### I. Pre-Test Questions - Please call or meet with your local election official before pre-election testing date in order to get answers to the questions in this “Pre-Test” section.

When and where will pre-election testing take place and what are the requirements for attending?

<table>
<thead>
<tr>
<th>Building Name and Address</th>
<th>City</th>
<th>State</th>
<th>Zip Code</th>
</tr>
</thead>
</table>

Date | Time | Duration? |
|-----|------|-----------|

Are there any requirements for attending? (describe) ________

Advance notice of test posted (location, time, requirements)? How far in advance? ________ Where posted? ________

What voting equipment will be tested? (If you cannot get this information in advance by phone, you can note it on the day of the test. Please provide as much detail as possible.)

<table>
<thead>
<tr>
<th>Manufacturer</th>
<th>Model</th>
</tr>
</thead>
</table>

Release or version number | Operating system |
|--------------------------|-----------------|

Other technical version information

Auxiliary equipment to be tested (printers, communication devices, etc.)

Is adequate space and an accessible and functional viewing area provided for observers of pre-election testing without compromising the security of the testing or overall election process?

<table>
<thead>
<tr>
<th>Adequate space for observing? Describe:</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Is observing space disabled-accessible? Describe:</th>
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</table>

<table>
<thead>
<tr>
<th>Does the line of sight in the observing area allow you to read the screens/outputs?</th>
</tr>
</thead>
</table>

Comments about environment / setup:

<table>
<thead>
<tr>
<th>Will pre-election testers or staff be available for questions before, during, and/or after the testing?</th>
</tr>
</thead>
</table>

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1 Acknowledgement: Thanks are due to Professor Doug Jones, whose work on pre-election testing informed much of the content of this questionnaire. For more on Dr. Jones' work, see [http://www.cs.uiowa.edu/~jones/voting/](http://www.cs.uiowa.edu/~jones/voting/)

2 An example with photos can be seen at [http://chicory.stanford.edu/dill/CS75NWWW/](http://chicory.stanford.edu/dill/CS75NWWW/)
PRE-ELECTION TESTING QUESTIONNAIRE

_Y__ N__? Is an overview of the pre-election testing process available for review prior to the test(s) (Some counties provide a checklist or outline to observers)?

_Y__ N__? Does the state and/or local jurisdiction have certified or recommended procedures for the testing and use of each type of election equipment? (May be different than the specific test steps executed by the testers.) Where is this documentation available? 

Please send electronic copy (preferred) or hard copy of testing plan(s) and/or procedure(s) if obtained - email observer@verifiedvoting.org

_Y__ N__? Does the voting technology vendor provide a copy of testing plans and procedures performed on the voting technology?

_Y__ N__? If yes, is that information public? Where is it available?

_Y__ N__? Is all voting equipment tested after upgrades and/or repairs? If not, what criteria define when re-testing is needed? Describe:

_Y__ N__? Is all voting equipment re-tested after upgrades or repairs? If not, what criteria define when re-testing is needed/done? Describe:

Other comments:

_Y__ N__? Are the results of this pre-election testing you are observing made public? Where can results be obtained:

_Y__ N__? Are the results of re-testing after upgrades made public? Comment:

_Y__ N__? Do results include identification of machines by serial number? Comment:

Other comments:

II. Test Questions - Please answer the questions in this section based on your observation of the pre-election testing procedures.

General Questions
1. Who carries out the testing?
   _Y__ N__? Were voting machine/equipment vendor staff present? Describe number, roles:

   _Y__ N__? Were vendor staff introduced or identified (e.g. badge)? How many election officials/staff were there? Describe:

2. Do testers or officials provide a copy of the testing instructions they are using to the people observing the pre-election testing, so the observers can follow along with the testing process?
   _Y__ N__? Were the test instructions being used provided to you?
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_Y_ __N__? If so, were you able to follow along with the test steps? Comment: ____________________________

Other comments: ______________________________________________________________________________

3. Is the voting technology or system placed in a "test mode" for pre-election testing? If so, how does this test mode differ from how the voting system will function on Election Day?

