Administrative Questions:

1. How will your voting system interface with our current optical scan system? How will we get information (i.e. vote tabulations) out of it and integrate it with our current processes to create a central count system?

   Based upon past history, WinEDS has been successful interfacing with jurisdiction's existing systems so that information such as ballot styles, precincts, offices, candidates and voter registration information can be imported. However, Sequoia Voting Systems would need to fully evaluate the systems used by the Jurisdictions before Sequoia Voting Systems could offer assurances that these systems will integrate with Sequoia's products.

2. How portable is your system given its weight and physical dimensions? What power source does it require? How long will the unit run without any power source?

   AVC Edge® Covers / Wheels & Handles - This optional lid for the AVC Edge® contains a built in set of wheels and a handle, similar to that used in carry-on suitcases. The wheeled lid allows easy transport of the unit in the warehouse, polling place or early voting location.

The AVC Edge® has battery backup that activates instantly in the event of an electrical failure or outage. The power changes from AC power to battery power seamlessly without intervention by the poll worker. In the case of a power failure, the system, when fully charged, will operate without interruption for a period of 3 to 8 hours from the system batteries, depending on voting activity.
To extend the length of the battery power, the AVC Edge® can be set to activate a "sleep mode" during periods of inactivity between voters. The "sleep mode" is deactivated when the screen is touched or when a voter inserts the Activation Card.

When the AVC Edge® is operating on battery, a yellow bar appears at the foot of the touch screen display to notify the poll worker of a power interruption or outage. Often someone has inadvertently loosened the connection to the outlet or the power plug was not fully inserted into the back of the AVC Edge® causing the loss of AC power.

Each AVC Edge® pulls approximately ½ amp of power.

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3. What is the training required to set-up your system for use and for trouble-shooting?

Sequoia assumes that the State would be a partner in the items listed below or that a local vendor would be contracted with to partner with Sequoia and the jurisdictions to assume a portion of the responsibilities listed below. Some or all of these responsibilities may be provided by Sequoia staff at the State's direction and contract.

WinEDS Election Management ballot coding, proofing, testing and programming of cartridges

- Distribution of cartridges to county jurisdictions
- Training of county election administrators in the operations of the voting system, opening, closing and reporting procedures.
- Maintenance of the AVC Edge® voting units – maintenance requirements are minimal and can be performed by office staff in most instances.

Training

Customer education is a major element of the Sequoia Voting Systems' support. Our courses are developed and designed to meet the specific needs and requirements of our customers. Our certified representatives use the latest training processes and techniques to ensure your staff will have a complete understanding and working knowledge of the system operation. While on-site training is available, customers are encouraged to take advantage of benefits of training at our National Training centers in Denver, Colorado; Jamestown, New York and Oakland, California. These centers provide a classroom setting where qualified instructors reinforce classroom training with hands-on lab exercises conducted on operating equipment and software.

The following is an example of our implementation philosophy and planning. When the system specifications are determined, Sequoia would be pleased to put together an Implementation and Project Plan customized for the State of Oregon and its counties.

IMPLEMENTING THE AVC EDGE® VOTING SYSTEM

Project Management and System Development

A Project Manager is identified and introduced to the State during the selection process. Once the contract is signed, the Project Manager takes responsibility for the account. Logistics is the Project Manager's primary focus. They must effectively coordinate all aspects of the installation including the following: product delivery, training, assisting with warehouse design, public relations, election management system database setup and training, and administering to the special needs of the customer. It is our expectation that the each of the Jurisdictions will assign a Project Manager to the implementation.

Project Managers rely on an internal support infrastructure to accomplish successful installations. This includes being assigned an election management system specialist for the project, utilizing the skills of the training specialist, receiving support from the salesperson when necessary, and the support of the Operations Manager and V.P. of Operations for manufacturing deadlines and development needs. Each member of the team is responsible for his or

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her individual specialty area. It is the Project Manager's job to keep everyone on task, coordinated, and most importantly informed.

