



DRAFT – 3/13/2008

THIS IS A DRAFT FOR PUBLIC COMMENT.

PLEASE SUBMIT WRITTEN COMMENTS BY 5 P.M. ON MARCH 18, 2008 TO STEPHANIE CEGIELSKI AT
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Conditions for Use – HART - AMENDED 3/13/08

The Testing Board would also recommend the following conditions for use of the voting system. These conditions are required to be in place should the Secretary approve for certification any or all of the items indicated in the **COMPONENTS** section. ~~Being that many conditions address the security, auditability and availability of the system component, the Testing Board~~ HAS MODIFIED THE CONDITIONS BASED ON INFORMATION PROVIDED THROUGH PUBLIC HEARING UNDER LEGISLATIVE UPDATES TO CONSIDER ADDITIONAL PROCEDURES. ANY DEVIATION FROM THE CONDITIONS PROVIDES SIGNIFICANT WEAKNESS IN THE SECURITY, AUDITABILITY, INTEGRITY AND AVAILABILITY OF THE VOTING SYSTEM. ~~would firmly reject any option which removes, replaces or diminishes the conditional requirement and still allow the system to be used and recommended for certification. Any “Y” value in the Recommendation table would change to a “N” value with any change to the conditions.~~

Global Conditions (applies to all components):

- 1) Modem and other telecommunication devices may not be used on any subsystem component - system provider was unable to meet or provide prerequisite FIPS 140/180 certifications.
- 2) Provisional ballots must be processed separately from non-conditional ballots - system subcomponents are unable to functionally differentiate and correctly process to Colorado specific requirements.
- 3) Coordination of Escrow Setup - Upon Certification, voting system manufacturer must coordinate the Escrow of the TRUSTED BUILD software with SOS escrow, or third party escrow service as required by Rule 11 prior to use in Colorado.
- 4) Abstract Report generation - abstracts used for State reporting must come from Tally Software, or other external solution, rather than from the specific device.
- 5) Trusted Build Verification

a) The system components do not allow for proper verification of trusted build software. Any breach of custody and/or other security incidents will require the rebuild of the component with the state trusted build software. This requirement applies to all voting devices, firmware and software components of the system. Additionally, due to concerns and previous history of software version control with this vendor, counties will be required to audit equipment and submit ~~hash values, directory structure and various~~ reports as necessary by the Secretary of State's office to ensure that only the approved components are present on any system in use in this state. Submission of this information shall happen at least once prior to each election and following each election.

b) Counties shall ensure that hardware, software and firmware purchased for use of the system matches the specifications of VSTL/EAC and/or State Certified and trusted versions, not to the version presented in the vendor documentation.

~~e) Due to limitations with the verification of the trusted build and the requirements for additional auditing and database handling, counties will be required to have all necessary software components in the operating possession of the county clerk and recorder. This will at a minimum include the software components for BOSS, Tally, and Servo.~~

6) Counties using the voting system shall testify through their security plan submission that the voting system is used only on a closed network and/or as stand alone devices as required.

7) Use of wireless components is forbidden on the system. Any workstation or laptop that is designed with wireless communications shall have the device disabled and unable to be enabled by anyone other than the system administrator.

8) ELECTION PROGRAMMING AND DATABASE DISTRIBUTION SHALL TAKE PLACE BY ONE OF THE FOLLOWING THREE METHODS:

A) IN THE EVENT THE COUNTY HAS THE SOFTWARE AND TECHNICAL EXPERTISE TO CONFIDENTLY PROGRAM THEIR OWN ELECTION, THE COUNTY SHALL SUBMIT ANY NON-DEFAULT TEMPLATE TO THE SECRETARY OF STATE'S OFFICE FOR VERIFICATION PRIOR TO THE DOWNLOAD OF MEMORY CARDS USED IN THE ELECTION. THIS EFFORT WILL MATCH THE DETAILS PRESCRIBED UNDER THE BALLOT PROCESSING REQUIREMENTS FOR EACH DEVICE.