_Y_ __N__? Was test mode used? Describe:

_Y_ __N__? Does the screen indicate when test mode is in use? Describe:

_Y_ __N__? Does the test mode use real people to put in choices manually? Describe: How does test mode differ from operation/voting day mode? You may have to ask for this information. Describe:

Other comments: ______________________________________________________________________________

4. Do testers use the voting technology or system in the same way that voters would on Election Day? If not, how does their use of the technology or system differ?

_Y_ __N__? Did testers use system as voters would on Election Day? Describe: ____________________________

_Y_ __N__? Did testers use automated scripts and data? Describe: ____________________________

_Y_ __N__? Was the automated script put in from outside the machine, such as with a card? Describe: ____________________________

Other comments: ______________________________________________________________________________

5. Does pre-election testing include testing of the “power up” process of every voting system (for voting technology that uses power)?

_Y_ __N__? Was “power up” process tested? Describe: ____________________________

_Y_ __N__? Was “power up” tested on each machine? Describe: ____________________________

Other comments: ______________________________________________________________________________

6. Does pre-election testing include testing of each ballot position, that is, each possible choice for each race appearing on the ballot?

_Y_ __N__? Was each choice for each race tested?

_Y_ __N__? Was each choice tested for each race in each language? Comments: ____________________________

7. If it's possible to vote for multiple candidates or choices on a ballot question, how are combinations of votes for the question tested?

_Y_ __N__? Did the ballot have any multiple candidate options?

_Y_ __N__? If yes, were various options of multiple candidates tested in those races? Describe: ____________________________

8. How are ballots in languages other than English tested?

_Y_ __N__? Were languages other than English tested? If yes, please indicate which languages: ____________________________

_Y_ __N__? Were all test procedures repeated for each language? If no, please describe what portion of testing was conducted? Comments: ____________________________
9. If there are audio ballots, how are they tested, including foreign language audio ballots?
   ____Y____ N____? Were audio ballots tested? ____Y____ N____? Were all ballot options audio tested?
   ____Y____ N____? Were you allowed to hear any of the audio feed? Describe: ________________________

   ____Y____ N____? Were languages other than English tested with the audio feed? If so, which languages:
   ________________________________________________________________________________________

   ____Y____ N____? Were all test procedures repeated for each language? If no, please describe what portion was tested:
   ________________________________________________________________________________________

   ____Y____ N____? Were testers competent in the languages they were testing?
   Comments: _________________________________________________________________________________

10. How are devices for disability access (e.g., keypads, mouth sticks, sip/puff devices for mobility-impaired) tested?
    ____Y____ N____? Were keypads tested? ____Y____ N____? Were mouth sticks tested?
    ____Y____ N____? Were sip/puff devices tested? ____Y____ N____? Any other access devices tested?
    Describe device test(s): __________________________________________________________________

    Comments: _________________________________________________________________________________

11. Some tests use predictable patterns, i.e. one vote for the first candidate, two for the second, three for the third, etc. Testing likely voting orders is preferable.
    ____Y____ N____? Did testing include a simulation of likely voting orders, patterns, and ranges?
    Comments: _________________________________________________________________________________

11A. Some pre-election tests allow testers to create their own set of ballot choices and navigate through the screens without a script, more closely simulating election day voter actions.
    ____Y____ N____? Were testers allowed to test “on the spot” without following a script? (includes manual testing) Describe: ____________________________

    ____Y____ N____? Were their test results recorded?
    ____Y____ N____? Were any problems found during this testing?
    Comments: _________________________________________________________________________________

12. Does pre-election testing include stress testing with large numbers of votes?
    ____Y____ N____? Was stress testing done? Describe: __________________________________________