Implementation Strategy & Timeline

A successful implementation begins with the assignment of a Project Manager for both Sequoia and the State. This RFP provides most of the requirements needed to implement the voting system. The following are critical ingredients that we will mutually have to achieve after the contract is negotiated to have a successful installation:

- Developing a project plan
- Understanding jurisdictional requirements
- Determining the Election Department's computer specifications
- Warehouse logistics and design
- Creating the jurisdiction database
- Poll worker training
- Election staff training
- Onsite support
- Voter outreach and public relations
- Ongoing customer support

Training

Training of the various aspects of the complete election training will consist of the following:

- Maintenance/Preparation
  - System hardware operations
  - Routine cleaning
  - Diagnostic testing
  - Replacement of consumable supplies
  - Replacement of system parts
  - System and transportation requirements
  - System preparation for Election Day
- Poll worker Training Assistance
  - Poll arrangements and preparation
  - Poll opening routines
  - Voting procedures
  - Ballot issuing
  - Voter demonstration and assistance
  - Ballot control
  - Poll closing routines

Reporting routines

WinEDS Operations

System overview and operations

Results cartridge preparation

Early voting system and tabulation procedures

Absentee ballot tabulation procedures

Logic and accuracy testing

State reporting procedures

Formal training generally involves the following courses:

- WinEDS (Election Management Software)
- AVC Edge® (Voting Machine Training)
- Absentee Training (Machine and associated software)
- DRE Election Management Seminar

Election Staff Training

Training for the Election staff is very comprehensive and will include at a minimum: set-up and operation of all systems components, troubleshooting procedures in both the office and in the field, and demonstrating the system. All plans and materials that will be provided to the State for training will be submitted for approval prior to training.

Sequoia Voting Systems can provide staffing to meet the implementation needs, including training for the installation, integration and testing in these areas:

- Project Management
- Installation
- Testing
- Staff Training
- Poll Worker Training
- Voter Education
- Community Outreach

Sequoia Voting Systems has a large library of user manuals for all of its products. Training class agendas, specific to your staff, jurisdiction and needs would be developed as a part of our implementation planning with the State.

Warehouse Personnel

Within two weeks prior to the arrival of the first load of voting units, the Sequoia Voting Systems staff will come to the State to conduct training on the general use and application of the voting units and ancillary equipment that directly works with the voting units. This will include the general training on powering up, performing basic testing in maintenance mode, loading a cartridge, conducting Pre-LAT, setup of the voting unit as conducted by the poll worker, voting by voters, closing the polls and delivery procedures.

After a general knowledge of the voting unit from beginning to the end of an Election Cycle, the warehouse staff is trained on how to perform Acceptance Testing as units arrive. This thorough test incorporates Vote Simulation and conducting an actual test election on the voting units to confirm they meet the requirements and suited purpose of the proposed voting units and ancillary equipment. They are taught how to deal with units that have problems and recordkeeping to assure all voting units and ancillary equipment is efficiently processed in the Acceptance process.

Warehouse Logistics

The Sequoia staff will come to show how the voting units will be stored and the batteries will be charged. Logistics will be discussed concerning the Election Preparation and how voting units will be brought to the Testing Area, tested and returned to their assigned bay. The numbering and organizational system for the voting units or Transportation Carts will be explained. All aspects of the efficient operations, including the delivery of the voting units and ancillary equipment to the polling place will be taught.

Technical Training & Election Preparation - On-the-Job Training

The Sequoia Voting Systems staff will be there to help teach techniques and procedures that have proven to work successfully and efficiently in Election Preparation in other large jurisdictions. No two jurisdictions are the same. Each has its own circumstances that make it unique. The Sequoia staff has the experience to formulate the best plan to test the voting equipment in the most efficient way. “Time and Motion” will be a phrase that the warehouse staff will become too often familiar with.

There are several formal training programs available depending on the system configuration that the State selects. They are:

- WinEDS (Election Management Software)
- AVC Edge® (Voting Machine Training)
- Election Management Seminar
- Warehouse Logistics

The training programs we provide include complete, thorough and extensive training for all authorized in the administration of the system including but not limited to those items specified above.

