WHY HAVE L&A TESTING?

8 NCAC 4.0307… “The CBE shall test or cause to be tested each voting system or unit that will be used in the election to ensure that the system is operating properly and has been programmed to count votes accurately.”
NEED FOR UNIFORMITY IN L&A TESTING

Consistency: Like equipment should be tested in the same manner

Accuracy: Pre-determined, planned testing verifies accuracy of equipment

Confidence: Equipment is ready to do the job
• **Every component** including the media, tabulator, and ballot marking device to be used for the election MUST be tested to verify functionality. This includes spare units and components.

• **Every candidate and/or question** for all ballot styles must be tested.

• Use the L&A check logs (or equivalent) to document testing.

• Upon completion of testing, testing media must be processed through the **Election Management Software** and then uploaded to the **ELECTION REPORTING (SEIMS)** site for the Mock Election Event.

• After reporting the test results, prepare all components for delivery to the voting sites. Retain testing documents per the NC Records Retention Schedule.
L&A CHECK LOG EXAMPLES

Logic and Accuracy Testing: DS 200

- Confirm all ballot bins, including emergency ballot bins, are free of ballots, flip the flag.
- Confirm power cord is connected.
- Open Tabulator Screen to initiate boot-up process.
- Unlock the key access panel and install the USB election media for poll.
- Check printed initial state report; verify election and precinct. Verify date and time (adjust if off).
- Open Polls; press open polls. Zero tape will print. Confirm all zeros. Leave tape connected to machine.
- Run the test deck. Include all ballot styles for the precinct. Check tape for list of ballot styles.
- Text ballots in all orientations - face up, face down, etc.
- Verify Overvoted ballots are returned for query.
- Verify Blank ballots accepted with no query. Confirm two ballots will not be accepted at same time.
- Verify swing ballot style for precinct are not accepted.
- Inside key access panel press close poll button. Press close poll on screen. Results tape will print.
- Verify tape results match test script.
- Detach total tape, Fold and attach to this checklist.
- Press Finish/Turn Off. Wait for power light to turn off. Remove thumb drive and upload in Unity/ElectionWave for results. Save Import file per Most Election Instructions.
- After successful upload remove thumb drive.
- Inspect remaining tape roll and install new tape roll if needed.
- Screen should display Open Polls button and Shutdown button. Select Shutdown. Leave in USB media.
- Tabulator will power down. Screen will be black.
- Confirm all ballots have been removed from all ballot bins and lock all doors.
- Install security seal over key access door.
- Proceed as instructed by CBE policy.

Logic and Accuracy Testing: ExpressVote

- Connect expressvote to AC power.
- Unlock the key security compartment. Install the keypad. Confirm there are no Memory disks in the unit's ports.
- Pull the serial number and place on the expressvote, both switches are located in the side security compartment.
- Form the expression machine when Battery Status is not fully charged continue matching unlock power and confirm unit is fully charged before being deployed. Touch test.
- From the Demonstration select screen calibration.
- Read the screen instructions to calibrate the touch screen and then select Start.
- Carefully press and hold stylus on the center of the target until the target moves. Continue at the target moves around the arrow. Select Exit.
- When the ExpressVote Main Menu displays; insert Election Qualification Code Memory stick into one of the USB ports in the side compartment.
- On the Color display and installed code enter the Qualification Code provided in the SEI and Touch Accept.
- If the information is correct on the display and available screen, touch Clear and initiate.
- When cleaning and initializing is complete, remove the Election Qualification Code Memory Stick.
- Insert Election Definitive memory stick into a USB port in the side security compartment. When prompted enter the Election Code provided by SEI and Touch Accept.
- When uploading the election data displayed on the Ready for Voting screen is correct and Touch OK.
- Press the ExpressVote Main Menu, select System Administration.
- Enter the current security code provided by SEI and Touch Accept.
- Press the Date/Time/Backup. Confirm date and time are correct. Correct if necessary. Make sure Adjust for Daylight Savings Time box is checked. Press apply changes if necessary. Press OK.
- Press Exit on expressvote maintenance screen to return to the expressvote Main Menu.
- While on the ExpressVote Main Menu screen press the toggle switch located on the side compartment from official to VSRS mode. Be sure not to power off the machine.
- When log begins; insert your card display, insert a blank ballot activation card with the corner cut top right. If prompted restart, enter correct file number and continue.
- Flip in head set at headphone jack. The audio will start automatically when the Ballot Activation Card is inserted. Listen to audio to verify accuracy for all content.
- Verify keypad and head set are fully functional. Use keypad with head set to operate a ballot; making sure to utilize all keys on the keypad. Confirm touch screen is working. Verify contrast and powers working. Verify audio if applicable.
- Vote activation card per test deck requirements for D1010 logic and accuracy test.
- Power down the expressvote. Do not remove the Election Definitive Memory stick. Proceed per CBE policy.