    If yes, please identify the range of votes tested on a single run:
    [ ] 100 to 1,000 [ ] Over 1,000 [ ] Other: _____________________

    ____Y____ N____? Was a central tabulation machine included in the testing?
    ____Y____ N____? Was the tabulation function of the individual voting machine tested?
    Comments: _________________________________________________________________________________

13. Does pre-election testing include vote tally checking?
    ____Y____ N____? Are expected tallies provided to observers before the testing begins?
    ____Y____ N____? Are votes tallied and checked against expected results as part of the test?
    ____Y____ N____? Did you observe any anomalous results? If yes, please describe what occurred, and how it was explained or resolved.
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Other comments: ______________________________________________________________

14. Does pre-election testing include correct date and time information testing?
   __Y __N __?  Was date/time of machine clock tested as part of regular procedures?  Describe
   __Y __N __?  If so, was the date and time accurate for the date and time of the test?
   __Y __N __?  Was the machine clock changed in any way as part of the test?
Other comments: ______________________________________________________________

15. Does pre-election testing include date set to Election Day run-throughs?
   __Y __N __?  Was date/time set to Election Day?  Describe
   __Y __N __?  If so, was it set back at the end of the test?
Other comments: ______________________________________________________________

16. Deliberate erroneous user inputs may be included in testing to evaluate system response to
   mistakes or mischief.
   __Y __N __?  Was erroneous user input tested?  Describe: _____________________________
   __Y __N __?  Was pulling out the plug (turning off power source) tested?
Comments: ___________________________________________________________________

17. Does pre-election testing include reboot/restart functionality testing?
   __Y __N __?  Reboot/restart tested?  Describe: _____________________________
   __Y __N __?  Were the number of votes for each candidate compared before and after reboot?
Other comments: ______________________________________________________________

18. Please record any firmware/BIOS information that appears on the screen (or is printed)
   during boot-up of voting systems.  ________________________________________________

19. Does pre-election testing include testing for unexplained touch screen flashing or otherwise
   inconsistent or potentially suspicious behavior?  __Y __N __?  Describe: _____________________________

20. In addition to the specific pre-election testing questions listed on this questionnaire, what
   other tests are performed during the pre-election stage?  [If using hard-copy, please use a
   separate sheet as needed.]

21. Is the final step of the pre-election test to clear the voting machinery, setting all vote totals to
   zero, and emptying the physical or electronic ballot boxes, and then sealing the systems prior to
   their official use for the election?  __Y __N __?
   __Y __N __?  If the machine is sealed at the end of the test, are the seals numbered?
   __Y __N __?  Are the numbers recorded when the machine is sealed?
   __Y __N __?  Is final step of testing to clear machinery?  Describe: _____________________________
   __Y __N __?  Were all physical ballot boxes emptied?
   __Y __N __?  Were the physical boxes sealed after emptying?  Describe: _____________________________
   __Y __N __?  Were all electronic votes deleted, hard drives and memory cards cleared?
   __Y __N __?  Were all electronic machines sealed after deletion?  Describe: _____________________________

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__Y __N __?  Were the seals numbered?  Describe: ________________________________________

__Y __N __?  Were the seal numbers recorded when the machines are sealed?
Other comments: ____________________________________________________________

Optical Scan (Mark-Sense) Voting Technology [respond to this section only if optical scanners are used in your jurisdiction]

1. Is pre-election testing for optical scan (mark-sense) voting systems performed using actual ballots as printed for use in the election?  __Y __N __?
Other comments: ____________________________________________________________

2. Even where markers are provided, some voters will use pencils, particularly if a marker goes dry in a voting booth, or when ballots are voted by mail. Are all scanning units tested for sensor calibration? If so, what is involved in the sensor calibration testing?
__Y __N __?  Are scanning units tested for sensor calibration?  If yes, describe type of calibration: _______________________________________________________
Describe accepted vote detection threshold (Example: the vote detection threshold is roughly halfway between a blank spot on the ballot and a dark pencil mark):
_______________________________________________________________