B) IN THE EVENT THE COUNTY HAS THE SOFTWARE BUT NOT THE EXPERTISE TO PROGRAM THEIR OWN ELECTION, COUNTIES MAY CHOOSE TO COORDINATE THROUGH THE MANUFACTURER OR OTHER THIRD PARTY COMPANY FOR THIS SERVICE. THESE COMPANIES MUST BE BONDED AND INSURED AS REQUIRED UNDER SECRETARY OF STATE RULE 11. COPIES OF THE DATABASE AND SEPARATED TEMPLATE FILES MUST BE SUBMITTED TO THE SECRETARY OF STATE'S OFFICE AS INDICATED UNDER THE BALLOT PROCESSING REQUIREMENTS FOR EACH DEVICE. IN ADDITION, THE COUNTIES MUST USE THE APPROPRIATE SOFTWARE TO CHANGE ADMINISTRATOR AND DEVICE LEVEL PASSWORDS PREVENTING THE MANUFACTURER FROM KNOWING SUCH PASSWORDS.

C) IN THE EVENT THAT THE COUNTY DOES NOT HAVE THE SOFTWARE TO PROGRAM THE ELECTION⁹⁾ ~~Due to programming limitations on the device, counties are required to have a minimum of 6 MBB cards available for each device per election conducted.~~, THE COUNTY MAY CHOOSE TO COORDINATE THROUGH THE MANUFACTURER OR OTHER THIRD PARTY COMPANY FOR THIS SERVICE. THESE COMPANIES MUST BE BONDED AND INSURED AS REQUIRED UNDER SECRETARY OF STATE RULE 11. IN THE EVENT THAT THE MANUFACTURER PERFORMS THE PROGRAMMING, A THIRD PARTY ENTITY WITH THE APPROPRIATE SOFTWARE SHALL BE USED TO CHANGE ADMINISTRATOR AND DEVICE LEVEL PASSWORDS PREVENTING THE MANUFACTURER FROM KNOWING SUCH PASSWORDS. THIS PROCESS MAY BE COMPLETED BY ANY COUNTY HOLDING THE APPROPRIATE SOFTWARE OR THE SECRETARY OF STATE'S OFFICE MAY BE USED TO CHANGE SOFTWARE PASSWORDS. THE VOTING SYSTEM VENDOR SHALL PROVIDE A COPY OF

THE APPROPRIATE SOFTWARE AT NO COST TO THE STATE TO ACCOMPLISH THIS CONDITIONAL REQUIREMENT. ALL COPIES OF THE DATABASE AND SEPARATED TEMPLATE FILES MUST BE SUBMITTED TO THE SECRETARY OF STATE'S OFFICE AS INDICATED UNDER THE BALLOT PROCESSING REQUIREMENTS FOR EACH DEVICE FOR THE ORIGINAL DATABASE AND ANY SUBSEQUENT CHANGES TO THE DATABASE.

COUNTIES SHALL IDENTIFY IN THE FILING OF THEIR SECURITY PLANS WHICH METHOD WILL BE EXECUTED FOR A GIVEN ELECTION.

Software Conditions (BOSS and Components):

- 1) System/Database/Network Security Hardening.
 - a) Because the voting system operates in a non-restricted system configuration containing open file system access to locate, copy, open and overwrite without detection, election vote content database files outside of election management system application by third-party tools, counties will be required to modify their physical environmental conditions, or request a variance from the Secretary of State to create Hart system hardening documentation in lieu of environmental changes. COUNTIES SHALL SUBMIT THEIR PLAN FOR APPROVAL TO THE SECRETARY OF STATE'S OFFICE TO BE INCLUDED IN THE COUNTY SECURITY PLAN ON OVERCOMING THESE CONDITIONS THROUGH COUNTY ENVIRONMENTAL AND/OR PROCEDURAL CHANGES WHERE POSSIBLE. ~~If approved, counties shall submit plans for approval to the Secretary of State's office on overcoming these conditions through one of the two stated processes which shall be tested by the Secretary of State's office prior to deployment.~~
 - b) ~~b)~~ In addition to physical environmental changes, counties shall MAINTAIN THE INTEGRITY OF THE MASTER TALLY DATABASES WITH ONE OF THE FOLLOWING TWO METHODS:
 - OPTION #1 - eCreate a second (or backup) copy of the BOSS. ~~of~~ AND IN SOME CASES, THE TALLY database that is created immediately after the point of memory card downloads. The backup copy shall be stored on closed CD Media and documented as matching the master database. This process shall be observed by two election staff members. Chain of custody documents shall be generated for the media, and the media shall be sealed with at least two tamper evident seals and stored in a sealed or lockable transfer case that is stored in a limited access area. ~~AFTER the close of polls~~ ON ELECTION DAY, the designated election official shall load the sealed copy of the database onto the server/workstation, create a Tally database, IF NECESSARY, from the secured copy of the finalized database and proceed with uploading memory cards into Tally after documenting the loading of the backup master database onto the system. After loading the sealed database copy, the county shall re-secure the database with seals (updating necessary logs) in the limited access location; OR -
 - OPTION #2 - CREATE A SECOND (OR BACKUP) COPY OF THE BOSS DATABASE THAT IS CREATED IMMEDIATELY AFTER THE POINT OF DOWNLOADING ALL MEMORY CARDS. THE COPY OF THE DATABASE WILL BE ESCROWED WITH THE COLORADO SECRETARY OF STATE'S OFFICE ALONG WITH THE TEMPLATE FILES USED. AFTER EACH OF THE EVENTS DESCRIBED BELOW, THE COUNTY SHALL PROVIDE BOTH AN UPDATED COPY OF THE DATABASE TO THE SECRETARY OF STATE'S OFFICE, AN UPDATED DATABASE AUDIT LOG, AND THE FORENSIC ANALYSIS OF THE DATABASE PERFORMED BY A COMMERCIALY AVAILABLE FORENSICS