Training sessions include the design, technical theory and application of the voting equipment. Hands-on training with situational troubleshooting is the finale of this intense course. When you leave this training session, you will be confident that you can take a voting unit apart and put it back together. This program has been developed over a fifteen-year period of manufacturing and installing of DRE voting systems.

Warehouse Staff Training

In Warehouse Logistics Training, the workers are trained to work as a team. It is impossible to place a time for each task that would be realistic. The time it takes to perform the task on one single unit versus the time when workers work together on 50 units is significantly different because of the use of efficient, time and motion techniques. Sequoia will work with the jurisdiction to develop techniques to optimize pre-election setup.

Other Election Staff Training

Sequoia will provide the State with a full range of training courses to meet IT staff's requirements. Training will include all related manuals, instruction on complete operation of the Sequoia system, instruction on in-warranty maintenance, and software instruction required for the operation and maintenance of all products purchased. Sequoia will provide trainers on site to support the training requirements for designated State staff.

There are several formal training programs available depending on the system configuration that the State selects. They are:

- WinEDS (Election Management Software)
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Sequoia Voting Systems has an extensive library of manuals and user guides for the operator, whether they are on staff or poll workers.

Poll Worker Training

Strong and comprehensive poll worker training is essential in a successful voting system implementation. Sequoia will assist the State in integrating the new voting system training into its current poll worker or staff training program content and format. We will assist in the development of training materials and will train the trainers.

Sequoia has found the most effective and successful method of poll worker training to be one where we train the State trainers through an intense "Train-the-Trainer" program. Train-the-trainer classes will include in-depth instruction on setup of the equipment, its functionality, voter instruction, troubleshooting and all other aspects of the poll workers' Election Day events as they relate to the new system. State trainers will be given time to engage in peer practice and evaluation, as well as a formal dry run.

Sequoia recommends that the State break the poll worker training program into classes with as few poll workers as is feasible given the available trainers and training facilities, and the limited time on the election calendar. We have found from past implementations that it is very important for all poll workers to have a chance to operate the machines "hands-on" in class, or at least participate in a small group review of the machine where at least some members operate the machines while the others look on and ask questions.

A change in voting systems requires a change in polling place forms and procedures, and Sequoia will provide sample forms from previous implementations and will assist in redesigning its forms and procedures accordingly.

In addition, we provide standard poll worker lesson plans and a poll worker manual for customization by the State. We also assist with designing needed training materials, forms, quick-step instructions and lists, as well as poll worker video films. Our poll worker class approach, employing hands-on training and an effective poll worker/trainer ratio is proven successful. Poll workers come away knowledgeable, confident and comfortable.

Instructional Video

Poll worker training support includes an instructional video that has been successfully used in Riverside County, California; Florida counties, and in the United Kingdom for the Greater London Borough of Newham, Basingstoke and Deane Council and the Town of Chester.

Sequoia Voting Systems trains the trainers. In addition we assist in the design of all needed training material which includes poll worker manuals, poll worker videos, quick-step instructions and website instructional courses.

Website Link

Sequoia provides a website link that may be added to the State or County website or other outreach venues. This link will connect the voter directly to a guided tour and fully interactive, multilingual, audio voter screen demonstration of the AVC Edge® voting system. Voters are guided through a detailed demonstration from the opening screen and activation, selecting and deselecting choices, reviewing the ballot, the undervote feature, casting their vote and the recording of the vote on the AVC Edge®. The website link may be view at: http://www.sequoiavote.com/demoCenter.php.

This demonstration is a PowerPoint presentation that can be provided to the State to display and run in a repeating loop at local offices, public centers and other voter outreach sites.

4. Is programming required for your system? Can county staff program their own elections? (voice; language?)

WINDOWS NT ELECTION DATABASE SYSTEM (WinEDS)

WinEDS is a client/server election management application for programming and tabulating election results from Sequoia's line of voting systems. The systems currently supported within WinEDS are the AVC Advantage, AVC Edge®, Optech 400-C, and results tabulation from OpScan 5 ballots.

