Testimony Against SB0313

Honorable Delegates

Please enter an unfavorable report against SB0313.

I am against:

- Requiring the State Board of Elections, in collaboration with the local boards of elections, to conduct a risk-limiting audit after each statewide election;
- authorizing the State Board, in collaboration with the local boards, to conduct a risk-limiting audit after a special general election;
- authorizing, rather than requiring, the State Board, in collaboration with the local boards, to conduct an automated software audit after a statewide election.

Like last year, please enter an unfavorable report. Unlike last year, this bill is not proposing a pilot study before implementation.

I have done federal audits for 40 years based on statistical sampling, and I find the material in the new section (B), subsection (1) beginning on page 4, line 10, to be extremely hard to understand. The bill puts a lot of faith in the State Board of Elections to design a complicated sampling process so reliable that its results could be substituted for the election results being tested.

Sampling results involve sampling error and confidence ranges. Usually, one would state something to the effect that we are 95 percent confident that at least x more people voted for candidate A than the results shown by the electronic software (the lower bound of the confidence interval). We could also state we are 90 percent confident that the estimated number of votes received for candidate A are between x and y, with a sample mean of n votes. If the lower bound of the interval (x) is materially larger/smaller than the actual votes cast, then we have some basis to cast doubt on the software election results. The required materiality and confidence levels desired would impact the sample size needed.

Essentially, we are testing whether the error rate in the sample is below the error rate that would require a 100 percent manual count (Risk Limit). This bill does not describe how sampling error will affect the analysis. One cannot just compare the sample error rate (mean) to the risk limit error rate and decide if the sample error rate is below the risk limit, then the election results are good.

To account for sampling error, the upper bound of the sampling results at whatever confidence value selected must be less than the risk limit. For example if the risk limit is 2 percent and if the sample has an error rate of 1.5 percent plus or minus 0.4 percent calculated with a 95 percent confidence level, then we can calculate that we are 97.5 percent confident that the actual error rate is between 0 percent and 1.90 percent and lower than the risk limit of 2 percent.

However if the sample has an error rate of 1.5 percent plus or minus 0.75 percent then we can conclude that we are 97.5 percent confident that the actual error rate is between 0 and 2.25 percent. Now we cannot make a conclusion. All that we know is that the actual rate is between 0 and 2.25 percent, but we do not know whether it is less than or greater than 2 percent.

Testimony Against SB0313

Without a discussion as to how the precision and confidence levels will be used, we do not know whether these types of samples will result in valid conclusions.

It would seem to me, that if the sample shows a big enough error to change the election results, that one would want a 100 percent recount of the ballots and moreover, it could cast doubt on all the results not tested that used the election software.

I am in favor of doing the audits to test the election results, but I believe there is a high risk of false positives if not done correctly or if the sample sizes are too small. . If the sample has no errors, it is not valid to conclude the actual error rate in the population is zero (a common fallacy)

Please vote against HB0313.

Alan Lang
45 Marys Mount Road
Harwood, MD 20776
Legislative District 30B
410-336-9745
Alanlang1@verizon.net
February 26, 2025