TOOL, IDENTIFYING CHANGES TO DATABASE PROPERTIES SINCE THE LAST REPORT. EVENTS TRIGGERING A REPORT UPDATE TO THE SECRETARY OF STATE INCLUDE: ANY DOWNLOAD OF MEMORY CARDS, ANY UPLOAD OF MEMORY CARDS, COMPLETION OF L&A TESTING, AND COMPLETION OF POST-ELECTION AUDIT. REPORTS ARE TO BE SUBMITTED TO THE SECRETARY OF STATE'S OFFICE WITHIN 24 HOURS OF THE EVENT.

COUNTIES SHALL INDICATE IN THEIR SECURITY PLAN WHICH OPTION THEY WILL BE EXECUTING TO MEET THE SECURITY REQUIREMENTS.

c) Additionally, to overcome deficiencies in security and auditing of the system, the county will be required to perform increased Election Night and Post Election Audits for this system. All post-election audit data shall process a hand count of paper ballots (or paper records) which shall match the totals report from the specific device, as well as the totals for the Tally database. Counties shall prepare for this event with one of two methods:

Option #1 – Prepare for the upload of memory cartridges as normal. Print necessary zero report. Upon uploading each individual memory card, print a summary report showing the change in totals from the upload of the memory card. Label the report to match the name/number of the memory card uploaded. Continue to upload memory cards and print totals reports to match. When auditing a specific device, use the difference between the report totals for the memory card selected for the audit and the totals from the immediately preceding memory card report to calculate vote totals generated by the Tally software.

When memory cards are delivered to the county for upload, the machine generated report shall be delivered for inspection as well. DURING THE POST-ELECTION AUDIT ~~On election night, when~~ the summary report indicated above is created, the difference totals (delta report) are immediately compared to the totals from the report generated by the device (or JBC) at the polling place. If the reports match, the public AND THE CANVASS BOARD is ensured that the totals from the polling place match the totals from the county server. If the totals are different, the county is to report the situation (on election night) to the Secretary of State's OFFICE for audit, security and remedy procedures.

During the post election audit process, the totals of the paper record for the specific device are to be hand counted and verified against the electronic record for the device. The canvass board shall report the verification of three totals to match – the paper record of the device, the totals of the electronic vote on the device, and the totals in the central count server; OR

Option #2 – Prepare for the upload of memory cartridges by creating one master default database (containing all memory cards/cartridges). Create individual databases to contain values (upload data) for each separate memory card (or in some instances by batch of ballots – see condition #4b under Central Count devices. Upload memory card/cartridges into master database, and into the specific database created for that memory card (two separate uploads). This process CAN TAKE PLACE ANY TIME AFTER THE CLOSE OF POLLS INCLUDING THROUGH THE CANVASS PERIOD, ~~must happen on Election Night and~~ with observation by at least two people. Election summary reports shall be printed from each individual database and manually added together. The totals from the individual databases must match the master database before proceeding. Upon verification that the master and individual databases match, the county can then use the individual reports to conduct a hand count of the paper ballot (or paper record) generated by the device to show that the software totals match. The verification of the separate upload databases verify that the database

totals match the field totals on each memory card device, as was designed after the point of Logic and Accuracy testing took place.

