 2.7 system allows for jurisdictions to generate early voting tapes after the polls open on election day while still allowing for the results to be tabulated at the end of the early voting period. To do so, a jurisdiction would need to enable early voting results tapes to be printed when they are first setting up their election. When the setting is enabled, the early voting results tapes are printed automatically from the Verity Scan units when the polls are closed.

At the end of the early voting period, the jurisdiction would suspend the polls on the Verity Scan devices, remove the media and read it into their Verity Count system. Once the polls open on election day, the jurisdiction can close the polls on those Verity Scan units, which will automatically result in the tapes being printed. This procedure would allow a jurisdiction to generate early voting results tapes while maintaining compliance with the requirements of Texas Administrative Code Rule 81.36(i).

I would recommend that the vendor make some adjustments to this process in future versions of the Verity system to allow for early voting tapes to be printed by a jurisdiction at the appropriate time without needing to configure that setting during the initial programming of the election, and without needing to suspend polls (rather than close polls) at the end of the early voting period in order to do so.

Accessibility Features

In the course of the examination of the accessibility features, a few issues were identified with the manner in which those features are implemented in the system.

- The Verity Duo and Duo Standalone devices did not provide audio instructions informing the voter that the printed ballot should be deposited in the scanner or ballot box. Those devices do provide visual instructions on the screen, but there should be equivalent audio instructions to provide similar guidance for voters with visual impairments that use those devices. The correct audio instructional messaging was demonstrated on the Verity Touch Writer device.
- On the summary screen for the voting devices, the system provides an audio summary for those voters with visual impairments. When reviewing the candidates, the system states the contest title when the contest title is selected and the candidate's name when the candidate is selected. The system should identify the contest title along with the candidate's name on either of those selections so that those voters have a clear indication of which contest each candidate corresponds to.
- The system did not provide clear instructions on adjusting the volume when using the voting devices with audio features enabled.

I would recommend that the vendor carefully review their accessibility features, with a particular focus on accurate instructional messaging. When voters with visual impairments use those devices, the vendor's audio instructions are essential to convey the necessary procedures to those voters. The vendor should ensure that those instructions provide adequate guidance to those voters through the entire process of using each device and casting their ballot.

Because the system is ultimately capable of allowing a voter with disabilities to independently vote a secret ballot, I would still recommend certification of this system. However, I would expect to see adjustments to these accessibility features based on these recommendations and any recommendations from the other examiners when reviewing future versions of the Verity system.

Verity Transmit

The Verity Transmit system is a component of the Verity system that allows for the secure transmission of unofficial results on election night. This process allows these jurisdictions to timely provide unofficial results to the public while maintaining the integrity and security of the official results. Jurisdictions using this module are required to follow procedures prescribed by the Secretary of State's Office under Election Code 127.1231(b).

The Verity Transmit system has been used by Texas jurisdictions with prior versions of Verity. In the past, that system was reviewed by the Secretary of State's Office in order to verify that the system complied with existing procedures prescribed by the Secretary of State's Office under Election Code 127.1231(b). Due to increased interest in the system and the importance of ensuring that unofficial results are reported in a secure and accurate manner, the Secretary of State's Office determined that these systems used to transmit unofficial results needed to be reviewed formally through the certification process and examined by the independent examiners.

To use this system in accordance with those procedures, a jurisdiction would need to create two vDrives from their tabulation equipment. This would consist of an official results vDrive, which is physically delivered to the central counting station to gather the official results of the election and which never connects to any network-connected device, and an unofficial results vDrive, which is solely used for the unofficial transmission process and can never connect to any device in the voting system after it is used with any network-connected Verity Transmit devices.

It is important that these vDrives and other devices used with the system are clearly labeled and the jurisdiction implements strict physical separation of their Verity Transmit equipment from the equipment that is used to generate the official results. Those jurisdictions must follow the best practices guidelines that are provided by the vendor and the procedures established by the Secretary of State's Office under Election Code 127.1231(b). This would include the existing procedures outlined in Section 7.5 of the Electronic Voting System Procedures Advisory (Advisory No. 2019-23) and any future procedures prescribed by the Secretary of State's Office in accordance with Election Code 127.1231(b).

Because the Verity Transmit system complies with the standards outlined in Election Code 127.1231(b) and with the procedural requirements outlined in Advisory 2019-23, I would recommend certification of this system with the condition that the use of that system must be consistent with the procedures prescribed by the Secretary of State's Office in order for the system to be considered to be within the scope of certification.

ECO 1605

ECO 1605 is a minor modification to the Verity Transmit system that is designed to allow for the automatic writing of transmitted information to a vDrive after the transmitted file was received by the Verity Transmit Receiving Station. The jurisdiction may either use this feature or may

manually write those records to a vDrive after they are received. This modification was examined as part of the follow-up examination of the Verity Transmit system on July 6, 2023.

Because those changes are de minimis and do not adversely impact the performance of the system, I would recommend approval of ECO 1605 as part of the certification for the Verity 2.7 system.

Conclusion and Recommendation

Verity 2.7 meets the necessary standards for certification under Texas Election Code §122.001 and complies with all other legal requirements under the Texas Election Code. Therefore, I would recommend certification of the current version of Verity with the following condition:

- That the Verity Transmit system must be used in accordance with the procedures prescribed by the Secretary of State's Office under Election Code 127.1231(b) in order for the module to be considered within the scope of the certification of this system.