3. Are optical scanners for precinct use tested to see if over-votes are automatically rejected?
__Y __N __?  Is over-vote notification used (ballot rejects from scanner if over-voted)?
__Y __N __?  Was notification tested?  Describe: _______________________________________________
Other comments: ____________________________________________________________

4. Some jurisdictions require notification of under-votes. Was this feature tested?
__Y __N __?  Is under-vote notification used?  __Y __N __?  Was notification tested?
Describe: ____________________________________________________________________

5. In jurisdictions where changing of position or order of candidates is practiced (ballot rotation), are multiple ballot-positions tested to ensure the scanner is correctly reading/tabulating ballot choices regardless of order?
__Y __N __?  Is ballot rotation used in this jurisdiction?
__Y __N __?  Were multiple ballot positions tested?  Describe: ___________________________
Other comments: ____________________________________________________________

Electronic Voting Technology [respond to this section only if direct recording electronic (DRE) voting machines are used in your jurisdiction]

1. Does pre-election testing include checking for complete list of candidate names, party affiliations, and ballot initiative or proposition options? In all languages?
__Y __N __?  Was complete list of candidates tested?
__Y __N __?  Did the test include party affiliation test?
__Y __N __?  Was complete list of ballot initiatives/propositions tested?
__Y __N __?  Is the ballot for election day in one language only?  If more than one, list languages: ____________________________
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_Y__N__? Were all tests repeated in all languages? Describe: ____________________________
Comments: _______________________________________________________________________

2. Pre-election testing may include the use of an independent log noting each vote cast, to
compare the system count and the selections made by the voter.
_Y__N__? Was an independent log of the test votes cast available?
_Y__N__? Was this log used to compare system (electronic) count and the selections
originally made by the voter?
Comments/Description: __________________________________________________________

3. If using electronic voting machines that produce voter-verified paper records, does pre-
election testing include the use of an independent log to compare the paper records produced
with the system count and the selections made by the voter?
_Y__N__? Was an independent log of the test votes cast available? Describe: __________
_Y__N__? Was this log used to compare the voter-verified paper record with the log of votes
cast? Describe: ___________________________________________________________________
_Y__N__? Was this log used to compare the electronic (system) votes with the log of votes
cast? Describe: ___________________________________________________________________
Other comments: __________________________________________________________________

4. Does pre-election testing include display calibration for the entire screen of each machine?
_Y__N__? Describe: ______________________________________________________________

5. Does pre-election testing include testing audio ballot functionality, including the full volume
range of the audio device? _Y__N__? Describe: ________________________________________
Other comments: __________________________________________________________________

6. Does pre-election testing include testing of layout and legibility of any multiple display
magnifications (large-font modes) supported by the voting technology, with at least one test
ballot voted for each ballot style using each level of magnification?
_Y__N__? Large-font mode tested? Describe: __________________________________________
_Y__N__? Was more than one magnification option available on the machines?
_Y__N__? Was at least one ballot voted for each level of magnification?
_Y__N__? Was at least one ballot voted for each ballot style at each level of magnification?
Other comments: __________________________________________________________________

Summary Questions
1. Did the election officials conclude at the end that the testing was a success?  _Y__N__?
Other comments: __________________________________________________________________

2. Did you conclude at the end that the testing was a success? (according to the test procedures
and instructions)  _Y__N__? Other comments: __________________________________________________________________

3. Do you think the required testing process was followed adequately?  _Y__N__?
Other comments: __________________________________________________________________

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4. Do you think the testing procedures and instructions were adequate to test the voting systems?
   __Y__ __N__ ? Other comments: __________________________________________________________

5. Please note which tests are performed on which voting machines or devices, including if
testing applied to only a sample or to all voting systems used in your county.
   __Y__ __N__ ? Are these tests run on all machines in the county? If only on a sample, please
   note the percentage ___ % . Comments: ___________________________________________

6. Your description of the event: please provide a narrative or step-by-step description of
anything else that occurred during the testing, which was not covered by any of the questions
asked in this survey. If you are using a hard copy of this questionnaire during the observation,
please use a separate blank sheet to record your description.