2) Virus Protection.

The county shall submit for review to the Secretary of State a solution to virus protection that allows for manual updates as required.

3) Audit Trail Information:

a) Counties will be required to produce certain reports identified in C.R.S. 1-7-509 using an external process which will include at a minimum exporting result from the Tally or other software component for processing by other methods.

~~b)~~ Operators of the system shall also be required to maintain logs indicating use of the report printing functions of the software, and detailed information to changes of the system including hardware changes which shall include: insert removable media, remove removable media, modify system hardware drivers, modify system physical hardware, and any other system property changes made by either judges or other trusted staff. Logs shall be maintained physically in a file outside or separate from the database, which is NOT accessible for review and/or modification by user/operator accounts on the system, but that is readily accessible to election officials or other interested party.

SUCH LOGS MAY BE ACHIEVABLE BY A MANNER BEST SUITABLE TO EACH COUNTY. SOLUTIONS MAY INCLUDE THE USE OF KEY STROKE RECORDING SOFTWARE, WINDOWS EVENT LOG RECORDINGS, DETAILED VIDEO CAMERA RECORDINGS, MANUALLY WRITTEN RECORDS OR ANY COMBINATION TO ACHIEVE THE NECESSARY AUDIT DATA. COUNTIES SHALL REPORT TO THE SECRETARY OF STATE'S OFFICE THROUGH THEIR SECURITY PLANS THE METHOD OF ACHIEVING THIS CONDITION.

4) Performance Deficiencies.

a) Due to failures in performance, counties shall allow extra time for downloads and uploads of memory card devices. This may impact programming, testing and use of the system on election night. Counties shall ensure trusted staff is properly trained on this issue and accommodating the allowable time required for programming memory devices.

b) Counties shall ensure that hardware purchased for use of the system matches the specifications of VSTL versions, not the Hart documentation.

5) Provisional Ballots.

The software is not capable of processing provisional ballots internally to accept federal and state only questions. A procedure outside of the voting system will be required. Additionally, the abstracts and reports created by the software do not meet the requirements of rule 41.6.3(g) and users of the system will be required to generate an abstract outside of the voting system.

6) Election Database Creation and Testing.

- a) The system was unable to be fully tested with all testing board requirements for ballot layouts as required. Therefore, additional testing will be required by counties for both electronic and paper ballots to ensure all voting positions are working as designed prior to each election. This shall include ordering a complete set of at least ~~5~~⁴ ballots of each style that contain the prescribed design for that election. County officials shall mark each possible position for each race on the ballots. All ballots shall be tested internally prior to the public logic and accuracy test. The goal of the pretest is to ensure that all available positions are counting when marked correctly.
- b) Counties to ensure ballots are designed and created according to state requirements. The vendor may offer a solution that includes non-certified and non-tested proprietary components. Counties may not use any modified template other than what is available as part of the default, and trusted configuration.

Precinct Count Scanner Conditions (eScan):

1) Intrusion Seals for Protection of Trusted Build Firmware.

Device has no provision of Trusted Build verification once installed. Counties will be required to maintain constant seals on voting device memory slot, back panel, and other entry points as indicated by the Secretary of State. Refer to Global Condition #5a for ensuring integrity of trusted build.

2) Ballot Processing.

COUNTIES SHALL ENSURE THAT ALL ELECTION PROGRAMMING AND LAYOUT FEATURES HAVE BEEN DESIGNED WITH TEMPLATE FILES THAT HAVE BEEN SUBMITTED TO THE SECRETARY OF STATE'S OFFICE, HAVE BEEN ISSUED HASH VALUES BY THE TESTING BOARD AND HAVE BEEN INCLUDED WITH THE TRUSTED BUILD COMPONENTS OF THE VOTING SYSTEM. CHANGES TO TEMPLATE FILES MUST BE ON FILE AS PART OF THE TRUSTED BUILD IN THE SAME MANNER.

~~Due to limitations in the system for having templates to conform with trusted build files that are narrow in scope and ballot layout capabilities, the jurisdiction will find that only Primary and Recall election ballots shall be processed, unless a coordinated or general election is small enough to be arranged on a default template that is included in the trusted build of the system.~~

3) External ~~Battery backup~~ **POWER SUPPLY (UPS) devices** ~~r~~Required.