The system has been designed to support single input of customer profile data such as voting locations, precincts, political subdivisions, offices, parties and machines and to use this data to simultaneously manage multiple elections by multiple users. In addition, the system seamlessly handles multiple voting systems within any given election. For example, a jurisdiction can use the AVC Edge®, for Election Day voting at the precinct, a paper based system such as the Sequoia 400-C, to handle mail ballots and AVC Edge®, Early Voting to conduct Early Voting.

WinEDS automatically determines all ballot styles in which all variable races or races that run by district are used to produce all ballot styles applicable to voters residing within particular jurisdictional offices. This Profile information contains election specific questions, all contests that ever run in the county and when they run, and the districts that make up each precinct.

The AVC Edge® audio component utilizes a voice system that reads the ballot aloud. The voice may be synthesized, recorded through WinEDS or an imported audio file.

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5. Which populations of the disabled community have you targeted and what benefits do you offer to each?

<u>Accessibility</u>

The AVC Edge® provides accessibility for all voters to vote and to cast their ballot in private and without the need for assistance. Equipped with privacy side shields, the voting screen pivots easily to a vertical position to accommodate the best viewing position and allows absolute secrecy for the all voters including the elderly, physically challenged and wheelchair voters. The legs are spaced and positioned to allow face-forward accessibility, accommodating the wheelchair voter, allowing him to vote comfortably and in privacy.

The AVC Edge® display is backlit and provided adequate lighting for use and operation by voters, poll workers and elections staff. Voters with visual disabilities or limited manual dexterity may vote unassisted and in complete privacy using the Audio Voting Handset, large font ballot or the magnifier sheet.

<u>Large font size:</u> The AVC Edge® will accommodate font sizes from 8-point to up to 24-point depending upon the number of contests, candidates and measures and the amount of text in the measures. There is no limit to the number of types of fonts that may be used. Large font sizes allow greater readability for those with reduced or limited visibility. For a larger type size ballot, we recommend a minimum of 16-point to 18-point type for a large font size ballot. The AVC Edge® will accommodate font sizes up to 24-point depending upon the number of contests, candidates and measures and the amount of text in the measures. In the election setup the font sizes are designated to provide the greatest readability and fit the ballot content. Many jurisdictions additionally accommodate voters with magnifier sheets.

<u>Audio Voting Component:</u> The Audio Voting Handset Control & Headset can be attached to *any* AVC Edge® voting unit at a polling location to provide an unassisted voting option to a voter that is visually impaired or illiterate. The audio component supports multilingual ballots. This feature was developed in conjunction with the National Federation of the Blind in Baltimore, Maryland.

The AVC Edge® also provides illiterate voters or voters whose first language is not English with a simple and easy to use option that allows them to cast their ballot in absolute secrecy. Using the Audio Handset Control and Headset, the voter listens to audio instructions in the use of the four primary color buttons that navigate him through the voting process. He may make selections, review and change selections and cast his ballot using the Audio Handset.

The voter utilizes a headset connected to a four-button handset. The buttons are easy to discern, unique shapes (triangles, square and circle) in bright, primary colors (green, yellow, blue and red). Braille labels indicate the NEXT, BACK, SELECT and HELP buttons. The handset control is used to scroll through the instructions and the ballot, make selections, review selections and cast the ballot.

6. What do you think is your system's greatest asset?

One of the AVC Edge's® greatest assets is the ability to count all votes with 100% accuracy and verify them through a private/secret Voter Verified Paper Audit Trail (VVPAT) that is electronically and physically secure from manipulation. Additionally, the intuitive nature of the voter interface creates the most effective way for a voter to cast a secure manipulation free vote.

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7. Is there a paper trail for the vote cast?

Sequoia Voting Systems offers the VeriVote® printer, a printer upgrade to the AVC Edge® touch screen voting system that produces a voter verifiable paper record for voters to review in the privacy of the voting booth.

