



July 31, 2023

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New York State Board of Elections
40 North Pearl Street, Suite 5
Albany, NY 12207-2729

Re: Opposition to certification of ES&S ExpressVote XL.

Dear Commissioners,

As organizations and individuals dedicated to preserving and expanding voting rights and access, promoting secure trustworthy election systems, and advocating for policies that enhance public confidence in election results, we are writing to you to express our opposition to the application for certification under consideration by the State Board of Elections (SBE) for the ExpressVote XL voting machine, produced by Election Systems & Software (ES&S). We provide details of our reasons for opposition below.

The ExpressVote XL does not meet New York State Security Requirements.

The ExpressVote XL was tested for compliance with the Voluntary Voting System Guidelines (VVSG) 1.0 and for compliance with New York State laws and regulations. SLI Compliance performed the initial testing for ES&S, and NYSTEC was engaged to review the tests and results submitted from SLI Compliance. Cyber Castellum was engaged to perform a security and quality assurance review of SLI's examination of the ExpressVote XL source code. The review identified 430 potential vulnerabilities that could be exploited. SLI has classified the "Exploit Potential" of these 430 potential vulnerabilities to require "Extensive knowledge of the system or a Vendor Insider."

Though SLI considered the source code violations as “not exploitable,” NYSTEC appropriately pointed out that SLI defines “Not Exploitable” only if:

“...sufficient counter measures exist to prevent exploitation from causing interruption or failure of the system.”

In other words, SLI essentially stated that the exploitable cyber vulnerabilities could be disregarded because they would 1) require extensive knowledge of the system, 2) require insider access, or 3) because external procedures would prevent an attack. Unfortunately, we can no longer assume that insider threats are not an issue and that external procedures would prevent an attack.

According to the Department of Homeland Security’s Cybersecurity and Infrastructure Security Agency, insider threats pose serious threats to security infrastructure. In the election sphere, there are [recent instances](#) where insiders provided unauthorized and unlawful access to voting equipment.

In light of the software security deficiencies, NYSTEC rightly makes this recommendation:

“NYSTEC agrees with Cyber Castellum’s conclusion, that even though SLI believes the potential vulnerabilities are mitigated via external controls, ES&S should review the findings and update the code as warranted.”

We strenuously agree with NYSTEC’s recommendation, and urge the Board to vote against certification until ES&S can amend its source code to meet New York State requirements.

The ExpressVote XL does not meet New York State law to provide a voter-verified paper ballot.

The ExpressVote XL is a one of a category of computerized voting machines that present voters with the contents of their ballot on an electronic touchscreen. Voters select their choices on the screen, and the computer converts the vote selections into data that is then printed on a paper summary card in two forms: a barcode that cannot be read by the human eye; and human-readable text. The paper summary card is scanned by a tabulator, and the vote selections are decoded from the barcode and tallied.

In this design, the human readable text is printed on the paper summary card to ostensibly provide voters with an opportunity to verify that their votes were recorded correctly. However, on election night, votes are counted from the

barcode, which the voter cannot verify. The human-readable text is not considered for the primary vote-counting and will only be counted in special circumstances, such as if a hand-recount is ordered by a court.

The federal Help America Vote Act (HAVA) of 2002 includes a provision in Sec 301 (a)(6) which requires that in all voting systems used in federal elections, each state must establish what constitutes the record of the vote for that system.

Section 301 (a)(6) UNIFORM DEFINITION OF WHAT CONSTITUTES A VOTE.—

Each State shall adopt uniform and nondiscriminatory standards that define what constitutes a vote and what will be counted as a vote for each category of voting system used in the State.

This means that before the SBE can certify the ExpressVote XL, it must establish by regulation what constitutes the vote that is recorded and counted for the ExpressVote XL – either the barcode or the human-readable text.

It would be highly inappropriate to change existing regulations approved by the SBE only for the purpose of certifying a voting machine that otherwise would not comply. Furthermore, in this case, such a regulation would not comply with the election law.

The ExpressVote XL's use of a barcode to record and count votes presents insoluble complications with respect to New York State law which requires that voters be provided the opportunity to verify how their votes have been recorded.

As part of the Election Reform and Modernization Act of 2005 (ERMA 2005), New York State Election Law § 7-202 (1) (e) requires that a voting system:

*"provide the voter an opportunity to privately and independently **verify votes selected** and the ability to privately and independently change such votes or correct any error before the ballot is cast and counted."* [Emphasis added.]

It is difficult to see how the SBE could define the "vote" recorded by the ExpressVote XL as anything other than the data recorded in the barcode, for this is principally what is counted and used to determine the legal winners of each election contest. It would be legally untenable for the SBE to define the human-readable text – which is only occasionally reviewed and rarely used to determine the winner of an election – to be the "vote."

However, if, when conforming to the requirements of HAVA, the SBE determines that the barcode is the “vote,” this presents a clear conflict with New York State law, as voters will not be able to verify votes recorded in the barcode.

New York State law requires that voters be able to verify the way their votes are recorded. The barcode, which is used to record and count all votes cast on the ExpressVote XL, is not verifiable by the voter, and therefore contravenes New York State law.

We respectfully submit that SBE must disqualify the ExpressVote XL from certification for failure to meet New York State’s election statute that requires voters have the opportunity to verify their votes.

In sum, the ExpressVote XL fails to meet New York State source code security requirements and should not be certified on the basis of non-compliance. Further, the ExpressVote XL records and counts votes from an unreadable barcode, contrary to New York State law that requires voters have the opportunity to verify the record of their votes.

We urge you in the strongest possible terms to vote NO on certification of the ExpressVote XL.

Please don’t hesitate to reach out if you have any questions or if we can be of any assistance.

Thank you very much for your time and consideration.

Very Respectfully,

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