Insufficient internal power reserves to sustain minimum 3 hour continuous operation. Counties shall purchase and use an external power supply that meets or exceeds the vendors' recommendation for the component.

4) Device Security Accessibility.

- a) County use of voting system will **BE required** ~~use of Boss Software~~ to modify the "administrator" password on the voting devices PREVENTING THE MANUFACTURER ACCESS TO THE DEVICE BY MEANS OF A PASSWORD. REFER TO GLOBAL CONDITION #8 FOR ADDITIONAL DETAILS ON THIS CONDITION.

b) Counties shall coordinate with the vendor and submit to the state the plan for an approved transfer container for securing ballots after the close of polls on the device.

c) Counties will be required to perform additional post election audit functions for the device to accommodate for security deficiencies. In an effort to increase confidence in the recording of votes by the device, the post-election audit shall include the verification of the hand count of paper ballots to match the totals generated from the Tally software as indicated in Software condition #1c.

5) Ballot/Race Conditions Simulation.

Additional County testing shall be required to accommodate ballots with conditions from each election. This shall include ordering a complete set of at least ~~5~~4 ballots of each style that contain the prescribed design for that election. County officials shall mark each possible position for each race on the ballots. All ballots shall be tested internally prior to the public logic and accuracy test. The goal of the pretest is to ensure that all available positions are counting when marked correctly.

6) Audit Trail Information:

a) Counties will be required to produce certain reports identified in C.R.S. 1-7-509 using an external process which will include at a minimum exporting result from the Tally software for processing by other methods.

b) Judges shall be required to include device serial number on all reports regarding use of the device. Additionally, the county shall include the device serial number on applicable reports from the device.

c) Due to errors in processing and auditing information processed by the device, the device will be limited in functionality to only using serial numbered ballots.

d) Election official shall not reset the device without first creating an event and backing up the device in order to maintain a complete history of the audit logs.

7) Voting Secrecy.

Insufficient privacy of ballot was detected using secrecy sleeve. Election administrators must ensure system secrecy sleeve (from Hart) is used for ballots that are 14” in length or shorter. For ballots outside of this description, the counties shall create a secrecy sleeve to accommodate the deficiency and submit design form to Secretary of State for approval.

Central Count Scanner Conditions (Ballot Now/Scanners):

1) Intrusion Seals for Protection of Trusted Build Firmware.

Device has no provision of Trusted Build verification once installed. Counties will be required to maintain constant seals on voting device memory slot, back panel, and other entry points as indicated. Refer to Global Condition #5a for ensuring integrity of trusted build.

2) Ballot Processing.

COUNTIES SHALL ENSURE THAT ALL ELECTION PROGRAMMING AND LAYOUT FEATURES HAVE BEEN DESIGNED WITH TEMPLATE FILES THAT HAVE BEEN SUBMITTED TO THE SECRETARY OF STATE'S OFFICE, HAVE BEEN ISSUED HASH VALUES BY THE TESTING BOARD AND HAVE BEEN INCLUDED WITH THE TRUSTED BUILD COMPONENTS OF THE VOTING SYSTEM. CHANGES TO TEMPLATE FILES MUST BE ON FILE AS PART OF THE TRUSTED BUILD IN THE SAME MANNER.

~~Due to limitations in the system for having templates to conform with trusted build files that are narrow in scope and ballot layout capabilities, the jurisdiction will find that only Primary and Recall election ballots shall be processed, unless a coordinated or general election is small enough to be arranged on a default template that is included in the trusted build of the system.~~

3) External ~~Battery backup~~ **POWER SUPPLY (UPS) devices** ~~r~~ Required.

Insufficient internal power reserves to sustain minimum 3 hour continuous operation. Counties shall purchase and use an external power supply that meets or exceeds the vendors' recommendation for the component. **ACCEPTABLE POWER SUPPLY SOURCES INCLUDE GENERATORS AND OTHER FACILITY BASED SOLUTIONS.**

4) Audit Trail Information:

a) Judges shall be required to include device serial number on all reports regarding use of the device. Additionally, the county shall include the device serial number on applicable reports from the device.

b) Counties will be required to produce certain reports identified in C.R.S. 1-7-509 using an external process which will include at minimum exporting results from the appropriate software module for processing by other methods.