In the 2004 Presidential Primary and November Presidential General Elections in the state of Nevada, Sequoia successfully conducted the first elections in the nation that provided voters with a printed record of their vote for review in the DRE touch screen voting booth prior to casting their ballot. In addition this system was used in not just one county but statewide in every polling place in all 17 counties to over 921,000 registered voters.

The Sequoia VeriVote® upgrade has several important features:

- After the voter has made all of their selections, a paper record is printed for voter confirmation. After the voter affirms (via touch screen) that the paper record is an accurate representation of the votes they cast electronically the paper is scrolled into the machine so the next voter will not see the prior voter's selections.
- If the voter rejects the ballot, the words "BALLOT REJECTED" or a similar message is printed to ensure it is not counted during a manual recount.
- The paper record is printed behind glass. Voters are not able to remove the ballot from the polling place preventing vote selling and ensuring the completeness of the audit trail.
- The printer is attached to the side of the touch screen and presented on the same viewing plane as the voting screen -- allowing voters to make their selections and review the paper record without physically moving or adjusting their line of sight.
- As the screen on the AVC Edge® is adjusted for viewing by voters in wheel chairs or scooters, the printer and its viewing window move with the screen to ensure easy visual access for disabled voters.
- In the unlikely event that paper runs out during the voting day, the printer unit can be unplugged and replaced in its entirety to simplify demands on poll workers eliminating the time and complexity of changing paper rolls. This design also ensures the secrecy of the voted ballot records is maintained.
- The printed records are stored on a continuous roll of paper to minimize moving parts and eliminate the static and storage problems caused by cutting individual ballot records and then depositing them in a box housed within the voting machine.
- While other voting systems may require complete replacement to accommodate additional functions and features, the AVC Edge was designed for maximum flexibility to help election officials adjust to evolving election requirements.

The VeriVote® printer was a unanimous success; addressing the concerns of the voting public to have a printed means to confirm voting choices and restoring confidence in the elections process. Sequoia is the first major national voting systems provider to receive federal certification of the printer and will be able to provide the printers on both new and existing Sequoia touch screen voting machines across the country.

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Security Questions:

1. Is your system certified by NASED/NIST? If your system is not certified, where is it in the process for national certification?

   The AVC Edge® with VeriVote Printer has already completed ITA testing and approval by NASED. Our NASED approval number is N-1-07-22-11-006.

2. Does your system tally votes? If so, how does it export election results and in what format?

   Yes, the WinEDS central system does tally votes. The WinEDS central system has the capability to produce reports that can be saved in numerous formats including Access, Excel, Dbase, SQL, ACSII Text, PDF and HTML. Reports are available for components within the system including System Setup, Profile, Election, Election Setup, Ballot Management, Cartridge, Early Voting, Provisional Voting, Election Day and Post Election reports.

3. Does your system require separate election reporting software? Is the software proprietary or open source? If it is proprietary, how do you ensure the integrity of the software to the end user and guard against malicious code?

   The WinEDS Software is used for both programming and election reporting. The AVC Edge uses a custom operating system, proprietary to Sequoia Voting Systems. The source code is placed in escrow as provided by the Secretary of State.

   The AVC Edge® and WinEDS provide physical security protections such as seals, access control, administrative control and secure storage. Several security features are in place, which will identify, monitor and prevent tampering and monitor functionality.

   When WinEDS generates a ballot and loads it onto a Results Cartridge, it includes the following integrity checks:

   1. Each Results Cartridge is "branded" with the destination AVC Edge® serial number.
   2. A CRC is calculated for each of the data files that comprise the ballot definition. These CRC values are stored along with the ballot data.

   While the ballot is loading, the AVC Edge® initializes itself for the upcoming election based on the ballot files read from the Results Cartridge. The ballot definition on the Results Cartridge is subjected to the following tests before it is loaded into the AVC Edge®:

      1. The serial number on the Results Cartridge must match this AVC Edge®.
      2. The ballot file CRC values calculated & stored by WinEDS are validated.
      3. Make sure there is no vote data already stored on the cartridge, of any type: Ballot images, write in names, candidate totals counters and selection code totals counters.
      4. Make sure that file sizes make sense, for example, that there are an equal number of candidates in the ballot definition as there are candidate summary totals counters.