Logic and Accuracy Testing: Automark

1. Slide top latch up from center. Lift flap and cover. Raise Screen.
2. Lesser cover with flap up. Test screen against raised flap. Lift and lower feed tray.
3. Insert ink cartridge and flush card.
4. Connect power card and headphones. Turn key to test.
5. Check battery status. Charge if needed.
6. Check date and time. Correct if needed.
8. Insert ballot.
9. Confirm AutoMark filled all oval and printed the name of each candidate.
10. Check orientation by inserting ballot all possible ways and repeating steps 6, 7, and 8.
11. Turn AutoMark to on.
12. Review all contests.
   a. Make sure all contests are listed.
   b. Verify audio says candidate’s name correctly.
   c. Make sure that it will not let you override.
   d. Verify votes in / out. Verify high contrast.
   e. Verify write in if applicable.
   f. Verify ballot was marked as shown on screen.
13. Insert print test ballot to verify that the machine knows when a ballot is already marked. Eject each ballot.
14. For each ballot style the machine will receive repeat steps 6, 7, 8, 9, 11 and 12.
15. Save all test ballots.
16. Mark ballot per L and a test script.
17. Install security seals.
18. Proceed as instructed by CBE policy for delivery to polling place.
COMPONENTS OF A TEST SCRIPT

• Test scripts should be written before testing is performed.
• Scripts must be compared to final results.
• Additional votes must be scripted such that candidates and/or questions have unique vote totals.
  
  Example: 5 candidate contest… cast votes in the following variation:
  
  Candidate A – 5  Candidate B – 4  Candidate C – 3  Candidate D – 2  Candidate E – 1

• Additionally, test:
  
  o Blank ballots
  
  o Ballots containing overvoted and undervoted contests
  
  o Ballots containing write-ins
CREATING A TEST SCRIPT

A uniform test script ensures that minimum test script standards are met statewide.

SBE Staff or the print vendor are available to assist with the Test Script Generator.
**MOCK ELECTION EVENT**

**Preparation:** Generate a zero ASCII file and save the file as YYYYMMDD-###_0, then upload.

**Import 1:** Read the absentee by-mail and absentee one-stop media and then generate an ASCII file and print a block style report and save the ASCII file as YYYYMMDD-###_1

**Import 2:** Read the media from 1/3 of the Election Day precincts participating in the election and then generate an ASCII file and print a block style report and save the ASCII file as YYYYMMDD-###_2

**Import 3:** Read the media from 1/3 of the Election Day precincts participating in the election and then generate an ASCII file and print a block style report and save the ASCII file as YYYYMMDD-###_3

**Import 4:** Read the media from the final [minus the Election Day precinct for manual edits] 1/3 of the Election Day precincts and then generate an ASCII file and print a block style report and save the ASCII file as YYYYMMDD-###_4

**Import 5:** Save one Election Day precinct for **manual edits** you will use the tape from the voting machine YYYYMMDD-###_me
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THE L&A PROCESS

1st: Plan and prepare test scripts and equipment; provide notice to the public

2nd: Conduct testing and compare with expected results

3rd: Accumulate results for all tested polling locations and equipment

4th: Read results into election management system and verify totals are correct

5th: Upload to Election Reporting for mock election event

6th: Prepare equipment and materials for election use
- Acceptance Testing – required at procurement, repair, and replacement; must coordinate with SBE
- Sample Hand to Eye Count – post-election audit; two voting sites/methods randomly selected for each county; bipartisan teams conduct hand-to-eye counts to confirm voting machine accuracy prior to county canvass meeting
CONTACT INFORMATION

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