c) Counties will be required to perform additional post election audit functions for the device to accommodate for security deficiencies. In an effort to increase confidence in the recording of votes by the device, the post-election audit shall include a hand count of at least **THE FOLLOWING AMOUNT OF BALLOTS COUNTED ON THE DEVICE FOR THE SPECIFIC RACES SELECTED IN THE POST ELECTION AUDIT:**

<u>TOTAL # OF BALLOTS COUNTED ON DEVICE:</u>	<u>TOTAL # OF BALLOTS TO AUDIT:</u>	<u># OF ERRORS REQUIRING ESCALATION:</u>
<u>150,000 TO 500,000</u>	<u>1,250</u>	<u>6</u>
<u>35,001 TO 150,000</u>	<u>800</u>	<u>4</u>
<u>10,001 TO 35,000</u>	<u>500</u>	<u>3</u>
<u>3,201 TO 10,000</u>	<u>315</u>	<u>2</u>
<u>1,201 TO 3,200</u>	<u>200</u>	<u>2</u>
<u>501 TO 1,200</u>	<u>125</u>	<u>2</u>
<u>281 TO 500</u>	<u>80</u>	<u>1</u>
<u>151 TO 280</u>	<u>50</u>	<u>1</u>
<u>91 TO 150</u>	<u>32</u>	<u>1</u>
<u>51 TO 90</u>	<u>20</u>	<u>1</u>
<u>26 TO 50</u>	<u>13</u>	<u>1</u>
<u>16 TO 25</u>	<u>8</u>	<u>1</u>
<u>9 TO 15</u>	<u>5</u>	<u>1</u>

ERRORS DETECTED DURING THE MANUAL AUDIT PROCESS SHALL BE RESOLVED ACCORDING TO C.R.S. 1-7-514, AND SECRETARY OF STATE RULE 11. ERRORS DISCOVERED EXCEEDING THE ERROR RATE IDENTIFIED IN THE TABLE ABOVE SHALL REQUIRE ESCALATION MEASURES INCLUDING INCREASED AUDITS AS PRESCRIBED BY THE SECRETARY OF STATE’S OFFICE. COUNTY OFFICIALS SHALL CONTACT THE SECRETARY OF STATE’S OFFICE AS SOON AS POSSIBLE IF AN AUDIT DETECTS ERRORS ABOVE THE ESCALATION THRESHOLD.

the following amounts of ballots:

~~Considering the closest race in the election, if the difference between the top two candidates for the race is:~~

- ~~10% or greater, then hand count 60 ballots for every 10,000 cast;~~
- ~~9.00%– 9.99%, then hand count 65 ballots for every 10,000 cast;~~
- ~~8.00%– 8.99%, then hand count 70 ballots for every 10,000 cast;~~
- ~~7.00%– 7.99%, then hand count 80 ballots for every 10,000 cast;~~
- ~~6.00%– 6.99%, then hand count 95 ballots for every 10,000 cast;~~
- ~~5.00%– 5.99%, then hand count 115 ballots for every 10,000 cast;~~
- ~~4.00%– 4.99%, then hand count 140 ballots for every 10,000 cast;~~
- ~~3.00%– 3.99%, then hand count 185 ballots for every 10,000 cast;~~
- ~~2.00%– 2.99%, then hand count 275 ballots for every 10,000 cast;~~
- ~~1.00%– 1.99%, then hand count 550 ballots for every 10,000 cast;~~
- ~~0.01%– 0.99%, then hand count 1200 ballots for every 10,000 cast.~~

The verification of the hand count of paper ballots shall match the totals generated from the Tally software as indicated in Software condition #1c. Counties shall load only the master database from the secured storage location for processing the post election audit ballots as indicated in Software Condition #1b. Counties shall prepare database and batches of ballots prior to scanning into system (for election results) to accurately generate reports in batch sizes as necessary for the audit. ~~If the county or system is not capable of accommodating the requirement of batch size after the outcome of the election is revealed, the highest percentage of ballots shall be used for the audit process.~~

5) Ballot/Race Conditions Simulation.

Additional County testing shall be required to accommodate ballots with conditions listed. This shall include ordering a complete set of at least 5-4 ballots of each style that contain the prescribed design for that election. County officials shall mark each possible position for each race on the ballots. All ballots shall be tested internally prior to the public logic and accuracy test. The goal of the pretest is to ensure that all available positions are counting when marked correctly.

6) Network Access/Availability.