5. Any failure in the above tests will cause the AVC Edge® to declare an error, and to reject the Results Cartridge.
6. Once the tests listed above are completed successfully, the data from the Results Cartridge is copied into the AVC Edge® Audit Trail memory. From this point forward the AVC Edge® will not operate without the correct Results Cartridge installed.

After the voter touches the Cast Vote button located on the last page of the ballot, the AVC Edge® performs an internal cross-check of the redundant memories (the internal Audit Trail and the Results Cartridge). This crosscheck insures that the two memories are identical, down to the bit level; including the vote totals and ballot image storage areas. Any discrepancy is cause for halting the voting process on this machine. Next, an internal “recount” is performed. This recount validates each ballot image and recalculates the summary totals from the ballot image data. Any mismatch between the ballot image totals and the summary total counters will be detected. After a successful crosscheck, the machine can be activated for the next voter.

4. In the event of a power outage, what happens to the ballot? What must the voter do to continue to vote? How often does it back up?

The AVC Edge® has battery backup that activates instantly in the event of an electrical failure or outage. The power changes from AC power to battery power seamlessly without intervention by the poll worker. In the case of a power failure, the system, when fully charged, will operate without interruption for a period of 3 to 8 hours from the system batteries, depending on voting activity.
To extend the length of the battery power, the AVC Edge® can be set to activate a “sleep mode” during periods of inactivity between voters. The “sleep mode” is deactivated when the screen is touched or when a voter inserts the Activation Card.

When the AVC Edge® is operating on battery, a yellow bar appears at the foot of the touch screen display to notify the poll worker of a power interruption or outage. Often someone has inadvertently loosened the connection to the outlet or the power plug was not fully inserted into the back of the AVC Edge® causing the loss of AC power.

5. How does the system tie a voter to their particular ballot style? Does the voter require some sort of device, pin number, etc. to activate their ballot style?

The poll worker activates the ballot style for each individual voter via a smart card. Ballot styles are determined from the poll roster or the voter registration system. The AVC Edge® does not tie a voter to a ballot style. The ballot may be activated by use of a voter activation card or a manual operation. The AVC Edge® and WinEDS Software does allow for the interface between voter registration systems and the voting system through the auxiliary port. This would allow a voter to be accessed through the voter registration system and automatically activate a voter card with the correct ballot type without compromising secrecy of ballot.

Maintenance Questions:

1. The following are important maintenance requirements for any voter system:
   Warranty (Original and extended)

   The AVC Edge® comes with a 1 year warranty. Optional extended warranties are available.

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Response Time for emergency maintenance

Sequoia Voting Systems corporate office is located in Oakland, CA. Response time from Oakland can be provided with 24 hours upon contract negotiations.

Regular maintenance schedule

Maintenance schedules may be provided through the extended warranty.

Training of elections' staff to be able to perform self-maintenance on the equipment

Sequoia Voting Systems can train State Election Staff or County Election Staff to perform self-maintenance on the equipment.

Expected life cycle and replacement of the system
Upgrades?

The AVC Edge® under current requirements can be expected to have a life in excess of 15 years.
Actual life cycle of the equipment may be contingent upon changing requirements of the State, Federal and local governments. Sequoia has consistently and systematically upgraded equipment based on technology changes, state code changes and needs of the election community.

What are the storage requirements? (With/without power; temperature requirements; special containers/cabinets that would need to be purchased?)

The AVC Edge® is self-contained in a protective case.

The AVC Edge® can be stored in any warehouse that meets a minimal level of protection from the elements. For storage purposes the AVC Edge can be stored in facilities as cold as minus 15 degrees F and as warm as plus 150 degrees F, 95% relative humidity, non-condensing. All other components can be stored and use din the same environments. The main consideration environmentally, should be given to the comfort of the workers that will be working in the warehouse when preparing for an Election.

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