Post-Test Questions
If the opportunity arises, you can ask the questions in this section at the end of pre-election
testing or sometime shortly afterwards by contacting the appropriate election official.

1. How is election equipment secured after pre-election testing or other final testing until after
final election counts? (Please note whether tamper-proof seals are used, what gets sealed,
whether logs are kept of all seals, etc. Take photographs of all the seals if possible.)
   __Y__ __N__ ? Seals used? Describe: ____________________________________________
   __Y__ __N__ ? Do seals have any plastic or metal? Describe: __________________________
   __Y__ __N__ ? Are seals of tape with no plastic or metal? Describe: ______________________
   __Y__ __N__ ? Other type of seal? Describe: ________________________________________
   __Y__ __N__ ? Are the seals individually labeled with unique serial numbers?
   __Y__ __N__ ? Is a log kept of all seal numbers? Describe: _____________________________
   __Y__ __N__ ? Do you have photographs of the seals?
   __Y__ __N__ ? Does a seal specifically seal the memory card drive opening?
   __Y__ __N__ ? Does a seal specifically cover one or more screws or other attachment devices
   used to secure the two halves of the machine’s casing together?
   Other comments: __________________________________________________________

2. Some voting machines can connect to a network (i.e. telephone line, the Internet, a local area
network, wireless connection, etc.). If true, for what purpose/s, and does pre-election testing
include tests of this functionality? If not, how are connectivity ports or devices secured/turned
off? (E.g.: Infra-red ports covered over with a seal? Internal modems removed/disabled?)
   __Y__ __N__ ? Is system ever connected to phone line? Describe: _________________________
   __Y__ __N__ ? If yes, was phone connect tested?
   __Y__ __N__ ? Connected to the Internet? Describe: __________________________________
   __Y__ __N__ ? If yes, was Internet connection?
   __Y__ __N__ ? Connected to local area network? Describe: ______________________________
   __Y__ __N__ ? If yes, was local area network connection tested?
   __Y__ __N__ ? Connected to virtual private network? (connected to other sites but not by public
   Internet) Describe: __________________________________________________________
   __Y__ __N__ ? If yes, was virtual private network connection tested?
PRE-ELECTION TESTING QUESTIONNAIRE

__Y __N __? Connected by wireless (infra-red, other)? Describe: ________________________________

__Y __N __? If yes, was wireless connection tested?

__Y __N __? Was any connectivity available but not used? ________________________________

__Y __N __? Is any connectivity used, but not part of the test? Describe: ________________________________

Other comments: ________________________________________________________________________

3. If possible, obtain election day performance records (specific errors and malfunctions) from
the election office, and forward them to us so that we may further help you follow up.

__Y __N __? Are election day performance records kept by the election officials?

Describe: _____________________________________________________________________________

__Y __N __? Are these election day performance records available to the public? Describe:

_____________________________________________________________________________________

__Y __N __? Will they be available within two weeks of the election? When: _________________

__Y __N __? Must the person requesting records be a local registered voter?

4. Some jurisdictions conduct post-testing of voting systems after voting is done, often using the
same test-decks that were used in pre-election testing.

__Y __N __? Is post-election testing of voting equipment done in your jurisdiction? Describe:

_____________________________________________________________________________________

__Y __N __? Are the same test decks (test ballots or scripts) used for this post-election testing?

Describe: _____________________________________________________________________________

__Y __N __? Is the public permitted to observe this testing? When: ____________________________

Other comments: ________________________________________________________________________

The Verified Voting Foundation thanks you for your participation in this Pre-Election Testing
Observation project, part of the Election Transparency Project.