The voting system must be used with no network connectivity between devices/units and software. Only a direct connection (SCSI, IEEE 1394(i.e. Firewire), etc.) between scanner and workstation will be allowed.

DRE Conditions (eSlate):

- 1) External ~~Battery backup (UPS) devices~~ **POWER SUPPLY** ~~Required~~.

Insufficient internal power reserves to sustain minimum 3 hour continuous operation. Counties shall purchase and use an external power supply that meets or exceeds the vendors' recommendation for the component **TO ACCOMMODATE A 120 MINUTE SHORT COMING EXPERIENCED BY THE TESTING BOARD DURING TESTING OF THE DEVICE-**

- 2) Intrusion Seals for Protection of Trusted Build Firmware.

- a) Device has no provision of Trusted Build verification once installed. Counties will be required to maintain constant seals on voting device memory slot, back panel, and other entry points as indicated by the Secretary of State. Refer to Global Condition #5a for ensuring integrity of trusted build.

- b) Election official shall ~~go into Boss software and~~ **BE REQUIRED TO** -change passwords for the JBC **PREVENTING THE MANUFACTURER TO HAVE ACCESS BY MEANS OF PASSWORD TO THE DEVICE.**
REFER TO GLOBAL CONDITION #8 FOR ADDITIONAL DETAILS ON THIS CONDITION.

- 3) Ballot Processing.

COUNTIES SHALL ENSURE THAT ALL ELECTION PROGRAMMING AND LAYOUT FEATURES HAVE BEEN DESIGNED WITH TEMPLATE FILES THAT HAVE BEEN SUBMITTED TO THE SECRETARY OF STATE'S OFFICE, HAVE BEEN ISSUED HASH VALUES BY THE TESTING BOARD AND HAVE BEEN INCLUDED WITH THE TRUSTED BUILD COMPONENTS OF THE VOTING SYSTEM. CHANGES TO TEMPLATE FILES MUST BE ON FILE AS PART OF THE TRUSTED BUILD IN THE SAME MANNER.

~~Due to limitations in the system for having templates to conform with trusted build files that are narrow in scope and ballot layout capabilities, the jurisdiction will find that only Primary and Recall election ballots shall be processed, unless a coordinated or general election is small enough to be arranged on a default template that is included in the trusted build of the system.~~

- 4) Ballot/Race Conditions Simulation.

Additional County testing shall be required to accommodate ballots with conditions listed. This shall include ordering a complete set of at least ~~5~~ **4** ballots of each style that contain the prescribed design for that election. County officials shall mark each possible position for each race on the ballots. All ballots shall be tested internally prior to the public logic and accuracy test. The goal of the pretest is to ensure that all available positions are counting when marked correctly. All ballots in this detail shall be "marked" using the DRE device as applicable for similar testing.

- 5) V-VPAT Paper Record Shall Be Handled Per Rule 11.6.

- a) Prescribed paper record is of the thermal type and requires special storage conditions to avoid legibility degradation. Counties shall follow the requirements for handling according to Secretary of State Rule 11 and 43.

- b) Election judges are required to perform the "Printer Test" in between paper changes and verify with one additional judge that the paper has been loaded correctly and is printing according to design which ensures that all machines will have paper records for each vote cast.

- 6) Audit Trail Information:

- a) Counties will be required to produce certain reports identified in C.R.S. 1-7-509 using an external process which will include at a minimum exporting result from the Tally software for processing by other methods.

- b) Operators of the system shall also be required to maintain logs indicating use of the administrator functions of the device by either judges or other trusted staff.
 - c) Election official shall not reset the device without first creating an event and backing up the device in order to maintain a complete history of the audit logs.
- 7) V-VPAT Security.
- a) The V-VPAT device provides no assurance that it cannot accommodate other devices, and/or the device is a standard communication port. This connection between the V-VPAT printer and the DRE unit shall be secured with tamper evident seals with proper chain of custody documentation to prevent and detect tampering.
 - b) The lock on the V-VPAT unit must be sealed with a tamper-evident seal.
- 8) Accessible Operation.
- a) Due to the inability for the voter to pause and resume the audio text, election judges shall provide instructions specific to this fact to the voters and operations for repeating the text if text was missed, which shall include details on navigating forward and backwards through the system prompts.
 - b) A headset with an adjustable volume, which meets the State of Colorado specifications, must be provided.